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Effectiveness of digital content distribution channels[1]

Simona Balaščáková – Peter Drábik[2]

Abstract

Digital marketing has emerged as a crucial foundation for business success amidst the rapidly evolving landscape of online channels. In this dynamic context, it is essential to continuously evaluate and analyse the effectiveness of digital content distribution channels. This article seeks to systematically review the theoretical foundations of digital marketing, with a specific focus on digital content distribution channels. To offer a comprehensive evaluation of these channels' performance, the paper integrates a critical analysis of existing theoretical framework models with an examination of current trends and practices in digital marketing. The proposed theoretical frameworks serve as a foundation for further advancements in the digital marketing field. The article concludes by discussing the implications of the findings for marketing managers and providing recommendations for optimizing the use of digital content distribution channels to achieve maximum success in the online environment.

Key words

digital marketing, distribution channels, social media

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Introduction

In an era where dependence on the online space is pervasive, digital marketing has become a key determinant of business success. This form of marketing represents one of the most effective strategies for reaching existing customers and attracting new ones through the vast online environment (Dusabe, 2023). The importance of this discipline is underscored by the current relevance of digital marketing, which has rapidly evolved and surpassed traditional marketing methods in terms of effectiveness and competitiveness (Herhausen et al., 2021). Recent years have witnessed rapid advances in internet technologies and the evolution of consumer preferences. These transformational forces have accelerated the emergence of new distribution channels that are fundamentally modifying the digital commerce paradigm (Tuten, 2023; Peter et. al., 2021). Therefore, it is imperative for businesses to remain constantly informed and aware of these evolving trends (Kraus at al., 2021).

The article focuses on the analysis of differences in the dissemination patterns of online news portal articles on social networks. It argues that news editors and social network administrators wield significant power in shaping the social networking agenda by determining the importance of individual articles. However, it also points to the existence of certain types

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of articles, such as those dealing with crime and disasters, where this power is not being exercised.

The article deals with the question of how the sharing of articles of one of the largest news portals in Slovakia on social networks such as Facebook and Instagram affect the readability of its articles and how the content of the article is related to its sharing. In addition, it finds significant differences in terms of editorial board and sharing patterns for different types of articles: news about technology and about social security are well shared but not widely read, while for news about politics, crime, accidents and disasters they are read but not shared.

The importance of the relevance of article content to driving sharing means that news editors and social media managers have considerable power in shaping the news agenda on social media. In this respect, social media reinforces the power of traditional media to set the overall news agenda, a finding that is at odds with other work suggesting that the news agenda will be diluted in the internet era. However, it also shows that this power only extends to certain topics (Bright, 2016).

Social networks as a means of raising awareness

Social networking can be described as a digital service that allows users to connect with other individuals with similar interests and experiences (Torous et.al, 2021). These platforms typically include a user profile and various communication options, including the formation of groups based on similar interests (Dubovska, 2022; Jarabák, 2018). Social media platforms such as Facebook, Instagram, TikTok and others provide businesses with the opportunity to not only interact with customers, but also to build community, strengthen the brand and gain valuable feedback (Nair et al., 2022).

According to Statista, Facebook, YouTube, WhatsApp and Instagram are among the most used social networks. For the purposes of this paper, the following will delve deeper into Facebook and Instagram (Dixon, 2022). In terms of fulfilling the objectives of the paper, both social networks will be described in more detail.

Facebook is an American online social networking service that is part of the Meta Platforms company. The platform is free and the company profits mostly from advertisements. It contains many components, including a timeline, which is a space on a profile where users can post their content and interact with other users through messages (Drossos et al., 2024; Manca, 2020). The main advantage of Facebook advertising is the ability to accurately target potential customers, thanks to the large amount of data and information that Facebook collects about its users. Other advantages include the extensive reach, as Facebook was the first social network to surpass one billion registered accounts and had more than 3.58 billion monthly users in the third quarter of 2021 (Kazaure et al., 2024). Currently, Facebook owns the four largest social networking platforms, each with more than one billion monthly active users: Facebook, WhatsApp, Facebook Messenger, and Instagram (Shebova et al., 2022).

Instagram is the fourth most popular social network after YouTube and WhatsAppe. As mentioned in the article above, Instagram is under the Meta Platforms company. It allows users to like, share, save, edit and upload photos and short videos, primarily through a mobile app. Users are able to add a description to each of their posts and use hashtags and geotags to improve the reach and visibility of their content (Gunter et al., 2021). Instagram has 2.0 billion active monthly users, with 1.9 billion of them using Instagram daily. This means that up to 17.6% of the world's population uses Instagram. Statistics further show that 31.2% of all users are between the ages of 25 and 34. These demographics are particularly important to companies because they allow them to target their marketing strategies more effectively to specific customer segments (Aslam, 2022).

An Instagram biography ("Bio") is a brief description of an account that can contain up to 150 characters. It is located at the top of the profile, next to or below the profile photo. The bio is an efficient and clear way to provide users with immediate information about the identity and activity of a given account (Hirose, 2022). The bio is a key element of profile optimization because it allows for a quick summary of relevant information, which is essential for initially capturing attention and creating a positive impression (Holak, 2017). In the context of digital marketing and personal branding, Bio is an integral part of strategies to increase visibility and engagement on the Instagram platform.

Sharing articles on social networks

One of the most significant recent changes in the way contemporary news media operate has been the emergence of high-penetration social networks such as Facebook and Instagram as venues for the dissemination of news content. Material from online news sites makes up a significant portion of all information shared on social media (Kwak et. al., 2010).

The widespread nature of news sharing means that major social networks such as Facebook and Instagram have become significant sources of traffic for online news sites (Napoli, 2015), with a recent report claiming that they have also overtaken search engines as a means of directing readers (Newman et. al., 2012; Sonderman, 2012). An increasing number of people cite social media as the main place where they find news. (Mitchell et. al., 2013; Nielsen et. al., 2014).

The rise of social networking as a distribution channel has significant potential to challenge and disrupt the power of mass media. This power stems from the ability possessed by social network administrators. They have the ability to regulate which stories are published and thus which are consumed by readers. Moreover, news sharing can act as an important indicator for journalists, reflecting the popularity and acceptance of their content (Holton et. al., 2015). Despite the possibility of sharing articles on social media, we have limited knowledge about the extent to which social media affects the readership of articles. The main aim of our research is to fill this gap by investigating which of the social networks used by online news portals has the greatest impact on the readability of articles.

1 Methodology

The main objective of this paper is to investigate the relationship between the sharing of online news portal articles on social media and the readership of the article based on quantitative statistical methods. As partial objectives, we set out to investigate which of the social networks used by an online news portal has the greatest impact on the readability of articles, and whether there is a correlation between the content of an article and its sharing on social networks.

In this paper, we apply quantitative research to obtain statistically significant data that allowed us to analyze and interpret trends in the phenomenon under study, as well as to identify relationships between variables. The survey was applied to Aktuality, one of the leading online news portals in Slovakia.

We also use multiple methods such as analysis to test or refute the hypotheses under investigation and identify relationships between variables, synthesis to identify gaps in the research, and to formulate recommendations for future research based on integrating knowledge from multiple sources. We used the method of comparison to compare how sharing articles on Facebook and Instagram affects their readability and also to compare our own results with those of other studies, the method of abstraction to generalize complex ideas and models to make them easier to understand, induction to draw general Conclusions from specific observations, and deduction to formulate hypotheses and select the right methods. Mathematical and statistical methods, such as descriptive statistics, were also used in the processing of the findings to help visualize the data in a way that makes it easy to understand and interpret.

We used Karl Pearson's correlation coefficient, the most popular method among algebraic methods of measuring correlation, to test hypotheses about the assumed association between two variables. (Shukolova et al., 2021). This type of test can be properly used only in the case of a linear relationship between two variables (Lyocsa et al., 2013; Rabušic et al., 2019). In SPSS, we used the following procedure to calculate the Pearson correlation coefficient, including testing the hypothesis of its statistical significance: analyze - correlate - bivariate - we chose the relevant variables whose relationships we verified and the corresponding correlation coefficient.

2 Results and Discussion

2.1 Distribution channel performance

In the digital environment, the efficiency of distribution channels is a key determinant of business success (Wang, 2020). Their proper management and optimization are critical to optimize costs and improve overall customer satisfaction.

In terms of fulfilling the stated objectives, the following table identifies the key characteristics related to the survey of the selected distribution channels of the selected online news portal in Slovakia.

Tab. 1 Basic characteristics of the survey

Articles on Google search	32
Articles on the website	32
Articles on Facebook	24
Articles on Instagram	14
Articles in Bio	7
Research implementation	07.02-01.03.2024

Source: own processing

As part of the quantitative research, we conducted an analysis of 32 articles published on the website between 7 February 2023 and 1 March 2023. Our aim was to ensure that the articles selected were from a homogeneous time period, minimising potential biases in the Conclusions and eliminating the impact on readability of articles published before this time period.

Tab. 2 Overview of articles, platforms and readership

	Article title	**Google**	**Web**	**Facebook**	**Instagram**	**Bio**	**Readership**	**Frequency**
1	Prezidentka odobrila nové donucovacie opatrenia v novele exekučného poriadku	YES	YES	NO	NO	NO	1655	0
2	Pribudlo 105 infikovaných na Covid-19	YES	YES	NO	NO	NO	932	0
3	Na základnej škole v Starej Ľubovni sú rómske deti vo vzdelávaní segregované, rozhodol Najvyšší súd	YES	YES	NO	NO	NO	1 388	0
4	Opäť otvorili vzdušný priestor nad Moldavskom	YES	YES	NO	NO	NO	780	0
5	USA vytiahla z oceánu značnú časť trosiek čínskeho špionážneho balóna	YES	YES	NO	NO	NO	4 081	0
6	Noví honorárni konzuli: jeden si písal s Kočnerom, ďalší predával pozemky manželke politika	YES	YES	YES	NO	NO	29 593	1
7	Matovič navrhuje dať 500 eur každému, kto by odvolil. Sám priznáva, že ide o ‚atómovku"	YES	YES	YES	NO	NO	26 422	1
8	Lengvarský vyzýva zdravotné poisťovne, aby prestali s nekalým prepoisťovaním	YES	YES	YES	NO	NO	1 395	1
9	Dôchodky sa budú pri vysokej inflácii valorizovať viackrát do roka	YES	YES	YES	NO	NO	5 850	1
10	Úrady práce zaplatia občanom kurzy podľa ich výberu, vyhlásil Krajniak	YES	YES	YES	NO	NO	4 176	1
11	Z Rumunska hlásia druhé zemetrasenie za 24 hodín	YES	YES	YES	NO	NO	20 295	1
12	Moldavsko dočasne uzavrelo svoj vzdušný priestor	YES	YES	YES	NO	NO	4 337	1
13	Nemeckí záchranári tiež pozastavili záchranné operácie v Turecku	YES	YES	YES	NO	NO	5 211	1
14	Holandské stíhačky vzlietli k ruským vojenským lietadlám, smerovali k Poľsku	YES	YES	YES	NO	NO	37 957	1
15	Rusko odmieta obvinenia, že plánuje destabilizáciu Moldavska	YES	YES	YES	NO	NO	1 924	1
16	Situácia po zemetrasení v Turecku znovu vyvoláva protisýrske postoje	YES	YES	YES	NO	NO	17 832	1
17	Ukrajinci ďakujú Slovensku za dodávky ťažkých zbraní, ktoré veľmi potrebujú	YES	YES	YES	NO	NO	387	1

18	Možnosť voliť v iných členských krajinách Únie odobrili europoslanci	YES	YES	YES	NO	NO	1 048	1
19	Minister Naď sa chváli výhodným nákupom obrnených vozidiel. Fakty však hovoria niečo iné	YES	YES	NO	YES	NO	25 001	1
20	Rada Európy si o týždeň pripomenie rok od začiatku invázie Ruska na Ukrajinu	YES	YES	NO	YES	NO	211	1
21	Fotografia kométy zhotovená vo Vysokých Tatrách sa stala astronomickou snímkou dňa NASA	YES	YES	NO	YES	NO	10 139	1
22	Rumunsko hlási podozrivý balón vo vzdušnom priestore	YES	YES	YES	YES	NO	15 906	2
23	Prezident JAR pre nedostatok elektriny vyhlásil stav katastrofy	YES	YES	YES	YES	NO	2 840	2
24	Očakáva sa, že na pápeža Františka prídu do Budapešti státisíce veriacich	YES	YES	YES	YES	NO	2 240	2
25	Počet obetí zemetrasenia v Turecku a Sýrii presiahol 20 tisíc	YES	YES	YES	YES	NO	3 523	2
26	Allforjan: V Kočnerovej kauze golfového areálu nastal zvrat. Obvinený advokát chce dohodu	YES	YES	YES	YES	YES	60 451	3
27	Valentínsky víkend na Slovensku: tipy na najromantickejšie miesta pre zamilovaných	YES	YES	YES	YES	YES	4 223	3
28	Cievna mozgová príhoda útočí aj na mladšie ročníky. Príznaky sú jednoduché, napriek tomu ich ignorujeme	YES	YES	YES	YES	YES	90 056	3
29	Americké ozbrojené sily zostrelili pri Aljaške neznámy objekt letiaci vo veľkej výške	YES	YES	YES	YES	YES	11 501	3
30	Český záchranný tím v Turecku vyslobodil zo sutín dvoch živých ľudí	YES	YES	YES	YES	YES	2 216	3
31	Medzi Čínou a USA sa začala studená vojna. Špionážne balóny môžu byť len začiatok	YES	YES	YES	YES	YES	13 355	3
32	Fíni prijímajú podmienky vstupu do NATO	YES	YES	YES	YES	YES	10 578	3

Source: own processing

Table 2 documents the articles according to the distribution channels on which they are published, as well as their readership and frequency. Initially, articles were identified that were published exclusively on the website and were not shared on other social media (5 articles). Subsequently, articles that were distributed on the website and Facebook (13 articles), website and Instagram (3 articles), and website, Facebook, and Instagram (3 articles) were identified. Finally, articles that were present on the website, Facebook, Instagram and in Biu (7 articles) were identified. All of these articles were simultaneously indexed by the Google search engine (32 articles).

To answer the question of which of the social networks has the greatest impact on the readability of the articles, we present the following table that describes the average readability values for each distribution channel.

Tab. 3 Average readability values of individual distribution channels

Distribution cannels	**Average readability**
Website	13 941,3
Facebook	17 148,1
Instagram	19 951,8
Bio	30 300,3

Source: own processing

Table 3 demonstrates that the highest average readership is achieved by articles placed in Biu on Instagram. These articles are equally shared on both Facebook and Instagram. Considering that Bio belongs to the Instagram social network and the articles placed in it are previously shared on Instagram, we can conclude that Instagram has the most significant contribution in terms of readability of the articles.

To achieve the second partial objective -whether the content of an article is related to its sharing on social networks-, we categorized the articles according to their content. The following table breaks down articles by their topic and by the platform where the article is most frequently shared.

Tab. 4 Correlation between article topic and distribution channel

Article Topic	**The platform where the article is most often shared**
Criminalistics	Facebook
Accidents and Disasters	Facebook
Economics	Facebook
Sentence and technology	Website
Social Security	Instagram

Source: own processing

Table 3 shows the relationship between an article's topic and its primary distribution channel where the article was shared. Topics such as crime, accidents and disasters, and the economy were shared predominantly on Facebook. Topics related to crime, accidents and disasters had high readership rates, although economy topics had lower readership rates.

A 2016 study looking at topic sharing on social media platforms reveals some interesting findings. Some of the topics with lower sharing rates (such as law, crime, and especially accidents and disasters) were among the most read. This fact suggests that there is a weak correlation between the readership of these articles and their sharing. Conversely, topics such as social security, science and technology have high levels of sharing, which is disproportionately high compared to their readership. This implies that the readability of articles and their sharing are influenced by the topic of the article, suggesting the need for introducing an interaction term for readability and topic categorization.

This study demonstrates that articles focusing on accidents, disasters, and especially crime news show significantly lower levels of sharing compared to average values, which contrasts with the assumption that social media administrators, and consequently readers themselves, prefer to share negative news (Bright, 2016). In contrast, articles about science and technology experience significantly higher sharing rates by social network administrators and later by readers themselves across all platforms.

The study likewise identified significant differences between social networks. For example, articles on crime science were more shared on Facebook compared to other social networks, while articles on economics did not achieve similar popularity on Facebook.

Our current research is consistent with the 2016 research in that articles related to crime, accidents and disasters have lower sharing rates (they may have been shared further on Instagram and on Biu on Instagram), with these articles achieving high levels of readership.

In contrast, the results differ for science and technology topics, where high levels of social sharing are observed. However, articles with this topic mostly occur on websites and are not further distributed on other social networks.

In order to achieve the further objective of this paper, we used SPSS to calculate the Pearson correlation coefficient, including testing the hypothesis of its statistical significance, using the following procedure: analysis - correlation - bivariate - we chose the relevant variables whose relationships we verified and the corresponding correlation coefficient.

Relation between the frequency of occurrence on social networks and the readability of an article

Similarly, to achieve the stated objective, we set the following hypotheses H0 and H1

Null hypothesis:

H0: There is no statistically significant relation between the frequency of occurrence on the selected social networks and the readability of the article.

Alternative hypothesis:

HA: there is a statistically significant relation between the frequency of occurrence on selected social networks and the readability of the article.

Tab. 5 Correlation

Correlations

		Readership	Frequency
Readership	Pearson Correlation	1	,380*
	Sig. (2-tailed)		,032
	N	32	32
Frequency	Pearson Correlation	,380*	1
	Sig. (2-tailed)	,032	
	N	32	32

*. Correlation is significant at the 0.05 level (2-tailed).

Source: own processing

At the chosen significance level of 0.05, we accept the alternative hypothesis, i.e. there is a statistically significant relationship between the frequency of occurrence on the selected social networks and the readability of the article. This is a moderately strong positive correlation.

Conclusion

Social networks have an unquestionable place in social life. They are becoming increasingly important, especially in the business sector. Companies are focusing their marketing strategies on the effective use of social networks as a tool to interact with their target audience. The effectiveness of distribution channels for digital content is becoming a critical determinant of success in the digital business environment. The effectiveness of distribution channels for digital content is becoming a critical determinant of success in the digital business environment. The article highlights important trends in digital content and its distribution that should be considered when formulating strategies for digital content distribution and building successful branding.

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Consumer ethnocentrism in terms of influencer marketing [1]

Simona Burzová[2]

Abstract

The aim of this paper is to investigate two important elements of consumer behavior, specifically influencers and ethnocentric tendencies. In this article, we employ a number of scientific and philosophical methods to help us systematize current knowledge in the field of influencer marketing as well as consumer ethnocentrism. We also look for the potential intersection of the two fields. It should be noted that if we understand influencers as product or product intermediaries, the degree of consumer ethnocentrism may influence the choice and perception of influencers. In this context, based on the literature presented here, some intersection between the two marketing domains can be expected. The article is theoretical in nature, therefore, it would be useful to empirically verify stated theoretical assumptions in the future.

Key words

consumer behavior, consumer ethnocentrism, influencer marketing, social media

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Introduction

Globalization, as a phenomenon of the last decades, brought the possibility not only to expand its operations to several markets, especially segments, but also the opportunity for consumers to choose from a wider range of products. Customers are confronted with an expanding array of options. Consumer globalization has begun to face several challenges, one of the most important challenges is choosing between domestic and foreign products, as the share of foreign importers in domestic markets is growing. (Belch & Belch, 2018). In a global marketplace where consumers have access to both domestic and international products, numerous questions arise concerning their ethnocentric inclinations. Specifically, the concept of consumer ethnocentrism emerged.

Furthermore, the impact of globalization can be observed in the rise of social media and the emergence of a highly effective marketing strategy known as influencer marketing, which effects consumer behavior.

A considerable amount of attention is paid to both of these topics separately, however, when trying to detect possible research that connects both topics, we may encounter a problem, which is the lack of such research. Therefore, our aim is to examine two important elements of consumer behavior, influencers, and ethnocentric tendencies of consumers.

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Based on this, we consider it beneficial to bring in this article not only a theoretical clarification of the main terms and a summary of the facts found so far, but also the detection of possible areas of connection between these two thematic spheres and their subsequent research.

1 Methodology

The aim of this paper is to examine two important elements of consumer behavior, namely opinion leaders and ethnocentric tendencies, and to point out possible spheres of connection. We especially systematize important knowledge in these two thematic areas and then try to connect both spheres. Through this connection, we think about possible areas for future research that are still unexplored. In this article, we used secondary research based on the analysis of secondary sources, while we used not only book sources and websites, but mainly scientific articles and publications. We use abstraction, analysis, and synthesis to achieve our goal. By abstraction, we identified the main terms and key definitions. Through document analysis, we obtained important information, and through synthesis, we sought the connection between ethnocentric consumers and influencers. Finally, we used induction and deduction, which helped us create our own Conclusions.

2 Results and Discussion

Ethnocentrism and influencer marketing are distinct concepts frequently encountered in the field of marketing, which we can perceive separately, but we can also find an intersection between them and thus advance the professional as well as the scientific knowledge base. In the same way, we deal with these topics in our paper, where we first explain these two issues separately and then try to find a connection between them.

2.1 Consumer ethnocentrism

The concept of ethnocentrism was first introduced by the sociologist Sumner in 1906, when he identified this term in his book as the tendency of people to perceive their own group as the center of events or the so-called the center of the universe with the view that everything else will be evaluated relative to our own group. The concept of ethnocentrism has also permeated consumer behavior. It is one of the important factors that influence consumers in purchasing decisions, and a new discipline called consumer ethnocentrism was created (Shimp and Sharma, 1987). Consumer ethnocentrism is also described as a personality trait that influences an individual's opinions and intentions (Lee et al., 2003).

A consumer with a high degree of consumer ethnocentrism prefers domestic products and rather avoids buying foreign goods. On the other hand, a non-ethnocentric consumer is open to foreign products and will judge them more objectively (Schiffman & Wisenblit, 2019). The more ethnocentric consumers are, the more they limit the purchase of foreign products and vice versa (Abosah & Farah, 2014). Ethnocentrism justifies this mindset by making consumers wary that it is wrong to buy foreign products because it can harm the country's domestic economy, cause job losses, and is simply unpatriotic (Sharma et al., 1995). This also acknowledges the claims of authors LeVine and Campbell (1972), who say that domestic values and symbols are perceived with pride, while foreign values and symbols are perceived with contempt. With this perception, consumers systematically prefer domestic goods and reject foreign alternatives.

A more subtle form of understanding this concept is the natural tendency of people to think or appropriate those values that are found within their own ethnic or national group. A more extreme view of ethnocentrism can be understood as the perception of one's own culture as superior, which can result in disinterest or contempt for other groups (Usunier & Lee, 2013).

Although the concept of ethnocentrism has been recognized for over a century, it has been examined from various perspectives over time, thereby enhancing our understanding. Consumer ethnocentrism is guided by several factors. For example, the age of the consumer is a significant determinant of ethnocentric tendencies, since generally older consumers are more ethnocentrically oriented than younger individuals. Also, the type of product can change the level of ethnocentrism in the consumer, since different products originating from the same country have different degrees of acceptability among consumers, which means that the relationship between ethnocentrism and foreign products is less consistent (Sharma et al., 1995). We also take into account higher consumer income or a better level of education among consumers, which in turn result in greater openness to foreign products (Sharma et al., 1995; Shankarmahesh, 2006). Other factors influencing the degree of ethnocentrism include consumers' tendencies toward nostalgia. The nostalgia factor pertains to an individual's desire to recreate a past consumer environment, one that excludes globalization and the presence of diverse international brands (Steenkamp & De Jong, 2010). In addition to this, we can also mention the factor of environmentalism, which is an expression of the tendency of consumers to attach great importance to the environment and reject consumer products that cause pollution. Thus, for environmentalists, local production means less produced waste and less used resources. Consequently, such an individual will have a more positive attitude toward local products than globally produced products (Bougherara et al., 2009; Yildiz et al., 2018).

Consumers in different countries have different preferences between local and international brands. In other words, ethnocentrism differs across countries and products. McCann (2015) claims that consumers from developed countries have a higher intention to buy domestic products than consumers from developing countries. The reason American consumers, for instance, exhibit a preference for American products is their perception of these products as safer, coupled with a strong inclination to support domestic producers. Conversely, countries such as China or Lithuania consider foreign products to be better compared to domestic products (Newman et al., 2014). Slovakia is also among the countries with a low level of ethnocentrism among consumers (Čvirik, 2021).

Current global events such as crises or social upheavals lead to an increase in the level of consumer ethnocentrism in order to strengthen the national economy (Zdravković & Živković, 2023). Evidence is also the rise of nationalistic feelings around the world after the last financial crisis, which lasted from 2007-2009, which is reflected in the preference for national products or brands (Siamgka & Balbanis, 2015). Currently, various global crises are influencing the level of ethnocentrism among consumers, making this a compelling area for ongoing and future research.

2.2 Influencer marketing

Brands have used opinion leaders to influence consumer opinion since the industrial age (Gabler, 2000; van Krieken, 2018). However, the latest trend in this field has been celebrities in the online environment, so-called influencers, for several years now.

An influencer is a social media user who has built credibility in a particular industry. It has access to a large audience and tries to persuade others based on its authenticity and reach (Glenister, 2021). These characteristics are mostly reflected in filtering and disseminating their own content to their audience. Its main purpose is to attract the maximum number of followers to the brand or product it promotes on its platform (Tien et al. 2019). The rise of social media has brought new forms of marketing through influencers, who have shown to have a major impact on consumer purchasing decisions (Brown & Hayes, 2008). According to the Oxford dictionary of social media, influencer marketing is the strategy of promoting brands or products with selected individuals who are believed to be most likely to have a significant influence on purchasing decisions in a specific target market (Chandler & Munday, 2016). Influencer marketing uses the power of an influencer by leveraging that person's specific knowledge, trust and authenticity. The key to success in influencer marketing is the strength of the influencer's relationship with their audience. An influencer attempts to lead people to accept certain beliefs, attitudes or behaviors using emotional appeals or facts. Persuasion is one of the essences of marketing communication and in connection with influencers it is a perfect tool in marketing. (Andrews & Shimp, 2017). Authors Aral and Walker (2012) found that sensitivity to persuasion depends on the gender and age of the consumer. Older people are more difficult to influence, and when comparing men and women, men are more persuasive.

Nowadays, social media is one of the most important platforms for marketing purposes. Connecting with consumers through influencers is one method of using this platform. The popularity of influencer marketing is based on the ability of influencers to engage a wide segment of consumers in a relatively short period of time with relatively low costs compared to traditional advertising campaigns (Brown & Hayes, 2008). This information is also supported by figures that say that up to 72 % of Generation Z and Millennials follow influencers on their social media (Morning Consult, 2019). Brands' social media presence through opinion leaders also influences 49 % of consumers who say they depend on influencers' recommendations to make purchasing decisions, and 40 % also say they have purchased a product after seeing it on Twitter, YouTube or Instagram (Digital Marketing Institute, 2021).

The popularity of influencer marketing is also proven by the size of the market, which has more than doubled since 2019. In 2023, the market value reached a record 21.1 billion US dollars, a significant increase from 1.7 billion US dollars in 2016 (Statista, 2023). However, within influencer marketing, certain industries remain underutilized, while others demonstrate significant power and demand for this marketing strategy. According to Influencity (2018), influencer marketing is most often used in industries such as fashion, technology, cosmetics, sports, and healthy lifestyle.

Due to their popularity on social media, influencers can convey the message of the promoted brand to a large number of viewers (Evans et al., 2017). They possess the ability to build a community that creates a sense of belonging for their followers, giving influencers the power to influence their opinions and actions (Brown & Hayes, 2008). It is the credibility that consumers most seek in influencers (Glenister, 2021). The characteristics of influencers were also studied by Lee et al. (2019), who also found that, along with the influencer's expertise, credibility is the most important characteristic of an influencer from the consumer's point of view. They identified the attractiveness of the generated content as the third most important feature. This was also confirmed again in the study by Bonnevie et al. (2020), which claims that influencers' lack of information and skills minimizes their credibility. Authors Aggad and Ahmad (2021) also agree with this opinion, according to which personality, content and credibility are the main factors that consumers notice when following influencers on social media.

2.3 Theoretical interconnection of influencers and consumer ethnocentrism

Many studies in the topic of ethnocentrism have so far focused on determining preferences for domestic versus foreign products and brands, which we also proved at the beginning of this article. They took into account how the country of origin of the products will influence their purchasing decisions and eventually involved other factors in the research, such as environmentalism or nostalgia. Therefore, the research focused primarily on products. However, an intriguing area for exploration is the connection between influencers or social media and ethnocentrism regarding the influencers' choices and preferences. This topic remains largely unexplored, with minimal contributions that intersect influencer marketing and ethnocentrism.

In order to be able to assess, or propose, possible areas of research, we take into account not only the above-mentioned literary research, but also the following researches, which are closely related to this issue. In a 2012 paper, the authors, who focused in their research on social media, argue that consumers in Malaysia prefer to interact and communicate with people from the same ethnic group. The study says that social media promotes unity within communities, thus also strengthens ethnocentrism, as members of these groups tend to support their own members more than members of other groups (Ridzuan et al., 2012).

Tran (2023), who also addressed this unique topic, contrastingly concludes in his work that social media, on the contrary, do not contribute to the ethnocentrism of its users, while the results of the research focused predominantly on Generation Z. This idea is supported by Zdravković and Živković (2023), who found in their research that influencers have a positive impact on consumers' purchase decisions for global brands. Their claims are supported by research, that is based on the findings of Sun et al. (2022), who argue that consumers want to buy products promoted by celebrities because they believe that these products have excellent quality.

We can also recall the beginnings of globalization, when American brands faced a problem in Europe, because consumers had an aversion towards the American image and were reluctant to buy American brands. However, this perception has changed and now many American brands are very popular in European countries. Many marketers agree that the change occurred because of the expansion of American music, movies, shows and the expansion of the Internet allowed European consumers to get to know better, and thus understand, American culture and its values. They were able to approach it, what resulted in a change in their ethnocentric attitude towards American brands (Belch & Belch, 2018). This observation can be extended to the realm of influencers, prompting consideration of the extent to which foreign influencers might impact ethnocentrically inclined customers. Has the expansion of social media and their openness to information affected consumers so much that they no longer distinguish between domestic and foreign influencers? We can assume whether in this case too, the presentation and approach of other cultures through the Internet and the personal approach of influencers could soften potential ethnocentric positions of consumers, and thus become more open to foreign influencers.

If we proceed from the basic explanation of ethnocentrism, which we explained at the beginning of this paper, that ethnocentric consumers believe that buying foreign-made products is somehow wrong because it will hurt the domestic economy or cause job losses (Sharma et al., 1995), can we rightly assume that when combining this idea with the choice of influencers, consumers will have the same opinions? Meaning, is it possible that ethnocentric consumers present and active on social media will choose domestic influencers, either to follow or as a source of information, for the purpose of supporting the domestic economy?

Furthermore, we know that preferring local products over global products is according to Yildiz et al. (2018) deeply rooted in the values and beliefs of individuals in relation to their own countries. Several studies have highlighted significant cross-country variations, demonstrating that while a majority of consumers in one nation may favor domestic products, neighboring countries may exhibit contrasting preferences towards these goods. We could therefore consider that the opinions felt towards foreign and domestic influencers and their subsequent preferences will also differ in individual countries, and we could assume that the preferences of domestic products in one country will be correlated with the preferences of domestic influencers in the same country.

We also described that each foreign country has certain products that even ethnocentrically oriented consumers will often perceive as better compared to domestic products, for example due to attributes such as the history of their creation or quality, which are linked to that specific country. We also looked at which sectors benefit the most from influencer marketing. By combining these topics, we could think about the question of whether consumers currently have certain countries or certain industries where their ethnocentric preferences in the field of choosing an influencer are very strong or, on the contrary, very weak, due to the perception of their superiority or, on the contrary, inferiority. Put simply, is there an industry in which an ethnocentric consumer would prefer a recommendation from a foreign influencer over a domestic one? Or is there a country that the ethnocentric consumer perceives as the leader in generating influencers and can prioritize influencers from that country over domestic influencers?

Next, a study by Sharma et al. (1995) shows that consumers with a high level of ethnocentrism tend to evaluate foreign products negatively and attribute much higher quality to domestic products compared to foreign ones. Consistent with this work, research by Vida and Reardon (2008) confirms these results and concludes that consumer ethnocentrism is a normative component in the formation of consumer preferences. We could therefore assume that these studies will be directly transferred to the preference of the influencers themselves, where the result would be that domestic influencers would be perceived by ethnocentric consumers with much higher quality than foreign ones. In addition, we could compose and examine this quality of influencers from three dimensions, namely the following:

1. Credibility: "Domestic influencers are more trustworthy than foreign ones."
2. Expertise: "Domestic influencers are better experts than foreign ones."
3. Content: "Domestic influencers create better and higher quality digital content than foreign ones."

We chose to incorporate these three areas based on the already mentioned findings that for consumers in the online environment, these are the most important attributes they are looking for in an influencer.

As reported, trustworthiness ranks among the top three characteristics consumers seek in an influencer. Additionally, some consumers have expressed a preference for homemade products, perceiving them as more trustworthy, this could represent another area of connection where it would be interesting to research if domestic influencers generally have a more trustworthy effect on consumers, or whether they only affect ethnocentrically oriented consumers, or vice versa, they do not have such an effect at all and we do not find any connection here.

In the first part of this article, we further stated that older consumers and nostalgic consumers are more ethnocentrically oriented. At the level of influencer marketing, we again showed that older people are more difficult to influence. These two areas can create a certain basis for us to deduce that the same effect will be in the preference of influencers, when the older generations will prefer domestic influencers, because they will not only remind them of the nostalgic days before globalization as we know it today, but at the same time they can also represent an easier way or tool of influencing a generation that is more difficult to influence. We therefore consider this another area worthy for research.

At the same time, we have argued on the basis of theoretical findings that ethnocentrically oriented people tend to belong to and support a particular group, thus increasing their ethnocentric mindset even more. However, if we include influencer marketing, the overall idea of which is that the influencer creates a certain community of people and his followers have a sense of belonging to this group, it is possible that these two strands would be intertwined and, on the contrary, ethnocentric tendencies would be mitigated by the power of influencers, in the sense that even foreign influencers are able to give the ethnocentric consumer a sense of belonging within a certain group, which the consumer will subsequently want to support. Can the ethnocentric tendencies, or the dislike of consumer towards foreign influencer, therefore be significantly reduced or even disappear?

In our view, these are some of the possibilities of interconnecting consumer ethnocentrism with influencer marketing, presented in theoretical terms.

Conclusion

In our paper, we have not only tried to systematize the knowledge of two separately deeply researched topics, namely consumer ethnocentrism and influencer marketing, but especially we have tried to find a possible connection between these topics. We posit that we have identified a potential interconnection, supported by theoretical foundations. We were able to point out several areas of connection between the two researched topics, laying the groundwork for further possible research. However, a limitation of this study is the reliance on theoretical reasoning through both inductive and deductive approaches, which constrains our Conclusions to a certain level of assumption. Our findings will serve as a basis for conducting a research study entitled "Strategic, intervention and adaptive options of consumer ethnocentrism in the context of digital and international marketing management", in which primary data collection is currently underway.

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Unravelling Export Potential in Trade Cooperation: The Case of Slovakia in Ukraine [1]

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Abstract

The EU increased its attempts to strengthen its collaboration with Ukraine due to its growing geostrategic importance, strong mutual interconnectivity, and economic and investment engagement. In June 2022, the EU designated Ukraine as a candidate country for EU membership. The aim of the paper is to examine the potential of business cooperation between Slovakia and Ukraine based on the development of foreign trade and selected single-factor indicators of foreign trade and to determine other areas of possible business cooperation. The paper is based on trade analysis, with empirical methodologies from the RCA and Grubel Lloyd indices. Despite the existing obstacles to the intensification of trade relations, there is opportunity for Slovakia to fulfil the unused export potential, in given groups of goods such as vehicles, rubber, electrical machinery also arms and ammunition in light of recent changes and others. Furthermore, closer cooperation could strengthen bilateral relations between the two regions.

Key words

EU; Slovakia; Ukraine; trade; export potential

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Introduction

In the ever-evolving landscape of global commerce, understanding the intricate dynamics of international relations and trade partnerships is paramount. The case of Slovakia and Ukraine stands as a compelling example, marked by historical ties, geopolitical shifts, and the transformative influence of key events such as signing of the association agreement between the EU and Ukraine (of which the DCFTA is also a part), the COVID-19 pandemic and the Russian invasion of Ukraine in February 2022. As we delve into the complex tapestry of Slovakia-Ukraine relations against the backdrop of globalization, European Union (EU) integration, and the Eastern Partnership, this article aims to dissect the trade potential that has emerged amidst crisis and reform.

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The historical roots of Slovakia-Ukraine relations run deep, intertwined by centuries of cultural, economic, and political connections. The dissolution of the Soviet Union and the subsequent emergence of independent states in Eastern Europe set the stage for a new chapter in their relationship. The early years of the post-Soviet era witnessed both nations navigating the complexities of nation-building and asserting their identities within the broader European context. Fast forward to the 21st century, where the advent of globalization and the European Union's expansion became pivotal factors influencing the geopolitical dynamics of the region. As Slovakia became an EU member state, it forged a path as one of the key players in the Eastern Partnership, aiming to deepen ties with its Eastern European neighbors.

The narrative, however, takes a dramatic turn with the Russian invasion of Ukraine in February 2022. This event not only sent shockwaves through the region but also prompted nations, including Slovakia, to reassess their geopolitical and economic strategies. The crisis underscored the importance of solidarity among European nations and set the stage for a re-evaluation of bilateral relationships in the face of shared challenges. Furthermore, Ukraine's pursuit of EU integration, signing of the Association agreement in 2014, candidate status, achieved in June 2022, has added a new dimension to the bilateral relations. The prospect of EU integration has become a catalyst for reforms within Ukraine, fostering an environment that holds immense potential for foreign trade partnerships. Against this backdrop, we explore the untapped export potential that exists between Slovakia and Ukraine and can be harness for mutual economic growth.

This article navigates through the intricacies of diplomatic ties, economic cooperation, and the broader implications of Slovakia-Ukraine relations in the context of a crisis landscape. By analyzing the evolving trade dynamics, we aim to unravel the prospects and challenges that lie ahead, offering insights into how both nations can strategically leverage their partnership to thrive in the era of global interconnectedness.

1 Methodology

The aim of the paper is to examine the potential of business cooperation between Slovakia and Ukraine based on the development of foreign trade and selected single-factor indicators of foreign trade and to determine other areas of possible business cooperation.

There are several ways of identifying revealed comparative advantage. The primary methodological techniques used in this research are based on the nature of comparative advantage in trade data. Developed by Liesner in 1958 and popularized by Balassa in 1965, the idea of the "revealed" comparative advantage (RCA) — also referred to as the "Balassa index"—is frequently employed empirically to determine a nation's strong and weak export industries. Amiti (1998) examines the specialization patterns in Europe, while Porter (1990) uses it to pinpoint strong sectoral clusters (Proudman & Redding 2000). The first way of identifying comparative advantage is to use a logarithm calculating the share of exports and imports in a country’s various goods categories compared to all countries. RCA is calculated as follows:

$$RCA1 = (Xij/Xi) / (\mathrm{Mi}j/\mathrm{Mj}) \tag{1}$$

Where: Xij is the export of product i by country j, Xi is the total export of product i by all countries, Mij is the import of product i by country j, and Mj is the total import of all products by country j.

When a country's export ratio of product i to its total exports of all goods surpasses the same ratio for the product's part in global trade, that country is said to have a disclosed comparative advantage in product j (UNCTADStat, n. d.). The obtained value of the index determines how the outcome is formulated. A country has a demonstrated comparative advantage in product j if RCA1 > 1. A country is found to be at a comparative disadvantage in product i if RCA1 is less than 1 (Obadi & Korček, 2016). It shows that, for each product, the nation exports less than the average of the reference group.

The Balassa index is an alternate RCA index (RCA2) that expresses the difference between the export and import of commodity groups and the sum of their exports and imports, indicating comparative export advantage and consequently competitiveness (Balassa, 1965). This method is widely used to analyze bilateral foreign trade.

$$RCA2 = (Xij - Mij) \ / \ (Xij + Mij) \tag{2}$$

Where: Xij – country i's exports of product j, Mij – country i's imports of product j.

The index can be negative; its ratio spans from -1 (Xij = 0 and disclosed comparative disadvantage; there is no export for the given product or just a tiny amount) to +1 (Mij = 0 and revealed comparative advantage), showing that there is no import or only a limited number. However, there are ambiguities surrounding zero values: if RCA2 = 0, export = import (xij = mij), and if 0 < RCA2 < 1, it indicates revealed comparative advantages (Greenaway & Milner, 1993; Utkulu & Seymen, 2004; Drieniková et al., 2023).

Engaging in intra-industry trade with countries that can produce similar items allows each to focus in areas where it has a comparative advantage. Herb Grubel and Peter Lloyd created the intra-industry trade index formula in 1975 to determine the volume of intra-industry trade for a specific commodity. (Egger et al., 2004).

To calculate the intra-industry index, also known as the Grubel-Lloyd Index (GL), we need to know the quantity of the goods imported and the quantity exported.

The formula for the intra-industry trade index is:

$$GL = 1 - (|Xkij - Mkij| \ / \ (Xkij + Mkij)) \tag{3}$$

Where: Xkij – country i's exports of product k to country j, Mkij – country i's imports of product k from country j.

The Grubel Lloyd's Index evaluates intra-industry trade as a proportion of a country's trade, provided trade is balanced, which means that exports and imports are equal (Grubel, H. G., & Lloyd, P. J., 1975).

Our comprehensive research is based on data transparency and trustworthiness from credible sources such as the International Trade Centre (ITC), national statistics offices, trade databases, and international organizations. Research is limited by data from the year 2019, as a pandemic of COVID-19 disease broke out in 2020, drastically affecting global trade and perhaps changing the mutual trade structure. We also compared the year 2022, when Russia invaded Ukraine, to see what changes had occurred since the pre-pandemic and pre-wars years.

For future research, it would be desirable to continue assessing the opportunities for deeper cooperation by constructing a model and investigating the variables that most influence mutual commerce. We will evaluate this model in the context of future developments to determine where the conflict between Russia and Ukraine is heading, as well as the world market's reactions (increasing raw material, fuel, and energy prices) and how this will affect EU/Slovakia and Ukraine ties. The assumption of mutual cooperation's development is unclear in the context of an ever-escalating conflict and continually changing worldwide market conditions.

2 Results and Discussion

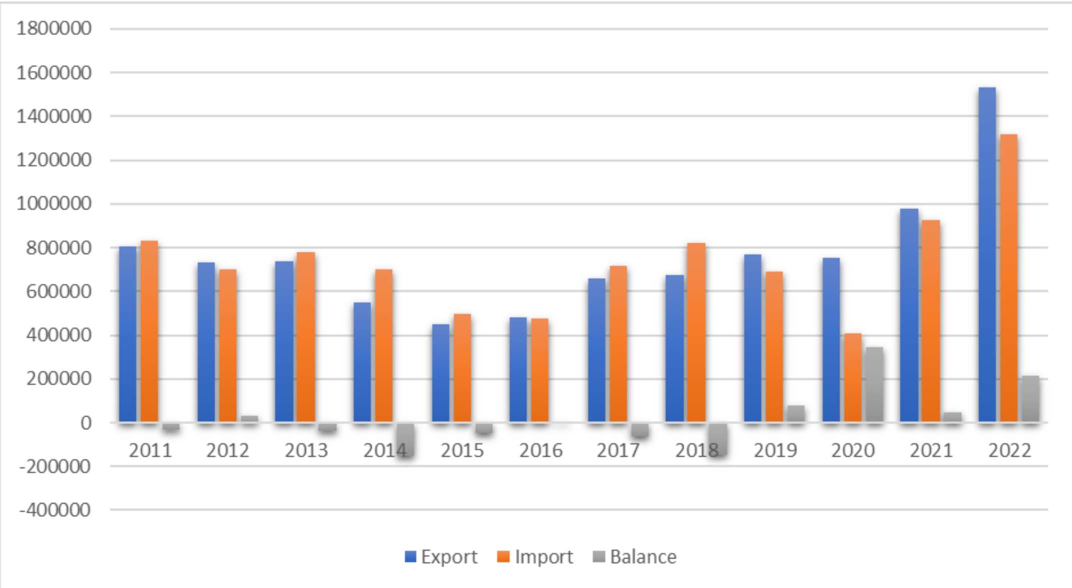
The purpose of this paper was to highlight the evolution of the partnership between Slovakia and Ukraine based on an evaluation of trade partnership between the Slovak Republic and Ukraine, with a focus on mutual trade relations (and to highlight the comparative advantages that the Slovak Republic could use to expand mutual trade cooperation). We chose Ukraine and Slovakia to investigate ways to boost commercial connections because of the new EU approach in this region (Ukraine is now a candidate state). Ukraine started to focus on European economies, whereas the V4 countries aimed primarily for EU membership. After joining the EU, these countries became key economic players in Central and Eastern Europe (CEE), and their economies have been among the fastest-growing in the EU in recent years.

In the geopolitical context, Ukraine and the Slovak Republic are neighbours of the first order, which are directly adjacent and share a common state border. The development of good neighbourly relations between them is extremely important for the promotion of stability in the Central-Eastern Europe region. The establishment of relations and the development of cooperation with neighbouring states is also, in accordance with basic European principles, one of the main conditions for the inclusion of new independent states in the integration processes on the European continent. The experience of Ukrainian-Slovak relations in the last decade of the last century is confirmed by the possibility of close partnership cooperation between the states of Central-Eastern Europe - Ukraine and Slovakia - different in terms of potential, size, depth and nature of reform changes. For the Republic of Slovakia, Ukraine is the largest neighbour, and for Ukraine, the Republic of Slovakia is, on the contrary, the smallest among the states bordering it in the west. However, this is not an obstacle to the creation of equal Ukrainian-Slovak relations based on the principles of mutual respect for sovereignty and independence (Smartyk, 2015). Slovakia helps and transfers its experience of European and Euro-Atlantic integration to Ukraine.

Business cooperation between Ukraine and Slovakia is one of the most important directions of the entire spectrum of bilateral relations, which has a civilizational and economic dimension of good neighbourliness. Considering the economic potential of the Slovak Republic and Ukraine, there are considerable reserves for the activation of trade and economic cooperation between the states. A positive role would be created by the conditions for supporting cooperation between Ukrainian and Slovak enterprises in the most promising directions. Around 50 cooperation agreements have been signed between the two countries at the interregional level, 15 cities of both countries, including the capitals of the countries - Kyiv and Bratislava - are linked by partnership. Contacts were established between all 8 regions of the Slovak Republic and 10 regions of Ukraine. At the same time, the process of expanding and deepening interregional ties is ongoing.

On the territory of Ukraine and the Slovak Republic, joint events, scientific and practical conferences, seminars on various current issues of the international life of both countries and Ukrainian-Slovak neighborhood days are held on the common state border. Both countries are actively involved in various international cross-border cooperation projects (Min. of Infrastructure of UA, 2020). Despite the number of signed agreements, geographical proximity and common interests, the cooperation between the countries has not been very active so far and not all the potential that the countries could provide each other has been used. As long as Ukraine and Slovakia are transit countries with a developed transport infrastructure, it is prospective to agree on common interests in the sphere of transit transport between Europe and Asia, not only with regard to the situation on the international transport market, but also on the market of energy sources, of course, a lot of it will also depend on the development of the war on the territory of Ukraine.

Graph 1 Slovakia trade in goods with Ukraine (2011-2022, thousand USD)



Source: own preparation based on ITC, 2024 data

As part of cooperation between the governments of Slovakia and Ukraine, 4 intergovernmental commissions operate (on economic, industrial and scientific-technical cooperation; on cross-border cooperation; on international road transport; on tourism) and 2 departments for combined transport and issues of technical and technological cooperation. However, political reasons and financial constraints determine significant gaps in their meetings, which prevents joint planning of economic activity. Communication between the business circles of the states is somewhat more active, especially in the form of business forums. At the same time, the Slovak-Ukrainian Chamber of Commerce was not a co-organizer of any of the 4 business events that took place since 2015.

According to the results of trade in goods between Slovakia and Ukraine in 2022, the total turnover amounted to 2.85 mil. USD and compared to the same period of 2021 increased by 94 thousand USD. The export of goods from Slovakia to Ukraine in 2022 amounted to 1.53 mil. USD, while imports - 1.31 mil. USD. The positive balance for Slovakia during this period amounted to 215,000 USD (Graph 1).

The results of the trade and economic cooperation between the Slovak Republic and Ukraine in 2022 demonstrated a record growth in the indicators of trade turnover over the past 15 years.

The main articles of export of goods from the SR to Ukraine are: mineral fuels; oil and products of their distillation - 33.5%, means of land transport, except for railways - 12%, ferrous metals - 10.8%, miscellaneous - 8.4%, plastics, polymeric materials - 5.6%, nuclear reactors, boilers, machines - 4.8%, electric machines - 4.8%, paper and cardboard - 3.1%, rubber - 1.8%, salt, sulphur, earth and stones - 1.7%, wood pulp – 1.4%, ferrous metal products – 1%, various food products – 1%. The main articles of import of goods from Ukraine to the SR are: ores, slag and ash - 37.2%, mineral fuels; oil and products of their distillation - 19.5%, cereals - 7.6%, electric machines - 7.6%, seeds and fruits of oil plants - 5.6%, meat and edible offal - 4.3%, wood and wood products - 2.9%, plastic, polymer materials - 1.8%, fats and oils of animal and vegetable origin - 1.7%, railway locomotives - 1.5%, ferrous metals - 1.4%, nuclear reactors, boilers, machines - 1.3% (ITC, 2024).

For comparison, when we count trade in goods and services together, in that case Slovakia has a negative trade balance. The structure of Slovak imports of services from Ukraine was dominated by: transport services – 62.9%, business services – 13.8%, services for the processing of material resources – 12.3%, services in the field of telecommunications, computer and information services – 5, 4%, repair and maintenance services not included in other categories - 2.9%. The structure of export of services from Slovakia to Ukraine was dominated by: transport services – 73.9%, services in the field of telecommunications, computer and information services – 11.7%, business services – 9.5%, and insurance services – 1, 6%, services related to travel – 1.4% (EUROSTAT, 2024).

Slovakia, which is relatively close to it, has little weight in the structure of Ukrainian exports. This can be explained either by the quality of the goods, which does not correspond to the needs of these markets, or by insufficient supply (Davydenko, 2021). Slovakia, as a relatively smaller economy compared to some of Ukraine's major trading partners (Germany, Poland, Netherland), might have a smaller impact on the overall import structure. Larger economies with diverse industries could overshadow the influence of Slovakia in Ukrainian imports.

During the year 2022, significant work was carried out with the aim of intensifying trade and economic cooperation, in particular, in the context of new challenges related to the full-scale invasion of Russia into Ukraine.

We will compare data for 2019, before the pandemic COVID-19 and the Russian invasion of Ukraine, and for 2022, after these occurrences. Table 1 shows the commodities under the Harmonized Tariff Schedule, where the SR has the greatest comparative advantage and at the same time Ukraine has the comparative disadvantage in 2019. Such commodities include vehicles other than railway or tramway rolling stock, Railway or tramway locomotives, rolling stock and parts thereof, as well as rubber and articles thereof, miscellaneous articles of base metal, live animals, glass, and aluminum and articles thereof. For these commodities, the value of the RCA1 index is greater than 1, and thus the SR achieve an exposed comparative advantage in the production of these products and the RCA1 value of Ukraine with most of them is lower than 1, therefore Ukraine has an exposed comparative disadvantage (except for railway, iron and steel, and wood). At the same time, for most of these commodities, Slovakia has an RCA2 index value higher than 0, thus the countries tend to export the given commodities, and Ukraine's RCA2 is lower than 0, which means that Ukraine rather imports these commodities or exports in small volumes.

Tab. 1 Slovakia comparative advantages and Ukraine comparative disadvantages (2019)

HS2	Commodity	RCA1 SR	RCA1 Ukraine	RCA2 SR	RCA2 Ukraine
87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	4.01	0.03	0.29	-0.95
86	Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures ...	3.24	5.19	0.33	0.46
40	Rubber and articles thereof	2.70	0.17	0.18	-0.83
83	Miscellaneous articles of base metal	1.99	0.66	-0.03	-0.37
72	Iron and steel	1.97	8.79	0.15	0.75
1	Live animals	1.67	1.00	0.36	-0.10
70	Glass and glassware	1.66	0.89	-0.06	-0.27
76	Aluminium and articles thereof	1.63	0.21	0.13	-0.60
96	Miscellaneous manufactured articles	1.63	0.54	0.13	-0.59
44	Wood and articles of wood; wood charcoal	1.56	3.91	0.19	0.65

Source: own calculation based on ITC (2024) data

Table 2 contains the commodities where Ukraine has the greatest comparative advantage, and Slovakia has a comparative disadvantage. These are mainly plant products - cereals, animal, vegetable or microbial fats and oils and their cleavage products, vegetable plaiting materials, oil seeds and oleaginous fruits, iron and steel, ores, slag and ash, railway or tramway locomotives, wood, and products of the milling industry.

Tab. 2 Slovakia comparative disadvantages and Ukraine comparative advantages (2019)

HS2	Commodity	RCA1 Ukraine	RCA1 SR	RCA2 Ukraine	RCA2 SR
10	Cereals	32.64	0.61	0.96	0.45
15	Animal, vegetable or microbial fats and oils and their cleavage products; prepared edible fats; ...	19.97	0.14	0.90	-0.49

14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	18.03	0.07	0.97	-0.52
12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal ...	9.95	0.51	0.73	0.44
72	Iron and steel	8.79	1.97	0.75	0.15
23	Residues and waste from the food industries; prepared animal fodder	7.32	0.31	0.73	-0.35
26	Ores, slag and ash	5.65	0.02	0.74	-0.90
86	Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures ...	5.19	3.24	0.46	0.33
44	Wood and articles of wood; wood charcoal	3.91	1.56	0.65	0.19
11	Products of the milling industry; malt; starches; inulin; wheat gluten	3.73	1.54	0.70	0.39

Source: own calculation based on ITC (2024) data

Table 3 shows the comparative advantages of Slovakia in the fiscal year 2022 exhibit a degree of continuity when contrasted with the trade dynamics observed in 2019. However, a discernible modification is evident in the upper echelon of comparative advantage goods, marked notably by the inclusion of arms and ammunition; parts and accessories thereof, within the foremost triad. This alteration is notably influenced by the geopolitical dynamics, particularly the ongoing conflict on the territory of Ukraine, which has exerted an impact on the strategic composition of Slovakia's trade advantages.

Tab. 3 Slovakia comparative advantages and Ukraine comparative disadvantages (2022)

HS2	**Commodity**	**RCA1 SR**	**RCA1 Ukraine**	**RCA2 SR**	**RCA2 Ukraine**
87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	4.60	0.05	0.31	-0.95
93	Arms and ammunition; parts and accessories thereof	4.23	0.00	0.50	0.00
86	Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures ...	3.33	1.64	0.26	0.46
40	Rubber and articles thereof	2.88	0.12	0.16	-0.89
72	Iron and steel	2.21	4.40	0.14	0.65
11	Products of the milling industry; malt; starches; inulin; wheat gluten	1.91	2.82	0.47	0.54
1	Live animals	1.86	0.92	0.33	-0.23
96	Miscellaneous manufactured articles	1.77	0.55	0.09	-0.58

44	Wood and articles of wood; wood charcoal	1.67	5.71	0.14	0.82
73	Articles of iron or steel	1.64	1.47	0.01	0.23
70	Glass and glassware	1.55	0.94	-0.01	-0.25
48	Paper and paperboard; articles of paper pulp, of paper or of paperboard	1.54	0.67	0.15	-0.43
83	Miscellaneous articles of base metal	1.53	1.09	-0.14	-0.15
64	Footwear, gaiters and the like; parts of such articles	1.49	0.47	-0.02	-0.41
76	Aluminium and articles thereof	1.41	0.19	0.00	-0.55
49	Printed books, newspapers, pictures and other products of the printing industry; manuscripts, ...	1.41	0.31	0.22	-0.29
25	Salt; sulphur; earths and stone; plastering materials, lime and cement	1.40	1.72	0.33	-0.05

Source: own calculation based on ITC (2024) data

And again Table 4 contains the commodities where Ukraine has the greatest comparative advantage, and Slovakia has a comparative disadvantage for year 2022. Also, comparative advantages of Ukraine in the fiscal year 2022 exhibit a degree of continuity when contrasted with the trade dynamics observed in 2019. However, there were significant changes for some items, such as for Railway or tramway locomotives, where Ukraine in 2019 had RCA1 of 5.19 and in 2022 RCA1 represented only 1.63, while Slovakia had 3.33 and achieved a comparative advantage.

Tab. 4 Slovakia comparative disadvantages and Ukraine comparative advantages (2022)

HS2	**Commodity**	**RCA1 Ukraine**	**RCA1 SR**	**RCA2 Ukraine**	**RCA2 SR**
10	Cereals	28.22	1.05	0.97	0.55
15	Animal, vegetable or microbial fats and oils and their cleavage products; prepared edible fats; ...	18.84	0.30	0.91	-0.29
12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal ...	13.73	0.66	0.83	0.44
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	11.02	0.06	0.89	-0.56
44	Wood and articles of wood; wood charcoal	5.71	1.67	0.82	0.14
23	Residues and waste from the food industries; prepared animal fodder	5.60	0.40	0.50	-0.30
26	Ores, slag and ash	5.23	0.03	0.95	-0.90
72	Iron and steel	4.40	2.21	0.65	0.14

2	Meat and edible meat offal	3.13	0.21	0.63	-0.68
17	Sugars and sugar confectionery	2.87	1.26	0.62	0.38
11	Products of the milling industry; malt; starches; inulin; wheat gluten	2.82	1.91	0.43	0.47
43	Furskins and artificial fur; manufactures thereof	2.64	0.02	0.78	-0.50
4	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere ...	2.22	0.88	-0.01	-0.18
25	Salt; sulphur; earths and stone; plastering materials, lime and cement	1.72	1.40	0.31	0.33
86	Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures ...	1.64	3.33	0.40	0.26
20	Preparations of vegetables, fruit, nuts or other parts of plants	1.59	0.20	-0.13	-0.57
41	Raw hides and skins (other than furskins) and leather	1.55	1.05	-0.28	-0.40
24	Tobacco and manufactured tobacco substitutes; products, whether or not containing nicotine, ...	1.50	0.06	-0.14	-0.91

Source: own calculation based on ITC (2024) data

To further examine bilateral foreign trade connections between Slovakia and Ukraine, we used the Grubel-Lloyd's index (GL Index) to see if there is intra-industry trading between areas. To calculate the GL index, we used product groups at the more detailed HS4 level to eliminate the risk of false intra-industry trade. Table 5 displays the product groupings that achieved the greatest GL index value - as near to 1 as feasible - indicating that these commodities have the most intensive intra-industry commerce between the two areas. Slovakia exports these items in roughly the same quantity as it imports them from Ukraine. For the remaining commodities, the value was 0.97 or lower.

Tab. 5 Intra-industry trade between Slovakia and Ukraine (2022)

HS4	Commodity	GL
2934	Nucleic acids and their salts, whether or not chemically defined; heterocyclic compounds	1.00
6201	Men's or boys' coats, cloaks, capes, cloaks, jackets, also ski jackets, windbreakers, ...	1.00
7010	Demijohns, bottles, flasks, glasses, cups, vials, ampoules and other containers, made of glass...	1.00
7101	Pearls, natural or cultured, whether or not worked or graded, but not strung...	1.00
8426	Marine drills; cranes, incl. rope cranes (except wheel cranes and truck cranes...	1.00

4804	Uncoated paper and cardboard, in rolls with a width > 36 cm	0.99
7318	Screws, bolts, nuts, screw hooks, rivets, cotter pins, washers...	0.99
7319	Sewing needles, knitting needles, crocheted hoods, embroidered spikes and the like...	0.98
8303	Armored or reinforced safes, safes and doors and safe cabinets for safes...	0.98
3215	Printing inks, writing or drawing inks and other inks, whether or not concentrated or solid	0.98

Source: own calculation based on ITC (2024) data

Tab. 6 Prospective commodities for future trade Slovakia with Ukraine

HS2/HS4	Commodity	Value of unused export potential
87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	187 mil. USD
40	Rubber and articles thereof	3.3 mil. USD
85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	5.5 mil. USD
96	Miscellaneous manufactured articles	2 mil. USD
30	Pharmaceutical products	1.3 mil. USD

Source: own processing based on previous calculations of RCA1, RCA2 and from ITC (2024a, 2024b) data

Several issues impede considerable progress in the growth of mutual trade. One of them, is interest of Ukraine and Slovakia in maintaining the status of the main gas transit countries to the EU determines the dominant role of energy diplomacy in the field of bilateral economic relations. So far, neither Slovakia's nor Ukraine's strategic foreign economic policy documents have demonstrated a concrete plan for deepening trade and investment activity. Despite the significant contractual basis of Slovak-Ukrainian trade, investment and sectoral relations, interdepartmental communication on general issues of economic, industrial and scientific-technical cooperation is currently suspended. The main factor in increasing trade between Ukraine and Slovakia is the DCFTA with the EU.

The ongoing conflict in Ukraine has resulted in heightened security risks and political instability. These conditions as significant concerns impacting investment decisions and hindering the establishment of long-term trade partnerships.

Also, according to the World Bank Logistics Performance Index, Slovakia ranks higher than Ukraine in overall logistics performance. However, the insufficient road and rail infrastructure connecting the two countries result in higher transportation costs for goods entering Ukraine. Upgrading key transport routes could substantially alleviate this challenge (The World Bank, 2024). Increasing costs of transport and supply chain problems due to global pandemic and war in Ukraine.

The fluctuation in the exchange rate between the euro and the Ukrainian hryvnia has been evident over the past 2 year, averaging around 31.71%. This volatility introduces uncertainty for businesses engaged in bilateral trade, affecting pricing strategies and creating challenges in managing financial risks (XE, 2024).

Examining sector-specific data, agricultural trade between Slovakia and Ukraine faces challenges due to tariffs and non-tariff barriers. For instance, Ukrainian agricultural exports often encounter restrictive measures, affecting the overall growth potential in this sector.

Distrust in the Ukrainian institutional and regulatory environment prevents the development of prospective areas of cooperation between the parties in the form of joint development projects such as alternative energy, energy efficiency, development of ecological infrastructure for agriculture, industrial cooperation in the automotive industry, creation of multimodal logistics centers.

The economic dimension of Ukrainian-Slovak relations lacks a strategic formulation in the basic and sectoral documents that determine Ukraine's foreign economic policy. Slovakia is the 8th EU country in terms of trade turnover with Ukraine, but it was not included among the markets targeted by Ukraine's export strategy for 2017-2021. Despite the ambition to implement the Ukrainian-Slovak project "Great Reverse", it is not mentioned in the Energy Strategy of Ukraine until 2035. Repeated statements about the intensification of cooperation in the development of the Silk Road through Ukraine and Slovakia were not reflected in the Transport Strategy of Ukraine until 2030 either. In the cross-sectoral strategy for the engineering sector, Slovakia is also an object of Ukraine's interest in terms of increasing exports in the creative industry sector by establishing cooperation with European cinematographic and audio-visual organizations, especially Eurimages. These areas are promising for partnership, but such precision and incoherence in the context of the basic documents of Ukraine's foreign economic policy prevents the full use of the potential of relations (Zosymenko, 2021).

Conclusion

Despite the existence of a sound contractual framework and platforms for economic diplomacy for Slovakia and Ukraine, intergovernmental dialogue on general economic and sectoral issues is sporadic and weak. Based on the results of the research, we reached the following conclusions in the area of possible business cooperation and setting recommendations for the decision-making sphere within the Slovak Republic.

Trade between Ukraine and Slovakia responded positively to the launch of the DCFTA, but Ukrainian exports remain and are technologically much weaker than Slovak exports. Since 2019, for example, the export of goods from Slovakia to Ukraine has increased by 50%, which was caused by the general liberalization of trade with the EU market rather than the creation of conditions for the development of bilateral trade and economic relations by the governments of the contracting parties. In 2022, 70% of the structure of Ukrainian exports to Slovakia consisted of raw materials and resource-intensive items. In addition to gas resupply, a significant share of Slovak exports to Ukraine are land vehicles, nuclear reactors, chemical products and other high-end industrial goods. Due to the stable growth of deliveries of similar goods from Slovakia, as well as the high level of concentration of Ukrainian exports with a significant raw material component (the first 5 product groups according to UKRSTAT accounted for 75% of output flows, the majority of which are ores, slag and ash, meat and offal, wood), the removal of technological barriers to trade in favour of Ukraine without using the potential of vertical production cooperation seems unlikely. Currently, the level of intra-industry cooperation in the production of motor vehicles, electronic and electrical products is almost zero (ITC, 2023).

Also, the parties' mutual interest in intensifying transport cooperation in the development of the Silk Road through the territories of Ukraine and Slovakia was enshrined in the Memorandum on cooperation within the "Silk Economic Belt". However, the organizational or financial basis of the project to create multimodal logistics centres (terminals) in both countries for cargo handling on this route has not yet been announced.

It is important to create favourable conditions for the development of foreign economic activity in the regions of Ukraine. Most regions of Ukraine have insufficient investment potential due to the low level of technological development, low level of competitiveness of enterprises and difficulties in entering foreign markets. The need to introduce a number of legal, organizational, financial and economic measures to diversify and expand the import and export possibilities of the regions of Ukraine is justified.

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Quality Assessment of Slovak Business Environment[1]

Adrián Čakanišin[2] - Mária Halenárová[3]

Abstract

A high-quality business environment creates conditions for the economic growth of the state's economy on an international scale. The level of quality of the business environment is influenced by several factors that affect it positively as well as negatively. The quality of the business environment reflects the level of involvement of the individual actors that shape it. The article aims to identify the assessment of the quality of the business environment of the Slovak Republic in selected indices and to summarize its positive and negative components. We used the comparative method as the main method. The Slovak Republic is achieving a growing trend in the assessment of the quality of the business environment, while the quality assessment factors are improving year-on-year. Result of our paper showing that the main negative factors are, bureaucracy, corruption and dysfunctional public institutions. The most highlighted positives of Slovakia's business environment are primarily the quality and availability of education, employee remuneration, macroeconomic stability and currency and exchange rate stability.

Keywords

Business Environment, Slovakia, Business Index, Quality of Business Environment
JEL Classification: L25, L26, M20

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Introduction

Business environment is a relatively general term, which is associated with several synonyms and parallels (Chládková, 2015). The definition and perception of the business environment took place already in the second half of the 20th century. In this period, the business environment was perceived as a set of external factors affecting business entities (Wheeler, 1973; Weimer, 1974). At the turn of the millennium, experts began to realize the important role of internal factors operating in the business environment. In this period, the first internal factors involving individuals and organizations that affect business entities are defined (Dunham, Pearce, 1989; Petters, 1992; Rosen Sellers, 1999). In the 21st century, authors define the business environment comprehensively as the influence of external and internal factors that shape and influence business activity (Fernando, 2011; Antošová, 2012; Cherunilam, 2016). The business environment is the basis for the long-term development of the business activities of business entities, for the sustainable increase of economic performance and the standard of living of the population (Krošláková, Michálková, Kubičková, 2017).

[1] Tento príspevok je súčasťou výskumného projektu VEGA 1/0271/23 Udržateľná obnova kúpeľného cestovného ruchu v kontexte účinkov civilizačných kríz

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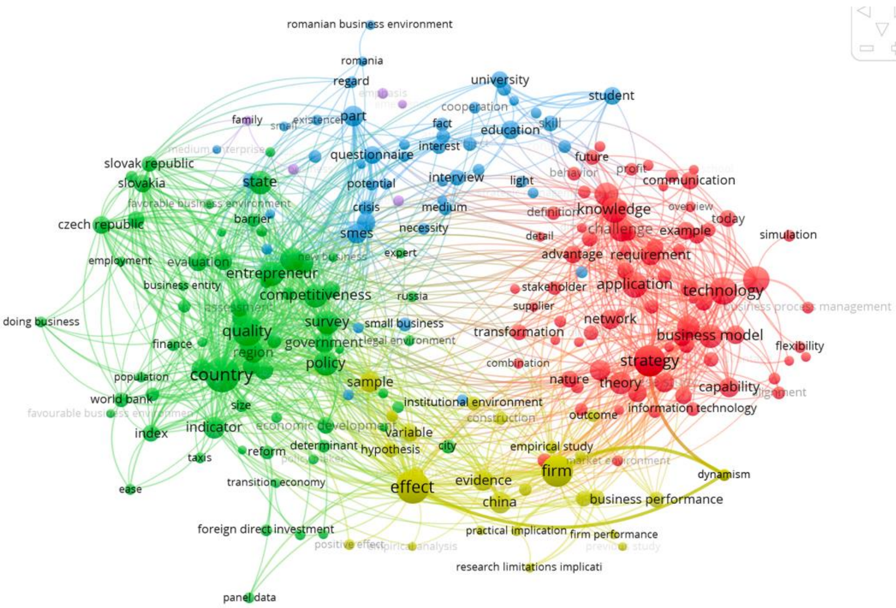
A high-quality business environment creates conditions for achieving economic growth as well as the competitiveness of the economy on an international scale. Cepel et al. (2020) state that the quality of the business environment depends on several factors that have a positive or negative impact on its development. The importance of the quality of the business environment is reflected in the competitiveness of enterprises in the country's economy (Kužmišin, 2009). A high-quality business environment is not only intended for businesses in the economy of a given country but also creates prerequisites for the entry of entities from an international environment (Sochuľáková, 2018). Many domestic and foreign authors deal with the quality of the business environment. Based on the large number of published articles and studies in the Web of Science database, we have created a scheme of keywords that point to research that is currently being addressed in the field of the quality of the business environment. The diagram is shown below (scheme 1).

Scheme 1 Using keywords in articles on the quality of the business environment in the WOS



Source: own processing in VOSviewer

The above diagram shows the occurrence of keywords in the issue of the quality of the business environment in the Web of Science database. A high occurrence of keywords is presented by a greater concentration of colour in the scheme. In the case of the most frequently occurring keywords, we can unequivocally state "quality", "country", "entrepreneurship", "competitiveness", "strategy", and "firms". It follows from the above that the authors examine the quality of the business environment about entrepreneurs, the country and competitiveness. These ties point to the importance of examining the quality of the business environment in individual countries as an important element of competitiveness on an international scale.

The quality of the business environment significantly affects the economic growth of nations. "Best Practices" help support effective market operations and stimulate business ventures (Cepel et. al, 2020). Many indices are used to measure the quality of the business environment. These indices differ in their construction and reporting ability, use different quality measurement methodologies and work with different variables (Jenčíková, 2006).

To identify the quality of the business environment of the Slovak Republic, the following indexes were chosen, which are presented by the authors in their studies in the field of the quality of the business environment:

- Global Competitiveness Index (GCI) (Habánik, Kordoš, Hošták, 2016),
- Doing Business Index (Krošláková, Michálková, Kubičková, 2017).

The listed indexes of the quality of the business environment represent the evaluation of the countries of the whole world in the field of PP quality. In the Slovak Republic, the quality of the business environment is evaluated through the Business Environment Index (IPP), which is published by the Business Alliance of Slovakia. In this post, we will work with three foreign indexes and one domestic index.

Slovakia's business environment is generally favourable, with strong ratings in the World Bank Institute's Worldwide Governance Indicators and the Heritage Foundation's Index of Economic Freedom. Although there are some concerns about corruption, Slovakia has good property rights, an efficient judiciary and freedom of trade and investment. The Environmental Sustainability Index ranks Slovakia at 53 out of 210 economies, reflecting strengths in certain sustainability measures. The overall systemic political risk is low, and despite certain concerns about the stability of the government, Slovakia is perceived as a stable democracy with good international relations (Allianz Trade, 2024).

1 Methodology

The article aims to identify the assessment of the quality of the business environment of the Slovak Republic in selected indices. To fulfil the objective, the following research questions were identified:

RQ_1: What is the assessment of the business environment of the Slovak Republic in selected indexes?

RQ_2: What positives and negatives were evaluated in the area of the quality of the business environment of the Slovak Republic?

Several scientific methods were used in the contribution, but primarily abstraction, concretization, analysis in conjunction with synthesis, and deduction in conjunction with induction. Using the mentioned methods, the secondary sources used in the processing of the submitted paper were identified. The object of investigation is the business environment of the Slovak Republic and its assessment in various world indices and the domestic index. Data was sourced from the Global Competitiveness Index (GCI), Doing Business Index (DBI) and the Business Environment Index (IPP) from 2018-2023. For a long time, the Doing Business Index (DBI) was one of the world's most recognized indices. Doing Business Index was an assessment created by the World Bank, which evaluated 12 parameters of the business environment of the countries of the world. The evaluation of Doing Business was a very debatable topic in the period 2018-2020, as the World Bank published a DBI report in which there were signs of a change in results (Čakanišin, Chlpek, 2023). According to Glock (2021), we cannot rely on the Doing Business Report very confidently in these years. An audit of the 2018 and 2020 reports revealed that certain individuals involved in creating the reports yielded to political pressure and elevated China's rating. This was due to concerns that a poor rating would jeopardize future funding from Beijing. The manipulation compromised the objectivity of the business environment assessment and undermined the usefulness of the Doing Business Index as a tool for evaluating the quality of the business environment. This also presents limitations in accurately assessing the complexity of the situation.

2 Results and Discussion

2.1 Global Competitiveness Index (GCI)

The GCI is a highly complex index that captures microeconomic and macroeconomic indicators of national competitiveness. Competitiveness is the set of institutions, policies, and factors that determine the level of productivity of a country (World Bank, 2024). The World Economic Forum publishes the GCI every year to identify the competitiveness of the world's countries. The GCI is based on 12 pillars that are assessed across all countries. These are organized into 12 pillars: Institutions; Infrastructure; ICT adoption; Macroeconomic stability; Health; Skills; Product market; Labor market; Financial system; Market size; Business dynamism; and Innovation capability (WEF, 2019).

In connection with the evaluation of the business environment of the countries of the world, we present a list of selected evaluated countries of the world in the GCI (table 1).

Table 1: Evaluation of selected countries of the world in GCI, 2018-2019

State	GCI 2019	GCI 2018
Singapore	1	2
USA	2	1
Hong Kong	3	7
Netherlands	4	6
Switzerland	5	4
Japan	6	5
Germany	7	3
Sweden	8	9
Great Britain	9	8
Denmark	10	10
Czech Republic	32	29
Poland	37	37
Slovakia	42	41
Hungary	47	48

Source: own processing based on GCI, 2019

In the mentioned index, Slovakia was ranked 42nd out of 140 evaluated countries in the world, which means that it was placed in the group of the first third of evaluated countries. Compared to 2018, it fell by 1 place. Most of the EU member countries are also in this group. Singapore and the USA won the best positions, while in 2019 the TOP 3 countries were rounded off by Hong Kong with significant year-on-year growth. Of the V4 countries, the Czech Republic was ranked best, while Hungary achieved the worst ranking, ranking 47th. As part of the GCI evaluation, individual countries of the world are evaluated, but the EU creates a ranking of the competitiveness of EU countries from the GCI evaluation. The summary of Slovakia's ranking in these rankings is presented in the following table 2.

Table 2: Evaluation of SR in GCI separately and in countries EÚ, 2015-2019

Year	Evaluation of SR in GCI (out of 140 countries)	Year	Evaluation of Slovakia from EU countries in GCI (out of 25 countries)
2015	40. place	**2015**	19. place
2016	37. place	**2016**	18. place
2017	29. place	**2017**	17. place
2018	41. place	**2018**	17. place
2019	42. place	**2019**	17. place

Source: Own processing based on World Economic Forum, 2019

As part of the evaluation of Slovakia's business environment in the GCI, it can be concluded from the available data that the Slovak Republic had the best rating among the countries of the world in 2017 when it was ranked 29th. In the case of evaluation in EU countries, Slovakia is ranked 17th (tab. 2). According to the GCI assessment for 2023, the Slovak Republic is the 42nd most competitive country in the world out of 140 assessed countries. Since 2007, the rating of Slovakia in the GCI rating has been on average 54.77 points. It reached its record minimum in 2007 at the level of 36 points and reached its maximum in 2014 at the level of 78 points. Over the past 5 years, Slovakia's rating has fluctuated. However, since a comprehensive report including a dataset regarding the evaluation of the business environment of countries for the last years is not available, we present the positives and negatives of the business environment of Slovakia for the previously available years. The *positively evaluated* parameters of Slovakia in the GCI are as follows:

- Macroeconomic stability – according to GCI, Slovakia achieves macroeconomic stability, including a low rate of inflation and stable public debt,
- Quality of education – the quality and availability of education was a positively evaluated area in Slovakia,
- Technological readiness – access to the Internet and the availability of mobile technologies support the digital economy.
- A negatively evaluated parameter is also a part of the GCI evaluation. The following negative parameters were identified in Slovakia:
- Public institutions – corruption, low trust in political institutions and inefficiency of public administration,

- Innovations – investments in research and development together with a low level of cooperation between the academic sector and the business environment represent a negative that prevents development and access to innovations.

Slovakia achieves better results in basic and higher educational indicators and macroeconomic stability. On the other hand, as mentioned, Slovakia achieves a lower rating in the area of quality of public institutions and innovations. Based on the results of the GCI, Slovakia can evaluate its strengths and weaknesses, thereby focusing on solving the negatives that slow down positive growth in the business environment.

2.2 Doing Business Index (DBI)

The Doing Business Index is an assessment of the business environment by the World Bank, which evaluates 12 parameters in 190 countries around the world (World Bank, 2020). This ranking is created annually and published under the auspices of the World Bank. The Slovak Republic has achieved a growing pace in the DBI evaluation, which is also confirmed by the evaluation since 2010 when it is constantly growing. The exceptions in the assessment are the years 2014 and 2015 when the assessment of the business environment decreased slightly, but in 2016, it reached the highest annual increase. The highest rating was achieved by Slovakia in 2020 (75.6) when compared to 2010 it recorded an increase of 8.15 percentage points (e.g.see table 3)

Table 3: Evaluation of Slovakia's business environment in DBI, 2010-2020

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
DBI	69,9	70,6	70,7	71,4	71	70,7	74,8	75	75,2	75,4	75,6
% change		+1	+0,14	+0,99	-0,56	-0,42	+5,8	+0,26	+0,27	+0,27	+0,27

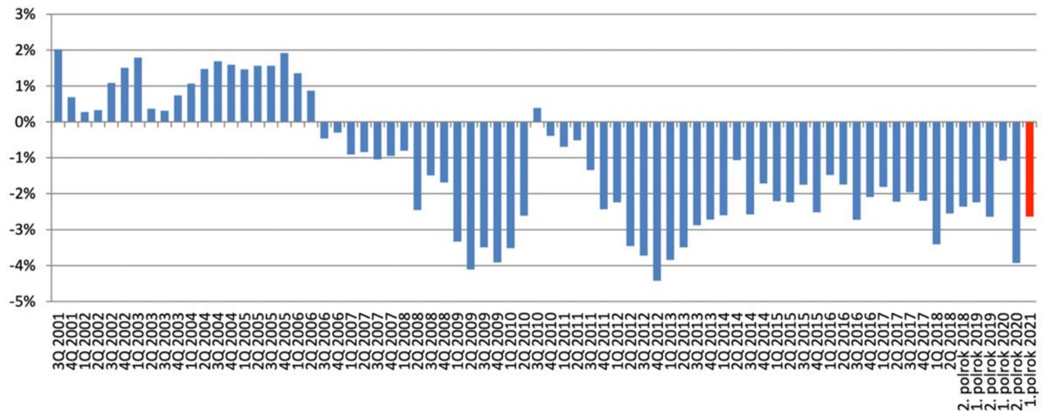
Source: own processing according to the World Bank - DBI report, 2010-2020

In the evaluation of DBI Slovakia, the World Bank positively highlighted the area of "starting business". The said positive assessment lies primarily in the length of time it takes to establish a business, which does not last longer than 30 days. In the simplest form of business, which in Slovak conditions is a trade, this is even easier and you only need to report the start of business at the relevant office. In 2020, the World Bank also highlighted an increase in remuneration during work on Saturdays, Sundays and holidays for workers in Slovakia. Among the negatively evaluated areas in DBI Slovakia are above all ineffective regulation of public procurement and corruption. The Doing Business ranking was a discussed topic in the years 2018-2020 when the World Bank published a report in which some of the results of the ranking of countries in this ranking were adjusted (Čakanišin, Chlpek, 2023). According to some authors, DBI can no longer be trusted confidentially. An audit of the ranking in reports from this period pointed to the fact that those responsible for compiling the ranking succumbed to political pressure and changed China's ranking. The World Bank currently states on its website that the DBI assessment is suspended and the bank's management is initiating a review of the entire Methodology for creating the assessment in question.

2.3 Business environment index (IPP)

The quality of Slovakia's business environment is also monitored by the Business Alliance of Slovakia, which creates a quarterly Business Environment Index, through which it evaluates and monitors the development of Slovakia's business environment. It monitors current developments in individual areas through sentiment surveys among managers who, based on their own experience, evaluate individual areas of the business environment (Eliášová et. al, 2017). Currently, the most available IPP is from the first quarter of 2021. Changes in the index are presented in the following graph 1.

Graph 1: IPP assessment in quarters, 2001-2021



Source: PAS, 2024

According to the Alliance's evaluation, the latest value of the Business Environment Index (IPP) is only 51.6 points, which represents a decrease of 2.1 percent. Entrepreneurs identified the application of the principle of equality before the law, weak law enforcement and a dysfunctional judiciary as the main concerns within the legal and regulatory framework, which contribute to this low value. The length of court proceedings, the ambiguous impartiality of the judiciary, and the comprehensibility, applicability and permanence of legal regulations were also evaluated negatively. The quality and availability of production inputs, labour force, bureaucracy, delays in proceedings at offices, reporting and the level of corruption at offices also received a negative rating in the category of influence of other decisive external conditions on society. In terms of the company's impact on the quality of the business environment, entrepreneurs identified a significant negative impact, especially in the area of "performance, productivity and profitability of the company". Entrepreneurs favourably evaluated the bankruptcy and execution legislation due to the adoption of the amendment to the Execution Order from the workshop of the Ministry of Justice. In the category of access to financial resources, the most positively evaluated items were the level of infrastructure and the stability and predictability of the EUR exchange rate. Finally, in the category of the impact of "our company" on the quality of the business environment, entrepreneurs appreciated the significant contribution of their company in supporting the local region and participating in charitable activities.

Slovakia's business environment is generally considered favourable, with several factors contributing to its attractiveness. These include a qualified workforce, a strategic location in Central Europe and a relatively low level of corruption (Fíľa, Tóthová, 2023).

2.4 Discussion

The quality of Slovakia's business environment is characterized by the constant growth of its rating in various domestic and foreign indexes. The main findings in this paper are primarily the identified positives and negatives that this environment has. The following table presents a summary of the positives and negatives of Slovakia's business environment in the examined indexes (table 4).

Table 4: A summary definition of the positives and negatives of Slovakia's business environment

	GCI (2019)	DBI (2020)	IPP (2022)
Positives	Macroeconomic stability Quality of education Technological readiness	Starting a business Increasing remuneration for employees during days off	Infrastructure level Stability and predictability of the EU exchange rate
Negatives	Effectiveness of the fiduciary Corruption Low trust in political institutions Investments in R&D	Procurement Corruption	Applying the principle of equality before the law Weak law enforcement and dysfunctional judiciary Quality and availability of production inputs Bureaucracy

Source: own processing

The business environment in Slovakia has its strengths and weaknesses. Strengths include macroeconomic stability, quality of education and technological readiness. Weaknesses include corruption, inefficiency of public institutions and low level of innovation. The GCI and DBI ratings provide important insight into these aspects, with both indices highlighting the need for improvement in public administration and innovation support. The business environment index from the Business Alliance of Slovakia offers a detailed view of the opinions of entrepreneurs who point to the need to improve the legal framework and efficiency of the public sector. Overall, the business environment in Slovakia is considered favourable, but there are still areas that require attention and reforms to achieve higher competitiveness and efficiency.

Conclusion

In the case of the evaluation of the quality of the business environment in the selected indices, the selected indices presented in this article agree on the negatives of the business environment in Slovakia, namely: bureaucracy, corruption and dysfunctional public institutions. In this direction, the government and public authorities should adopt such supporting measures that will increase the quality of these elements evaluated in the area of the quality of Slovakia's business environment. On the contrary, the most highlighted positives of Slovakia's business environment are primarily the quality and availability of education, employee remuneration, macroeconomic stability and currency and exchange rate stability It's crucial to uphold a positive growth trajectory and continuously seek enhancement in the featured areas. This article is founded on secondary data, marking the scope of this work. The accessibility and currency of information and data, which could act as a springboard for future research, is pivotal for those influencing the business environment's quality.

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Integration of artificial intelligence in e-learning systems[1]

Peter Červenka[2]

Abstract

The integration of tools and capabilities of artificial intelligence and educational systems opens up new opportunities for companies in the education of employees with more targeted personalization of the flow of information and prediction of their possible professional growth. This contribution examines the technological benefits of artificial intelligence in e-learning systems, which can more effectively focus the educational process on the student with its analytics of educational materials and evaluation of education. The implementation of artificial intelligence in the field of education thus appears to be a necessary competitive advantage that will ensure more flexible progress in the professional growth of employees.

Key words

data analytics, artificial intelligence, learning analytic

JEL Classification: M21, M31

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Introduction

The advent of the Internet and digital technology has revolutionized many aspects of everyday life, including how we learn. ELearning is the delivery of education and training through digital resources. This method has transformed traditional education by providing flexibility, accessibility and a personalized learning experience. The evolution of eLearning has a long history, dating back to the early 20th century with the advent of correspondence courses that allowed students to learn at a distance through mailed materials. The development of radio and television further expanded distance education. However, it was the rise of the Internet in the late 20th century that really catalyzed the growth of eLearning. In the 1990s, educational institutions began to explore the potential of the Internet to deliver educational content. Early adopters of e-learning used basic websites and e-mail to distribute course materials and communicate with students. The development of learning management systems (LMS) in the late 1990s and early 2000s, such as Blackboard and Moodle, provided a more structured and interactive online learning environment. In 2010, open online courses offered by platforms such as Coursera, edX and Udacity expanded (Karkaš, 2021).

These platforms have brought courses from top universities to a global audience, often for free or at low cost. The 2020 COVID-19 pandemic further accelerated the adoption of eLearning as schools, universities and businesses around the world were forced to move to online education and training.E-learning in workplace

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E-learning is becoming an increasingly popular teaching tool in schools and other educational settings, but its benefits extend beyond the classroom. In the workplace, e-learning helps employees acquire essential skills while allowing managers and HR professionals to easily track training requirements and ongoing professional development. With the rise of telecommuting and hybrid work models, employers are finding e-learning more effective for delivering training compared to face-to-face meetings. Its flexibility also makes it a valuable tool for daily upskilling of employees in the workplace (Hr, 2024).

Learning is growing in popularity in both business and educational environments, although it differs in key aspects (Markovic, 2024):

Content - Educational eLearning focuses on broad theoretical knowledge, while business eLearning provides specific skills and information necessary for the functioning of an organization.

Duration - Corporate training is often time-consuming and designed to fit around busy employee schedules, while academic courses tend to last longer.

Measurement - Academic achievement is traditionally measured through examinations, while the success of business education is measured by its impact on key performance indicators (KPIs) and return on investment (ROI).

E-learning not only transformed education, but also brought significant changes to the corporate world. Companies are increasingly adopting e-learning to improve employee development. Here are some key opportunities offered by e-learning (Amores, 2024):

Onboarding - E-learning makes it possible to create effective, fully virtual onboarding processes, which makes it easier for new employees to adapt and achieve better results.

Employee retention - By offering engaging online training, companies can help employees improve their skills and competencies, leading to higher employee engagement and retention.

Compliance Training - E-learning simplifies compliance training and ensures that all employees understand important company policies such as security, conduct and privacy, especially when policies are updated.

Goals - E-learning supports corporate sustainability by aligning employees with sustainability goals through specialized courses on diversity and sustainability, including gamification and collaboration tools to support internal communication.

E-learning platforms can also support personalized learning by using data analytics to tailor learning experiences to individual learners. Adaptive learning technologies can identify strengths and weaknesses, provide tailored content and feedback to improve learning outcomes. In addition, eLearning has supported the development of new pedagogical approaches and instructional design principles. Educators are exploring innovative ways to engage students through multimedia content, gamification, and interactive technologies. In the workplace, eLearning has become an essential tool for employee education and development. For an effective educational system, it is essential to understand students and develop a strategy that addresses individual educational needs and interests.

The intelligent tutoring system is a sophisticated method for tracking student performance to provide personalized tutoring. E-learning applications include computer-based learning, web-based learning, crowdsourcing, and virtual classrooms. Artificial intelligence, which is currently increasingly integrated into the environment around us, can be used to automate educational processes, such as creating learning materials, designing curricula, training, evaluating student performance, and using current teaching methods. Artificial intelligence represents the latest trend in e-learning for universities and business. Artificial intelligence supports personalized teaching and streamlines the learning process by using data analytics to provide personalized insights and improve learning (Kumar et al., 2022).

1 Methodology

The paper deals with the implementation of digital automation tools in the field of e-learning. The aim of the paper is to show the use of artificial intelligence tools in the educational process and their impact on the personalization of education. The analyzed information was obtained from scientific articles and professional publications. By applying the scientific methods of induction and deduction, it was subsequently possible to achieve analysis, extraction and synthesis of knowledge, which was supplemented with own approaches and Conclusions.

2 Results and Discussion

The research of artificial intelligence and its application in the field of education will provide extensive benefits in terms of the technology itself, in the projection, management of individual e-learning courses and ultimately in the evaluation of the learning process.

2.1 Technological implementation of AI in the e-learning environment

AI in synthetic voice technology - Artificial intelligence (AI) is rapidly changing how we interact with technology, especially in voice synthesis. This innovation is set to revolutionize communication, content creation and accessibility by making synthetic voices almost indistinguishable from humans and capable of conveying emotion. Recent advances have made AI-generated voices more realistic and expressive, with deep learning algorithms and large datasets of voice data allowing AI to mimic the nuances of human speech, such as pitch, tone and cadence. In addition, improvements in natural language processing (NLP) allow AI to generate speech with appropriate intonation and context. The future of AI voice synthesis shows even more impressive developments, including hyper-realistic speech, emotional expression in voices, and multilingual fluency, which will improve human-computer interaction and expand global communication. The impact of advances in AI voice synthesis is profound and will change various aspects of everyday life. AI-generated voices will make digital content accessible to people with visual or speech impairments and promote greater independence through seamless text-to-speech technology. AI-driven virtual assistants will engage in a more natural and personalized conversation, with smart devices intuitively adapting to the user's individual preferences. AI voice synthesis will enrich e-learning by providing text-to-text narration and personalized language instruction, opening up new possibilities for engaging and accessible learning. (TechEngage, 2024)

Learning analytics (LA) - Learning analytics refers to the use of data collected from virtual learning environments to improve learning. By leveraging technologies such as Big

Data and artificial intelligence, institutions are collecting data on students' academic performance, allowing for more consistent analysis of their progress. Learning analytics tools capture information such as test scores, content access frequency, time spent on pages, and interaction with supplemental videos. This data is then processed to identify both group and individual learning patterns, helping to refine the learning process. The ultimate goal is to create a comprehensive database that supports performance analysis and decision making for learning activities. This approach changes the way schools interact with students, offering more personalized learning experiences and optimizing learning outcomes (Sydle, 2024).

Large language models (LLM) - Large language models are increasingly important in removing language barriers and improving communication between languages and cultures. Trained on large amounts of text data, these AI models can significantly improve the localization process. LLMs, such as OpenAI's GPT series, are based on deep learning architectures such as RNNs or transformers and feature large scale with billions of parameters to help them understand and generate human language. By learning grammar, context, semantics, and subtle language nuances from vast datasets, LLMs have the potential to revolutionize localization efforts. Their integration promises a future in which cultural and linguistic diversity will be accepted and global communication will be more fluid (Mirela, 2024).

In the case of video tutorials or e-learning video content, studies show that 72% of consumers prefer products with information in their native language. Translating e-learning courses traditionally involves dubbing or subtitling, which often reduces the quality of the video. These methods present challenges, especially when offering courses in multiple languages, potentially limiting the company's global reach. However, AI-generated content solves these problems by creating videos in different languages as if each was uniquely created for its audience. This approach provides smooth, high-quality translations delivered quickly and easily, helping businesses expand without sacrificing content quality (Riparbelli, 2023).

AI-based recommendations for eLearning - A key focus of modern e-learning systems is to understand each learner's style in order to deliver customized and personalized content. To achieve this goal, the integration of effective recommendation systems into online learning platforms is essential. These systems take student behavior and preferences into account when designing learning materials. They continuously analyze data from user interactions such as courses completed, time spent on different materials, quiz performance and learning behavior. By processing this information, they design learning pathways, resources, and activities that align with each student's unique needs, making learning more engaging and effective (Oubalahcen, Tamym, & Ouadghiri, 2023).

A key feature of AI recommendation systems is their ability to learn and adapt over time. As students progress, the system refines its recommendations and offers more relevant content that challenges the student or fills knowledge gaps. This dynamic personalization ensures that students receive the right material at the right time, improving retention and outcomes.

Gamification - eLearning has revolutionized education by providing flexible, affordable and scalable learning opportunities worldwide. As the demand for engaging and interactive learning experiences grows, gamification has emerged as a powerful tool to enhance eLearning. Gamification integrates game elements – such as points, badges, challenges and rewards – into educational content to make learning immersive and motivating. Combined with eLearning, gamification encourages active participation, increases student engagement and increases retention.

AI enhances gamification through adaptive game design, where the game adapts to the learner's abilities and progress. It can adjust difficulty level or pace based on performance and tailor the experience to individual learning styles. In addition, the AI uses data-driven learning analytics to analyze game data to provide insight into student behavior and performance. This helps educators and designers optimize game mechanics to better support learning outcomes ("How AI Is Transforming the eLearning Industry," 2024).

2.2 Examples of educational platforms with AI support

Brainly

It is an online learning platform that solves the problem of students with homework, especially on mobile devices. To solve this problem and simplify the learning process, Brainly has partnered with Google Cloud and leveraged its Vision AI technology. With Google Cloud's Vision artificial intelligence integration, students can take a photo of their questions and get relevant answers instantly. Vision AI's multilingual capabilities have significantly improved engagement and satisfaction rates. The technology's ability to recognize text in multiple languages has allowed Brainly to serve a global audience, allowing students around the world to use the platform. Google Cloud's scalability has been critical in accommodating increased demand from distance learning, enabling Brainly to support students worldwide.

Carnegie

Carnegie Learning, an AI-powered learning platform, uses machine learning algorithms to offer students interactive lessons and real-time feedback, improving their understanding of complex topics and enhancing their skills. It provides educational solutions for high school and college students in subjects such as math, literacy and world languages. Its award-winning MATHia software provides personalized math support and valuable insights that enable teachers to provide real-time feedback and assessments to help students identify strengths and areas for improvement. Additionally, Carnegie's world language programs allow students to become confident communicators while connecting with the cultures they study (Murf, 2024).

Cognition

Cognii is an AI-powered virtual tutor that assists students in question-and-answer scenarios by providing pre-written instructions. Accessible on a variety of devices, it allows students to read material and answer questions, offering feedback based on their answers or directly through assessments. It supports a wide range of subjects including English, science, social studies, engineering, technology and mathematics for students in Years 3 to 12. What sets Cogniia apart from other tools is its ability to allow students to write answers in their own words while receiving automated feedback. This platform records responses and tracks student performance, allowing teachers to easily assess individual, group or class trends with intuitive analytics. Cognii uses AI to recognize students' natural language responses and provide real-time guidance to improve their responses. Unlike traditional multiple-choice assessments, students write detailed answers and the system identifies missing information or areas that need more depth and offers feedback to refine their answers. Students continue to improve their answers until they are correct and receive instant feedback that accelerates the learning process and helps them achieve mastery faster than traditional methods. It's like having a virtual teaching assistant that guides students through real-time assessment (Edwards, 2022).

EdApp

EdApp is a mobile learning management system that enhances corporate and retail training through its freemium mobile platform. It provides engaging and effective e-learning solutions available to all who aim to revolutionize the transfer of knowledge in the workplace using cutting-edge training tools. EdApp AI Create enables rapid course development, generating complete lessons with a single click, eliminating the need for extensive planning or research. The platform includes robust reporting and analytics tools to track compliance, identify learning gaps, and improve learning outcomes. In addition, EdApp's Rapid Refresh tool is a sophisticated quiz generator that quickly reinforces concepts and identifies knowledge gaps and automatically delivers quizzes to students' devices (Selander, 2024).

Coursebox

Coursebox is an AI-powered learning management system and course creation tool that simplifies eLearning management for course creators and organizations. It offers a faster and easier way to develop online training courses. Educators, professional development providers, managers, CEOs, and founders can save time with Coursebox, which generates course structures based on basic inputs such as course description, target audience, and duration. The generated structure can be modified as needed, and once complete, Coursebox will create all the content, including text and quizzes. As both a course creator and an LMS, Coursebox supports features like certification, student sharing, and more. Course creators can distribute their courses via a share link, embed them in their LMS or website, keep them private for confidential training, sell them publicly, or offer them for free on the Coursebox marketplace (ToolPilot, n.d.).

2.3 Benefits of AI in the field of management and the provision of education

Artificial intelligence (AI) is rapidly transforming various sectors, and education is no exception. AI capabilities in data analysis, pattern recognition and automation offer significant benefits for the management and delivery of educational content. By leveraging AI, educational institutions can increase the efficiency, accessibility and personalization of their services, leading to better learning outcomes and administrative efficiency.

Administrative efficiency - AI can make administrative tasks such as planning, evaluation and resource allocation more efficient. Automated systems can handle routine tasks like grading multiple-choice questions or managing class schedules, freeing educators to focus on teaching and mentoring. AI-powered tools can also help manage student records, attendance and performance data, ensuring accuracy and reducing administrative burden.
Predictive analytics - Artificial intelligence algorithms analyze historical data to predict future trends, such as student performance or enrollment patterns. Using predictive analytics, institutions can make informed resource allocation decisions, identify at-risk students early, and tailor interventions to improve student outcomes. This proactive approach allows schools to address potential problems before they become serious problems.

Personalized Learning Paths - AI enables the creation of personalized learning experiences by analyzing students' learning styles, strengths and weaknesses. Adaptive learning platforms use AI to adjust content delivery and teaching methods based on individual student needs. This personalized approach ensures that each student receives the support they need to succeed, increasing learning effectiveness and engagement.

Resource Optimization - Artificial intelligence helps optimize learning resources by analyzing usage patterns and efficiency. For example, AI can help institutions determine the most effective learning materials or tools by analyzing data on student engagement and performance. This optimization ensures that resources are used effectively and efficiently, maximizing their impact on student learning.

2.4 Benefits of AI in the context of learning and assessment

Artificial Intelligence (AI) is reshaping the eLearning landscape and offering significant benefits in both learning and assessment. By personalizing the learning experience, AI tailors content to meet the individual needs of students, increasing engagement and understanding. In assessments, AI enables real-time feedback and data-driven insights, helping educators identify knowledge gaps and improve instructional strategies. Integrating AI into eLearning not only streamlines the learning process, but also supports more effective, personalized and interactive learning experiences.

Virtual classrooms and teaching assistants - AI makes it easy to create virtual classrooms that mimic a traditional learning environment. AI-powered virtual assistants can support students by answering questions, providing explanations and offering additional resources. These tools expand the reach of education by enabling distance learning and providing access to quality education for students in underserved areas.

Content creation and management - AI can assist in the development of educational content by creating quizzes, assignments and instructional materials. In addition, AI-powered systems can process content from a variety of sources, ensuring that students have access to the most relevant and up-to-date information. This capability helps educators maintain high-quality and engaging content for their students.

Assessment and Feedback - Artificial intelligence improves the assessment process by providing detailed information about student performance. Automated grading systems can score open-ended responses and provide feedback, while AI analytics can identify patterns in student assessments, helping educators understand areas where students may need additional support. This data-driven approach to assessment allows for more targeted and effective feedback.

Conclusion

Artificial intelligence is reshaping the management and delivery of education by increasing administrative efficiency, personalizing the learning experience and optimizing the use of resources. By using the AI technologies identified in this paper, educational institutions can offer more efficient, accessible and engaging learning environments. The paper provides an insight into existing e-learning tools that have AI-based functionality, where it generalizes its benefits in terms of management and provision of education and evaluation of education itself in the e-learning study process. The capabilities of analysis, prediction and subsequent personalization of the e-learning process take distance education to a completely new level.

Due to the large amount of data that AI tools need for their personalized decisions, creation, or evaluation, it is appropriate to pay due attention to the security of the collected data. E-learning platforms often store sensitive data, including personal data, proprietary materials or confidential information. A secure eLearning tool must effectively protect this data from unauthorized access or theft and ensure compliance with standard data protection regulations (Murf, 2024b).

However, addressing challenges such as data privacy, bias and customization are essential to ensure responsible and fair implementation of AI in education. As AI advances, its role in education is likely to expand, offering new opportunities to improve learning outcomes and learning management.

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The Importance of Cultural Heritage in Tourism[1]

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Abstract

The aim of the paper is to observe interest in the topic of culture and cultural heritage and impact of cultural heritage on country performance. Natural and cultural resources represent prerequisites for tourism development. It relates to an increasing interest in exploring and learning different cultures and cultural heritage. This type of tourism deals with not only infrastructure, but also represents such aspects as lifestyle, preferences and interests, value systems, different traditions, and belief systems. One of the possibilities how to compare and measure the level and the development of cultural heritage in individual countries is represented by competitiveness indices. We focus on the Travel and Tourism Development Index, precisely Natural and Cultural Resources subindex that enables to identify current state of the countries/economies in the field of cultural heritage development. Results of regression analysis approved impact of cultural heritage on GDP per capita.

Key words

tourism, cultural heritage, GDP

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Introduction

Article 167 of the Treaty of Lisbon (2009) states that the EU contributes to the "flowering of the cultures of the EU Member States while respecting their national and regional diversity and simultaneously bringing the common heritage to the fore". Cultural heritage is an irreplaceable wealth of the state and its citizens. Cultural heritage is also evidence of the development of society, philosophy, religion, science, technology, art, etc. and presents the educational and cultural level of nations, national minorities, ethnic groups and individuals who live or have lived in the past on the territory. Individual types and parts of cultural heritage are equal and form an inseparable part of the cultural heritage of Europe and the whole of humanity (91/2001 Coll.). Heritage is our legacy from the past, what we live with today, and what we pass on to future generations. Cultural and natural heritage are both irreplaceable sources of life and inspiration. Natural and cultural World Heritage sites are among the world's most visited tourist attractions. Tourism and visits of these sites have the

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potential to generate revenues that may benefit the protection of the sites as well as contribute to the livelihoods of the local communities living within and around the sites (Kajzar, 2014).

According to Mele, Kerkhof & Cantoni (2021), culture and history present the most important resources for a destination to attract visitors. Both (culture and history) fall within the scope of cultural tourism. While there are more than 160 definitions for the concept of culture (Kroeber & Klukhohn, 1952), they all share two common points: culture is a way of living built upon a system of shared meanings, and it is conveyed from generation to generation (White, 1959, Danesi & Perron, 1999).

There is an increasing desire for novelty in contemporary society. Culture provides an excellent source of novelty, allowing people to discover new cultures and providing opportunities for people to learn for themselves. Heritage tourism is largely concerned with the cultural legacy of the past, or the 'hard' cultural resources usually contained in old buildings, museums, monuments, and landscapes or represented and interpreted in specialized 'heritage centers' (Richards, 2000).

The typical cultural tourists are people aged 45–60 years. Most of them are people with higher incomes and education, willing to spend more money on their trips. They are sophisticated people who look for new experiences and new destinations. It is assumed that the number of people interested in cultural tourism will grow with how the baby-boom generation matures. It will be reflected not only in the interest in the typical cultural destinations, but also in the developing countries where cultural products will improve the quality and profit from the growth of segments. Cultural destinations should offer such cultural products, which will be a story and experience for their visitors (Kajzar, 2014). The definition of cultural tourists relates to two key issues which encompass the main reason for the trip as well as the level of experiences at the destination. A tourist who consumes a cultural product is assumed to be a cultural tourist by definition and the emphasis is on the overall experience the tourist receives from the visit (Siamak, Hall & Rasoolimanesh, 2020).

According to Business Research Insights (2024), more people than ever before are curious to learn about other cultures and immerse themselves in the history of other locations. They are increasingly looking for meaningful contacts with local cultures, arts, customs which has increased demand for cultural experiences. Results of their research pointed to expected reach of the global cultural tourism market size at USD 11,900 million by 2029, exhibiting a compound annual growth rate of 14.4% during the forecast period. Cultural tourists validate the importance of heritage, arts, and culture through experience in these destinations. Income from this type of tourism contributes to the prosperity of the community and local businesses, while supporting activities related to culture, art, or local public services (Ardelean & Badulescu, 2022).

1 Methodology

The aim of the paper is to observe interest in the topic of culture and cultural heritage and impact of cultural heritage on country performance. Not only for its contribution to identity and well-being but also for its potential for economic growth, job creation, and international trade, importance of culture is recognized and promoted by the EU. As there is no statistical system of monitoring and analyzing individual indicators of cultural tourism such as the number of arrivals of cultural tourists and consumption of cultural tourists, it is difficult to measure demand in culture. According to Zadel, Zrinka & Bogdan (2013), it is also difficult to assess the economic impact of cultural tourism which the main objective is fulfilling tourists' needs and achieving positive effects including economic effects and consumption.

To observe interest, we decided to use Google search engine and its tool Google Trends. Google is the most visited website in the world and processes 8.5 billion searches per day (Trend, 2023). Google Trends is a free tool from Google that provides information on search trends for specific terms (in our case "culture & cultural heritage") in the Google search engine over a period. It merely reflects the search interest in particular topics. In the tab. 1 we present an overview of the results related to the search term "cultural heritage", which reflects the interest in the topic over the last 5 years in travel category. A value presents the peak popularity for the term.

Tab. 1 Search interest of the term "culture & cultural heritage" over the last 5 years

Term	**Values**	**Term**	**Values**	**Term**	**Values**
Culture	100	Culture meaning	31	Natural heritage	6
World heritage	100	Culture kings	30	Definition	6
What culture	100	World	29	Cultural tourism	5
World	97	UNESCO heritage sites	29	Philippines	4
Cultural heritage	91	What	28	UNESCO Intangible Cultural Heritage Lists	4
World cultural heritage	91	World heritage site	26	Country	4
The	87	Cultural heritage of India	24	Art	4
Heritage sites	84	Heritage of India	24	Monument	3
Cultural heritage sites	82	Intangible cultural heritage	24	Sustainability	3
Culture trip	72	India culture	24	Meaning	3
What is culture	69	Tourism	22	Historic site	3
Culture tourism	67	Culture pass	22	Landscape	3
Tourism	66	Dubai culture	22	Zoo Culture Gym	3
Unesco	62	Heritage	21	Traditions	3
UNESCO cultural heritage	61	Paris culture	20	Cultural landscape	2
UNESCO heritage	61	Bali culture	20	Art	2
Heritage tourism	48	Culture holidays	19	France Culture	2
Cultural heritage tourism	48	Caribbean culture	18	Pop culture	2
Cultural tourism	48	Arts and culture	18	Organizational culture	2
Tourism	48	Japan	18	Cultural heritage	2
World heritage site	46	Japan culture	18	Cultural travel	2
World heritage sites	45	UNESCO	17	Pass Culture	1
France culture	44	Indian culture	17	Famous	1
ZOO culture	43	India	16	Lac	1

Term	Values	Term	Values	Term	Values
France	43	Culture club	15	Tip	1
UNESCO world heritage	40	American culture	14	The Culture Trip	1
India	39	Intangible cultural heritage	10	Important	1
Cultural heritage site	34	Nature	9	Vintage Culture	1
Heritage site	34	Heritage tourism	8	Culture Trip	1
Pop culture	33	UNESCO	8	Cancel culture	0,5
Natural heritage	32	History	8	Museum of Pop Culture	0,5

Source: own processing according to Google Trends

A value of 100 (culture and cultural heritage) is the peak popularity for the term. A value of 50 (heritage tourism, world heritage sites) means that the term is half as popular. A score of 0 means there was not enough data for this term.

In order to achieve the aim of the paper to observe the impact of cultural heritage on countries 'performance, we used indicators shown in table 2 and data from WEF (2022) Travel and Tourism Development Index 2021 in 117 countries worldwide. We used values, not ranking of indicators.

The Travel & Tourism Development Index (TTDI) 2021 is an evolution of the 15-year-old Travel & Tourism Competitiveness Index (TTCI) series, a flagship index of the World Economic Forum's Platform for Shaping the Future of Mobility. This revised index serves as a strategic benchmarking tool for policymakers, companies and complementary sectors to advance the future development of the Travel and Tourism (T&T) sector by providing unique insights into the strengths and development areas of each country/economy to enhance the realization of sector potential and growth.

Tab. 2 Indicators used for analysis

Protection_2021 - Adequate protection for tangible and intangible cultural heritage, 1-7 (best)
DD_2021 - Cultural and entertainment tourism digital demand, 0-100 (best)
Cult_res_2021 - Cultural resources, 1-7 (best)
Atractions_2021- Concentration of interest in cultural attractions, % of views
WHS_numb_natural_2021 - Number of World Heritage natural sites
OralandINCH2019 - Oral and intangible cultural heritage (number)
NCresources_2019 - Natural and cultural resources subindex, 1-7 (best)
Cult_res_business_2019 - Cultural resources and business travel, 1-7 (best)
GDP_PC_2022 – GDP per capita (current US$)

Source: WEF, 2022

Regarding our research, we assume that cultural heritage affects the economic performance of countries. To verify this assumption, we applied multiple linear regression. We used dependent variable GDP per capita (current US$) that was compiled from the databases of the World Bank Group (WBG) and indicators of the subindex from Travel and Tourism Development index 2021, representing culture and cultural resources as independent variables.

2 Results and Discussion

2.1 Interest in culture and cultural heritage topics

The role of culture in the European project has its own place. The term culture or cultural heritage seems to be appropriate to represent a common identity without threatening cultural differences, which are within the competence of individual states.

Using the Google Trends tool, we observed what people worldwide search for in connection with the culture and cultural heritage. Results were processed in the form of word clouds.

Fig. 1 Word cloud "culture & cultural heritage"

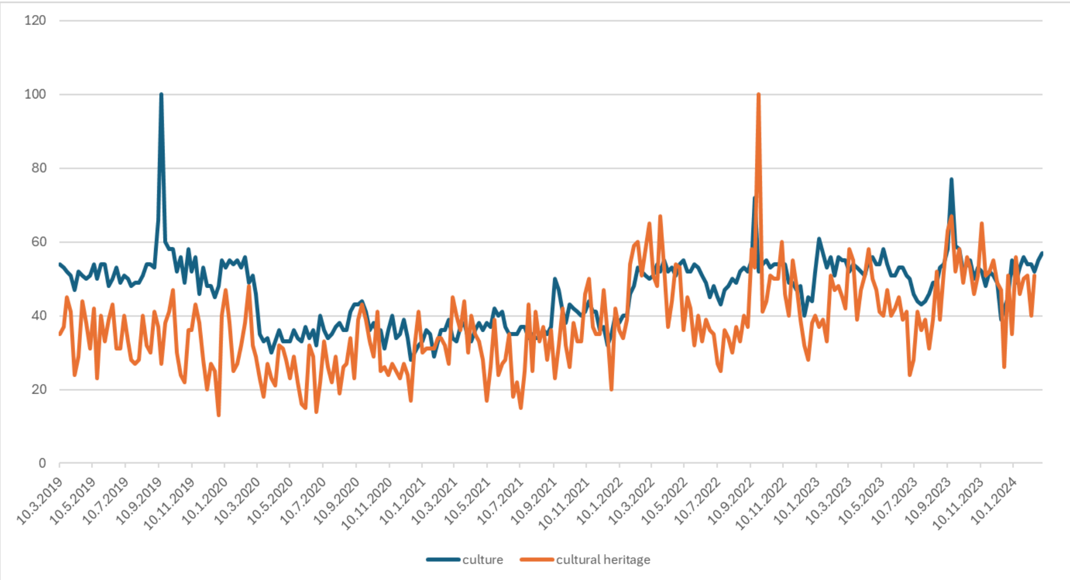
Source: own processing according to Google Trends and https://colab.research.google.com/

The most significant peeks related to our terms were recorded in mid-September 2019 and 2022 (Fig. 2). In that time meetings were held in the USA and in Europe. Values represent search interest relative to the highest point on the chart for the given region and time.

United Nations General Assembly Resolution 73/126 of 12 December 2018 (UN, 2019) requests the President of the 73rd session of the Assembly, H.E. Ms. María Fernanda Espinosa Garcés, to convene a high-level forum devoted to the implementation of the Program of Action on the anniversary of its adoption. The Assembly also requested the President of the General Assembly to give special attention to the appropriate and befitting observance of the twentieth anniversary of the adoption of the Declaration and Program of Action, which falls on 13 September 2019, as an opportunity for renewing the commitments to strengthen further the global movement for the culture of peace. Recognizing the need to further promote the Culture of Peace, particularly in the current global context, the 73rd UNGA has affirmed the afore-mentioned mandate with the co-sponsorship of 100 Member States. The second significant event was held on 21 and 22 September 2019, when Europe celebrated the 2019 edition of the European Heritage Days, a joint initiative of the Council of Europe and the European Union (COE, 2019).

In September 2022 Prague hosted European Cultural Heritage Summit. It was 30th anniversary of the inscription of its historic center on the World Heritage List. The Prague Summit put together heritage stakeholders, policymakers at all levels of governance, civil society organizations as well as heritage enthusiasts from across Europe and beyond (Europa Nostra, 2022). As the fig. 2 shows, the second significant change was recorded in 2023 during the Heritage Days 2023. UNESCO celebrated living heritage. This event was focused on the Convention for the Safeguarding of Intangible Cultural Heritage, which celebrated its 20th anniversary in 2023 (UNESCO, 2023).

Fig. 2 Search interest of culture and cultural heritage for the last 5 years



Source: own processing according to Google Trends and https://colab.research.google.com/

2.2 Impact of cultural heritage on country performance

Model 1 shows regression model with independent variables (Adequate protection for tangible and intangible cultural heritage, Cultural and entertainment tourism digital demand, Cultural resources, Concentration of interest in cultural attractions, Number of World Heritage natural sites, Oral and intangible cultural heritage, Natural and cultural resources subindex; Cultural resources and business travel).

Model 1 OLS analyses the influence of independent variables on GDP per capita in current US$. Based on regression analysis, the R-squared (0.578117) indicates that approximately 57.8% of the variance in the dependent variable is explained by the independent variables. Adjusted R-squared (0.544025) accounts for the number of variables in the model, indicating a reasonably good fit. 5 out of 8 independent variables (Protection_2021 (15790.8, $p < 0.0001$); Atractions_2021 (424.591, $p = 0.0023$); OralandINCH2019 (-1613.04, $p = 0.0001$) and NCresources_2019 (-18090.3, $p = 0.0011$); and cult_res_business_2019 (23150.1, $p = 0.0006$) are highly significant, however OralandINCH2019 and NCresources_2019 has negative impact. Cult_res_2021 (-12458.4, $p = 0.0856$) and WHS_numb_natural_2021 (1839.34, $p = 0.0794$) are moderately significant. Variable DD_2021 ($p = 0.6079$) appears to be statistically not significant.

Although the variable DD_2021 is not statistically significant ($p = 0.6079$), the general F-statistic (16.95777) with a p-value of 1.29e-15 indicates that the model is statistically significant overall and can be considered as generally valid with several indicators showing strong significance.

Model 1: OLS, using observations 1-117 (n = 108)
Missing or incomplete observations dropped: 9
Dependent variable: GDP_PC_2022

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	−40447,4	12693,1	−3,187	0,0019	***
Protection_2021	15790,8	2214,26	7,131	<0,0001	***
DD_2021	170,635	331,469	0,5148	0,6079	
Cult_res_2021	−12458,4	7174,00	−1,737	0,0856	*
Atractions_2021	424,591	135,419	3,135	0,0023	***
WHS_numb_natural_2021	1839,34	1037,80	1,772	0,0794	*
OralandINCH2019	−1613,04	403,099	−4,002	0,0001	***
NCresources_2019	−18090,3	5373,48	−3,367	0,0011	***
Cult_res_business_2019	23150,1	6545,15	3,537	0,0006	***

Mean dependent var	21492,65	S.D. dependent var	25523,70
Sum squared resid	2,94e+10	S.E. of regression	17235,11
R-squared	0,578117	Adjusted R-squared	0,544025
F(8, 99)	16,95777	P-value(F)	1,29e-15
Log-likelihood	−1202,055	Akaike criterion	2422,110
Schwarz criterion	2446,249	Hannan-Quinn	2431,897

Note: Significance of marks (stars) by parameter´s estimations *** - 99 %, ** - 95 %, * 90 %, probability.

Source: own processing by WEF, 2022; WBG, 2024

Furthermore, we decided to remove non-significant variable (DD_2021) to simplify the model unless there is a theoretical reason to keep it.

Model 2: OLS, using observations 1-117 (n = 108)
Missing or incomplete observations dropped: 9
Dependent variable: GDP_PC_2022

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	−43051,5	11598,7	−3,712	0,0003	***
Protection_2021	15695,2	2198,34	7,140	<0,0001	***
Cult_res_2021	−11278,2	6772,75	−1,665	0,0990	*
Atractions_2021	426,752	134,856	3,165	0,0021	***
WHS_numb_natural_2021	1705,27	1000,88	1,704	0,0915	*
OralandINCH2019	−1674,14	383,815	−4,362	<0,0001	***
NCresources_2019	−18008,1	5351,33	−3,365	0,0011	***
Cult_res_business_2019	23853,1	6377,52	3,740	0,0003	***

Mean dependent var	21492,65	S.D. dependent var	25523,70
Sum squared resid	2,95e+10	S.E. of regression	17171,65
R-squared	0,576988	Adjusted R-squared	0,547377
F(7, 100)	19,48566	P-value(F)	3,16e-16
Log-likelihood	−1202,199	Akaike criterion	2420,398
Schwarz criterion	2441,855	Hannan-Quinn	2429,098

Note: Significance of marks (stars) by parameter´s estimations *** - 99 %, ** - 95 %, * - 90 %, probability.

Source: own processing by WEF, 2022; WBG, 2024

R-squared (0.577) indicates that approximately 57.7% of the variance in dependent variable (GDP per capita - GDP_PC_2022) is explained by the independent variables in the model. Adjusted R-squared (0,547377) accounts for the number of variables in the model, indicating a reasonably good fit, although the slight decrease compared to R-squared suggests that adding more variables might not significantly increase the explanatory power of the model.

The F-statistic (19,48566) and p-value(F) of 3,16e-16 indicate that the model is statistically significant overall, meaning the independent variables explain a significant portion of the variance in the dependent variable.

Based on the model 2 we found out that all variables are statistically significant. Protection_2021 (15695.2, p<0.0001), Atractions_2021 (426.752, p=0.0021), and Cult_res_business_2019 (23853.1, p=0.0003) as independent variables are positive and highly significant, i.e. increased protection, higher interest in attractions and improved cultural resources and business travel positively affect GDP per capita. WHS_numb_natural_2021 (1705.27, p=0.0915) has a positive but weakly significant impact on GDP per capita, suggesting a possible positive relationship with the number of World Heritage natural sites. OralandINCH2019 (−1674.14, p<0.0001) and NCresources_2019 (−18008.1, p=0.0011) are highly significant and have a negative impact on GDP per capita, i.e. are associated with a decrease in GDP per capita. Cult_res_2021 (−11278.2, p=0.0990) is negative and marginally significant, i.e. impact on GDP per capita is not strongly significant.

To conclude, we observed how various factors (independent variables) influence GDP per capita, offering a framework for understanding economic growth and country performance.

Conclusion

In general, cultural heritage has a positive impact on economic growth that is influenced by social, political and institutional factors. Faria & León-Ledesma (2003) found out that the impact of cultural heritage on economic growth was positive, and it was smaller for countries that either suffer a high degree of political instability or enjoy a high degree of rule of law. Tourism receipts and interest have a significant and positive impact on the economic growth of the country. Our results partially support these findings. We observed the impact of cultural heritage on international GDP per capita. Based on the results of regression analysis, we can conclude that there is correlation between cultural tourism resources and country´s performance. The model indicates several significant variables that affect GDP per capita, with varying directions of influence. The significance and sign of the coefficients approve potential positive and negative impact of observed variables on GDP per capita, which could be useful for policy analysis and economic planning.

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Introduction to the study of consumer ethnocentrism as a strategic international management tool in India and Slovakia: a gender perspective[1]

Marián Čvirik[2] – Anjali Singh[3]

Abstract

The concept of consumer ethnocentrism represents an important issue in the era of globalization. The aim of the presented article is to create a basis for the investigation of consumer ethnocentrism in the conditions of India and Slovakia, with an emphasis on the investigation of the influence of gender. From a methodological point of view, we use the possibilities of measuring consumer ethnocentrism using CETSCALE. In our paper, we use several methods, with an emphasis on descriptive and inductive statistics. The results indicate the specifics of the perception of consumer ethnocentrism in the studied countries, while the influence of gender on the level of consumer ethnocentrism was not confirmed in any country. The paper also contains limits that primarily result from the nature of the samples, on the basis of which we consider the results indicative but they provide the necessary basis for further research.

Key words

Consumer ethnocentrism, marketing management, consumer behaviour, India, Slovakia.
JEL Classification: D91, M31, M16

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Introduction

The term ethnocentrism was introduced by Sumner in 1906 (Shimp & Sharma, 1987). The definition of which is as follows: "The view of things in which one's own group is the centre of everything, and all others are scaled and rated with reference to it. Each group nourishes its own pride and vanity, boasts itself superior, exalts its own divinities and looks with contempt on outsiders" (p.13). It is referred to as a "unique economic reform of ethnocentrism that captures the beliefs held by consumers about the appropriateness and indeed morality of purchasing foreign-made products" (Shimp and Sharma, 1987, p. 280). Consumer ethnocentrism specifically pertains to the ethnocentric perspectives by consumers within a particular country, indicated as the in-group, towards goods originated from a different country, referred to as the out-group (Shimp & Sharma, 1987). Ethnocentrism is found in the individuals who tend to be "ethnically-centered", Meaning to strongly accept the culturally "like" and reject the culturally "unlike" (Theodor et al., 1950).

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Consumer ethnocentrism is a significant notion in consumer behaviour which examines the consumers' preference for the home-made products over the products made outside the country. This notion creates a bias towards domestic products in the sense that purchasing domestic products is beneficial to the local economy and it has sense of pride for the nation. It shows the loyalty of the buyers towards domestic products (Siamagka & Balabanis, 2015). Purchasing products from overseas could be perceived as inappropriate due to its potential negative impact on local employment rates and the overall economic well-being. The purchase of foreign goods may even be seen as simply unpatriotic (Klein, 2002; Netemeyer et al., 1991; Sharma et al., 1995). Consumer ethnocentrism is defined as the propensity of consumers to prefer homegrown goods over those originating from other countries, driven by a mindset that fosters favourable attitudes towards one's own cultural group while simultaneously rejecting those that are culturally dissimilar (Wall & Heslop, 1986).

Consumer ethnocentrism is a very vital component in the Indian market because of the sentiments of the Indian consumers. The well-known "Make in India" initiative started in 2015 by the Government of India gave boost to consumer ethnocentrism among consumers of India (Gera et al., 2022). This initiative amplified the domestic manufacturing and entrepreneurship in India. The main concern for not adopting the foreign goods is the growth of multi-brand retailers which can affect the income of the small retailers. However, young consumers have less preference for Indian products (Banerji & Mishra, 2018). Baba Ramdev has shifted the focus from traditional marketing to consumer ethnocentrism. He claims that we use "traditional Indian ayurvedic techniques in making our cosmetics" which elicits brand ethnocentrism in consumer's mind leading to brand liking (Sarkar & Sarkar 2018). In his interview with Economic Times, he stated "If you buy products made by MNCs then you are helping these companies to take Indian money out of the country. If you will buy our products, then money will stay in the country. Swadeshi brands have immense potential, provided they stay true to their promise." He said that the MNCs here were not working for the country's development rather their sole objective was to "loot" India. His focus on swadeshi and boycotting MNC's products clearly shows his focus on consumer ethnocentrism.

Understanding consumer ethnocentrism is of utmost importance in order to understand the purchase intention of consumers. In purchase intention, consumer ethnocentrism results in a conscious affection towards domestic products on the basis of emotional and moral considerations (Batra et al., 2000). A study conducted in Chennai suggested that consumer ethnocentrism does influence the purchase behaviour of the Indian consumers (Charulakshmi & Chandran, 2022). Another study examined the impact of consumer ethnocentrism with home country image as mediating relationship and found that consumers prefer domestic products and consumer ethnocentrism influence the purchase intention (Joshi & Joshi, 2022). Demographic variables also play a vital role in influencing the purchase intention (Agarwal, 2020). Age and education also have major influence on the preference for domestic products (Das & Mukherjee, 2018).

The aim of the presented article is to create a basis for the investigation of consumer ethnocentrism in the conditions of India and Slovakia, with an emphasis on the investigation of the influence of gender.

Based on the objective, we formulated the following research questions (RQ) and hypotheses:

RQ1: How can the level of consumer ethnocentrism be characterized based on primary research in Indian conditions?

RQ2: How can the degree of consumer ethnocentrism be characterized on the basis of a primary survey in the conditions of Slovakia?

RQ3: How can possible connections/differences be characterized in the context of measuring consumer ethnocentrism in the studied countries?

RQ4: How can the influence of gender on consumer ethnocentrism be characterized in the studied countries?

H1: The average value of consumer ethnocentrism among Indian women is the same as the average value of consumer ethnocentrism among Indian men.

H2: The average value of consumer ethnocentrism among Slovak women is the same as the average value of consumer ethnocentrism among Slovak men.

1 Methodology

First of all, in the paper, we work with secondary research, which is oriented towards the generation of a literary review. The paper is based on primary research using a questionnaire survey. The questioning was carried out in two countries, namely India and Slovakia. 63 respondents took part in the survey in India and 133 in Slovakia. In India, it can be stated that the sample consisted of 25 women and 38 men, and their average age was 29 years, with the youngest participant being 19 years old and the oldest 55 years old. In Slovak conditions, the sample consisted of 45 men and 88 women, and their average age was 39 years, when the youngest survey participant was 27 years old and the oldest was 54 years old.

The survey aimed to measure consumer ethnocentrism, which was based on the CETSCALE (Shimp & Sharma, 1987). CETSCALE consisted of 17 statements; however, the statements were modified for the needs of the country, with an emphasis on the national context (Čvirik, 2023). Respondents responded to the above statements on a seven-point Likert scale. The validity of the used tool has been verified by several studies (e.g.), but it is advisable to verify its reliability. We estimated the degree of reliability on the basis of McDonald's omega, which has better assumptions of use than Cronbach's alpha (Čvirik & Dotong, 2023). McDonald's ω for India was 0.956, with a 95% CI of 0.940 to 0.972. The value of McDonald's ω for Slovakia was at the level of 0.942, with a 95% CI at the level of 0.928 to 0.957. From the above, it can be stated that the tool and our results can be considered reliable in both countries.

In our work, we use a number of statistical methods, with an emphasis on descriptive statistics (measures of location and variability). In the context of examining differences, we also use elements of inductive statistics, but with an emphasis on the Methodology of selection and creation of the sample, we consider the results indicative without the possibility of generalisation.

2 Results and Discussion

With the results, we will focus on answering research questions as well as verifying established hypotheses in order to comprehensively fulfil the goal.

RQ1: How can the level of consumer ethnocentrism be characterised based on primary research in Indian conditions?

The research question presupposes a comprehensive evaluation. In this context, it is first of all appropriate to more closely characterise the results for individual CETSCALE statements, which we recorded in Tab. 1.

Tab. 1 CETSCALE results for India

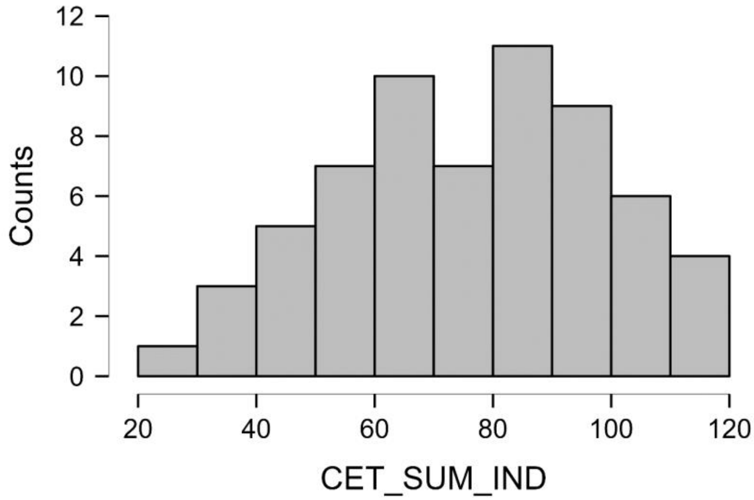
Code	**Valid**	**Missing**	**Median**	**Mean**	**Std. Dev.**	**Min**	**Max**
CETSCALE_01	63	0	5	4.92	1.73	1	7
CETSCALE_02	63	0	6	5.35	1.57	1	7
CETSCALE_03	63	0	6	5.97	1.23	2	7
CETSCALE_04	63	0	5	4.91	1.64	1	7
CETSCALE_05	63	0	3	3.27	2.07	1	7
CETSCALE_06	63	0	4	3.98	1.91	1	7
CETSCALE_07	63	0	4	3.83	2.03	1	7
CETSCALE_08	63	0	6	5.14	1.78	1	7
CETSCALE_09	63	0	6	4.89	1.80	1	7
CETSCALE_10	63	0	5	4.83	1.66	1	7
CETSCALE_11	63	0	5	4.46	1.80	1	7
CETSCALE_12	63	0	3	3.24	1.92	1	7
CETSCALE_13	63	0	5	4.98	1.55	1	7
CETSCALE_14	63	0	3	3.41	2.01	1	7
CETSCALE_15	63	0	4	4.24	1.93	1	7
CETSCALE_16	63	0	6	5.14	1.61	1	7
CETSCALE_17	63	0	4	3.89	1.85	1	7

Source: Own processing.

The results from Tab. 1 indicate that the respondent agreed, on average, most strongly with statement 3, which indicates the connection between their perception of the purchase of domestic products and employment in the country. On the contrary, the lowest rate of agreement in the sample was detected with statement no. 5, which focuses on the element of patriotism, but this statement is also rated higher than the middle value of the scale.For strategic marketing management, there is a possibility of implementing campaigns to support domestic production based on the influence of ethnocentric tendencies. The effect of morals and ethics on purchases can also be expected. The threat may represent the effect of patriotism.

Based on the results, a relatively high level of agreement can be noted for all statements, which indicates a high level of consumer ethnocentrism. Since CETSCALE is a scale tool, it is possible to evaluate the degree of consumer ethnocentrism based on the total indices of individual statements. We recorded the frequency of consumer ethnocentrism in the histogram (Chart 1).

Chart 1 CETSCALE histogram for the sample from India



Source: own processing in R.

In the case of our sample, we identified an average value of consumer ethnocentrism at the level of 76.4 points with a standard error of 22.9 points, which can be interpreted in view of the possible response interval as slightly above average (Čvirik & Naďová Krošláková, 2022).

RQ2: How can the degree of consumer ethnocentrism be characterised on the basis of a primary survey in Slovakia?

When identifying consumer ethnocentrism in the conditions of Slovakia, we proceeded in the same way as in the case of India. In this context, it is appropriate to first examine individual statements based on descriptive statistics. We recorded the results in Tab. 2.

Tab. 2 CETSCALE results for Slovakia

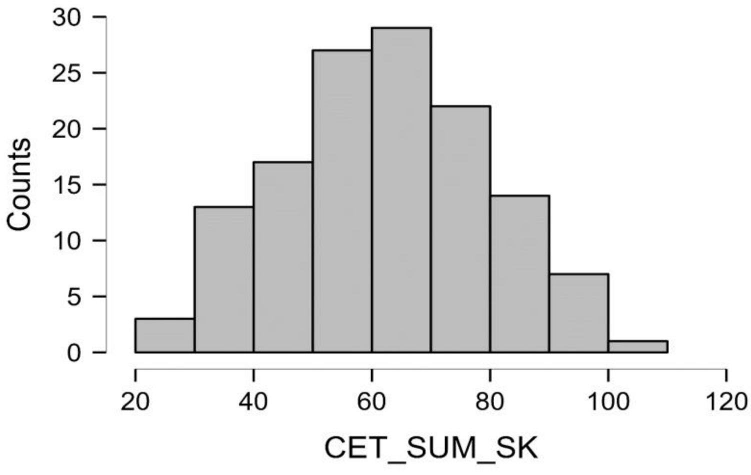
Code	**Valid**	**Missing**	**Median**	**Mean**	**Std. Dev.**	**Min**	**Max**
CETSCALE_01	133	0	4	4.06	1.54	1	7
CETSCALE_02	133	0	5	4.28	1.54	1	7
CETSCALE_03	133	0	5	5.38	1.22	1	7
CETSCALE_04	133	0	5	4.79	1.26	1	7
CETSCALE_05	133	0	3	2.80	1.57	1	7
CETSCALE_06	133	0	3	3.02	1.48	1	7
CETSCALE_07	133	0	3	2.94	1.59	1	7
CETSCALE_08	133	0	4	4.18	1.59	1	7
CETSCALE_09	133	0	4	4.16	1.57	1	7

Code	Valid	Missing	Median	Mean	Std. Dev.	Min	Max
CETSCALE_10	133	0	4	3.68	1.48	1	7
CETSCALE_11	133	0	3	3.26	1.45	1	7
CETSCALE_12	133	0	3	3.29	1.47	1	6
CETSCALE_13	133	0	5	4.65	1.27	1	7
CETSCALE_14	133	0	2	2.38	1.21	1	6
CETSCALE_15	133	0	3	2.98	1.45	1	7
CETSCALE_16	133	0	4	3.60	1.51	1	7
CETSCALE_17	133	0	3	2.96	1.33	1	6

Source: Own processing.

As shown in Tab. 2, all respondents responded to all statements. From the point of view of the degree of agreement, on average, we recorded the highest degree of agreement with statement no. 3 and the lowest level of agreement with statement no. 14. We can believe that it is the connection between the purchase of domestic production and the increase and/or maintenance of employment in the home country that is crucial. On the contrary, one can wonder if there is no willingness to give up foreign products or to limit them on the consumer market. The results also indicate that the full depth of the possible response interval was not even used for some statements.
The marketing management of domestic businesses must reflect on these facts when it is appropriate to point out the impact of purchasing a domestic product on the prosperity of the home country, with an emphasis on job creation. It is also an opportunity for strategic marketing management of foreign companies, as it seems that consumer ethnocentrism in Slovakia cannot be understood as a barrier to the entry of foreign companies but only as a means of improving the construction of domestic products.
Since CETSCALE is a scale tool, it is possible to evaluate the degree of consumer ethnocentrism based on the total indices of individual statements. We recorded the frequency of consumer ethnocentrism for the Slovak sample in a histogram (Chart 2).

Chart 2 CETSCALE histogram for a sample from Slovakia



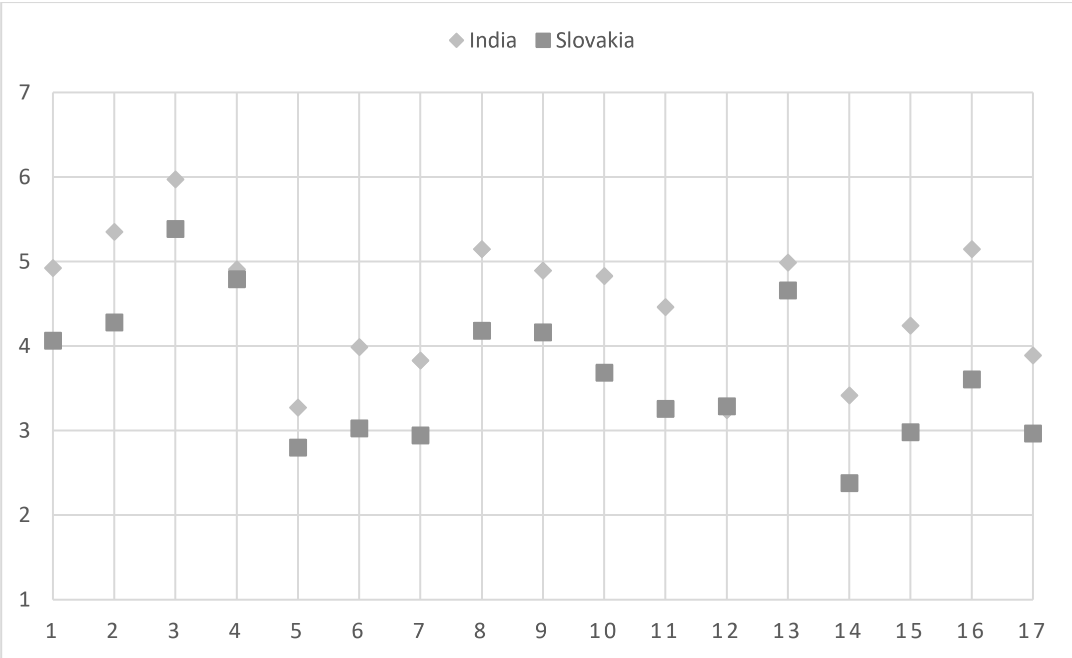
Source: own processing in R.

In the case of the Slovak sample, we identified the average value of consumer ethnocentrism at the level of 62.4 points with a standard error of 17.6 points, which can be interpreted in view of the possible response interval as slightly below average (Čvirik & Naďová Krošláková, 2022).

RQ3: How can possible connections or differences be characterised in the context of measuring consumer ethnocentrism in the studied countries?

When examining the differences, we proceeded on the basis of the individual CETSCALE statements, which we recorded in the overview chart 3, which points to the differences in the average values of the individual samples.

Chart 3 Dot chart of CETSCALE mean values



Note: The x-axis represents individual CETSCALE statements, the y-axis represents the mean.

Source: own processing.

The results from Chart 3 indicate that in all the CETSCALE statements, the mean measured value in the Indian condition was at a higher level. At the same time, it is appropriate to note that the differences are not constant, and thus, in some statements, the relative similarity was in the average value. However, in general, we note a higher average level of consumer ethnocentrism in the conditions of the examined sample from India.

RQ4: How can the influence of gender on consumer ethnocentrism be characterized in the studied countries?

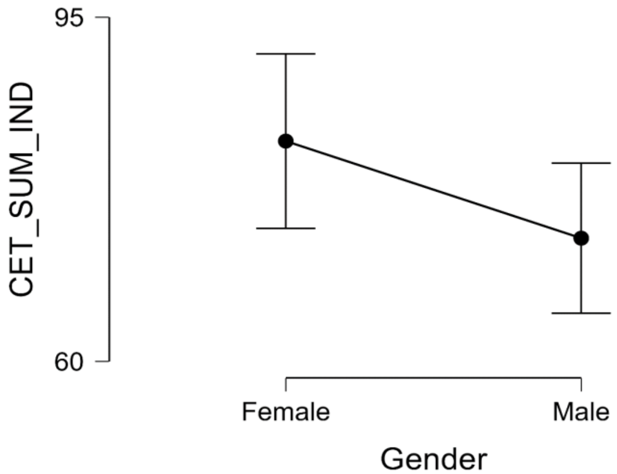
H1: The average value of consumer ethnocentrism among Indian women is the same as the average value of consumer ethnocentrism among Indian men.

H2: The average value of consumer ethnocentrism among Slovak women is the same as the average value of consumer ethnocentrism among Slovak men.

First of all, we examined the results from the point of view of description. It can be concluded that in the sample from India, the average level of consumer ethnocentrism for women was at 82.4 points with a standard error of 21.5 points, and for men, the average level was at 72.5 points with a standard deviation of 23.2 points. These results indicate some differences in the mean.

Of course, we used elements of inductive statistics to verify the relationship. In this case, it was about testing the difference or equality of the mean value of two sets. The result of the test oriented to hypothesis 1 (p-value = 0.094) appears insignificant at the level of significance (α = 0.05). In other words, we do not expect differences on average within the studied ensembles. We also visualised the situation using the average value and its 95% confidence interval calculated on the basis of the standard error (Chart 4).

Chart 4 Visualizations of differences in the level of consumer ethnocentrism (India) with regard to gender

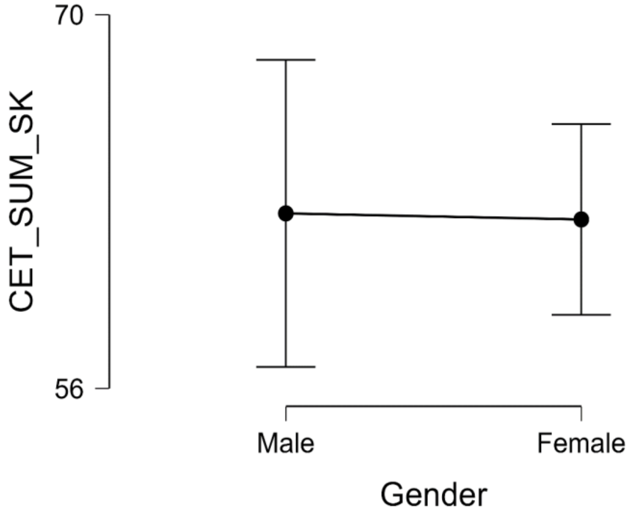


Source: own processing in R.

Graphical visualisation (Graph 4) confirms the assumption of expected equalities.

In the conditions of the Slovak sample, the average values of consumer ethnocentrism for women were at the level of 62.6 points with a standard deviation of 19.1 points and for men at the level of 62.3 points with a standard deviation of 16.9 points. The results of the mean values indicate no difference in mean values. With the help of inductive statistics, we examined H2, and the results indicate that differences in average cannot be expected (p-value = 0.944; alpha = 0.05). We also visualised the situation using the average value and its 95% confidence interval calculated on the basis of the standard error (Chart 5).

Chart 5 Visualisations of differences in the level of consumer ethnocentrism (Slovakia) with regard to gender



Source: own processing in R.

Graphical visualisation (Graph 5) confirms the assumption of expected equalities.

Conclusion

The article aimed to create a basis for the investigation of consumer ethnocentrism in the conditions of India and Slovakia, with an emphasis on the investigation of the influence of gender. This goal can be considered fulfilled.

The measurement of consumer ethnocentrism was carried out on the basis of CETSCALE. The reliability of the tool was verified in the conditions of both investigated countries. First of all, the results indicate an above-average level of consumer ethnocentrism in the sample from India and a below-average level of consumer ethnocentrism in the sample from Slovakia. Differences between the studied samples can also be considered, while in Indian conditions, all elements of CETSCALE achieved a higher rating on average. However, in both countries, we did not have enough evidence to demonstrate the effect of gender on the level of consumer ethnocentrism.

The work also contains limitations, the main limitation being the nature and size of the sample. It is evident that this limit distorts the results, which can only be considered indicative, even if they contribute to the addition and expansion of the knowledge base. The results provide a basis for further investigation. It can be concluded that for marketing management, strategic management, and international trade, the results represent a good basis for identifying possible barriers to international trade as well as opportunities for the further development of the home country.

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Selected aspects of preferences and level of knowledge of tourism students in the field of gastronomy [1]

Radúz Dula – Roman Lacko [2]

Abstract

Gastronomy is currently one of the most utilized types of service dedicated to feeding people. In literature, we often encounter that even though people know the meaning of the word gastronomy, they do not know its more specific specifications. The objective of this contribution is to evaluate general knowledge in the field of gastronomy among university students who study business in tourism and services. To achieve this goal, a questionnaire survey was chosen as the most suitable method, which was carried out in November 2023. The sample consisted of more than 150 respondents. The results indicate an insufficient overview in selected areas, thus indicating a guiding trend for the teaching process. Based on the results, it will be possible to more appropriately determine the areas and objectives of teaching in the relevant subjects.

Key words

gastronomy, questionnaire, teaching process, tourism

JEL Classification: L83, Z38, C12

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Introduction

The issue of gastronomy and education is one of the key aspects in the field of tourism management. In general, gastronomy and its processes can be considered an integral part of education in the field of business, management, and tourism development. For future managers to be successful in this area, they must necessarily have a general overview. This contribution will therefore focus on verifying the overview of students who have not yet completed a subject related to the management of gastronomy processes.

According to (Koerich & Müller, 2022), "the term Gastronomy is defined and conceptualized from different perspectives and academic disciplines. It is an ambiguous concept that confronts common belief and scientific knowledge, which cannot be accessed from a single perspective." According to these authors, gastronomy knowledge consists of scientific, explicit knowledge and popular, tacit knowledge. In this way, they highlighted the transdisciplinary character of this field. They also emphasize the importance of the socio-cultural context, which significantly influences this knowledge (Koerich & Müller, 2022). Cultural aspects are one of the most important aspects of gastronomy. Socio-cultural aspects of eating can

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even have an impact on the health status of a given population (Monterrosa, Frongillo, Drewnowski, De Pee, & Vandevijvere, 2020). There are differences in the approach to selected activities based on the characteristics of individual cultures (Djekic et al., 2021; Schwitzgebel, Cokelet, & Singer, 2020). In many cases, it is not only about the customs of individual cultures but also about their specific features (Spence, 2022). Gastronomy is often the driving force behind the development of tourism, with gastronomic tourism being a relevant term and a significant area of research in the field of tourism (Razpotnik Visković & Komac, 2021). A relatively current and systematizing study is the study by the authors (Yong, Chua, Han, & Kim, 2022), which emphasizes the future scientific direction in this field.

General knowledge in the field of gastronomy goes hand in hand with access to information, the driving force of which is social networks and the internet in general today. Even young people should master basic information and gastronomic offers, how to distinguish quality gastronomic establishments, and know relevant rankings, such as Michelin (Batat, 2020).

One of the most used areas in the field of gastronomy is social etiquette. It is the basis for the development of communication, and social inclusion, and in many cases, it is also the driving force behind entrepreneurial success. It is necessary to master its rules for personal development (Dash, 2022). Many studies also express ethics (not etiquette) in the field of gastronomy. All these studies examine the ethical and moral side when choosing food that a person will consume (Şahin & Gök Demir, 2023; Sharma et al., 2022). However, in this contribution, we will focus more on etiquette.

1 Methodology

The main goal of this study is to evaluate the level of general knowledge in the field of gastronomy and dining etiquette among students of the study program Business in Tourism and Services. Based on identifying general knowledge, we can proceed to make the teaching process more efficient and targeted at selected areas that students are insufficiently mastering.

1.1 Research object

One of the main ways of achieving the goal of this study was a survey of knowledge in a selected group of students of the aforementioned study program. This survey was conducted using a questionnaire. The questionnaire was distributed to students online during selected seminars. In this way, we managed to collect more than 150 responses. Subsequently, based on selected criteria - mainly incomplete answers, deliberately incorrect answers, etc., we filtered out 126 reliable respondents. The survey was attended by 39 male respondents and 87 female respondents, which is also the approximate proportion of tourism students at the relevant faculty. The age of the respondents was in the range of 18 - 23 years.

1.2 Methods and Hypotheses

To fulfil this study's goal, we set several research questions that focused on areas where the potential for insufficient student knowledge is highest. The first research question was whether students have a basic overview of the field of gastronomy at home (Slovakia) and abroad. The second research question was whether students perceive and master the basic aspects of etiquette in the field of dining. Based on these research questions, we also set hypotheses that will help us identify the state of student knowledge. Since the survey is a sampling examination, we used a one-sample t-test to verify the claims about the basic set. Its assumption is the validity of the central limit theorem, which we fulfilled in our research by the size of the sample of 126 respondents. The null and alternative hypotheses in the case of a one-sample t-test are:

H_0: Mean of the population μ is equal to chosen value μ_0

H_1: Mean of the population μ is not equal to chosen value $\mu 0$.

To be able to decide on hypotheses, we need a t-value and a p-value. The test t-characteristic is calculated using the following formula (1):

$$t = \frac{\bar{x} - \mu_0}{s/\sqrt{n}} \tag{1}$$

If the p-value calculated in the next step is lower than the significance level (0.05) we reject the null hypothesis. All calculations were performed in SAS Enterprise Guide 8.3.

2 Results and Discussion

In this section, we will describe the main results of our study. The section is divided into two main subsections. Please note that this translation has been done in a scientific style.

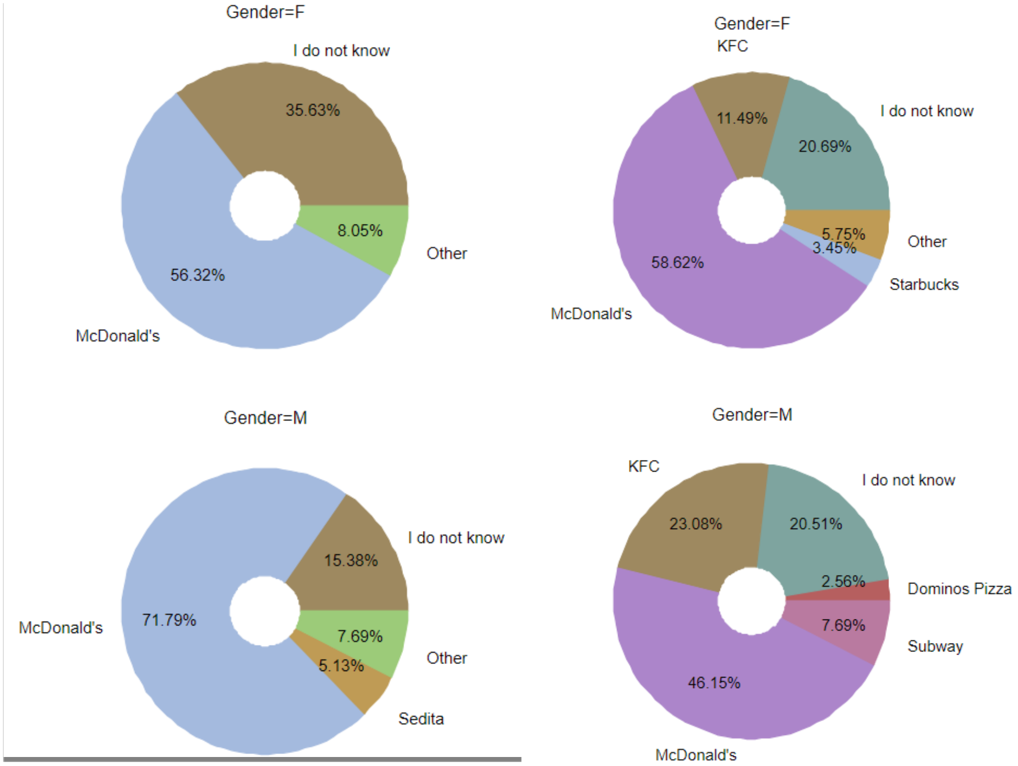
2.1 Analysis of the main knowledge in gastronomy

In this subsection, we will focus on the analysis of the questionnaire results for the area of basic knowledge of students about gastronomy in Slovakia and around the world. Overall, we analysed the results of responses to four main questions:

1. Which restaurant had the highest revenues in Slovakia in the previous year?
2. Which restaurant has the most branches worldwide?
3. Which restaurant in Slovakia achieves the best rating?
4. Which restaurant ranking is the most recognized worldwide?

The results of the responses to each question can be seen in Graphs 1 and 2.

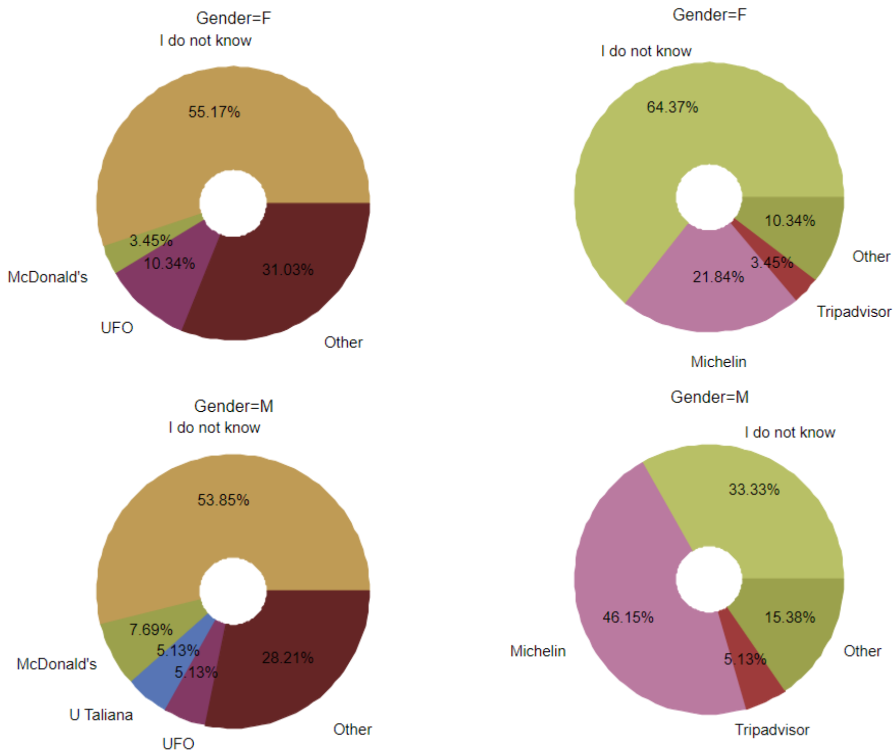
Graph 1 Donut plot of answers to questions 1 (left) and 2 (right)



Source: own processing according to questionnaire performed.

The correct answer to question number 1 was McDonald's. As can be observed in Graph 1, nearly 57% of women and 72.7% of men answered correctly. The success rate of the responses is relatively high. A significant number of both women and men were unable to answer the question. An interesting observation is the higher number of "Sedita" responses, which is a food company that produces confectionery. Other responses included Kaufland, Medusa Group, and many others. For question number 2, the correct answer was Subway. Only 7.69% of men answered correctly. The number of women who answered correctly was significantly lower, with only 2 respondents in absolute terms. The majority of respondents falsely identified McDonald's as the correct answer. KFC also dominated the responses. A significant number of respondents, approximately 20%, answered: "I don't know". The following Graph 2 captures the responses to questions number 3 and 4.

Graph 2 Donut plot of answers to questions 3 (left) and 4 (right)



Source: own processing according to questionnaire performed.

In response to question number 3, which pertained to the highest-ranked Slovak restaurant, there were several correct answers. Recognized responses included UFO, Yasai, U Taliana, Wagamama, and Gašperov mlyn. Of course, other restaurants could also be considered as the correct answer, but they did not appear in the respondents' answers. In total, there were 19 correct answers, representing approximately 15% of the responses. The correct answer to question 4 was Michelin. The responses to this question were largely successful, especially among males, where as many as 46% answered correctly. This percentage dropped to almost 22% among females. Other interesting responses included TripAdvisor, Booking, Forbes, and Master Chef. The results of the statistical testing are presented in Table 1.

Tab. 1 One-sample t-test result of questions 1 – 4

Option/ Indicator	*Highest Turnover in Slovakia*	*Most branches in the world*	*Best-rated restaurant in Slovakia*	*Most famous ranking in the world*
Target value μ_0	1	1	1	1
Lower 95% CL	0.5083	0.0051	0.0874	0.2203
Upper 95% CL	0.6821	0.0742	0.2141	0.3828
t-value	-9.22	-55.00	-26.53	-17.01
Pr > |t|	<.0001	<.0001	<.0001	<.0001

Source: own processing according to questionnaire performed.

The results of the one-sample t-tests at the significance level of 0.05 are presented in Table 1. The hypothesis tested was whether it can be stated about the population that the average answer equals 1, i.e., is correct. In the case of each question, it cannot be stated that the respondents were successful. Since the p-value is lower than the significance level in all cases, we reject the hypothesis that the average of the population's responses equals 1 (which is the numerical expression of the correct answer).

2.2 Analysis of the main knowledge in gastronomy etiquette

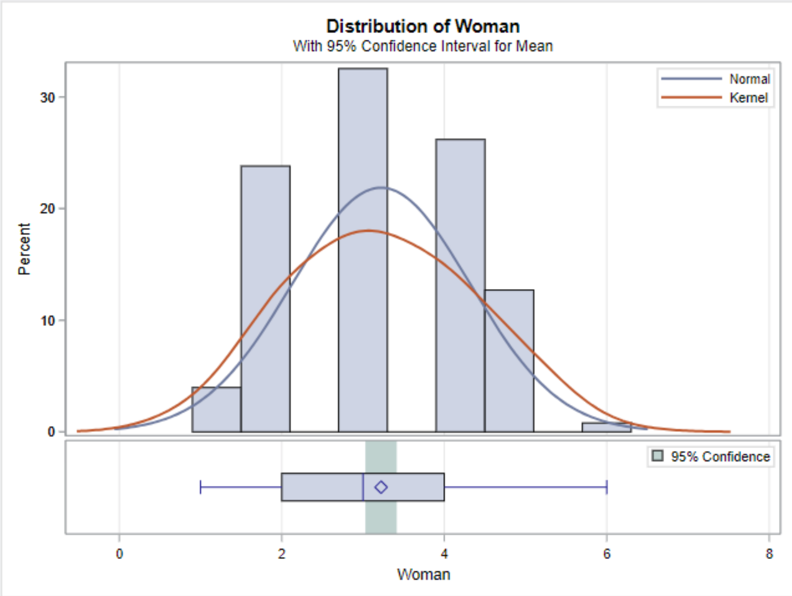
In this section, we will focus on the results of responses related to etiquette in gastronomy. The following Graphs 3 to 8 display the distributions of responses to the question in which respondents had to specify the correct order of service at the table according to the guest's gender and age. Respondents had a choice of 7 options for each category according to the order, where option 7 meant that it has no impact on the order. The correct order was: first, the oldest lady is served (numerical expression - 1), then the woman (2), then the oldest man (3), then the man (4), then the child (5) and the one who ordered first has no impact on the order (7). In Graph 3, we present the results of responses to the order of service of the oldest woman.

Graph 3 Histogram of responses to the order of service of the oldest woman

Source: own processing according to questionnaire performed.

Most respondents, more than 40%, answered correctly that the oldest woman is served at the table first. A relatively large number of respondents incorrectly stated that she should be served second in order, just over 10% of respondents stated the service of the oldest woman as the third in order. In Graph 4, we present the results of responses to the order of service of a woman.

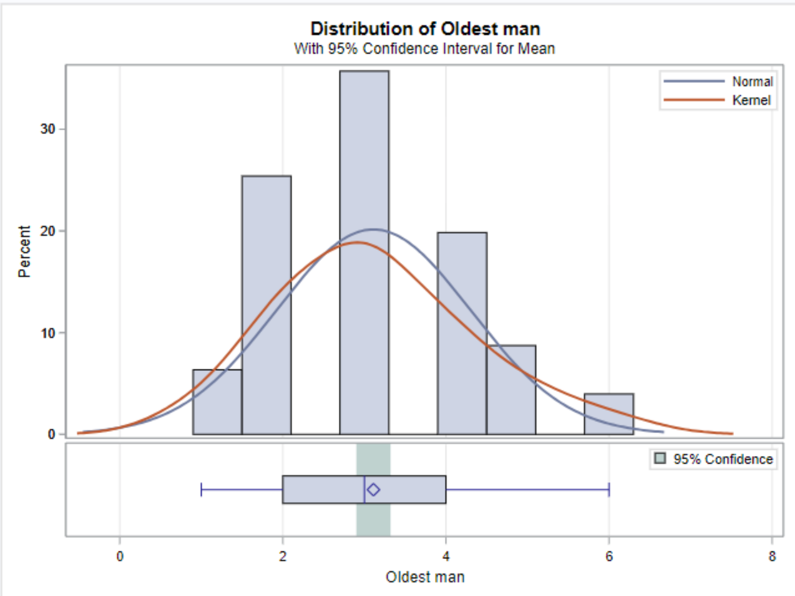
Graph 4 Histogram of responses to the order of service of the woman



Source: own processing according to questionnaire performed.

In Graph 5, we present the results of responses to the order of service of the oldest man.

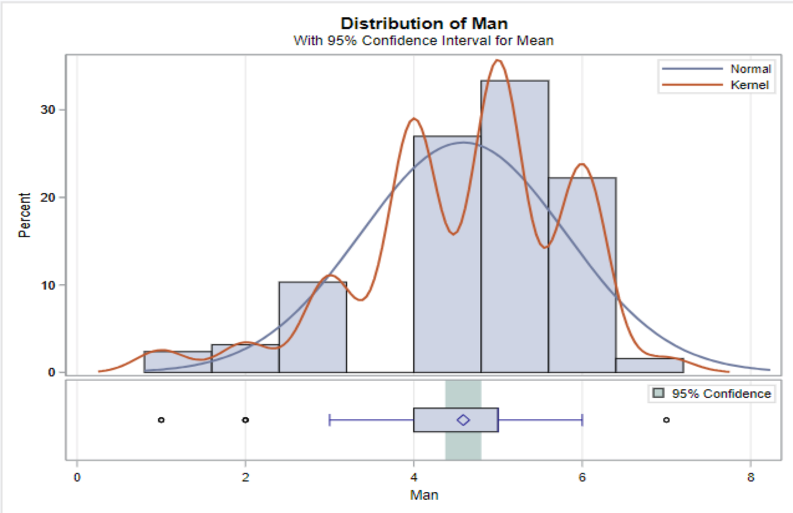
Graph 5 Histogram of responses to the order of service of the oldest man



Source: own processing according to questionnaire performed.

In the case of the results shown in Graphs 4 and 5, a similar distribution of responses can be observed. The respondents were probably confused by the option 'Oldest Man', which could have given the impression that he should be served immediately after the 'Oldest Woman'. This was also reflected in the ambiguity of the responses. In Graph 6, we present the results of responses to the order of service of a man.

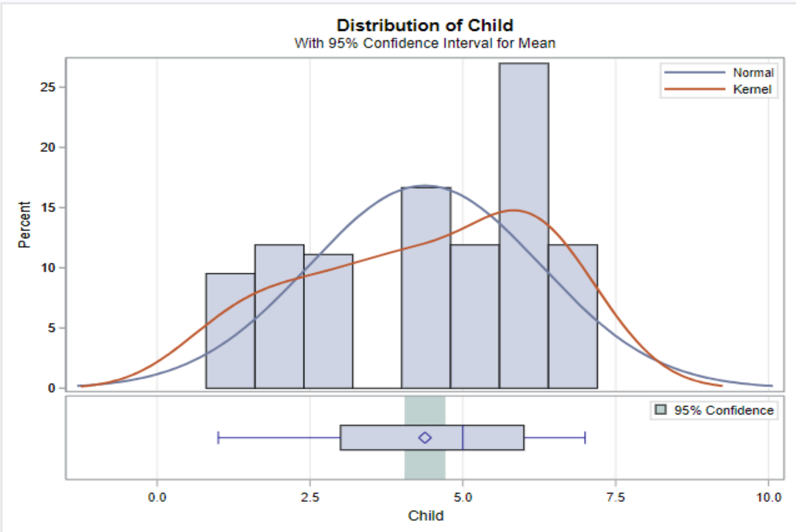
Graph 6 Histogram of responses to the order of service of the man



Source: own processing according to questionnaire performed.

The largest number of responses, to determine the order of service of a man, was in the range from 4 to 6, however, responses 1, 2, or 7 also appeared. In general, the variability of responses to the order of a man is high. In Graph 7, we present the results of responses to the order of service of a child.

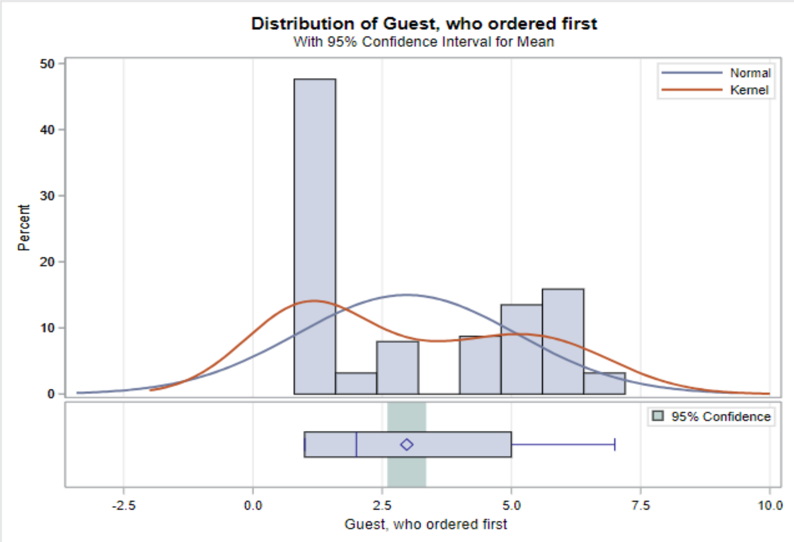
Graph 7 Histogram of responses to the order of service of the child



Source: own processing according to questionnaire performed.

The most ambiguous responses were recorded in the case of the order of service of a child when the distribution took on a distinctly platykurtic shape. According to the rules, the child should be served last. Although most values are concentrated around responses 5 or 6, the frequency of responses is not significantly significant, unlike previous options. In Graph 8, we present the results of responses to the order of service of the person who ordered the first.

Graph 8 Histogram of responses to the order of service of the person who ordered first



Source: own processing according to questionnaire performed.

Who ordered first has no impact on the order of service. However, it is an option that significantly influenced the survey results, as it suggestively induced a false belief. Most respondents even ranked it directly as the first served. Subsequently, we verified whether it can be stated based on the sample that the population masters the etiquette of service. The results of the one-sample t-test are presented in Table 2.

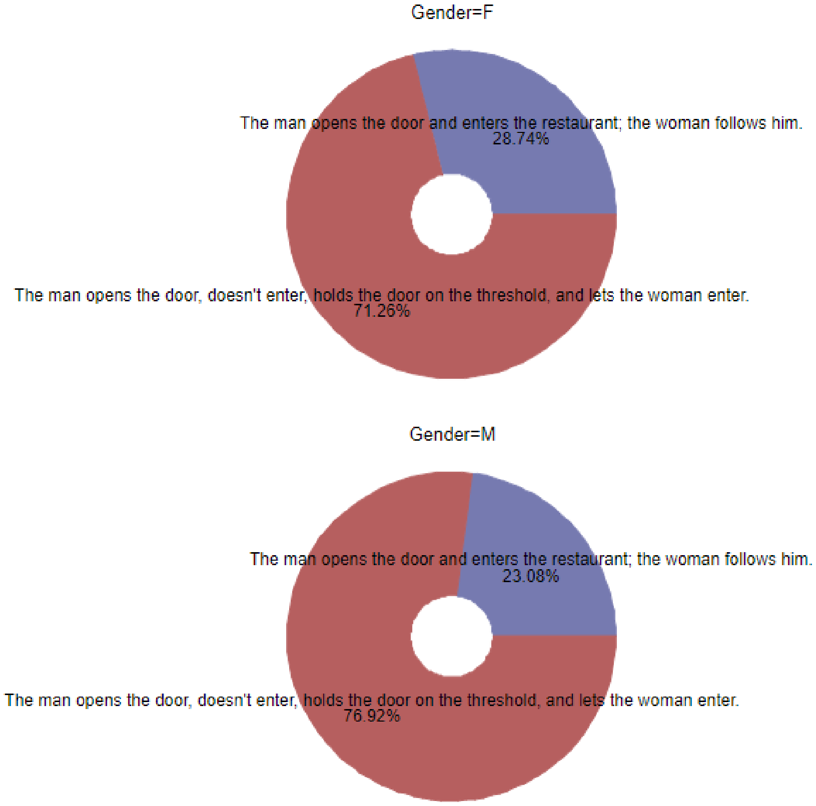
Tab. 2 One-sample t-test of questions related to etiquette

Option/ Indicator	*Oldest woman*	*Woman*	*Oldest man*	*Man*	*Child*	*Guest, who ord. 1st*
Target value μ_0	1	2	3	4	5	7
Lower 95% CL	1.6051	3.0292	2.9016	4.3731	4.0465	2.6007
Upper 95% CL	1.9187	3.4152	3.3206	4.8015	4.7154	3.3517
t-value	9.62	12.53	1.05	5.43	-3.66	-21.21
Pr > |t|	<.0001	<.0001	0.2958	<.0001	0.0004	<.0001

Source: own processing according to questionnaire performed.

Based on the t-test results, the test t-value, and the p-value, we reject the hypotheses about the correct answer for all options except for the option 'Oldest Man'. This suggests a disregard for service rules among young college students. The following Graph 9 presents the results of the response to the question, Who enters the restaurant first?

Graph 9 Percentage of answers to the question, who enters the restaurant first



Source: own processing according to questionnaire performed.

As can be observed from the gender-based response results, respondents do not master the basic rules of etiquette when entering restaurant premises. The correct answer was that the man should open the door, enter the restaurant, and the woman would follow him. As many as 77 percent of men do not master this rule, which is incidentally an even larger percentage than women, who are not the actual implementers of this rule. This observation suggests a significant gap in the understanding and application of this particular etiquette rule among the surveyed population. Further research may be necessary to explore the underlying causes and potential solutions.

Conclusion

Our research has pointed out several important aspects. In general, young people are mainly proficient in areas related to fast food. A worse situation occurs with other forms of gastronomy. To a large extent, knowledge in the field of economic and also qualitative aspects of gastronomy among young people is insufficient, this trend is even more pronounced among women. Another interesting fact is that many respondents do not master some aspects at all and the answer did not even come close to the correct one. The problematic area is also dining etiquette. Our results have shown that young people almost do not master etiquette at all. Considering that students of economic fields tend to become managers once (possibly in gastronomy too), it is necessary to point out the possibilities of their further education in selected lessons. Gastronomy is not only part of hotels and hospitality management, but as a integral topic shall be used in lessons on entrepreneurship or human resources management. It is also integral part in medical spa and wellness management, where food itself (gastronomy) is key of success in the chosen therapy.

This paper shall support gastronomy focused lessons/curricula on university and high school level, not only focusing on gastronomy itself, but also on the topic of etiquette. A wider overview of quality and success in gastronomy (excluding fast food) is also lacking among our focus group of students / young adults. Answers and the implementation of the results to tested question are vital for employees, managers and entrepreneurs in gastronomy, hospitality, and also medical spa (where gastronomy is an integral part of treatment) in order to understand the basic principles of serving guests.

Given that this scientific field has an interdisciplinary - if not transdisciplinary character, there could be a teaching subject that would develop students' knowledge even between the faculty character. Also, given the availability of information, it is really necessary for students to use reliable sources of information for their personal development (Papas, 2021; Plec, 2024).

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Conceptualizing neuroscience in management and marketing[1]

Eva Hanuláková – Martin Mravec[2]

Abstract

The paper deals with the systematization of definitions and scientific approaches to the application of neuroscience in modern managerial and marketing disciplines. It focuses on possibilities and areas of implementation of trends in the researched area. Emphasis is placed on scientific perspectives, differences and fragmentation of the concept of neuroscience in management disciplines. The paper is oriented towards to recommendations that will contribute to the consolidation and fundamental systemic shift of neuroscience, management and marketing. Overall, this article contributes to an updated systematic conceptualization of neuroscience in management disciplines that will serve as an empirical snapshot of current scientific thinking. At the same time, a basis was created for further research and conceptual consolidation with regard to the practical use of neuroscience in management and marketing.

Key words

neuroscience, neuro management, neuromarketing

JEL Classification: D87, M30

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Introduction

Turbulence caused by globalization, digitalization, scientific progress, and the dynamics of other socioeconomic and technological changes have stimulated further changes in the business environment and transformed it into a complex ecosystem, determined by increasingly complex competition. This resulted in the need to reevaluate management, set a new vision, and look at it from a new perspective on the performance of organizations. The mentioned approaches led to the emergence of neuromanagement, which opened a spectrum of new possibilities for the generation of new tools for the interdisciplinary management of organizations, their development, and implementation.

Although the connection of neuroscience with economic and management disciplines does not exclusively represent a new approach to corporate, entrepreneurial or managerial issues of the functioning and operation of companies in a highly turbulent environment, its use in these aspects is highly topical. At the center of his attention is human behavior and the brain as a key element of neuroscience. Neuroscience itself is making significant progress thanks to information and discoveries about the brain and neural processes. This opens up important perspectives not only for the future of neuroscience, but also for the support and

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creation of new possibilities for its application in the business environment or managerial behavior, employee performance, but also customer satisfaction.

Following the above, a transition from economics, management, and marketing to neuroeconomics, and especially to neuro management and neuromarketing, was noted. On the one hand, it opens a new approach to a wide range of knowledge, which confirms various possibilities of application in management and marketing. On the other hand, such an approach represents multiple possibilities and approaches to understanding neuroscience and its application possibilities in various economic and managerial areas and disciplines.

The ambition of the contribution is to highlight some scientific perspectives, differences, and fragmentation of the concept of neuroscience in management and marketing with an emphasis on the possibilities and areas of implementation of these trends in the mentioned areas.

1 Methodology

The main goal of the paper is to point out some approaches to understanding the nature and use of applied neuroscience disciplines, especially management and neuromarketing, and their use in the practical activities of companies about definable benefits in terms of the performance of companies and their success in the business environment. To achieve the main goal, we specified three areas of our interest, which are:

1. Theoretical area, where we focused on the theoretical characteristics and historical aspects of both mentioned neuroscientific management disciplines.
2. The scientific research area focused on the available information about the conducted research about the method of their processing.
3. The practical area is oriented towards the application potential of both neuroscientific disciplines and their benefits in the activities of companies.

The contribution is compiled based on the use of methods of obtaining, gathering, and processing information as well as solving the problem. The purpose of using these methods and tools is to achieve the goal of the paper. In the preparation of this contribution, a knowledge platform with relevant information sources was needed, which is the result of an analysis of the issue based on published articles and case studies focused on the investigated issue and based on document analysis.

Information processing and problem-solving methods were also used:

analytical-synthetic methods – the investigated subject, phenomenon, or process was divided into individual elements, and parts, resulting in partial theoretical Conclusions and knowledge, which are combined again into a single unit, or system;

- content analysis – use in the processing of theoretical starting points for the given issue;
- abstraction and simplification – served to separate non-essential properties of phenomena from essential ones; a certain degree of generalization was necessary because the problems solved at the level of strategic management and marketing in the context of neuroscience are characterized by their complexity, breadth, and depth, and it is not possible to take into account all attributes in their solution;
- synthesis of knowledge, their connection, classification, and hierarchization;

- the method of comparison – it made it possible to identify similar and different aspects of the investigated phenomena, solutions to similar problems in different ways with subsequent comparison of the results of these solutions;
- the method of induction and deduction - on the one hand, they meant the progress from specific data to their generalization as a tool of causal analysis, on the other hand, they created a path from the general to the specific;
- verification – carried out in the form of comparing the knowledge gained with real cases, especially investigated cases from abroad.

To achieve better scientific accuracy, theoretical concepts were defined in the conceptualization phase in a way that enabled their subsequent operationalization. Operationalization served to define the context and meaning of individual concepts about their use. It resulted in contextualization as a reflection of the multidimensionality of the given phenomenon or problem, determination of its internal and external relations, connections, interactions, and developmental influences of the given issue.

2 Results and Discussion

2.1 To the essence of the neuro approach in management, marketing, and related disciplines

The neuro concept in economics and management disciplines is a relatively young and rapidly developing approach. The starting point is neuroeconomics, which began to appear in the late 1990s as a new area of economics. It arose in the United States of America as a response to the obvious fact that many economic decisions are irrational. It uses modern tools of neuroscience to describe the causes of specific economic behavior of people. It started to be definitively used as a term in 2004 (Glimcher et al., 2008). Neuroeconomics is the science of human behavior involved in the economic decision-making process, applying the knowledge, Methodology, and perspectives of neuroscience (Camerer et al., 2004; Camerer et al., 2005; Glimcher et al., 2008). Due to advances in neuroscience research, new disciplines such as neuromanagement, neuromarketing, neurofinance, neurocoaching, neurostrategy, neurocommunication, and many others have developed in recent years (Parincu et al., 2020).

In the next parts of our paper, we focus on the first two of the mentioned applied neuroscientific disciplines - neuro management and neuromarketing, which have the most significant potential in helping companies to increase their performance and successful position on the market and in the business environment.

Neuromanagement is a new approach to help business management (Parincu et al., 2020). It uses a simple set of principles and skills to engage and manage teams and individuals in competitive business and job markets. It represents help in solving organizational and performance problems in organizations.

Neuromanagement is often associated with neuro leadership, which also draws from neuroscience and considers how concepts and research findings can be applied to the broad field of management. In most organizations, effective decision-making processes are considered rational foundations. The use of knowledge in the field of neuromanagement and neuroleadership is essential for an extremely dynamic and competitive organization due to the positive impact on individual performance as well as the overall performance of the organization.

Recently, we have met a new paradigm in the science of management, which is neuro business. This includes the intrinsic characteristics of entrepreneurs to study the neural basis of innovation. Neuro-business focuses on the "entrepreneurial mindset" by looking at what lies beneath the entrepreneurial intentions of entrepreneurs. In this approach, entrepreneurship is studied using techniques and methods derived from the cognitive and behavioral sciences. In the cognitive science approach, entrepreneurship is understood in the context of entrepreneurial thinking and heuristic theories (Boudreaux et al., 2019). An important aspect is the identification of cognitive mechanisms that allow an entrepreneur to make decisions faster and more efficiently (Marshall et al., 2019). From the behavioral point of view, scientists analyze the decision-making process through the so-called prism of entrepreneurial behavior and competence. However, in the approach of cognitive theories, entrepreneurship is examined from the perspective of social theories focused on thought patterns (Gruber, MacMillan, 2017). Thus, according to the functionalist paradigm, the decision-making process of entrepreneurs is conditioned by cognitive neuroscience.

Another important applied neuroscience is neuromarketing. Neuromarketing is focused on the research of the consumer and their behavior, so it is sometimes used to denote or connect with the term consumer neuroscience. At the same time, applied forms of neuromarketing such as neurobranding, neuro design and the like have developed.

2.2 Systematization, contextualization, and conceptualization of applied neurodisciplines in the field of management and marketing

In other parts of our paper, we deal with neuromanagement and neuromarketing about their systemization, contextualization, and conceptualization with an extension to the application level of their benefits.

The term neuromanagement was first conceptualized by Qingguo Ma of Zhejiang College (Ma & Wang, 2006). Zak used the term neuro management to describe how neuroscience insights can be used to create organizational cultures that motivate employees, foster trust and positive experiences, and also generate high levels of organizational performance (Zeki et al., 2004).

Neuromanagement is a scientific approach to management that examines managerial, economic and behavioral processes from the point of view of brain activity and the way a person reacts. It is a discipline of neuroscience and aims to investigate human brain activities and mental processes when people face management situations, using cognitive neuroscience in conjunction with other scientific disciplines and technology to analyze economic problems and management.

The first formal article on neuromanagement was published in 2001 in the Journal Neuron. This represented a collaboration between Breiter, Shizgal, and Kahneman, who combined the theory of psychological perspective in the decision-making process (Kahneman, Tversky, 1979) and brain scanning, an experiment that proved certain assumptions about the activation of the brain involved in the decision-making process. decision-making process (Breiter et al., 2001).

Neuro management is conceptualized based on the way the human brain and its functions are largely organized, for better self-management, achieving superior performance, and creating relationships of engagement, motivation, collaboration, and communication. Therefore, it is important to keep in mind that there is a need for a proactive, motivating, and leading management that will encourage the organization to make concrete progress with a global and collective vision (Méndez, Ferrer, 2017). Unlike traditional management methods that attempt to use reason and authority to control people's behavior, neuromanagement works through emotions, respect, engagement, and motivation (Parincu et al., 2020).

As mentioned above, it is a relatively young discipline, which is also reflected in the publications in the Web of Science and Scopus databases, their focus, and the authors' approaches to this topic. The following Table 1 provides an overview and summary of the focus of published articles on the topic of neuro management in the years 2001-2020.

Tab. 1 Systematization of approaches and focus of scientific articles on neuro management in the WOS and Scopus databases in the years 2001-2020

Focus	Access/Neuroimaging equipment
The study of states of stress and fatigue that cause accidents and errors at work	EEG, EMG, GSR
Applications of neuroscience to marketing and management	Theoretical approach
Cerebral synchronization of two leadership styles of people	EEG
Tools that could be useful in neuro management	Theoretical approach
Using neuroscience along with other techniques to improve team performance	Theoretical approach
The ability to manage the emotions of employees by superiors	Theoretical approach
The mental workload of employees	EEG, GSR
Moral decision-making with emphasis on different brain areas involved in fair and unfair offers	fNIRS
Motivation in business management	EEG, P300
Possibilities of using tools used in neuro management such as eye-tracker and EEG and contribute to the improvement of military management	Theoretical approach
Possibilities of using neuroscience in business management	Theoretical approach
Importance and possible application of neuroscience in industrial engineering	Theoretical approach
Importance and usability of neuro management	Theoretical approach
Brain Responses through hyper scanning to study management	EEG
The importance of neuroscience for corporate governance and communication	Theoretical approach
Transition from management to neuro management in a holistic approach to management science	Theoretical approach

Source: own processing

Table 2 presents an overview and summary of the focus of published articles on the topic of neuromarketing in the mentioned period.

Neuromarketing has a longer history than neuromanagement. Neuroscience began to be used in connection with marketing already around 1983. We record the first concepts that open up this issue. Pioneers in this field were scientists at Harvard University in the USA. Zaltman began to carry out various research focused on sensorimotor cognitive and emotional responses to various stimuli from the external environment that take place in the human brain (Lee et al., 2007). It was Zaltman in 1999 who was the first to use an original medical device in marketing research - fMRI (functional magnetic resonance) as an effective neuromarketing tool that can reveal specific areas in the brain related to consumer purchasing decisions. This fact opened up the possibilities of using various neuroimaging devices to study brain reactions. In addition to the mentioned fMRI, we should also mention EEG, respectively MEG, but also many others, which show different levels of effectiveness and usefulness for the needs of neuroscientific research.

Tab. 2 Systematization of approaches and focus of scientific articles on neuromarketing in the WOS and Scopus databases in the years 2001-2020

Focus	Access/Neuroimaging equipment
fMRI as an effective neuromarketing tool	fMRI; theoretical approaches
Neuromarketing as art about marketing and neuroscience	Theoretical approach
Neuromarketing as a new form of market research	Theoretical approach
Neuromarketing as a tool for distinguishing consumer behavior	Theoretical approach
Ethics in neuromarketing	Theoretical approach
Possibilities of using neuroimaging devices in marketing research	fMRI, EEG, MEG, eye tracking; theoretical approach
Linking neuromarketing and culture	Eye tracking; theoretical approaches
Linking neuromarketing and politics	Eye tracking; theoretical approaches
Neuromarketing 4.0	fMRI, EEG, MEG, machine learning, AI

Source: own processing

However, other sources indicate an even earlier beginning of neuromarketing. According to Nobel (2013), the origins of neuromarketing go back to the early 1950s, when two scientists from McGill University inadvertently discovered a brain area called the "pleasure center" deep in the nucleus accumbens brain area during an experiment with rodents. More detailed research later revealed that "pleasure centers" also exist in human brains, because we are largely motivated by what makes us feel good, especially when it comes to purchasing decisions. For this reason, many companies have become interested in how to understand the human brain and thus better understand consumers.

Likewise, the use of fMRI in neuromarketing research is not entirely clear-cut. It is precisely related to the intersection of several scientific fields, and we cannot unequivocally determine when it was research focused on marketing. According to Phan (2010), the pioneer in the use of fMRI technology was Schmidts from Erasmus University in the Netherlands, who actively used fMRI in neuromarketing research during the years 2002-2003.

Likewise, the use of fMRI in neuromarketing research is not entirely clear-cut. It is precisely related to the intersection of several scientific fields, and we cannot unequivocally determine when it was research focused on marketing. According to Phan (2010), the pioneer in the use of fMRI technology was Schmidts from Erasmus University in the Netherlands, who actively used fMRI in neuromarketing research during the years 2002-2003.

Morin (2011) states that the first neuromarketing research was conducted in 2003 by Professor Read Montague and his team at Baylor College of Medicine, which was later published in Neuron in 2004.

An important milestone in the development of neuromarketing can be considered the emergence of marketing agencies that included research on consumer behavior and consumer decision-making in their portfolio. These companies provide neuromarketing research and neuromarketing consulting services using technologies and insights from consumer neuroscience and cognitive neuroscience. It should be added that the neuromarketing field developed extremely rapidly at the turn of the millennium, and this development was conditioned by the boom in technology. A significant point in the history of the development of neuromarketing is also the founding of the Neuromarketing Science & Business Association NMSBA, based in the Netherlands, which covers neuromarketing agencies.

According to several authors, neuromarketing is the application of neuroimaging and physiological tools to record the neural correlates of consumer behavior (for example, decision-making, emotions, attention, and memory) to marketing stimuli, such as various brands and advertisements (Alsharif et al., 2021). Neuromarketing is an important field and a very specific field because it combines and connects knowledge from neurology, psychology, sociology, and marketing with the help of modern technologies and can characterize why consumers behave irrationally and identify consumer attitudes and preferences. The synthesis of neuroscience and marketing has gradually become a very popular field for researchers. In addition to practical, these researches brought new theoretical knowledge. According to Lindstrom (2009), it is also a tool used to help us decipher what we as consumers think when we encounter a product or brand – and sometimes even helps us uncover dubious methods used by marketers to we are led and deceived without having any idea about it. Lucaci (2012) states that neuromarketing is a new form of market research that uses the tools of neuroscience to measure the emotional impact of communications across all media and uses the results to make marketing recommendations.

Arthmann & Li's 2017 definition is different from all previous definitions. It defines neuromarketing as the art and science of marketing as well as neuroscience itself, and this art is only made possible by the connection with modern technologies, focusing primarily on describing the benefits of neuromarketing in the Internet age. In their work, the researchers concluded that neuromarketing has a very significant and significant influence on the associations associated with the brand, as well as the loyalty of the consumers themselves.

Findings from a study conducted by Nemorin & Gandy (2017) suggest that neuromarketing also has ethical aspects that need to be taken into account. Neuromarketing research is related to invasion of privacy and statistical discrimination. Concerns related to the topic of neuromarketing are primarily based on the fact that scientists in neuromarketing have certain expectations that consumer behavior is not stereotyped, but is influenced by statistical, political and social processes that affect people in society as such.

Traditional research methods have been used extensively as feedback to study consumer responses (such as consumer decision-making) to marketing stimuli such as advertisements and brands. Such an assessment relies on the awareness of consumer behavior and overlooks the unconscious, i.e. the discrepancy between what the consumer says and does (Harris, Antwal, 2018). Here we come to identify the difference between classic marketing methods and the new neuromarketing approach, which can eliminate these differences or deviations. Neuromarketing has its place at the intersection of marketing, neuroscience, and psychology (Alvino, 2020; Alsharif et al., 2021). Traditional research methods provide inaccurate and unreliable information about consumer behavior (Alsharif et al., 2021; Alsharif, 2021). Therefore, most consumer behavior takes place unconsciously, which cannot be predicted by traditional research methods (Alsharif et al., 2021).

The strong competitive environment has forced companies to look for new effective methods to better understand and predict consumer behavior. Thus, researchers have explored how marketing research can use these techniques to advance marketing practices and advertising research. In doing so, fMRI investigations have shown that most reactions and motivations of consumer behavior and decision-making occur outside of consciousness, which significantly contributes to purchase decisions (Brierley, 2017; Alsharif et al., 2021). Therefore, the knowledge of neuroscience must be used to create a new approach to consumer behavior using neuroscientific technologies in consumer research, which we call neuromarketing. Lim (2018) talks about the importance of using neuromarketing in marketing research because it can decipher hidden information based on neuroscientific theories that the respondent tries to hide for various reasons. Lim goes on to state that it is essential to demystify neuromarketing to better understand it.

In 2016, the term Industrie 4.0 appeared for the first time, which refers to the process of optimizing production procedures using the most modern technological knowledge to increase production. We have seen some progress in neuromarketing, where there is not a change in the approach to neuromarketing or the invention of a new revolutionary neuromarketing method. In this context, the transition of neuromarketing to "Neuromarketing 4.0" is connected rather with more efficient processing of the obtained data. Neuromarketing is a relevant tool in the context of Industry 4.0, as it allows companies to use advanced technologies to better understand the customer and thus increase the effectiveness of their marketing campaigns. (Ioanid, Scarlat; 2022) Great progress has occurred in the application of knowledge from the field of machine learning and the use and creation of neural networks, which are an effective way of processing data obtained through neuromarketing tools such as EEG, MEG, and fMRI. Computer software that created neural networks began to be used for data processing. In this context, we can already identify the connection between the fields of consumer neuroscience, neuromarketing, and machine learning. The outputs were more accurate and understandable. For this reason, the application of the neural network method has proven to be an effective way of understanding between the acquisition of data and the output of neuromarketing surveys, implemented by neuromarketing tools. Technological development, however, places increasing demands on people's knowledge and skills, which become a key factor for the further development of innovations amid technologies and applications. It is the people who are at the center of this interest. This transition is therefore specific in that knowledge of technology, software, development and management of individual teams will be key. The operating system of Neuromarketing 4.0 makes sense if it is built on people, machines, and technological devices, or the products themselves that are the subject of research. These individual parts of the system must communicate and cooperate. We can state that the main starting point of this progress and this change is precisely the knowledge and experience that could be gathered in previous periods. Today, we have to use and process this knowledge thanks to new technological conveniences such as the neural network system.

Articles dealing with the connection of neuromarketing and culture as a factor in consumer behavior also appear in the literature. The authors claim that as soon as we have a high knowledge of the local culture of consumers and can incorporate all cultural customs into the product offer, neuromarketing tools can effectively help us with placing products on the market. Yadav et al. (2017) connect precisely neuromarketing with culture and claim that neuromarketing is the new science of advertising.

We perceive that neuromarketing research is a very complex and demanding research that requires considerable preparation and knowledge of the researched subjects. Without quality preparation, we could achieve a distortion in the results of neuromarketing research, which would bring an unwanted effect. In addition to honest preparation, neuromarketing research must also include a study of the cultural habits of the research subjects and the consumers themselves.

Nowadays, neuromarketing is a tool that marketing agencies also use, for example, in political campaigns. In his studies, Hegazy (2021) intensively focuses on the use of neuromarketing in the political sector. In his study, Hegazy focuses on how neuromarketing affects the political decision-making of voters and describes how neuromarketing represents a way for political parties and political leaders to attract potential future voters to their party.

Based on the summary of the above, we see that there are theoretical articles that highlight the importance or usefulness of neuroscience in management as well as techniques for improving team performance or trust in organizations. Publications on neuromanagement cover a wide range of practical applications in the field of companies and organizations. It can be argued that neuromanagement is a tool whose use is at the beginning of its onset, and which has significant potential for its development and contribution to improving the efficiency and performance of companies as well as improving the quality of people's lives. Even though neuromanagement is a growing discipline, current research shows untapped potential, for example in internal marketing about the employee as an internal customer. Likewise, the use of neuroimaging devices has untapped potential (for example, compared to neuromarketing).

When it comes to neuromarketing, articles and studies are much more productive than neuromanagement. It is probably related to the potential of neuromarketing, which consists of significantly increasing the overall effectiveness of both commercial and non-commercial activities of companies. The advantage of neuromarketing is that it examines the consumer comprehensively and there is no intentional distortion on the part of the consumer. Research in this area will require a more intensive focus on the field of digital marketing and online marketing activities and the application of intelligent systems in it.

Conclusion

Neuroscience in general is a field that is developing at a rapid pace and that brings unique application possibilities. Due to the turbulent and rapid changes taking place in the business environment, both management and marketing need new resources and approaches so that their contribution to business is clear. Both management and marketing need to be redefined in such a way that they take into account these approaches and consider neuroscience as their inseparable part. This will open up new possibilities and opportunities for improving management, organization, work with employees and customers, and competition.

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Characteristics of innovation systems in tourism within European Union member states

Henrieta Harcsová

Abstract

This article offers a thorough analysis of the theoretical foundations and specific characteristics of innovation systems within the tourism sector across European Union member states. It examines the functionalities, actors, and elements that shape these systems, with a focus on their unique adaptations and implementations in each country. The study highlights the roles of diverse innovation actors in the tourism industry, and their collaborative efforts to drive economic growth and technological integration. By investigating the interactions and structural components of these systems, the paper uncovers key patterns and variations, providing a deeper understanding of the innovation dynamics within EU tourism. This exploration not only advances our theoretical insights but also aids in policy development, aiming to optimize the innovative capacities of the European tourism sector.

Key words

Innovation systems, European Union, Tourism sector, Policy Development

JEL Classification: O31, O32

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Introduction

Innovation is a key factor in economic growth and competitiveness in the global economy. In the tourism sector, which is characterized by a high degree of competition and constant development, innovation systems are essential to maintain and improve competitive advantage. Innovation systems provide the infrastructure and framework for the integration and coordination of various actors – from businesses to research institutions, thereby supporting the exchange of knowledge and resources. These systems are capable of responding effectively to changing technological and market conditions, which is essential for sustainable development and strengthening competitiveness.

The tourism sector is distinguished by its broad spectrum and focus on the provision of services, which affects the nature of innovations in this sector. Innovations in tourism are often characterized by a lower level of innovativeness compared to other industries, which is a consequence of various factors, including the size of enterprises, competitive relations and insufficient investment in human resources. Despite these challenges, innovation systems in tourism are key to transforming and improving this dynamic industry, supporting the creation of new products and services, improving operational efficiency and enhancing the overall visitor experience.

The aim of this contribution is to examine the theoretical foundations and specific characteristics of innovation systems in the tourism sector in the member states of the European Union.

We examine the functions, actors and main elements that make up innovation systems, with a focus on their implementation in individual countries. With this approach, we try to clarify the interactions and structural components of innovation systems and understand innovation dynamics in tourism in EU countries, with the aim of contributing to theoretical knowledge and the development of policies to optimize innovation capacities in this sector.

Literature review

Innovation systems are essential to support innovation, providing the infrastructure and framework for the integration and coordination of different actors – from businesses to research institutions. These systems enable the efficient exchange of knowledge and resources, thus supporting the generation and diffusion of innovations. They are able to respond to changing technological and market conditions, which is crucial for sustainable development and competitiveness. In addition, innovation systems integrate environmental, economic and social aspects into innovation processes, thereby contributing to the long-term sustainability and overall innovation capacity of organizations (Hjalagerová, 2008).

Tourism is a multidisciplinary industry focused on the provision of services, where innovations have a specific character. In general, a lower level of innovativeness is recorded in the tourism sector. The causes of this phenomenon are diverse, including the size of enterprises, competitive relations and insufficient investment in human resources (Hjalagerová, 2008).

Distribution channels of knowledge transfer in innovation systems include business, technological, infrastructural and regulatory systems. The business system supports the transfer of information between companies and business partners. The technological system includes the transfer of knowledge through new technologies. The infrastructure system includes physical and digital infrastructure such as telecommunications networks. The regulatory system refers to the rules and regulations affecting the transmission of information (Murínová, 2012).

Innovations can be of different types. According to Albernathy and Clark, there are standard innovations, niche innovations, revolutionary innovations and architectural innovations. These categories differ according to the level of knowledge and competences required for their implementation and according to their impact on existing structures (Borovský et al., 2008).

The Oslo Manual (OECD, 2005) classifies innovations into four basic groups: product innovations, process innovations, marketing innovations and organizational innovations. These innovations may include new products and services, improvements in manufacturing processes, new marketing approaches, and improved organizational procedures (Razafindravelo, 2017).

The importance of innovation systems for economic growth is well established. Strong innovation systems lead to higher rates of economic growth and productivity. Countries with strong innovation systems achieve better economic results, which is confirmed by studies (Romer, 1990; OECD, 2016).

Innovation systems in tourism involve a network of actors such as businesses, government agencies, universities and research institutions. These systems support collaboration and the exchange of knowledge, which is crucial for the creation of new products and services (Hall, 2013a).

The sustainable development of tourism requires the adoption of innovative practices that minimize negative environmental impacts and maximize economic and social benefits (UNWTO, 2019).

1 Methodology

This contribution offers a thorough analysis of the theoretical foundations and specific characteristics of innovation systems in the tourism sector in the member states of the European Union. In the article, we examined the functions, actors and main elements that make up innovation systems with a focus on their implementation in individual countries. The main goal is to clarify the interactions and structural differences of innovation systems and to understand the innovation dynamics in tourism in the countries of the European Union. The results of the contribution contribute not only to theoretical knowledge, but also to the development of policies to optimize innovation capacities in the tourism industry in the countries of the European Union.

The research included an analysis of innovation systems in the tourism sector in EU member states. The selection of countries was based on various criteria, such as the size of the tourism sector, geographical location and level of technological maturity. A detailed case study was created for each country, which included an analysis of innovation systems, functions, actors and elements.

We drew secondary data from existing studies, government reports, academic articles and statistical data related to innovation systems in tourism.

As part of the research, we set two research questions:

RQ1: What are the specific characteristics of innovation systems in the tourism sector in individual EU countries?
RQ2: What are the similarities and differences in tourism innovation systems across EU member states?

Data analysis in this research involved a combination of qualitative and quantitative methods. Qualitative analysis included a thematic analysis of documents to identify main themes and patterns related to innovation systems and their characteristics. The comparative analysis involved comparing innovation systems between individual EU member states in order to identify common elements and differences, as well as to analyze how different political, economic and cultural factors influence these systems.

Based on the findings, Conclusions contributing to the theoretical understanding of innovation systems in the tourism industry were formulated and concrete recommendations were made for the creation of policies that can support and optimize innovation capacities in this sector within the EU.

2 Results and Discussion

Based on the analysis of innovation systems in the tourism sector in the member states of the European Union, we have identified key subjects and actors, main programs and strategies, as well as unique adaptations and projects in individual countries. The following table provides an overview of these elements in some selected countries.

Table 1 Main components of innovation systems in European Union countries

Country	Main Entities and Actors	Key Programs and Strategies	Unique Adaptations and Projects
Bulgaria	Ministry of Tourism, National Tourism Council	National Recovery and Resilience Plan	Support for travel agencies post-COVID-19, Sustainable Tourism Development Strategy until 2030
Slovenia	Ministry of Economic Development and Technology, Slovenian Tourist Board	Strategy for Slovenian Tourism 2022-2028, Digital Transformation Strategy 2022-2026	Green Scheme of Slovenian Tourism, European Destinations of Excellence project, "I FEEL SLOVENIA" platform
Malta	Malta Tourism Authority (MTA)	Malta Travel and Tourism Services Act of 1999	National Aquarium in Qawra, promenade modernization, development of educational brochures
Cyprus	Various government bodies, industry associations, local authorities	National Tourism Strategy 2020-2030	Focus on health, wellness, gastronomy, cultural and religious tourism, casino and sports tourism
France	Ministry for Europe and Foreign Affairs, Atout France, regional tourism agencies	France Tourisme Lab, Paris Region Lab	Support for 400 startups, Paris Innovation Tour, France Tourisme Lab, "I FEEL SLOVENIA" platform
Italy	ENIT, research institutions, universities, regional tourism agencies	Italy Destination Lab	Addressing over-tourism, sustainability, and innovative tourist experiences
Spain	SEGITTUR, regional and local authorities	Smart Tourist Destinations Model	Mobile apps like Peñíscola Live the Game, SUMP 2019, innovative urban and mobility projects
Portugal	Portuguese Tourism Board, regional and local authorities	Various digital and experiential platforms	EatTasty, Porto Card, digital experience sharing platforms
Norway	Innovation Norway, Ministry of Trade and Industry	Tourism Strategy for Innovation Norway 2014-2020	Innovative tourism projects like Beitostølen, Opplev Oppdal, sustainable tourism initiatives
Denmark	Ministry of Science, Innovation and Higher Education, Visit Denmark	Various innovation and research projects	Roskilde Festival, Innovation Fund Denmark, emphasis on wellness and active tourism
Sweden	Swedish Tourism Innovation Center	Models to support tourism innovations	International partnerships, innovative labs, workshops, and sustainable initiatives

Finland	Ministry of Economic Affairs and Employment, regional tourism organizations	Growth and Renewal Roadmap for Finnish Tourism 2015-2025	Finrelax, Finland Stopover, Finnish archipelago projects
Ireland	Tourism Ireland, Failte Ireland, Tourism NI	Marketing plans, tourism strategies	Increasing economic value, employment in tourism, strategic marketing initiatives
UK	VisitBritain, regional tourism boards, local authorities	Local Visitor Economy Programme (LVEP)	Sustainable tourism, visitor economy partnerships, strategic tourism development plans
Turkey	Ministry of Culture and Tourism, TurkStat	Turkey Tourism Strategy 2023	Strategic planning, alternative tourism products, sustainable tourism development
Iceland	Icelandic Tourist Board, Ministry of Tourism, Industry and Innovation	Various tourism strategies and initiatives	Quality system Vakinn, regional destination management plans, sustainable tourism goals
Latvia	Ministry of Economics, Latvian Investment and Development Agency	National Tourism Policy, healthcare tourism programs	Development of health tourism, coordination with the health tourism cluster, strategic health tourism goals
Luxembourg	Ministry of Economy, Luxembourg Tourism Directorate	Various tourism projects and initiatives	VR Timetravel project, Smart City initiatives, sustainable tourism and digital engagement
Lithuania	Ministry of Economy and Innovation, Lithuania Travel	National Tourism Policy, Baltic Sea region projects	Sustainable tourism development, cooperation in Baltic Sea tourism projects
Estonia	Estonian Tourism Development Center, regional tourism organizations	Tourism Strategy 2022-2025, Estonia 2035	Digital and green revolutions, strategic destination management, sustainable tourism goals
Slovakia	Slovak Tourism Agency (SACR), SlovakTourism, regional tourism organizations (RCO)	Slovakia.travel, Sustainable Tourism Development Strategy	Project "Tourism for Everyone", Project "Via Ferrata Tatry", Project "Slovakia – The Country of Good Ideas"
Czech Republic	CzechTourism, Ministry of Culture, Ministry of the Environment	CzechTourism, Digital Marketing Strategies	Project "Czech Heroes", Project "Czechia - The Land of Czechs", Project "Fairytale Czechia"
Poland	Polish Tourist Organization (Polska Organizacja Turystyczna), regional tourism organizations (RTO)	Visit Poland, Tourism Strategy 2021-2025	Project "Poland Travel", Project "Polska. Tu się robi historię", Project "Culinary Heritage of Poland"

Croatia	Croatian National Tourist Board (HTZ), local tourist communities	Croatia Full of Life, Digital platforms	Project "Croatia Full of Life", Project "Croatia - Family Vacation"
Romania	National Tourism Agency, regional tourism organizations	Ethnotourism, Explore the Carpathian Garden	Folklore festivals, project "Explore the Carpathian Garden"
Hungary	Innotime Hungary Kft., Hévíz Tourism Nonprofit Kft.	I-Dest, Hévíz Traditional Cure (HTK)	Integrated tourism management system I-Dest, Hévíz Traditional Cure (HTK)
Greece	Greek National Tourism Organization (GNTO), Ministry of Tourism	Annual Sustainable Development Action Plan, digital transformation	Digital tourism map, sustainable tourism lab in Rhodes, waste management options
Belgium	European Parliament, local and regional tourism organizations	European Tourism Indicators System	European Tourism Indicators System, European Parliament

Source: authors own processing

Innovation systems in the tourism sector in individual EU countries are shaped by national strategies, political priorities and economic needs, while each state has its own unique approaches and solutions. The main actors are mainly government bodies, such as the Ministries of Tourism, which create and implement national strategies. National and regional tourist boards play an important role in the promotion and development of tourism. Key programs and strategies include national plans and initiatives that support the recovery and development of tourism after the crisis, such as the National Recovery and Resilience Plan in Bulgaria or the National Strategy for Tourism in Cyprus. Laws and regulations such as the Malta Travel and Tourism Services Act provide a framework for the sector to operate effectively.

Each country also implements unique adaptations and projects that reflect its specific needs and conditions. For example, Slovenia is focusing on green tourism schemes and the European Capital of Culture project, while Malta is focusing on modernizing tourist facilities such as the National Aquarium in Qawra. Cyprus emphasizes health, wellness and gastronomy, while France supports innovative projects and startups, which is illustrated by initiatives such as the France Tourisme Lab and the Paris Region Lab.

Innovation systems in the tourism sector in EU member states show many similarities and differences. Among the similarities is the institutional arrangement, where the main actors are government bodies and national tourism organizations. All countries surveyed have implemented national recovery plans and strategies to support tourism after COVID-19. A general drive to innovate and modernize tourism services and infrastructure is also present in every country.

On the other hand, differences are manifested in the geographical and cultural focus of individual countries. For example, Cyprus focuses on health and wellness, while Slovenia promotes green tourism. The level of technological sophistication also varies, with countries such as France supporting highly innovative projects and startups, while others focus on basic infrastructure upgrades. Specific programs and legislative measures also reflect the unique needs and priorities of individual countries in the field of tourism.

Conclusion

The analysis showed that there are significant differences in innovative tourism systems between EU member states, which are caused by various economic, geographical, historical, political and social factors. Economic level and technological maturity affect countries' ability to invest in innovation, with advanced economies having greater resources to support technology startups and innovation projects. Geographical and natural conditions shape the tourism strategies of countries, the historical and cultural context influences innovative approaches, the political and legislative environment determines the success of innovative projects, and social and demographic factors influence the demand for various tourist services.

These differences are the result of a combination of these factors, which shape the specific approaches of individual countries to innovations in the tourism industry. The research results contribute to the theoretical understanding of innovation systems in the tourism industry and provide specific recommendations for the creation of policies that can support and optimize innovation capacities in this sector within the EU.

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Critical Evaluation of Theoretical Foundations of Destination in Tourism as a Production Network

Jerguš Horský

Abstract

This scientific article focuses on the critical evaluation of the theoretical foundations of the destination in tourism as a production network and a comprehensively functioning system. The Methodology outlines various theoretical foundations, encompassing multiple aspects of destination management and its actors at different levels. By employing methods of examination, comparison, and analysis of the current state of tourism in the Slovak Republic, considering specific criteria, the article presents findings on the destination and destination management in the process of relationship-building and cooperation. These findings reveal details, common features, and differences among the observed phenomena. Based on the results of the comparison and analysis, this article aims to strengthen the current state of theory in this field and provide practical contributions. The findings and their implementation in the educational process aim to serve as an element for better understanding the complexity of the destination as a production network for students, researchers, and professionals in the field. The article contributes as a source of information and knowledge for the academic environment and educational institutions.

Key Words

Destination, Destination Management, Tourism Industry, Production Network

JEL Classification: L33, M31, R11

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Introduction

The importance of tourism for economic development and cultural exchange is crucial in the present time. With the increasing trend of demand for travel, both domestically and globally, destination management and its organization are key factors for the success and quality of tourism. The professional definition of a destination in tourism involves a deeper analysis of the factors that influence its attractiveness and competitiveness in the tourism market. Generally, it can be defined as a specific geographical space, place, or area that is the target of tourism participants (Page, 2011).

A tourism destination can be characterized today as a complex system functioning as a production network, involving various actors and resources in tourism to create and provide value for visitors. The concept of a production network encompasses strategies and processes aimed at connecting multiple entities to collectively create tourism products and services. This approach makes a specific destination a dynamic and interconnected system where actors contribute to value creation. Consequently, a tourism destination becomes not only a place where participants spend their time but also a place where economic growth is generated, jobs are created, and socio-cultural development occurs.

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By emphasizing the role of the production network in a tourism destination and analyzing the current state, it allows for a deeper understanding and assessment of the effectiveness of existing organizational structures and destination management processes. An expected outcome is the incorporation of this topic into educational programs, which could contribute to better preparing students for the work environment in tourism.

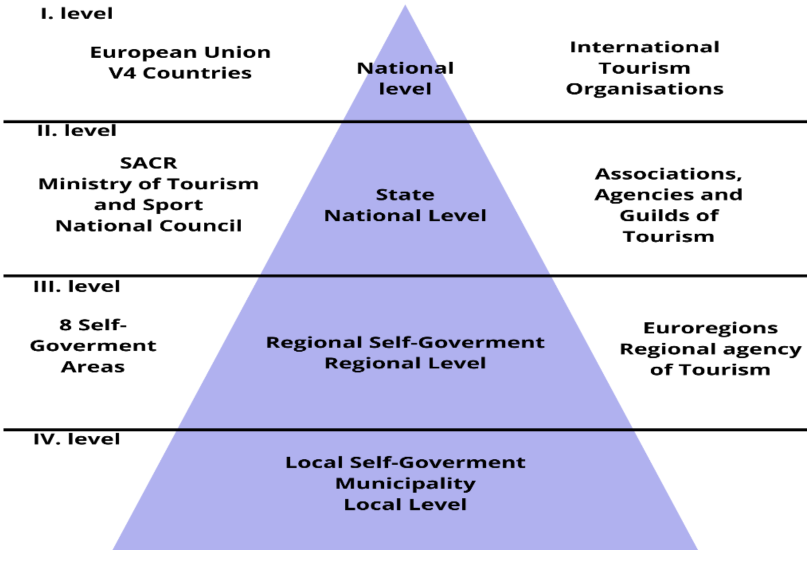
1 Methodology

The aim of this paper is to provide a comprehensive view of the destination and destination management, focusing on networking as a process of relationship-building that subsequently enables the exchange of information, opportunities, and knowledge among individuals.

The Methodology involves identifying and examining existing approaches, methods, and challenges in managing the production network in selected countries, which allows for the comparison of various aspects related to the development and management of destinations and destination management in Slovakia. The study examines existing approaches, methods, and challenges in managing the production network in selected countries, contributing to the updating and expansion of the theoretical framework in this field. By evaluating the economic benefits, it provides a detailed view of the economic contributions and the assessment of the production network system.

In terms of data collection, the primary activity will be gathering data from publicly available documents, reports, statistics, and websites of institutions and entities related to the studied countries. The collected data will be summarized into graphical representations in the form of visualized tables and the 3K principle scheme. Through visualization, the actors in destination management operating at various levels of destination management will be identified.

Table 1 Actors Involved in Destination Management by Destination Level



Source: Author's own processing

2 Results and Discussion

To achieve the results of the addressed issue, we focus on the organization of destination management in Slovakia within the context of the development and competitiveness of tourism, categorized among economically developed countries. The higher the country's ranking, the more developed and advanced its destination management and organization are. In comparison with more developed European countries, the number of destination management organizations in Slovakia is currently smaller.

The following chapters focus on the analysis and cooperative behavior in the field of tourism, especially in collaboration within destination management organizations.

2.1 Destination and Destination Management

A professional definition of a destination in tourism involves a deeper analysis of the factors that influence its attractiveness and competitiveness in the tourism market. Generally, it can be defined as a specific geographical space, place, or area that is the target of tourism participants (Page, 2011). Furthermore, a destination is characterized as a dynamic and interconnected system that includes the local community, tourism, the environment, and the economy, and is managed to achieve sustainable development. This system involves the identification of goals, strategies, planning, marketing, product and service development, quality management, cooperation with various actors, and other aspects to ensure effective and sustainable destination management (Dredge-Jenkins, 2007).

According to Buhalis and Costa (2006), there are factors that can influence a destination. These factors may include:

- Natural resources and attractions
- Cultural and historical attractions
- Infrastructure
- Marketing strategy
- Competition
- Economic and social impact.

For a destination to function as an effective production system, it must be managed in accordance with the principles of quality and efficiency management. It is essential to ensure that all processes are properly coordinated, that the quality of services is maintained, and that deadlines are met. Additionally, it must be ensured that all components are maintained and updated to consistently meet tourists' expectations and trends in tourism. Given that a tourism destination can be considered a production system, it is crucial to ensure that all processes are efficient and coordinated. This can ensure that tourists have a positive experience, and that the destination remains competitive in the tourism market.

Destination management strives to achieve sustainable tourism development. Destination management can also be viewed as the coordination, management, and collaboration of various actors and resources within a destination to achieve efficient resource utilization, improve competitiveness, and meet the needs of visitors (Getz, 2008).

According to Morrison (2013), destination management is the process of managing and coordinating various factors associated with the development and administration of a destination. It focuses on achieving sustainable development, competitiveness, and improving visitor experiences. Destination management involves the identification of goals, strategies, planning, marketing, product and service development, quality management, cooperation with various actors, and other aspects to ensure effective and sustainable destination management.

The definitions indicate that destination management is the process of managing and coordinating various actors, resources, and activities within a destination. Its goal is to achieve sustainable development, competitiveness, and improve visitor experiences.

Destination management also strives to maximize benefits for the local community and protect natural and cultural heritage. This activity is carried out in cooperation with various stakeholders, such as residents, businesses, non-profit organizations, and government institutions. In Slovakia, the organizational structure of destination management is divided into national, regional, and local levels (Kuhn and Tomášková, 2011).

Currently, destination management is more important than ever before, as the rapid development of tourism and increasing pressure on the environment and local culture require complex and sustainable solutions. Therefore, a holistic approach is often used, encompassing the environmental, economic, and social aspects of tourism. It is important to emphasize that destination management is a dynamic process that requires continuous adaptation and innovation. Destinations are constantly changing and evolving, and thus destination management must be able to adapt to new challenges and opportunities (Tribe, 2017).

2.2 Cooperation in Tourism

Cooperative behavior in tourism, especially in collaboration within destination management organizations, is a prerequisite for sustainable development. Partnerships are formed within destinations across all sectors, often extending beyond tourism. For example, local providers of traditional products and services may actively collaborate with the destination marketing organization. Local organizations are dominant, but there is an effort to broadly involve various interests. Increasing externalities can be observed, impacting the environment and local residents. Strategic partnership is a typical form of cooperation. The subject of cooperation may include the creation of a destination strategy. This is followed by a concentration phase, where demand continues to grow, although slight stagnation can also be observed. Cooperation in tourism is organized through destination companies (Beritelli, 2010).

As Patatková (2011) states, other reasons for forming partnerships include:

- Meeting the goals of destination policy,
- Sales support,
- The ability to influence processes within the destination,
- Increasing bargaining power and improving negotiating position,
- Access to financial resources (grants, subsidies),
- Offering a wider and interconnected range of goods and services,
- Better meeting the needs of visitors, the destination, and residents,
- Unifying the destination's marketing communication strategy,
- Creating unconventional approaches and solutions to problems.

2.3 The 3K Principle

For successful destination management, the 3K principle outlines important elements, which are clearly illustrated in Scheme 1. It involves cooperation, which creates synergy among the various interested parties in tourism, and coordination in the planning and decision-making processes within the destination. This leads to efficiency and mutual communication, resulting in the strengthening of relationships within the destination through feedback. From the perspective of destination management organizations, tourism actors do not act as competitors but as partners. The main goal is to maximize the benefits of the associated units in the given area. A key factor for the functioning of destination management organizations is trust, and thus building good relationships among the various actors is essential. Knowledge and information transfer in the tourism sector is a strong competitive advantage (Holešinská, 2010).

Scheme 1 The 3K Principle Scheme

Source: HOLEŠINSKÁ, 2010.

2.4 Analysis of the Current State

A tourism destination can be considered a production system because it is composed of numerous factors that must work together to provide tourists with a quality experience. These factors can include transportation, accommodation, dining, attractions, services, and more. Each of these components has its own subprocesses and responsibilities, which must be well-coordinated to achieve maximum efficiency and quality.

The aim is to emphasize the role of the production network in a tourism destination and analyze the current state of the issue. Additionally, the work seeks to expand the existing theoretical framework with new insights in the field of tourism. The goals also include defining and characterizing networking, which can provide a better understanding of the nature and significance of networking while strengthening the current state of theory in this area.

The process of building relationships that subsequently enable the mutual exchange of information, opportunities, and experiences among different entities can be termed networking. Networking can also be defined as an activity that involves expanding an entrepreneur's network of contacts. This is known as networking with a specific goal, namely to gain more business and work opportunities. A common feature is that it often starts with a single common point (Arcoya, 2022).

2.5 Networking, Its Principles and Significance

According to Ferrazzi (2015), networking can be understood as a tool for acquiring resources and information through established relationships and subsequently providing value to others within the same network. Networking, in general, emphasizes the importance of building trust, exchanging information, and providing value in relationships between people. Ultimately, it is a process aimed at bringing benefits in terms of opportunities, resources, and both personal and professional development (Ferrazzi, 2015). A similar perspective suggests that networking is mainly about actively building relationships and creating connections with other parties to gain new opportunities, share knowledge, and achieve common goals (Mackay, 1997).

Based on the definitions, we can conclude that the purpose of networking is to build and maintain relationships that help achieve established goals. Despite the significant effort involved, the benefits that networking can bring may be invaluable.

Generally, networking can be divided into four types. These types mainly differ in the method and level of organization. It is always advisable to define at the outset which type of networking is to be applied. According to Zárychtová (2022), the four types of networking are:

- **General Networking** – This involves networking at various events such as the opening of new company branches, company foundations, or the launch of new products on the market. In this type, networking is not highly organized. Skills in conversation and self-presentation come to the forefront.
- **Mixer Networking** – Informal and unstructured meetings, usually of people from the business environment. This type of networking provides an opportunity to establish contacts and relationships among entrepreneurs from different sectors.
- **Regular Open Networking** – This involves regular attendance at organized meetings, aimed at building and strengthening mutual business relationships through business and entrepreneurial associations. The regularity factor ensures greater productivity compared to mixer networking. Open networking does not apply the principle of exclusivity.
- **Referral Networking** – This occurs in business and entrepreneurial clubs with a private nature, ensuring the involved parties a certain status of exclusivity. The aim of referral networking is to build quality and long-term business relationships based on trust among club members. The goal in such cases is to create a space for mutual referrals and recommendations among members

- (Zárychtová, 2022).

Equally important, besides the types, is online networking. With the development of technology and the internet, this type of networking is becoming increasingly important for building and maintaining relationships. It involves professional activity on social networks such as LinkedIn, Twitter, Facebook, or Instagram. By sharing content and information with others in the online community, it significantly contributes to establishing relationships with potential customers, suppliers, investors, and overall, to the development of one's activities.

Conclusion

Based on the conducted analysis and critical evaluation of the theoretical foundations of the destination and destination management in tourism, it can be concluded that effective destination management is crucial for achieving sustainable development and competitiveness of destinations. This scholarly article has emphasized the importance of the production network, which enables synergistic connections among various actors within the destination, thereby ensuring not only economic growth but also socio-cultural development The Methodology focused on comparing and analyzing existing approaches to destination management in various countries has contributed to a better understanding and identification of challenges and opportunities related to effective management of destination networks. The results indicate that successful destination management requires cooperation between the public and private sectors, as well as active involvement of local communities The critical evaluation of the current state of destination management in Slovakia has highlighted the need to improve organizational structures and increase the number of destination organizations, which could lead to better utilization of tourism potential. The implementation of the 3K principle (cooperation, coordination, communication) is essential for strengthening relationships among actors and enhancing the efficiency of processes within destinations Networking and building relationships among various entities in tourism is another important aspect that contributes to the development and improvement of the quality of provided services. The identified types of networking and their significance provide valuable insights for practice and can serve as a basis for further research in this area.

Overall, this scholarly article, through its focus, evaluation, and findings, has contributed to expanding the theoretical framework and provided new insights that can be implemented in the educational process, thereby increasing the preparedness of individuals in academia and professionals working in the field of tourism. Future research should focus on further developing the issue of destination management and seek new ways to effectively manage and develop destinations in the dynamically changing environment of tourism.

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Impact of business expenditures on research and development on exportet value added: a sectoral approach[1]

Andrea Hrubšová[2] – Dušan Steinhauser[3]

Abstract

Understanding the impact of research and development expenditure (BERD) on the exported domestic value added within selected manufacturing sectors is crucial for designing strategies to improve national competitiveness. This paper examines how BERD affected exported value added in the manufacturing sector from 2010 to 2020 in certain EU and OECD countries, according to the NACE-C classification. These flows include the manufacturing sector as a whole (C), food (C10 to C12), pharmaceuticals (C21), computer products (C26), and others. The analysis uses panel analysis with fixed and time effects. The results show that BERD has a positive impact on exported domestic value added, suggesting that innovation is key to enhancing the export level of manufacturing. This study confirms the assumption that strategies aimed at increasing R&D spending can make a significant contribution to economic development.

Key words

business expenditures on research and development, exported domestic value added, national competitiveness

JEL Classification: O30, F14

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Introduction

The aim of our paper is to investigate and quantify the correlation between the increase in business R&D expenditures and exported value added, focusing on selected manufacturing sectors.

Coccia (2012) highlights that research and development (R&D) plays a key role in promoting economic growth in modern economies, involving spending by industry, government, universities and the private non-profit sector. In the context of economic research, it is interesting to examine the link between business expenditure on R&D (BERD) and its impact on the value added of exports in the manufacturing sector. This study focuses on analysing the effects of BERD on export value added in different subsectors of the manufacturing industry by NACE-C classification over the period 2010 to 2020. Our research focuses on selected countries of the European Union (EU) and the Organisation for Economic Co-operation and Development (OECD).

[1] VEGA 1/0689/23 Sustainable growth and the geopolitics of resilience in the context of the prevalence of crises and VEGA 1/0398/22 The current status and perspectives of the development of the market of healthy, environmentally friendly and carbon-neutral products in Slovakia and the European Union

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The manufacturing sector, which is a pillar of economic growth, is strongly influenced by technological progress and innovation, often stemming from intensive research and development activities. Understanding the dynamics between R&D investment and subsequent export performance in the manufacturing sector can provide valuable insights into the effectiveness of economic policies and business strategies.

1 Methodology

The aim of our paper is to investigate and quantify the correlation between the increase in business R&D expenditures (BERD) and exported value added (EXGR_DVA), focusing on selected manufacturing sectors. We anticipated an increase in EXGR_DVA in the manufacturing industry and its subsectors as BERD increased.

To achieve this main aim, we deployed panel regression analysis with fixed and time effects. Despite not covering all relevant factors that could be missing in the model specifications, the chosen methodology allowed us to create a relatively simple analysis, maintaining its validity (Hsiao, 2014). In addition, we used robust standard errors due to the possible presence of heteroscedasticity and autocorrelation in the time series. The coefficients of variables and parameters were estimated in the software GRETL, and the general econometrical equation of panel data has the following form (Lukáčiková, 2013; Cottrell & Lucchetti, 2021; Torres-Reyna, 2007):

$$Y_{it} = \alpha_i + \delta_t + \beta X_{it} + u_i + e_{it} \quad (1)$$

where α_i mean unknown intercept for each country, δ_t is the unknow coefficient for the time regressors, u_i describe within-entity error term and e_{it} is overall error term.

Table 1 contains description of variables and sectors, and table 2 descriptive statistics included mean, median, minimal and maximal values, standard deviation, skewness and number of observations. Scientific literature frequently uses this statistic, leaving the reader to interpret it.

Tab. 1 Description of variables and sectors

Variable/sector	Description
EXGR_DVA	Domestic value added in gross exports in mill. USD from 2010 to 2020 (OECD, 2023)
BERD	Business expenditures on research and development from 2010 to 2020 (Eurostat, 2024) converted from mill. EUR to mill. USD (FRED, 2024)
C	Manufacturing
C10_12	Food and beverages and tobacco
C21	Pharmaceuticals
C26	Computers, electronics, optical devices
C27	Electrical equipment
C28	Machinery
C29	Motor vehicles, trailers and semi-trailers

Variable/sector	Description
C30	Other transport equipment

Source: own processing

Tab. 2 Descriptive statistics (1:01 – 37:11)

Variable	Mean	Median	Min.	Max.	Std. Dev.	Skew.	n
EXGR_DVA_C	141330,0	49214,0	423,2	1660500,0	263020,0	3,4	407
EXGR_DVA_C10_12	8381,5	2867,1	50,2	54093,0	11387,0	1,9	407
EXGR_DVA_C21	5771,2	962,5	0,0	48156,0	9885,6	2,3	407
EXGR_DVA_C26	19295,0	1663,4	0,2	425780,0	57278,0	4,7	407
EXGR_DVA_C27	8488,1	1717,7	4,7	178580,0	22254,0	5,0	407
EXGR_DVA_C28	16638,0	3812,3	4,9	142220,0	31362,0	2,4	407
EXGR_DVA_C29	15851,0	3313,0	0,0	180840,0	32003,0	3,1	407
EXGR_DVA_C30	7145,8	690,9	0,0	108300,0	17002,0	3,9	407
BERD_C	20154,0	1251,1	5,3	274240,0	49116,0	3,2	333
BERD_C10_12	494,7	58,1	0,1	8330,6	1417,2	4,0	312
BERD_C21	2814,5	128,8	0,3	74636,0	9797,3	5,3	323
BERD_C26	5260,4	146,0	0,1	83746,0	13832,0	3,6	326
BERD_C27	966,8	95,9	0,0	20349,0	2783,0	4,9	322
BERD_C28	1870,0	153,4	0,1	23148,0	4251,7	2,8	335
BERD_C29	3507,6	107,7	0,0	37976,0	8370,1	2,6	299
BERD_C30	1150,9	51,8	0,0	30199,0	3965,1	6,2	281

Note: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, China except Hong Kong, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Türkiye, United Kingdom, United States.
Source: own processing

2 Results and Discussion

The internationalisation of economic activities is a key element of our times. This complex process is largely based on the internationalisation of business sector R&D expenditure. The changing global innovation systems that can be observed in both the manufacturing and service sectors; from the automotive industry to machinery and equipment, chemicals and pharmaceuticals to electronics, software and services. The period of complex changes in the internationalisation of corporate R&D reflects a wide range of factors, including changes in the location of demand, production and innovation, changing technologies and technological regimes such as green technologies and digitalisation, and longer-term implications (Eric et al., 2016)

Czarnitzki and Wastyn (2010) argue that the relationship between innovation and export activity has traditionally been examined through trade theory and growth theory. International trade theories highlight the importance of R&D for exports. Product life cycle theory in international trade suggests that innovation provides the competitive advantage needed to compete successfully in global markets. Endogenous growth models consider innovation as an intrinsic element. These models show that the relationship can be reciprocal. Innovation is needed to cope with increased competition after entry into foreign markets.

Girma et al. (2007), relying on theory and existing empirical findings, argue that superior R&D capabilities encourage firms to export. It is argued that the opportunity to face foreign competition selects only the most capable firms. In other words, the most innovative domestic firms that produce differentiated products and use cutting-edge technologies become exporters. It is evident that exporters who compete in foreign markets are aware of foreign technologies, invest in them, and respond to the diverse demands of sophisticated foreign customers. In this way, exporters assimilate foreign technology and improve their domestic market. Thus, the predicted impact of exports on innovation is positive.

A similar view is also held by Benfratello (2022), who argues that the analysis of the relationship between exports and innovation needs to take into account that productivity-enhancing investments, such as R&D expenditures, are endogenous decisions that are closely linked to trade participation. These investments in innovation can lead to productivity gains, allowing firms to cover the costs of exporting and to better meet international demand, making exports more profitable. Engagement in international markets can support innovation activities by increasing competitive pressure on firms and encouraging technology transfer from target markets.

As part of our analysis, we examined the impact of BERD on export flows between 2010 and 2020 in different sectors in EU and OECD countries. BERD (Business Enterprise Research and Development) is an indicator of private R&D activities expressed in monetary terms. BERD data, collected by national statistical offices and compiled for the EU by Eurostat and the OECD, are particularly useful for governments to compare with other countries and to monitor long-term trends (Caro and Grablowitz, 2008).

Tab. 3 Panel regression analysis

	1	2	3	4	5	6	7	8
const	9,5***	7,6***	5,3***	7,1***	6,5***	7,1***	7,1***	6,6***
l_BERD_C	0,1**							
l_BERD_C10_12		0,1**						
l_BERD_C21			0,3***					
l_BERD_C26				0,0				
l_BERD_C27					0,2***			
l_BERD_C28						0,1**		
l_BERD_C29							0,2**	
l_BERD_C30								0,1
n (2010 – 2020)	333	312	322	326	318	335	269	257
Within-R^2	0,39	0,38	0,20	0,06	0,25	0,25	0,29	0,07
Robust st. err.	Yes							
Fixed-effects	Yes							
Time-effects	Yes							

Note: Dependent variables in model 1 – l_EXGR_DVA_C, model 2 – l_EXGR_DVA_C10_12, model 3 – l_EXGR_DVA_C21, model 4 – l_EXGR_DVA_C26, model 5 – l_EXGR_DVA_C27, model 6 – l_EXGR_DVA_C28, model 7 – l_EXGR_DVA_C29, model 8 – l_EXGR_DVA_C30
Source: own calculation based on Eurostat (2024); FRED (2024); OECD (2023)

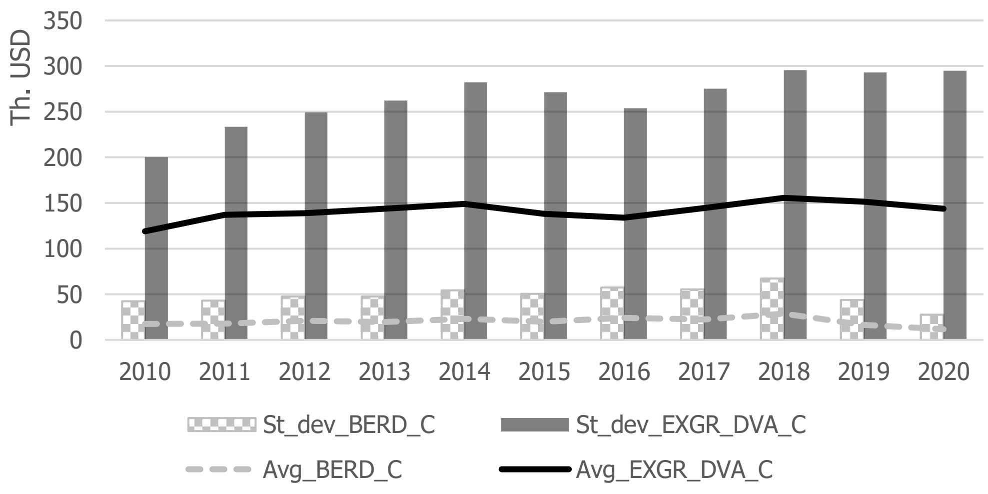
An analysis of the impact of Business Enterprise Research and Development (BERD) on export flows between 2010 and 2020 in different sectors in EU and OECD countries yields some interesting findings. It shows that BERD spending significantly boosts export flows in certain sectors such as food (NACE C10 to C12), pharmaceuticals (C21), electrical equipment (C27) and machinery (C28). In these sectors, increased investment in R&D leads to significant improvements in export performance. For example, in the pharmaceutical sector, a 1% increase in BERD correlates with a 0.3% increase in export flows, indicating a strong positive relationship.

In contrast, in sectors such as computer products (C26) and other transport equipment (C30), the analysis finds that BERD spending does not have a significant impact on export flows. This suggests that these sectors may be influenced by other factors such as market conditions, technological advances, or the regulatory environment that may play a more dominant role in their export performance.

The results suggest that increased BERD spending has a significantly positive impact on export performance in some sectors. For example, in the pharmaceutical sector (NACE C21) and the food sector (NACE C10-12), a 1% increase in BERD is correlated with a 0.3% and 0.1% increase in export flows, respectively. This suggests that these sectors are highly responsive to R&D investment. In contrast, sectors such as computer products (NACE C26) and other transport equipment (NACE C30) do not show significant changes in export performance with increased BERD expenditure, implying that other factors such as market conditions and technological readiness play a more significant role.

It can be concluded that while BERD expenditure remained relatively stable during the period analysed, the variability of export performance was much higher. This suggests that industry dynamics and external factors strongly influence export performance. Thus, it is imperative that countries tailor their R&D policies, taking into account the unique characteristics and needs of each sector. Policymakers should focus on maintaining and increasing R&D investments in sectors where these investments have the greatest impact on export flows. For sectors with lower BERD responsiveness, alternative strategies or complementary measures may be needed to enhance their export performance.

Graph 1 Average values and standard deviations of selected variables (2010 – 2020)



Source: own calculation based on Eurostat (2024); FRED (2024); OECD (2023)

Graph 1 displays the average values and standard deviations of BERD and EXGR_DVA in the manufacturing sector:

- In the pre-pandemic period, we can observe a relatively weak growth of both variables.
- The standard deviation in the graphs indicates that there is higher heterogeneity in the sample of both EXGR_DVA and BERD.
- Both variables recorded a decrease in 2020, but this was more noticeable for BERD.
- In 2020, the BERD standard deviation is decreasing, meaning that almost all countries surveyed observed a reduction in business spending on research and development.

Conclusion

The study highlights the critical role of investment in research and development (R&D) in driving export performance, with significant differences across sectors. It stresses the need for sector-specific R&D policies to maximise the benefits of these investments and suggests that public R&D spending can effectively complement private investment, thereby promoting sustainable growth and improving global competitiveness.

It can be concluded that R&D expenditure (BERD) has a significant positive impact on domestic value added of exports in selected NACE sectors. Our analysis confirms that innovation is key to improving the competitiveness of industries and can contribute to long-term sustainable growth. Nevertheless, it is important to stress that R&D investments need to be effectively managed and properly coordinated in order to maximise their positive impact. Strategies geared towards increasing such investment appear to be a very appropriate way forward for the development of the economies of both EU countries and their OECD trading partners. Given the constantly changing global environment, it is important to monitor BERD trends and adapt business strategies in order to maintain the competitiveness of industrial sectors in the world economy.

The limitations of our research stem from the relatively outdated observations caused by the availability of the used datasets. Therefore, we recommend investigating the regularities between BERD and EXGR_DVA in the post-pandemic period with a longer time interval for further study.

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The path to net - zero company through long term goals - how to avoid greenwashing[1]

Katarína Chomová[2]

Abstract

The European Union aims to be climate-neutral by 2050 – an economy with net-zero greenhouse gas emissions. To fulfill this sustainability transition, businesses are increasingly committing to ambitious sustainability pledges and releasing sustainability plans to reach the targets in the next 20 to 30 years. Committing to these ambitious goals is one thing, but accomplishing them is another matter entirely. In this article, we map long-term goals and define the main problems with the setting, motivation, and tools to achieve net zero without any form of greenwashing.

Key words

climate-neutral, net-zero, long term goals, greenwashing, net-zero washing, AI

JEL Classification: G3, G30

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Introduction

The Intergovernmental Panel on Climate Change's (IPCC, 2021) Special Report on Global Warming of 1.5°C, was widely accepted as a warning that we must limit global temperature rise to 1.5°C above pre-industrial levels and reach net-zero carbon dioxide (CO_2) emissions by 2050 for the best chance of avoiding catastrophic climate breakdown. More recently, the IPCC's Sixth Assessment Report (2021) has confirmed that climate change is already affecting every region on Earth, its impacts increasingly visible in the form of extreme weather, worsened droughts and heightened risk of forest fires.

The EU aims to be climate-neutral by 2050 – an economy with net-zero greenhouse gas emissions. This objective is at the heart of the European Green Deal , and is a legally binding target thanks to the European Climate Law. The pursuit of climate neutrality is also in line with the EU's commitment to global climate action under the Paris Agreement. The EU submitted its long-term strategy to the United Nations Framework Convention on Climate Change in 2020 (EC, 2024).

The transition to a climate-neutral society is an opportunity to build a better future for all, while leaving no one behind. All parts of society and economic sectors will play a role – from the power sector to industry, transport, buildings, agriculture and forestry (EC, 2024).

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Organizations of all sizes, sectors, and jurisdictions have increasingly been committing to net zero and developing plans to achieve it. For instance, 47% of Fortune 2000 companies have set a net zero target as of June 2023. However, according to an analysis by the Net Zero Tracker, only 4% of those targets are backed by credible plans to achieve them. The question of how to reach net zero has remained complex, and the need for greater standardization is clear (ISO, 2024).

1 Methodology

The purpose of this article is to identify the challenges faced by companies in fulfilling their responsibilities to evaluate and monitor their companies' commitments and progress towards achieving net-zero emissions. A significant challenge for boards is to discern whether their companies are genuinely working towards net-zero emissions or merely engaging in greenwashing—making promises or pledges without any meaningful follow-through in performance. The Methodology of this article is structured into several key components to ensure a comprehensive and rigorous analysis of the challenges and solutions related to companies in achieving net-zero emissions: (1) Literature review with the aim to gather existing research and data on net-zero emissions, greenwashing practices, and board governance, to map peer-reviewed journals, industry reports, white papers, and authoritative websites and to establish a theoretical framework and identify common themes and gaps in the literature. (2) Data collection with the aim of company analysis of publicly stated net-zero target year, revised target year, specific strategies, and progress reports. (3) Greenwashing analyse with new types of net-zero washing, greenwishing, and greenhushing. (4) Tools and Regulations focus on regulatory frameworks, guidance from organizations, AI tools, transparent communication strategies, and scenario planning techniques. (5) Case Studies with insights into effective practices and potential pitfalls. This Methodology ensures a holistic approach to understanding the responsibilities and challenges faced by companies in the context of net-zero emissions. By combining literature review, data collection, case studies, and tool analysis, the article aims to provide actionable insights and recommendations to prevent greenwashing and promote genuine sustainability efforts.

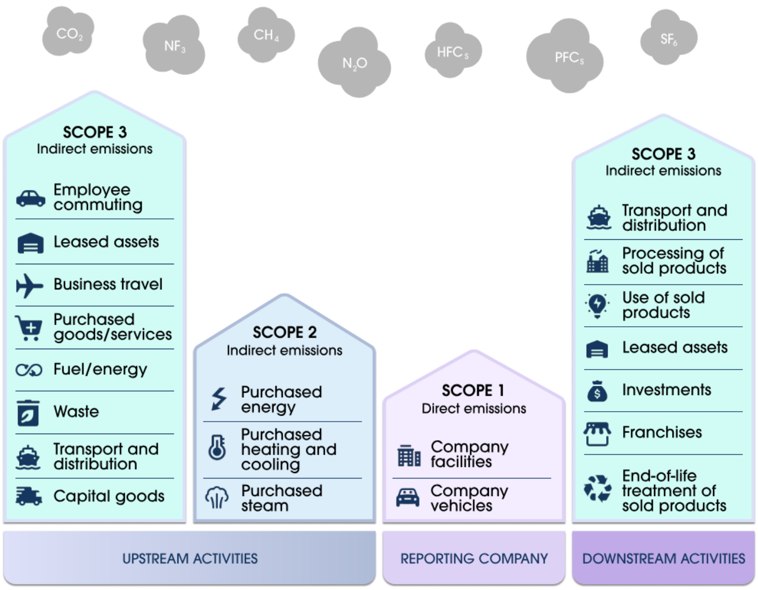
2 Results and Discussion

In my article, I provide a table of companies with their long-term targets and revised targets. I focus on forms of greenwashing, including net-zero washing, greenwishing, and greenhushing. Additionally, I describe tools to avoid net-zero greenwashing, such as regulations, organizations with guidance and tools, the potential of artificial intelligence for net zero, transparent communication, and scenario planning. The article also includes case studies of the brands Lego and Crocs.

2.1 Short, medium and long - term target to reach net -zero

Net zero emissions are achieved when anthropogenic emissions of GHGs to the atmosphere are balanced by anthropogenic removals over a specified period (IPCC, 2018). Net-zero is a state where people add no incremental greenhouse gasses to the atmosphere. "Net zero" and "carbon neutrality" have at times been used interchangeably, but more and more, net zero represents a greater ambition to pursue deep decarbonization across an organization's whole value chain and is therefore a higher integrity industry goal (ISO, 2024). Businesses are required to reduce emissions by 90-95% by 2050 . Businesses must reduce their environmental impact. One of the most significant ways to do this is by reducing their carbon footprint, and this starts with monitoring carbon emissions. According to the GHG Protocol - globally acknowledged standards for measuring and managing greenhouse gas emissions are classified into three scopes 1, 2 & 3 (Fig.1).

Fig. 1 Scopes 1,2 and 3



Source: Antonio Vizcaya Abdo in partnership with Voiz Academy

Net-zero science-based target is a GHG mitigation target that implies:

● Reducing scope 1, 2, and 3 emissions to zero or a residual level consistent with reaching global net-zero emissions or at a sector level in eligible 1.5° C-aligned pathways, and

● Permanently neutralizing any residual emissions at the net-zero target year and any GHG emissions released into the atmosphere thereafter.

Long-term science-based target GHG reduction targets that are in line with what the latest climate science deems necessary to reach net-zero and limit warming to 1.5°C above pre-industrial levels at the global or sector level and that are achieved by 2050 at the latest. The three types of interim targets to look out for are in Table 1.

Tab. 1 Short, medium and long-term target

Short-term targets	Rapid and significant reductions in value chain direct and indirect emissions are essential to limit global temperature rise to 1.5°C. Companies must prioritise halving emissions by 2030.
Medium-term targets	Company emissions reductions are set between 2026 and 2035 for a clearly defined scope of emissions. This target should cover at least 95% of scope 1 and 2 emissions and, where applicable, the most relevant scope 3 emissions.
Long-term targets	Companies set a target to achieve net-zero emissions by 2050 or earlier. This target should include at least 95% of scope 1 and 2 emissions as well as scope 3 emissions.

Source: own processing

Many experts agreed that short-term, medium-term, and long-term goals with standard metric targets are needed to avoid just greenwashing 2050 zero net goals by companies and countries and just —kicking the can down the road to 2050 (Grove & Clouse, 2021).

Many companies are making similar commitments to not add to the total amount of greenhouse gases in the atmosphere. Plus, even as boards experience blowback from shareholders who increasingly value sustainability, executives are also pushed to consider the short-term, amid macroenvironmental headwinds. Many shareholders often judge CEOs by an average earnings cycle of 90 days. This leaves firms executing a delicate balancing act between long- and short-term goals (BBC, 2024).

Some companies have set carbon neutrality goals for 2040, while others have set theirs for 2050. Some companies are shortening these timelines, while others are extending their target dates (Tab.2).

Corporate Climate Responsibility Monitor produced by the NewClimate Institute, in collaboration with Carbon Market Watch, analyses the transparency and quality of the climate strategies of 24 global corporations which sell themselves as 'climate leaders'. All these companies—which include such household names as Amazon, Google, H&M, Zara, Mercedes-Benz and Samsung—have set some form of 'net zero' target and many also make carbon-neutrality claims. Yet the report reveals that nearly all the current climate claims or future net-zero targets are misleading, exaggerated or false (Socialeurope, 2023). New InfluenceMap research finds that corporate net zero or similar targets are rarely matched by support for government climate policy, with 58% of almost 300 companies from the Forbes 2,000 found to be at risk of "net zero greenwash" due to their policy engagement (Influencemap, 2023).

Tab. 2 Long-term target and riveted long-term target

Company	Country	Long-term target	Revited long-term target
Amazon	United States	2040	no change
Apple	United States	2030	no change
Microsoft	United States	2030	no change
Alphabet (Google)	United States	2030	no change
Tesla	United States	No specific year announced, aiming for the lowest possible carbon footprint with sustainable practices	no change
Walmart	United States	2040	no change
Saudi Aramco	Saudi Arabia	2050	no change
Toyota	Japan	2050	no change
Samsung Electronics	South Korea	2050	no change
Berkshire Hathaway	United States	No specific year announced	no change
ExxonMobil	United States	2050	Prolonged (initially had no clear target, later set for 2050)
Shell	Netherlands	2050	Prolonged (initially had various targets without clear net zero commitment)
BP	United Kingdom	2050	Prolonged (expanded to include Scope 3 emissions)
Volkswagen Group	Germany	2050	No change
TotalEnergies	France	2050	No change
Nestlé	Switzerland	2050	Shortened (accelerated efforts, with interim targets for 2030)
Unilever	Netherlands/UK	2039	No change
Iberdrola	Spain	2040	Shortened (originally 2050)
Siemens	Germany	2030	No change
Daimler (Mercedes-Benz)	Germany	2039	Shortened (originally had a long-term vision for 2050)

Source: own processing

2.2 Greenwashing: Net-zero washing, Greenwishing and Greenhushing

First, greenwashing harms the business because it damages the company's reputation. When consumers discover that they have been given incorrect information, they lose trust in the company, which can have long-lasting effects on customer loyalty, sales, and brand image.

Net-zero washing

Net zero washing is a specific type of greenwashing where companies or organizations make claims about their commitment to achieving net-zero carbon emissions without implementing the necessary and substantial actions to meet these targets. It involves making ambitious pledges about reaching net-zero emissions to enhance the company's image without taking the concrete steps required to achieve these goals. This practice can mislead stakeholders, including investors, customers, and regulators, into believing that the company is more environmentally responsible than it actually is. Net-zero washing is, when claims to reach Net Zero are:

- Based on offsetting.
- The target is unrealistic.
- Still investing in new fossil-fuel infrastructure.
- Absolute emissions going up.
- Only reporting on part of emissions.
- Lobbying to undermine climate policy.

Net zero washing based on offsetting is the most often assumed. Offsetting means, instead of committing to deep decarbonisation by setting credible pathways to reduce their own emissions, many companies are choosing to 'neutralise' them, through the purchase of carbon credits on the voluntary carbon market (offsetting) or, even more questionably, within their own value chain (so-called 'insetting'). These dubious practices do nothing to cut current corporate emissions and the over-reliance on offsetting, or 'insetting', means that, together, the 24 companies analysed are committed to reducing their carbon footprint by only 36 per cent by the time they claim they will have attained 'net zero'. To contribute their fair share to global climate goals, they would need to slash their actual emissions by at least 90 per cent by mid-century (Socialeurope, 2023). Climate Policy Engagement and Net Zero Communications that companies that engage positively with climate policy use net zero terms only marginally more than those that do not. This suggests that many companies use the language of net zero but do not then support climate policy Influencemap, 2023).

Greenwishing

Greenwishing, or unintentional greenwashing, describes a practice where a company hopes to meet certain sustainability commitments but simply does not have the wherewithal to do so. Driven by the pressure to set ambitious sustainability goals, companies can find themselves committing to targets that they cannot realistically achieve, perhaps because of financial, technological or organizational constraints. Failing to achieve these targets can undermine trust in these companies and in the broader system.

Greenhushing

Unfortunately, in response to the fear of being called out as a "greenwasher", a new trend has surfaced known as greenhushing. Greenhushing is a term that has emerged as more and more organizations are pulling back their communications of the positive sustainability work they are doing, including emissions reductions and strategies for reaching net zero and carbon neutrality, for fear of criticism that their efforts do not go far enough.

Making a commitment towards a sustainability goal can make an organization vulnerable to public criticism. However, just as a lack of data can give the perception of greenwashing, a lack of transparency about pathways or progress towards a net-zero goal can foster mistrust of the organization's efforts among the public. Greenhushing can lead to less ambitious targets, less momentum toward achieving net zero, and the appearance of a lack of or insufficient urgency to meet our global net-zero goals that are essentials to limiting the worst impacts of climate change. Greenhushing refers to a company's refusal to publicize ESG information. The company may fear pushback from stakeholders who would find its sustainability efforts lacking or from investors who believe ESG undermines returns. On the surface, greenhushing is not overtly dishonest; however, it limits the quantity and quality of publicly available information. Without this transparency, it becomes challenging to analyze corporate climate targets, share best practices on decarbonization and calculate Scope 3 emissions, which by definition require widespread reporting (KPMG, 2023).

2.3 Tools to avoid net zero greenwashing

We have defined a couple of tools and measures that companies can use to prevent greenwashing in all its forms (Tab.3).

Tab. 3 Tools to avoid greenwashing

Tools to avoid Net Zero greenwashing				
Regulations and laws	ESG and sustainability policy	Organisations with guidance and tools	The potential of AI for Net Zero	Transparent communication and scenario plan

Source: own processing

Regulations

Stay abreast of the changing regulatory landscape, understanding that compliance with new and existing rules will help address the risk of improper reporting but require considerable time, energy and resources. From a regulatory standpoint, some countries already have sustainability disclosure laws in place. The UK became the first G20 country to make climate impact a mandatory component of financial disclosures; in 2022, 1,300 of the country's largest registered companies and financial institutions have been required to disclose climate-related financial information. The requirement followed closely after the British government set its own 2050 carbon target. Other markets have followed in close step – the EU requires companies with more than 500 employees to comply with the Non-Financial Reporting Directive (NFRD), which ensures companies disclose social and environmental issues in its annual reports (BBC, 2023).

The European Union is in a unique position to address this pervasive greenwashing, as policy-makers are in the midst of updating consumer-protection legislation. All tendentious and misleading climate-related neutrality or compensation claims or marketing—'carbon neutral', 'CO_2 neutral', 'CO_2 compensated', 'climate positive' and so on—should be banned.

The EU also needs to restrict more tightly claims relating to future environmental performance, such as 'net zero by 2050'. Specifically, climate-related future performance claims should be prohibited when they involve offsetting, 'insetting', or any other method purporting to 'neutralise' or counter-balance emissions, rather than cutting them (Social europe, 2023).

ESG and sustainability policy

Despite regulatory guardrails, it is easy to fall victim to greenwashing tendencies. However, there are several steps companies can take to mitigate these risks while still capitalizing on ESG opportunities. Maintain a robust ESG governance program that starts with clear buy-in from management and the board and embeds ESG considerations into new and existing risk management procedures and controls. Implement educational programs to upskill the board, management and professionals on the fundamentals of ESG, including related risks and opportunities. There needs to be a deep appreciation for the challenges associated with setting ESG goals and reporting on them effectively, and that starts with education. We recommend following the steps below.

(1) Tracking and disclosure of emissions
To develop a comprehensive and robust climate strategy, it is key that companies understand and are transparent about their GHG emission footprints and their trajectories.

(2) Setting specific and substantiated targets
Companies' headline climate change pledges encompass a broad range of target setting approaches. Regardless of the type of target and the terminology used, the commitments should send a clear signal for immediate action to decarbonise the value chain, and should avoid misleading consumers, shareholders, observers and regulators.

(3) Reducing emissions
Encompassing measures for deep emission reductions are the backbone of ambitious corporate climate targets.

(4) Climate contributions and offsetting
Corporate climate leadership includes not only ambitious target setting, but also taking responsibility for unabated emissions.

Organizations with guidance and tools

There are a couple of organizations and their manuals that help companies to be net zero. The SBTi's Corporate, Net-Zero Standard and ISO Net zero provides the guidance and tools companies need to set science-based net-zero targets.

The Science Based Targets initiative (SBTi) is a corporate climate action organization that enables companies and financial institutions worldwide to play their part in combating the climate crisis. We develop standards, tools and guidance which allow companies to set greenhouse gas (GHG) emissions reductions targets in line with what is needed to keep global heating below catastrophic levels and reach net-zero by 2050 at latest. Most companies own corporate web pages containing net zero terms and have a net zero or similar target. However, only a small proportion of companies have set a net zero target through the Science Based Targets initiative (Science Based Targets initiative, 2024).

- 93% of companies have corporate web pages containing net zero terms.
- 79% of companies have a net zero or similar "end-state" commitment according to Net Zero Tracker data, but have not set an SBTi net zero target. Only 8% of companies have set an SBTi net zero target (Influencemap, 2023).

Net Zero Tracker, an independent group that follows corporate pledges, found that half the world's largest 2,000 publicly listed companies have a net zero target. In the past 16 months, the number of companies with these aims has risen 40% from 702 in June 2022 to 1,003 in October 2023. The organisation reports the corporate world is in "phase three" of the transition: they've accepted a climate issue, then made a pledge; now, they're delivering on commitments.

ISO Net zero a reinternational standards can play a crucial role in scaling and accelerating the transition to net zero. The opportunity to take advantage of the innovative, future net zero economy is huge. The ISO Net Zero Guidelines are a tool for doing just that and can help any organization of any size, sector, and jurisdiction to reframe net zero as the journey it is and help accelerate progress towards a sustainable world (ISO,2024).

The potential of Artificial Intelligence for Net Zero

Artificial Intelligence´s (AI) strength lies in its ability to collect large amounts of data, process it quickly, examine it for patterns, and generate options. On the one hand, Al is therefore predestined for the analysis and modeling of emission data. Appropriately trained programs can theoretically quantify the CO_2 footprint of companies and identify opportunities for savings - especially where emissions are high. Al-supported models can also be useful for forecasts and scenario analysis by simulating different scenarios and predicting the effects of measures on CO_2 emissions with aim to be net zero. Equally, Al is seen as potentially valuable in the future to help optimize the use of resources, with a view to reducing greenhouse gasses: for example, in energy consumption, logistics or production processes. This extends to the employees' behavior, for example to reduce personal emissions via sustainability apps. Al can also play to its strengths in the monitoring of emissions, and it will probably also support transparent and increasingly accurate sustainability reports in the future (Silberhorn, 2023).

Transparent communication and Scenario plan

Scenario plan for potential greenwashing risks, recognizing that perceptions around carbon offsets, renewable energy certificates and other emissions reduction tools are evolving. Companies that rely on certain levers to reach targets today could find themselves facing greenwashing accusations tomorrow, regardless of whether they followed the rules. And importantly, it's not just the "E" of ESG – greenwashing risks lurk among social and governance factors as well.

When in doubt, follow the mantra, "Do what you say, say what you do." That's the crux of ESG reporting. LEGO Group signs long-term deal for Climeworks' direct air capture carbon removal technology. The LEGO Group has ringfenced $2.4m for carbon removals from direct air capture technology provided by Climeworks, as it strives ahead with efforts to reach net-zero emissions by 2050. Lego drops plans to make bricks from recycled plastic bottles. Lego has found that making bricks from the recycled material would require investing in new equipment and involve more steps, which would ultimately lead to more planet-heating pollution than the status quo (CNN, 2023).

Footwear brand CROCS Inc has pushed back its net-zero target to 2040 after recording a 45.5% increase in absolute emissions year-on-year. The report states that Crocs' initial commitment to net-zero across by 2030, made in 2021. The report states that, when the initial 2030 goal was announced, Crocs had not completed its acquisition of HEYDUDE nor had it completed a comprehensive baseline of its greenhouse gas emissions. A commitment to halve the carbon footprint of each pair of Crocs Classic Clogs between 2021 and 2030 has been retained, and extended to the HEYDUDE 'Wendy' and 'Wally" models. Increasing the share of bio-based content within shoes to 50% by 2030 will play a key role in reducing associated carbon. At present, the proportion is just 2.2%. An interim target has been set to reach 20% by the end of 2023. Whether they succeeded is not clear, because there is only a report for 2022 (Crocs, 2024).

Conclusion

The article identifies the critical challenges companies face in evaluating and monitoring their companies' commitments to net-zero emissions. The increasing prevalence of greenwashing practices, such as net-zero washing, greenwishing, and greenhushing, underscores the importance of diligent oversight and genuine efforts towards sustainability. Through a comprehensive literature review, data collection, and analysis of case studies, the article highlights the necessity for boards to discern between authentic sustainability efforts and superficial claims. The comparison table of companies' long-term and revised net-zero targets illustrates the variability in corporate commitments and the need for transparency and accountability. The examination of tools to avoid greenwashing—including regulations, guidance from organizations, AI technologies, transparent communication, and scenario planning—provides a roadmap for boards to enhance their oversight capabilities. The case studies of Lego and Crocs serve as practical examples of how companies can navigate these challenges effectively. In Conclusion, companie must prioritize genuine sustainability practices over mere commitments. By leveraging available tools and adopting a proactive approach, boards can ensure their companies make meaningful progress towards net-zero emissions, thereby fostering trust and integrity in their sustainability endeavors. The insights and recommendations offered in this article aim to equip boards with the knowledge and strategies necessary to achieve these goals and avoid the pitfalls of greenwashing.

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Conversion performance of internet advertising formats with the aim of registering new users on a gamified internet platform

Martin Kuchta[1] – Lukáš Piatra[2]

Abstract

European and national regulatory measures are aimed at phasing out cookies, which currently serve as the primary source of data on internet users. This creates pressure on operators of internet platforms to develop registration platforms that substitute this source. The main objective of the article is to compare the conversion performance of selected internet advertising formats and to propose an optimal composition of advertising communication for a gamified platform aimed at registering new users. Besides the final conversion, the research also focuses on analyzing accompanying performance indicators, which were defined as impressions, clicks, budget, click-through rate and cost per click. The research results reveal significant differences in the efficiency of selected advertising formats for various performance indicators and indicate the necessity of diversifying internet advertising formats.

Key words: advertisement, banner, digital marketing

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Introduction

In recent years, regulatory approaches at both, the European and national levels, have increasingly targeted the phase-out of cookies, which have long been the only data about internet users. This regulatory activities presents a significant challenge for operators of internet platforms, who now face the need to develop alternative mechanisms for user data acquisition (Pantelic et al., 2022). Moreover, current educational activities about rights and obligations in personal data problematics on the internet "positively impacts users coping appraisal and motivation to reject online data collection" (Strycharz et al., 2021). Cookies have historically enabled the targeted advertising models that drive significant amount of online revenue. As websites will stop cookie-based tracking, there is a critical need to reassess and optimize advertising strategies to maintain and enhance user engagement and preserve conversion rates. Information about internet user is necessary for providing satisfactory and high quality internet services securing interactive decision aids (Adam & Benlian, 2024). One of the possible alternatives is the development of registered environment within internet platforms designed to gather user information directly, thereby circumventing the reliance on cookies (Xu et al., 2021) User registration achievement is challenging process, since it requires a lot of non-forced user action, cooperation and interaction. There are many

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approaches how to stimulate, optimize and achieve registrations, utilizing social and technical approaches. Some of the tactics works individually, some of them in combination (Roethke et al., 2020). Within willingness to disclose personal data to some website social exchange play a significant role. Users are willing to share their data when they trust the internet website and the provider offer satisfactory services and added value during the website visit (Degutis et al., 2023).

Gamification can serve as potential trigger for registration. Recent studies unveil, that gamification can cause conversion improvement, as well as better motivation and desired outcomes (Stavljanin et al., 2016). "Use of gaming components increases motivation and engagement. Gamification using rewards help to achieve the proposed objectives, and is successful in education, health, services, and social learning" (Cordero-Brito & Mena, 2020). In learning area gamification improve student motivation and learning outcomes (Milenković et al., 2019). Website design construction including gamification offer better user experience and create new design experience for visitors (Hsieh, 2018). Incorporating intrinsic gamified motivation elements (enjoyment and playfulness) cause attitudes towards use intention for a gamified system (Aydin, 2015). However, to utilize gamification features on the website or behind the registration wall it is necessary to secure website traffic.

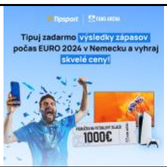
Users collection from the internet and directing them to the desired landing page is due to overwhelming internet sources offering content difficult and costly process. The significant role in the process can play offline advertisement also. People are indeed willing to switch between screens and multitask especially when watching TV. Thus, TV advertising play a great role in the impact of websites visits (Veverka & Holý, 2024). Social media play significant role in website traffic and activity on social media profiles and achievement of particular metrics can predict publishers' website traffic.(Angelou et al., 2024). Consumers who visited the firm's website within the last four weeks, banner advertising has a cross-campaign brand-building effect, and TV advertisements also influence offline purchases. For companies that mainly or solely sell offline, banner ads are most effective for creating awareness of new products and for strengthening brand presence among recent online consumers (Lobschat et al., 2017). Standard banners on the websites and social media can be static or dynamic. "During a free browsing, an dynamic banners can attract earlier, greater, and more frequent attention from users and lead to better memory performance than a static one" (Liu et al., 2019). Content of a banner has great potential to influence achieved results of the banner and interaction with it. "Visual-related factors such as color contrast and moving intensity mainly impact viewers' interest, while content-related factors such as scenario and style matching impact viewers' impressions" (Xiang et al., 2023). Speaking of banner creativity personalized advertising messages displayed on banner was found to lead to "better memory responses, moderately higher attention, and somewhat more positive brand attitudes when consumers are casually surfing on the internet. Highly creative advertising garnered more attention overall and also led to even more positive brand attitudes. A creativity approach in advertising banners may work better in most situations (Abedi & Koslow, 2022). Except banners content it is necessary to distinguish between banner sizes and layout also. It is common that visual of a banner is exported into various formats to attract internet visitors the most and to fit into all standardized media spaces dedicated to banner advertisement (Zhang et al., 2017). The most standard formats for content websites and for social media are 970x250px, 468x60px, 728x90px, 300x250px, 200x200px, 160x600px, 300x600px (Jodzevica, 2022), 1080x1080 and 1080x1960px (Vaid, 2024). Smaller formats in blue color has potential to generate more clicks than other variations (North & Ficorilli, 2017). To evaluate banner advertisement performance it is necessary to identify, monitor and optimize defined key performance indicators (KPIs). The most utilized and valuable metrics are clicks, impressions, click-through rate (CTR), conversion rate, cost per click (CPC), return on investment (ROI), viewability, bounce rate and other engagement metrics (Pathlabs Marketing, 2023).

1 Methodology

The main objective of the article is to compare the conversion performance of selected internet advertising formats and to propose an optimal composition of advertising communication for a gamified platform aimed at registering new users. Besides the final conversion, the research also focuses on analyzing accompanying performance indicators, which were defined as impressions, clicks, budget, click-through rate and cost per click. To achieve the main aim of the paper, comprehensive research of theoretical sources was performed in the first step of the research, with a focus on journals, proceedings, and internet sources written by authors relevant to the topics of social media and banner advertising.

The empirical research was conducted by practical creating 6 different ad creatives each using different components. All ad creatives are shown and listed in figure 1. All ad creatives were will be published on Meta using Meta advertising platform with the focus on banner ads on Instagram and Facebook. Banner ads will be published for period of 1 month from 15. May to 15. July. The results will be analyzed and interpreted with bar charts. Based on the analysis several recommendations will be made to achieve highest performance with the aim of registering a new user.

Figure 1 list of ad creatives with description

<table>
<tr><td>
</td><td>1. general ad creative with general prizes</td></tr>
<tr><td></td><td>2. Dynamic version of general ad with general prizes</td></tr>
<tr><td>
</td><td>3. General ad with specific prize</td></tr>
<tr><td>
</td><td>4. Ad creative asking question with CTA</td></tr>
</table>

	5. Ad creative asking question with specific prize
	6. Ad creative with specific prize with partner colours

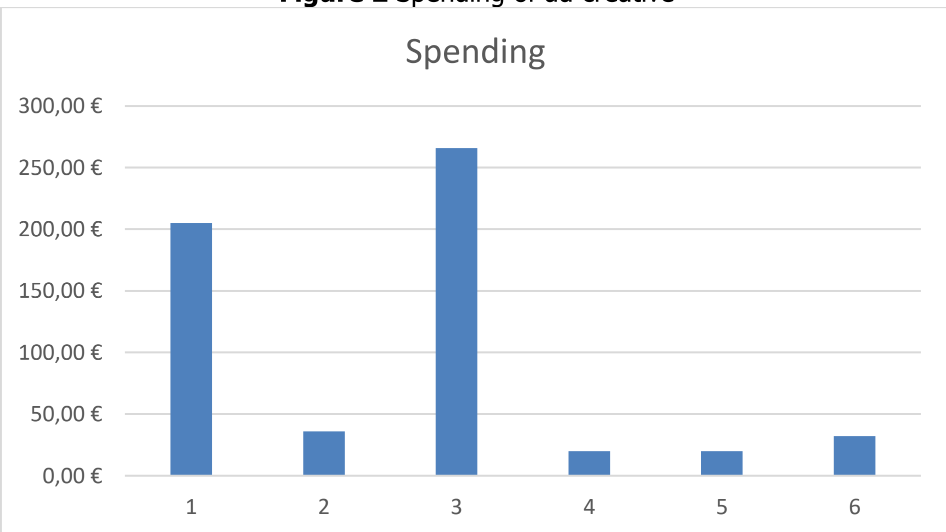
Source: own processing, 2024

2 Results and discussion

A total of 6 ad sets were created and tested in period of 1 month from 15. May to 15. June 2024. All ad sets had different creatives and the aim was to test the performance and define the characteristic of the performing ad creatives. The metrics based on which the performance was evaluated were number of impressions, reach, number of clicks, cost per click and click through rate. The creatives of ads are displayed in table 1.

Each of the ad creative had different budget for spending as shown in table 2. Minimal value for spending was 19,98 € which was spent on ad creative number 4. The maximum value 265,97 € was spent on ad creative number 3. The second highest value was spent on ad creative number 1 (205,14 €). Creative number 2 had spending of 36,12 €, creative number 5 spent 20 € and creative number 6 had spending of 32,12 €.

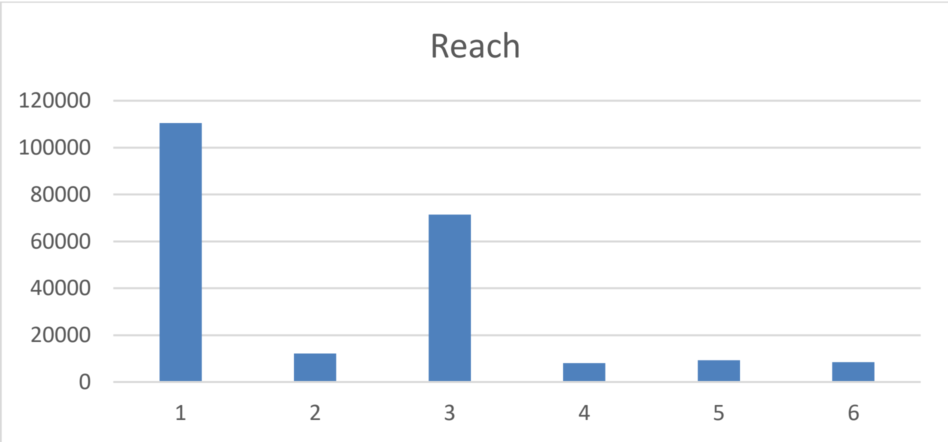
Figure 2 Spending of ad creative



Source: own processing, 2024

One of the metrics we examined was reach as we can see in figure 3. The maximum volume for reach was over 110,000 that was achieved by creative number 1 and minimum volume was 8090 achieved by creative number 4. The second highest volume 71,000 was achieved by creative number 3. What is interesting that despite higher spending creative number 3 scored lower reach then creative number 1. Creative number 2 achieved reach was 12,188, creative number 5 had 9,234 reach and creative number 6 had reach of 8,455.

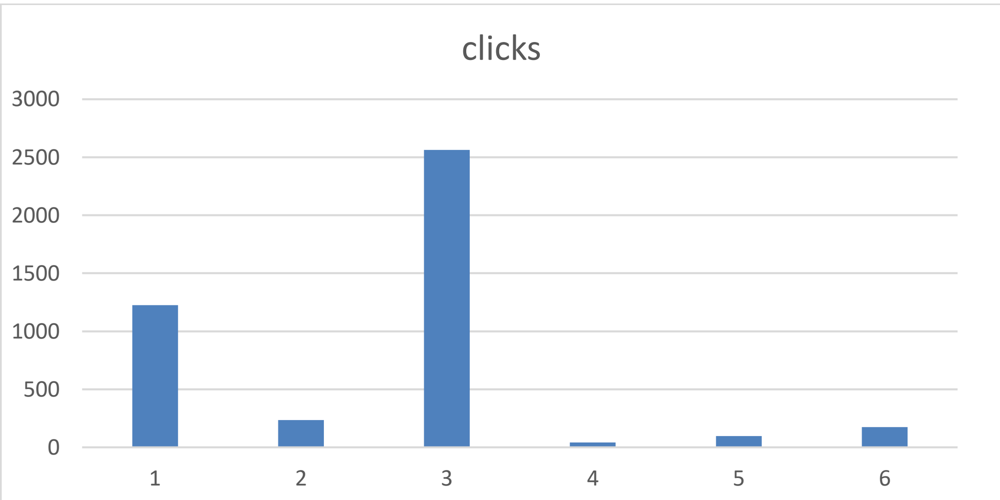
Figure 3 Reach of ad creative



Source: own processing, 2024

Directly connected with reach are number of clicks which can indicate how succesfull a marketing campaign is. The maximum amount of clicks was 2,562 for creative number 3 and the minimum amount of clicks was 41 for creative number 4 as we can see in figure 4. Creative number 1 generated 1,225 clicks while crative number 2 generated 234 clicks. With the lowest number of clicks we had also creative number 5 with 98 clicks followed by creative number 6 with 173 clicks.

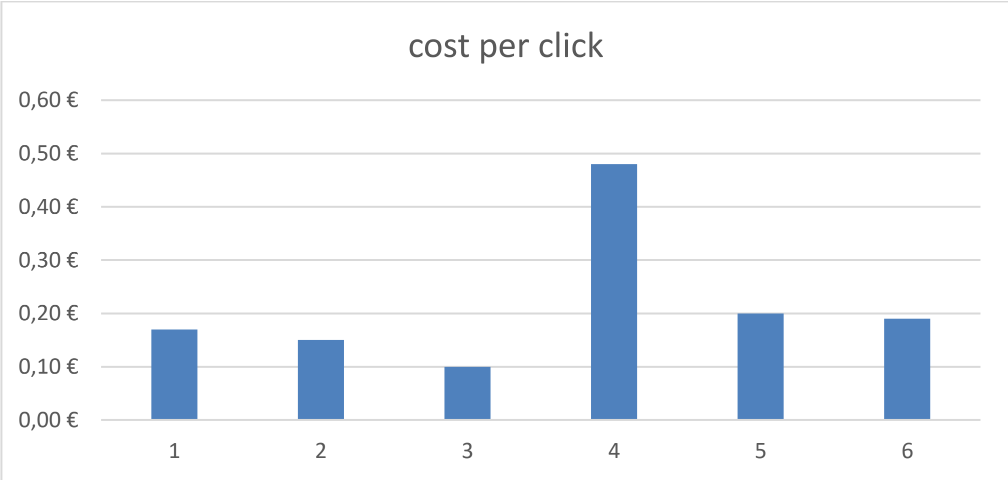
Figure 4 Number of clicks



Source: own processing, 2024

Another metric (figure 5) was cost per click where the maximum amount was 0,48 € for creative number 4 and minimum amount was 0,10 € for creative number 3. Creative number 1 had a cost per click 0,17 € and creative number 0,15 €. The more expensive cost per click had creative number 5 with 0,20 € and creative number 6 with 0,19 €.

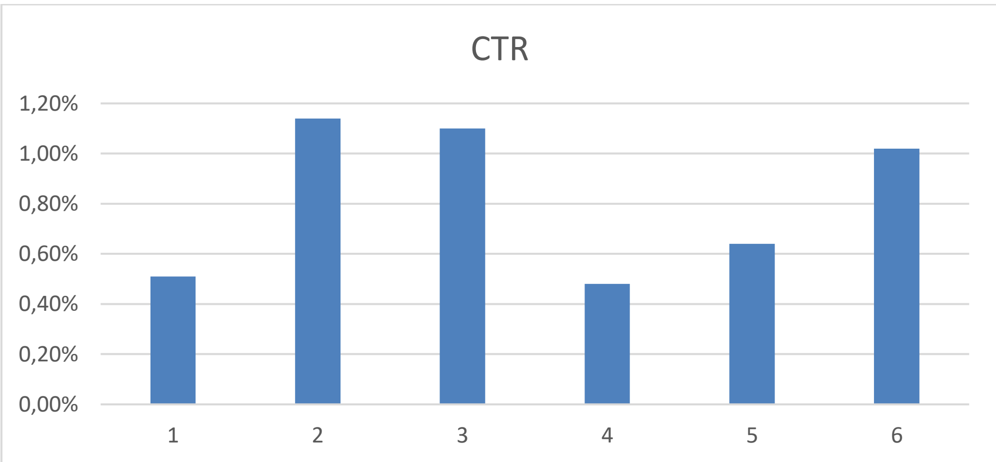
Figure 5 Cost per click



Source: own processing, 2024

Click through rate is calculated as number of clicks divided by impression and multiplied by 100. The higher CTR is the better performance creative has. The highest amount achieved was 1,14% for creative number 2 and the lowest amount was 0,48% for creative number 4. Close second highest was creative number 3 with 1,1% and creative number 6 with CTR of 1,02 %. Less effective were creative number 5 with 0,6% CTR and creative number 1 with 0,51% CTR.

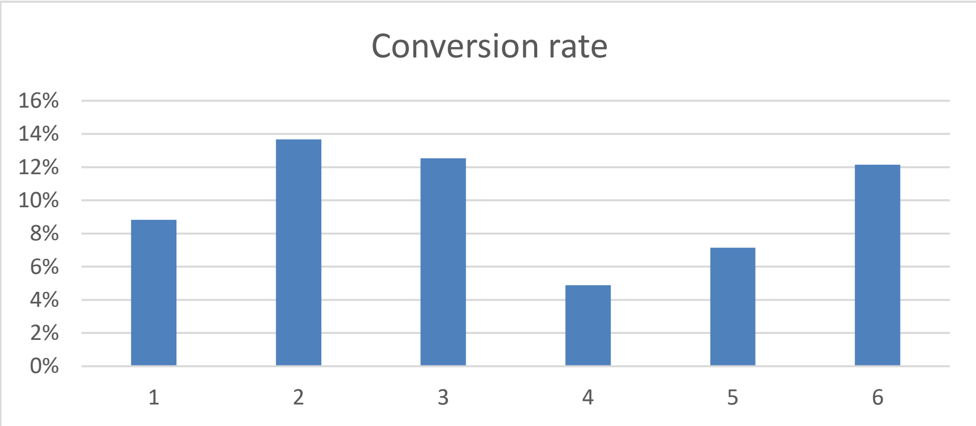
Figure 6 Click through rate



Source: own processing, 2024

The last examined metric was conversion rate as showin in figure 7. The maximum conversion rate achieved was 14% for creative number 2 and the minimun conversion rate was 5% for creative number 4. Creatives number 3 and 6 scored conversion rate 13% and 12% and creatives number 1 and 5 had conversion rate 9% and 7%.

Figure 6 Conversion rate



Source: own processing, 2024

Considering all the metrics it is interesting to see the results for creative number 2 that was created only as an addition to creative number 1. Creative aspect of the both ads is identical only difference is the animation of the text and pictures on ad.

Conclusion

In Conclusion, the analysis of 6 different ad creatives were created and tested in period of 1 month from 15. may to 15. june 2024. All ad sets had different creatives and The main objective of the article was to compare the conversion performance of selected advertising formats and to propose an optimal composition of advertising communication for a gamified platform aimed at registering new users. The metrics based on which the performance of ad formats was evaluated impressions, reach, clicks, cost per click, click through rate and conversion rate. All ad creatives had different budget as it was shown in figure 2 creative number 1 and number 3 are main ad campaigns and the budget allocated to them is highest. Rest of the ad creatives are serving as an additional ad campaigns supporting the main ad creatives. As mentioned before creative number 2 was dynamic addition to creative number 1. Due to the differences in budget spent the main focus was on conversion rate and click through rate. The highest rate in both of these metric had dynamic ad creative number 2. This supports the theory explaining that dynamic banners can attract earlier, greater, and more frequent attention from users and lead to better memory performance than a static one (Liu et al., 2019). This can be also caused by the banner blindness which means that users are used to seeing ads and overlook them, however dynamic ad banner can help attract the attention better. Following best performing ads creatives were promoting some version of prizes. We can observe that more succesfull are the ones promoting specific prizes like ad creative 3 and 6 and ad creative number 1 promoting all the possible prizes. The least performing ad creatives were promoting gamification aspects (ad creative number 4) with combination of the specific prize (ad creative number 5). The reasons for these ad creatives worse performance might be that people do not understand the gamification aspect yet or are given to many information that can be confusing since attention span of average user is very low.

Based on the research, several recommendations can be made for marketers to increase conversion rates of advertising banners. Marketers should focus creating ad creatives that are communicating one specific benefit that the company is offering in our case it was a specific prize that users can win. Avoid being generic and communicate only one thing as it was shown in our research ad creatives that were generic or communicated more than one thing were less effective. The main recommendation to the marketers is to create dynamic version of banners. In our research we only had one dynamic version of banner which achieved the best performance so it would be a suitable subject for future research to compare more versions of static and dynamic ad creatives with similar budget.

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The market for plant-based milk alternatives in Slovakia[1]

Malgorzata Agnieszka Jarossová[2]

Abstract

Consumers are clearly moving towards a plant-based diet and flexitarian eating habits. They consciously limit the amount of animal products they consume and, where they have the opportunity, switch to plant-based alternatives. They do so most often because of the health benefits, but also because of taste and consideration for the planet. Plant-based foods and beverages are a fast-growing product category on the European and global markets. They are gaining more and more consumers. This article examines the plant-based milk alternatives available on the Slovak market. The methods of analysis and synthesis were applied to obtain a theoretical background on this issue. Information from domestic and foreign scientific and specialist sources has been analysed. It is clear that a significant proportion of the Slovak population (36.8%) is reducing or considering reducing their consumption of food of animal origin. People of all ages are interested in reducing their consumption of animal products, but consumers between the ages of 25 and 34 are the most interested. In 2022, one in three households purchased plant-based alternatives to milk. As awareness of environmental problems grows, consumers are increasingly interested in products that have a positive impact on the environment or human health. Plant-based food and beverages are a prime example. It is therefore essential to investigate how attitudes change with growing awareness of sustainable products and consumer purchasing behaviour.

Key words

plant-based food, Slovakia, manufacturers

JEL Classification: L66, Q19

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Introduction

The proportion of sustainable products on the international and European market is constantly increasing. This is due to changes in European and national legislation, but also to growing consumer concerns about their health or the environment. As a result of these concerns, consumers are changing their behaviour and are increasingly buying sustainable products that meet their needs, do not harm the environment and meet social criteria in their production with regard to employees or communities (Chomová, 2022). (Chomová, 2022).

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In 1995, the United Nations defined sustainable consumption as "a way of consuming and using products and services that satisfies the basic needs of customers and provides them with a better or higher quality of life, while minimising the use of natural resources, toxic materials, emissions, waste and pollutants throughout the life cycle of the product, so as not to compromise the needs of future generations". (Pajtinková Bartáková, Gubíniová, 2012).

Many studies show that sustainable products have a competitive advantage over conventional products. A product certificate gives consumers confidence that the product is truly sustainable. Product sustainability is associated with the use of environmentally friendly raw materials and packaging, but currently most manufacturers only apply sustainability to the composition of the product or packaging. Packaging is an external attribute of the product that is an essential element of sales. The results of global and national studies have shown that packaging is a source of environmental pollution. Therefore, the production of sustainable packaging is constantly increasing. Packaging sustainability adds value to products.

The current global trend is for the consumption of plant-based foods, including plant-based alternatives to animal products, to gradually replace the consumption of animal-based foods. Consumers are moving towards a plant-based diet, which includes grains, legumes, seeds, nuts, fruits and vegetables, as well as dairy analogs, for a variety of reasons, including aversion to animal cruelty, a desire for a healthy lifestyle and environmental awareness. (Janssen, Busch, Rödiger, & Hamm, 2016; Sebastiani et al., 2019) The consumption of plant-based milk substitutes has spread rapidly around the world due to its numerous positive health effects on the human body (Aydar et al., 2020).

As a result of these influences, various dietary trends like veganism, vegetarianism, lacto-vegetarianism, and ovo-vegetarianism have gained popularity. Veganism entails abstaining from consuming meat, fish, poultry, pork, dairy, eggs, honey, and any products containing these ingredients. Plant-based milk alternatives are vital in the vegan food industry because they are key ingredients in products such as vegan yogurt, cheese, kefir, butter, and ice cream. Furthermore, these alternatives are essential for people who are lactose intolerant or allergic to cow's milk (Aydar et al., 2020). Animal-based foods are frequently associated with cardiovascular diseases and high cholesterol, while cereals, legumes, seeds, and nuts offer dietary fiber, vitamins, minerals, and antioxidants. These plant-based foods are also categorized as functional and nutraceutical foods (Omoni & Aluko, 2005).

Plant-based alternatives (or plant-based analogs) are foods made from raw materials of plant origin that serve as substitutes for animal products (e.g. meat, milk, eggs). They are products with a plant composition that aim to imitate the sensory properties (taste, texture, smell) but also the functional properties of animal products. Vegetarians and vegans are not the only people interested in these products. With the increasing availability and improved taste of plant-based foods, more and more regular consumers are reducing their consumption of meat, milk and eggs and incorporating more plant-based foods into their diets. (Jem pre Zem, 2022)

Consumers consider this type of product to be healthier. These foods are easier to digest, do not contain harmful substances or antibiotics, and their production is more environmentally friendly. In addition, the number of consumers suffering from lactose intolerance or allergy who are substituting products containing lactose or milk protein is constantly increasing. As a result, the range of plant-based alternatives to milk and meat is constantly expanding. (Pritulska, et al., 2021).

The health impacts of plant-based milk alternatives have been explored in terms of both benefits and drawbacks. These substitutes offer positive effects due to their high antioxidant activity and beneficial fatty acids, which can lower the risk of cardiovascular diseases, cancer, atherosclerosis, and diabetes (Zujko & Witkowska, 2014). There are also negative health effects associated with plant-based milk substitutes, such as their low protein content, reduced bioavailability of minerals and vitamins, and potential oral health issues. The problem of low vitamin and mineral bioavailability, caused by the presence of antinutrients and polyphenols, can be addressed through fermentation (Dubey & Matel, 2018; Rekha & Vijayalakshmi, 2010; Rosado et al., 2005). Additionally, the negative impact on oral health arises from the added sugars used to sweeten these substitutes, which are added to enhance consumer acceptance.

The WHO (2016) pointed to the consuming added sugar as one of the aetiologic causes for tooth decay in that sugar intake has a post-eruptive impact on dental caries. One of the WHO (2016) suggestions for promoting the formulation of regional policies and national recommendations to lessen the burden of chronic illnesses relevant to nutrition included a recommendation that free (added) sugar consumption should stay below 10% of calorie intake and the consumption of foods/drinks that include free sugars should be limited to four times a day. The common steps in the production of all almond, cashew, coconut, hazelnut, peanut, sesame, soy, tiger nut, oat, rice, hemp, and walnut milk substitutes are wet milling, filtration, the addition of ingredients, sterilization, homogenization, aseptic packaging, and cold storage. Gums are used to improve stability, and salt and sweeteners are used for the development of sensory properties (Bernat, Chafer, Chiralt, & Gonzalez-Martınez, 2014; Manzoor, Manzoor, Siddique, & Ahmad, 2017; Makinde & Adebile, 2018; Nor, 2012; Padma, Jagannadarao, Edukondalu, Ravibabu, & Aparna, 2018).

In some cases, novel technologies such as ultrasound, pulsed electric fields, ohmic heating, and high and ultra-high-pressure homogenization are applied to enhance stability without the use of additives. In addition to the fortification and enrichment of plant-based milk substitutes with protein, vitamin and mineral enrichment are also a vital issue for consumers who prefer plant-based milk substitutes instead of cow’s milk (Aydar et al., 2020).

Mintel's research showed that comparing plant-based milk substitutes consumption data of 2018, consumption increased 19% in three months beginning in February of 2019; moreover, each category of plant-based milk substitutes have increased year by year. For example, the volume of sales from 2017 to 2018 for oat milk substitute rose 71%; for almond milk, 10%; and for coconut milk, 16% (Wood, 2019).

The health claims for plant-based milk substitutes are valued by both young and old consumers, and, as a result, consumption has recently risen 60–70%. Blumenfeld (2019) states that other plant-based milk products such as ice-cream, yogurt, creamer, butter, and salad dressing generated 697 million dollars in 2018; furthermore, the non-dairy creamer industry increased 131%. Non-dairy milk was a bonus because dairy milk sales were still stable even if the plant-based milk substitute industry had soared (Walker, 2019). In addition to the benefits of the consumption of plant-based milk substitutes, the manufacturing of these beverages has numerous environmental impacts including decreasing the water usage footprint and the potential for reducing climate change and ecotoxicity.

Slovak consumers and retail chains specialising in food sales in Slovakia are also interested in plant-based products. Most food retail chains offer tofu, plant-based alternatives to milk and yoghurt, and meat products. The range of these products is constantly changing and expanding. The majority of plant-based alternatives to milk and dairy products are available on the Slovak market.

Although the range of these plant-based alternatives is growing significantly, there is still a lot of room for expansion of these products in Slovak retailers. It is therefore important for companies to respond flexibly to current trends in plant-based products, which can help them consolidate their long-term and stable market position and open up new business opportunities. (Jem pre Zem, 2022)

1 Methodology

This article examines plant-based milk alternatives available on the Slovak market. The methods of analysis and synthesis were used to provide a theoretical background to the issue. Information from domestic and foreign scientific and professional sources was analysed. The main objective of the work was achieved through sub-objectives related to:

- legislative barrier for plant-based alternatives to foods of animal origin,
- in Slovakia,
- the interest of Slovak consumers in plant-based alternatives to foods of animal origin,
- examples of plant-based alternatives to foods of animal origin,
- examples of vegetable alternatives to milk,
- awards for selected sustainable and plant-based alternatives to foods of animal origin.

Plant-based alternatives of selected food products were searched in 14.08.24. on the e-shops of stores such as:

- Tesco (https://potravinydomov.itesco.sk),
- Dm (https://www.mojadm.sk),
- Delia (https://www.edelia.sk/),
- Lunys (https://lunys.sk/).

These sources have also been used to indicate the price range of selected product categories and the size of packaging in which they are sold.

2 Results and Discussion

Below are subsections related to legislative barriers to plant-based alternatives to animal-derived foods in Slovakia, interest of Slovak consumers in plant-based alternatives to animal-derived products, examples of plant-based alternatives to different categories of animal-derived foods, examples of plant-based alternatives to milk and awards for selected sustainable and plant-based alternatives to foods of animal origin.

2.1 Legislative barriers to plant-based alternatives to food of animal origin in Slovakia

The main barrier to plant-based food alternatives is their high price compared to conventional products. These products are many times more expensive than their animal alternatives, and the average consumer often makes a decision based on price and chooses a cheaper product, and therefore an animal product. One barrier to plant-based alternatives to animal-based foods is the higher value-added tax (VAT) on these products. Currently Slovakia has a basic VAT rate of 20%, a first reduced VAT rate of 10% and a second reduced VAT rate of 5% (not applicable to food). The 10% rate applies, among other things, to selected food products that are considered "essential", which means that a person buys most of them on a regular basis. These include meat, fish, milk, butter, dairy products such as cream, yoghurt, natural honey, potatoes, tomatoes, onions, garlic, leeks, cabbage, cauliflower, kale, lettuce, cucumbers, pulses, vegetables, fruit, bread and others.

It follows that plant-based food alternatives cannot compete with animal-based alternatives, as the consumer can buy regular milk with 10% VAT, while plant-based milks are still subject to 20% VAT. In the Czech Republic, plant-based milk alternatives have been included in the category with a reduced VAT rate as a result of efforts to eliminate the disadvantaged position of people suffering from milk protein allergy. This brings the Czech Republic into line with other European Union countries such as Portugal, Denmark and Bulgaria, which also apply a reduced rate to these products (Food for the Earth, 2023a).

2.2 Slovak consumers' interest in plant-based alternatives to food products of animal origin

Approximately one in three consumers (36.8%) in Slovakia reduces or intends to reduce the consumption of food of animal origin. These findings are based on the results of a survey conducted by the agency Focus (2022) and GfK for the "Jem pre Zem" project programme between 2018 and 2022. Consumers come from all age groups, but people aged between 25 and 34 are the most represented. In this age group, almost one in four respondents (24.7%) are reducing their consumption of animal products and a further 22.9% are considering reducing their consumption of these products in the future. More women than men are interested in reducing their consumption of food of animal origin. (I eat for the earth, 2023a).

The most commonly purchased products in 2022 (plant-based alternatives to animal products) were traditional soya foods such as tofu, tempeh, soya cubes or granules. These products were bought by (37.9%) of households. The second most popular category was plant-based alternatives to milk, bought by about one in three (34.3%) households, followed by plant-based alternatives to dairy such as soy or coconut yoghurt, rice pudding, desserts, soy lattes (32.8%), plant-based alternatives to cheese (24.6%), plant-based alternatives to meat and sausages (22.7%) and plant-based alternatives to meat products such as burger patties, vegetable slices and nuggets (20.6%). Consumers aged 18-44 were more likely to buy such a product at least once a week than those aged over 44. The value of purchases of herbal alternatives by Slovaks has been growing for a long time, reaching 40.4 million euros in 2022. (I eat for the earth, 2023a).

2.3 Plant-based alternatives of selected food products of animal origin on Slovak market

As part of the plant-based product alternatives on the Slovak market, its possible to list the following product categories:

- **plant-based beverages** (e.g. ALPRO, Danone a.s., Czech Republic, Danone, spol. s.r.o. Slovakia; Body&Future, Slovakia; Zott Pure Joy, Germany; Oatly, Sweden; Sproud, Sweden; Tesco Drink; Riso Scotti, Italy; dmBio, Germany),
- **plant-based spreads** (e.g. Quick&Easy, Lunter, Slovakia; Lunter spread, Slovakia; Lunter dip, Slovakia; Hellmann's Vegan Unilever, Slovakia; Preto Radoma Vegan Ryba Žilina, Slovakia; Naturli' Bio Vegan, Slovakia; Tesco Plant Chef, Hamé Veggie, Slovakia; Tatrakon, Slovakia, Provita VEGA PROVITA s.r.o., Czech Republic),
- **plant-based yogurt alternatives** (e.g. Pure Joy Vegan Zott, Germany or Poland; Alpro, Belgium; Planton Vegangurt Breakfast, Poland),
- **plant-based desserts** (Alpro, Danone, spol. s r.o., Slovakia; Müller Vegan, Germany; Müller Riso Vegan, Germany; Tesco Plant Chef, Good Calories, Poland; dmBio, Germany),
- **plant-based cheeses** (e.g. Violife - Slovakia (country of origin of the raw material Greece); Nurishh, France; Hello – V, Greece),
- **plant-based creams and fats** (e.g. Rajo Vegan, Slovakia; Naturlii Bio Vegan, Ekvia s.r.o. Slovakia; Preto Radoma Vegan exclusive Ryba Žilina, Slovakia; Rama 100% plant-based alternative with olive oil, Upfield Slovakia, spol. s.r.o. Slovakia),
- **plant-based ready meals** (e.g. Bonduelle Good Lunch, Poland; Goody Foody, Slovakia; Tesco Plant Chef; Garden Gourmet Nestle, Czech Republic),
- **plant-based ice cream** (e.g. Carte d'Or Vegan Unilever, Slovakia, Magnum Vegan, Unilever Slovakia, Ben & Jerry's Vegan Unilever, Slovakia, Alpro, Danone spol. s r.o., Czech Republic; Valsoia, Italy, NOMILK, NOMILK ICECREAMS s.r.o., Slovakia),
- **salad** (e.g. PRETO Radoma Vegan, Slovakia; Baltaxia Fish Peas Vegan salad, Latvia),
- **plant-based meat alternative** (e.g. Lunter Tofu, Slovakia; Garden Gourmet vegan, Czech Republic; Die Ohne Vegan, Germany, PRETO Radoma Vegan Ryba Žilina, Slovakia; Goody Foody Vegan, Slovakia; Bona Vita, Czech Republic; Good calories, Poland; Good Nature, Hungary; Simply fresh, Czech Republic),
- **tofu** (e.g. Lunter, Slovakia; Tesco Plant Chef, Hefu (hemp tofu), GaiaHemp s.r.o Slovakia).

Table 1 shows the price range of selected plant-based alternatives to foods of animal origin available on the Slovak market as of 14.8.2024.

Tab. 1 Range of prices of selected plant food alternatives products of animal origin available on the Slovak market as of 14.8.24

Product category	Price range	Package size	The cheapest product (manufacture)	The most expensive product (manufacture)
plant-based beverages	1.39 – 3.49 €/l	0.250 l – 1l	TESCO Stories SR a.s.	Alpro, Danone a.s., Česká republika
plant-based spreads	0.99 € – 2.99 €	75g – 225 g	Lunter, ALFA BIO s.r.o. Slovakia	Naturli' Bio Vegan, distributor: Ekvia s.r.o. Slovakia
plant-based yogurt	1.39 € – 2.59 €	130g – 330 g	Alpro, Danone a. s. Slovakia, Czech Republic	Zott Pure Joy Classic, Germany
plant-based desserts	0.59 € – 2.55 €	120g – 300 g	Tesco Plant Chef	Müller Vegan, Germany
plant-based cheeses	2.49 € – 26.89 €	100 g –2,5 kg	Nurishh, Bel SA France	Violife, Upfield Slovakia spol. s.r.o.
plant-based creams and fats	0.99 € – 5.29 €	0.200 l – 1 l	Rama Crema, Hungary	FLORA Plant, Upfield Slovakia spol. s.r.o.
plant-based ready meals	0.99 € – 3.99 €	145 g – 400 g	Tesco Plant Chef	Garden Gourmet, Nestlé Slovakia s.r.o.
plant-based ice cream	4.49 € – 9.99 €	0.427 l – 0.500 l	Carte d'Or Unilever Slovakia	Ben & Jerry's Unilever Slovakia
salad	1.29 €	140 g	PRETO Radoma Vegan Ryba Žilina Slovensko	
plant-based meat alternatives	0.90 € – 3.99 €	100 g – 400 g	Quick&Easy, Lunter Slovakia	Garden Gourmet, Nestlé Slovakia s.r.o.
tofu	0.85 € – 5.79 €	150 g – 1000 g	Tesco Plant Chef	Lunter, Slovakia
Source: https://potravinydomov.itesco.sk, https://www.mojadm.sk, https://www.edelia.sk, https://lunys.sk/)				

2.4 Examples of plant-based alternatives to milk on the Slovak market

Plant-based alternatives to milk are beverages that are intended to resemble or imitate milk in appearance, consistency and functional properties. It is not impossible to refer to these products as "milk", but as " plant-based substitute of milk " or " plant-based analogues milk", for example, as well as other categories of plant-based alternatives. The exception is coconut milk.

It should be noted that the term "plant-based milk" does not exist, as this plant beverages is made from an extract of seeds or grains mixed with water. The use of other names may mislead consumers by implying that this milk substitute has the same nutritional and biological value as traditional milk (Pritulska, N. et al., 2021).

These plant-based milk alternatives can be made from (Jem pre Zem, 2021):

- nuts (made from almonds, coconuts, hazelnuts, etc.),
- legumes (made from soy, peanuts, peas, etc.),
- cereals (made from oats, rice, spelt, etc.),
- pseudo-cereals (made from quinoa, amaranth, etc.),
- seeds (made from hemp, flax, sunflower, sesame, etc.)

Plant-based alternatives to milk are the strongest player in the plant-based alternatives to animal products category. Today, almost every chain offers plant-based drinks. Even in the smallest villages in Slovakia, it is possible to buy a soy alternative to milk, which only shows how this offer is constantly growing and can be increasingly difficult to navigate. Below are examples of herbal milk alternatives on the Slovak market (Jem pre Zem, 2021; DM, 2024a, DM, 2024b, DM, 2024c):

- **Almond** plant-based alternatives to milk is the most popular plant-based alternative to milk on the Slovak market. It is particularly suitable for use in sweet recipes and is a suitable alternative for people watching their calorie intake. These plant-based dairy alternatives are sold in chocolate, vanilla and coffee flavours.
- **Soya plant-based alternatives to milk** has a neutral taste and is therefore widely used. The disadvantage is that soya is an allergen, making it unsuitable for some consumers. It has a high protein content, which makes it nutritionally similar to cow's milk. This drink is also available in different flavours.
- **Rice plant-based alternatives to milk** a good alternative for people who are allergic to gluten, soya or nuts. Rice contains a high amount of carbohydrates which are converted into sugar, so this milk is naturally sweet.
- **Oatmeal plant-based alternatives to milk** can be used for coffee, cooking and baking. It contains more sugar than other plant-based dairy alternatives, but sugar is its natural ingredient.
- **The coconut plant-based alternatives to milk (it's not coconut milk)** is one of the most suitable for use in cereals or smoothies, for example. Canned coconut milk, also known as coconut drink, has a thinner consistency than canned coconut milk and is fortified with vitamins. It also contains less fat and calories, but has a lower protein content, making it the most expensive of the three.

- **Pea plant-based alternatives to milk** is made from shelled peas. It can be used to make lattes and cappuccinos, poured over cereal, used in salty sauces or added to pancake mix.
- **Spelt plant-based alternatives to milk** can be mixed with fruit or juices. It is excellent with muesli, porridge or dessert. It can also be used in cooking and baking.
- **Cashew plant-based alternatives to milk** is most commonly consumed on its own, flavoured with spices or as a mixed drink. Its slightly sweet taste makes it suitable for use in desserts, porridge, pudding and muesli. Cashew Drink contains only purely vegetable ingredients and is made from ingredients that are naturally lactose- and protein-free.

Table 2 shows examples of plant-based alternatives to milk that are available on the market in Slovakia.

Tab. 2 Examples of plant-based alternatives to milk on the Slovak market

	Body&Future Almond drink with vitamin D3 and calcium 1 l	ALPRO Coconut drink	ALPRO Soy drink, unsweetened	ALPRO Rice drink	ALPRO Oat drink Shhh...	dmBIO Pea drink Barista	dmBio Cashew drink Natur	dmBio Spelled drink Natur
Price	2,15 €	2,95 €	2,95 €	2,95 €	2,95 €	1,65 €	2,95 €	1,55 €
za 100 ml								
Energy	139 kJ / 33 kcal	85 kJ / 20 kcal	138 kJ / 33 kcal	200 kJ / 47 kcal	247 kJ / 59 kcal	165 kJ / 40 kcal	145 kJ / 35 kcal	178 kJ / 42 kcal
Fats	2,0 g	0,9 g	1,8 g	1 g	3,5 g	2,4 g	2,9 g	1,5 g
Fats, of which saturated fatty acids	0,2 g	0,9 g	0,3 g	0,1 g	0,4 g	0,2 g	0,6 g	0,2 g
Carbohydrates	3,1 g	2,7 g	0 g	9,5 g	5,7 g	2,7 g	1,1 g	6,2 g
Carbohydrates, of which sugars	3,1 g	1,9 g	0 g	3,3 g	0 g	1,4 g	< 0,5 g	5,7 g
Fiber	-	0,1 g	0,6 g	0 g	1 g	0,8 g	< 0,5 g	0,4 g
Proteins	0,7 g	0,1 g	3,3 g	0,1 g	0,7 g	1,4 g	1,1 g	0,8 g
Salt	0,08 g	0,13 g	0,09 g	0,09 g	0,12 g	0,14 g	0,09 g	0,13 g
Calcium	112 mg	120 mg	120 mg	120 mg	120 mg	-	-	-
Vitamin B2, riboflavin	-	-	0,21 mg	-	-	-	-	-
Vitamin B12, cobalamin	-	0,38 µg	0,38 µg	0,38 µg	-	-	-	-
Vitamin D	0,75 µg (Vitamín D3)	0,75 µg	0,75 µg	0,75 µg	-	-	-	-
Sources: https://potravinydomov.itesco.sk/groceries/sk-SK/products/2002020315847 https://www.mojadm.sk/alpro-kokosovy-napoj-p5411188116592.html https://www.mojadm.sk/alpro-sojovy-napoj-nesladeny-p5411188543398.html https://www.mojadm.sk/alpro-ryzovy-napoj-p5411188112549.html https://www.mojadm.sk/alpro-ovseny-napoj-shhh-this-is-not-milk-tuk-3-5-p5411188134985.html https://www.mojadm.sk/dmbio-hraskovy-napoj-barista-p4066447159141.html https://www.mojadm.sk/dmbio-kesu-napoj-natur-p4058172963421.html https://www.mojadm.sk/dmbio-spaldovy-napoj-natur-p4058172922848.html								

Some manufacturers produce many types of plant-based dairy alternatives under one brand, e.g. ALPRO. Apart from the price, the main difference between these products is the vitamin content. For example, the ALPRO almond drink contains extra vitamin E. There are also many other e-shops on the Slovak market that sell plant alternatives to animal-based foods, food supplements, high-protein foods, especially for athletes, or e-shops with healthy food and organic foods. In this article, examples of plant-based alternatives to milk were searched on the websites of the e-shops listed in the Methodology. Of course, as mentioned above, there are other smaller e-shops on the market that sell such products under brands such as Joyo (Gym Beam eshop), ISOLABIO (Dobrio.sk eshop), BERIEF (Aktin eshop), Natumi (NAJTelo eshop), Natrue (Herbahouse eshop), etc.

2.5 Awards for sustainable and plant-based alternatives to selected foods of animal origin

Two competitions were organised in Slovakia one in 2023 and the second in 2024. The first competition was organised by the Slovak Food Chamber in 2023 and had several categories. One of them was "Sustainability". This product category reflected the ever-changing consumer trends and the demand for sustainable solutions in the food industry. The commission, made up of experts from the food industry, academia and science, selected from among the registered products those that met the demanding evaluation criteria. The evaluation criteria include the processing method of the food with high added value, non-traditional product recipe, unusual processing method leading to the improvement of the useful properties of the food, enrichment of the portfolio with products with improved composition in terms of sugar, fat or salt (Agroservis. 2023).

The winner in this category was McCarter company (Fig. 1), for a range of plant-based drinks made purely from plant-based ingredients such as soy, coconut, almond, oat and rice.

Fig. 1 Body&Future Almond drink with vitamin D3 and calcium 1 l

Source: https://potravinydomov.itesco.sk/groceries/sk-SK/products/2002020315847

The second competition was organised by the civic association HUMÁNNY POKROK as part of the "Food for the Earth" project. The aim of the competition was for consumers to choose what they thought was the best plant-based food product in Slovakia. In order to take part in the competition, the product had to meet the following conditions (Jem pre Zem, 2024a):

- the plant product had to be available in regular/non-specialised retail chains,
- be present on the Slovak market from 2023 and not earlier,
- only ingredients of plant origin had to be used in its production, no others.

15 products were entered into the competition (Alpro Apple Pie, Beavia Kimchi classic hot unrefrigerated, Garden Gourmet Marine Style Crispy Fillet, K-Take it Veggie Frozen Cream Cookie Dough, Mäspoma Veggie Spread, McCarter Body&Future Oat Barista, Müller Vegan Pudding, Nurishh Krémová vegetable spread, Oatly vanilla flavoured oat drink, Powerlogy organic chocolate bar, Preto Radoma vegan exclusive, Rajo vegan Greek natural, Tesco cooked black lentil salad, marinated pumpkin and cooked couscous, Upfield Rama plant-based butter alternative, Youvegan Paris salad.

1,734 consumers voted in the competition, choosing three products. The highest number of votes (19.5%), and thus the title of **Plant Product of the Year 2023**, went to **Preto Radom Vegan Exlusiv Fish Žilina** (Fig. 2), which has the flavour of cod in a mayonnaise sauce. The Vegan Exclusive product is rich in omega-3 fatty acids and fibre.

Fig. 2 Preto Radoma Vegan Exklusiv Ryba Žilina

Source: https://www.rybazilina.sk/produkty/preto-radoma-vegan/vegan-exklusiv-140-g

In second place was **Nurishh Creamy Vegetable Spread** (Fig. 3), which was chosen by 13.4% of consumers. This sunflower oil-based vegetable spread is also fortified with calcium and vitamin B12.

Fig. 3 Creamy vegetable spread Nurishh

Source: https://www.nurishh.sk/

The product with the third highest number of votes (10.8%) among the fifteen finalists was **Rajo Vegan Greek Natur** (Figure 4). The Rajo brand launched a plant-based alternative to Greek feta cheese that can be sliced, grated or baked.

Fig. 4 Rajo Vegan Greek Natur

Source: https://www.rajo.sk/sk/produkty/vegan

Conclusion

Consumers are increasingly aware of the environmental impact of their purchasing decisions. There are more and more sustainable products (food and industrial) on the Slovak market, which differ in price, composition and ecological packaging, but very often consumers have a problem how to distinguish them or do not trust them. Therefore, the content, method and form of communication of the characteristics of these products by companies to consumers is very important.

More and more consumers are environmentally conscious, lactose intolerant or allergic to milk protein. As a result, plant-based alternatives to milk and dairy products have great growth potential. Other plant-based alternatives to animal products also have steady growth potential as the number of vegans, vegetarians and people who care more about their health and the health of the planet increases every year.

The article identified barrier to plant-based alternatives to animal products in Slovakia, such as a 20% VAT on plant-based alternatives to milk or meat, despite the fact that there is a 10% VAT on regular milk or meat. As a result, the price of plant-based alternatives to animal products is higher than that of conventional products, and not every consumer is willing to pay it. These barrier point to the need for greater government support and legislative changes that would help businesses overcome these barriers and support them to become more sustainable.

The UN Sustainable Development Goal (SDG 12), which focuses on responsible consumption and production, emphasises the central role of governments, businesses and consumers in driving the necessary changes in how global value chains are organised and how final products and services are consumed. Ensuring the use of environmentally sustainable methods in production processes should be a top priority. Not only because it ensures a cleaner and greener value chain, but also because it contributes to the fight against climate change (International Trade Centre, 2019)

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Ethics and social responsibility as tools to mitigate the risks of phantom carriers in international trade[1]

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Abstract

The paper will address the relationship between social responsibility and ethical practices of companies operating in international transport in order to mitigate the risks associated with the phenomenon of so-called phantom carrier in international road transportation. Based on the case study, occurring phantom transport will be analyzed because of non-compliance with ethical principles and safety standards that are applied in implementing transport relations. Through territorial and commodity analysis, the occurring phantom transport in the European Union will be evaluated. In phantom transportation, it is essential that all stakeholders, from shippers to regulators, adhere to high ethical standards that help build trust and minimize the risk of fraud. The aim of the paper is to highlight the link between corporate social responsibility, ethics and safety and to draw attention to the potential consequences of non-compliance.

Key words

ethics, phantom road freight transport, LPI, social responsibility

JEL Classification: M19, R49, L90

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Introduction

Social responsibility and ethical practices are key concepts that shape the modern corporate environment, especially in the international transport sector. Corporate Social Responsibility (CSR) is a concept that reflects the ethical and social commitments of organizations to contribute positively to society beyond their economic interests (Carroll, 2016). Under CSR, companies take responsibility for the impacts of their decisions and actions on society and the environment, which goes beyond legal requirements and delivers value to all stakeholders. CSR encompasses actions that go beyond legal requirements, including initiatives related to environmental sustainability, social welfare, and ethical business practices (Etikan, 2024).

Ethical practices are a set of rules and principles that govern business conduct and decision-making. A code of ethics within companies ensures that all operations are conducted in accordance with the highest moral and professional standards. Ethics is closely intertwined with the beliefs, values, and ideals of people, and it is treated in common law

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with special deference (Tajik, 2021). In the context of international transport, adherence to ethical principles is essential not only to ensure a fair business environment, but also to minimize risks such as fraud and unfair practices.

One of the main ethical challenges in international transport is the phenomenon of phantom carriers who exploit weaknesses in control and security mechanisms. These entities threaten not only the economic interests of legitimate businesses, but also the confidence in the entire international transport system. For this reason, it is critical that all actors in the industry, from shippers to regulators, adhere to high ethical standards.

By engaging in CSR activities, organizations demonstrate their commitment to addressing societal challenges and contributing to community well-being, which can enhance their reputation and strengthen stakeholder trust (Porter & Kramer, 2011). The aim of this paper is to examine the relationship between social responsibility and ethical practices of firms operating in international transport, with an emphasis on their role in mitigating the risks associated with the phantom carrier phenomenon. By analysing the case study and the territorial and commodity structure within the European Union, we seek to show the importance of adherence to ethical principles and safety standards in building trust and minimising fraud in this sector.

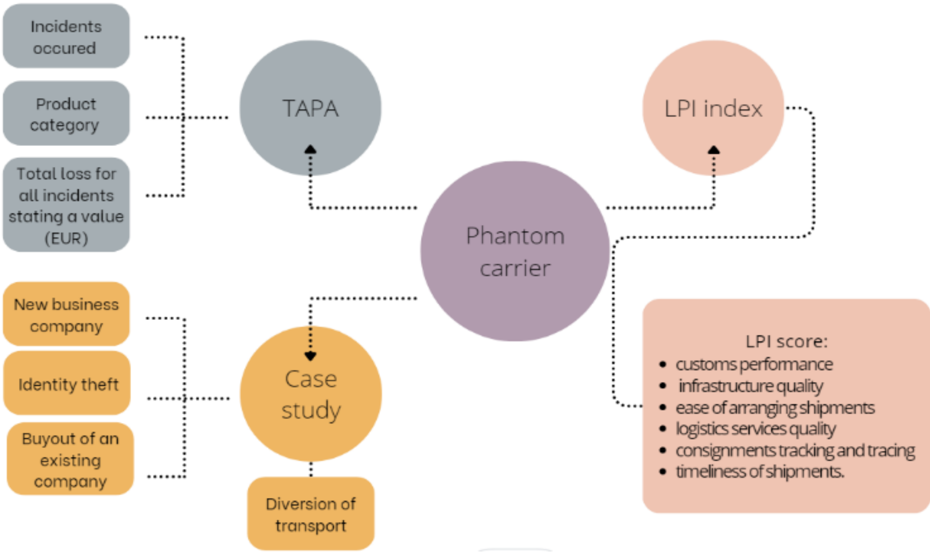
1 Methodology

One of the paper's aims is to specify social responsibility and ethical practices of companies with the focusing on the phenomenon of a phantom carrier in international road transportation. In order to achieve the aim, a few theoretical methods were used, such as analysis and synthesis, induction and deduction, as well as comparison and graphical display method. It was taken data from the TAPA and Eurostat database to analyse territorial and commodity structure of the occurring phantom transport in the European Union. We also focused on comparing the LPI index of individual countries of the European Union and occurring phantom transport in these countries and then set a research question:

"Does the LPI index affect occurring phantom transport in the countries of the European Union?"

Through a mind map, we have shown the interconnections between the keywords ethics, phantom road freight transport, LPI and social responsibility, which results in the article's structure itself, as we can see in the following figure 1.

Fig. 1 Mind map: conceptual framework of the paper



Source: Own processing by R. Jackson, 2024, www.canva.com

2 Results and Discussion

The focus on the multidimensional transcendence of space, whether within intra-sectoral or cross-sectoral trade, has been reinforced by the ongoing economic crisis, COVID, war conflicts and other factors of the external environment, which have shown prizing communication, information, knowledge and especially ethics for concluding transactions (contracts), which are an important part of the transformation process in the real economy. Ethics represents applying ethical principles in the creation and implementation of the marketing strategy and individual elements of the marketing mix, such as eliminating misleading advertising, pricing, the sale of dangerous products without notifying the customer, or the use of illegal distribution channels, implementing illegal transport business transactions by phantom carriers, while it is important to focus on ethics and the change of values in business. The code of ethics summarizes basic ethical standards of conduct and behavior in employment relations, and the company expects all its employees to fulfil and comply with them (Furdová, Hansenová 2013). According to Cah et al. (2022) ethical management and business and socially responsible behavior are important topics of discussion within sectors, including companies operating in the transport and logistics sector. The study focused on evaluating the code of conduct in the transport and logistics sector in the Czech Republic and pointed that there are significant differences in quality and content between the examined codes of conduct in the transport and logistics sector, and most times there is a lot of for improvement.

2.1 Case Study: Phantom carrier in road freight transport

Road freight transport often faces the threat of phantom transport and the consequences of non-compliance with ethical principles from the position of freight forwarders or other entities implementing the transport route. As an example, we can mention the provision of confidential information to a competing company, which the company can define as part of its code of ethics for violating trade secrets, or misuse of identity, or falsification of documents. When providing road freight transport, it is also possible to rely on the Freight Forwarder's Code of Ethics for:

- at international level – based on the General Principles – Freight Forwarder's Code of Ethics issued by FIATA (FIATA, 2024),

- at the national level – for example, in Slovakia, the Association of Logistics and Freight Forwarding of the Slovak Republic issued and approved the Professional Code of Members of the Logistics and Freight Forwarding Association of the Slovak Republic as an annex to the General Freight Forwarding Conditions. Based on them, phantom refinements often violate the basic principle of ethical behavior stated in this code, which is: "Business offers are presented in the form of excluding ambiguity and trickiness in the scope of the services offered and the price." (ZLZ SR, 2024).

According to Gnap et al. (2021), we can characterize a phantom carrier as a carrier hired to transport goods, who loads the shipment at the sender but does not deliver it to the recipient and disappears, while these are not cases of forfeiture of a means of transport or theft of a vehicle. They often look for crisis situations where the principal, freight forwarder or sender is at risk of losing a customer, or violates ethical principles and principles of competition and provides tempting low prices for transport. Most often, these are cases such as false identification of the carrier, duplicate of an existing transport company, disappearance of goods after a quick change of owner and employees of the transport company. According to Kubáňová et al. (2022) it is the control of information that is important, which means, first, at the beginning of each business relationship, we must try to check the company with which we will work as much as possible, such as checking the company in the trade register, checking the carrier's insurance policy, verifying the license, verifying the driver, verifying the carrier's vehicle registration number. Based on short case studies, we can point out the way it works, or rather the very characteristics of phantom transport, where the focus is on the misuse of the identity of often existing freight forwarding or transport companies:

Case A: Loss of identity – similarity of company names

Phantom carriers often abuse the similarity of names with reputable companies and, in the principal's position or carrier, order transport services for which they do not pay, or act as freight forwarders who focus on orders with short payment terms and low prices and then offer them to carriers with longer payment terms, often without profit, or even at a loss and after receiving payments from customers (principals, suppliers or buyers of goods) to the carriers themselves. (ZLZ, 2021). These are completely new companies with no history and negative records, or purchased companies, i.e. the transfer of a business share to an already existing operating company. (Tondr, 2023)

Case B: Loss of identity – forgery of documents

We may also encounter the loss of the consignment during transport if the freight forwarder entrusts another entity (another freight forwarder) to carry out the transport, which subsequently selected and contacted the carrier, abusing the identity of the existing forwarding company, falsifying documents (permit, proof of insurance), and loading the goods at the place of loading under a false identity. (Berník & Partners, 2020). This is often the theft of the identity of an existing company with which the customer has already been in business contact or the diversion of transport.

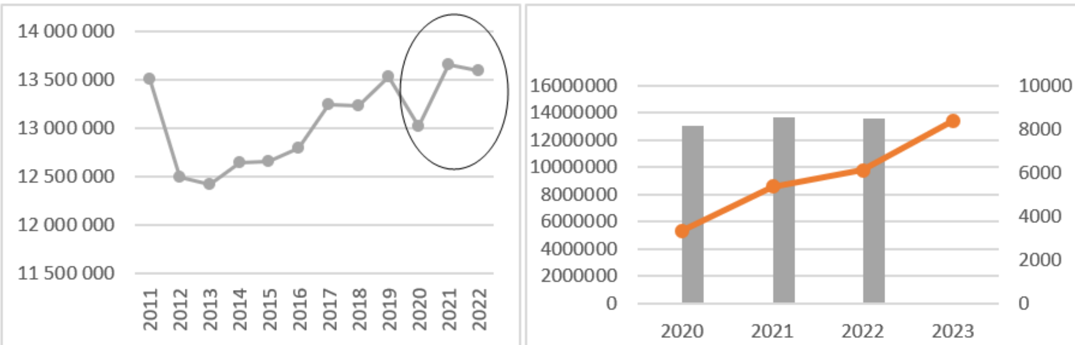
Overall, we can summarize there that phantom transport is implemented as: (Tondr, 2023)

- creation of a new trading company,
- purchase of an existing freight forwarding and transport company,
- identity theft,
- by diverting the transport (transport route).

2.2 Goods and territorial structure of phantom transport in the EU

International road freight transport plays an important economic role in the European Union. Besides the loss of individual business projects, phantom transports also represent economic losses because of non-reporting, non-taxation of trade, etc. Data displayed in the figure 2 cover the carriage of goods by road in EU (European Union - 27 countries from 2020) according to Eurostat (2024). It can be excluded from the scope of these statistics the goods road transport vehicles whose load capacity is lower than 3.5t or the maximum permissible laden weight is lower than 6t. How we can see on the graph, the road transport of goods (European Union - 27) recorded a decrease from 13 651 391 thousand tons in 2021 to 13 589 283 thousand tons in 2022, but the number of incidents occurred increased by 757 cases compared 2021 and 2022 and continues to grow. One factor of the recorded decrease in the volume of transported goods may be the failure to report transports carried out by phantom carriers.

Fig. 2 Goods transport by road: loaded - total transport unit (thousand tonnes) and number of incidents occurred (phantom transportation)



EU (27) / Year	2020	2021	2022	2023
Number of incidents occured	3335	5370	6127	8389
Goods transport by road (thousand tonnes)	13 018 575	13 651 391	13 589 283	n/a

Source: Own processing by Eurostat, 2024, TAPA, 2024

From the point of view of the territorial structure, the largest incidence of phantom transport is recorded in Germany, as we can see in Table 1, and it has continued to grow recently.

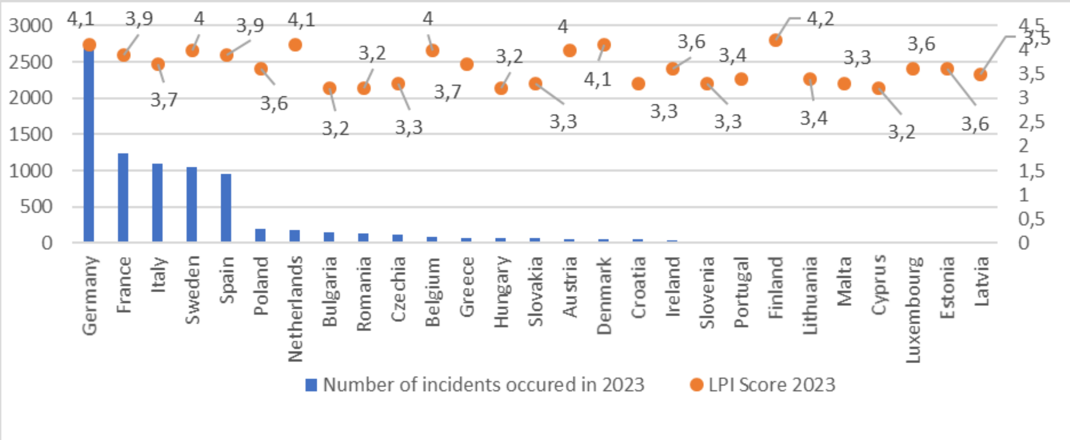
Tab. 1 Number of incidents occured in 2020 - 2023

Country / Year	**2020**	**2021**	**2022**	**2023**
Austria	18	8	15	53
Belgium	65	87	79	78
Bulgaria	8	8	44	143
Croatia	2	2	28	43
Cyprus	4	6	9	7
Czechia	55	32	62	113
Denmark	101	92	45	44
Estonia	0	0	3	4
Finland	1	0	7	8
France	241	419	565	1237
Germany	**1776**	**1956**	**2460**	**2782**
Greece	3	2	43	66
Hungary	54	49	51	65
Ireland	11	14	10	39
Italy	156	183	549	1096
Latvia	4	0	7	2
Lithuania	0	5	9	8
Luxembourg	2	1	5	6
Malta	2	0	3	7
Netherlands	205	570	366	181
Poland	35	60	126	192
Portugal	7	6	41	13
Romania	68	85	66	126
Slovakia	29	29	47	61
Slovenia	4	11	20	20
Spain	437	549	518	946
Sweden	47	1196	949	1049
Number of incidents occurred	*3335*	*5370*	*6127*	*8389*
Total loss for all incidents stating a value (EUR)	*63 823 977*	*46 767 838*	*102 136 157*	*551 758 336*

Source: Own processing by TAPA, 2024

If we compare the numbers of occurrences of the largest number of phantom transport with the values of the LPI index for 2023 using the graphical display method, we can conclude it does not have a significant impact since, as we can see in Graph 1, high values of the LPI index (e.g. 4.2 in Finland) are accompanied by a low number of occurrences of phantom transport (e.g. 8 cases in Finland in 2023) and also a significant occurrence of phantom carriers on the example of Germany in 2023 in the number of 2782 cases and LPI score 4.1. According to Tondr (2023), there is space for phantom carriers especially where goods are transported via international road freight transport and where the market is insufficiently covered by transport companies, while the centers of occurrence cannot be clearly specified, often they are based on industrial development in a region or country. Because of the growth of production plants, increasing production and demand, many companies in order to increase transport capacity, besides contract large forwarding and transport companies, also approach smaller transport companies, so the so-called sub-forwarders, small transport companies, are often used, which creates space for phantom carriers offering cheap transport and fast delivery of goods to their destination.

Graph 1 Number of (phanthom transport) incidents occured in 2023 compared with LPI index (LPI score)



Source: own processing according by LPI, 2024, TAPA, 2024

The LPI index includes indicators such as customs score, infrastructure score, international shipments score, logistics competence score, tracking & tracing score and timeliness score. Although it would be expected that countries with a low LPI index are more susceptible to occurring phantom transport because of poorer infrastructure and thus less efficient logistics, which makes it easier for fraudsters to hide illegal activity, we can state that these facts also affect the total volume of transported goods, which will also be proven in the number of occurrences and opportunities for phantom transport. From the point of view of the commodity structure, the subject of interest in phantom transport is mainly mixed goods, as we can see in Table 2 registered according to the International Association of Manufacturers and Carriers Cooperating Against the Growing Security Threat—TAPA

Tab. 2 Product category in phantom transportation.

Product category / Year	**2020**	**2021**	**2022**	**2023**
Miscellaneous	1552	2885	2237	2692
Unspecified	959	1473	2571	2723
Furniture/Household Appliances	139	114	n/a	n/a
Food & Drink	112	n/a	n/a	n/a
Clothing & Footwear / No Load	80	151	n/a	n/a
Tools/Building Materials	n/a	226	n/a	n/a
Fuel Theft	n/a	n/a	375	1326
Metal	n/a	n/a	249	334
No Load	n/a	n/a	110	n/a
Auto parts	n/a	n/a	n/a	167

Source: Own processing by: TAPA, 2024

Conclusion

The fight against phantom transport requires a comprehensive approach and cooperation of all entities taking part in a transport session. We analysed the research question: "Does the LPI index affect occurring phantom transport in the countries of the European Union?" using the method of graphic representation and we can state that the impact of this index on the number of occurrences of phantom transport in the countries of the European Union is not clear. The largest occurrence of phantom carriers can be observed in Germany, which also has an LPI index with a score of 4.1, the reason may be the trust and reputation of German carriers and freight forwarders by exporters, importers, which represents an opportunity for phantom carriers, as well as the economic level of the country and developing industry, the growth of demand for transport services as a derived demand for goods and the need to increase transport capacity. In order to eliminate phantom transport, it is important to draw attention to compliance with ethical principles and standards, information security, and verification of individual carriers and freight forwarders. The main measures should be: increased control and sanctions (national authorities must step up controls and impose stricter penalties for road transport infringements), awareness-raising (it is important to inform shippers, carriers and drivers about the risks of phantom transport and how to avoid it), cooperation between states (phantom transport is an international problem, so close cooperation between EU countries is needed to tackle it). Only through joint efforts and a commitment to high ethical standards can we ensure a fair, safe, and sustainable environment for all participants in the transport sector, thereby upholding the principles of Corporate Social Responsibility (CSR) and fostering trust and accountability within the industry.

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Do Ecolabels matter? A study of the effect of environmental labelling in purchasing behaviour[1]

Dagmar Klepochová[2] - Janka Kopaničová[3] – Marína Korčoková [4] – Dana Vokounová[5]- Zuzana Francová[6]

Abstract

With the growth of the environmental awareness of customers, the European Union as well as individual European countries, various international and national organizations, business or nonprofit associations and companies have introduced several environmental labels. The study aims to discover if gender and level of education influence the perception of environmental labelling among consumers in the Central European country Slovakia. The quantitative ad hoc study of over 600 consumers representing all age groups was conducted in the year 2023 to show the latest trends in consumer behaviour and the role of environmental labels in the purchasing process, focusing especially on the "EU Ecolabel" and the national label "The Environmentally Acceptable Product". The results show differences in perception, understanding and acceptance of environmental labelling in the purchasing behaviour between men and women and only partially support the hypotheses that education has a differentiation effect.

Key words

Ecolabel, ecolabelling, sustainability, sustainable consumer behaviour.

JEL Classification: M31, Q56

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Introduction

The current trend in sustainable marketing development is directing demand towards products and services that ensure environmental responsibility. Many manufacturers, consumers, and policymakers understand the positive value of green labels and believe that green labelling must be part of the action repertoire in the fight for a more sustainable society (Boström & Klintman, 2008). Ecolabels thus emerge as a fundamental tool in green marketing, as they can be easily distinguished, and consumers have no problem finding

[1] VEGA 1/0505/22 Implementation of innovative research methods and techniques in the consumer behaviour research in the conditions of the Slovak market of research suppliers and research buyers.

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them. Lestari (Lestari et al., 2020) concluded that environmental labels are essential for creating a positive consumer attitude towards eco-friendly products. (Arsyistawa & Hartono, 2022)

The role of ecolabels in determining consumer attitudes towards environmentally friendly products is crucial (Waris & Hameed, 2021). Therefore, it is necessary to continuously research factors influencing consumer purchases of environmentally friendly products.

Sustainable marketing and its components

Sustainable marketing, as a contemporary practice, has significantly contributed to the development of important new green markets and products. The sustainability phase in green marketing development includes initiatives that demand the consumption of products with low environmental impact. Marketing strategies are becoming more radical, aiming to cover the full environmental costs of production and consumption, thereby fostering a sustainable economy (Vilkaite-Vaitone & Skackauskiene, 2019).

Environmental sustainability has become a priority on the international political agenda and is recognized as a key driver of innovation. As a result, the number of companies developing eco-friendly products is rapidly increasing, and consumers are showing growing interest in these products (Groening et al., 2018).

In their study, Kumar Kar and Harichandan (2022) emphasize that green marketing innovations, including sustainable packaging and efficient recycling, can promote sustainable consumption. Companies can highlight their use of sustainable packaging to persuade environmentally conscious consumers to prefer eco-friendly products. This strategy not only increases the likelihood of purchase but also enhances consumer satisfaction (Kumar Kar & Harichandan, 2022).

Companies that minimize environmental harm serve as examples of the shift from profit-focused brands to environmentally conscious ones (Prakash et al., 2023). The increase in sales of ecological products and the elimination of those that significantly burden the environment are achievable through the proper identification of these products by consumers. Sustainable marketing tools raise awareness of the eco-friendly attributes of products, assisting consumers in making environmentally responsible purchases. These tools are essential for helping consumers distinguish between eco-friendly and conventional products, thus playing a crucial role in changing consumer purchasing behaviour. Commonly used tools include green labelling, green branding, and green advertising (Mokha, 2018).

Green labelling

Green labelling is defined by Boström and Klintman (2008) as a form of ecological standardization with specific principles and criteria aimed at both markets and consumers. Environmental labelling is a key tool in environmental management, primarily tasked with making eco-friendly products more visible and enabling their quick differentiation from conventional ones (Johnston & Roheim, 2006). These labelling systems provide consumers with information about the quality and environmental impact of products at the point of purchase, aiding them in choosing environmentally acceptable products. Consequently, environmental labelling is considered one of the most effective tools for promoting eco-friendly products and influencing consumer purchasing decisions (Kabaja et al., 2023).

Ecological labelling is fundamental in enhancing transparency and consumer trust in environmental claims (Naidoo & Verma, 2020). In the European Union, environmental labelling was introduced by the European Commission in 1992 to encourage the production and consumption of products with a lower environmental impact compared to others (Jaďuďová et al., 2020). The EU Ecolabel, a certified ecolabel, supports the transition to a circular economy, where waste is minimized, and resources are continuously reused and recycled. This label is awarded only to products that meet environmental standards exceeding legal requirements (European Commission, 2022).

In the Slovak Republic, environmental labelling is a voluntary tool of environmental policy implemented since 1997. Through the national environmental labelling scheme, the Ministry of Environment of the Slovak Republic grants the "Environmentally Friendly Product" (EVP) label to products and services that meet strict environmental criteria. Products and services labelled as EVP are those that have a lower environmental impact, consume less energy, are more durable, easier to recycle, use fewer natural resources, are safe for consumer health, and meet stringent environmental standards (Chomová, 2023).

Analytical research on consumer preferences regarding environmental labelling, conducted in six European countries (Switzerland, Czech Republic, Germany, Italy, United Kingdom, Denmark), indicates that among all nationalities included in the study, Italian residents were the most willing to pay a premium price for products with the EU organic logo. Citizens of the Czech Republic and Denmark believed that more investment should be made in symbols issued under the auspices of their governments. Furthermore, higher ratings of trust, credibility, standards, and control systems for labels were associated with higher evaluations of environmental labels (Kabaja et al., 2023).

Green labels and branding

Green labels are closely associated with eco-friendly products. Kushwaha and Sharma (2015) describe ecolabels as an element of the marketing concept for ecological products. An ecolabel is a name, symbol, or design that identifies products that are less harmful to the environment, distinguishing them from non-eco-friendly products (Rahbar & Abdul Wahid, 2011). These labels act as informational tools, persuading consumers of the authenticity of environmental claims associated with the products (Atkinson & Rosenthal, 2014). In contemporary sustainable marketing, a brand is considered sustainable only if it can credibly convey sustainability benefits that are visible and relevant to consumers. The key to a sustainable brand is trust between the consumer and the brand itself. Once achieved, a sustainable brand can create a unique selling proposition (USP) and apply it in practice (Korčoková, 2022).

Advocates of green branding argue that the main task of marketers is to shape positive consumer perceptions of their green brands (Y.-S. Chen, 2010; Y. Chen & Chang, 2012). In the context of green marketing, the image of a green brand is defined as "the entire range of impressions and ideas about the brand in the consumer's memory, associated with sustainability and environmentally friendly concerns" (Y.-S. Chen, 2010). A successful green brand image remains in the consumer's mind if the brand can positively influence consumer emotions, perceptions, attitudes, and behaviours regarding the environment (Y.-S. Chen, 2010). Research indicates that green brand knowledge and perceived green value positively affect consumer attitudes and intentions to purchase green products, further confirming that brand value influences purchasing behaviour (A. P. Sharma, 2021).

Green Advertising

Green advertising aims to persuade consumers to adopt purchasing behaviours that favour products less harmful to the environment, highlighting the positive outcomes of such behaviours (Mokha, 2018). However, many green advertisements present misleading truths, lacking essential information about the actual environmental attributes of their products (Schmuck et al., 2018). Trust plays a significant role in green marketing. Green consumer trust is defined as "the willingness to rely on a product, service, or brand based on the belief or expectation arising from its credibility, benevolence, and ability regarding its environmental performance" (Butt et al., 2017). A prevalent issue in current green marketing is the lack of consumer trust in corporate environmental information, largely due to widespread greenwashing practices (Lewandowska et al., 2017). Combating greenwashing requires time and resources that could be used for initiatives with a positive environmental impact. Building trust necessitates strategies to improve the quality and perceived benefits of green products. Ecolabelling and green advertising are identified as successful global strategies for creating awareness and trust among green consumers (A. P. Sharma, 2021).

Sustainable Consumer Behaviour

Perceptions of sustainability issues are linked to the extent to which consumers are concerned about environmental problems and willing to take action to address them (A. P. Sharma, 2021). Environmentally conscious consumers have higher expectations for eco-friendly products. Environmental concern significantly influences the purchase of products with environmental labels (Kucher et al., 2019). Green purchasing behaviour reflects consumers' actions and beliefs (A. Sharma & Joshi, 2017). Sheoran and Kumar (2022) emphasize that sustainable consumer behaviour largely depends on product awareness. Information is crucial for consumers to adopt sustainable behaviours. Lack of information is a barrier to the sale of sustainable products. Studies have shown mixed results regarding the impact of environmental knowledge on green behaviour. Some found no significant relationship, while others indicated that environmental knowledge could predict sustainable behaviour. Increased environmental awareness motivates eco-friendly behaviour, whereas a lack of knowledge can hinder it (Zarei & Maleki, 2018). Some studies suggest that environmental knowledge does not necessarily lead to purchasing behaviour (Bartiaux, 2008). Kumar et al. (2021) found that consumer knowledge about eco-friendly products enhances the impact of green information quality on green brand credibility. Sharma (2021) notes that rising ecological interest and knowledge have increased green awareness globally, though a gap between attitude and actual purchasing behaviour persists.

Several studies have evaluated factors influencing green consumption, revealing critical findings about the positive relationship between the intention to buy eco-friendly products and age, income, and education (Dũng et al., 2013). Other research on sustainable consumer behaviour found a strong "gender effect," indicating that women are more likely than men to express concerns about the broader impacts of consumption and act on these concerns. Women are therefore more responsible for adopting sustainable behaviours, showing more interest in social and environmental issues and reporting purchasing behaviours favourable to society and the environment (Luchs & Mooradian, 2012). Further analysis shows that gender and age are significant variables, with women, as opposed to young men, being more responsible for adopting sustainable behaviours (Gallo et al., 2023).

1 Methodology

The article presents the results of researching the differences in perception of ecolabels, namely the national label "Environmentally friendly product" and the EU "Ecolabel" (Figure 1) among Slovak citizens.

Figure 1 Researched ecolabels

Source: www.ecolabel.eu, https://isocertifikat.sk/

The quantitative research was carried out in 2023 and the sample consisted of 589 respondents proportionally chosen from Generation X, Y, Z, from all across Slovakia. Data were gathered using the CAWI method and the quota sampling method and was used to fill gender and age quotas. In the sample 47,7% were males, 30,6% were Generation X, 30,6% were Generation Y and 38,97 were Generation Z.

SPSS software was used for calculating descriptive statistics of the variables, as well as cross-tabulation and their analysis, Pearson Chi-square analysis and the One-way ANOVA on ranks (also called the Kruskal-Wallis test) to investigate the relationship between variables.

The paper aims to research differences in the perception and evaluation of national and European ecolabels among different groups based on gender and education.

Research hypotheses

Hypothesis 1

H1: Based on previously cited research (Luchs & Mooradian, 2012, Gallo et al., 2023) it is expected that gender is a factor in eco-behaviour, therefore, we suppose that there will be a significant *difference among genders in their perception of ecolabels*, mainly, because *women tend to be more eco-conscious in all aspects, therefore we suppose, that they will also notice, recognize and positively evaluate ecolabels more than men.*

Hypothesis 2

H2: Dũng (Dũng et al., 2013) found that education plays a role in the intention to buy eco-friendly products, therefore we suppose that it also plays a role in the perception and evaluation of ecolabels. Expecting people with higher education to *notice, recognize and positively evaluate ecolabels more than people with lower education.*

2 Results and Discussion

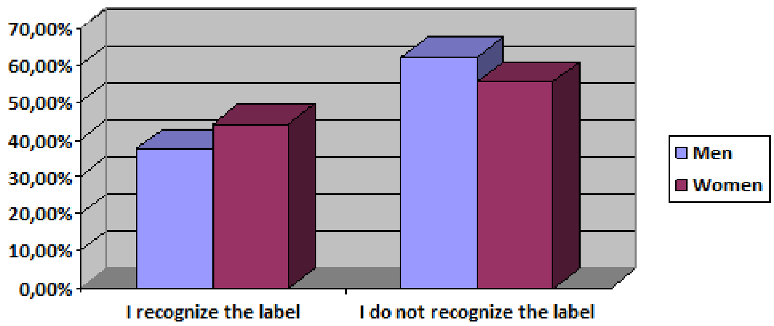
Results are structured according to the research hypothesis first focusing on the exploration of gender influence in the perception and evaluation of national and European ecolabels and secondly presenting results of education influence in ecolabels perception and evaluation.

2.1 Gender influence on ecolabels´ perception and evaluation

Analysing the research data (n=593) using cross-tabulation and Chi-square analysis, the results (Graph 1 and Graph 2) show that women tend to notice and recognize the ecolabel more than men. Interestingly, the national ecolabel is less recognized among both genders compared to the EU Ecolabel, with an overall difference of almost 10% of the population (41.1% vs. 50.9%).

With the national ecolabel "Environmentally Friendly Product" (Graph 1), 41.1% of all respondents recognize the label. Specifically, 44.3% of women and 37.7% of men know the label. It is evident that more women recognize the label compared to men; however, testing this difference with a Chi-square test shows that the difference is not statistically significant ($p=0.100$). Therefore, this does not provide evidence supporting Hypothesis 1.

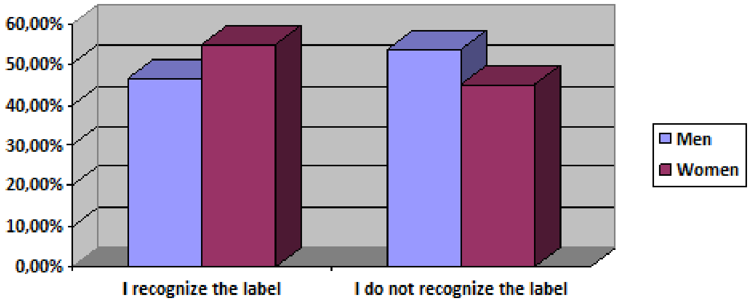
Graph 1 Recognition of national "Environmentally friendly product" label among different genders



Source: research results

The knowledge of EU Ecolabel is at a higher level compared to the national ecolabel (Graph 2). The average rate of recognition is 50,9% of the researched population (n=593), again higher among women (55%) than men (46,6%). The difference in recognition of the EU Ecolabel among males and females tested with the Pearson Chi-square test is statistically significant ($p=0{,}036$), **supporting Hypothesis 1,** that women tend to perceive ecolabeling at a higher level than men.

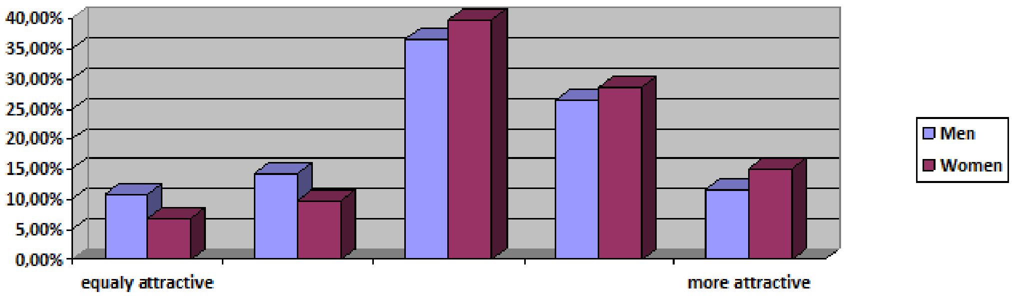
Graph 2 Recognition of EU Ecolabel among different genders



Source: research results

The research questionnaire also examined whether the presence of ecolabels increases the perceived attractiveness of the products displaying them. On a 5-point scale, respondents were asked to evaluate products with ecolabels and compare their attractiveness to products without them. Only 8.8% of respondents (n=593) perceived products displaying ecolabels as equally attractive as products without them. The remaining respondents saw ecolabels as an element that added a certain level of attractiveness to the products. Men tended to perceive the additional value of ecolabels as less significant compared to women (Graph 3). We tested this difference using the one-way ANOVA on ranks test (also called the Kruskal-Wallis test). The results show that the differences in the perception of product attractiveness based on the presence of ecolabels are significantly different between men and women (p=0.021), with women perceiving more value and attractiveness in displayed ecolabels, **supporting Hypothesis 1**.

Graph 3 Ecolabels as elements of product attractiveness among different genders



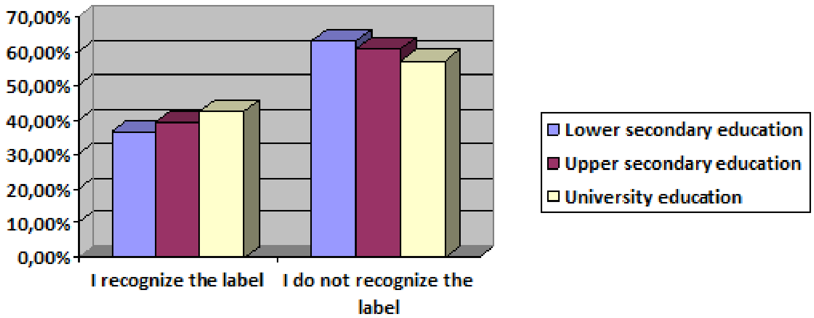
Source: research results

2.2 Influence of education on perception and evaluation of ecolabels

Formal education has been recognized as a significant factor influencing the inclination toward sustainable behaviour. Research indicates that individuals with higher levels of education typically exhibit more sustainable behaviours (Dũng et al., 2013). We tested if the level of education also impacts the perception and evaluation of ecolabels.

Among all participants, 41.1% were familiar with the national ecolabel. Specifically, individuals with a university degree tended to exhibit higher awareness (42.7%), while those with upper secondary education showed slightly below-average awareness at 39.4%. Recognition among participants with lower secondary education was notably lower, at 36.8% (see Graph 4). The familiarity with the label increased with higher levels of education; however, the differences between these groups were not substantial and did not reach statistical significance (n=589, p=0.634). These results do not falsify nor support Hypothesis 2.

Graph 4 Recognition of national "Environmentally friendly product" label among different levels of education

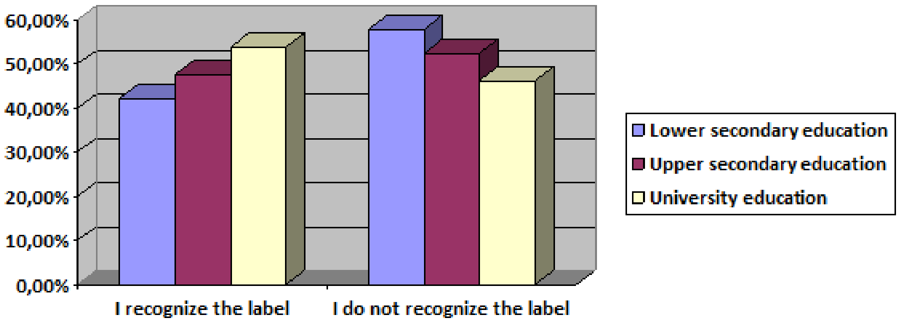


Source: research results

The data presented earlier showed that the recognition of the EU Ecolabel was higher compared to national ecolabels (50.9% vs. 41.1%). Additionally, the trend of increasing awareness with higher levels of education was also observed (Graph 5).

Less than the average in the whole sample (42,1%) of the respondents with lower secondary education recognized EU Ecolabel, whereas 47,7% of interviewed with upper secondary education and more than average (53,9%) of respondents with university degree knew the EU Label. However, the statistical testing (Pearson Chi-square test, n=589, p=0,195) did not find significant differences between the groups. This means that the data did not provide sufficient evidence to support Hypothesis 2, which proposed that there would be significant differences in ecolabel recognition across education levels. In summary, while the data showed a trend of increasing ecolabel recognition with higher education levels, the differences were not statistically significant. Further research may be needed to fully understand the relationship between education level and ecolabel awareness.

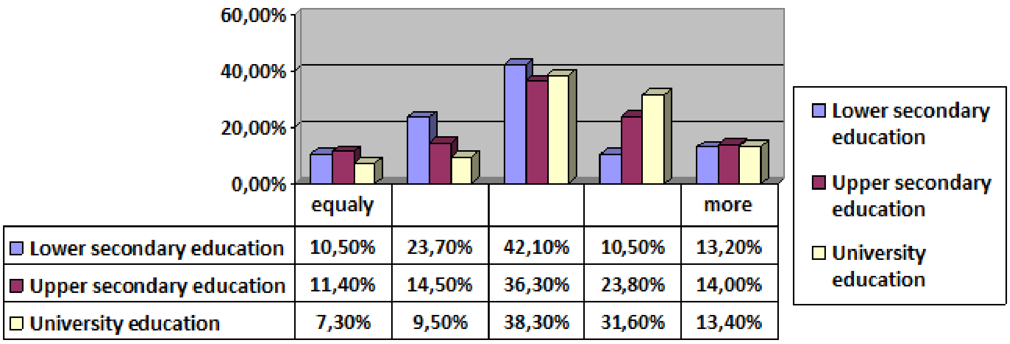
Graph 5 Recognition of EU Ecolabel among different levels of education



Source: research results

Graph 6 illustrates differences in how respondents with varying levels of education perceive the attractiveness of products with ecolabels. Those with lower secondary education tend to consider the ecolabel less important for attractiveness compared to respondents with higher secondary and university degrees. To investigate whether ecolabels enhance perceived product attractiveness across different education levels, we employed the Kruskal-Wallis one-way ANOVA test on ranks. This nonparametric test assesses whether samples originate from the same distribution and identifies significant differences in attractiveness perception based on respondents' education levels. The statistical analysis yielded a significant result ($p=0.026$), indicating differing perceptions of product attractiveness based on the presence of ecolabels among respondents with varying levels of education therefore **building supporting evidence for Hypothesis 2**.

Graph 6 Ecolabels as elements of product attractiveness among different education levels



	equaly				more
Lower secondary education	10,50%	23,70%	42,10%	10,50%	13,20%
Upper secondary education	11,40%	14,50%	36,30%	23,80%	14,00%
University education	7,30%	9,50%	38,30%	31,60%	13,40%

Source: research results

Conclusion

The key findings from the analysis are the following.

Ecolabel Recognition by Gender

The recognition of national ecolabel did not show statistically significant differences but the knowledge of EU Ecolabel was significantly higher among women (55%) compared to men (46.6%), supporting Hypothesis 1.

Ecolabel Recognition by Education Level

The recognition of the EU Ecolabel increased with higher levels of education, from 42.1% for those with lower secondary education to 53.9% for those with a university degree. However, the statistical testing did not find significant differences in ecolabel recognition across the education groups. This means the data did not provide sufficient evidence to support Hypothesis 2, which proposed that there would be significant differences in ecolabel recognition based on education level.

Perceived Product Attractiveness

The presence of ecolabels was seen as increasing the attractiveness of products, with only 8.8% of respondents perceiving products with and without ecolabels as equally attractive. Women perceived the added attractiveness of ecolabeled products to be significantly higher compared to men, supporting Hypothesis 1. As well as people with higher education evaluated products with ecolabels as more attractive compared to the evaluation of those with lower education, supporting Hypothesis 2.

In summary, the data showed clear gender differences in ecolabel recognition and perceived product attractiveness, with women exhibiting higher awareness and valuation of ecolabels. However, the hypothesized differences in ecolabel recognition based on education level were not statistically significant. Yet the differences in the perception of the value of ecolabel for the product attractiveness are statistically different among groups with different education. Further research may be needed to fully understand the relationship between education, gender, and ecolabel perceptions. Yet, the results suggest that ecolabel perceptions are gender and education sensitive.

Results applicable for marketing practices.

The findings from the study that could help to form strategies for effective marketing of green products to consumers are the following:

The recognition of the EU Ecolabel was significantly higher than of the national ecolabel, indicating its effectiveness as a marketing tool. Prominently displaying the EU Ecolabel in product packaging and advertising can help eco-conscious consumers more quickly identify green products.

Women showed higher recognition of the EU Ecolabel compared to men, suggesting they are more receptive to eco-friendly marketing messages. The presence of ecolabels was also seen as increasing product attractiveness, especially among women. Therefore, developing marketing campaigns tailored to female consumers' environmental concerns may increase green product sales.

Ecolabel recognition increased with higher education levels, but differences were not statistically significant, yet the attractiveness of a product with ecolabel was perceived as significantly higher among groups with higher education. Therefore, as people with higher education see more value in products with ecolabels, green product marketing should consider this.

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Readiness of interest groups to transition to the application of neuromarketing in the context of creating advertising content[1]

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Abstract

This paper investigates the influence of gender and urban-rural differences on attitudes toward science and technology (S&T), with a specific focus on the underexplored domain of medical science. Existing literature highlights gender as a critical factor in shaping attitudes toward S&T, yet research specific to medical science remains sparse. The study aims to address this gap by examining how gender and residential location (urban vs. rural) influence attitudes toward medical science among adolescents and adults. Using a mixed-methods approach, quantitative surveys were conducted to gather data from diverse demographic groups. Statistical analyses and thematic coding were employed to analyze the data, revealing nuanced insights into gender-specific perceptions of medical science. Findings indicate that males generally hold more positive attitudes toward medical science compared to females, and urban residents tend to exhibit more favorable attitudes than their rural counterparts. These results underscore the intersectionality of gender and urban-rural contexts in shaping attitudes toward medical science, with implications for educational strategies, healthcare policies, and outreach initiatives aimed at promoting equity in S&T fields.

Key words

Customer behavior, Research attitude, Gender, Urban, Rural

JEL Classification: C02, Z33

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Introduction

Schiffman and Kanuk (2004) describe customer behavior as a chance to gain deeper insights into the customer and anticipate their future buying patterns. They highlight that individuals purchase goods or seek services based on the personal significance these items hold for them, rather than solely for functional reasons like brand perception or social status. Customer behavior and the reasons for selecting specific products or services vary based on individual personality types, making it challenging to predict customer actions accurately. Vysekalová (2011) explains this using the "black box" model, which symbolizes the complexity of the human mind. Similar to the customer's mind, this model is intricate and challenging to comprehend, even for marketing professionals. The black box model aims to understand customer behavior by examining the relationship between external or internal stimuli, the

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black box (mind), and the customer's response. When studying and influencing customer behavior, understanding their mental traits, such as attention and perception, is crucial. Personality traits, which are both influenced by marketing communication and innate, contribute to the formation of certain characteristics. Customer behavior is significantly related to the type of purchase and the decision-making process involved. Additional factors that can influence customers include the company's marketing efforts, ethical conduct, environmental and sustainability stance, and past experiences with products or services (Pilný, 2009).

Customers perceive company marketing through various channels such as advertisements, pricing strategies, and directly in retail environments during the purchase process. Often, we are unaware of these neuromarketing techniques and may be influenced by them. Some criticize this approach, comparing it to manipulation by companies towards consumers (Birknerová et al., 2013). De Sousa (2018) defines neuromarketing as a blend of psychology, neuroscience, and economics aimed at understanding consumer motivations, emotions, and the physical effects of advertising and marketing methods on the brain. This has prompted the development of new technologies that allow companies to interpret customer thoughts and adjust their marketing strategies, products, and services accordingly. Neuromarketing applications have the potential to benefit by aligning with individual preferences, providing marketers with more precise data to target promotions and advertisements effectively. It's valuable for marketing to grasp the subconscious workings of consumers, particularly their expectations, purchasing motivations, and product anticipations (Uprety & Singh, 2013).

Gender is consistently identified as a significant factor influencing attitudes toward science and technology (S&T) (Weinburgh, 1998). Studies indicate that there are no notable gender differences in attitudes toward S&T among elementary school students (Breakwell & Robertson, 2001), but such differences begin to appear during adolescence and persist into adulthood. Research focusing on women and science has revealed significant gender disparities, with women generally holding less favorable attitudes toward science (Kiefer & Sekaquaptewa, 2007). According to a study conducted by Gokhale et al. (2014), males as compared to females are more interested in S&T. In numerous countries, there is a trend of increasingly negative attitudes toward science among students, particularly among females compared to males (Gedrovics et al., 2006). In a meta-analysis of 106 studies, Bain and Rice (2006) discovered that males generally exhibited slightly more favorable attitudes toward technology. Additionally, Desy et al. (2011) found in their study that male students showed significantly more positive attitudes toward science compared to female students. Despite females generally holding more positive attitudes toward school and learning overall, males consistently maintain stronger attitudes toward science and demonstrate higher motivation to succeed in the subject. While numerous studies have explored differences in attitudes toward science and technology (S&T) based on gender in various educational contexts, there is a noticeable dearth of research in the field of medicine.

Medical researchers survey shows that it is difficult, overall, to recruit participants in research, but particularly difficult to find and recruit participants from rural areas (Tanner, et al., n.d.). There are a number of structural and procedural reasons that may explain why trial enrollment is low in rural areas (Shavers-Hornaday et al.). Study by Lara P et al. (2001) indicates a significant correlation between education level and knowledge about clinical trials (CTs), with higher levels of education associated with greater awareness of research participation. In South Carolina, rural residents generally have lower levels of education, which likely contributes to less familiarity with CTs (SCRH, 2008). Moreover, the complexity of lengthy consent forms can further discourage participation among less educated individuals, who may find such documents difficult to understand. This lack of comprehension presents a significant barrier to participation, particularly within rural populations (Cohen, G.I., 2023). These broad attitudes likely apply to involvement in clinical trials (CTs). It is logical to assume that rural residents, who generally have lower levels of education, may be more skeptical about clinical research compared to others. Additionally, it is crucial to note that longstanding distrust and apprehension persist among members of rural communities (Comis, R. L. et al., 2003). While some research has investigated differences in attitudes toward clinical trials based on urban and rural living environments, there remains a notable scarcity of studies focusing on different than American consumers. Our paper delves into the comparison of most significant differences between the demographic and classification questions in relation to the respondents' attitude to neuromarketing research, their attitudes, opinions and emotions they show when watching advertising.

1 Methodology

The chi-square test is used to analyze the interactions among all independent factors and the fitted distributions, which outputs the goodness of fit of a sample. The typical methods available for the chi-square tests include the Karl Pearson family, the Yates chi-square test, the Mantel–Haenszel chi-square, and the Maxwell–Stuart tests. One commonality of the above-mentioned methods is they use chi-square distribution as the reference distribution, which means that the chi-square test compares an observed set of data to what is expected (Franke et al., 2012). Three parameters are used in the Karl Pearson family of chi-square tests: Goodness of fit, independence, and homogenity (Liu et al., 2023). In our case we will work with chi-square test used for comparing relationships between categorical variables. For expression we work with null and alternative hypothesis:

H0:There is no association between the categorical variables versus

H1:There is an association between the categorical variables.

Then we can calculate test statistics, which is expressed by the formula:

$$\chi^2 = \frac{(O-E)^2}{E} \tag{1}$$

where χ^2 represents the chi-squared value, *O* represents the observed value, *E* represents the expected value (that is, the value expected from the null hypothesis) (Stewart, 2024).

2 Results and Discussion

As part of the inquiry through the questionnaire, the primary task was to find the most significant differences between the demographic and classification questions in relation to the respondents' attitude to neuromarketing research, their attitudes, opinions and emotions they show when watching advertising. In our research 818 respondents were involved in the sample.

2.1 The difference in perception between the gender

The most important thing in the framework of neuromarketing research is the willingness of the respondents themselves to participate in the research. Therefore, we first point out the most significant different attitude of the respondents on the willingness to participate in the research through the observation of facial.

Tab. 1 Contingency table between gender and monitoring of facial expressions

Crosstab

Count

		Imagine a situation where an advertising company approaches you to volunteer for research into the impact of advertising on consumers. Would you be willing to have your facial expressions monitored by a camera while reacting to advertising products?				
		rather yes	rather no	certainly yes	certainly no	Total
Gender:	man	162	161	0	61	384
	woman	192	187	24	31	434
Total		354	348	24	92	818

Source: own processing, 2024.

Based on the contingency table, the software calculates the test characteristic of the chi-square test, the value of which is expressed in table 2

Tab. 2 Chi-square test between gender and monitoring of facial expressions

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	35,343a	3	,000
Likelihood Ratio	44,666	3	,000
N of Valid Cases	818		

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 11,27.

Source: own processing, 2024.

Based on the p-value of the chi-square test, the alternative hypothesis can be accepted and the null hypothesis rejected that there is a statistically significant relationship between the gender variable and the willingness to participate in facial mimicry research. Despite the fact that the test showed dependence, it is also necessary to verify the strength of this relationship.

Tab. 3 Cramer-V test for strength of relationship between gender and monitoring of facial expressions

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,208	,000
	Cramer's V	,208	,000
N of Valid Cases		818	

Source: own processing, 2024.

Based on the value of Cramer's V, we can talk about a non-negligible strength of dependence, as it is higher than 0.2

We further observed the difference between the gender regarding the involvement of medical devices in the creation of advertising, despite the fact that they themselves may not be involved in this research. Despite this, there are still opponents of advertising created on the basis of medicine, especially in the male part of the audience.

Tab. 4 Contingency table between gender and the use of medical devices in the creation of advertising

Crosstab

Count

		Express your agreement with the following statements: I agree that data detected by medical devices (fMRI, EEG, MEG) will be used in the creation of advertising in the future.					
		I definitely agree	I can't judge	I rather disagree	I agree	Absolutely disagree	Total
Gender:	man	0	28	177	99	80	384
	woman	8	21	279	88	38	434
Total		8	49	456	187	118	818

Source: own processing, 2024.

Despite the fact that respondents do not have to be involved in the creation of advertising through medical devices, 21% of male respondents absolutely disagree, which is a difference of 12 percentage points compared to 9% of female respondents. But if we were to look at the motivator in the form of an above-standard financial reward, there the difference between the sexes disappears and even men would be willing to participate in neuromarketing research for a financial reward.

Tab. 5 Chi-square test between gender and the use of medical devices in the creation of advertising

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	44,522a	4	,000
Likelihood Ratio	47,975	4	,000
N of Valid Cases	818		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 3,76.

Source: own processing, 2024.

The condition of the chi-square test is met as 20% of the cells have a value smaller than 5 (Moore et al., 2013). Based on the p-value of the chi-square test, the alternative hypothesis can be accepted and the null hypothesis rejected that there is a statistically significant relationship between the gender variable and the use of medical devices in the creation of advertising. Despite the fact that the test showed dependence, it is also necessary to verify the strength of this relationship.

Tab. 6 Cramer-V test for strength of relationship between gender and use of medical devices in the creation of advertising

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,233	,000
	Cramer's V	,233	,000
N of Valid Cases		818	

Source: own processing, 2024.

Based on the value of Cramer's V, we can talk about a non-negligible strength of dependence, as it is higher than 0.2 and also greather then difference between gender and monitoring of facial expressions

2.2 The difference in perception between the type of living (city/village)

despite the long-term trend of people moving to cities for work, compared to the average of the European Union, many people live in the countryside in Slovakia, so we decided to look at the comparison between these two "worlds". The most significant difference between the city/village area can be registered in the willingness to participate in research on the impact of advertising through brain activities on advertising stimuli.

Tab. 7 Contingency table between the type of living and monitoring of brain activities

Crosstab

Count

		Imagine a situation where an advertising company approaches you to volunteer for research into the impact of advertising on consumers. Would you be willing to have your brain responses recorded to track brain responses to various advertising				
		rather yes	rather no	certainly yes	certainly no	Total
Type of living:	city	116	248	11	57	432
	village	62	190	13	121	386
Total		178	438	24	178	818

Source: own processing, 2024.

Based on the contingency table, the biggest differences can be seen in the answer "certainly no", where up to 31% of people living in the countryside reject this option compared to 13% of people living in the city, which represents a difference of 18 percentage points. On the basis of the contingency table, there are obvious differences, therefore it is necessary to verify it on the basis of the chi-square test.

Tab. 8 Chi-square test between type of living and monitoring of brain activities

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	44,795a	3	,000
Likelihood Ratio	45,459	3	,000
N of Valid Cases	818		

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 11,33.

Source: own processing, 2024.

Based on the p-value of the chi-square test, the alternative hypothesis can be accepted and the null hypothesis rejected that there is a statistically significant relationship between the type of living variable and the willingness to participate in monitoring of brain activities research. Despite the fact that the test showed dependence, it is also necessary to verify the strength of this relationship.

Tab. 9 Cramer-V test for strength of relationship between type of living and monitoring of brain activities

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,233	,000
	Cramer's V	,233	,000
N of Valid Cases		818	

Source: own processing, 2024.

Based on the value of Cramer's V, we can talk about a non-negligible strength of dependence, as it is higher than 0.2 and also greather then difference between type of living and monitoring of brain activities.

Despite the fact that the type of residence influenced the willingness to participate in research on the monitoring of brain activity for advertising stimuli, the attitudes of the respondents may be different when it comes to the use of neuromarketing devices in the creation of advertising and if the respondents themselves are not directly involved, that is why we decided as in the previous post, take advantage of the question of the involvement of neuromarketing devices in the creation of advertising

Tab. 10 Contingency table between the type of living and the use of medical devices in the creation of advertising

Crosstab

Count

		Express your agreement with the following statements: I agree that data detected by medical devices (fMRI, EEG, MEG) will be used in the creation of advertising in the future.					
		I definitely agree	I can't judge	I rather disagree	I agree	Absolutely disagree	Total
Type of living:	city	0	31	238	114	49	432
	village	8	18	218	73	69	386
Total		8	49	456	187	118	818

Source: own processing, 2024.

The interesting thing is that about 8 respondents from the countryside agree with this, if we look at the differences in absolutely no, then in the case of respondents living in cities, we are talking about 11 percent, and for people living in the countryside about 18 percent. This represents a smaller difference than in the case of the question of engaging respondents in brain activity monitoring research to monitor advertising stimuli, despite the fact that these devices monitor the brain activity in question. Verify the relationship using the chi-square test.

Tab. 11 Chi-square test between the type of living and the use of medical devices in the creation of advertising

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22,189a	4	,000
Likelihood Ratio	25,339	4	,000
N of Valid Cases	818		

a. 2 cells (20,0%) have expected count less than 5. The minimum expected count is 3,78.

Source: own processing, 2024.

The condition of the chi-square test is met as 20% of the cells have a value smaller than 5 (Moore et al., 2013). Based on the p-value of the chi-square test, the alternative hypothesis can be accepted and the null hypothesis rejected that there is a statistically significant relationship between the type of living and the use of medical devices in the creation of advertising. Despite the fact that the test showed dependence, it is also necessary to verify the strength of this relationship.

Tab. 12 Cramer-V test for strength of relationship between the type of living and the use of medical devices in the creation of advertising

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	,165	,000
	Cramer's V	,165	,000
N of Valid Cases		818	

Source: own processing, 2024.

Based on the value of Cramer's V, we can talk about a negligible strength of dependence, as it is lower than 0.2.

Conclusion

Customer behavior is a multifaceted phenomenon influenced more by personal significance than by functional factors such as brand image or social status. This complexity presents challenges in accurately predicting consumer actions due to the diversity of personality types and individual preferences. Neuromarketing, which blends insights from psychology, neuroscience, and economics, seeks to unravel these complexities by delving into consumer motivations and adapting strategies accordingly, leveraging technological advancements for deeper insights into consumer behavior.

In the realm of attitudes toward science and technology (S&T), gender plays a significant role, with noticeable differences emerging particularly among adolescents and women. Research consistently indicates that males tend to hold more positive attitudes toward S&T compared to their female counterparts. Interestingly, there remains a notable gap in similar gender-based research within the field of medicine, pointing to an area ripe for further investigation and understanding.

Conversely, when examining attitudes toward participation in neuromarketing research, studies focusing on urban and rural populations highlight distinct perceptions. Rural residents, often characterized by lower educational attainment, typically exhibit higher levels of skepticism and lower willingness to engage in studies involving brain activity monitoring for assessing advertising impact. This disparity underscores a significant challenge in effectively implementing neuromarketing strategies across diverse demographic groups and emphasizes the need for targeted approaches that consider regional differences.

Addressing these disparities and understanding the underlying factors influencing consumer behavior across urban and rural settings is crucial for enhancing the inclusivity and efficacy of marketing practices. Future research endeavors should aim to bridge these gaps, thereby fostering more comprehensive insights into consumer behavior and enabling more tailored marketing strategies that resonate with diverse populations.

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The strategic importance of category management for achieving competitive advantage and sustainable growth[1]

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Abstract

This paper provides a comprehensive overview of the current state of category management and highlights its strategic importance for achieving competitive advantage and sustainable growth. The paper summarizes the latest findings in the field based on an analysis of various sources, including scientific databases, professional journals, books, and websites. The findings indicate the growing importance of category management as a strategic tool for managing product portfolios and building strong brands. Effective category management enables companies to achieve better results in terms of sales, profitability, and customer satisfaction. The paper further emphasizes that implementing effective category management strategies requires a deep understanding of market trends, customer behaviour and competitive dynamics. In Conclusion the author emphasizes that addressing category management issues is crucial for companies that want to succeed in a dynamic, challenging and rapidly changing market environment.

Key words

category management, market trends, profitability

JEL Classification: M31, L81

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Introduction

In today's dynamic and highly competitive business environment, companies are constantly trying to find new ways to optimise their operations and increase their competitiveness. One of the key tools that has become the focus of many experts and managers in recent years is category management (CM).

In this paper, we focus on exploring category management, its impact on modern business, while trying to provide the reader with a comprehensive view of the key changes that have taken place in the CM development process in recent years.

We also consider firms' perspectives on category managers as an important subset of category management in the paper. Data processing and analysis is essential in the context of the current state of the society, and we draw attention to the ability of category managers

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to identify new opportunities and risks specifically. Therefore, in this paper we mainly focus on comparing different authors' views and studies on current topics in the field of CM.

The paper also makes a very important focus on current trends in category management, which are influenced by digitalization, personalization, and growing customer expectations. Businesses are increasingly using advanced analytics tools and technologies to optimize assortment, improve demand forecasting and personalize offerings.

1 Methodology

The main aim of this paper is to summarize an overview of the aspects and changes related to category management from its inception to the present and to highlight its importance in the context of achieving competitive advantage and sustainable growth in the retail sector.

For the purpose of this paper and to obtain an overview of the literature in this area, the existing available sources from several authors were analysed. From all the results found and processed, the most recent relevant sources were filtered through different methods and procedures and used in the paper.

The initial step was to collect literature from domestic and foreign sources, based on the use of main keywords such as "category management", "market trends" and "profitability", as well as other similar terms.

In this paper we use working procedures and methods such as gathering and analysing secondary sources from the literature necessary for the creation of a theoretical basis serving as a starting point for the reader, using methods such as meta-analysis, synthesis, comparison, and deduction.

We use methods of evaluation and interpretation of the results to make recommendations and predictions about future challenges and threats within category management, which we capture in the Conclusion of the paper, where we present important findings that provide the reader with a comprehensive view of the subject matter.

We look at the issue of category management from the perspective of the whole concept of CM, but also from the perspective of its individual aspects, which we discuss in subsections, as well as from the perspective of the capabilities of category managers, where we look at their importance in subsection 2.1.1.

For a better elaboration of the CM issue, we also used the method of meta-analysis, whereby we divided a larger number of sources from different fields into smaller parts, in order to subsequently combine multiple authors' studies focusing on the same issue, the aim of using this method was to obtain more objective and accurate Conclusions, especially when looking at the importance of combining intuition and data complexity in subsection 2.1.2.

The smaller sections that we examined for the purposes of the paper were brought together into larger units through synthesis, which enabled us to effectively highlight the multiple views of the different authors, particularly within the issue of sustainability and its impact on market positioning.

Comparison was the most used method in this paper, as we compared the individual outputs of different authors to get an overall general view of the CM issue. The outputs of the authors' individual studies could be evaluated by means of comparison and it was possible to define the aspects on which the authors agree and also to select the areas in which the results were divided.

In the paper, to simplify the interpretation of the issue of the impact of the Covid-19 pandemic on distributors, we also used graphical methods in subsection 2.1.1, where we used 2 complex graphs showing the changes that have occurred over a certain period of time.

Based on the insights gained from the review of existing articles and publications, we present them in three units in the research results, according to the perspective from which they examined the issue.

The output of the paper should provide the reader with a broader picture of the importance of category management as a whole, the experience of category managers in strategic decision making of companies, as well as highlighting the importance of some aspects of CM related to sustainable growth for gaining a better and more competitive position in the market.

According to the literature reviewed, we have divided it into following logical groups: theoretical basis of category management, importance of category management and sustainable growth, and different ways how to look on category management aspects.

2 Results and Discussion

2.1 Theoretical Basis of Category Management

For a proper understanding of the issue and the importance of category management, it is useful to look at its essence from different perspectives, which may differ depending on the entity involved – companies, customers, research agencies, etc. In this section of the research, we present selected academic articles according to their content focus on CM, looking at the main findings and methodologies used in them.

O'Brien (2024) conceptualized CM from a theoretical perspective as a process that involves the collaboration of different departments and people within and outside the organization. Based on his extensive findings, the goal in practice should be to achieve the best possible conditions in the purchase of goods and services, which can ultimately lead to significant savings and improvements in the overall performance of the firm.

Abdelnour et al. (2022) in their research point out the importance of category management from the distributors' perspective. According to them, suppliers played a key role in the supply chain and offered a wide range of products to customers. However, due to increasing market complexity, customer demands and competition, category management is becoming more and more important and effective for distributors. The best suppliers are achieving better results by promoting their category managers to senior positions with profit and loss responsibility and developing growth-oriented strategies. These strategies include optimizing assortments, increasing private label value and working more effectively with suppliers. Close cooperation with the sales department is also important to ensure that salespeople are aware of and enforcing the chosen category strategies. The current business context, characterised by the transition from traditional industrial models to digitalisation and the information economy, brings significant complexities. Market dynamics, increased competition and changing consumer preferences are placing increasing demands on businesses.

Vukovic et al. 2022 states that online sales, as one of the fastest growing sectors, is no exception. In their research, they use a method of synthesizing relevant theoretical and practical knowledge on CM of online stores. Based on their findings, the implementation of category management in this environment emerges as a strategic tool for assortment optimization and performance improvement of e-stores. They characterize category management as a process that involves the systematic planning, organization, and control of product categories in order to maximize profitability and satisfy customer needs. According to them, assortment optimization is an important aspect of CM, which consists of carefully selecting the products to be included in each category, taking into account their profitability, turnover and relevance to the target audience.

Dikova (2023) sees category management as a contemporary phenomenon that is constantly evolving to move with the times and meet changing customer needs. Today, it is no longer just about how to sell as much as possible. The focus is on understanding customers and creating products that truly suit them. This process should be based on collaboration, data analysis and continuous improvement. To achieve success, it is necessary to collaborate with partners and suppliers. However, according to the author, there is not just one right way to do this. Each company must find its own solutions that suit its needs and the needs of its customers.

2.1.1 Importance of Category Management and Sustainable Growth

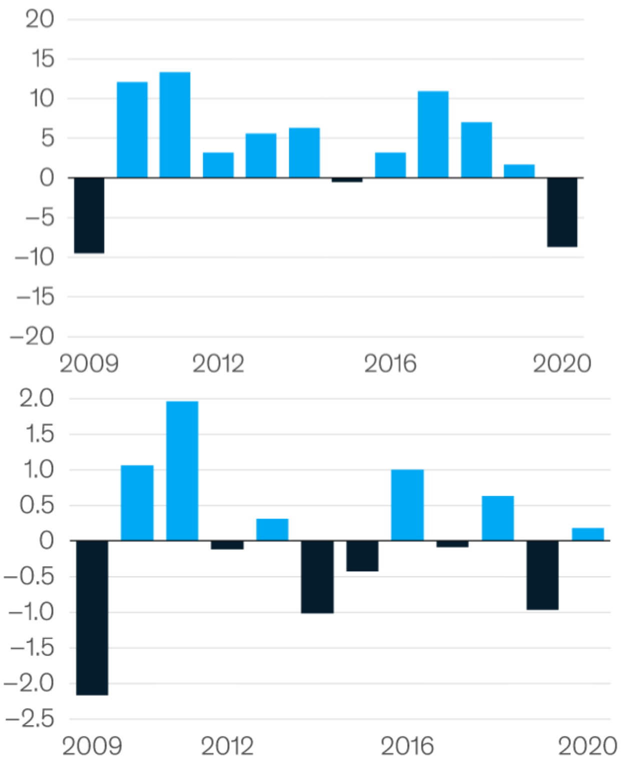
Dussart (1998) pointed out the importance of category management as early as the late 1990s, and based on his research on the feasibility and conditions for success of CM, it is probably the most important and best known business process that emerged from the foundations of ECR (Efficient Customer Response), where the emphasis shifts from sales volume to profitability. In the 1980s in the U.S., the main strategies in ECR were to reduce dependence on discounts, reduce waste and building of excess inventory, and improve technological efficiencies in hardware, software, and personnel. According to the author's findings, the ultimate purpose of planning within CM lies in its ability to deliver the most value to the consumer.

A significant milestone that contributed to the change in the view of CM from a retail perspective occurred because of the 2007 financial crisis and its impact on consumer consumption and behaviour. Not only their habits have changed, but also the rules of the game in the market. Stores had to adapt to the new reality and look for innovative ways to attract customers. One such innovation is category management. This approach, which focuses on the comprehensive management of individual product groups, has brought a new perspective on merchandise management to the retail industry and has influenced the entire supply chain (Plazibat & Brajevic, 2012).

The biggest recent challenge for the global retail industry has been the Covid-19 pandemic. Contractor (2022) discusses in his study that the world economy will need even greater interconnectivity across sectors in the so-called "post-pandemic" era. Within the current market environment, particularly in the retail sector, it is crucial for organisations to develop and implement sophisticated marketing strategies aimed at increasing the competitiveness of their products not only in the regions where they operate but also in the global marketplace.

Abdelnour et. al. (2022) conducted research on the question of what is holding back the distribution industry and how the industry can reach the next horizon of "exceptional CM". We present their results in the following graph 1, which shows the results of the research conducted on a sample of the 80 largest distributors in the U.S. Taking into account their average revenue in USD per year, we can see that despite the fluctuations from year to year, distributors' revenues have been increasing from year to year. This suggests that the demand for goods and services has increased over the years. Compared to the distributors' gross profit, we can see that it has shown more significant fluctuations over the period under review. This means that although sales have been increasing, distributors' profitability has been less stable.

Graph 1 Year over year revenue growth and gross profit margin (%)



Source: Abdelnour et. al. (2022).

It is also clear from the charts that revenue growth did not necessarily lead to higher profits. In some years, gross profit decreased despite the growth in sales. This may be due to various factors such as increases in the cost of goods, transport or marketing. The authors further point out in their study the 4 main reasons that can be considered as the most important for which CM is important in distribution (Abdelnour et. al., 2022):

- Omnichannel vs. multichannel marketing, it is basically about customer requirements that are becoming more and more complex. From a retailer's perspective, the focus is on the customer action as one coherent experience that takes place simultaneously across multiple channels. The customer needs to find out as much as possible about the product during their buying journey until they get to the point of purchase. And, as the authors note, this method of consistency towards customers is more effective than its opposite - multichannel marketing, the essence of which lies in the fact that the different parts within a communication strategy work individually. In this context, the authors also draw attention to the importance of branding and greater transparency in correctly informing customers about prices and products, as well as their correct positioning within categories.
- The product range in the context of its breadth and depth is in several cases one of the biggest challenges for distributors. The authors conclude that strong supplier relationships and flexibility in the supply chain are critical in coping with the increasing volume of products entering the market. The importance of this relationship was particularly evident during the pandemic, where weaker relationships and less flexibility to get products to store shelves was a problem, and in most of these cases, there was also a lack of a strategy based on product knowledge that could help them overcome increased prices and competition.
- Lack of skilled labour, transportation costs, high inflation, these are the reasons that lead to uncertainty among distributors, according to the authors. Understanding the product categories in the whole process from production to sales can lead to distributors being able to make targeted changes on an ongoing basis, either in assortment or pricing, which, even under more unfavourable conditions, will allow them to increase market share and also possibly increase their margins.
- The work and skills of category managers and the resulting expectations. The authors conclude that category managers should be able to use the wide range of tools at their disposal to drive higher performance within the company. Most workers in this position still use only the most basic tools, such as price capping or not raising prices, contractual terms capturing basic responsibilities, etc. In this case, according to the authors, it is mainly about the importance of uncovering category and assortment information that has a high added value for further work.

The authors also found that the market leaders are mostly companies that have applied all the previous steps and are applying all the knowledge they have gained in the retail industry. Transforming approaches to category management can make even smaller companies' leaders in their industry.

Similarly, author O'Brien (2024) emphasizes the need for companies to focus on creating new strategies with an emphasis on the future. In this context, sustainability has become a key topic in business and society in recent years. Once considered a marginal issue, it is now influenced by governments, companies, customers and the general public. Sustainability is the ability of a system to exist in the long term. In the context of our planet, it means that we need to mitigate environmental threats such as climate change, biodiversity loss, pollution and resource depletion. At the same time, we must also tackle social problems such as poverty, inequality and human rights violations. The author warns of serious consequences if we do not act. Climate change, biodiversity loss and other environmental problems pose existential threats to humanity. In addition, the study draws attention to growing social inequalities and authoritarian tendencies in the world.

Harsanto et. al. (2023) used a three-stage systematic literature review process in their study that followed PRISMA protocols to ensure the credibility and comprehensiveness of the results. In the first stage, they conducted a broad search related to sustainability and innovation in the textile industry. They then narrowed the results using more specific search terms to obtain more relevant articles. In the third phase, they analysed and synthesized the selected articles to identify key themes and trends in sustainable innovation in the textile sector. The search resulted in approximately 8,000 articles, mainly from the Scopus and Web of Sciences databases, which provided a robust basis for their analysis. Based on this, they report that there is a child labour problem in several types of retail within the sustainable growth of firms, or sustainability itself. When talking about sustainability, the authors are referring not only to environmental aspects, but also to social and economic ones. Child labour is a serious violation of children's rights and has a negative impact on their physical, mental and social health. Looking at sustainability from a category manager's perspective, the authors note that when a supplier violates human rights in production or in any part of the supply chain, this can result in consumer attrition and a significant impact on brand awareness. However, in the context of circular economy and category management, solutions are offered. A focus on product durability, reparability and recyclability, ethical sourcing of raw materials, supply chain transparency and the promotion of sustainable brands are key. Category managers can make a significant contribution to the industry's transformation by prioritising longer-lasting products, encouraging recycling and working with suppliers who adhere to ethical standards. In this way, the textile industry can reduce its environmental impact, improve social conditions for workers and contribute to building a more sustainable future.

2.1.2 Different Ways how to Look on Category Management Aspects

Traditional approaches to purchasing and supply management are no longer sufficient to meet the demands of today's dynamic business environment. Companies need to innovate and use new technologies to remain competitive. One of the key trends in PSM (Purchasing and Supply Management) is the increasing emphasis on data analytics. Companies that can effectively use analytical tools are able to identify new opportunities, reduce risks, and improve overall performance (Patrucco et al., 2023).

Another perspective on data in retail, or on category management itself, is the emphasis on the importance of the category manager's intuition and experience. In their study, the authors Carter et al. (2017) suggest, that intuition can effectively complement rationality as an approach to decision making. However, a review of how decision makers in supply chain contexts can benefit from using their intuition shows that our discipline lacks a unified conceptualization and operationalization of the complex construct of intuition. The question of whether data or intuition or experience is more important has long been a subject of professional debate. Both perspectives have merit and are often complementary. Having enough relevant data is essential for successful category management, but consumer behaviour is often irrational and influenced by emotions, which can be difficult to capture through data alone. Similarly, there may be factors in the category management process that cannot be quantified or predicted, but an experienced category manager should be able to recognize and respond to these unknowns.

According to Munteanu (2024), category management provides a strategic approach to product portfolio management that brings several benefits to retailers. By looking at each product category as a separate business unit, it is possible to optimize purchasing processes, more accurately predict customer demand, and use available resources more efficiently. Centralised purchasing and negotiation with suppliers lead to significant cost savings and allow retailers to obtain more favourable terms. At the same time, the author points out that detailed analysis of data and trends allows to tailor the offer to the customers' needs, which increases loyalty and sales. Category management makes retailers more flexible and responsive to market changes, thus maintaining a competitive advantage.

Conclusion

In the article, we reviewed selected professional articles or publications related to category management, and we can express the following Conclusions.

Category management has established itself as a key tool for modern businesses, especially in retail. Its importance is constantly growing due to increasing competition, changing consumer preferences and the onset of digitalization. While it has traditionally been focused on product range optimization and profitability, current trends are taking this concept further. The focus is on sustainability, personalization, and collaboration across the entire supply chain. Category managers become strategic partners who not only influence the profitability of the company, but also contribute to building its reputation and long-term success.

Similarly, great emphasis is beginning to be placed on the abilities and talent of the category managers themselves, who in recent years have been making key decisions in companies. Market leaders in individual sectors are mostly companies that have the right people in the right place, but in this context, category managers are the people who make complex decisions based on the knowledge gained about products and assortment, while their job is to effectively transform the portfolio in order to gain a higher market share and to increase the company's profits.

Successful category management requires a comprehensive approach that includes data analysis, understanding customer behaviour, collaboration with suppliers and continuous improvement. While data provides valuable information, the human factor also plays an important role. The future of category management will be marked by further digitization, the use of advanced analytical tools, artificial intelligence, and an ever-increasing emphasis on sustainability. Organizations that can effectively implement and develop category management will gain a significant competitive advantage in a dynamically changing market.

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Slovakia's Pro-Export Policy Navigating the Path to Economic Growth[1]

Anabela Luptáková[2] – Ján Hrinko[3]

Abstract

Institutional support for foreign trade is crucial in bolstering the competitiveness and success of domestic enterprises on the global stage. This evaluation of support mechanisms is especially pertinent in an ever-evolving global environment. For Slovakia, as one of the most open economies, robust institutional support for foreign trade is particularly significant. Despite the absence of substantial ideological shifts in the government's strategies for external economic relations over the past decade, adapting to current market conditions is essential to maintain Slovakia's relevance. This paper offers recommendations for enhancing pro-export policies, informed by best practices from selected countries, to develop a new support strategy that aligns with contemporary market dynamics.

Key words

pro-export policy, foreign trade, Slovakia, competitiveness

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Introduction

The importance of foreign trade as a driver of economic growth has been well-established since the era of classical economics. This is particularly evident in the case of the Slovak Republic, which in recent years has consistently ranked among the top twenty most open economies. Situated strategically in Central Europe, the Slovak Republic has leveraged its geographical advantages to establish a strong presence in international economic relations. Furthermore, its membership in the European Union and subsequent entry into the Eurozone have significantly bolstered its economic integration within the region.

Given the limited size of its domestic market and the absence of mineral raw materials, yet possessing high production capacity, the Slovak economy has no alternative development path other than excelling in foreign trade. Consequently, the Slovak Republic faces challenges in maintaining its competitiveness in the global market. The economy is highly dependent on several key sectors, such as the automotive and electronics industries, which have demonstrated significant sensitivity to fluctuations in global demand and supply chain

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disruptions in recent years. Furthermore, the relatively low levels of innovation and investment in research and development within the country hinder its ability to keep pace with changing market conditions, thereby constraining the development of export opportunities.

In recent years, scholars have observed a concerning stagnation in the export competitiveness of Slovak companies. This trend can be attributed to the unsuccessful continuation of the country's historical export tradition, as well as insufficient support for generating domestic added value (Pavelka, Ružeková, & Zubaľová, 2021). These findings highlight the critical need to enhance the growth potential of the Slovak economy through a well-crafted pro-export policy. However, achieving this objective is contingent upon increasing the competitiveness of the domestic market's supply options. Crucially, this requires a high degree of innovation among Slovak companies, as they seek to differentiate their products and services in an increasingly globalized marketplace.

The mentioned facts draw attention to the necessity of the active involvement of the state not only in terms of the creation of a pro-export policy but also in the implementation of its steps in practice.

1 Methodology

Considering the indisputable importance of foreign trade as a factor in the economic growth of the Slovak economy, this paper aims to contribute to the proposals for the implementation of the pro-export policy of the Slovak Republic based on examples of good practice from selected countries. The motivation for writing this paper is the statement of Leonidou, Katsikeas & Coudounaris (2010) *"Despite the declining interest among researchers in studying government export assistance and assistance issues, there is still room for further investigation."* We considered various classical works and recent studies devoted to the nexus of foreign trade and economic growth and the importance of pro-export policy when conducting literature reviews. The paper employs a problematization approach, as elaborated by Kahiya (2024) and characterized by Alvesson & Sandberg (2020) through principles such as reflexivity and selective reading.

The starting point was a systematic review of the pro-export policy documents of the Slovak Republic (outlined chronologically listed in Table 1). After gaining a comprehensive understanding of the competencies of central state administration bodies, along with the export support system, objectives, and tools, we proceeded to identify successful examples from other countries.

For these purposes, Denmark, Germany, the Republic of Korea, and Singapore were selected, representing a heterogeneous group of countries within which approaches to export promotion differ. The selection was determined by the authors, with particular emphasis on the innovativeness of each country's pro-export policies. Denmark's successful experience in export promotion, Germany's world leadership in trade, and innovative methods of supporting national business in Singapore and South Korea identify the most effective approaches to export promotion.

2 Theoretical background

In economic theory, international trade improves people's well-being. Since the classical period, there has been a perspective of thinking that considers foreign trade as a critical factor in economic growth. Free trade and specialization, based on Ricardo's principle of comparative advantage, allow countries to use their resources better, achieve economies of scale, and gain access to new technologies. All this makes it possible to stimulate overall economic growth (Van den Berg, Lewer, 2015). It is widely accepted that nations with substantial participation in international trade exhibit superior economic performance compared to those that prioritize protecting their domestic markets and neglect the opportunities presented by trade for economic growth (Heitger, 1987). Research papers addressing the nexus between exports and economic growth include those by Kindleberger (1962), Ram (1985), Anwer and Sampath (2000), Plümper and Graff (2001), and Irwin (2024). Hausmann, Hwang, and Rodrik (2007) demonstrated that countries exporting goods with higher productivity experience more rapid economic growth. This growth is linked to the reallocation of resources from lower productivity activities to higher productivity goods, as identified through business cost analysis. A notable feature of these goods is their elastic demand in global markets, enabling substantial export volumes without significantly deteriorating the terms of trade. Consequently, fostering an environment conducive to entrepreneurship and investment in innovative activities is crucial for achieving economic convergence (Hausmann & Rodrik, 2003).

According to Engelhard (1992), export support encompasses all activities, tools, and measures designed to enhance the physical volume or monetary value of exported goods and services. Seringhaus (1986) defines export support as encompassing all public policy measures that either directly or potentially increase export activity, whether from the perspective of individual firms, industries, or the state. The effectiveness of national export promotion policies has been extensively researched by international scholars. However, studies vary in their approaches to analyzing the relationship between export support policies and the export performance of firms. Several authors have highlighted that export support policies directly impact the export performance of companies. For instance, Cruz (2014) confirmed the effectiveness of these policies in supporting new exporters, while Martincus and Carballo (2010) demonstrated their role in facilitating entry into new export markets and the Introduction of new products. Lages and Montgomery (2005) established a link between export promotion and increased export sales and profitability, and Durmusoglu (2012) emphasized their effectiveness in achieving financial and sustainable development goals. The motives for supporting exports differ based on the level of economic development, economic structure, and specific challenges faced by an economy. Governments pursue export support for various reasons, including realizing surplus domestic production, optimizing the use of production capacities, leveraging economies of scale, reducing foreign debt, increasing employment, compensating for foreign support, enhancing the competitiveness of domestic production, facilitating technology transfer, and fostering economic growth (Csabay, 2007). Institutional support for foreign trade within individual economies is shaped by the state's overarching economic, commercial, and foreign trade policies (Pavelka, Jamborová, & Ružeková, 2015). Nations employ a diverse array of measures to safeguard their foreign trade positions. These measures, which aim to restrict foreign competition's access to domestic markets, stimulate exports, and balance the trade balance, include both autonomous and contractual instruments, auxiliary measures. Such measures encompass the analysis of foreign markets, participation in trade fairs, preferential financing of exports, subsidies to offset increased costs, and other developmental incentives designed to motivate companies to establish and expand their production capacities.

Export support should be understood as an integrated system composed of interdependent entities (Seringhaus and Botschen, 1991). The principal actors within this export promotion system include export promotion agencies, governmental bodies, foreign trade offices, and domestic enterprises, each fulfilling distinct roles and influencing key processes. Export promotion agencies are primarily tasked with facilitating and stimulating trade by providing information, establishing contacts, offering technical advice, supporting marketing efforts, and advocating for favorable policies (Giovannucci, 2004). The primary objective of a pro-export policy is to formulate a strategic framework for developing business relations with foreign countries. This involves defining territorial priorities, identifying instruments and measures directly linked to export processes, and establishing guiding principles. The state's pro-export policy, encapsulated in a strategic government document, should thus form the basis for a comprehensive export support system (Csabay, 2007).

3 Results and Discussion

Functional institutional support for foreign trade is pivotal in small and open economies such as the Slovak Republic, highlighting its critical significance. Participation of Slovak companies in international business exchanges acts as a catalyst for technological advancement, increases innovation across economic sectors, and strengthens the global market position of domestic enterprises. Preserving existing market positions and expanding the Slovak Republic's presence in international markets are crucial for the economy's functionality and development in the current global environment.

The EU's common commercial policy and internal market regulations do not encompass export promotion strategies. These responsibilities are entrusted to individual countries, allowing them to develop strategies that align with their national priorities while ensuring compliance with international obligations. Table 1 outlines the documents that have addressed the pro-export policy of the Slovak Republic.

Tab.1 Development of pro-export policy of the Slovak Republic

I	Pro-export policy of the Slovak Republic for the years 2007-2013
II	Foreign trade support program for 2013
III	Strategy of external economic relations of the Slovak Republic for the period 2014-2020
IV	Priorities of the pro-export policy for the period 2018-2020
V	Stability Programme of the Slovak Republic for 2021 to 2024
VI	Concept of the Slovak Republic's external economic relations and economic diplomacy for 2022-2030.

Source: own processing, 2024.

All the referenced documents emphasize the imperative to diversify exports both geographically and in terms of product composition. They highlight the inadequate contribution of small and medium-sized enterprises and services to the overall exports of the Slovak

Republic, as well as the necessity to attract new, high-quality foreign investments. These documents also detail the roles of specific institutions and strategic tools.

A fundamental critique of these strategies is their lack of conceptual evolution over recent decades. This results in a repetitive pursuit of desired outcomes, while the implemented export support mechanisms effectively serve their intended purpose within the global economic positioning of the Slovak Republic but fall short of advancing toward established objectives. This observation is reinforced by monitoring reports4, which primarily offer statistical summaries of Slovakia's foreign trade without analytical scrutiny of pro-export goal attainment.

The current *"Concept of external economic relations and economic diplomacy of the Slovak Republic for the period 2022-2030"* lacks specificity compared to the other documents mentioned. Therefore, the urgent need to address Slovakia's pro-export intentions at the level of implementation through individual action plans comes to the fore. In the changing global environment, the position of the Slovak Republic in international business cannot be as rigid as its strategies.

In the near future, the main task of the actors of *"Team Slovakia"* [5] should be to define a short-term action plan to support exports with quantifiable milestones. Beyond financial and fiscal tools for export support, it is crucial to integrate functional instruments effectively. The action plan should align with the Slovak Republic's current position in the international competitive landscape and evolving global conditions.

Key considerations should include:

1. *The share of high-value-added exports among Slovak companies remains limited. Steinhauser and Boros (2022) conducted an extensive analysis using gravity models to examine Slovak export dynamics. The most of domestic enterprises primarily serve as suppliers of intermediate products to multinational firms in the engineering sector*;
2. *Productivity levels of Slovak small and medium-sized enterprises are notably lower compared to their counterparts in other EU countries,* with a persistent decline observed since 2010 (OECD, 2023). This trend suggests that the previous model of enhancing competitiveness through the importation of modern technologies and cost-effective skilled labor has become obsolete. The pace of economic development in Slovakia has significantly slowed, currently placing the country at the lower end of the Eurozone rankings;
3. *The deficiency in domestic technological innovation and the quality of human capital directly correlates with the country's low productivity.* Slovakia is classified as an emerging innovator according to the European Innovation Scoreboard (European Commission, 2023), but its innovation efficiency is growing at a slower rate than the EU average, widening the gap with other nations. Critical areas of weakness include the mobility of scientific and technological personnel, inadequate business sector spending on research and development, insufficient state support

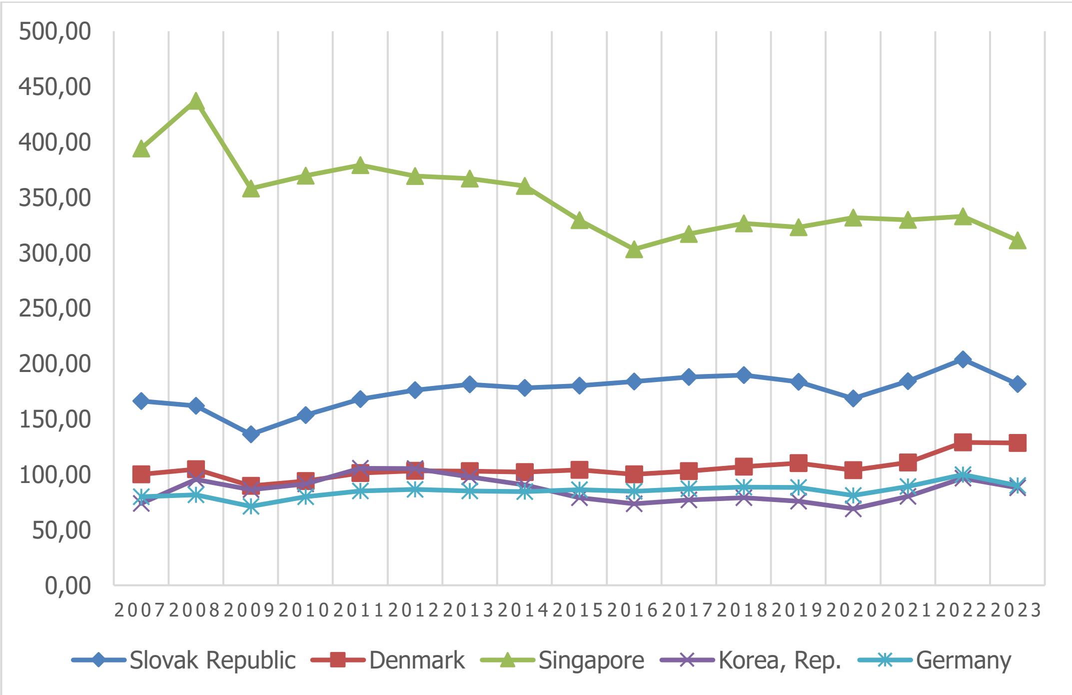
[4] Subsequent monitoring reports were implemented within the framework of the Strategy for External Economic Relations of the Slovak Republic for the period 2014-2020.

[5] Within the framework of the "Concept of external economic relations and economic diplomacy of the Slovak Republic for the period 2022-2030", the Team Slovakia platform was created, which is to share information and coordinate activities in the field of economic diplomacy between organizations of the central state administration on an operational basis.

for R&D, low numbers of applications to the International Patent System, and limited venture capital expenditure (Hollanders et al., 2023). As of 2021, investments in information and communication technologies and research and development were significantly lower compared to other OECD countries, and Slovak businesses lagged in the adoption of advanced digital tools such as cloud computing, artificial intelligence, and big data (OECD, 2024).

The adaptation of the pro-export policy of the Slovak Republic, taking into consideration the interplay of these factors alongside other dimensions of economic development, is a crucial prerequisite for fostering a competitive and export-oriented business environment.

Graph 1 Trade openness of selected countries (%)



Source: own processing based on data Word Bank, 2024.

Graph 1 indicates that among the selected countries, only Singapore—a major global trade hub—exhibited a higher level of trade openness than Slovakia during the monitored period. However, despite having a lower trade-to-GDP ratio, the other countries analyzed possess more sophisticated systems of state export support. Based on selected countries we propose best practices to enhance the Slovakia's pro-export policy.

1. *Enhancement of national clusters and public-private consortia.* For instance, in Denmark, export support includes 13 national clusters that represent various business and technology sectors. These clusters serve as a link between knowledge institutions and proactive Danish enterprises to bolster innovation (Cluster Excellence Denmark, 2024). Public-private consortia like Food Nation, Creative

Denmark, State of Green, HealthcareDenmark, and Digital Hub Denmark aim to enhance the global recognition of Danish products and solutions.

2. *Digitalization.* This involves not only enhancing the coherent and transparent framework of state support for export services but also advancing technological capabilities. In Germany, for instance, the "GTAI" export guide serves as a comprehensive foreign trade portal (BMWK, 2023). Singapore, renowned for its high level of government digitalization, applies automation to processes such as goods origin certification and customs procedures. Initiatives like the Advanced Digital Solutions and Grow Digital programs under the Trade 2030 strategy leverage artificial intelligence and cloud technologies to enhance operational efficiency and decision-making for businesses (MTI SG, 2022).
3. *Research centers.* Republic of Korea underscores the significance of state-owned research institutions in shaping national trade policies, both bilaterally and multilaterally (The Research Council Of Norway, 2019). These include institutions such as the Korea Institute for International Economic Policy, the Korea Institute of Industrial Economics and Trade, the Korea Development Institute, the Korea Economic Research Institute, among others

A comprehensive examination of the specific tools and capabilities of export support entities in selected countries reveals a diverse array of state-supported instruments. Predominantly, these services focus on non-financial assistance. For instance, in Denmark, companies can undergo an online export readiness assessment comprising questions about product specifics, target markets, and strategic planning. Based on the responses, tailored recommendations are provided to guide company initiatives. Based on the assessment of each country, the employment of fee-based advisory services emerges as consistently effective across all analyzed nations. Moreover, the development of export promotion programs positively influences the activities of firms seeking to expand into international markets.

Conclusion

The current "*Concept of External Economic Relations and Economic Diplomacy of the Slovak Republic for the Period 2022-2030*" lacks the specificity required to effectively guide Slovakia's pro-export policy. In an era of rapidly evolving international business landscapes, Slovakia cannot afford to maintain rigid strategies. The absence of significant conceptual evolution in Slovakia's export strategies over the past decade has resulted in a stagnation that jeopardizes the country's competitive position in international markets. This is further compounded by low levels of innovation, limited high-value-added exports, and declining productivity among SMEs, which collectively constrain the growth potential of the Slovak economy.

This paper highlights the critical importance of a robust and flexible pro-export policy for Slovakia, particularly given the country's high economic openness and dependence on foreign trade. To address these challenges, the paper recommends a multifaceted approach, including the enhancement of national clusters, the promotion of digitalization, and the strengthening of research and development capabilities. Implementing a short-term action plan with clearly defined milestones will be crucial in reinvigorating Slovakia's export strategy. Such a plan should not only incorporate financial and fiscal tools but also emphasize the development of non-financial support mechanisms, such as advisory services and tailored export promotion programs, which have proven effective in other countries. Comparing Slovakia's approach with those of countries like Denmark, Germany, the Republic of Korea, and Singapore provides valuable insights into best practices that can be adapted to enhance Slovakia's pro-export policy. Denmark's successful integration of national clusters and public-private consortia illustrates the potential of fostering collaboration between knowledge institutions and businesses to drive innovation and international recognition of domestic products. Germany's emphasis on digitalization highlights the importance of developing a coherent and transparent digital framework for export services. Furthermore, the Republic of Korea's reliance on state-owned research institutions to inform national trade policies underscores the necessity of research and analytical capabilities to support effective policy development.

By integrating these best practices and tailoring them to the unique circumstances of the Slovak economy, Slovakia can develop a more resilient and dynamic export sector that is well-positioned to drive sustained economic growth.

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Current challenges in management of luxury brands[1]

Monika Matušovičová[2]

Abstract

The new generation of consumers brings new challenges into the luxury sector and to strategies of luxury brands. Among the most important challenges of managing luxury brands today are online shopping and social responsibility activities. In this context, the article is focused on approaching Live Stream Shopping as a form of s-commerce in the luxury industry. At the same time, we want to present the procedures of the best practice of the luxury brand Hermès, on the example of which we will clarify the CSR strategy formulation process. For the analysis of the researched topic, we used secondary data from studies of international consulting companies and research agencies. We also synthesized partial results of a primary survey focused on purchasing behavior and attitudes towards luxury brands. The result of the article is the demonstration of selected theoretical approaches through case studies.

Key words

luxury brand, s-commerce, social responsibility, Hermès brand

JEL Classification: M31, Q56

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Introduction

Luxury brands have become a global phenomenon. In many industries, luxury brands and products have a leading position, and companies currently operating in the markets copy the innovations of luxury brands, thus influencing social trends.

However, the new generation of consumers brings progressive challenges to the luxury sector and the business models of luxury brands. Due to the difference in their purchasing behavior, the size of the new segments and their technological preferences, these are challenges that require thorough preparation and timely implementation.

Currently, the most important opportunities and challenges of managing luxury brands are not only technological innovations, such as blockchain and metaverse, but also luxury e-commerce and s-commerce, as well as circularity and sustainability with regards to the specific characteristics of this industry.

In the literature, a concept called sustainable luxury was created, which from the customer's point of view represents the ability to consume luxury goods and services that satisfy

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human needs and improve the quality of his life without negatively affecting the needs of future generations.

Many consider the combination of sustainability and luxury to be a paradox. There are two distinct stances on sustainable luxury – a negative stance, which is based on evidence showing that sustainability reduces the perceived quality of luxury goods, and a positive stance, which stems from evidence that consumers sometimes respond favorably to luxury goods that are made in a sustainable way.

1 Methodology

The aim of the paper is to define selected challenges and opportunities in the management of luxury brands. We focus on the shopping model through live streaming events in a luxury brand environment. We explain the mechanism of live shopping using the example of the technology company Smartzer, which develops applications for s-commerce of luxury brands and companies. At the same time, we want to present a case study of the Hermès brand, using the example of which we identify and characterize selected tools that the company uses in the creation and implementation of the social responsibility strategy.

In order to achieve the set goal, classic scientific methods are used in the article, such as the method of comparing information from available literary sources and the method of analyzing existing approaches, extracting common and contradictory opinions. For the analysis of the investigated issue, we used secondary data from studies of international consulting companies and research agencies. We also synthesized the partial results of a primary survey focused on purchasing behavior and attitudes towards luxury brands. The deduction method was used for the logical justification of individual theoretical approaches and Conclusions throughout the case study.

2 Results and Discussion

2.1 Characteristics of luxury brands

A luxury brand represents the specific social and cultural meanings conveyed by the product or brand that consumers use. It describes their personal and social relationship to the brand and their position in society (Becker, Lee & Nobre, 2018). Luxury brands are considered images in the minds of consumers that contain associations of high levels of price, quality, aesthetics, rarity and excellence (Heine, 2012).

Due to the existence of different definitions of luxury, Kapferer and Bastien formulated their intersection in the form of six criteria that a luxury brand, unlike premium brands, should meet (Kapferer, Bastien, 2012):

1. a luxury brand means a high-quality hedonistic experience or a product made to last, which distinguishes a luxury product from a fashion product (timelessness vs. contemporary fashion);
2. it is offered at a price that far exceeds what its functional value alone would require, is incomparable with an alternative brand (on the contrary, premium brands are often compared and comparable with each other);
3. is linked to heritage, unique know-how and specific culture;

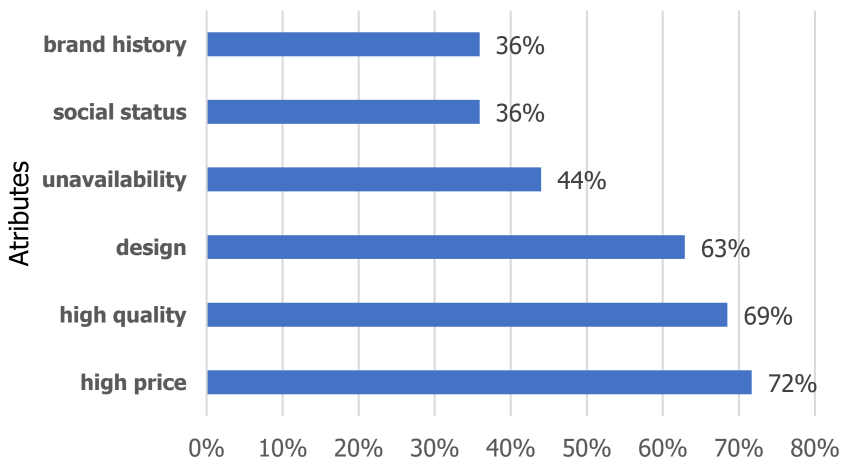
4. is available in purpose-limited and controlled distribution;
5. is offered with personalized accompanying services;
6. represents a social indicator that makes the owner or recipient feel special and privileged (unlike premium brands).

From a psychological point of view, based on numerous researches, three clusters of customers of luxury brands have been identified (Wintermeier, Fonteijn & Oberstadt, 2020):

1. *Customers with a high need for uniqueness* - uniqueness theory states that individuals tend to want to be different from others. Consumers who have a high need for uniqueness emphasize their independent selves with products, strive for differentiation with brands and are more prone to adopt new products. And precisely luxury products for these people represent an extension of their own self, because they are motivated by emotions.
2. *Customers with a need for signaling and status* – they tend to buy luxury brands in order to stand out. Contemporary consumer culture can be characterized by prioritizing material expenditure as a means of creating and defining social relationships. Even poor people who have to cut back on their daily purchases and housing are willing to pay for luxury brands.
3. *Customers with a need for hedonic purchases* - hedonic purchases release dopamine in the body. We know this hormone in connection with pleasant feelings that induce a state of motivation. And the purchases of luxury brands mean something important in a person's life. They symbolize wealth, status or uniqueness.

The current challenges in the management of luxury brands include the different behavior of generation Z and the incoming generation Alfa. According to research carried out by the generation from the segment of university students, it follows that some traditional characteristics of a luxury product such as rarity, honest craftsmanship, uniqueness and limited distribution are less important for the perception of a product as luxury than, for example, higher price, design, social distinction, top quality and indulgence (Shin, Eastman & Li, 2021).

Graph 1 Attributes that are most associated with the concept of luxury



Source: own processing based on the results of the primary survey

The stated findings are also confirmed by the results of the conducted quantitative survey (Graph 1), the aim of which was to evaluate the perception of luxury brands based on a pooled sample of respondents who belonged to the age cohort of generation Z. The survey was conducted on a sample of 502 respondents. We obtained data from the respondents using the method of online inquiry through an electronic questionnaire distributed using social networks.

When choosing luxury products, young people point to the important role of family, but also celebrities as influencers of the choice of specific brands. From the point of view of motivation, the most important thing for the young generation is the visibility effect and the enjoyment of the purchase. This suggests that the surveyed Generation Z consumers do not necessarily perceive luxury products as something reserved for the elite, but rather as a tool for expressing their own identity or as an object of consumption for their own enjoyment and entertainment.

2.2 Live Stream Shopping as a form of s-commerce in the luxury segment

Live broadcasting or streaming is a more advanced form of s-commerce and is based on real-time communication that builds an immediate relationship between streamers and viewers, mainly from generation Z, which are the primary users of social networks and whose purchasing power is constantly growing.

In China, this way of buying has transformed the retail industry and established itself as the main sales channel in less than five years. McKinsey data from 2020 confirms that two-thirds of Chinese consumers purchased products via live streaming in the previous year. Consumers and businesses in the European and American markets are lagging behind this trend, but it is estimated that by 2026, live-initiated sales could account for 10 - 20 % of all e-commerce (McKinsey, 2021).

The formats of streaming events are diverse, e.g. tutorials presenting examples of make-up focused on the application of a specific product, usually presented by modeling personalities or through influencers, interviews with a personality or influencer from the relevant segment, which is more personal and authentic than a regular product video.

In s-commerce, consumers can gather information only through text and images, and it is difficult to perceive the quality of luxury goods. When shopping for luxury goods live, consumers can see more detailed information about luxury goods in real time and perceive the quality of luxury more realistically. Due to the specifics of luxury brands, there were concerns about the perceived value of luxury brands when shopping via live streaming. Research by Yu & Zheng (2021) found that the perceived values of luxury (functional, experiential and symbolic) have a significant positive impact on purchase intention in the context of live luxury shopping, i.e. the same behavior as in the case of offline luxury purchases. Perceived values of luxury also had a significant positive impact on customer engagement in live streaming, and at the same time, the degree of customer engagement in live streaming had a mediating effect on consumer purchase intentions.

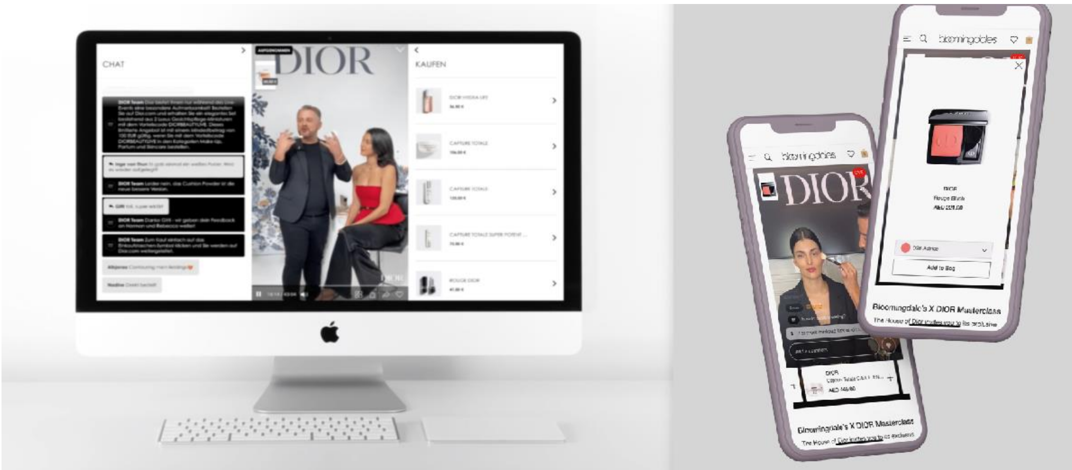
The example of the technology company Smartzer points to the possibility of combining e-commerce with s-commerce and live sales events.

The younger generation is characterized by watching videos ranging from game tutorials, educational videos and popular YouTubers. Luxury fashion brands supply social networks with videos from shows, from the creation of collections and from the life of the brands. At Smartzer, they used the shopping potential of video and developed an application that allows you to mark items in the video and then connect them to the online store.

In the BVLGARI video on Instagram, the viewer clicks on a necklace from the Serpenti collection and is connected to the brand's online store, where they can continue shopping. Smartzer reports at least a 25 % click-through rate and a 55 % follower engagement rate.

Dior used the Smartzer technological solution to create a series of videos in which items are marked that can be clicked to buy through their e-shop (Fig. 1). The company shared interactive videos with its customers by email through the Dior Newsletter. The company further processes, analyzes and provides recommendations for possible changes in targeting and labeling products shown in the video.

Fig. 1 Smartzer – Live Shopping



Source: Smartzer, 2024.

2.3 Social responsibility strategy on the example of the Hermès brand

Luxury brands feel the growing expectations of their approach to sustainability and social responsibility, especially in relation to younger generations of consumers who are slowly entering the luxury market and differ from other consumer groups in their positive attitude towards sustainability. Therefore, in the previous decade, many luxury brands announced their intention to become an agent of change leading to sustainability.

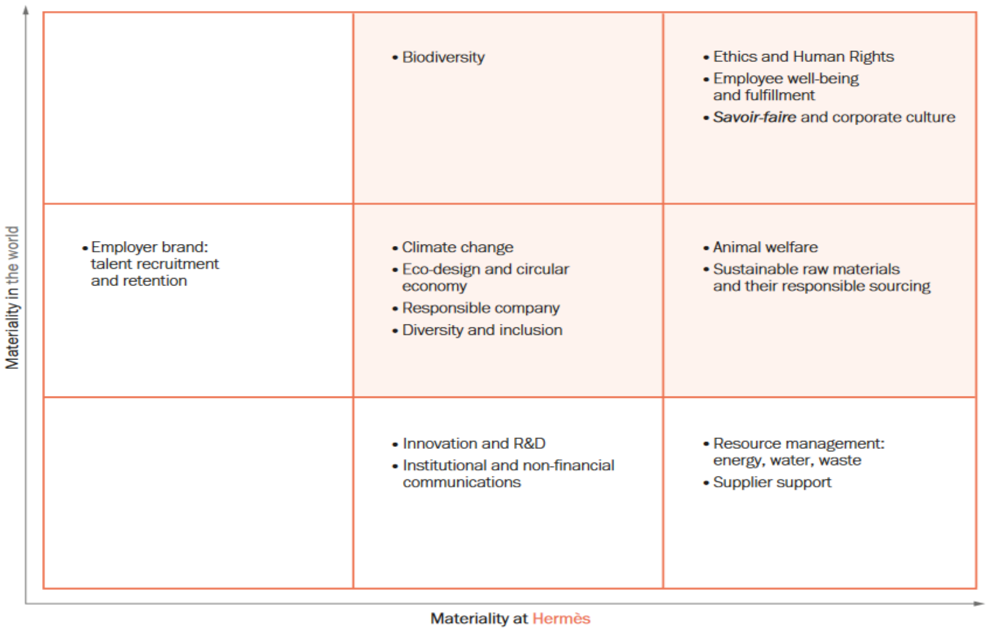
The basic principles of creating a social responsibility strategy in the luxury industry are not fundamentally different from the steps implemented by other sectors. The approach of the Hermès brand is a graphic illustration of the specifics of luxury in the entire algorithm of creating a social responsibility strategy.

Hermès targets the most elite customers of all luxury brands and places enormous emphasis on craftsmanship and expensive and valuable materials. Another of its characteristic features is strong creativity, significantly controlled and limited distribution through more than 300 stores in 45 countries and e-commerce (Hermès International, 2021). Hermès is primarily known for its exclusive leather and silk products, which account for more than half of the company's turnover. Securing its brand value beyond these categories is likely to be a challenge that the company will respond to by strengthening other segments, such as luxury watches or cosmetics.

Since the founding of the brand in 1837, its development has been shaped by the attributes of craftsmanship, which over the time have become core corporate values shared with employees, suppliers and partners. These value attributes form a long-term platform for the formation of a social responsibility strategy, the key pillars of which are (Olšanová, 2023):

- *Responsibility*: each handmade Hermès leather product is the work of a single employee according to the original manufacturing principle of "one person, one bag", who manages all the procedures necessary to create it, and is therefore responsible for its final quality.
- *Authenticity*: craftsmen use the authenticity of perfect materials in the sense of their realness or plausibility and avoid using imperfect raw materials. The product must be perfect from the inside, not just the outside.
- *Urgency*: the brand perceives time as an ally that allows employees to do their work well, integrate the challenges of all stakeholders and see things from a balanced perspective. When making by hand, it is not possible to skip any subsequent step to save time.

Fig. 2 Hermès Significance Matrix



Source: own processing according to Hermès Paris, 2021, p. 55.

Every year, before forming the sustainability strategy, Hermès carries out the so-called significance analysis that helps identify key groups of stakeholders along with their needs and expectations, and highlights those aspects of sustainability that are essential for the company. The result is the so-called matrix of significance, from which the areas of activities important for the company's CSR strategy follow. In 2021, they used the so-called double significance analysis, which takes into account two dimensions of values:

1. financial values that are important primarily for investors,
2. social and environmental values that have a wider impact on other interested parties of society.

At Hermès Paris, they focus on three basic pillars of social responsibility: people, planet and communities.

- *The people pillar* includes employee well-being and job satisfaction, know-how and corporate culture, diversity and inclusion.
- *The planet pillar* includes ecology and circular economy, sustainable raw materials and their responsible sourcing, animal welfare, climate change and biodiversity.
- *The community pillar* solves problems from the identified areas of responsible society, ethics and human rights.

Conclusion

Marketing management of luxury brands requires specific tools, different from those used in the mass market of consumer products. Currently, the most important opportunities and challenges of managing luxury brands include the increase in the sales volume of luxury e-commerce and s-commerce, as well as social responsibility and sustainability as an important part of the strategy of luxury companies.

Live broadcasting or streaming is a more advanced form of s-commerce and is based on real-time communication that builds an immediate relationship between streamers and viewers, mainly from generation Z, which are the primary users of social networks and whose purchasing power is constantly growing. The example of the technological company Smartzer points to the possibility of combining e-commerce with s-commerce and live sales events.

The basic principles of creating a social responsibility strategy in the luxury industry are not fundamentally different from the steps chosen by other sectors. The approach of the Hermès brand, which has been working with the structured framework of its creation since around 2015 and continuously improves it, is a clear illustration of the specifics of luxury in the entire algorithm of creating a social responsibility strategy. Reports on the company's social responsibility are characterized by a high level of transparency, which makes it possible to use it as an example for demonstrating the company's advanced approach to the issue of sustainability.

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Progressive business analytics in marketing[1]

Milan Oresky[2]

Abstract

In the dynamic landscape of modern marketing, progressive business analytics emerges as a critical tool for enhancing strategic decision-making and driving competitive advantage. This paper explores the evolution and application of advanced analytics techniques in the marketing domain, emphasizing the integration of big data, machine learning, and predictive modeling. By leveraging these technologies, businesses can uncover deep insights into consumer behavior, business customers, optimize marketing campaigns, and personalize customer experiences. The study highlights key trends such as the shift from descriptive to prescriptive analytics, the importance of real-time data processing, and the role of artificial intelligence in automating and refining marketing strategies. Through case studies and empirical analysis, we demonstrate how companies can harness the power of progressive analytics to improve ROI, enhance customer engagement, and achieve sustainable growth. The findings underscore the necessity for organizations to adopt a forward-thinking approach to analytics, fostering a culture of data-driven decision-making to stay ahead in an increasingly competitive market.

Key words

Big data, data science, data analytics, artificial intelligence, marketing management

JEL Classification: M21, M31

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Introduction

The coming age of business has introduced new terminologies in the business dictionary, some of which add data science, big data, analytics, and many more puzzling terms to the list. With the data coming to the center stage of business, data collection, data storage, data processing, and data analytics have all become fields in themselves. Further, novel data keeps on adding to the previous data sets at humungous speeds. With rapid advances at the front of the business, companies place data on the same pedestal as the other corporate assets, for it offers the potential and capabilities to derive many important findings. With the data and data-related processes becoming more and more worthy, data science has become the need of the hour.

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The context of the bigger study we realized is *the identification of challenges coming from IT area development and nowadays, impacting marketing management.* But the consequences are wider in how to reformulate higher education content, and how to create new capabilities of marketing management people.

The specific problem or research gap the study addresses is to stop the scissors between digital progress and marketing management.

The research objective is very clearly to formulate what progressive management approaches in marketing management are necessary to understand and implement in the age of digital and AI decade.

In recent decades, data have been rapidly changing the world. Especially in the era of Big Data, data are cheap and ubiquitous, but what makes data an asset is how it is used to obtain useful information. Since there are many different types of business objectives, different analytics techniques are needed to achieve them. These techniques have many applications in the business area and "business analytics" enables the business application of Big Data. Since the emergence of the term business analytics, it is growing by leaps and bounds, reflecting the increasing importance of data in terms of volume, variety and velocity (Mortenson, Doherty & Robinson, 2015). Although there is no uniform definition of business analytics, the existing definitions can be summarized into several dimensions, such as a movement, a transformation process, a capacity set and so on (Holsapple, Lee-Post & Pakath, 2014).

Interest in analytics and data science is growing as business organizations are using business analytics extensively to improve their business value. Business analytics has evolved into an important part of the business decision-making process, using data to drive decisions and support decision-makers in making strategic, operational and tactical decisions (Bayrak, 2015). Specifically, business analytics can help companies to leverage the value of historical data by harnessing the power of statistical and mathematical models and advanced techniques such as artificial intelligence algorithms. Through these models and algorithms, enterprises can integrate disparate data sources for trend prediction, decision optimization and more. As business analytics continues to evolve, its applications continue to broaden. It is adapted in some functional departments within the enterprise and some non-business areas.

Data Science vs. Big Data

Big data is often termed as "high volume, high variety and high velocity" data (McAfee & Brynjolfsson, 2012). Big data is known as the enormous repository of data garnered by organizations from a variety of sources. The global research and advisory firm Gartner consider "big data as high-volume, and high velocity or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making, and process automation" (Gartner Inc. 2021). Many organizations add another "v", that is, veracity, to the definition of big data (Yin & Kaynak, 2015).

Big data represents an important and huge amount of data not amenable to traditional data-processing tools but with the potential to guide businesses to strategic decision-making from the important insights derived from it (Khan et al. 2017). Big data is categorized into structured, unstructured or semi structured types of data sets (McAfee & Brynjolfsson, 2012).

Structured data refers to well-organized and systematic data (like that once stored in DBMS software). The data that is simply stored in the raw version without any systematic order or structure is known as unstructured data (Alam, 2012). In between these two lies semi structured data, where some part of the data is unstructured and some structured (like data stored in XML or HTML formats). Other types of data sets can be categorized based on the time, historical (or past information data) or current (novel and most-recently collected information data). Based on the source of data collection, data sets can be categorized as first-party data (collected by the company directly from their consumers), second-party data (purchased from another organization) and third-party data (the composite data obtained from a market square). Organizations often keep customized and dedicated software for the storage of big data, from which it can be easily put into computation and analysis to discover insightful trends from data about various stakeholders.

With a basic understanding of these two data-revolutionizing ideas, let's explain the boundaries separating these two.

Data science is an extended domain of knowledge, composed of various disciplines like computers, mathematics, and statistics. Contrastingly, big data is a varied pool of data from varied sources so huge in volume that it requires special treatment. Big data can be everything and anything, from content choices to ad inclinations, search results or browsing history, purchasing pattern trends, and much more (Chaudhary & Alam, 2022). Data science provides several ways to deal with big data and compress it into feasible sets for further analysis. Data science is a superset that provides both theoretical and practical aid to data sorting, cleaning and churning out of the subset of big data to derive useful insights from it. If big data is the big Pandora's box waiting to be discovered, then data science is the tool in the hands of an organization to do such honors.

Thus, one can say that, if data science is an area of study, then big data is the pool of data to be studied under that area of study. After explaining these two upcoming concepts of both data science and big data, now let us turn our focus to the understanding of data analytics and its related concepts.

Data analytics is the application of algorithmic techniques and methods or code language to big data or sets of it to derive useful and pertinent Conclusions from it (Aalst, 2016). Thus, when one uses the analytical part of data science on big data or raw data to derive meaningful insights and information, it is called data analytics. It has gained a lot of attention and practical application across industries for strategic decision-making, theory building, theory testing, and theory disproving. The thrust of data analytics is on the inferential Conclusions that are arrived at after the computation of analytical algorithms. Data analytics involves the manipulation of big data to obtain contextual meanings through which business strategies can be formulated. Organizations use a blend of machine-learning algorithms, artificial intelligence, and other systems or tools for data analytics tasks for insightful decision-making, creative strategy planning, serving consumers in the best manner, and improving performance to fire up their revenues by ensuring sustainable bottom lines.

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The research objective is very clearly to formulate what progressive management approaches in marketing management are necessary to understand and implement in the age of digital and AI decade. The study seeks to answer specific questions.

Judging from the volume of literature, there are many kinds of literature to study business analytics, including its techniques, impact, applications in some areas and so on. Among them, several scholars have systematically summarized the many aspects of business analytics. However, the techniques and applications of business analytics have changed significantly as technology has evolved rapidly in recent years. To organize the review of the latest knowledge about business analytics, we present two main research questions. The whole context of research used more research questions but for a limited volume of text here we present only this one.

RQ1: What are the challenges for business analytics, focused on marketing management?

This article is structured as follows. The part Methodology defines the qualitative character of the research and lists the sources of information and the research methods used. The Results and Discussion part has three sections, the first of which lists 10 main and decisive trends in marketing management today. The second section presents the main applications of business intelligence in marketing and commerce, and the third section deals with progressive methods in business prediction, planning, and modelling. This section answers the research question.

1 Methodology

Of course, the research design begins with the study of relevant literature and the Conclusion that the number of publications and scientific articles focused on the penetration of knowledge from the field of IT in commercial areas is growing progressively. In this paper, we used only some of them.

The study mainly uses qualitative methods. Data collection methods are expert interviews from companies providing BI solutions and a large volume of interviews with customers of these companies, i.e. users in marketing and business practice. For research, we also used cooperation with the company EMARK Analytics and the important *Better Data 2023 conference, which took place in November 2023.* We conducted expert interviews with two dozen companies, such as PPL (Professional Parcel Logistics), Fowconn, Ahold, Enviral, Satur, ESET etc.

2 Results and Discussion

The obtained research results in the field of progressive business analytics in marketing are extensive, from the description of the methods, and their classification to the application possibilities and peculiarities when used in the field of marketing management. Therefore, in this section, we present a significantly shortened version of the research findings and begin with changes and trends in marketing. This is followed by applications of business intelligence in marketing and commerce, progressive methods in business prediction, planning, and modelling, and at the end, we present how sales management follows current trends.

2.1 Main trends and challenges of marketing and marketing management

Modern marketing management is constantly evolving to keep pace with technological advancements, changes in consumer behavior, business customers and the dynamic nature of global markets. Here we place attention to some key trends that are shaping modern marketing management. We do not use only the customer's point of view, which changes are in the marketing external environment, we go inside the company.

1. **Digital Transformation** significantly formed *omni-channel marketing*, which integrate multiple channels (online and offline) to provide a seamless customer experience. *Artificial Intelligence (AI) and Machine Learning (ML)* are used now for predictive analytics, chatbots, personalized recommendations, and automation. *Data-Driven Marketing* leveraging big data and analytics to understand consumer behavior and optimize marketing strategies.
2. **Customer-Centric Approaches** coming with *personalization,* tailoring marketing messages and experiences to individual customer preferences and behaviors. *Customer Experience (CX)*. Focusing on creating positive experiences at every touchpoint of the customer journey, and *Customer Relationship Management* (CRM) bringing tools to manage and analyze customer interactions and data.
3. **Content Marketing and Storytelling** confirming that *"Content is King"* through creating valuable, relevant content to attract and engage audiences. *Video Marketing* utilizing video content across platforms like YouTube, and social media to drive engagement. And *Interactive Content* using quizzes, polls, and interactive infographics to engage users.
4. **Social media and Influencer Marketing** using *Social Media Platforms, Influencer Partnerships* with the key aim collaborating with influencers to reach their followers and build brand credibility. *User-Generated Content* approach is encouraging customers to create and share content related to the brand.
5. **Sustainability and Ethical Marketing** presented by *Green Marketing*, **p**romoting products and practices that are environmentally friendly, *Corporate Social Responsibility (CSR)* – aligning marketing strategies with social and environmental causes.
6. **Mobile Marketing needs.** *Mobile-First Strategies* – designing marketing campaigns optimized for mobile devices. *App-Based Marketing* engaging users through branded apps and mobile notifications. And *SMS and Push Notifications* directly reaching consumers with timely and personalized messages.
7. **Experiential and Event Marketing.** *Experiential Campaigns* are creating immersive experiences that allow customers to interact with the brand in unique ways***. Virtual and Hybrid Events*** used virtual reality (VR) and augmented reality (AR) to host online events and experiences.
8. **Privacy and Data Protection use Data Security.** Ensuring customer data is protected and compliant with regulations like GDPR and CCPA.
9. **Automation and Technology Integration.** *Marketing Automation* brings software to automate repetitive tasks such as email campaigns and social media posts. *Integration of Marketing Technologies (MarTech)* is combining various technologies to streamline marketing operations. And *AI-Powered Tools* employing AI to enhance marketing activities, from content creation to customer service.

10. **Globalization and Localization** with next three areas as *Global Reach***,** which means expanding marketing efforts to reach international markets. *Localization Strategies* adapting marketing messages to fit local cultures, languages, and preferences. *Cross-Cultural Marketing* supporting understanding and respecting cultural differences in global marketing campaigns.

These trends highlight the need for marketers to stay agile, innovative, and responsive to the changing landscape of consumer preferences and technological advancements.

2.2 Applications of business intelligence in marketing and commerce

Business Intelligence (BI) refers to the technologies, practices, and tools used to collect, integrate, analyse, and present business information. The goal of BI is to support better business decision-making by providing accurate, up-to-date, and actionable data insights. BI encompasses a range of applications, methodologies, and technologies that help organizations transform raw data into meaningful information.

Six challenges in exploiting Business Intelligence

There is a need for a comprehensive, strategic approach to BI that addresses technology as well as human capital, knowledge processes, and culture. Without strategy, the results are inconsistent BI deployments; difficulties in managing, implement, and supporting BI initiatives that span multiple departments. According to Miller, Bräutigam & Gerlach (2006) these challenges can be defined in six categories:

- Data challenges
- Technology challenges
- Process challenges
- Strategy challenges
- Users' challenges
- Cultural challenges

Data Challenges. Data issues are leading cause of failure and the costliest element of BI implementations. It take a lot of time, resources, and effort identify, map, and create the necessary rules and processes to ensure that the data are being used consistently and accurately across the organization, promotion a single version of the truth.

Technology Challenges. Since individual department historically have been run like separate businesses, often each has been free to pursue it own IT infrastructure. This has resulted in the use of disparate hardware, platforms, systems standards, and databases throughout the organization.

Process Challenges. BI is a process, not just a software product. No BI product, no matter how sophisticated or advanced, can address, fix, or replace processes alone. Process is a key to driving successful BI and successful organization.

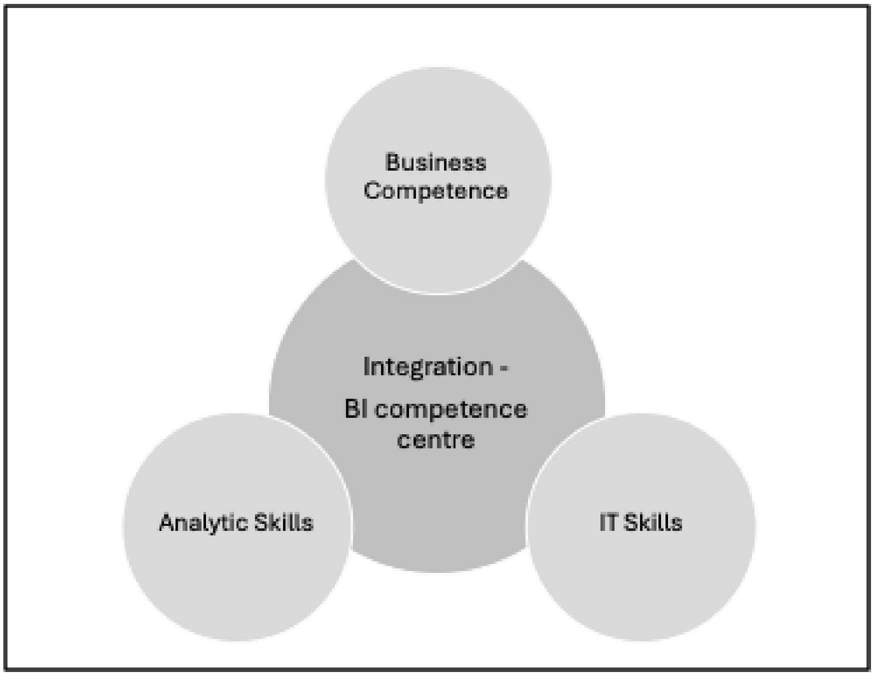
Strategy Challenges. Aligning al BI initiatives in the organization so that they support the organizational strategy should be the goal.

User Challenges. Business Intelligence can enhance everyone`s decision making across the organization. Understanding the different audiences and their information needs, skills, and goals is vital for a successful BI implementation.

Cultural Challenges. An organization`s culture can be one of the single largest inhibitors to the successful use of BI. The culture needs to be such that it encourages fact-based decision making. And that is, people can get the information they need to make their decision in an easy and timely fashion.

Figure 1 shows the basic pillars of the concept of integrated business intelligence, which is built on obtaining strong effects by connecting business competencies, IT skills and analytics skills. A functional and effective BI needs to be built on these three pillars.

Fig. 1 Integration essential BI, business competencies and IT skills with BI



Source: adapted according to Miller, Bräutigam & Gerlach, 2006

Business Intelligence (BI) plays a crucial role in marketing and commerce by transforming data into actionable insights. Here are key applications of BI in these areas:

- **Customer Insights and Segmentation.** Customer Profiles – BI tools analyze customer data to create detailed profiles, including demographics, preferences, purchasing behavior, and social media activity. Segmentation, by segmenting customers into distinct groups, businesses can tailor marketing efforts to meet the specific needs and preferences of each segment.
- **Personalization and Targeted Marketing.** Personalized Campaigns – BI helps in designing personalized marketing campaigns by understanding individual customer behaviors and preferences. Targeted Advertising. By analyzing data on customer behavior and preferences, businesses can create highly targeted advertising campaigns, increasing the chances of conversion.

- **Sales Performance Analysis.** Sales Trends: BI tools analyze historical sales data to identify trends and patterns, helping businesses understand what products are performing well and why. Sales Forecasting: Predictive analytics within BI can forecast future sales, enabling businesses to plan inventory and manage resources effectively.
- **Market Analysis.** Competitor Analysis – BI tools gather and analyze data on competitors, helping businesses understand their strategies, strengths, and weaknesses. Market Trends: by analyzing market data, businesses can identify emerging trends and adapt their strategies accordingly.
- **Campaign Effectiveness.** Performance Metrics: BI measures the effectiveness of marketing campaigns through various KPIs such as ROI, conversion rates, and customer acquisition costs. A/B Testing: BI facilitates A/B testing by analyzing the performance of different versions of marketing campaigns to determine which one is more effective.
- **Customer Relationship Management (CRM).** Customer Retention: BI tools help identify factors that influence customer retention and churn, enabling businesses to implement strategies to retain customers. Loyalty Programs: By analyzing customer data, businesses can design and optimize loyalty programs to increase customer engagement and loyalty.
- **Inventory and Supply Chain Management.** Demand Forecasting: BI predicts future demand for products, helping businesses manage inventory levels and avoid overstocking or stockouts. Supply Chain Optimization: By analyzing data from the supply chain, businesses can identify inefficiencies and areas for improvement.
- **Product Development and Innovation.** Product Performance: BI analyzes customer feedback and sales data to assess the performance of existing products. New Product Development: Insights from BI can guide the development of new products by identifying gaps in the market and customer needs.
- **Operational Efficiency.** Process Improvement: BI tools can identify bottlenecks and inefficiencies in marketing and sales processes, enabling businesses to streamline operations. Resource Allocation: By analyzing data on resource utilization, businesses can optimize the allocation of marketing and sales resources.
- **Customer Service Enhancement.** Service Quality: BI analyzes customer service interactions to assess service quality and identify areas for improvement. Feedback Analysis: By collecting and analyzing customer feedback, businesses can improve their products, services, and customer interactions.

In summary, the application of Business Intelligence in marketing and commerce enables businesses to make *data-driven decisions, enhance customer experiences, improve operational efficiency, and ultimately achieve better business outcomes.*

2.3 Progressive methods in business prediction, planning, and modeling

Progressive methods in business prediction, planning, and modeling encompass a range of advanced techniques and approaches that leverage data, technology, and analytics to enhance decision-making and strategy development. Here are some key progressive methods in this domain.

Machine Learning and AI

Machine learning algorithms and artificial intelligence techniques are increasingly used to analyze large datasets and identify patterns, trends, and correlations that humans might miss. These methods can be applied to various business areas such as sales forecasting, demand planning, risk management, and customer segmentation.

Predictive Analytics

Predictive analytics involves using statistical algorithms and machine learning techniques to forecast future outcomes based on historical data. This can help businesses anticipate market trends, customer behavior, and potential risks, enabling them to make more informed decisions and allocate resources effectively.

Big Data Analytics

With the proliferation of data from various sources such as social media, sensors, and IoT devices, businesses can harness big data analytics techniques to extract valuable insights and drive strategic initiatives. These methods often involve processing large volumes of unstructured data to uncover hidden patterns and actionable intelligence.

Simulation and Scenario Analysis

Simulation modeling and scenario analysis allow businesses to simulate different scenarios and assess the potential impact of various decisions or external factors on their operations and performance. By running simulations, organizations can better understand potential risks, optimize resource allocation, and develop robust contingency plans.

Optimization Techniques

Optimization methods such as linear programming, integer programming, and mathematical optimization algorithms enable businesses to optimize resource allocation, supply chain management, production scheduling, and other operational processes. These techniques help organizations maximize efficiency and minimize costs while meeting operational constraints and objectives.

Data Visualization and Dashboards

Effective data visualization techniques and interactive dashboards play a crucial role in conveying complex insights and trends in a clear and intuitive manner. Visualization tools allow stakeholders to explore data, identify patterns, and gain actionable insights quickly, facilitating data-driven decision-making across the organization.

Predictive Modeling for Finance

In finance, predictive modeling techniques like Monte Carlo simulation, time series analysis, and option pricing models are used to forecast market prices, evaluate investment strategies, and assess financial risks. These models help financial managers and investors make informed decisions in uncertain and dynamic market conditions.

Natural Language Processing (NLP)

NLP techniques enable businesses to extract valuable insights from textual data sources such as customer reviews, social media posts, and news articles. By analyzing text data, organizations can gain a deeper understanding of customer sentiment, market trends, and competitive intelligence, informing marketing strategies, product development, and brand management efforts.

By leveraging these progressive methods and technologies, businesses can enhance their predictive capabilities, improve planning accuracy, and build more robust and resilient models to navigate an increasingly complex and dynamic business environment.

Sales management follows current trends. We can also introduce a significantly new approach to sales management, which includes adapting to changing market dynamics, embracing innovation and prioritizing customer-centric strategies. Here's how a business can implement a progressive method in sales management.

As a guiding principle, *decision-making is based on data.* Using data analytics to understand customer behavior, preferences and market trends. This enables managers to make informed decisions and adjust their sales strategies accordingly.

The second important approach is the *customer-oriented approach*, but this is nothing new. With so much new and good data, the effectiveness of this approach must be greatly increased.

Number three is *continuous training and development*, which means the same as before - learning new methods, and procedures, continuously gaining knowledge. Invest in training programs to equip the sales team with the latest tools, techniques and product knowledge.

The fourth point is so called *embrace technology.* Usage of technological tools such as CRM systems, analytics and AI-based automation to streamline sales processes, increase efficiency and improve customer experience.

The fifth recommendation we name *Innovative Sales Techniques*. Experiment with new sales techniques such as social selling, inbound marketing and interactive presentations to engage potential customers and differentiate yourself from the competition.

Other approaches include *collaborative selling*, i.e. more intensive and effective cooperation between different departments.

Number six is the agile Methodology. An agile approach to sales management that will allow you to quickly adapt to market changes, customer feedback and new trends.

Effective performance measurement is almost a matter of course. The last recommendation is *the feedback and continuous improvement*, which means open communication, feedback from both customers and employees, and use this information to improve sales processes and strategies.

Conclusion

Summarizing the benefits of research in a concentrated form in this article, it is concluded that the leading trend determining the direction of management development for the next decade is business intelligence. And today, a new direction is starting - data science. Along with the development of IT technology, these are big challenges for the management of companies and other types of organizations. For business, the direction of integration of business competencies, IT skills and analytics skills applies.

We fulfilled the goal of the article and *RQ1: What are the challenges for business analytics, focused on marketing management?* We have identified eight areas of new approaches in marketing management, including more detailed characteristics. And the *main*

Conclusion is - significant changes are already here, in real-time, so success favors the prepared.

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Maximizing training transfer with performance coaching[1]

Katarína Ožvoldová[2]

Abstract

When considering investment in further education and development of people, companies are asking: What are the results? How to measure influence on performance? Studies show that employees attending traditional educational programs quickly forget what they learn if they don't apply learned information immediately after training. Performance coaching is successfully used for individual or team development leading to increased performance results or engagement. On the other hand, is criticized for lacking the information transfer and working with existing experience and resources of coachee. The main aim of this article is to provide insight on how to take the advantages of both approaches to maximize the effect on business results. Based on the review of several existing theoretical and research study resources we identified advantages and disadvantages of traditional educational programs and performance coaching in companies' learning and development activities and their impact on business results. Furthermore, we identified suggestions for maximizing the performance with combination of both approaches when coaching supports training transfer.

Key words

learning and development, training programs, performance coaching

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Introduction

In today's competitive business landscape, the need for continuous education, improvement and development is paramount. Companies are turning to training programs which provide structured learning experiences, offering foundational knowledge and technical skills essential for various roles to enhance employee skills, drive productivity, and ultimately boost business results. Studies show that employees attending traditional educational programs quickly forget what they learn if they don't apply learned information immediately after training. (Grossman – Salas, 2011; Hughes et al., 2018; Glaveski, 2019; Cheng – Hampson, 2008; Kauffeld – Massenberg, 2018).

When considering investment in further education and development of people, companies are asking how to measure influence on performance and how to achieve that learning is transferred from the training environment to the actual performance of the work.

Meanwhile, performance coaching focuses on personalized guidance and feedback, helping individuals to unlock their potential, address specific challenges, and achieve their professional goals.

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The findings show that organizations with a strong coaching culture have higher employee engagement, higher revenue growth (Filipkowski – Ruth, 2015), well-being, satisfaction, improved skills, behaviors, and competencies in problem-solving and increased results in terms of individual, team and organizational performance and financial performance such as profit or revenue growth (Leedham, 2005; Jones – Woods – Gullaume, 2015; Dobrea – Maiorescu, 2015).

Leveraging the strengths of both approaches, traditional training programs and performance coaching can create a robust development strategy that aligns with organizational objectives. Traditional training lays the groundwork by equipping employees with the necessary competencies, while performance coaching ensures the application of these skills in day-to-day work scenarios, fostering continuous improvement and adaptability. By exploring studies, we aim to provide insight on how to take the advantages of both approaches to maximize the effect on business results.

1 Methodology

This paper aims to provide insight on how to take the advantages of training and performance coaching to maximize the effect on business results.

Based on the study of several existing theoretical and research study resources we identified limits in transferring learning from the training to the actual performance of the work. Those identified on the side of trainee are the trainee characteristics (cognitive ability, self-efficacy, motivation, perceived utility of training). Those identified on the side of the organization are work environment, preparing trainees to attend training, training design, plans to support use of the trained skills, setting goals and providing feedback on progress, etc. We also identified advantages of performance coaching that complement the training limits, such as increased engagement, focus on goals and performance, organizational growth, and self-development. In addition, focus on individual needs in daily work and life that promote development that is directly relevant to the workplace which may promote transfer of learning to work activity resulting in improved performance results.

Methods of the paper are the analysis and synthesis of scientific literature dealing with the themes of training, performance coaching and their codependence to explore their influence on increasing training transfer success.

2 Results and Discussion

2.1 Educational training programs

Organizations leverage training as a means of improving the knowledge, skills, and attitudes of trainees. Effective training requires that this learning is transferred from the training environment to the actual performance of the work (Hughes et al., 2018). Although organizations invest billions of dollars in training every year, many trained competencies reportedly fail to transfer to the workplace (Grossman – Salas, 2011) as trained skills are often not used in daily work and life after training (Hughes et al., 2018).

Only 12% of employees apply new skills learned in training programs to their jobs and only 25% of respondents believe that training measurably improved performance. We quickly forget what we've learned as pioneered psychologist Hermann Ebbinghaus with Forgetting Curve referring that if new information isn't applied, we'll forget about 75% of it after just six days. (Glaveski, 2019)

Even successful training programs cannot guarantee that newly learned knowledge and skills will be transferred to the workplace (Cheng – Hampson, 2008).

Failure in training transfer and consequently personnel development and application of training wealth in daily work and life might have many different reasons. Those identified on the side of trainee, are the trainee characteristics (cognitive ability, self-efficacy, motivation, perceived utility of training) (Grossman – Salas, 2011). However, training transfer failure does not necessarily need to be caused by the trainee (Kauffeld – Massenberg, 2018). There are several studies that suggest considering different training factors important for successful training transfer.

These factors can be considered and measured before training (such as work environment, aligning training with the facility's objectives, preparing the facility for training, preparing trainees to attend training, facilitating a climate which encourages learning) (Hughes et al., 2018; Kauffeld – Massenberg, 2018; Grossman – Salas, 2011; Burke – Hutchins, 2008), during training (assessing training design for appropriateness of content and delivery, using training to create a trainee mindset conducive to motivation and learning) (Hughes et al., 2018; Grossman – Salas, 2011; Burke – Hutchins, 2008) and after training (enacting plans to support use of the trained skills, setting goals and providing feedback on progress, assessing training effectiveness criteria including training transfer, updating the training program as needed) (Hughes et al., 2018; Burke – Hutchins, 2008).

Other factors that need to be considered for successful training transfer and personnel development of skills are related to organizational development and to be thereby more strategically oriented (Kauffeld – Massenberg, 2018). These should include collaboration of key stakeholders in the organization (such as managers, trainers, and trainees, to work together to ensure that the training investment pays off through full transfer of training) at each step of the process to provide links to strategic goals, reinforce organizational priorities, and support performance-related factors; setting clear performance objectives and rewards for performance (so that employees know exactly what they are expected to do) and provide prompt feedback (to let employees know whether their performance meets the established standards). (Yamnill – McLean, 2001)

Some authors consider best for boosting training transfer interventions that are carried out in the work context. Such as supervisory support activities, coaching, opportunities to perform, interactive training activities, transfer measurement, and job-relevant training. (Burke – Hutchins, 2008)

There are also voices supporting application of theories from different areas of psychology (as theory of planned behavior) (Cheng – Hampson, 2008). Spreading learning out over time takes advantage of the psychological spacing effect, which demonstrates a strong link between the periodic exposure to information and retention. By using spaced repetition, we can remember about 80% of what we learn after 60 days. (Glaveski, 2019)

2.2 Performance coaching

When studying the context of training transfer barriers and recommendations, one of the mentioned interventions to increase training transfer effect is coaching.

Performance coaching connects many factors important for successful training transfer, from psychological effects, through personal development and planned behavior, up to organizational development and strategic planning.

There is ongoing debate on how coaching can be measured and what benefits it brings in terms of performance.

Human Capital Institute in cooperation with International Coach Federation (2015) studied the impact of coaching in organizations in three modalities (external coach, internal coach, manager/leader using coaching skills).

The findings show that organizations with a strong coaching culture have higher employee engagement (60% of employees rated as highly engaged compared to 48% of all other organizations).

Organizations with a strong coaching culture report higher revenue growth (63% report being above their industry peer group in 2014 revenue compared to 45% of all other organizations).

Organizations that offer coaching report higher engagement levels compared to the previous year across all employee segments. In particular, over 60% of organizations report higher engagement levels for high-potentials with access to any of the three coaching modalities. (Filipkowski – Ruth, 2015)

Some other studies suggest not to focus exclusively on Return on Investment (ROI) as the only valid evaluation measure, while there is risk of losing sight of the importance of an effective process. They suggest also including the qualitative perspective, the attributes of the coach and the attributes that are important to the coachees rather than to measure the quantitative organizational benefits only. They argue that inner benefits to the coachees are fundamental to achieving business benefits. (Leedham, 2005).

The suggestions are to consider more evaluation indicators, such as the environment in which coaching takes place (in terms of the ability of the coach to create an environment in which coachees felt free to discuss confidential and sensitive issues and to provide a mental space in which the coachee could reflect on their situation and creating the time to verbalize their feelings in this safe environment) the coaches themselves (with personal attributes and coaching skills) and the outcomes of performance coaching. (Leedham, 2005; Jones – Woods – Gullaume, 2015; Dobrea – Maiorescu, 2015)

The outcomes that are suggested to consider include the human capital drivers or affective outcomes (motivation, confidence, clarity, focus, self-efficacy, well-being, satisfaction), human capital capabilities or skill-based outcomes (skills, behaviors and competencies), cognitive outcomes (knowledge, cognitive strategies as problem-solving), intermediate key performance indicators (productivity, customer satisfaction, results in terms of individual, team and organizational performance and financial performance such as profit or revenue growth). (Leedham, 2005; Jones – Woods – Gullaume, 2015; Dobrea – Maiorescu, 2015)

Considering broader framework of benefits, authors indicate that coaching resulted in several key positive effects for learning and performance outcomes (Jones – Woods – Gullaume, 2015) including great impact on the development of entrepreneurs' ability of control, self-efficacy and leadership behaviors, these leading to organizational growth (Dobrea – Maiorescu, 2015; Trevillion, 2018).

2.3 The role of coaching in training transfer

When coaching impacts company results in a positive way, how to leverage its benefits to support transfer of learning from the training program to the actual performance in daily work life?

Businesses often turn to coaching to improve performance in training transfer, i.e. the translation of learning from training into improved performance in the workplace. (Spencer, 2011)

There are several studies in different areas of training topics that indicate positive effects of incorporating performance coaching in learning process.

The study of Bright and Crockett (2012) was conducted to identify the most effective performance practices used in the workplace to increase performance while simultaneously mitigating the negative effects of stress. 115 workers in an experimental/control design took part in a 4-hour traditional classroom-based training program, followed by one individual 30-minute phone coaching session with an external coach 3 – 4 weeks after the training program. The results for the experimental group, when compared to the control group, showed a significant difference in their ability to identify solutions to issues that positively impacted their work to be done, their effectiveness when being criticized, their heightened ability to deal with changing priorities, more effectively dealing with tight deadlines and turning around assignments, and increased adeptness for articulating ideas more clearly and concisely.

Berg and Karlsen (2012) studied the effective management training and found that the management training should be based on the specific work challenges that the participants experience at their workplace. Based on a variety of work challenges, the participants highlighted the following tools as most important: emotional intelligence, empowerment, self-management, signature-strengths, and positive emotions. Furthermore, revealed that that coaching is a helpful training process to develop new management behavior. Rekalde et al., (2017) confirm that performance coaching is more effective method for altering a selected number of concrete managerial behaviors.

Losch et al. (2016) investigated the relative effectiveness of coaching as an intervention to reduce procrastination. Results indicate that individual coaching and group training were effective in reducing procrastination and facilitating goal attainment. Individual coaching created a high degree of satisfaction and was superior in helping participants attaining their goals, whereas group training successfully promoted the acquisition of relevant knowledge. If there is a general need to systematically prepare employees to perform on specific tasks, group training seems appropriate due to lower costs. However, when certain aspects of working conditions or individual development goals are paramount, coaching is desirable. To systematically prepare employees to perform on specific tasks (e.g., communication or time management skills), individual coaching and group training are similarly effective. However, individual coaching was superior in helping participants attain their goals. Therefore, coaching may be desirable when certain aspects of working conditions or individual development goals (e.g., intercultural communication skills or creating realistic timetables for a project) are paramount.

Findings not only show that coaching and training effectively enhance performance, but also emphasize the beneficial effects of coaching on clients' goal attainment. (Losch et al.; 2016)

Coaching supports training transfer as synergistic effects emerge from combining training and coaching. Training and coaching have differing approaches and there is no consensus on the best way to design or evaluate programs. Coaching can deliver the success factors in training transfer but not always in ways that training researchers might expect. It can address individual needs, personal weaknesses, additional learning needs, challenges to existing paradigms and mental schema, performance challenges and revising and maintaining changed behaviors. (Spencer, 2011)

Coaching encourages development activities that are personalized to individual need and carried out in a daily work. These may therefore serve to promote development that is directly relevant to the workplace and is therefore more straightforward for the coachee to implement in their performance behavior. These processes may promote transfer of learning to work activity resulting in improved performance results representing a potential advantage of coaching over other forms of training transfer. (Jones – Woods – Gullaume, 2015)

Conclusion

The main aim of this article is to provide insight on how to take the advantages of training and performance coaching to maximize the effect on business results. In previous chapters we examined the studies showing the limits of training transfer and considered the opportunities to overcome the limits, including the performance coaching advantages.

In general, when there is a failure in transfer of learning from trainings and personnel development, it might have many different reasons.

Many factors affect performance change. Therefore, effective solutions to enhance transfer of training or training effectiveness require consideration of all these factors (Yamnill – McLean, 2001). Context sets the stage for success or failure, so it's important to attend to organizational design and managerial processes first and then support them with individual development tools such as coaching and training programs. (Beer – Finnström – Schrader, 2016)

Studies shows, that one of the effective ways to increase the successful training transfer is to incorporate performance coaching in training program, as coaching aims for the goal with emphasis on the specific work challenges that the participants experience at their workplace (Berg – Karlsen, 2012) and considers individual needs and personal strengths and weaknesses and helps revising and maintaining changed behaviors (Spencer, 2011).

The advantage is that coaching encourages development activities that are personalized to individual need and carried out in daily work (Jones – Woods – Gullaume, 2015), therefore it supports synergistic effect in combination with training and increase the training transfer success.

Although, there is evidence from different studies, in variable areas of research subjects (performance, stress procrastination reduction, improving skills including leadership and communication or time management skills), that performance coaching helps to increase performance and results from trainings, there is a room for more research in this area to learn more on how to create successful training programs including performance coaching.

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Sustainable tourism: How innovation is changing the travel industry

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Abstract

Sustainable tourism represents a growing trend in global travel, emphasizing the minimization of negative environmental, social, and economic impacts. This article explores how technological and innovative approaches contribute to the transformation of the tourism industry towards greater sustainability. Based on a consumer survey, we analyze travelers' preferences, their willingness to pay for eco-friendly services, and their perception of the availability and significance of sustainable travel options. The results demonstrate whether consumers are increasingly inclined to support sustainable practices when provided with the necessary information and technologies that help them make environmentally responsible decisions.

Key words

sustainability, innovations, tourism industry, consumer behavior

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Introduction

Tourism is one of the fastest growing economic sectors and accounts for a significant part of the economy. It can bring many benefits to the host community. It stimulates the growth and development of the local economy, creates job opportunities and thus contributes significantly to increasing employment in the country. It is considered one of the most effective ways for a country to create jobs for vulnerable communities, marginalized groups and youth. The tourism system can also have a direct and indirect positive impact on nature and sustainable cultivation by supporting the need to preserve and protect the environment and cultural heritage, as well as the flora and fauna that live there. In addition, the influx of international travelers can also promote a positive image of the local culture among the population and help them to become aware of and appreciate it. Finally, they can increase the well-being of the population and the quality of life of the host community by ensuring access to local public goods and services. However, despite this potential, the ability of the tourism industry to contribute to these objectives can be compromised or overwhelmed. Sometimes due to the negative impacts of tourism, sometimes due to the poor implementation of inappropriate practices by its operators.

Tourism is currently experiencing a global boom, and as a result, more and more emphasis is being placed on minimizing its negative impact on the environment, society and the local economy. The term "sustainable tourism" is increasingly coming to the fore. Sustainable tourism focuses on the protection of communities' natural and cultural resources

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and the responsible use of resources to ensure long-term sustainability for future generations. The potential of a sustainable tourism model requires a range of concepts and models to be developed in relation to tourism practice. It should also be emphasized that the search for sustainable development also depends on the geographical distribution of tourism activities and on the typology of destinations. One of the ways to create more sustainable and environmentally responsible practices is through innovation and technological progress. New information technologies are revolutionizing the way services can be offered to visitors, giving them more information. An understanding of innovation and the process of change is essential if destination stakeholders are aimed to develop effective strategies.

1 Methodology

The main objective of the paper is to identify technological and innovative approaches that contribute to the transformation of the tourism industry towards greater sustainability, based on the review of theoretical approaches related to the issue of sustainable tourism and the conduct of primary research in the field of consumers. The first step of this paper was to collect and process secondary sources from specialized literature and online sources. The secondary sources served as a relevant basis for the construction of the primary survey, which was conducted by means of an electronic survey in the form of a structured questionnaire. The target group for the primary survey was Generation Z. A total of 100 people took part in the survey. Scientific methods of synthesis, deduction and analysis were used to process the secondary data. The questions asked were used to analyze the preferences of travelers, their willingness to pay for ecological services and their perception of the availability and importance of sustainable travel offers. When analyzing the primary data, we worked with graphical methods, mainly in the form of diagrams.

2 Results and Discussion

As a relatively new and emerging concept, sustainable tourism has become a key concern for governments, public institutions and the industry. This is due to a growing awareness of environmental issues and the social impact of certain forms of tourism development, as well as a changing demand for new leisure experiences from tourists themselves (Scott, 2021). However, the discrepancy between the need to adopt an attitude of genuine respect for the environment, culture and the local economy and its actual implementation needs to be addressed. This discrepancy is probably mainly due to the weak theoretical foundations of the concept and the vagueness of the development strategies of the study and intervention systems defined by different agents. Companies have a key role to play in the transition to a new economic paradigm that could achieve the goal of sustainable tourism development and profit, since typical system behavior involves the necessary learning. In this sense, several attempts have been made in management science to develop strategic approaches that not only help companies to proactively face the challenge of sustainability, but also to recognize the opportunity for strategic innovation based on competitiveness, not only on the economic level but also on the broader concept of sustainability (Ivars-Baidal et al., 2021). Sustainable tourism refers to the provision of operations that enable a destination to become a successful and viable long-term tourism destination while contributing to the well-being of the existing community and supporting the social and economic costs and values of future generations. It also contributes to both local and global sustainable development (Mathew & Nimmi, 2022).

At present, uncertainties about the path to sustainable service delivery, access to markets, competition and customer needs are still the biggest barriers to the adoption of innovative practices. Smart and data-driven technologies provide reliable, real-time data that enables faster and more informed decision making and is proven to bring greater benefits to businesses and host communities, as well as improving the visitor experience. Predictive data analytics, data-driven mobile apps, data collection and management, connected devices to improve service efficiency and integration with ICT platforms that can connect multiple "smart" components of destinations can facilitate the transition to more responsible and sustainable international travel. Visitors are the first stakeholders that benefit from sustainability improvements - the value for businesses and the host community is not always evident (Alsahafi el al., 2023). The quality of the destination is key for visitor satisfaction and even preserving the environment or ensuring local community well-being are vital for delivering a high-quality experience (Roxas el al., 2020).

2.1 Innovative Sustainable Tourism

Business benefits include the ability to differentiate and segment the market, the contribution to the company's financial performance and the opportunity to use innovation in sustainable tourism as a form of branding that enhances the reputation not only for activities in a chosen destination but also for the company's activities in other contexts (Abdi et al., 2020).

We highlight some specific examples of sustainable practices that illustrate the range of activities and impacts of sustainable tourism innovation. This provides insights into how and why companies are engaging with this agenda on a voluntary basis, without it being mandatory or required by law. The following section illustrates the range of innovative sustainable practices found in the literature at the corporate level, including demand management, the use of new technologies, training and community capacity building, product differentiation and prospector behavior.

Accommodation and related activities are responsible for 75% of carbon emissions in tourism. One of the most effective ways to reduce emissions is to reduce energy consumption. It is also possible to avoid the use of materials that affect air quality and use less energy for activities related to the accommodation. Nowadays, there are many innovative accommodations and hotels that are eco-friendly and environmentally conscious. Such solutions can be implemented in existing buildings, which can be renovated to reduce the ecological footprint (Baumber et al., 2021).

Sustainability in tourism also includes environmentally friendly transportation options. For example, renting electric cars or using public transportation and bicycles are good alternatives for tourists traveling to their destination. In this context, it is also possible for national authorities or destination administrations to introduce new electric transportation options or improve the existing public transport system. An important next step is measures that incentivize and strengthen carpooling, so that the car rental company is not just a renter, but also a passenger (Jelti et al., 2023).

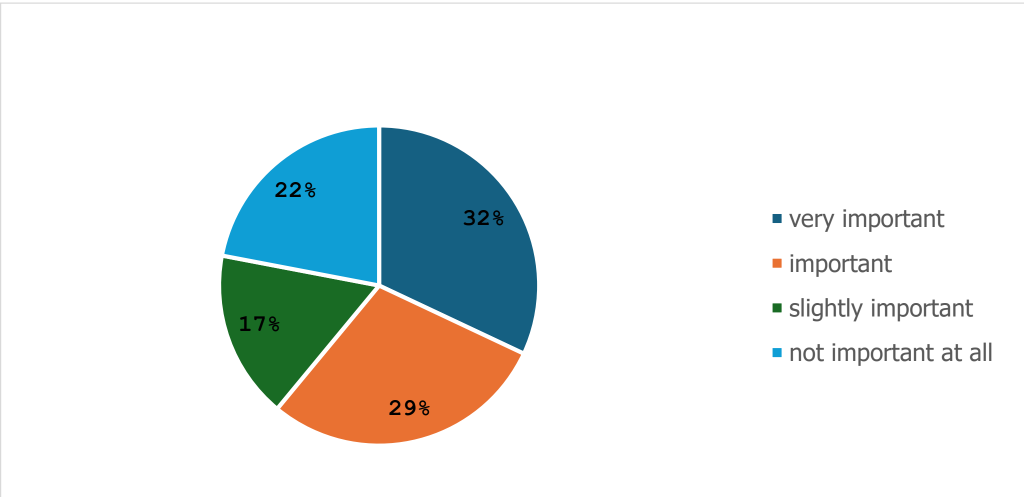
Technology-enabled innovation has become a passive part of strategic business growth, and managing the technological innovation process is an essential activity for all companies. To grow, companies must invest responsibly and accept innovation as part of the business. Companies need to introduce public and formal strategies and projects by developing a mechanism that is systematically involved in the process. In the global environment, there are numerous technological, organizational and market changes that have a direct impact on companies. In this regard, the implementation of technological innovations is of paramount importance to the process and dissemination of services offered to tourists. Investing in the research and development of innovations that can be used in this process can make the difference in the quality and satisfaction of domestic and foreign tourists (Streimikiene et al., 2021).

The starting point for promoting innovation in any company is to overcome the obstacles that hinder the development of innovation within the company's initiatives. It is of the utmost importance for company management to understand what these obstacles are in order to understand how to turn them into opportunities. A company must devote adequate time, interest and capital to the innovation process and not simply invest passively in information technologies without expecting a return. The existence of these obstacles is an important prerequisite when confronted with them and enables companies to deal with them effectively. This can only be fostered by the active role of management. The process of innovative development is multi-faceted and requires a high level of knowledge and investment, but also offers benefits such as improving the generation and use of management information and achieving an integrated system view and alignment between all functions of the organization (Gherghina et al., 2020).

2.2 Results of structured questionnaire

Based on the questionnaire, it can be seen that most respondents (35%) travel once a year. When choosing a destination and tourism services, 78% of respondents consider the sustainability factor to be important (graph 1). 64% of respondents are willing to pay more than 10% for sustainability-related services.

Graph 1 How important is sustainability for you when choosing a destination or tourist services?

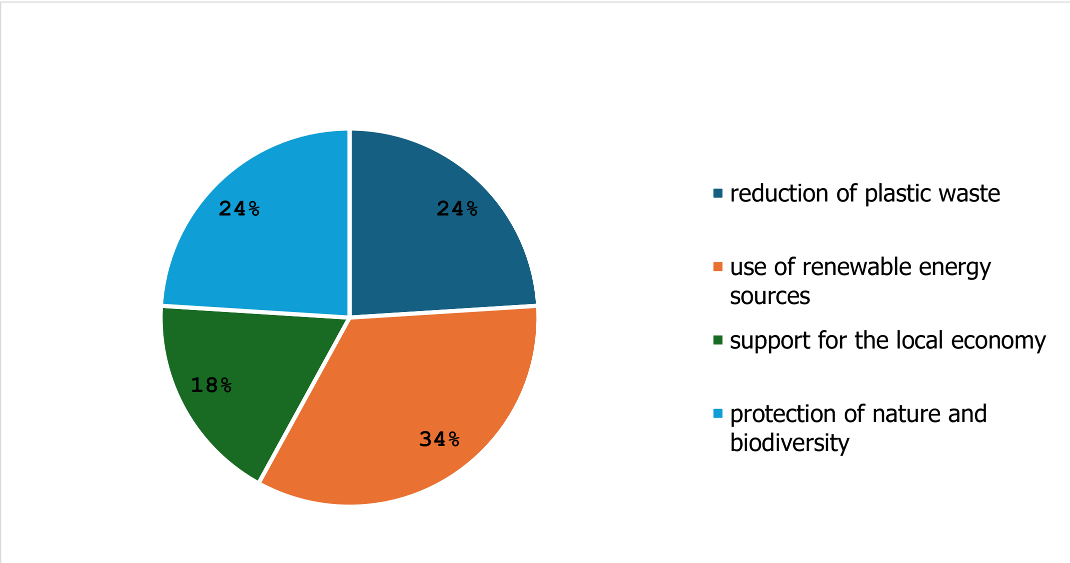


Source: own processing

The most common actions respondents are willing to take in relation to sustainability include using public transport (29%) and recycling (27%). Green hotels and supporting local businesses are less favoured (around 20%). This result corresponds with the results showing what information respondents are looking for in relation to sustainability in tourism. They are most interested in eco-oriented transportation (28%) and ecological activities (26%). They are less interested in eco-hotels and tips to reduce their carbon footprint (24% and 22%). Respondents rated the availability of information on opportunities and innovations in tourism from a sustainability perspective, with most of them (32%) rating availability as average.

Graph 2 discusses measures for sustainable travel. The use of renewable energy sources is considered most important by 34% of respondents, while reducing plastic waste and protecting biodiversity are considered equally important by 24%. Supporting the local economy is most important to 18% of respondents.

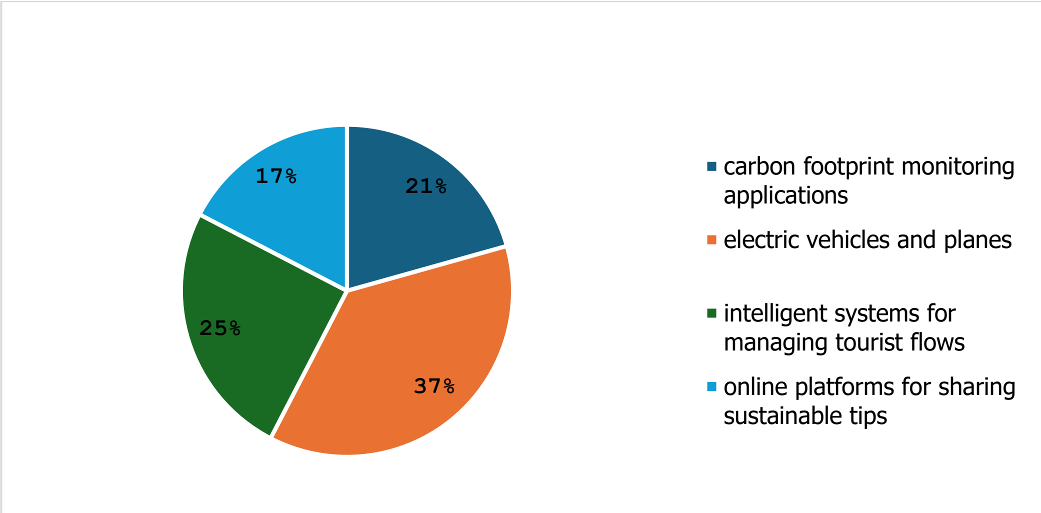
Graph 2 Which of the following measures do you consider most important for sustainable travel?



Source: own processing

Respondents were asked to give their opinion on which technological innovations in tourism are the most sustainable. Electric vehicles and airplanes are considered by 37 % of respondents as the most sustainable contribution to sustainability. Online platforms and smart tourist flow management systems received similar preferences (25% and 21%), while carbon footprint monitoring applications were favoured by 17% (graph 3).

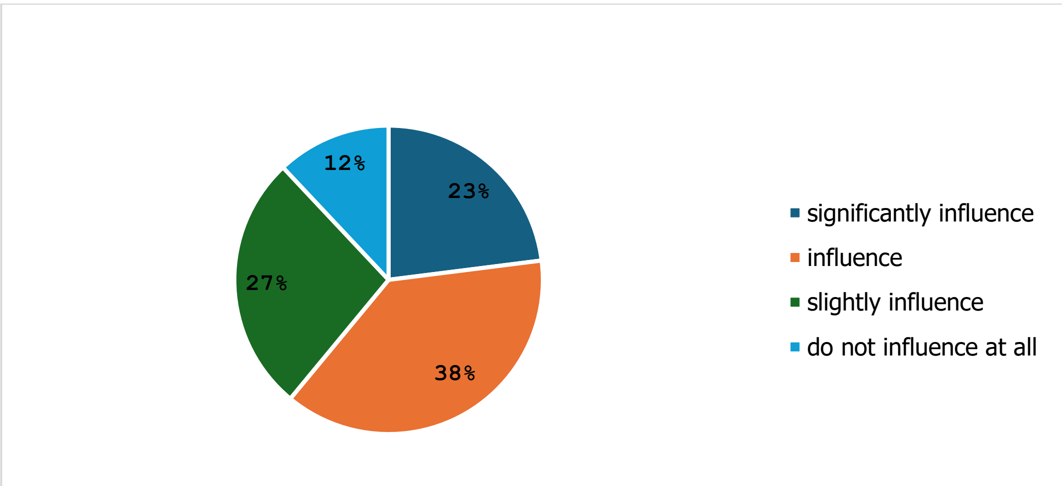
Graph 3 In your opinion, which technological innovations have contributed the most to sustainability in tourism?



Source: own processing

Graph 4 looks at the influence of technology on respondents' decision-making. Technology strongly influences the decision-making of 23% of respondents, while 38% say it influences them, 27% feel less influenced and 12% do not feel influenced at all.

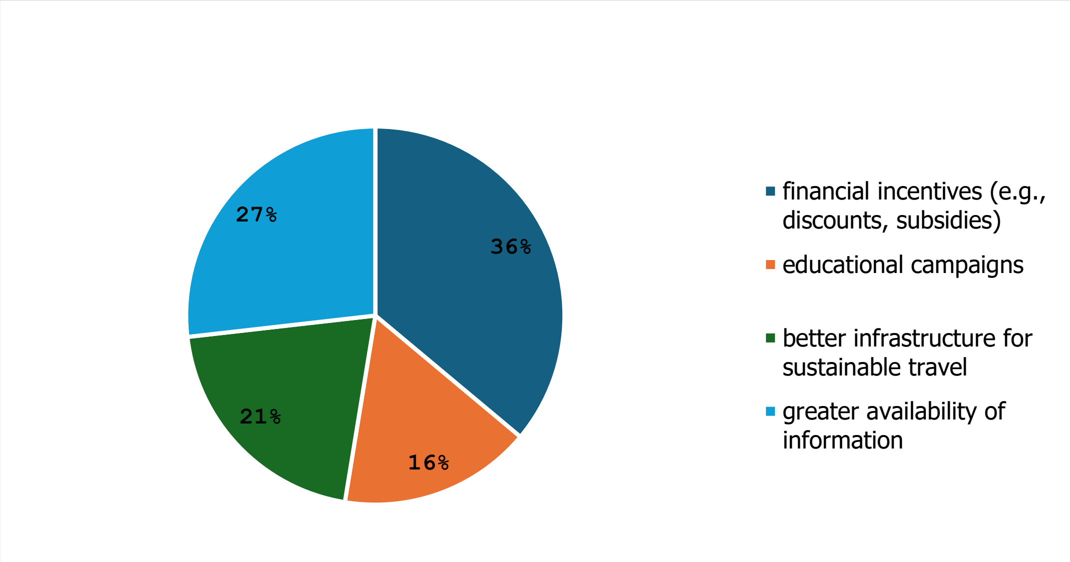
Graph 4 How do innovative technologies (such as applications for reducing ecological footprint, smart systems in hotels, etc.) influence your travel decision-making?



Source: own processing

In terms of supporting sustainable travel, respondents see the greatest potential for increasing interest in tourism in financial incentives (36%), followed by better availability of information (27%) and better infrastructure (21%) (graph 5).

Graph 5 What do you think could most contribute to increasing tourists' interest in sustainable travel?



Source: own processing

Conclusion

Innovation is driving change in many areas of the tourism industry's structure, operations and new offerings. Technological progress is probably the most visible dimension of innovation. Artificial intelligence, the Internet of Things, robotics, virtual and augmented reality, blockchain, biometric recognition, voice-activated search and automation, and big data analytics are leading the way and are rapidly being applied to industry functions, hosts and destinations to improve operations and customer service. A key effect of technology is that it is ubiquitous and has an immediate impact on operations across the tourism industry. Interestingly, environmental and climate issues are proving to be the main drivers for the adoption of these technologies, leading to an improvement in the efficiency of production processes and more sustainable tourism.

The results of this study point to a rising tendency among customers who, given the proper information and tools, are willing to support environmentally friendly tourism practices. By empowering travelers to make eco-friendly decisions, these materials highlight the critical role that innovation plays in transforming the travel industry into one that is more sustainable. The possibility for widespread adoption of eco-friendly behaviors becomes more evident as awareness and availability to sustainable solutions rise, opening the door for more conscientious and responsible travel. This change is good for the environment and promotes a more sustainable industry as a whole.

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Literature review of scientific knowledge on wine tourism [1]

Vanesa Pospíšilová [2]

Abstract

The aim of this article is to provide a literature review of the scientific knowledge dealing with wine tourism. To create this review, we used a bibliometric analysis applied to 817 studies on wine tourism published in the Web of Science database. In analyzing these studies, we focused on authors, document types, years of publication, countries of origin, institutions and publishers. The article provides an overview of publications published between 2000 and 2024, with the highest number of scientific studies published in 2019. Spain and Australia are among the leading countries in terms of publications on wine tourism. The literature review can serve academic researchers studying wine tourism, as well as students, winemakers and tourism entrepreneurs, wine organizations or the general public.

Key words

wine tourism, wine industry, bibliometric analysis

JEL Classification: L66, L83

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Introduction

In the mid-1990s, academic interest in the field of wine tourism grew, when the number of published papers began to increase. Studies from Australia and New Zealand dominated these years, with a long history of research on the wine sector and tourism (Gómez et al., 2018). In their study, Mitchell and Hall (2006) found that a significant expansion of studies occurred in the 2000s. They identified that scholarly publications have predominantly addressed 7 main areas: the wine tourism product and its development, wine tourism and regional development, the winery visitor segment, the size of the winery visitation market, the nature of the visitor experience, the behavior of winery visitors, and the biosecurity risk posed by visitors.

In the context of other wine tourism research, the issues of supply-side destination development and consumers' understanding on the demand side are also beginning to be recognized (Carlsen, 2004; Ferreira, 2020). Wine tourism contributes to regional development through increased visitation to wine producing areas and this results in higher wine sales. Therefore, it is necessary to address this topic at the scientific level and identify possible gaps and further contribute to the development of wine tourism itself (Gómez et al., 2018). Currently, it is one of the most promising forms of tourism because it is characterized by shorter duration but greater frequency of visits and is closely related to the experience (Marco-Laraja et al.,2023).

[1] PMVP I-24-112-00 "Branding of wine products in the conditions of the Slovak market and its influence on consumer behavior"

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1 Methodology

The aim of this article is to provide a literature review of the scientific knowledge dealing with wine tourism. The data source for this article was the Web of Science Core Collection article database (hereinafter referred to as WoS database), which is one of the world's major citation databases. This database primarily contains a searchable list of articles published in the world's most influential journals or provides access to proceedings from prestigious international conferences and books (Web of Science, 2024a). The scientific knowledge of wine tourism is based on publications, so it is necessary to create a systematic review of the knowledge collected and published so far in order to understand this area of tourism. Bibliometric analysis was the main method used to create the review of published knowledge. As Bajerski and Siwek (2012) state, bibliometric analysis can be described as "the analysis of formal flows of scientific communication expressed primarily in professional publications". Říkovský (2023) defines it as an analysis that examines the relationships between publications and authors based on bibliographic references, period and place of publication. Thus, publication performance between authors, countries or institutions themselves can be evaluated.

As mentioned earlier, we chose the Web of Science Core Collection as the source database for the results, and we chose to examine publications dealing with wine tourism. When filtering the data in the database, we selected the advanced search option, which we modified:

TS= (wine NEAR/0 tourism)

Based on this, we obtained data of publications dealing with the "TOPIC" (abbreviated TS in the database) of wine tourism. The "TS" in the WoS database captures the publication *title, abstract and keywords*. To narrow the results, we added the abbreviation NEAR/0 between the words wine and tourism, which resulted in only valid records that did not include any other words being displayed. In other words, there was no gap between the two chosen words and the words had to be used in the "TS" immediately next to each other, thus we collected data dedicated only to wine tourism. We then processed the final results in VOSviewer, a program that creates map visualizations based on network data (VOSviewer, 2017).

2 Results and Discussion

We evaluated the literature review of scientific knowledge on wine tourism through bibliometric analysis based on several attributes. We examined the collected data with an emphasis on identifying the main authors working on wine tourism and the years of publication. Within the scientific knowledge itself, we drew attention to the origin of the publications, within which we also defined the institutions and publishers. We also focused in more detail on identifying the type of documents that appear most frequently in the WoS database regarding the topic of wine tourism.

We found that among all types of published documents on wine tourism, articles are the most frequent, with up to 660 articles in the WoS database, which represents up to 74%

of all publications. Proceeding Papers (105 papers) have the second largest representation with 12%. Book Chapters have a representation of 5% with 45 chapters on wine tourism. Other paper types include Early Access (25 records), Review Article (24 records), Book Review (19 records) and Editorial Material (8 records).

2.1 Authors and years of publication

First of all, when evaluating the data collected, we gathered authors who publish in the topic and are dedicated to the field of wine tourism. The list of authors can be found in Table 1.

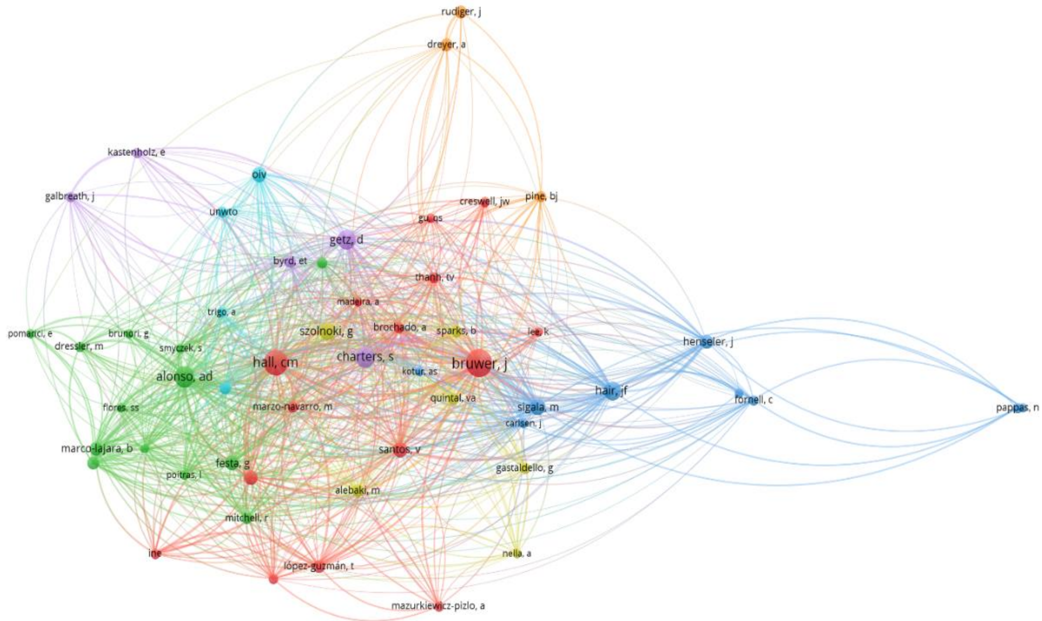
Tab. 1 Authors and number of publications in wine tourism

Author/Researcher	Record Count	Country
Alonso, Abel Duarte	32	Vietnam
Bruwer, Johan	19	Australia
Kastenholz, Elisabeth	19	Portugal
Kok, Seng	12	Australia
Santos, Vasco	11	Portugal
Marco Lajara, Bartolome	10	Spain
Martínez-Falcó, Javier	10	Spain
Festa, Giuseppe	9	Italy
Charters, Steve	9	Australia
Ramos, Paulo Matos Graça	9	Portugal
Hall, Colin Michael	9	New Zealand
Ruediger, Jens	8	Germany
Carneiro, Maria Socorro Souza	8	Portugal
Valduga, Vander	8	Brazil
Tafel, Maximilian	8	Germany
Alessandro Bressan	8	Italy
Szolnoki, Gergely	8	Germany
Back, Robin M.	8	USA
Lopez-Guzman, Tomas	7	Spain
Gómez-Rico, Mar	6	Spain
Fountain, Joanna M	6	United Kingdom
Sousa, Bruno Miguel Barbosa	6	Portugal
Cunha, Diana	6	Portugal
Breda, Zelia	6	Portugal
Joukes, Veronique	6	Portugal

Source: own processing according to Web of Science (2024b)

Among 1597 all authors who are engaged in the scientific studies of wine tourism, we have listed the 25 main authors with the largest number of publications. For the authors, we also placed emphasis on the country in which the authors are currently based. Abel Duarte Alonso has the highest number of publications in the field of wine tourism with 32 as of June 2024. The author has studied in New Zealand and the USA and is currently based at RMIT University in Vietnam (RMIT, 2024). A total of 19 publications have been published on wine tourism by Australian author Johan Bruwer and Portuguese author Elisabeth Kastenholz. Johan Bruwer is also Editor-in-Chief of the International Journal of Wine Business Research and a board member of the Academy for Wine Business Research (UniSA, 2024). Among the top 25 authors who work on wine tourism, up to 8 are based in Portugal, 4 in Spain and 3 in Australia. Countries such as Germany, Italy, New Zealand, the United Kingdom, Brazil and Vietnam are also represented.

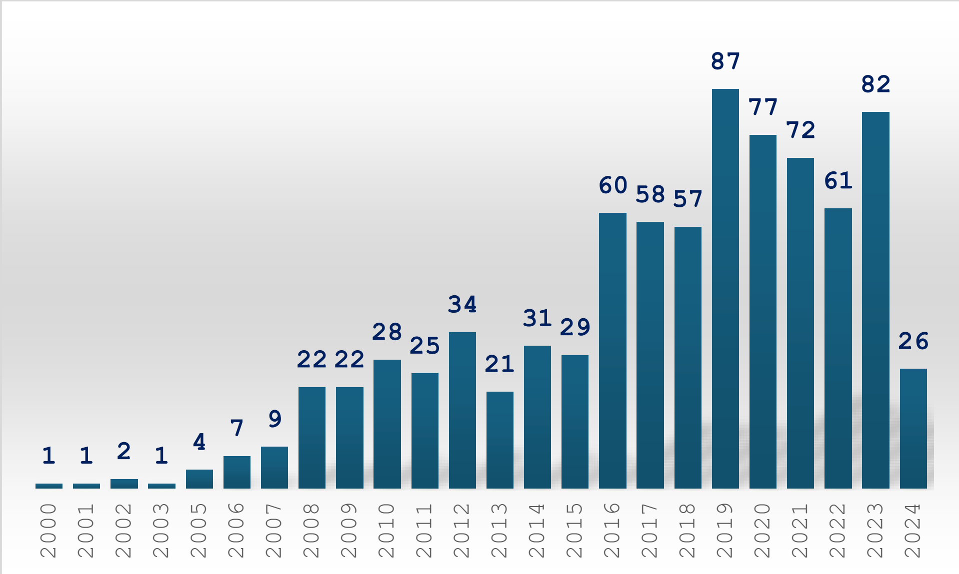
Fig. 1 Co-citation network map for authors with a minimum of 5 citations



Source: own processing in VOSviewer

We analyzed the co-citation relationships between authors in more detail in Figure 1. A co-citation is a link between two authors who are cited in one document at the same time. Based on this analysis, we found that the authors with the highest number of co-citations were Johan Bruwer and Collin Michael Hall. Authors Abel Duarte Alonso and Donald Getz are also among the top co-cited authors. Donald Getz is not represented in Table 1, but he has 4 publications on wine tourism in the WoS database. In the comparison of the number of publications and co-citation analysis, we found a directly proportional relationship where the authors with the most publications are also among the most co-cited. Similar findings were reached by Marco-Laraja et al. (2023), who identified Johan Bruwer and Abel Duarte Alonso as the most influential authors.

Graph 1 Number and years of publications in wine tourism



Source: own processing according to Web of Science (2024b)

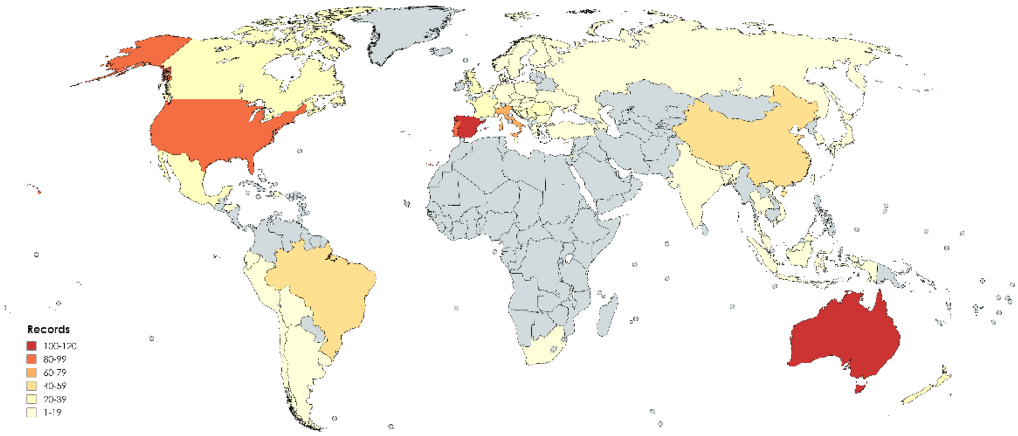
Graph 1 tells us how many publications have been published on the topic wine tourism in a given year. Authors started to focus on this topic more in 2000, when they gradually started to publish studies in the WoS database. At the beginning of the 2000s, the minimum number of publications was devoted to the issue. Between years 2008 and 2015, the number of scientific literature increased and ranged from 21 to 34 publications per year. There has been a more significant increase in 2016, since the area of wine tourism has been more extensively researched. So far, the highest number of publications was in 2019 with a peak of 87 publications and the more significant year in the number of published literature was 2023 with 82 publications. In 2024, only the first 6 months are captured in the graph and not the full year, hence the number is significantly lower.

2.2 Origin of publications, institutions and publishers

In terms of the bibilometric analysis, we also focused on identifying the origin of the publications, i.e. in which country the studies were published. Closely related to the origin of the publications are the institutions under which the publications were covered or at which the authors of the literature are based. We have also chosen to record the publishers who have published scientific knowledge on wine tourism so far.

In order to better show the intensity of representation of the countries that have been most involved in wine tourism research, we have projected the collected data onto a map in which the countries are marked. A map of the grouped countries dealing with the topic is shown in Figure 2. The intensity of publications is shown by a colour scale, with the red colour showing the countries with the highest number of publications and the pale yellow colour showing the countries with the lowest number of publications. Countries that have not published any literature on the topic of wine tourism in the WoS database are represented in grey.

Fig. 2 Number of records by countries



Source: own processing in MapChart

Spain is the country with the highest number of wine tourism publications with number 120 so far. In recent years, this position has been occupied by Australia, which came second behind Spain with 118 publications. Spain overtook Australia in 2024 by just two scientific publications. Approximately 30% of all published scientific knowledge in the field of wine tourism comes from Spain and Australia. Portugal and the USA ranked third with the highest intensity of records, both recording 93 publications as of mid-2024. Portugal and the USA account for approximately 20% of wine tourism scientific publications. Italy completes the top five countries with 75 records. The WoS database records a total of 5 publications from Slovakia, with Austria, Ukraine, Israel and Taiwan at the same level of studies. In the Czech Republic, 17 publications are currently registered. A total of 67 countries from all over the world are dealing with wine tourism topics, and these countries are captured in Figure 2. Europe, Australia and America have a significant representation among the observed countries. An interesting finding is that in Africa, only South Africa is researching wine tourism in terms of the WoS database, with 17 publications, as well as Czech Republic and Greece.

Tab 2. Institutions publishing in wine tourism

Institution	Record Count	Country
Universidade de Aveiro	31	Portugal
Edith Cowan University	29	Australia
Curtin University	19	Australia
University of South Australia	18	Australia
State University System Of Florida	17	USA

University Of Adelaide	16	Australia
University Of Tras Os Montes Alto Douro	13	Portugal
California State University System	12	USA
Hong Kong Polytechnic University	12	Hong Kong
Royal Melbourne Institute Of Technology Rmit	12	Australia
Texas Tech University	12	USA
Texas Tech University System	12	USA
Universidad De Cordoba	12	Spain
Universitat D'Alacant	12	Spain
University Of Central Florida	11	USA
Universidad Autonoma De Baja California	10	Mexico
University Of Canterbury	10	New Zealand
University Of Salerno	10	Italy
Griffith University	9	Australia
Instituto Universitario De Lisboa	9	Portugal
Lincoln University New Zealand	9	New Zealand
Universidad De Castilla La Mancha	9	Spain
Universidade Da Beira Interior	9	Portugal
Universidade Do Porto	9	Portugal
Universidade Fernando Pessoa	9	Portugal

Source: own processing according to Web of Science (2024b)

A total of 792 institutions, mostly universities, are dealing with the topic of wine tourism. Table 2 shows the 25 institutions with the highest number of literature published on wine tourism, with the country in which the institution is located. Among the institutions under the auspices of which the scientific literature on wine tourism is published, the Universidade de Aveiro in Portugal is in first place, with 31 published studies. The other three top positions were occupied by Australian universities: Edith Cowan University (29 records), Curtin University (19 records) and the University of South Australia (18 records). Institutions from the USA, Spain and New Zealand also have an important presence. Comparing the results from Figure 2 and Table 2, we found that although Spain has the highest number of publications in wine tourism, there are only 3 Spanish universities among the 25 most represented institutions, with a total of 31 records. On the other hand, the country with the second highest number of publications was Australia, whose institutional coverage within Table 2 is captured by no less than 6 universities, as well as Portugal, which occupied the third position. Thus, we assume that within Spain there are several institutions dedicated to wine tourism, each with a smaller number of publications, while in Australia there are fewer universities dedicated to the topic, but with a higher intensity of publications.

There are a total of 149 publishers who publish wine tourism literature. The largest contributor in terms of publications is Emerald Group Publishing, which has published 127 studies so far, representing a 15.5% share among all publishers. The second most influential publisher on the topic of wine tourism is Taylor & Francis with 88 publications. Other important publishers include Elsevier (73 studies) and Mdpi (60 studies). These four largest publishers have a common share of 42.3% in the number of all published literature in wine tourism that are registered in the WoS database. Since scientific articles are predominant among the types of published studies, we also looked at scientific journals in which authors publish their wine tourism findings. There are 353 scientific journals within the WoS database. Leading journals that publish wine tourism studies include:

- International Journal of Wine Business Research (61 articles)
- Sustainability (45 articles)
- Pasos Revista de Turismo y Patrimonio Cultural (27 articles)
- Tourism Analysis (17 articles)
- Bio Web of Conferences (16 articles)
- Current Issues in Tourism (15 articles)
- International Journal of Contemporary Hospitality Management (15 articles)
- Tourism Management (15 articles)

In future research on the subject, it would be appropriate to perform the same bibliometric analysis, but the data would be obtained from another major database, Scopus. The bibliometric analysis would follow the same procedures and would also focus on identifying the authors who are most involved in wine tourism and the years in which the studies were published. We would focus on the analysis of the countries of origin of the publications, the institutions and publishers that cover the topic. We could then compare the findings with our study, or merge some of the findings to create a more comprehensive view of the literature review of wine tourism scientific knowledge.

Conclusion

We have succeeded in fulfilling the main objective of the article, which was to provide a literature review of the scientific knowledge dealing with wine tourism. We gathered the data from the Web of Science Core Collection article database. After sorting the data, we worked with a total of 817 publications released in the WoS database on the topic of wine tourism, which were then elaborated using bibliometric analysis. The literature review can serve academic researchers studying wine tourism, as well as students, winemakers and tourism entrepreneurs, wine organizations or the general public.

We found among all 817 publications, up to 660 were scientific articles, which accounted for 74% of all publications. A total of 105 publications (12%) were Proceeding Papers. We further focused on identifying the authors who are most intensively involved in the field, and we also detected in which countries they are currently working. At the same time, we examined how many scientific papers were published in each year.

Around 1597 authors have published on the topic of wine tourism in the WoS database. The author Abel Duarte Alonso, currently based in Vietnam, has the highest number of publications in the field of wine tourism with 32. A total of 19 publications have been published on wine tourism by Australian author Johan Bruwer and Portuguese author Elisabeth Kastenholz, who together share second place in the number of studies published. Of the top 25 authors working on wine tourism, no less than 8 are based in Portugal, 4 in Spain and 3 in Australia. When analysing the co-citation of authors in a single study, the most prominent authors were Johan Bruwer, Collin Michael Hall, Abel Duarte Alonso and Donald Getz. The authors have been publishing scientific literature since 2000, when the number of studies dealing with wine tourism began to increase gradually. The highest number of published studies was recorded in 2019, when 87 papers were published.

The country with the highest number of 120 wine tourism publications was Spain. In recent years, this position has been occupied by Australia, which came second behind Spain with 118 publications. Portugal and the USA ranked third with the highest intensity of entries, with both countries registering 93 publications. In the WoS database, we recorded a total of 5 publications from Slovakia, with Austria, Ukraine, Israel and Taiwan in the same position. In total, 792 institutions, mostly universities, are working on the topic of wine tourism. The Universidade de Aveiro in Portugal came first with 31 published studies. The next three top positions were occupied by Australian universities: Edith Cowan University, Curtin University and the University of South Australia. Among the institutions with the highest number of publications, Australia and Portugal predominate. Given that Spain has the highest share in the number of publications, we assume that the subject is addressed by several institutions, but with a lower intensity of studies within a single institution.

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Foreign Direct Investment between the European Union and New Zealand[1]

Patrícia Sajková[2] – Elena Kašťáková[3]

Abstract

Foreign direct investment plays a key role in the economic development of the country, contributing to technological progress, job creation and overall economic growth. The aim of the contribution was to evaluate the investment activity between the EU and New Zealand. For New Zealand, foreign investment is essential to maintain and improve the international competitiveness of New Zealand businesses. Foreign investment contributes to regional development and job creation, with one in five New Zealanders working in a business that is partly funded by foreign direct investment. The biggest investors in New Zealand are Australia and the EU. New Zealand is a traditional importer of capital, which supports the internationalization of its economy and improves competitiveness. At the same time, the Free Trade Agreement between the EU and New Zealand (2024) the same conditions for investors in both territories began to apply, so it is the most favorable time for mutual investment.

Key words

EU, foreign direct investment, New Zealand

JEL Classification: F10, F15, F19

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Introduction

One of the ways for nations to develop their economy and create solid international bonds is through foreign direct investments (FDI). The European Union's (EU) and New Zealand's relationship through foreign direct investment is a great illustration of this. Due to their reputation for having open markets, the EU and New Zealand are both desirable locations for companies looking to grow and invest. A major milestone in this partnership is the recently established EU-New Zealand trade agreement (FTA). One of the main purposes of this agreement is to make it easier for investors from the EU to do business in New Zealand and the other way around, by making sure that EU investors receive the same treatment as local investors in New Zealand, it creates easier establishment and operation of their enterprises. The FTA encourages a more transparent and competitive market by eliminating many of the obstacles that investors usually come across. The FTA is also progressive. It has a clause that states that investors from the EU and New Zealand will automatically profit from

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any additional investment possibilities or market openings agreed upon in future trade agreements. This implies that both parties will continue to gain from new opportunities which will help to maintain the agreement's relevance and long-term value.

1 Methodology

This contribution was made to assess the foreign investment between the EU and New Zealand. Emphasis was placed on obtaining relevant information from a variety of sources while using the selection method. The report has a broad literature review to ground the research in existing knowledge and theories. Sources include policy documents and economic reports that discuss FDI, the economic impact of FDI, and the specific investment environments in New Zealand. Key references include trade policy documents from the European Commission and New Zealand's economic strategy papers. Analysis of policy frameworks, including the EU-New Zealand Free Trade Agreement (FTA), provides an overview of how the regulatory and policy environments shape FDI flows.

2 Results and Discussion

Foreign direct investment (FDI) is crucial for the economic development of the host country, fostering technological innovation, creating job positions, and driving overall economic growth.

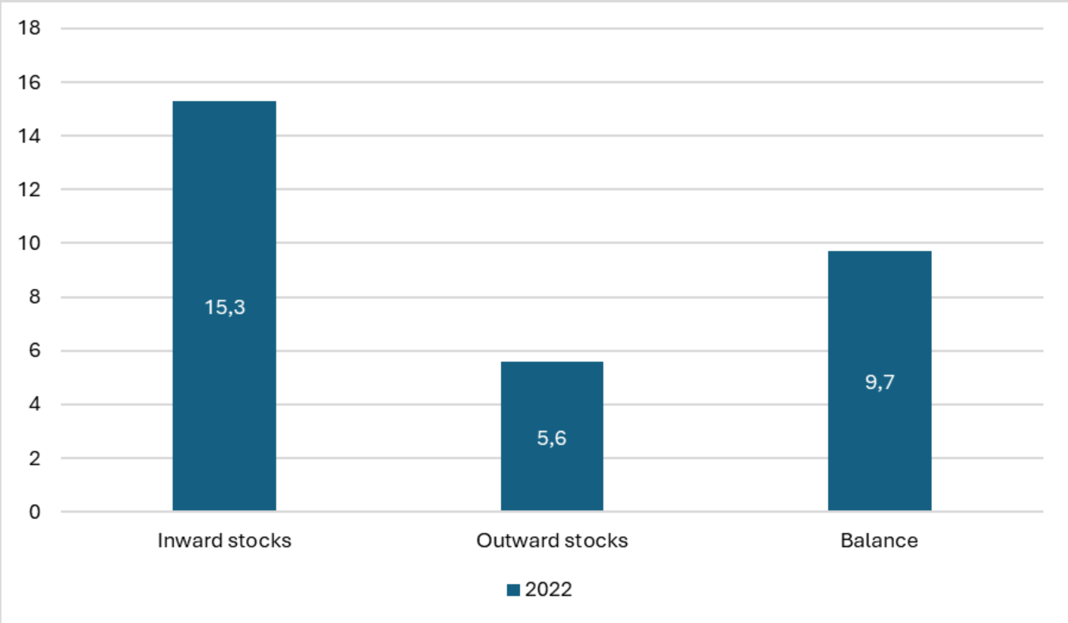
The European Union is one of the main destinations for FDI in the world. Investment in the EU represents access to a highly integrated market of around 500 million consumers and investment opportunities. Several platforms provide advice and assistance to businesses and investors who are established or wish to establish themselves in the EU market (European Commission, 2024a).

New Zealand maintains strong connections with both individual European nations and the European Union as a whole. These relationships range from newly established partnerships to long-standing ties. European countries are New Zealand's most noteworthy science and innovation partners. More than half of New Zealand's researchers have an active collaboration with a European partner (MFAT, 2024).

Foreign investment is key for maintaining and improving New Zealand businesses' international competitiveness; therefore, more foreign investment is needed for economic growth, regional development, and job opportunities. Interestingly, one in five New Zealanders work in a firm that is partly funded by FDI (BusinessNZ, 2016).

In terms of FDI in New Zealand, Australia invests the most by a significant margin, but the EU is also an important investor. At the end of 2015, the total EU investment in New Zealand was approximately NZD 8.3 billion, which was almost 9 % of all foreign investments in New Zealand. The UK accounted for the largest share of this investment with about NZD 4.2 billion, followed by the Netherlands with approximately NZD 3.5 billion. In terms of investment from New Zealand, the EU was the third most important destination. The total amount of New Zealand investment in the EU at the end of 2015 was approximately NZD 2.9 billion, which made up 11.4 % of all money that New Zealand had invested abroad. More than half of New Zealand's investment in the EU was directed to the UK (GIGA, 2016). In 2021, the EU was the second-largest source of FDI in New Zealand, with stocks of EU FDI amounting to approximately NZD 15.08 billion. In the same year, the stock of New Zealand's investments in the EU was worth about NZD 7.5 billion (European Commission, 2024b). In 2022 stocks of EU FDI in New Zealand came to about NZD 15.3 billion. On the other hand, the total amount of New Zealand FDI in the EU was approximately NZD 5.6 billion (European Commission, 2023e).

Graph 1 Foreign direct investment New Zealand and EU, NZD billions



Source: European Commission, 2023

New Zealand has traditionally topped world rankings on competitiveness and economic freedom. As an example, the Ease of Doing Business Index has ranked New Zealand at number one for many years in a row. New Zealand is followed by Singapore, Hong Kong, Denmark, and Korea (The World Bank, 2024).

The Ease of Doing Business Index provides a powerful measure of a country's economic competitiveness by assessing the regulatory environment and the ease of conducting various business activities in each country. Its importance lies not only in its ability to attract foreign investments but also in its potential to stimulate domestic entrepreneurship, foster innovation, and ultimately contribute to a country's overall economic growth. New Zealand's success is the result of careful policy planning, active management, and a commitment to continuous improvement. One of the reasons for New Zealand's high ranking is its straightforward business registration process. Entrepreneurs can register a new business online in a matter of hours thanks to the government's commitment to embracing technology. This approach not only encourages domestic entrepreneurs to start businesses but also sends a positive signal to potential foreign investors. Connected to this is the overall use of digital technology in New Zealand, which makes it easier to do business. Government services that are available online simplify the administrative processes. Online platforms provide access to essential information and services and allow businesses to easily navigate regulatory requirements. Consequently, New Zealand also excels in the simplified process of obtaining building permits which contributes to a dynamic real estate sector and accelerates urban development. Clear guidelines, effective communication, and digital platforms play a key role in speeding up the process. Further, New Zealand's investor-friendly regulations with a strong legal framework provide a safe environment for both businesses and investors. Another fact is that minority investor protection is an important aspect of the country's legal system, ensuring fair treatment and transparency. This encourages both domestic and foreign investors to allocate capital to businesses in the country. Another advantage is New Zealand's tax system, which is very simple and transparent. The tax authority's focus on digital services, accessible information with clear tax guidelines making it easier for businesses to meet their tax obligations. This minimises the administrative burden but also promotes a culture of tax compliance, improving the overall economic environment. Not to forget, New Zealand's strategic geographic location and well-developed transport infrastructure facilitate international trade. Without a doubt, efficient customs procedures, and modern ports help to reduce trade barriers and attract businesses seeking access to global markets. Yet New Zealand's high ranking in the Ease of Doing Business is also driven by a culture of innovation and collaboration. The government actively supports research and development through grants and incentives, creating an environment in which businesses thrive at the cutting edge of technology. This focus on innovation enhances the country's global competitiveness (Staff, 2023).

While New Zealand's top ranking is impressive, it is not without any challenges. The country must continue to adapt to evolving economic conditions and address issues such as sustainability and social responsibility. Maintaining a balance between a favourable business environment and higher societal goals requires constant policy adaptation (Staff, 2023).

Another advantage of doing business in New Zealand is that it offers permanent residency for investors over NZD 1.5 million, but English proficiency and a minimum of five months of residency are required. For investors over NZD 10 million, there is no need for English language skills, and it is sufficient to spend only 44 days out of three years in New Zealand (CzechTrade, 2023).

Areas of investment in New Zealand that are aligned with its natural resources, innovation, and market requirements include (MZVaEZ, 2023):

- Agri-food: New Zealand is known for its quality agriculture and agri-food industry. There is no doubt that there is potential for investment in growing, processing, and exporting agricultural products and food. This includes, for example, livestock farming, dairying, winemaking and fishing;
- Tourism: the country is a popular tourist destination with beautiful scenery, an active lifestyle, and cultural heritage. Investments in the hotel and hospitality industry, tourism infrastructure, and adventure activities will continue to have great potential in the future;
- Information technology and software development: New Zealand has a dynamic and innovative information technology sector. Investment in software development, artificial intelligence, cyber security, and digital solutions is promising. A talented workforce and a supportive business environment are a plus;

- Renewable energy: the country has an abundance of renewable energy sources such as hydropower, geothermal, and wind energy. Investments in renewable energy and energy efficient technologies help achieve sustainability and reduce greenhouse gas emissions;
- Biotechnology and biomedicine: New Zealand has a strong biotechnology and biomedical research sector. Research and development investments in the health, pharmaceutical, biologics, and biopharmaceutical industries have a high potential to deliver innovative solutions and benefits to the global market;
- Construction and infrastructure: strong growth in New Zealand's construction sector. The strong growth in the New Zealand construction and infrastructure sector is linked to population growth and urbanisation, and therefore investment in residential construction, transport infrastructure, energy, and telecommunications are very welcome.

As we mentioned above New Zealand offers a well-connected and fast-growing technology sector that thrives on addressing global challenges. Therefore, we also outlined more reasons to invest in New Zealand technology companies (Ministry of Business, Innovation and Employment, 2019):

- Strong linkages to the US and Asian markets and a complete network of FTAs,
- particularly in the Asia-Pacific region;
- Stable environment for low-cost start-ups;
- A growing, highly educated workforce with global competitiveness;
- Secure, established financial markets;
- Government funding to support research and development, training and
- international growth;
- A rich history of world-renowned innovation.

Negotiations for a trade agreement (FTA) between the EU and New Zealand started in June 2018 then on 30 June 2022 the deal was announced by President von der Leyen and New Zealand Prime Minister Ardern. The agreement was signed by both parties on 9 July 2023 and came into force on 1 May 2024. The EU-New Zealand FTA was designed to help investment between the EU and New Zealand. It ensures that EU investors in New Zealand receive equal treatment to local investors, allowing them to establish and operate their businesses freely in each other's territories. Both the EU and New Zealand have agreed to commitments that exceed standard trade practices. They refrain, with few exceptions, from imposing specific conditions that could hinder investments and will not impose nationality requirements for specific key positions at companies owned by the other Party. The EU and New Zealand have also committed to extend to each other any future opening of investment markets agreed in subsequent FTAs. EU investors will automatically enjoy the same advantages as those given to future trade partners by New Zealand. (European Commission, 2024c).

It is said that EU investment in New Zealand has the potential to grow all the way up to 80 % (European Commission, 2024c).

New Zealand welcomes sustainable and productive foreign investment that benefits the country. In most cases, investment can freely and easily occur. Some foreign investments can cause risks and for these types of investments, consent from the New Zealand authorities will be required before the investment can take place. Consent is required for investment in sensitive assets which are: sensitive land, significant business assets, and fishing quota. Investments requiring consent can include buying or acquiring a sensitive asset, leasing a sensitive asset for more than three or ten years, acquiring shares or securities in an entity owning sensitive assets, or initiating a takeover of a sensitive asset. In addition, consent will be required if the transaction involves a monetary value greater than NZD 200 million for non-governmental EU investors and NZD 100 million for governmental sources (European Commission, 2024d).

Conclusion

In Conclusion, the relationship between the EU and New Zealand in terms of FDI shows these two regions' expanding economic linkages and reciprocal advantages. The substantial investment flow in both directions demonstrates the mutual trust and strategic value one places on the other as growth and development partners.

The fact that the EU is New Zealand's second-largest source of FDI and that New Zealand invests in the EU in return highlights how active and dynamic this economic relationship is. This relationship is strengthened by the recently signed EU-New Zealand FTA, which gives investors access to a simplified environment. Employing the FTA, the involved countries have pledged to remove the customary obstacles to investment and to treat each other's investors equally as to their local counterparts.

This agreement is designed with a vision for the future in addition to current prospects. It guarantees that investors from the EU and New Zealand will automatically benefit from any upcoming market expansions or benefits achieved in later trade agreements.

The investment procedure is now easier than it had ever been before, and New Zealand has become an even more alluring location for enterprises from the EU.

Some of the areas fitted for investment by the EU in New Zealand include agri-food, tourism, information technology and software development, renewable energy, biotechnology and biomedicine, and construction and infrastructure.

Overall, mutual respect and a shared dedication to promoting economic progress characterize the EU's FDI relationship with New Zealand. The agreements and procedures in place represent a strategic partnership that is well-positioned to prosper in the next years, in addition to making investment easier and more equitable. Their continued cooperation in FDI will remain a vital component of their economic partnership, fostering wealth and innovation on both sides.

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Place branding in tourism[1]

Petra Smetanová[2]

Abstract

Place branding is an important area of research and an effective destination branding tool. The main objective of this paper is to evaluate current trends in place branding, challenges and benefits for destinations that use it. The paper identifies specific trends - such as sustainability, and digitalisation; challenges - such as the diversity of place branding and its multidisciplinary nature, preserving authenticity or regular monitoring; and benefits - increasing the awareness of the destination, its economic growth, and the overall development of the destination. The paper includes recommendations for future research and practice in the field of place branding in tourism.

Key words

Place branding, branding, branding tourism

JEL Classification: Z32

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Introduction

The tourism market is becoming an increasingly competitive environment, which puts extreme pressure on destinations to differentiate themselves from the competition, become unique, recognizable, and remain competitive (Miličević , Mihalič & Sever, 2016).

Therefore, to be competitive in such a market, destinations need to be innovative, distinctive, and continuously strive to enhance the experience or better tourist satisfaction. In this case, one of the most important sources of competitive advantage is the uniqueness and visibility of the destination in the market, which can be achieved through the destination branding process. The main objective of this process is to create a desirable and appealing destination image based on the distinctive attributes of the destination and to accurately convey this image to potential visitors (Miličević, Mihalič & Sever, 2016).

Nowadays, the need for destination branding is more important than ever, as destinations offer excellent attributes and services such as accommodation and attractions, high-quality services, and facilities, and every destination claims a unique culture and heritage. Branding is thus becoming an essential requirement for destinations to remain competitive in today's tourism market. (Miličević, Mihalič & Sever, 2016).

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The concept of place branding is a natural part of regional development. It represents a challenge for underdeveloped regions. Many places around the world have achieved significant successes thanks to place marketing or place branding and can therefore serve as a clear argument why we should pay more attention to this issue (Matlovičová, 2010).

1 Methodology

The aim of this article is to review relevant publications on place branding, focusing on current trends, challenges, and benefits. The sources of the literature used in this article are the Web of Science (WoS) and SCOPUS databases, as well as Google Scholar, Research Gate, and journals dealing with the issue and related topics.

The main methods used in the article are analysis, induction, and synthesis. The analysis allowed us to know more accurately and better the topic of place branding. Using induction, we have come from individual facts to general statements; we applied the method mainly in formulation of our findings. Synthesis was applied in connecting the individual parts, their interrelations, and correlations into a whole. After collecting the data, we processed the information that was relevant to us, this method allowed us to interpret the Conclusions. We used the method especially in the Conclusion of the article, when summarizing the findings.

2 Results and Discussion

2.1 Brief development and history of place branding

Place brand as a concept and place branding as a process allows building a brand of the place became important due to the competition in the global world going along the marketisation policies practised by local and regional governments (Anholt, 2007).

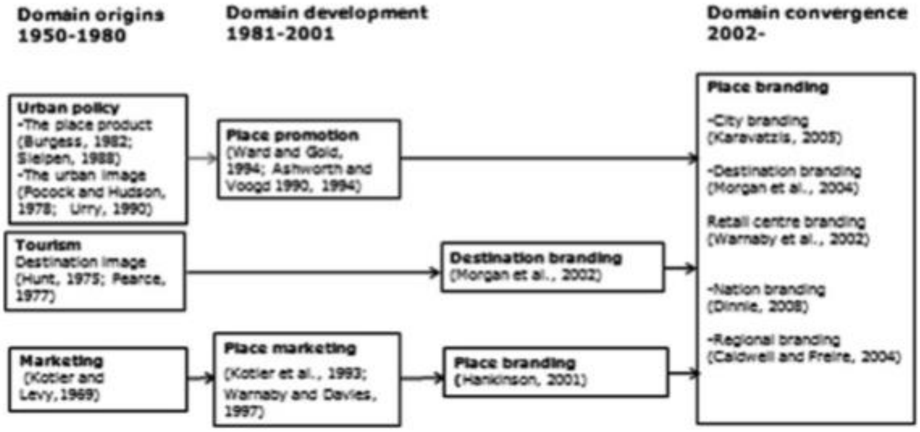
Place branding occurs in several variations (e.g., in the branding of countries, cities, regions, and tourist destinations) and there is no doubt that it is now well-established as an area of academic study. It is only in the recent past that place branding has become a significant trend in contemporary tourism (Hankinson, 2015). This is supported by the growing interest in the topic, which can be seen, for example, in the increasing number of published studies and articles in scientific databases.

Place branding has become a valuable tool for the consolidation and promotion of tourist destinations and is currently one of the most recent and key areas of research in this field (Ruiz-Real et al., 2020).

The concept of destination branding has become popular in tourism marketing for several reasons and is one of the fastest-growing in the destination marketing literature. Thus, as it is still a relatively new field of study, the clarity of definitions and different concepts is still not well established (Chan & Marafa, 2013).

Hankinson (2015), in chapter 2 of *Rethinking the Place Branding Construct* of the book *Rethinking Place Branding* (2015), discusses the chronological development of place branding from its origin and evolution to the present day, which is presented by the following Figure 1:

Figure 1 The development of place branding – a timeline (Source: Hankinson, 2015)



2.2 Place branding definitions and concepts

In terms of the definition of destination branding, there is neither clarity nor consistency in the academic literature, nor is there a clear definition on which academics and practitioners can agree (Ruiz-Real et al., 2020).

According to Kavaratzis and Ashworth (2005) there is no single accepted definition and that is due to the interdisciplinary nature of place branding that has allowed multiple research fields to participate in the development of this literature.

However, the concept of destination branding goes far beyond a recognized name, distinctive logo, slogan, or symbol, as it is made up of a set of tangible and intangible aspects (Ruiz-Real et al., 2020).

Several approaches to destination branding can be found in the literature.

The authors (Pereira et al.,2012), based on many place branding studies, have named several different definitions of place branding, such as:

- destination branding is considered synonymous with (re)positioning (Gilmore, 2002 in Pereira et al.,2012), image building (Curtis, 2001; Cai 2002 in Pereira et al.,2012), image reconstruction (Hall, 2002 in Pereira et al.,2012) of a destination and as analogous to corporate or umbrella branding, whereby a destination functions as a company that produces different product/service brands (Gnoth, 2002; Papadopoulos and Heslop, 2002 in Pereira et al.,2012).

Morgan et al., (2004) argue that the key to building a destination brand is to develop an emotional connection with tourists (Morgan & Pritchard, 2004), which agrees with the views of Morrison and Anderson (2002), who argue that branding is ,,*the process used to develop a unique identity and personality that sets it apart from all other competing destinations"* (Morrison and Anderson, 2002).

Blain et al. (2005) define destination branding as ''*marketing activities that (1) promote the creation of a name, symbol, logo, wordmark, or other imagery that readily identifies and* *differentiates the destination; that (2) consistently convey the expectation of a memorable travel experience that is uniquely associated with the destination; that (3) serve to reinforce and strengthen the emotional connection between the visitor and the destination; and that (4) reduce consumers' search costs and perceived risk. Together, these activities serve to create a destination image that positively influences consumer choice of the destination"*.

Papadopoulos (2004) considers that the term place branding is generally used to refer to a wide range of activities by governments of countries, regions and cities and interest groups aimed at marketing places and industries to build the brands they stand for. The author argues that the purpose of using place branding is usually to achieve one or more objectives.

Hanna and Rowley (2008) defined place branding as: "*A name, symbol, logo, word or other form that identifies and distinguishes a place... while conveying the promise of a memorable travel experience... while serving to reinforce and strengthen memories of a pleasant place experience*".

Some authors define place branding as a separate category, while others consider place branding to refer to the whole field of place marketing, place branding, and brand strategy, or consider place branding as part of marketing tools (Vuignier, 2016).

Kavaratzis and Ashworth (2010, in Matlovičová, 2015) identified 5 approaches to place branding:

- branding as a place of origin,
- national branding,
- destination branding,
- cultural/entertainment branding,
- integrated place branding.

2.3 Current trends and challenges

Place branding is an area of research and practice that plays an important role in sustainable development by stimulating economic growth, social prosperity, and environmental sustainability, however, research on place branding and sustainable development is limited (Aguilera-Cora et al. 2014). Place branding also plays a significant role in the sustainable development of a place, provided momentum is maintained, according to some authors. In turn, this sustainable development helps to promote the place, thereby creating stronger place brands (Maheswari et al., 2011). Many governments and organizations have adopted place branding precisely to achieve social, economic, and environmental sustainability goals (Oliveira et al. 2021).

Social media plays an undeniably powerful role in destination branding as well and represents an important strategy for DMOs (destination management organisations). Destination uses social media in order to create/increase awareness of the destination; reach global publicity; encourage visitors to plan their journey; strengthen the destination image as a favourite destination; target new/specific market; increase the number of visitors; create buzz around the destination; increase the number of email subscribers; increase the number of fan base on specific social media; change the position of destination in the mind of visitors; bring back the destination as a favourite one for visitors (Kiralova and Pavliceka 2015).

The process of place branding and destination branding presents many challenges and obstacles for destination management organisations (DMOs). These challenges and barriers arise because destinations have many different stakeholders involved in the branding process, little management control, and in many cases an underdeveloped identity. In his publication, the author also lists other causes of destination branding challenges and problems, such as:

- Political influences from different agencies and organizations can affect the balance between creative advertising and political management in destination branding.
- Lack of funding, limited public funding, and the need to compete with global brands present challenges in destination branding.
- Authenticity, which is a challenge in destination branding, is essential for brands to be successful, they need to be honest, valuable, and grounded.
- Destination marketers face challenges in measuring the effectiveness of branding, as highlighted by various researchers. The author underscored the need for further research to understand why DMOs struggle to measure visitor perceptions and marketing success. (Almeyda-Ibáñez, & George, 2017)

One of the biggest challenges of place branding is the multidisciplinary nature of the topic's focus at the interface of classical marketing, defense, economic geography, public administration, political science, journalism, economics, etc. Vuignier (2017) focuses his research on place branding with its diverse approaches, from public management and geography to classical marketing and political science. He attributes several findings:

- It suffers from a lack of conceptual clarity, divergent definitions, and a weak theoretical foundation, which means that it addresses a wide range of research topics.
- It holds a few references to the classic marketing literature, which in turn provides clear definitions of marketing and branding.
- There is a lack of empirical evidence and explanatory articles, which means that many hypotheses concerning its effects on attractiveness remain unsubstantiated.
- It is detached from the political and institutional aspects of cities, although this context is important as far as public administration is concerned.
- Offers pride of place to the rhetoric of consultants by including several normative publications that aim to share best practices.

Ashworth (2011), in his reflection on whether it is necessary to brand places and destinations, argues that yes, if we have an answer to a number of questions - if we know what we are doing, if we have the organisational structures to do it, if it is embedded in wider territorial marketing and territorial management, if we know what problem we are trying to solve, if the product is already being improved, if we are probably successful, if the product is good enough (in Matlovičova, 2015).

2.4 Benefits of place branding

The use of place branding in tourism brings many benefits, scholars often agree on those benefits.

Destination branding is key to differentiating and identifying a tourism destination from its competitors in the target market. Destination branding helps to create a distinctive destination image and a strong destination brand through favorable and strong positioning of the destination in the global market (Rather et. Al, 2010).

Place branding plays a significant role in bringing together the range of existing specialisations that a place can have in terms of brand management strategies and development policies, particularly to create a new structure that links visionary strategies with practical implementation (Maheshawari et al., 2011).

Day (2015) in his publication identified recurring benefits and advantages of using place branding. The most recurring theme identified as a benefit of place branding is greater competitive advantage. Other benefits identified include:

- differentiation of the destination from other destinations and reduction in destination substitutability (Morgan & Pritchard, 2002, in Day, 2015), product differentiation (Morgan et al., 2003, in Day, 2015), preventive so-called injection against negative publicity (Gilmore, 2002, in Day, 2015), brand loyalty (Slater, 2004; Parkinson et al., 1994 in Day, 2015).

Based on interviews with a group of place branding experts, TPBO (2017) summarized the key benefits and advantages of using place branding into several points:

- Place branding helps to build an identity with distinctive features so that a city, region, or country can differentiate itself from others and clearly inform potential investors, visitors or residents about its advantages and strengths.
- Place branding is all about making the people who currently call a place home feel good and happy, which will attract skilled labour, lucrative investment, and visitors.
- Place branding provides a roadmap for making decisions about city planning, capital attraction/retention, infrastructure investment, and public policy development/reform.
- Places are generally made up of different stakeholders with different priorities. Place branding helps to achieve common ground and focus on the strengths of a country, city, or region.
- When done creatively, place branding can bring a city or region to life and look to its culture, cuisine, technology, architecture, heritage, art, vision for the future, etc. for inspiration.

Conclusion

In recent years, place branding has become popular among local actors, institutional actors, academics, and researchers as it has become a relevant topic in the development, promotion, and attractiveness of places.

This article introduces the issue of place branding and helps substantiate several characteristics of the field. First, it highlights the multidisciplinary nature of this field of research with its diverse approaches, ranging from public management and geography to classical marketing and political science (Vuignier, 2017). The diversity of place branding is directly related to the fact that place branding has not yet been precisely defined and there is diversity in perceptions of its definition and its nature (no single accepted definition according to Kavaratzis and Ashworth (2005); a multidimensional assortment of functional, emotional, relational, and strategic elements according to Keller (1993) and Aaker (1996); wide range of activities by governments of countries, regions and cities and interest groups aimed at marketing places and industries to build the brands they represent according to Papadopoulos (2004); or Hankinson (2015) emphasizes that place branding is currently used as an umbrella term that encompasses the literature of at least five areas, including the branding of cities, destinations, retail centres, nations and region).

Based on our research, we think that place branding must be in line with, follow, and adapt to current trends to be successful and beneficial for the destination in the long term. From the reviewed literature, the most common trends associated with place branding are - digitalization and social media; and sustainability.

One of the biggest challenges is considered to be the absence of a universal place branding model and consequently the non-existent system of review and regular monitoring with clearly defined indicators, which is directly related to the multidisciplinarity of the issue. We are aware that each destination is unique and complex and has a different and unique identity therefore this universal model would be flexible - it would not be for the destination for which it was originally created, but the destinations in question will be able to adapt it to their current needs and situation, for example not using some elements or adding some new one based on the specifics of the destinations and their current needs. With the universal model, we think there is also a need for regular monitoring and the identification of criteria for the model's success.

The use of place branding in tourism brings many benefits, and scholars often agree on those benefits. Based on our research, we think that the most noticeable benefits are: place branding helps differentiate the destination from other destinations and reduces destination substitutability and it helps in creating and maintaining a positive image of the destinations. Place branding generally brings with it many benefits if done correctly, which may be challenging for some destinations.

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Impact of Trade and Sustainable Development Chapters in EU Free Trade Agreements on Environmental Goods Trade[1]

Sára Smolková[2]

Abstract

In the context of the climate crisis and the growing importance of trade in environmental goods, chapters on Trade and Sustainable Development (TSD) in Free Trade Agreements (FTAs) are becoming crucial tools for promoting sustainable economic growth. This research focuses on analyzing the impact of TSD chapters in FTAs between the European Union (EU) and third countries on trade in environmental goods. An econometric model with panel data for the period from 2011 to 2021 is utilized. The data sources are derived from the International Monetary Fund database. The model includes a binary variable indicating the presence of a TSD chapter in the individual FTAs. The results of this study provide valuable insights for policymakers and contribute to a better understanding of how international trade agreements can support sustainability, which can be useful in future negotiations and the formulation of the EU's trade and sustainable development policy.

Key words

Environmental Goods Trade, Trade and Sustainable Development, Free Trade Agreements, European Union

JEL Classification: F13, F18

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Introduction

The escalating climate crisis necessitates integrating environmental considerations into economic policies. Free Trade Agreements (FTAs) with Trade and Sustainable Development (TSD) chapters have become essential tools for promoting sustainable growth. These chapters encourage cooperation on environmental issues and commit parties to international environmental standards, such as those outlined in the Paris Agreement (European Commission, 2023).

As international trade increasingly dominates the global economy, the connections between climate measures and trade have gained importance. Free Trade Agreements (FTAs) serve as key instruments for shaping trade policy and diplomacy. Consequently, the inclusion of environmental sustainability measures in trade agreements is critical for the EU's external trade. Although environmental considerations in trade agreements emerged in the early 1980s, substantial advancements in integrating these measures into trade policy were only achieved post-2010 (Dent, 2021).

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The EU's trade relationships with third countries significantly influence environmental sustainability. The EU has continuously advanced its climate change agenda through its bilateral agreements. Provisions on trade and sustainable development (TSD) were first introduced in FTAs during the 2010 EU-South Korea negotiations. The European Green Deal further emphasizes the EU's commitment to incorporating social and environmental sustainability into its trade policy. A study by the Institute for European Environmental Policy (IEEP) titled "Enhancing sustainability in EU Free Trade Agreements," published in 2022, indicates that the effectiveness and impact of TSD chapters have been questioned, prompting a review of the European Commission's (EC) 15-point action plan for TSD chapter implementation and enforcement, originally published in 2018 (Blot et al., 2022).

Hradilová and Svoboda (2018) discuss the current practice related to TSD chapters in EU FTAs and compare it with the US model. They argue that the EU's emphasis on cooperation and capacity building is more relevant for compliance with international standards than the US's sanction-based approach, which has shown limited success in addressing non-compliance (Hradilová & Svoboda, 2018). Gracia Marín Durán (2020) highlights emerging compliance issues, noting that there is ambiguity regarding who is responsible on the EU side for ensuring compliance with TSD commitments. Durán suggests that a harder enforcement mechanism might not be warranted from an effectiveness standpoint, and equity concerns also argue against it (Durán, 2020). Wout (2021) examines the enforceability of TSD chapters by comparing EU FTAs with South Korea, Canada, and Japan. Wout concludes that the EU has not become significantly more ambitious in enforcing TSD chapters, as evidenced by the ongoing EU-Korea dispute settlement case over workers' rights. This case illustrates the limitations in the current enforcement mechanisms and the need for more assertive enforcement plans (van 't Wout, 2021). Similarly, Harrison et al. (2019) identify operational failings, including a lack of legal and political prioritization of TSD chapters, which hinder their effectiveness. Their research, based on interviews from FTAs with the Caribbean, South Korea, and Moldova, highlights significant limitations to the EU's common formulation approach when applied to different trading partner contexts (Harrison et al., 2019).

Cipollina and Salvatici (2011) demonstrate that TSD chapters can positively impact the exports of countries that comply with environmental regulations and international labor standards. Their research suggests that these chapters enhance the comparative advantage of compliant countries by creating trade opportunities with the EU (Cipollina & Salvatici, 2011). Additionally, De Santis (2011) finds that environmental regulations aligned with TSD chapters can stimulate innovation and lead to increased exports. This supports the Porter Hypothesis, which posits that stringent environmental policies can enhance competitiveness through innovation (De Santis, 2011).

The impact of TSD chapters in EU FTAs on trade with third countries is multifaceted, involving issues of compliance, enforcement, and operational challenges. While the cooperative approach of the EU shows promise, it requires stronger enforcement mechanisms and transparency to achieve significant sustainable development outcomes. Future policies must address these gaps to enhance the effectiveness of TSD chapters in promoting sustainable trade and boosting exports.

The European Union (EU) has been a leader in incorporating TSD chapters in its FTAs to enhance environmental standards and support the transition to a low-carbon economy. This study examines the impact of these TSD chapters on trade in environmental goods from 2011 to 2021 using an econometric model with data from the International Monetary

Fund (IMF). The model includes a binary variable indicating the presence of a TSD chapter in FTAs.

1 Methodology

The aim of this study is to quantify the impact of TSD chapters within free trade agreements with the EU on the export of environmental goods. This involves examining whether the presence of TSD chapters in FTAs significantly influences the export performance of environmental goods in the respective countries.

The panel analysis in this study utilizes data from the IMF databases, covering 156 countries over the period from 2011 to 2021. These countries are listed in Annex 1. The environmental trade data were sourced from the IMF Climate Change Dashboard. The IMF Climate Change Dashboard, developed to provide economic and financial data related to climate change, uses Harmonized System (HS) codes to categorize and track trade in environmental goods. This database includes 223 commodities identified under the HS2017 6-digit nomenclature as relevant to environmental sustainability (IMF, 2023). The independent variable GDP per capita in current USD prices for each country was sourced also from the IMF. To account for the impact of FTAs with the EU that include TSD chapters, a dummy variable was introduced. This dummy variable takes the value of 1 if a country has an FTA with the EU in force that includes a TSD chapter, and 0 otherwise.

The panel data and fixed effects model is an econometric approach used to analyze data combining cross-sectional and time series elements. The core principle of the fixed effects model is the inclusion of individual fixed effects for each unit in the panel data, accounting for characteristics specific to each unit that remain constant over time. This approach can be represented as follows (Lukáčik et al., 2011):

$$y_{it}=a_i+\beta_1 x_{it1} + \beta_2 x_{it2} +...+ \beta_k x_{itk} +u_{it} \tag{1}$$

2 Results and Discussion

This chapter discusses the classification of TSD chapters according to whether they are already in force, awaiting ratification or in the negotiation phase. These data are then applied in an econometric model.

Tab. 1 Overview of EU FTAs with TSD Chapters

Country/Region	TSD Chapters	Status
Angola	Chapter V	Awaiting Ratification
Armenia	Chapter 9	In Force
Australia	proposed TSD Chapter	Under Negotiation
Azerbaijan	negotiations ongoing	Under Negotiation
Canada	Chapters 22, 23, 24	In Force
Central America	Title VIII	In Force

Chile	Chapter 26	Awaiting Ratification
China	Section IV	Awaiting Ratification
Colombia, Peru, Ecuador	Title IX	In Force
Eastern and Southern Africa (ESA 5)	proposed TSD Chapter	Under Negotiation
Georgia	Chapter 13	In Force
India	proposed TSD Chapter	Under Negotiation
Indonesia	proposed TSD Chapter	Under Negotiation
Japan	Chapter 16	In Force
Kenya	Annex V	Awaiting Ratification
Kyrgyzstan	Chapter 10	Awaiting Ratification
Mercosur	TSD Chapter	Awaiting Ratification
Mexico	TSD Chapter	Awaiting Ratification
Moldova	Chapter 13	In Force
New Zealand	Chapter 19	Awaiting Ratification
Singapore	Chapter 12	In Force
South Korea	Chapter 13	In Force
Tajikistan	negotiations ongoing	Under Negotiation
Thailand	proposed TSD Chapter	Under Negotiation
Ukraine	Chapter 13	In Force
United Kingdom	Chapters 6, 7, 8	In Force
Uzbekistan	Chapter 9	Awaiting Ratification
Vietnam	Chapter 13	In Force

Source: European Commission (2024)

Table 1 provides a comprehensive overview of the status of Trade and Sustainable Development (TSD) chapters in various EU trade agreements. Here, we summarize the agreements that are currently in force and the years they became effective:

- The **Comprehensive Economic and Trade Agreement (CETA)** between the EU and Canada, which includes Chapters 22 (Trade and Sustainable Development), 23 (Trade and Labor), and 24 (Trade and Environment), has been in force since 2017.
- The **Association Agreement** with Central America, which encompasses Title VIII, has been effective since 2013, covering countries like Honduras, Nicaragua, Panama, Costa Rica, El Salvador, and Guatemala.
- The trade agreement with **Colombia, Peru, and Ecuador**, which includes Title IX, has been in force since 2013 for Colombia and Peru, and since 2017 for Ecuador.
- The EU's **Association Agreement with Georgia**, including Chapter 13 on sustainable development, has been in force since 2014.
- The **EU-Japan Economic Partnership Agreement**, incorporating Chapter 16 on trade and sustainable development, has been in effect since 2019.
- The **Association Agreement** with Moldova, including Chapter 13 on sustainable development, has been effective since 2014.

- The **EU-Singapore Free Trade Agreement**, which includes Chapter 12 on trade and sustainable development, has been in force since 2019.
- The **EU-South Korea Free Trade Agreement**, featuring Chapter 13 on trade and sustainable development, has been in force since 2011.
- The **Association Agreement** with Ukraine, including Chapter 13 on sustainable development, has been in force since 2016.
- The **EU-UK Trade and Cooperation Agreement**, which includes various chapters related to sustainable development, has been in force since 2021.
- The **EU-Vietnam Free Trade Agreement**, including Chapter 13 on trade and sustainable development, has been effective since 2020.

These agreements collectively demonstrate the EU's commitment to integrating sustainable development principles into its trade policies, fostering cooperation on environmental and labor standards across its trading partners (European Commission, 2024).

We used data from the European Commission on the status of Trade and Sustainable Development (TSD) chapters in EU trade agreements, combined with data from the International Monetary Fund (IMF) on the export of environmental goods and GDP per capita. Using these datasets, we created a panel data analysis econometric model that includes a dummy variable indicating whether a TSD chapter is in force for 156 countries. This model aims to assess whether the presence of TSD chapters in trade agreements influences the export of environmental goods. The results are demonstrated in the following model.

Fig. 1 Results of Model 1

```
Model 1: Fixed-effects, using 1586 observations
Included 149 cross-sectional units
Time-series length: minimum 2, maximum 11
Dependent variable: Export_USD_current
Robust (HAC) standard errors

                coefficient       std. error     t-ratio   p-value
  ---------------------------------------------------------------
  const           4.92691e+09       2.35523e+09    2.092    0.0382  **
  FTA_TSD        -1.26635e+09       1.26890e+09   -0.9980   0.3199
  GDP_pc_USD  274815            165150             1.664    0.0982  *
  dt_2            1.50515e+07       6.34275e+07    0.2373   0.8128
  dt_3            2.90182e+08       1.83789e+08    1.579    0.1165
  dt_4            5.25082e+08       3.13450e+08    1.675    0.0960  *
  dt_5            6.72281e+07       3.87345e+08    0.1736   0.8624
  dt_6           -6.51454e+07       3.40011e+08   -0.1916   0.8483
  dt_7            6.18965e+08       5.41210e+08    1.144    0.2546
  dt_8            1.26823e+09       8.02589e+08    1.580    0.1162
  dt_9            1.53530e+09       9.52742e+08    1.611    0.1092
  dt_10           1.84385e+09       1.28399e+09    1.436    0.1531
  dt_11           4.21192e+09       2.32362e+09    1.813    0.0719  *

Mean dependent var   8.94e+09   S.D. dependent var   4.55e+10
Sum squared resid    9.29e+22   S.E. of regression   8.08e+09
LSDV R-squared       0.971680   Within R-squared     0.033652
Log-likelihood      -38345.52   Akaike criterion     77013.04
Schwarz criterion    77877.44   Hannan-Quinn         77334.16
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Source: authors' own calculations in GRETL, data from IMF (2023), IMF (2024), European Commission (2024).

The fixed-effects model, utilizing 1586 observations across 149 cross-sectional units, analyzes the relationship between independent variables which are GDP per capita in USD in current prices, status of FTA with TSD and the dependent variable export in USD in current prices. The analysis reveals that the presence of a Free Trade Agreement (FTA) with a Trade and Sustainable Development (TSD) chapter does not significantly affect the exports of environmental goods. Specifically, the coefficient for the FTA_TSD variable is -1.26635e+09 with a p-value of 0.3199, suggesting that the TSD provisions within these agreements may not be sufficiently robust or comprehensive to significantly influence trade. Conversely, GDP per capita exhibits a positive but marginally significant relationship with exports, with a coefficient of 274815 and a p-value of 0.0982. This implies that wealthier countries with higher GDP per capita are more likely to export environmental goods.

The model demonstrates a very high explanatory power for the overall differences in exports between different groups, as indicated by the LSDV R-squared value of 0.971680. This means that the model explains 97.17% of the total variability in exports, highlighting its high effectiveness in capturing between-group differences, such as those between different countries. On the other hand, the Within R-squared value of 0.033652 shows that the model explains only 3.37% of the variability in exports within individual groups. This suggests that the included variables have a relatively small impact on changes in exports within these groups. This contrast between the high LSDV R-squared and the low Within R-squared indicates that while the model is very good at explaining overall differences between groups, it is less effective at explaining changes within individual groups. However, much of this explanatory power derives from differences between countries rather than temporal changes within countries. This observation suggests that other factors, such as domestic policies, global market conditions, and technological capabilities, may play more critical roles in influencing the exports of environmental goods.

The analysis reveals that the inclusion of TSD chapters in EU FTAs does not significantly impact the trade of environmental goods, as indicated by the non-significant coefficient for the FTA_TSD variable. This finding aligns with concerns raised by Blot et al. (2022) and Harrison et al. (2019) about the effectiveness and enforcement of TSD chapters. The marginally significant positive relationship between GDP per capita and environmental goods exports suggests that wealthier countries are more capable of engaging in this trade, supporting Cipollina and Salvatici's (2011) findings. The high LSDV R-squared value indicates that the model effectively captures between-country differences, reflecting the EU's diverse economic and policy landscapes. However, the low Within R-squared value highlights the limited ability of the model to explain variations within countries over time, suggesting that factors like domestic policies and global market conditions might play more crucial roles, as noted by De Santis (2011).

This study has several limitations. The variables used may not fully capture the complexity of factors influencing the trade of environmental goods. Important variables such as specific environmental regulations, technological advancements, and domestic policy measures were not included in the model. Additionally, the binary nature of the TSD chapter variable might oversimplify the nuances of these agreements.

Future research could address these limitations by incorporating a more comprehensive set of variables and using alternative econometric methods, such as the gravity model, which could better capture the trade dynamics between countries.

Conclusion

In Conclusion, the presence of TSD chapters in EU FTAs alone does not significantly enhance the trade of environmental goods. Stronger enforcement mechanisms and additional supportive measures are needed. The positive correlation with GDP per capita highlights the importance of economic capacity in promoting sustainable trade. Policymakers should integrate these insights to strengthen future trade agreements, ensuring they effectively contribute to environmental sustainability. This study underscores the complexity of linking trade and sustainability, providing a basis for more robust policy development. Future research using more comprehensive variables and alternative econometric methods like the gravity model could provide deeper insights into the impact of TSD chapters on environmental goods trade.

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Annex 1 List of countries used in Model 1

1. Afghanistan
2. Albania
3. Algeria
4. Andorra
5. Angola
6. Argentina
7. Armenia
8. Aruba
9. Australia
10. European Union
11. Azerbaijan
12. Bahamas
13. Bahrain
14. Bangladesh
15. Barbados
16. Belize
17. Benin
18. Bermuda
19. Bhutan
20. Bolivia
21. Bosnia and Herzegovina
22. Botswana
23. Brazil
24. Brunei
25. Burkina Faso
26. Burundi
27. Cabo Verde
28. Cambodia
29. Cameroon
30. Canada
31. Cayman Islands
32. Central African Republic
33. Chile
34. China
35. Colombia
36. Comoros
37. Congo
38. Costa Rica
39. Côte d'Ivoire
40. Dominican Republic
41. Ecuador
42. Egypt
43. El Salvador
44. Eritrea
45. Eswatini
46. Ethiopia
47. Fiji
48. Gabon
49. Gambia
50. Georgia
51. Ghana
52. Greenland
53. Guatemala
54. Guinea
55. Guinea-Bissau
56. Guyana
57. Haiti
58. Honduras
59. Iceland
60. India
61. Indonesia
62. Iraq
63. Israel
64. Jamaica
65. Japan
66. Jordan
67. Kazakhstan
68. Kenya
69. Kiribati
70. Kuwait
71. Kyrgyzstan
72. Laos
73. Lebanon
74. Lesotho
75. Liberia
76. Libya
77. Madagascar
78. Malawi
79. Malaysia
80. Maldives
81. Mali
82. Marshall Islands
83. Mauritania
84. Mauritius
85. Mexico
86. Micronesia
87. Moldova
88. Mongolia
89. Montenegro
90. Morocco
91. Mozambique
92. Myanmar
93. Namibia

94. Nauru
95. Nepal
96. New Zealand
97. Nicaragua
98. Niger
99. Nigeria
100. North Macedonia
101. Norway
102. Oman
103. Pakistan
104. Panama
105. Papua New Guinea
106. Paraguay
107. Peru
108. Philippines
109. Qatar
110. Russia
111. Rwanda
112. St. Kitts and Nevis
113. St. Lucia
114. St. Vincent and the Grenadines
115. Samoa
116. San Marino
117. Sao Tome and Principe
118. Saudi Arabia
119. Senegal
120. Serbia
121. Seychelles
122. Sierra Leone
123. Singapore
124. Solomon Islands
125. Somalia
126. South Africa
127. South Korea
128. Sri Lanka
129. Sudan
130. Suriname
131. Switzerland
132. Syria
133. Tajikistan
134. Tanzania
135. Thailand
136. Timor-Leste
137. Togo
138. Tonga
139. Trinidad and Tobago
140. Tunisia
141. Turkey
142. Turkmenistan
143. Tuvalu
144. Uganda
145. Ukraine
146. United Arab Emirates
147. United Kingdom
148. United States
149. Uruguay
150. Uzbekistan
151. Vanuatu
152. Venezuela
153. Vietnam
154. Yemen
155. Zambia
156. Zimbabwe

Innovation as a Driver of Competitive Advantage in Slovak Industrial Firms[1]

Renáta Ševčíková – Naqibullah Daneshjo[2]

Abstract

To ensure their survival and competitiveness, businesses are now compelled to innovate far more extensively than in the past. Beyond enhancing competitiveness, innovation opens up new market opportunities, increases efficiency, and facilitates market expansion. The primary goal of innovation is to create value. This paper aims to present the results of a survey designed to identify firms' attitudes towards innovation as a crucial source of competitive advantage. The primary focus of the research was Slovak firms primarily engaged in industrial production. Data processing was conducted using IBM SPSS Statistics and MS Excel. Hypotheses were tested using comparative analysis methods. The survey results confirmed some differences in firms' attitudes towards innovation, largely influenced by various factors.

Key words

innovation, competitive advantage, industrial production, Slovak firms

JEL Classification: O31

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Introduction

In today's rapidly changing world, where technological and societal changes occur almost daily, and innovation has become a key factor for success. It acts as a driving force for further development, opening doors to countless opportunities for creating a better and more promising world. Without innovation, we would remain stagnant and fail to achieve the progress that propels us forward. Although the concept of innovation is widely recognized, its significance and importance continue to evolve and develop.

Innovation is key to company performance, and the ability to innovate significantly impacts product quality and operational efficiency. Innovations are a crucial driving force for business competitiveness and performance improvement, especially for small and medium-sized enterprises (Farida & Setiawan, 2022). Innovation is an integral part of business performance, with the ability to innovate significantly impacting product quality and operational efficiency (Obeidat et al., 2021).

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Competitiveness lies in transforming knowledge, processes, products, and services into new ones. Innovation can be defined as the application of new ideas to products, processes, or other aspects of business activities. Innovations focus on the commercialization of ideas into something new (Kuncoro & Suriani, 2018).

Yasil, Koska, and Buyukbese (2015) define innovations in various ways, mostly focusing on improving technology or product development. The ability to innovate as a performance indicator of a business includes various types of innovations aimed at increasing their overall number. Innovations must utilize manufacturing and marketing technologies to create new products, services, and attributes for consumers. Panigrahy and Pradhan (2015) assert that innovation is a new idea or a recombination of old ideas, considered new by the involved parties and which can be developed internally. For businesses, innovation means generating or adopting new ideas or behaviours that lead to the creation of a new product or service, new technology, a surgical procedure, or a new management strategy.

Product innovation is a process used throughout a company to create and bring new products to market, including innovations in all related processes. It helps companies maintain their viability because existing products are susceptible to changes in consumer needs and technological advancements. The product life cycle is shorter, and competition is increasing both domestically and internationally. According to research by Panigrahy et al. (2015), product innovation is crucial for maintaining market share.

Zaridis and Mousiolis (2014) state that creativity involves thinking about new ideas, and innovation brings new things into existence. Innovation always involves finding creative new ways and solutions. Innovation has four main characteristics:

1. Special significance – innovation has a unique significance in ideas, programs, and systems, including expected outcomes.
2. Novelty – innovation must have the qualities of originality and novelty.
3. Planned program – innovation is carried out through a carefully prepared and clearly planned program.
4. Purpose – innovations must have direction and a strategy to achieve their goals.

Competitive advantage means that a company gains greater profits or benefits than its competitors in terms of costs, technology, brand, management, and similar factors. It is assumed that differences in competitive advantage arise from valuable, rare, inimitable, and non-substitutable resources in innovative practices. Saranga et al. (2018) found that the ability to develop products, as a fundamental component of strategy, was closely linked to competitive advantage in multiple dimensions. Simply owning resources does not mean using them efficiently or achieving a competitive advantage.

A company achieves sustainable competitive advantage when existing or potential competitors cannot replicate it or would incur substantial costs to do so. This hinges on the idea that corporate resources effectively exploit opportunities or neutralize threats, and must be rare, imperfectly imitable, and resistant to similar changes for sustainable human resources (Dirisu, et al, 2013).

The ability of a company to innovate provides a competitive advantage. Innovations may require specific resources to transform the organization into a competitive enterprise, and corporate resources are crucial for innovations. Other key factors include consumer behavior, which can significantly influence innovative behavior and company innovations (Filová, 2015).

Tighter competition and more demanding consumers in product selection require businesses to enhance innovation in their product manufacturing. The success of a product impacts its performance in the market, where consumers assess whether the product is sufficiently distinct and competitive compared to products from other competitors (Racela & Olimpia, 2014).

Competitive advantage forms the foundation of a company's performance in the competitive market. A company's advantage grows from the value or benefits it can create for its customers. Competitive advantage can be understood as the result of numerous activities a company performs in designing, producing, marketing, delivering, and supporting sales. Therefore, competitive advantage is the position where an organization continually strives to outperform its competitors (Farida & Setiawan, 2022).

1 Methodology

The aim of this article is to present the findings of a survey examining the attitudes of businesses towards innovation as a crucial source of competitive advantage. The sample was compiled from the company registry of the Finstat database and included 1,516 companies. These companies were randomly selected from various layers of the technology sector, considering factors such as company size and regional representation (Bratislava region, Western Slovakia, Central Slovakia, Eastern Slovakia).

The online survey was conducted from July to September 2021, during which the questionnaire was distributed to the selected companies. The sample was supplemented by data collected through personal interviews conducted from October to November 2021. After data cleansing, we worked with a sample of 239 companies from various industrial production sectors. The survey aimed to assess the attitudes of companies operating in the Slovak Republic within different industrial sectors characterized by high, medium, and low technology levels towards innovation, the use of design in product innovations, and the level of skills achieved in various areas of design management. The survey was conducted using a standardized structured questionnaire. In line with the stated objective, this article focuses on analysing the attitudes of companies towards innovation and the factors influencing these attitudes.

In relation to the stated aim of the paper, we set the following hypotheses:

H1 The technological level of an industry influences the attitude of firms towards innovation as a source of competitive advantage.
H2 The average annual turnover of a firm influences the attitude of firms towards innovation as a source of competitive advantage.
H3 The length of time firm has been in the market influences their attitude towards innovation as a source of competitive advantage.
H4 The type of legal form of firms affects their approach to innovation as a source of competitive advantage.
H4 The number of employees of a firm influences their approach to innovation as a source of competitive advantage.

To analyse the collected data, we utilized graphical methods to provide a clear visualization of the results. Relationships between variables were expressed using correlation coefficients, which were tested for statistical significance. Cramér's V statistic assesses the association between two nominal variables or between nominal and ordinal variables with multiple categories. It is an alternative to the Phi coefficient for tables larger than 2×2. In a 2×2 contingency table, Cramér's V is equivalent to the Phi coefficient. The test, developed by Harald Cramér in 1946, is based on Pearson's Chi-square statistic. This test measures correlations symmetrically, meaning that the placement and order of variables in rows and columns do not affect the results.
Cramér's V ranges from 0 to 1, with no negative values. Similar to other correlation coefficients, a value close to zero indicates no association. However, a value greater than 0.25 is considered a very strong relationship for Cramér's V (Baumöhl et al., 2023).

Cramér's V is calculated by taking the square root of the Chi-square statistic divided by the sample size and the minimum dimension minus 1:

$$V = \sqrt{\frac{\chi^2/n}{\min(c-1, r-1)}} \quad (1)$$

where
χ^2 = Pearson's Chi-square statistic,
n = total number of observations,
c = total number of columns,
r = total number of rows.

This method allowed us to thoroughly analyse how individual company characteristics influence their attitude towards innovation and how these innovations contribute to their competitive advantage.

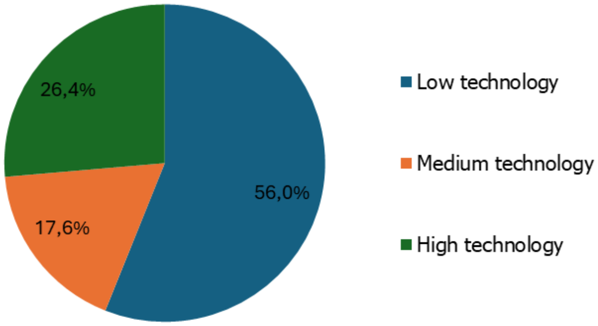
2 Results and Discussion

As part of the survey, we asked companies about their attitude towards innovation and whether they perceive innovation as a source of competitive advantage. At the same time, we collected data on their characteristics, including the technological complexity of the industry, legal form, number of employees, years in operation, average annual turnover, company headquarters, and type of ownership.

Subsequently, we used calculations and interpretations of correlation coefficients to examine the relationship between companies' attitudes towards innovation and their specific characteristics. Using graphical data processing methods, we clearly displayed the achieved results. The relationships between the variables were expressed through correlation coefficients, which were tested for the statistical significance of the model.

A total of 239 companies participated in the survey, of which 134 (56%) with an industry classified as low technology, 42 (17.6%) with an industry classified medium technology and 63 firms (26.4%) belong to the high technology category of the industry (Graph 1).

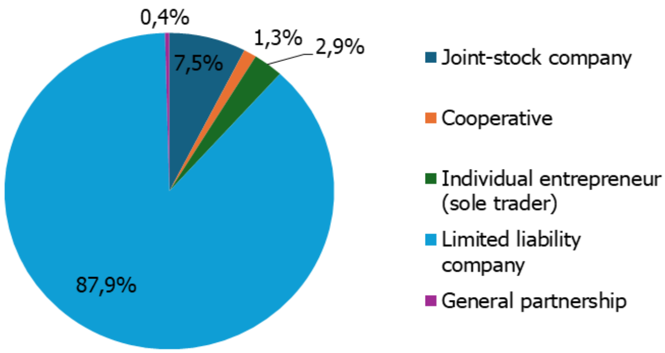
Graph 1 Distribution of firms according to the technological intensity of the industry



Source: own processing

The most numerous representation by legal form (Graph 2) is the limited liability company, with 210 firms (87.9%), followed by joint-stock companies with 18 respondents (7.5%) and individual entrepreneurs with 7 respondents (2.9%). Minimal representation was also recorded in cooperatives with 3 respondents (1.3%) and general partnerships with 1 respondent (0.4%).

Graph 2 Distribution of firms according by legal form

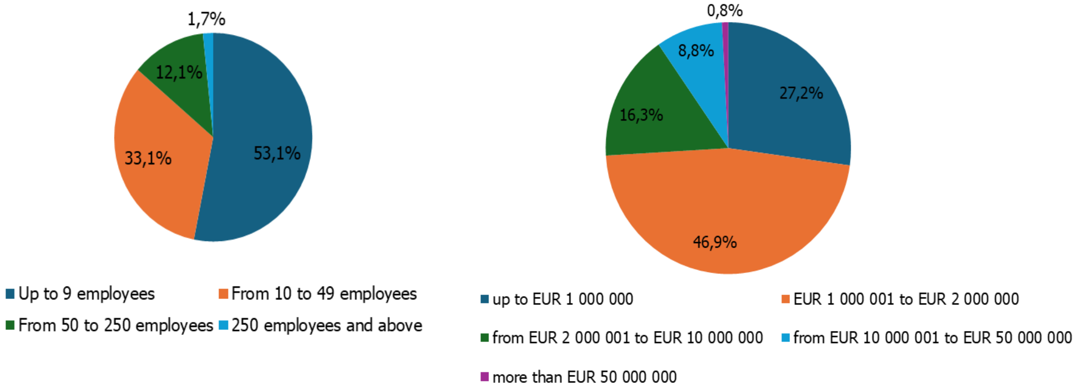


Source: own processing

When asked about the number of employees in the firm (Graph 3), the largest number of respondents indicated that they employ up to 9 employees - 127 firms (53.1%), followed by the category of 10 to 49 employees - 79 firms (33.1%), and 29 firms (12.1%) in the category of 50 to 249 employees. More than 250 employees are reported by 4 firms (1.7%).

From the above, we can see that in terms of the distribution of firms by number of employees, the survey analysed mainly micro enterprises (53.1%) and small and medium-sized enterprises (45.2%). Also, in terms of the distribution of firms according to their annual turnover (Graph 3), we can confirm that our survey was mainly attended by micro enterprises with a turnover of up to EUR 2 million (177 firms; 74.1%) and small and medium-sized enterprises with a turnover of up to EUR 50 million (60 firms, 25.1%). Only 2 respondents reported a turnover of more than EUR 50 million.

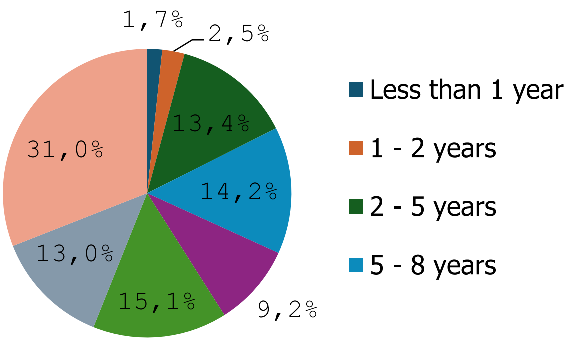
Graph 3 Distribution of firms by number of employees and turnover



Source: own processing

In terms of the length of time firms have been in business (Graph 4), firms that have been in business for more than 20 years have the largest representation in our survey - 74 respondents (31%), followed by firms in the 10-15 years (36; 15.1%), 5-8 years (34; 14.2%), 2-5 years (32; 13.4%), 15-20 years (31; 13%) and 8-10 years (22; 9.2%) categories. Young start-ups with less than 1 year of existence (4; 1.7%) and firms up to 2 years (6; 2.5%).

Graph 4 Distribution of firms by years on the market



Source: own processing

2.1 Results - evaluation of the stated hypotheses

Nearly 85% of our research sample (202 companies) consider innovation a significant source of competitiveness, while only 37 companies, representing 15% of our sample, do not share this view. The hypothesis we wanted to test whether there is a relationship and association between the selected characteristics of the firm and its attitude towards innovation as a source of competitiveness. They determined the null hypothesis, which we then tested.

The null hypothesis:

H0: there is no statistically significant relationship between the selected firm characteristics and its attitude towards innovation as a source of competitive advantage.

Alternative hypothesis:

HA: there is a statistically significant relationship between the selected firm characteristic and its attitude towards innovation as a source of competitive advantage.

Tab. 1 Results of correlation analysis of selected variables

Selected characteristics	Value of the coefficient - Cramer's V	P value
Technological intensity of the industry	0,094	0,346
Type of legal form	0,114	0,687
Number of employees	0,112	0,391
Turnover	0,183	0,198
Number of years on the market	**0,243**	**0,038**

Source: own processing

At the chosen significance level of 0.05, we accept the alternative hypothesis only for one characteristic, indicating a statistically significant relationship between the length of a company's market presence and its attitude towards innovation. Based on our findings, we can assert that the longer a company operates in the market, the more it recognizes the importance of innovation as a source of competitive advantage. For the other characteristics, we were unable to reject the null hypothesis and therefore cannot confirm a relationship.

Conclusion

The survey examined the attitudes of 239 companies towards innovation and its role as a source of competitive advantage. The analysis involved correlating these attitudes with various company characteristics, such as technological complexity, legal form, number of employees, years in operation, annual turnover, headquarters location, and ownership type.

Correlation analysis revealed a statistically significant relationship only between the length of time a company has been in the market and its attitude towards innovation (Cramer's V = 0.243, p = 0.038). This finding supports the hypothesis that longer market presence enhances the recognition of innovation's importance for competitive advantage. Other characteristics, such as technological intensity, legal form, number of employees, and turnover, did not show significant correlations with attitudes towards innovation.

In Conclusion, the study indicates that companies with longer market presence are more likely to value innovation as a competitive advantage. However, no significant relationships were found between attitudes towards innovation and other company characteristics, highlighting the need for further research to explore these dynamics in greater depth.

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Selected Aspects of the New Consumer Protection Legislation

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Abstract

A paper focuses on newly enacted consumer protection legislation, with a specific concentration on consumer rights and price regulation. The New Consumer Protection Act introduces comprehensive reforms to enhance consumer safeguards and ensure fair pricing practices. Key provisions include measures against fraudulent activities, improved transparency in advertising and product information, and robust mechanisms for addressing consumer grievances. The Act also enforces stricter regulations on digital marketplaces and price controls to curb exploitative pricing. By comparing this Act with previous legislation, the study highlights advancements and potential challenges. The findings suggest the Act's potential to foster a fairer market environment, boosting consumer confidence and trust. This research contributes to the discourse on consumer rights and price regulation, providing insights into the effectiveness of legal frameworks in modern markets.

Key words

consumer protection, price regulation, e-commerce regulation

JEL Classification: K15, K23

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Introduction

An Act No. 108/2024 Coll. on consumer protection and on amendment and supplementation of certain acts will enter into force on 1 July 2024 (hereinafter referred to as „Act"). The Act is the result of the transposition of ten directives of the EU into Slovak law, in particular:

- Directive (EU) 2019/770 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the supply of digital content and digital services,
- Directive (EU) 2019/771 of the European Parliament and of the Council of 20 May 2019 on certain aspects concerning contracts for the sale of goods, amending Regulation (EU) 2017/2394 and Directive 2009/22/EC, and repealing Directive 1999/44/EC and
- Directive (EU) 2019/2161 of the European Parliament and of the Council of 27 November 2019 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and of the Council as

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regards the better enforcement and modernization of Union consumer protection rules.

Compared to the existing legislation, it is intended to introduce changes that will contribute to an increase in the level of legal protection of consumers. In consumer relations a consumer acts in the position of a weaker contracting party, which needs to be protected (Magurová, 2023).

As it follows from the explanatory memorandum, the new Act aims to eliminate duplication of consumer's protection legal regulation, application problems in practice and terminological differences. It is intended to constitute a general legislation in the field of consumer protection, as it replaces several legal regulations, in particular:

- Act No. 250/2007 Coll. on Consumer Protection and on Amendments to Act No. 372/1990 Coll. on Offences of the Slovak National Council, as amended (hereinafter referred to as „Act No. 250/2007 Coll."),
- Act No. 102/2014 Coll. on consumer protection in the sale of goods or provision of services under a distance contract or a contract concluded away from the seller's business premises and on amendment and supplementation of certain laws,
- Act No. 299/2019 Coll. on supervision and assistance in dealing with unjustified geographical discrimination of customers on the internal market and amending Act No. 128/2002 Coll. on state control of the internal market in matters of consumer protection and amending and supplementing certain acts, as amended.

Pro futuro, the trend of adopting specific consumer protection legislation will thus be eliminated, in order to respond to EU legislation.

From the provision of Section 1(2) of the Act results, that it applies to the sale and provision of products if the fulfilment takes place in the territory of the Slovakia or if the fulfilment is related to business in the territory of the Slovakia. The most significant changes introduced by the new legislation include in particular: **new terminology** and its unification with the EU legislation (Introduction of a term **trader**, which replaces the term supplier; Introduction of the terms **online market, digital service, digital content, digital element**); **extension of the traders´ information obligations** for contracts concluded at a distance or outside the traders´ business premises (in connection with digitalisation); **new regulation of goods price reduction** by the trader (i.e. increased consumer protection for the indication of special sales or discounts); **protection against non-transparent consumer purchases on online marketplaces** (e.g. online marketplace operators have to indicate whether the offer comes from a trader or a non-business seller); **regulation of the authenticity of consumer product reviews**; **extension of the period for consumers to withdraw** from a distance or off-premises contract without giving a reason if the Conclusion of the contract was made during or in connection with an unsolicited visit; extension of misleading commercial practices to include the **marketing of dual quality goods** (i.e. marketing promoting goods as identical to goods in another EU member state when this is not the case); strengthening of the preventive and educational effect of supervision towards supervised persons by introducing a mechanism of so-called „**second chance**" in an effort to motivate traders to voluntarily stop violating regulations and thus guarantee faster reparation for consumers; the Introduction of **new principles of imposing sanctions** depending on the trader's turnover to prevent the imposition of liquidation fines on traders; **the precision of the competences of supervisory authorities** in order to prevent the emergence of conflicts of competence; **the definition of prohibited practices** in the recovery of debts; etc.

As the number of changes introduced by the new Act is considerable and far beyond the scope of this paper, we have focused our examination primarily on the changes related to price regulation and specifically on the Introduction of new rules related to the reduction of the price of goods by traders. The main objective of the paper is to highlight selected provisions of the new Act related to price regulation, to compare them with the existing legislation and to assess whether the new legislation will bring positive change.

1 Methodology

Specific selected research steps of the authors' scientific activity led to the fulfilment of the set objectives. Since the subject of the authors' research was dominated by legislation that was not yet effective at the time of the research, the use of quantitative or statistical methods seemed inappropriate. Therefore, qualitative methods prevailed in the scientific Methodology, which were chosen regarding the individual stages of the research. The authors carried out the research in the stages of data acquisition and processing, data comparison and drawing Conclusions.

In the stage of data acquisition and processing, the authors chose the historical-legal method together with the method of analysis. Data acquisition and processing was necessary to acquire the matrix for the comparative part of the research. In this stage of the research, the authors used the historical-legal method in conjunction with the method of analysis to identify specific legal instruments and protective mechanisms of consumer rights and price regulation from the original legislation, which were appropriately interpreted by the authors after subsequent sorting. The identification of the above-mentioned institutes in the new legislation was carried out exclusively by way of analysis. The outcome of this stage was thus a clear identification of the specific objects of the authors' research.

The stage of comparison of the objects of research (data) yielded the results on the mutual comparison of the identified institutes. In particular, the comparative criteria were the scope (diversity) of the basic and general obligations of the trader related to price regulation as one of the consumer protection tools enabling the implementation of an „informed" consumer decision and the assumed effectiveness of price regulation instruments.

At the stage of drawing Conclusions, the authors, based on the methods of synthesis and deduction from the general findings of the previous stages of the research, drew specific statements on the results of the comparison of individual institutes with the previous legislation, such as statements on the degree of consumer protection or the assumed effectiveness of control processes of price formation. The authors followed up on the previous methods with a method of induction, through which the authors, based on the Conclusions from the previous stages of the research, made a general statement about the assumed effectiveness of the new legislation. The result was an answer to the research question: whether the amendment of the legislation will bring about a positive change in society.

2 Results and Discussion

The Act deals with price regulation in several provisions, e.g.: in the provision aimed at the basic trader's obligations (Section 4(1)(a) of the Act) as well as in the provision aimed at the determination of the trader's general information obligations (Section 5(1)(c) of the Act), in connection with the obligation to mark the goods with the price (Section 6 of the

Act) and also in connection with the Introduction of new trader's obligations in the case of reduction of the price of the goods (Section 7 of the Act). Apart from the latter, all other obligations were also subject to regulation under the previous legislation.

The new legislation unifies this regulation and harmonizes the terminology and definitions. By introducing new terms at the same time reflects the changes relating to the digitization and computerization of society and the need to protect consumers when making economic decisions relating to the acquisition of new types of products.

Therefore, before proceeding to the analysis of the trader's individual obligations related to the price regulation under the new legislation, let us devote space to the new concepts or their new definitions.

2.1 Definition of the term „selling price"

The new Act, like the previous legislation, works with the concepts of „**selling price**" and „**unit price**". According to Section 2(g) of the Act, the selling price means the final price, including value added tax and all other taxes, per unit of the product or for a specified quantity of the product. The only difference in this definition compared to the previous legislation is the use of the term „**product**", whereas the previous legislation used the term „**manufacture**" (in Slovak: „**výrobok**").

Currently, there is no legal definition of the term manufacture, although it is still used in the law (e.g. in the context of a textile manufacture, a cosmetic manufacture, etc.). Under the previous legislation, a manufacture was considered to be: a new, used or modified movable object which has been manufactured, mined or otherwise obtained, irrespective of its degree of processing, and which is intended to be offered to the consumer or which can be expected to be used by the consumer, if the object is supplied for remuneration or free of charge; a manufacture was considered to be also a movable object which is part of, or an accessory to, another movable or immovable object, electricity, gas, water or heat intended for use by the consumer. Although this is a fairly broad definition, it is clear that, in terms of substantive content, it does not cover all aspects which may be the subject of economic relations between a consumer and a trader. For this reason, introducing the term „product" among the legal definitions by the legislator can be welcomed.

The substantive content of the term „product" as defined in Section 2(c) of the Act includes:

- **goods** (i.e. any tangible movable thing; goods include electricity, water or gas which are for sale in a limited volume or in a specified quantity, and a tangible medium which serves exclusively as a carrier of digital content, in particular a CD, DVD, USB stick and memory stick),
- **service** (i.e. any activity or performance that is offered or provided to a consumer, including a digital service and activities of regulated professions regulated by specific legislation and supervised by professional chambers or other public authorities, such as consumer protection supervisory authorities),
- **digital content**,
- **real estate**,
- **electricity, water or gas** (for sale without any limitation of volume or quantity), **heat**,
- **rights and obligations**.

The definition of „**product**" also shows the legislator's desire to respond to the new challenges of digitalization and computerization of society and to provide consumers with protection when purchasing any product by applying the concept of selling price to all „products".

Whereas the definition of the term „product" also envisages the provision of digital services, digital content, etc. (a product delivered over time) on the basis of a contract concluded for an indefinite period of time, or on the basis of a contract with a certain billing period (e.g. monthly or otherwise), in this case as the selling price is considered the total cost for one month (if the billing period is monthly) or for another period (if the billing period is measured by another time period, e.g. quarter, half-year, etc.).

2.2 Selling price determined based on automated data processing

The new Act also incorporates provisions relating to distance contracts and contracts concluded away from the trader's business premises. In the case of concluding a contract in this way, it may be possible that the selling price for a particular consumer (or group of consumers) will be determined based on automated decision-making, including **profiling** (Section 15(1)(d) of the Act). These concepts have been adopted into the Act from Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons regarding the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), as amended (hereinafter only „**GDPR**"). By profiling we mean any form of automated processing of personal data which consists of using such personal data to evaluate certain personal aspects relating to a natural person, in particular to analyze or predict aspects of the natural person concerned relating to job performance, financial situation, health, personal preferences, interests, reliability, behavior, location or movement, as well as specific data such as size and measurements of clothing and footwear, attitudes towards the environment, etc.

Thus, if the selling price for a particular consumer is to be determined based on profiling, the trader has the additional notification task of informing the consumer of this fact.

2.3 Definition of the term „unit price"

In order to allow consumers to make an informed decision about the transaction (to make it easier for them to compare prices of similar goods or goods in different packages), labelling the product with **a unit price** is used. It is the price for one quantitative unit, most often price for 1 liter, 1 kilogram, 1 meter. As stated by the legislator in the explanatory memorandum to the Act it can also be another quantitative unit e.g. 1 piece, 1 does or 1 lot (e.g. a washing dose in the case of detergents). The most important is consistency. The trader is obliged to mark all products of the same kind with the same unit of quantity, otherwise the purpose of the obligation to mark goods with a unit price will not be fulfilled.

As regards the definition of the unit price, it has remained almost identical to the previous legislation. The only difference (as in the case of the term of the selling price) lies in the replacement of the term „**manufacture**" by the term „**goods**". The obligation to indicate the unit price thus automatically applies to any goods (any tangible movable thing or tangible medium), and also to water, electricity and gas which are for sale in a limited volume or in a specified quantity.

2.4 Obligations of the trader related to price regulation

The basic obligations of a trader are a) to sell and provide the product at the agreed price and charges, b) to charge prices and charges correctly when selling and providing the product, and c) to give the consumer a receipt for payment of the price.

Ad a) Obligation to sell and provide the product at the agreed price and charges, obligation to price mark the product

Under the Prices Act, a price agreement is an agreement on the amount of the price or an agreement on the way the price is formed, provided that the manner sufficiently determines the price. A price agreement is also created by so called „tacit agreements" – when the buyer pay the price of the goods in the amount requested by the seller.

The prerequisite for these proceedings involving tacit agreement is that the product is clearly marked with the selling price (obligation under Section 6 of the Act).

At the same time, the following obligation is explicitly mentioned in the trader's general information obligations (Section 5 of the Act), which must be fulfilled before the Conclusion of the contract or before the consumer sends the order. According to this clause the trader is obliged to notify the consumer in a clear and comprehensible manner:

- the selling price of the product,
- the way it shall be calculated where (due to the nature of the product) the selling price cannot be determined in advance,
- the cost of transport, delivery, postage and other costs and charges and
- the fact that other costs and charges may be included in the total price if the costs and charges cannot be determined in advance.

The legislator emphasizes that the above information on price and related charges must be provided at a qualified time, i.e. before the Conclusion of the contract or before the order is placed, and in a qualified manner, i.e. in a clear and comprehensible manner.

The trader must mark the goods with the selling price and the unit price in an unambiguous and easily legible manner. A more detailed specification of the price marking of the goods is laid down in the Prices Act, which implies that every good must be marked at the time of sale with the price valid at the time of the offer, by price tag, price information in the form of a price list, a notice board or in another appropriate manner (Section 15(1) of the Prices Act).

If the unit price is the same as the selling price, the unit price need not be indicated. Goods sold by quantity shall be marked only with the unit price. The legislator also defines other situations where the trader is not obliged to mark the goods with the selling price and the unit price. These are cases of goods supplied during the provision of a service, or in the case of sales at public auction, or in the case of the sale of works of art and antiques. The unit price need not be indicated in cases where such indication would not be useful because of the nature of the goods or their purpose, or could lead to confusion (e.g. goods in packages of up to 50 g or 50 ml, or goods which cannot be divided into parts without altering their quality or characteristics, etc.).

Ad b) Obligation to correctly charge prices and fees when selling and providing a product

The obligation to correctly charge prices when selling and providing a product to a consumer belongs to the basic pillars of consumer protection and was also enshrined in the original legislation (Section 4(1)(d) of Act No.250/2007 Coll.). The new legislation has extended this obligation also in relation to the charging of the related fees. In previous legislation the obligation to correctly charge was explicitly defined only in relation to prices; in relation to fees to proceed by analogy was necessary. The new Act has therefore remedied this deficiency.

Although compliance with this obligation appears to be a crucial, the Slovak Trade Inspection Authority has found many breaches of this provision during its inspections, so the clarification of this obligation can be regarded as a correct step towards strengthening the protection of consumer rights.

Ad c) Obligation to give the consumer a receipt for payment of the price

The obligation to issue and give a receipt for payment of the price was also explicitly anchored in the previous legislation (Section 16 of Act No. 250/2007 Coll.) Unlike the current regulation it had precisely defined information that had to be included on the purchase receipt (equivalent to the receipt for payment of the price). It had also specified obligatory purchase receipt's information in case selling the product with subsequent delivery, or in case selling the used, modified or defective product.

In order to avoid legal duplication (in competition with other legislation), the current legislation does not define the particulars or the exact form of the receipt for payment. In contrario, that confirmation may take the form of any document whose function is to confirm that the consumer has paid the price for the product and in what amount. Most often, the confirmation takes the form of a cashier´s block, the particulars of which are determined by Act No 289/2008 Coll. on the use of the electronic cash register and on amendment and supplementation of Act No 511/1992 Coll. on the administration of taxes and duties and on changes in the system of territorial financial authorities, as amended. Another type of confirmation could be an invoice issued pursuant to Act No 222/2004 Coll. on the value added tax, as amended. As is clear from the explanatory memorandum, for the purpose of the Consumer Protection Act, the form or format of this confirmation is not decisive; the aim is only to ensure that the consumer receives such a confirmation, since proof of purchase and payment of the price for a particular product is generally a condition for the exercise of any subsequent consumer rights.

Obligations of the trader to inform the consumer when reducing the price of goods

The new Act responds to a common practice that has been identified by a number of relevant traders in the EU, in particular during special sales events (e.g. Black Friday, Cyber Monday, Cyber Week), but also during regular discount events (e.g. discount leaflets), where the consumer did not receive accurate information about the reduction in the price of the goods or the amount of the discount provided, or where this information was provided in such a way as to give the consumer the impression of a very advantageous purchase.

2.5 Purpose of the new regulation

The purpose of the new legislation regulating traders' information obligations when reducing prices is to prevent price manipulation in the form of misleading consumers about the amount of the actual discount, as well as to prevent misleading price manipulation by traders.

The practices mentioned above can be regarded as an unfair commercial practice, as they meet characteristics set out in Section 9 of the Act, specifically

- is contrary to the requirements of professional care and
- in relation to the product, it substantially distorts or is likely to substantially distort the economic behavior of the average consumer to whom the commercial practice is addressed.

Substantial impairment of a consumer's economic behavior means the use of a commercial practice to substantially impair a consumer's ability to make an informed decision, with the result that the consumer decides on a commercial transaction that he would not otherwise have made.

2.6 Substantive scope of the new legislation

The new legislation has been incorporated into the Slovak legal order to transpose Directive 98/6/EC as amended, while (in terms of its material scope) the measures contained in the Directive do not apply to all products, only to goods. In Slovakia it is therefore applicable i.e. it applies to any tangible movable object; electricity, water or gas which is for sale in a limited volume or in a specified quantity; and, to any tangible medium which serves exclusively as a carrier of digital content, in particular CDs, DVDs, USB sticks and memory sticks.

The rules on information on the reduction of the purchase price apply to all types of sale. However (as the explanatory memorandum explains) the exceptions from these rules exist. They apply to the various loyalty schemes, vouchers and discount cards where the consumer has the right to redeem a discount on all or part of the product range during a certain period. The exceptions also apply to events such as the consumer's birthday or discounts resulting from the redemption of loyalty points.

2.7 Trader's information obligations

What are the rules for informing the consumer of a price reduction? The basic rule states that the trader is obliged to inform about the previous price of the goods in any price reduction notice. To avoid confusion as to what is considered the previous price of the goods, the legislator states that it is the lowest price at which the trader sold or provided the goods in the 30 days prior to the reduction in the price of the goods, or in a shorter period if the goods were only sold or provided for a shorter period prior to the reduction in the price of the goods. It does not matter how long the discount lasts. The previous price is always the price at which the trader provided the product for a period of not less than 30 days before the price reduction.

Where a trader states that a discount of - for instance 20% applies to all garments - it is sufficient if he only states the previous price for a particular product and it is not necessary (and in many cases even not possible) to communicate all the original prices directly with such a statement.

As is clear from the explanatory memorandum to the Act: this regulation also applies to cases where the trader reduces the price for a short period and then increases it again, i.e. in the case of promotions such as „Black Friday", even if there are several of them in a row. In this case, the trader may also refer to the original price, but must also indicate the lowest price at which he provided the product in the period of at least 30 days prior to the price reduction. For example, by presenting the discount 20% for all goods – the trader may state that the product costs €80 instead of €100, which is the lowest price in the past 30 days, and he may also state that the original price or the price except the discount period is usually €120. The condition is that such additional reference prices are clearly explained, do not create confusion and do not distract the consumer from the indication of the previous price pursuant to Section 7(2) of the Act. The way in which such additional reference prices are calculated and displayed is generally subject to the provisions on unfair commercial practices. In this context, traders must always ensure that it is clear to the consumer what these additional reference prices referred to represent.

Where a trader sells goods through different sales channels or points of sale (e.g. different bricks-and-mortar and/or online shops) at different prices and those different sales channels or points of sale are covered by a general price reduction notice, he must indicate as the previous price of the relevant goods (in each of the sales channels or points of sale) the lowest price he has applied in that particular sales channel or at that particular point of sale during at least the last 30 days.

2.8 Gradual reduction of prices

The legislator independently adjusts the situation of gradual reduction of prices, when the trader can only state the original price of the product, regardless of the time of sale of the goods. However (if such a gradual reduction was implemented too long) the fairness of this extensive period may still be judged in terms of unfair business practices.

2.9 Exceptions

The law also provides for exceptions of the above-mentioned obligations. The obligation to indicate the previous price in each notification of a reduction in the price of goods does not apply to goods that are subject to rapid quality reduction or fall. Such goods are e.g. cut flowers and other live flowers, food and beverages with a short shelf life or minimum shelf life. However, this exception cannot be interpreted extensively. Therefore, cannot be applied for seasonal goods as seasonal clothes, etc.

Conclusion

The new legislation on consumer protection continues to be based on the concept of the so-called „average consumer" who is reasonably well-informed, perceptive and prudent, considering social, cultural and linguistic factors (point 18 of the UCPD's Preamble). Following the application of this concept, emphasizing good consumer information (including information about the price of products), in the new regulation the previous term „qualified" is replaced by the term „informed" consumer decision. It is understood as such a consumer's decision, which is made with a sufficient amount of accurate and true information, which allows him to consider the risks and benefits of the business transaction. On the other hand, this does not always mean that it will be a correct or professional (qualified) decision made by the consumer.

As a result of the application of this concept of approach to consumer protection, the new consumers' protection legislation regulates extensive pre-contractual information obligations for traders, which they are obliged to provide to consumers before the Conclusion of the contract, or (if the contract is concluded based on the consumer's order) even before the consumer sends an order to the trader. Most of the previous pre-contractual information obligations of traders, including information on the price of products, were taken over by the new legislation from the previous regulation, either verbatim or in more specified way.

In addition, it also introduced several new pre-contractual information obligations for traders, including obligations related to the price of products, which respond to the unfair practice of some traders in the recent period (e.g. artificially raising prices before various discounts and sales, misleading indication of unit prices of goods and selling prices of products, etc.). Although the new legislation reacts to these unfair practices of some traders and will most recently regulate many of them as unfair business practices, only the real practice of traders will prove whether it will be sufficient and durable (even in the context of the further development of digitalization of trade, which is expected).

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International Insolvency Proceedings as a Tool to Resolve Debtor's Insolvency

Mária Veterníková[1] – Andrea Slezáková[2]

Abstract

Thanks to globalisation, but also to free movement, an international element is emerging in many insolvency proceedings dealing with the debtor's insolvency and its resolution. The authors of the article examine the legal framework that is applied when the international element has a relationship with the countries of the European Union and the legal framework that is applied when the international element has a relationship with countries that are not members of the European Union. In such cases, the legal regulation used is different. The paper sets out its common features and differences.

Key words

debtor's bankruptcy, insolvency proceedings, bankruptcy, restructuring, international element, legal regulation

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Introduction

The business activities of some entrepreneurs extend beyond the borders of a single country. It is also not infrequent that entrepreneurs run into financial difficulties in connection with their business activities. Their unfavourable economic situation may result in a state of bankruptcy. Bankruptcy, restructuring and debt relief are ways of resolving the bankruptcy or imminent bankruptcy of a debtor by legal means. They are regulated in the Act No 7/2005 Coll. on Bankruptcy and Restructuring and on Amendments and Additions to Certain Acts, as amended (hereinafter referred to as the "Bankruptcy and Restructuring Act" or "ZKR"). According to this Act, a debtor's bankruptcy may take two forms. Either bankruptcy may take the form of insolvency (insolvency) or bankruptcy in the form of prolongation. The ZKR provides for three insolvency proceedings, namely insolvency proceedings, restructuring proceedings and insolvency proceedings.

Insolvency proceedings are international insolvency proceedings if they deal with issues that have an international element (Poláček, 2017). This can be, for example, a foreign person or property located abroad. In practice, it is often the case that a debtor in bankruptcy has not only domestic but also foreign creditors, or part of its assets are located abroad, where it has an enterprise or a branch of an enterprise (Ďurica, 2010).

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If the international element has a relationship with Member States of the European Union (with the exception of Denmark), the provisions of Regulation (EU) 2015/848 of the European Parliament and of the Council of 20 May 2015 on insolvency proceedings (hereinafter referred to as "Insolvency Regulation" or the "Regulation") will apply to the international insolvency proceedings. The provisions of the Bankruptcy and Restructuring Act shall apply only if the Regulation does not provide otherwise. In relation to States which are not members of the European Union, the relevant provisions of the CCR shall apply (Articles 173 to 175) and the Act No 97/1963 Coll. on private and procedural international law, as amended (hereinafter referred to as „Act on Private and Procedural International Law"). In addition to this legislative construction, there is UN General Assembly Resolution 52/1858 of 15 December 1997 on the adoption of the UNCITRAL Model Law on Insolvency Proceedings with an International Element (hereinafter referred to as "UNCITRAL Model Law" or "Model Law"). The UN General Assembly recommended that all States review their legislation and adapt their laws in accordance with the Model Law, which is, however, only recommendatory.

1 Methodology

The aim of the article is to examine, on the basis of scientific methods, the legal regulation of insolvency proceedings with an international element, which is applied when the international element has a relationship with the countries of the European Union, but also when the international element has a relationship with countries that are not members of the European Union. In such situations, different legal rules apply. Among the scientific methods used in the preparation of the article, the general scientific methods of investigation have been applied, in particular analysis and synthesis at all stages of the solution, the method of induction and deduction, the method of abstraction, the method of comparison and the method of generalisation. The method of scientific abstraction was used to eliminate the irrelevant and accidental from the essential and lawful.

2 Results and Discussion

2.1 Insolvency Regulation

The Regulation applies to public collective proceedings, including interim proceedings, which are based on insolvency law and in which, for the purposes of rescue, alteration of the content of liabilities, restructuring or liquidation i) the debtor is wholly or partly deprived of the right to dispose of his property and a trustee is appointed; ii) the debtor's property and affairs are subject to control or supervision by the court; or iii) a temporary stay is granted by a court or by operation of law of proceedings in which individual recovery is sought in order to allow negotiations to take place between the debtor and his creditors, provided that the proceedings in respect of which the stay has been granted provide for appropriate measures for the protection of creditors. The Regulation explicitly identifies these insolvency proceedings in each national law in its Annex A.

The Regulation shall not apply to proceedings concerning insurance undertakings, credit institutions, investment firms or collective investment undertakings (Poláček, 2017).

The courts of the Member State of the European Union in whose territory the centre of the debtor's main interests is situated have jurisdiction to open insolvency proceedings. Such proceedings shall be deemed to be main insolvency proceedings (Poláček, 2017). The debtor's centre of main interest is the place where the debtor regularly carries out the management of its interests and which is identifiable by third parties (Brinkmann, 2019). In the case of a legal person, the place where its main interests are concentrated shall be deemed to be its registered office, unless the contrary is proved. That presumption shall apply only if the registered office has not been transferred to another Member State of the European Union during the three months preceding the application for insolvency proceedings. In the case of a self-employed person, the centre of main interests shall be deemed to be the place of his business, unless the contrary is proved. This presumption shall apply only if the main place of business of the natural person has not been transferred to another Member State of the European Union during the three months preceding the lodging of the application for insolvency proceedings (Bork & Zwieten, 2022).

If the centre of main interests of a debtor is situated in the territory of a Member State of the European Union, the courts of another Member State have jurisdiction to open insolvency proceedings against that debtor only if he has an establishment in the territory of that other Member State. An establishment means any place of business at which the debtor carries on, or has carried on during the three months preceding the application for the opening of main insolvency proceedings, an economic activity, other than a transitory one, using human resources and assets. The effects of such proceedings shall be limited to the debtor's assets situated in the territory of that Member State of the European Union. Where main insolvency proceedings have been opened, any proceedings subsequently opened shall become ancillary insolvency proceedings (Poláček, 2017).

Unless the Regulation specifically provides otherwise (Articles 8-18), the applicable law is the law of the Member State in which the insolvency proceedings are opened. Such law defines all the relevant effects of insolvency proceedings on the persons and legal relations concerned and determines the conditions for the commencement, content, conduct and termination of insolvency proceedings.

A decision opening insolvency proceedings given by a court of a Member State of the European Union which has jurisdiction shall be recognised in all other Member States from the moment it takes effect in the State in which the proceedings were opened. Recognition of the main insolvency proceedings shall not preclude the opening of proceedings against the debtor, if he has an establishment in the territory of another Member State, by a court in that other Member State. Proceedings opened later become ancillary insolvency proceedings (Poláček, 2017).

The trustee appointed by the competent court in the main insolvency proceedings may exercise all the powers conferred on him by the law of the State which opened the proceedings in another Member State, provided that no other insolvency proceedings have been opened in that other Member State or any measure of protection has been taken there, following an application for insolvency proceedings, for the purpose of preventing such proceedings. In particular, subject to the rights in rem of third parties and rights subject to retention of title, the trustee may transfer the assets of the debtor from the territory of the Member State in which they are situated (Poláček, 2017).

The trustee appointed by the competent court in an ancillary insolvency proceeding may, in any other Member State, by judicial or extrajudicial proceedings, request that, after the opening of the insolvency proceedings, the movable property be transferred from the territory of the Member State which opened the proceedings to the territory of that other Member State. The trustee may also, in the interests of creditors, bring actions for rescission.

In exercising his powers, the trustee must act in accordance with the law of the Member State of the European Union in the territory of which he intends to act, in particular with regard to the procedures for the realisation of assets. Those powers may not include coercive measures, unless ordered by a court of that Member State, or the right to adjudicate in legal proceedings or disputes.

Any Member State may refuse to recognise insolvency proceedings opened in another Member State or to enforce a judgment given in connection with such proceedings if the effects of such recognition or enforcement would be manifestly contrary to the public policy of that State, in particular as regards its fundamental principles or the constitutional rights and freedoms of the individual. That is the only ground for refusing recognition of insolvency proceedings opened in another Member State or enforcement of decisions given in connection with such proceedings (Poláček, 2017).

Where insolvency proceedings concern two or more members of a group of companies, the group of companies being the parent undertaking and all its subsidiaries, the trustee appointed in the proceedings concerning a member of that group shall cooperate with any trustee appointed in the proceedings concerning another member of the same group, in so far as such cooperation contributes to the more efficient conduct of those proceedings, is compatible with the rules applicable to those proceedings and does not constitute a conflict of interest (Poláček, 2017).

Where insolvency proceedings concern two or more members of a group of companies, the court which opened such proceedings shall cooperate with any other court to which an application has been made for the opening of proceedings concerning another member of the same group or which has opened such proceedings, provided that such cooperation is appropriate to facilitate the efficient conduct of the proceedings, is compatible with the rules applicable to those proceedings and does not constitute a conflict of interest. For this purpose, the courts may, where necessary, appoint an independent person or body to act on their instructions, provided that this is compatible with the rules applicable to them.

2.2 UNCITRAL Model Law

According to the Model Law, national legislation should include provisions to allow foreign main and ancillary insolvency proceedings (Ďurica, 2010). The Model Law considers a foreign main proceeding to be a foreign main proceeding that takes place in the state where the debtor has the centre of its main interests. A foreign ancillary proceeding is a proceeding conducted in addition to the foreign main proceeding in the state where the debtor has an establishment. An establishment is any place of business where the debtor carries on a non-transient economic activity by means of human resources, goods or services. A foreign trustee (representative) is a person or body, even temporarily appointed, who is authorized in a foreign proceeding to direct the reorganization or liquidation of the debtor's property or affairs or to act as a representative of the foreign proceeding.

A foreign trustee may apply to the court for recognition of the foreign proceedings in which he or she has been appointed as trustee. The domestic court is to recognise the foreign proceedings and the foreign trustee as soon as possible if the application complies with the requirements laid down. A foreign insolvency proceeding is to be recognised as a main proceeding if it takes place in the State where the debtor has the centre of its main interests or as a foreign ancillary proceeding if it takes place in the State where the debtor has an establishment. A domestic court need not recognise a foreign proceeding if it would be contrary to public policy. After recognition of a foreign proceeding, the foreign trustee is required to inform the court of any material change in the status of the foreign proceeding, the person of the trustee, and any other foreign proceeding involving the same debtor of which the foreign trustee becomes aware. After filing an application for recognition of the proceedings, the foreign trustee may apply for an interim measure if necessary to protect the debtor's property or the interests of creditors. The foreign trustee may also apply for a stay of execution of the judgment concerning the debtor's property and appoint a cross-border trustee or another person as trustee for the property in order to protect it.

Courts and insolvency practitioners are supposed to cooperate in insolvency proceedings, either directly or through designated persons or bodies. States may provide for cooperation in their national arrangements, in particular with regard to the appointment of a person or authority to act under the direction of the court, the communication of information, the coordination of the administration and control of the debtor's property, the coordination of parallel proceedings, etc. (Ďurica, 2010).

After recognition of the foreign main proceedings, domestic proceedings can only be opened if the debtor has assets in that State. The effects of those proceedings are limited to those assets. If insolvency proceedings are pending simultaneously in several States, the court is obliged to request cooperation. In the absence of proof to the contrary, recognition of the foreign main proceedings is proof that the debtor is insolvent for the purposes of the opening of the national proceedings. National legislation should grant the foreign trustee standing to bring an insolvency petition if the conditions for bringing such a petition are met.

Foreign creditors should have the same rights as domestic creditors. If a notice of insolvency proceedings must be served on creditors under national law, it should also be served on foreign creditors.

The coordination of parallel insolvency proceedings differs in principle from the arrangements contained in the Regulation. It is not exclusively subordinated to the main insolvency proceedings, which allows the individual courts to react more flexibly and gives them more discretion in granting cooperation.

2.3 Cross-border insolvency proceedings in non-EU countries under the Bankruptcy and Restructuring Act

The legal regulation of cross-border insolvency in relation to states that are not members of the European Union is very brief and deals only with the recognition of foreign judgments, the recognition of the effects of insolvency and the jurisdiction of the courts of the Slovak Republic. (Pospíšil, 2012).

If the debtor has its registered office outside the territory of the Slovak Republic and outside the territory of the Member States of the European Union, the jurisdiction of the Slovak courts in bankruptcy and restructuring proceedings is given if the debtor has assets in the territory of the Slovak Republic. In cross-border insolvency proceedings, the property is to be understood as the property component as referred to in the Regulation and the Model Law.

Recognition of foreign judgments in insolvency proceedings is governed by the principle of reciprocity. This means that our court will recognise a decision of this kind if it is also recognised by the state that issued it. The principle of reciprocity applies only if the Slovak Republic is not bound by an international treaty governing the satisfaction of the debtor's creditors in proceedings governed by the Bankruptcy and Restructuring Act.

A foreign trustee may file an application for recognition of a foreign decision. The Bankruptcy and Restructuring Act does not provide for any particulars of the application and therefore it is necessary to proceed according to the Act on Private and Procedural International Law (Ďurica, 2010). The application for recognition of a foreign judgment must make it clear to which court it is addressed, who makes it, which matter it relates to and what it seeks, and it must be signed and dated. The application must contain the designation of the foreign judgment, the name of the authority which gave it, the date on which the foreign judgment became final or was enforceable and a list of the documents to be annexed to the application. The foreign trustee must prove the commencement of the foreign insolvency proceedings, including his appointment as trustee, and a legal interest in the recognition of the foreign judgment. The court shall recognise foreign decisions on the basis of reciprocity, i.e. if such a decision of a Slovak court is also recognised by a foreign state (Pospíšil, 2012). The court may not recognise a foreign decision if other foreign insolvency proceedings or insolvency or restructuring proceedings conducted by a Slovak court are already pending in the territory of the Slovak Republic against the same debtor. The Slovak court shall cancel the recognition of a foreign proceeding if it finds that the conditions for its recognition are not fulfilled. Recognition of a foreign insolvency proceeding shall also be revoked by law upon the commencement of insolvency or restructuring proceedings by a Slovak court. The court may only commence bankruptcy or restructuring proceedings if the debtor has assets in the territory of the Slovak Republic. The Bankruptcy and Restructuring Act does not respect the recommendations of the Model Law and does not regulate this procedure as an ancillary one, nor does it regulate the relationship of bankruptcy proceedings in Slovakia to previously initiated bankruptcy proceedings in the territory of another state which is not a member state of the European Union. The possibility to initiate restructuring proceedings against a debtor subject to insolvency proceedings in another state is rather theoretical, although the Bankruptcy and Restructuring Act provides that the initiation of insolvency proceedings in the territory of the Slovak Republic is not an obstacle to the initiation of insolvency or restructuring proceedings.

Conclusion

Ensuring that businesses operate in a competitive environment is important for the proper functioning of a market economy. The quality of the competitive environment is determined not only by setting the conditions for the implementation of the activities of business operators, but also for dealing with business operators who have failed in the competitive environment. The failure of business operators can have wide-ranging consequences, manifesting themselves across a number of national territories. Therefore, the need for cross-border business through regulation has quite naturally arisen. The entrepreneur must respect the law of the State concerned or international law or other law which is superior to national law. Cross-border business also entails the risk of insolvency, which is regulated by insolvency law. In the field of international insolvency law, a distinction must be made between legislation in the European Union and legislation which does not concern the Member States of the European Union.

In the article we have discussed the issue of international insolvency proceedings in the context of the Insolvency Regulation, the UNCITRAL Model Law and the Bankruptcy and Restructuring Act.

The Regulation distinguishes between main and subsidiary insolvency proceedings, with the main insolvency proceedings being the predominant insolvency proceedings. The proceedings run concurrently and must be coordinated so as not to pursue conflicting or mutually exclusive objectives in terms of conduct, effects and objectives, with communication and cooperation between trustees and insolvency courts being the cornerstone of the coordination of parallel insolvency proceedings. The dominant role of the main insolvency proceedings and the ancillary function of the ancillary insolvency proceedings are also reflected in the way the Regulation has chosen to coordinate several insolvency proceedings. Similarly, the Model Law also distinguishes between main and ancillary insolvency proceedings which run concurrently. However, the coordination of parallel insolvency proceedings differs in principle from the arrangements contained in the Regulation. It is not exclusively subordinated to the main insolvency proceedings, which allows individual courts to react more flexibly and gives them greater discretion in providing assistance. The legal regulation of cross-border insolvencies in the Bankruptcy and Restructuring Act in relation to states that are not members of the European Union is very brief and deals only with the recognition of foreign judgments, the recognition of the effects of insolvency and the jurisdiction of the courts of the Slovak Republic. Although the UN General Assembly has recommended that all states review their legislation and adapt their laws in line with the Model Law, the Bankruptcy and Restructuring Act does not respect the recommendations of the Model Law. The Bankruptcy and Restructuring Act does not regulate the relationship of insolvency proceedings in Slovakia to insolvency proceedings initiated earlier in the territory of another state which is not a Member State of the European Union. The possibility to initiate restructuring proceedings against a debtor who has been subject to bankruptcy proceedings in another state is rather theoretical, although the Bankruptcy and Restructuring Act provides that the initiation of bankruptcy proceedings in the territory of the Slovak Republic is not an obstacle to the initiation of bankruptcy or restructuring proceedings. It is desirable to supplement the legislation in question in the Bankruptcy and Restructuring Act, which currently appears to be insufficient, in the future.

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Global digital platforms: Research on strategies and success factors[1]

Yuliia Yehorova[2]

Abstract

The global exchange of goods and services is increasingly shifting online and onto digital platforms. This paper focuses on the analysis of the leading digital platforms as a "new phenomenon" that has become increasingly significant over the last decade. The main goal is to determine their strategy and success factors. Analysis, synthesis, comparison, mathematical and statistical methods were used. It was found that the success of the selected companies is based on a combination of outstanding skills in specific digital technologies, benefiting from network effects and marketing strategies that enhance their competitive advantage in markets.

Key words

Digital distribution, global digital platforms, strategy

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Introduction

Seven of the ten most valuable companies in the world are currently working with a platform business model that involves the development of online communities and marketplaces for the exchange of goods and services between different groups. Digital platforms are transforming international business, shaping markets on a global scale, and reducing the cost of cross-border interactions and transactions.

The paper focuses on researching the strategies and success factors of leading technology companies using the platform business model - Alphabet (Google), Microsoft and Meta Platforms (Facebook).

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1 Methodology

The main goal is to determine strategies and success factors of leading technology companies using a platform business model. As part of this paper, a correlation and regression analysis was conducted on the dependence of the company's revenue on expenses for: research and development, sales and marketing. Hypotheses were formulated:

H0 Expenses on research and development and sales and marketing have an insignificant and equal impact on the revenue of the selected companies.

H1 Research and development and sales and marketing expenses have a significant and different impact on the revenue of the selected companies.

The financial performance indicators of leading technology companies using the platform business model - Alphabet (Google), Microsoft and Meta Platforms (Facebook) for the period 2010-2023 were used as the basis for the analysis. Total revenue was used as the dependent variable and expenditure on research and development and sales and marketing as independent variables. In addition, analysis, synthesis and comparison were used in this paper.

2 Results and Discussion

The concept of platform business is not new. However, the fact that today the income of the largest platform companies is growing faster and exceeds the GDP of many countries allows us to talk about them as a "new phenomenon". According to DinarStandard's Report (2023) 370 top 'digital platforms' globally representing an estimated annual revenue of $1.87 trillion and 371 billion average monthly users in 2022.

The rapid development of digital platforms is confirmed by a significant increase in the market capitalization of the companies that own them. In 2023, Apple topped the rankings with a market capitalization of US$2.61 trillion. The top five also included well-known brands such as Microsoft, oil company Saudi Aramco, Google parent Alphabet, and Amazon (PwC, 2023).

According to Gumede and Manenge (2023), the basis for the growth of digital platforms is the collection of large amounts of data and its use to improve algorithms in order to attract new users.

When there are no radical technological changes that can challenge the business models of global platforms, their success depends on "virtual cycles of network effects" (UNCTAD, 2021). In addition to these network effects, technology companies use a range of approaches to lock-in users and avoid lowering switching costs (Aalst et al., 2019).

According to Gawer and Srnicek (2021) network effects, combined with access to data and economies of scale and scope, have led to monopolistic trends and increased market power of the world's largest digital platforms, which are mainly based in the United States and China. For example, Alibaba and Tencent dominate the mobile payments sector and are diversifying their financial services supply chains, resulting in economies of scale (Zhang & Chen, 2019).

Evans et al. (2008) assume that the competitive advantages of the most successful platforms lie in global internet connectivity and software development.

Based on these assumptions, we will analyze the competitive advantages of leading technology companies Alphabet Inc. (Google), Microsoft Inc. and Meta Platforms, which use a platform business model.

2.1 Leading technology companies: the key characteristics and sources of competitive advantages

Global digital platforms have come to dominate certain segments. For example, Alphabet's (Google) search engine market share exceeds 90% across global regions. For decades, Microsoft has been the world leader in the market for operating systems for computers and laptops, as well as office software products. Meta Platforms has a leading position in social networks and the traffic generated on their sites, which leads to a high share of the online advertising market. The main characteristics and sources of competitive advantages of leading technology companies are presented in the table 1.

Tab. 1 The key characteristics and sources of competitive advantages of leading technology companies

Company	Alphabet Inc.	Microsoft Inc.	Meta Platforms
Headquarters	United States	United States	United States
Category	Content exchange platform	Digital Infrastructure Platform	Social Platform
Sub-Category	Search & Advert	Operating System	Social networking
Platforms	Google.com, YouTube.com	Microsoft.com, MSN, Microsoft 365, Office 365, linkedin.com	Facebook.com, Instagram.com, Whatsapp.com
Type of connection	B2C	B2B, B2C	C2C
Network effects	✓	✓	✓
Economies of scale	Data analytics, IT infrastructure	Software development, manufacturing, IT infrastructure	Software development, manufacturing, IT infrastructure
Economies of scope	Web technologies, software development, platform operations	Common platforms operations for Skype, Teams, Azure	Common platforms operations for Facebook.com, Instagram.com, Whatsapp.com
Diversification strategy	Robotics/AI/VR/AR/ analytics, advertising, cybersecurity, HW technology, smart home	Software, cloud, AI, cybersecurity, social media, mobile apps, gaming	Meta labs (AR, VR), related technologies
Stats	97 bn visitors globally 2/2023; YouTube. com 80.5 bn visitors	1.4 bn customers; more than 250 m monthly users of Office; 900 m members of LinkedIn	Facebook: 12.5 bn visitors globally 2/2023; Instagram: 5.2 bn

Source: own processing based on V. Brühl, 2023, p. 280 and DinarStandard 2023, p.25.

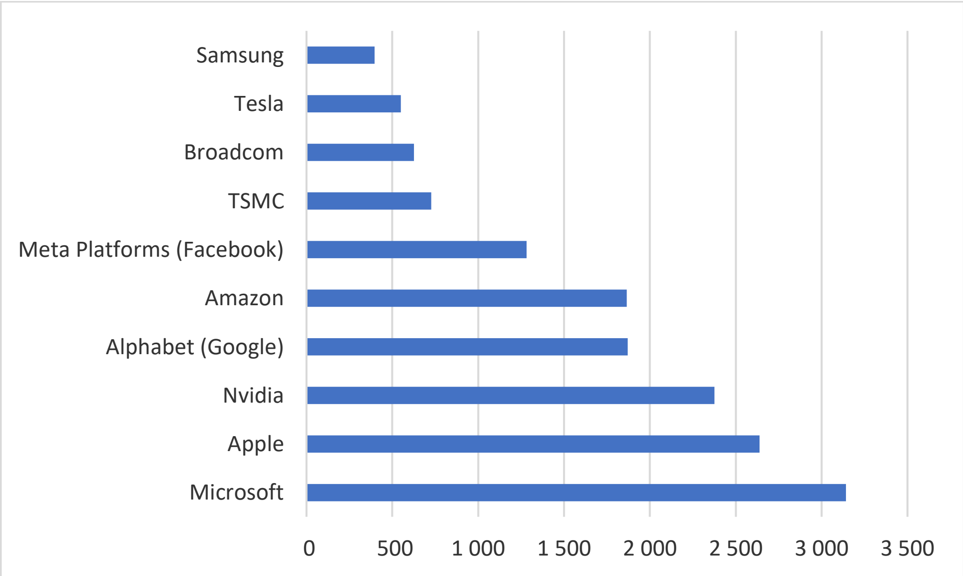
The competitive advantages of these technology giants are primarily based on the existence of network effects (the more users a platform has, the higher its value for everyone). Meta’s social networks clearly demonstrate the power of network effects to drive accelerated growth in the use of these platforms. Microsoft's operating systems create both direct network effects for their users and indirect effects through the integration of additional technologies into these platforms. Similar effects can be observed in the Google ecosystem.

In addition to strong network effects, Big Tech also benefits from economies of scale (e.g., in production, overhead functions), economies of scope (e.g., in marketing and sales, technology) or lock-in effects resulting from hardware or software solutions. Economies of scale, economies of scope and network advantages often act as mutually reinforcing drivers for first mover advantages that deter potential competitors and lead to high barriers to market entry (Brühl, 2023).

The transformation of distribution, which enables the distribution of content via the internet as a competitive advantage, is also one of the success factors of leading technology companies. Examples of this are the digital distribution platforms Xbox Game Pass from Microsoft and Google Play from Alphabet.

Overall, each of the three companies has strong competitive advantages based on their unique platforms and rank highly among the world's leading technology companies by market capitalization.

Graph 1 Leading tech companies worldwide as of June 5, 2024, by market capitalization (in billion U.S. dollars)



Source: Statista, 2024.

On June 5, 2024, Microsoft is in first place with 3.151 trillion US dollars. Alphabet is in fourth place with a market capitalization of USD 2.177 trillion and Meta Platforms is in sixth place with USD 1.255 trillion.

2.2 Analyzing the Relationship Between Revenue and Investment in Research & Development, Sales, & Marketing: The Case of Alphabet Inc., Microsoft Inc., and Meta Platforms

The initial data for the correlation and regression analysis are presented in Table 2.

Tab. 2 Financial performance indicators of Alphabet, Microsoft and Meta Platforms, 2010-2023 (in millions, except per share amounts)

Company	Years	Total revenue	R&D expenses	S&M expenses
Alphabet Inc.	2010	29321	3762	2799
	2011	37905	5162	4589
	2012	46039	6793	6143
	2013	55519	7952	7253
	2014	66001	9832	8131
	2015	74989	12282	9047
	2016	90272	13948	10485
	2017	110885	16625	12893
	2018	136819	21419	16333
	2019	161857	26018	18464
	2020	182527	27573	17946
	2021	257637	31562	22912
	2022	282836	39500	26567
	2023	307394	45427	27917
Microsoft Inc.	2010	62484	8714	13214
	2011	69943	9043	13940
	2012	73723	9811	13857
	2013	77849	10411	15276
	2014	86833	11381	15811
	2015	93580	12046	15713
	2016	85320	14697	11988
	2017	96571	13037	15461
	2018	110360	14726	17469
	2019	125843	16876	18213
	2020	143015	19269	19598
	2021	168088	20716	20117
	2022	198270	24512	21825
	2023	211915	27196	22759
Meta Platforms	2010	1974	144	167
	2011	3711	388	393
	2012	5089	1399	896
	2013	7872	1415	997
	2014	12466	2666	1680
	2015	17928	4816	2725
	2016	27638	5919	3772
	2017	40653	7754	4725
	2018	55838	10273	7846
	2019	70697	13600	9876
	2020	85965	18447	11591
	2021	117929	24655	14043
	2022	116609	35338	15262
	2023	134902	38483	12301

Source: own processing based on Alphabet earnings releases, Microsoft earnings releases, and Meta earnings releases, 2010-2023

Total revenue, also known as gross revenue, is the total amount of income company brings in from selling products/services.

Research and development expenses represent the cost of developing technologies and improving services, including the cost of equipment, salaries of the engineering teams responsible for developing new products and improving existing products and professional services.

Sales and marketing costs primarily comprise expenses for: Advertising, sales staff salaries, business development and customer service.

All three companies show a strong positive correlation between the dependent variable and the predictors. The correlation coefficients between total revenue and research and development expenses were: 0.990 for Alphabet Inc., 0.995 for Microsoft Inc. and 0.996 for Meta Platforms. Correlation between total revenue and sales and marketing expenses: 0.989 for Alphabet Inc., 0.973 for Microsoft Inc. and 0.975 for Meta Platforms. According to the obtained values, the null hypothesis can be rejected.

The regression models for all three companies are statistically significant, and high R-squared values (>0.9) indicate that increases in total revenue are associated with increases in R&D and sales and marketing expenses. In addition, the significance of the model is confirmed by a p - value <0.05.

Tab. 3 Results of the regression analysis

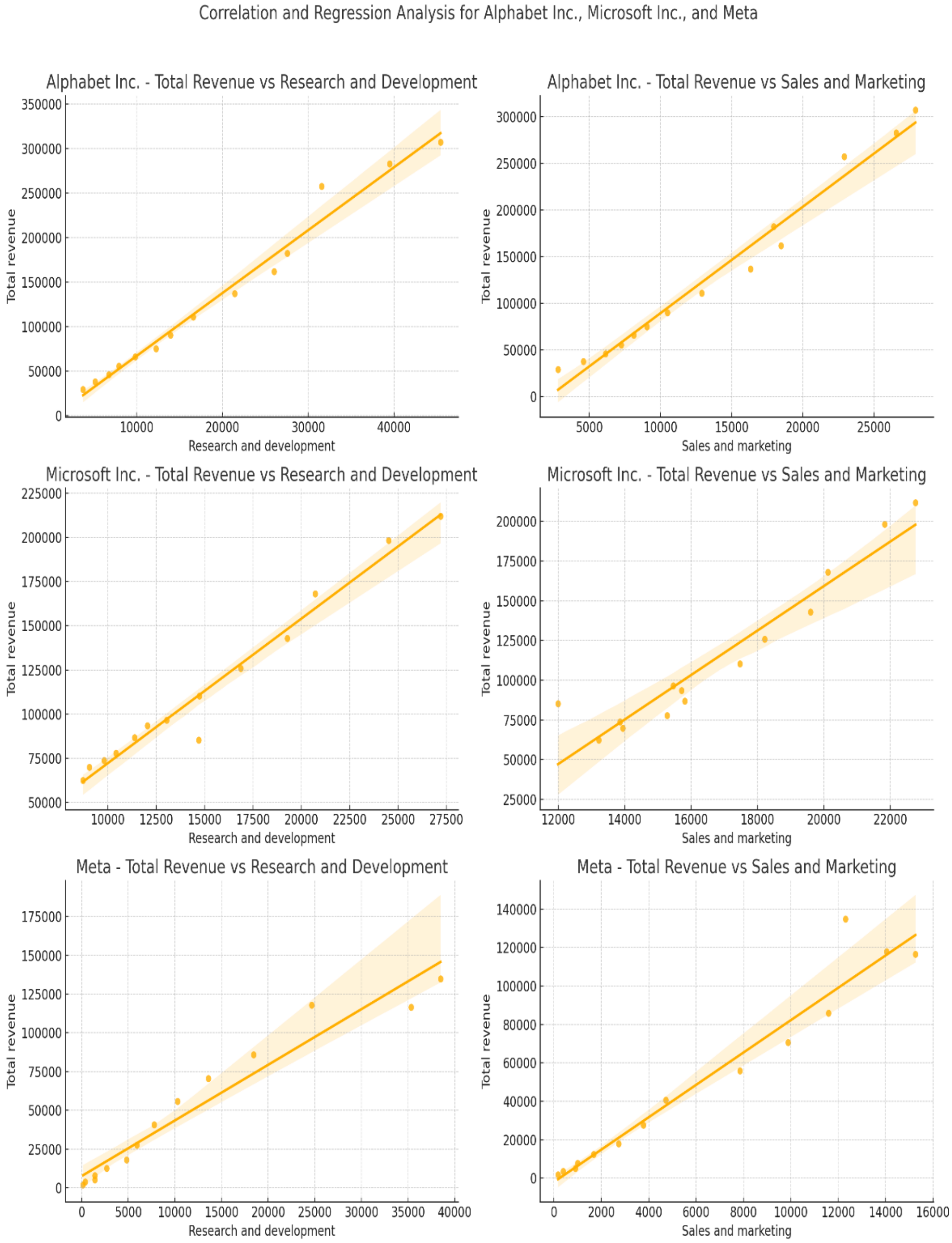
Parameter	Value		
	Alphabet Inc.	Microsoft Inc.	Meta Platforms
R-squared	0.982	0.983	0.995
Intercept	-7141.7071	865.2904	1953.7323
Coefficient (R&D)	5.1404	1.8148	2.6143
Coefficient (S&M)	9.7722	4.4878	3.4667
P-value (R&D)	0.000	0.000	0.000
P-value (S&M)	0.000	0.000	0.000

Source: own processing

According to the results, about 98.2% of Alphabet Inc.'s revenue. depends on R&D and S&M expenses. For Microsoft and Meta Platforms, this dependence is 98.3% and 99.5%, respectively. It was also found that S&M expenses have a greater impact on Alphabet's profitability compared to R&D expenses. A similar situation is observed in Microsoft, but the degree of influence is lower. At the same time, at Meta Platforms, investments in research and development largely determine its profitability compared to sales and marketing expenses.

The graph below depicts the linear regressions between total revenue and two key expenses (research and development, sales and marketing) for Alphabet Inc., Microsoft Inc. and Meta Platforms.

Graph 2 Linear regressions between total revenue and R&D, S&M expenses for Alphabet Inc., Microsoft Inc. and Meta Platforms



Source: own processing

Conclusion

A key trend of the last decade has been the emergence and rapid growth of several large global digital platforms characterized by high-tech business models. They have become an important part of the global economy, facilitating transactions between a huge number of users and facilitating the growth of innovation on a global scale.

The dominance of platform companies Alphabet, Microsoft and Meta in certain market segments is determined by key competitive advantages: 1) powerful network effects that help attract a large number of new users; 2) economies of scale and economies of scope, which allow obtaining benefits by reducing production costs and diversifying products. In addition, turning distribution, which allows content to be distributed over the Internet, into a competitive advantage is one of the factors for their success.

All three companies invest heavily in research and development, striving for continuous innovation. This allows them to expand their product lines and presence in international markets, as well as conquer new markets. However, marketing strategies, company priorities, and approaches to research and development vary. Alphabet's core business is centered around search and advertising through Google, but the company is also actively developing areas of artificial intelligence, cloud services, cybersecurity, hardware technologies and more. Microsoft focuses on software, cloud services, artificial intelligence and the gaming industry. Meta is actively developing the direction of the meta universe and virtual reality.

Correlation and regression analysis shows that investments in research and development and sales and marketing are critical to revenue growth for all three companies. However, the relative impact of these investments may vary depending on the individual company.

Thus, according to the author, the key success factors for Alphabet, Microsoft and Meta are outstanding digital competencies, powerful network effects and marketing strategies aimed at developing complementary businesses.

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Advanced approaches to exploring the impact of marketing communication on consumer behaviour[1]

Štefan Žák – Mária Hasprová[2]

Abstract

The paper systematically analyses existing scientific work using the PRISMA model, focusing on advanced approaches to exploring the impact of marketing communication on consumer behaviour. Based on an extensive review of journal sources from the Web of Science database, it identifies advanced methodological approaches such as neuroscientific techniques, big data analysis and artificial intelligence. These techniques enable a deeper understanding of consumers' cognitive and emotional responses to various forms of marketing communications, including social media, visual elements, and personalized campaigns. The results of the paper suggest that the integration of these innovative approaches provides valuable insights that can improve the effectiveness of marketing strategies. Thus, the paper contributes to expand the theoretical and practical knowledge in the field of marketing and consumer behaviour, offering direction for future research and applications in practice.

Key words

consumer behaviour, marketing communication, advanced research approaches

JEL Classification: M31, M10, M21

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Introduction

In the rapidly evolving landscape of marketing, understanding the nuanced impact of marketing communication on consumer behaviour has become more critical than ever. The convergence of digital advancements and changing consumer preferences necessitates a deeper, more analytical approach to evaluating how marketing messages influence purchasing decisions, brand loyalty, and overall consumer engagement. Marketing communication encompasses a wide range of activities designed to inform, persuade, and remind consumers about products and services. These activities include advertising, public relations, direct marketing, sales promotions, and digital marketing, each playing a pivotal role in shaping consumer perceptions and behaviours (Duralia, 2018). As traditional marketing strategies merge with innovative digital techniques, the complexity of measuring their effectiveness increases.

This paper delves into advanced methodologies and analytical frameworks used to explore the impact of marketing communication on consumer behaviour. By leveraging big data analytics, machine learning algorithms, and sophisticated consumer behaviour models,

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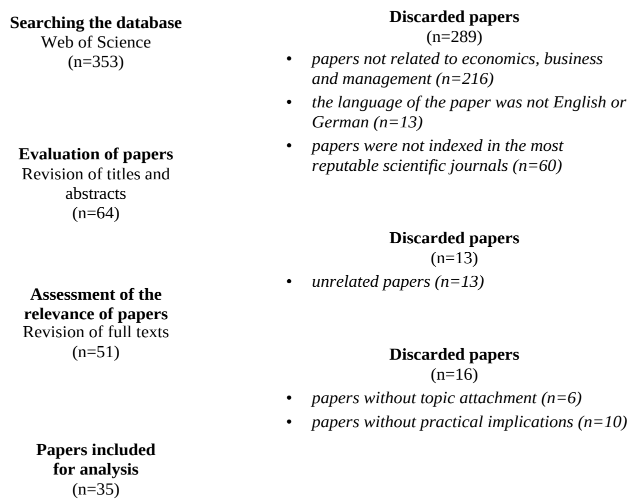
researchers can gain valuable insights into how different marketing strategies resonate with various consumer segments. This approach allows for a more granular understanding of consumer responses, leading to more effective and personalized marketing campaigns. Furthermore, the paper discusses the role of psychological and sociological factors in consumer behaviour. Understanding the underlying motivations, attitudes, and social influences that drive consumer decisions is essential for developing communication strategies that not only attract but also retain customers (Kolwas, S., & Domański, J., 2023). The integration of behavioural science with marketing analytics provides a holistic view of the consumer journey, from awareness to purchase and beyond. The exploration of these advanced approaches is not merely academic; it has profound practical implications for marketers, advertisers, and business strategists. By adopting these sophisticated techniques, companies can optimize their marketing efforts, improve ROI, and foster stronger connections with their target audiences.

In Conclusion, the dynamic interplay between marketing communication and consumer behaviour demands continuous exploration and innovation. This paper aims to contribute to this ongoing discourse by presenting cutting-edge research and practical insights that can help shape the future of marketing in an increasingly digital and data-driven world.

1 Methodology

The methodological framework for this paper is designed to systematically explore the impact of marketing communication on consumer behaviour through a rigorous and structured approach. Central to our Methodology is the implementation of the PRISMA model (Preferred Reporting Items for Systematic Reviews and Meta-Analyses model), which provides a comprehensive structure for conducting and reporting systematic reviews and meta-analyses.

Fig. 1 The PRISMA flow diagram



Source: based on authors' own processing

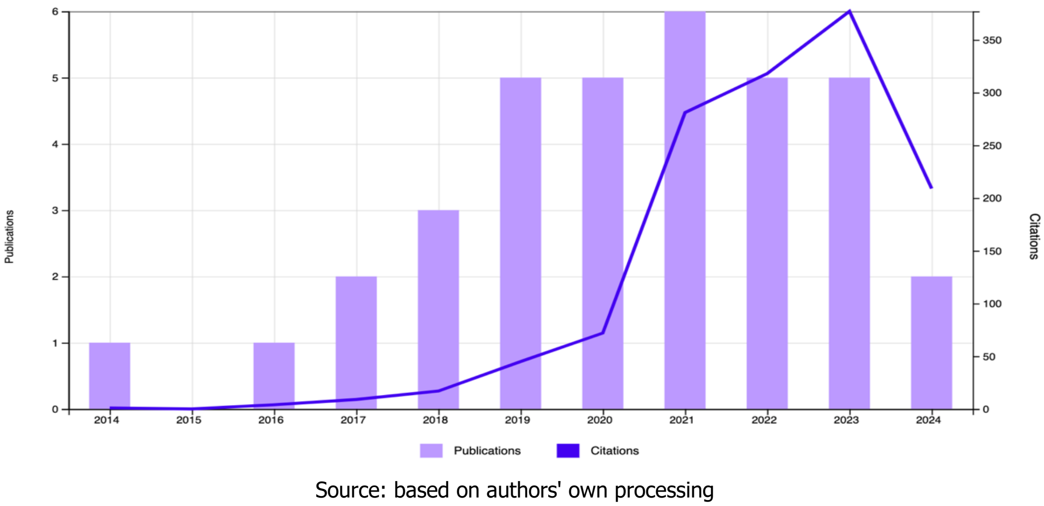
The PRISMA model is employed to ensure transparency, accuracy, and replicability in our systematic review process. The implementation of PRISMA analysis involves several key steps - identification, screening, eligibility, inclusion, data analysis and reporting (Wang, N., Zainal Abidin, S., Shaari, N., & Mansor, N., 2024). The PRISMA flow diagram illustrates the study selection process, providing a visual summary of the number of studies identified, screened, excluded, and included at each stage.

The rigorous implementation of the PRISMA model provides a robust methodological foundation for exploring the impact of marketing communication on consumer behaviour. This comprehensive approach ensures that our findings are reliable, replicable, and relevant to both academic researchers and marketing practitioners.

To elucidate the resonance of this issue within the academic sphere, we conducted a comprehensive analysis of extant literature, focusing on papers published in peer-reviewed scientific journals. The Web of Science database was selected as the primary reference source due to its extensive coverage and emphasis on reputable outputs pertinent to our research inquiry. Our objective was to review the corpus of scientific literature on measuring the impact of marketing communication on consumer behaviour over the past decade, specifically from 2014 to 2024. Keywords were meticulously selected to align with the thematic scope of our analysis. This preliminary search yielded 353 entries, comprising exclusively peer-reviewed journal articles.

To refine our dataset, we filtered the entries to include only those relevant to economics, business, and management disciplines, and further excluded papers not written in English or German, as well as those not indexed in highly reputable journals and conference proceedings. This process resulted in an initial database of 64 potentially pertinent articles. A manual examination of the titles and abstracts of these articles allowed us to eliminate irrelevant studies, narrowing the selection to 51 articles. For those articles where relevance and eligibility were not discernible from the title or abstract, we conducted a full-text screening, leading to the exclusion of an additional 16 studies. Ultimately, 35 papers were selected for an in-depth systematic review. An analysis of the annual publication and citation trends revealed a sustained academic interest in this topic throughout the entire period under review.

Graph 1 Evolution of the number of publications and citations (final database of 35 papers)



Source: based on authors' own processing

After an exhaustive review of the literature, it is evident that the impact of marketing communication on consumer behaviour exhibits significant variability in its academic treatment, which is influenced by the country of origin of the article's authors.

2 Results and Discussion

The final selection, comprising 35 papers, encompasses a diverse array of topics within the research of the impact of marketing communication on consumer behaviour. A significant portion of these papers (63%) is dedicated to exploring specific approaches that influence consumer behaviour research. Another substantial segment (28%) addresses theoretical challenges related to marketing communication. Additionally, three papers (9%) focus on the historical development of consumer behaviour research and offer projections for its future directions.

Regarding the dissemination of these studies, notable journals include the Journal of Business Research, which features 3 of the papers from our list, and the Journal of Theoretical and Applied Electronic Commerce Research, with 3 papers too. These journals are also distinguished by their inclusion of some of the most frequently cited papers in the domain of consumer behaviour research. A comprehensive overview of the scientific journals and the respective number of papers published in each is provided in the accompanying table.

Tab. 1 Number of papers in scientific journals (final database of 35 papers)

Publication Titles	Record Count
Journal Of Business Research	3
Journal Of Theoretical And Applied Electronic Commerce Research	3
Business Strategy And The Environment	2
Journal Of Consumer Psychology	2
Journal Of Marketing Research	2
Journal Of Retailing And Consumer Services	2
Psychology Marketing	2
European Journal Of Marketing	1
International Journal Of Market Research	1
International Journal Of Research In Marketing	1
Journal Of Advertising Research	1
Journal Of Business Ethics	1
Journal Of Consumer Research	1
Journal Of Economic Psychology	1
Journal Of Economic Surveys	1
Journal Of Interactive Marketing	1
Journal Of Management Analytics	1
Journal Of Marketing	1
Journal Of Policy Analysis And Management	1
Journal Of Risk And Uncertainty	1
Marketing Letters	1
Marketing Science	1
Review Of Financial Studies	1
Sport Marketing Quarterly	1
Strategic Management Journal	1
Tourism Management	1

Source: based on authors' own processing

The quality of academic papers can be evaluated by the extent of their impact, as reflected in the citations they receive from the scientific community. The selected papers garnered a total of 1333 citations over the period from 2014 to 2024, averaging 38 citations per paper. Notably, 2 papers surpassed the 100-citation mark, as detailed in Table 2. Particularly remarkable is the paper by Sheth, J. (2020), published in the Journal of Business Research, which stands as the most cited work with 527 citations. A thorough examination of the citations reveals that they predominantly pertain to the specific focus areas of the respective articles. The article discusses as the Covid-19 pandemic and subsequent lockdowns have significantly disrupted consumer habits. The study explores whether these changes will be permanent or temporary, and how new habits might emerge due to changes in regulations, technology, and consumer improvisation. For researchers, the paper opens new avenues for exploring consumer resilience, improvisation, and the impact of social media during crises.

Tab. 2 List of the most cited papers from the final database of 35 papers

Title	Authors	Source Title	Publication Year	Total Citations
Impact of Covid-19 on consumer behavior: Will the old habits return or die?	Sheth, Jagdish	Journal Of Business Research	2020	527
Man Versus Machine: Resisting Automation in Identity-Based Consumer Behavior	Leung, Eugina; Paolacci, Gabriele; Puntoni, Stefano	Journal Of Marketing Research	2018	130
How Techniques of Neutralization Legitimize Norm- and Attitude-Inconsistent Consumer Behavior	Gruber, Verena; Schlegelmilch, Bodo B.	Journal Of Business Ethics	2014	74
The Metaverse: A new digital frontier for consumer behavior	Hadi, Rhonda; Melumad, Shiri; Park, Eric S.	Journal Of Consumer Psychology	2024	45
Shifts in consumer behavior towards organic products: Theory-driven data analytics	Taghikhah, Firouzeh; Voinov, Alexey; Shukla, Nagesh; Filatova, Tatiana	Journal Of Retailing And Consumer Services	2021	35
Anthropomorphized artificial intelligence, attachment, and consumer behavior	Hermann, Erik	Marketing Letters	2022	31

Source: based on authors' own processing

It calls for empirical research to understand better the psychological and economic factors driving changes in consumer behaviour. In Conclusion, the Covid-19 pandemic has irrevocably altered consumer behaviour, presenting both challenges and opportunities for businesses and researchers. As we move forward, it is imperative to recognize and adapt to these changes, leveraging technology and innovation to meet the evolving needs of consumers. The insights provided by this study will be instrumental in guiding strategic decisions and fostering a deeper understanding of the dynamic consumer landscape (Sheth, 2020).

The research in the paper by Leung, E., Paolacci, G., & Puntoni, S. (2018) demonstrates that consumers with strong identification with a particular social category are likely to resist automated features that impede their ability to attribute identity-relevant consumption outcomes to themselves. Through six comprehensive studies encompassing various product categories such as vehicles, fishing devices, and kitchen appliances, the authors provide robust evidence that strong identifiers prefer tasks that allow internal attribution of outcomes. This resistance to automation is particularly pronounced when the automated task replaces skills or efforts central to their identity. These findings have substantial theoretical implications, contributing to the literature on identity and technology by showcasing the nuanced effects of automation in the marketplace. From a managerial perspective, the study offers actionable insights for targeting, product innovation, and communication strategies. Companies should consider identity motives when designing automated products and frame automation in ways that complement rather than replace consumer skills, especially for identity-relevant products. In Conclusion, the paper underscores the importance of considering consumer identity in the context of automation. As technology continues to evolve, understanding the psychological underpinnings of consumer resistance to automation will be crucial for businesses seeking to navigate the increasingly automated marketplace effectively. This research not only enriches our theoretical understanding but also provides practical guidance for leveraging automation in a consumer-centric manner (Leung - Paolacci & Puntoni, 2018).

The paper by Hadi - Melumad & Park (2024) provides a comprehensive and insightful exploration of how the Metaverse will redefine consumer behavior. This groundbreaking work synthesizes multidisciplinary perspectives to frame the Metaverse as a complex and transformative digital environment, poised to significantly alter our understanding of consumer identity, social influence, and ownership. The authors consider the role of emerging technologies such as virtual reality (VR), augmented reality (AR), and non-fungible tokens (NFTs) in shaping consumer experiences and behaviours in the Metaverse.

A comprehensive framework for understanding how humanized AI influences consumer behaviour, offering valuable insights for both researchers and practitioners provides the paper by Hermann (2022). The findings suggest that while AI can enhance consumer experiences and fulfil emotional needs, it also raises significant ethical and social considerations that must be addressed. As AI technology continues to advance, understanding these dynamics will be crucial for developing AI applications that are both beneficial and responsible. In Conclusion, Erik Hermann's research underscores the transformative potential of anthropomorphized AI in shaping consumer behaviour. It highlights the need for ongoing research to navigate the complex interplay between AI, consumer attachment, and social dynamics, ensuring that the benefits of AI are realized while mitigating potential drawbacks (Hermann, 2022).

Conclusion

The integration of advanced research methodologies in marketing communication research is not only an academic endeavour but also has profound practical implications. As the landscape of marketing continues to evolve with digital advancements, leveraging these sophisticated techniques will be essential for staying competitive and relevant. The insights provided by this study are instrumental in guiding strategic decisions and fostering a deeper understanding of the dynamic interplay between marketing communication and consumer behaviour.

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