22nd International Joint Conference

CENTRAL AND EASTERN EUROPE IN THE CHANGING BUSINESS ENVIRONMENT

PROCEEDINGS

Bratislava, Slovak Republic and Prague, Czech Republic

19 – 20 May 2022

Prague University of Economics and Business

Faculty of International Relations, Department of International Business

Faculty of Business Administration, Department of Marketing

and

University of Economics in Bratislava

Faculty of Commerce, Departments of Marketing and International Business

22nd International Joint Conference

CENTRAL AND EASTERN EUROPE IN THE CHANGING BUSINESS ENVIRONMENT

PROCEEDINGS

Bratislava
May 19 – 20, 2022

Prague, Czech Republic and Bratislava, Slovakia

The conference is jointly organized by the Prague University of Economics and Business (namely the Dept. of International Business of the Faculty of International Relations and the Dept. of Marketing of the Faculty of Business Administration) and the University of Economics in Bratislava (namely the Depts. of Marketing and of International Business of the Faculty of Commerce). The conference focuses on the whole Central and Eastern European region, for it plays an increasingly important role in the economic development of Europe. The conference's main objectives consist in identifying and analyzing ways and strategies whereby globally operating businesses can maintain and raise their competitiveness regarding foreign competitors. For the last 20 years, the conference has constituted a valuable platform linking together excellent researchers from the CEE region (and other countries) and business representatives. The conference was hosted on May 19-20, 2022, by the University of Economics in Bratislava.

Alexej SATO, Department of International Business, Faculty of International Relations, Prague University of Economics and Business

Efthymia KOTTIKA, Department of Marketing, Faculty of Business Administration, Prague University of Economics and Business

David ŘÍHA, Department of Marketing, Faculty of Business Administration, Prague University of Economics and Business

Programme Committee

Petr KRÁL, Department of International Business, Prague University of Economics and Business

Paulína KRNÁČOVÁ, Department of Tourism, University of Economics in Bratislava

Iveta ČERNÁ, Department of International Business, Prague University of Economics and Business

Andrea ESCOBAR RIOS, Department of International Business, Prague University of Economics and Business

Henrich JUHÁS, Department of International Trade, University of Economics in Bratislava

Michal JANKOVIČ, Department of Marketing, University of Economics in Bratislava

Eva KŘENKOVÁ, Department of International Business, Prague University of Economics and Business

Dominika VERNEROVÁ, Department of Marketing, University of Economics in Bratislava

Section Chairs

International Finance and Trade: Josef TAUŠER

International Business and Management: Matúš ŽATKO

International Marketing and Consumer Behavior: Efthymia KOTTIKA

Keynote Speakers

Kristína Pomothy (Organisational Psychologist, Co-founder Under the Apple Tree, kristinapomothy.com) *Flexibility and Organisational Life: What has the Pandemic Taught us about the Optimal Work Experience?*

Martin Základsník (former Chairman of the Board of Directors of E.ON) *Business Leadership Challenges in the Current Turbulent Times.*

Igor Třeslín (CEO of startup Storyous), *Transformation and Digitalization of the Gastronomic Industry in the CEE after the Covid-19 Pandemic.*

Beáta Liščíková (CEO of Floril confectionery, market leader of Slovakia) *Business Strategies Changes in the Hospitality Field. Affected by the Pandemic Crisis in Slovakia.*

Reviewers

Jarolím Antal, Prague University of Economics and Business

Josef Bič, Prague University of Economics and Business

Radek Čajka, Prague University of Economics and Business

Iveta Černá, Prague University of Economics and Business

Elvíra Čermáková, Prague University of Economics and Business

Peter Červenka, University of Economics in Bratislava
Katarína Chomová, University of Economics in Bratislava
Zuzana Chytková, Prague University of Economics and Business
Denisa Čiderová, University of Economics in Bratislava
Marián Čvirik, University of Economics in Bratislava
Naqibullah Daneshjo, University of Economics in Bratislava
Laure de Batz, Prague University of Economics and Business
Tereza de Castro, Prague University of Economics and Business
Soňa Ferenčíková, University of Economics in Bratislava
Alena Filipová, Prague University of Economics and Business
Jaroslav Halík, Prague University of Economics and Business
Eva Hanuláková, University of Economics in Bratislava
Vít Hinčica, Prague University of Economics and Business
Kateřina Hyan, Prague University of Economics and Business
Petr Janeček, Prague University of Economics and Business
Malgorzata Jarossová, University of Economics in Bratislava
Miroslav Karlíček, Prague University of Economics and Business
Pavol Kita, University of Economics in Bratislava
Zuzana Kittová, University of Economics in Bratislava
Ľubica Knošková, University of Economics in Bratislava
Janka Kopaničová, University of Economics in Bratislava
Marína Korčoková, University of Economics in Bratislava
Jan Koudelka, Prague University of Economics and Business
Daniel Krajčík, University of Economics in Bratislava
Eva Křenková, Prague University of Economics and Business
Paulína Krnáčová, University of Economics in Bratislava
Viera Kubičková, University of Economics in Bratislava
Martin Kuchta, University of Economics in Bratislava
Sergei Maslennikov, Prague University of Economics and Business
Monika Matušovičová, University of Economics in Bratislava
Ladislav Mura, University of Economics in Bratislava
Veronika Mokrejšová, Prague University of Economics and Business
Milan Oreský, University of Economics in Bratislava
Jozef Orgonáš, University of Economics in Bratislava
Janka Pasztorová, University of Economics in Bratislava
Ľuboš Pavelka, University of Economics in Bratislava

Pavol Plesník, University of Economics in Bratislava
Petr Procházka, Prague University of Economics and Business
Cristina Procházková Ilinitchi, Prague University of Economics and Business
Přemysl Průša, Prague University of Economics and Business
Viera Ružeková, University of Economics in Bratislava
Tomáš Sadílek, Prague University of Economics and Business
Alexej Sato, Prague University of Economics and Business
Dušan Steinhauser, University of Economics in Bratislava
Ludmila Štěrbová, Prague University of Economics and Business
Václav Stříteský, Prague University of Economics and Business
Radek Tahal, Prague University of Economics and Business
Josef Taušer, Prague University of Economics and Business
Jana Vlčková, Prague University of Economics and Business
Tomáš Výrost, University of Economics in Bratislava
Stanislav Zábojník, University of Economics in Bratislava
Jiří Zeman, Prague University of Economics and Business
Otília Zorkóciová, University of Economics in Bratislava
Štefan Žák, University of Economics in Bratislava
Matúš Žatko, University of Economics in Bratislava

Index of Authors

Published by: Oeconomica Publishing House, Prague University of Economics and Business
Nám. W. Churchilla 1938/4, 130 67 Praha, Czech Republic
Edited by: Eva Křenková
Email: eva.krenkova@vse.cz
Conference web page: http://ceeconference.vse.cz/

ISBN 978-80-245-2454-2
ISSN 2453-6113
https://doi.org/10.18267/pr.2022.kre.2454.0

Suggested citation:
Last Name, N. 2022. Title of the paper. In: *22nd International Joint Conference Central and Eastern Europe in the Changing Business Environment: Proceedings*. Oeconomica Publishing House, Praha. https://doi.org/10.18267/pr.2022.kre.2454.0

Table of Contents

Ethnocentric Tendencies of Consumer Behaviour and its Influence on the Perception of Private Labels

Marián Čvirik
ORCID: 0000-0003-4701-1543
marian.cvirik@euba.sk
University of Economics in Bratislava, Faculty of Commerce, Department of Marketing, Bratislava, Slovakia.

Abstract: The main objective of this article is (1) Measuring consumer ethnocentrism, (2) measuring private label perception, (3) examining the relationship between consumer ethnocentrism and private label perception, and (4) identifying consumer segments based on private label perception and consumer ethnocentrism. The article is supported by a primary survey based on 281 respondents. In this article we use various philosophical-scientific methods (analysis, synthesis, scientific abstraction, generalization method and others) as well as statistical-mathematical methods (descriptive statistics methods, inductive statistics methods, correlation and cluster analysis). ethnocentrism influences certain determinants of the attitude towards private labels, and the results can be applied both in the field of marketing in the creation of campaigns and the context of the promotion of domestic products and strategic planning of companies and branding.

Keywords: Consumer ethnocentrism, Private labels, CETSCALE, Slovakia

JEL Classification codes: M31, D12, C20

INTRODUCTION

Consumer ethnocentrism has its origins in social psychology. As early as the beginning of the 20th century, an examination of ethnocentrism as such appeared in the scientific community, which in the 1980s was transformed into a concept called consumer ethnocentrism. Consumer ethnocentrism uses a system of segmentation, with a group of ethnocentric consumers buying a domestic product to support their country, while a group of non-ethnocentric resp. a group of consumers with a low degree of consumer ethnocentrism is not interested in buying domestic products due to the support of the economy. Of course, even a non-ethnocentric consumer may be interested in domestic products, but his reasons for buying a domestic product are different (e.g. product parameters and the like).

Many experts examine the impact of consumer ethnocentrism as a factor in consumer purchasing decisions. Several studies are examining the impact of consumer ethnocentrism in terms of brand preference, but no one has yet explored the link between consumer ethnocentrism in terms of private label preference. Private labels are retailers' own brands. In the minds of ethnocentric consumers, it may therefore be the purchase of these brands in the context of efforts to improve the economic situation of the retail store, to promote employment in the retail store, which ultimately leads to an improvement in the state of the domestic economy. It is questionable whether consumers perceive private labels in the context of a domestic store or in the context of a foreign retail brand.

What is the level of consumer ethnocentrism? How do consumers perceive private labels? How does consumer ethnocentrism affect perceptions and attitudes towards private labels? What

https://doi.org/10.18267/pr.2022.kre.2454.1

segments can be identified based on the level of consumer ethnocentrism and the perception of private labels? We are also looking for answers to these questions in our article.

1. LITERATURE REVIEW

Author(s) Murphy (1990) characterizes Private Label as "a strategy of offering products, specially manufactured for a private label retailer and under its specification". Private labels are one of the current trends of retailers. From several definitions by the authors of the literature, a private label can generally be understood as a brand of products that are manufactured, owned and labelled by a retail chain. An advantageous feature of these brands is the promotion of a lower price, but with the preservation of product quality compared to the brands of the competition.

For private labels, price (Ashley, 1998; Mendéz et al., 2008) and quality (Zielka and Dobbelstein, 2007) are considered to be the most important factors influencing consumer perception, which affect brand image and consumer loyalty to the brand (Lin, Li, Wang et al., 2017). The willingness to buy private labels is largely influenced by the location and image of the business (Ailawadi and Keller, 2004), which may be influenced by ethnocentric tendencies in the understanding of private labels in the context of the national brand - local store support, local employment support and so on. Wulf et al., 2005).

Shimp and Sharma (1987), who characterized consumer ethnocentrism as follows, are the creators of the theory of consumer ethnocentrism in the scientific field: "From the point of view of ethnocentric consumers, the purchase of imported products is wrong, because they think it negatively affects the economy of the home country, causes job regulation and acts as non-proprietary. Imported products are therefore unacceptable from the point of view of a highly ethnocentric consumer. " (Shimp-Sharma, 1987) "A strongly ethnocentric consumer is interested in domestic production to what extent they help his country's economy (e.g. lower unemployment, economic welfare growth, national budget growth, and others). We can say that an intensely patriotic consumer will prefer domestic production, although more likely from their country's love." (Čvirik, 2021) The influence of consumer ethnocentrism on brand evaluation has been investigated in many studies (e.g., Chadhry et al., 2021; Li - He, 2013; Wanninayake - Chovancova, 2012; Fazli-Salehi et al., 2021; Wei, 2008; Souiden et al., 2018; Bernard et al., 2020), but not from the point of view of private labels, but most often from the point of view of the preference of domestic and foreign brands.

2. METHODOLOGY

The main objective of this article is (1) Measuring consumer ethnocentrism, (2) measuring private label perception, (3) examining the relationship between consumer ethnocentrism and private label perception/ evaluation, and (4) identifying consumer segments based on private label perception and consumer ethnocentrism.

Based on this goal, we created the following research questions and hypotheses:

RQ1: What is the level of consumer ethnocentrism in the selected country?

RQ2: How can the perception of private labels in the selected country be characterized?

H1: Is there a relationship between the perception of private labels and the level of consumer ethnocentrism?

RQ3: What segments can be identified from the point of view of consumer ethnocentrism and the perception of food private labels?

https://doi.org/10.18267/pr.2022.kre.2454.1

In the article we use basic philosophical methods (analysis, synthesis, scientific abstraction), as well as specific statistical methods (methods of descriptive statistics, measuring the reliability estimate of a research tool, correlation analysis, cluster analysis).

Sample

In the first step, the country was chosen. As Slovakia is the "heart of Europe" and several cultures meet here, it is an ideal adept for the study of consumer ethnocentrism. At the same time, price preferences in consumer behaviour suggest that consumers will be informed about private labels as cheaper options.

The article is supported by a primary survey, with 281 respondents becoming the basis. The basic population was defined as consumers of Slovak nationality. The ethnic context was important especially for the correct measurement of consumer ethnocentrism. The sample has the character of a comfortable sample. The sample consisted of 99 men (35.23 %) and 182 women (64.77 %). Most respondents were aged 18-25.

Perception of a private label

In terms of private label perception, we focused on the evaluation of generic cognitive and affective parameters, such as perceived quality, perceived price, perceived taste, but also conative parameters such as private label purchase, intention to purchase private labels and private label preferences. The aim was to create a scale tool for measuring the perception of private food labels. We used reliability estimation coefficients - McDonald's omega and Cronbach's alpha to verify the reliability of the instrument. It is generally recognized as a reliable instrument that reaches an estimated coefficient above 0.700. Cronbach's alpha was at 0.625 and McDonald's omega at 0.660, which means that reliability is not acceptable and therefore it is not possible to speak of a single instrument. For this reason, we will continue to work with the statements separately (not as a whole).

Consumer ethnocentrism

Consumer ethnocentrism was measured based on of CETSCALE10 (Simp-Sharma, 1987). As this is a borrowed / foreign instrument, it was necessary to verify its reliability. We used reliability estimation coefficients - McDonald's omega and Cronbach's alpha to verify the reliability of the instrument. The overall level of McDonald's omega was 0.856 and Cronbach's alpha was 0.857, which can be interpreted as an acceptable measure of reliability estimation. From the point of view of scientific knowledge, it is important to use the "if item dropped" method, which aims to determine whether it would not be possible to achieve a higher degree of reliability estimation when eliminating a statement. We recorded the results in Tab. 1.

https://doi.org/10.18267/pr.2022.kre.2454.1

Table 1 Evaluation of the reliability estimate for CETSCALE10 using the "if item dropped" method

CETSCALE10 items	McDonald's ω*	Cronbach's α**
2. Only those products that are unavailable in the Slovak Republic should be imported.	0.850	0.850
4. Slovak products, first, last, and foremost.	0.852	0.851
5. Purchasing foreign-made products is un-Slovakian.	0.843	0.844
6. It is not right to purchase foreign products, because it puts Slovaks out of jobs.	0.839	0.839
7. A real Slovak should always buy Slovak - made products.	0.836	0.837
8. We should purchase products manufactured in Slovak Republic instead of letting other countries get rich off us.	0.834	0.837
11. Slovaks should not buy foreign products, because this hurts Slovaks business and causes unemployment.	0.843	0.844
13. It may cost me in the long-run but I prefer to support Slovak products.	0.851	0.851
16. We should buy from foreign countries only those products that we cannot obtain within our own country.	0.843	0.843
17. Slovak consumers who purchase products made in other countries are responsible for putting their fellow Slovaks out of work.	0.842	0.843

Note: * Overall level = 0.856
** Overall level = 0.857
Source: own calculations.

As Table 1 shows, there is no need to exclude any statement to increase reliability, and therefore we will continue to work with the tool in this form.

3. RESULTS AND DISCUSSION

3.1 Survey results

In the following section, we focus on answering research questions and verifying the formulated hypotheses.

RQ1: What is the level of consumer ethnocentrism in the selected country?

The degree of consumer ethnocentrism was measured based on CETSCALE10 (Shimp-Sharma, 1987), with the tool containing 10 statements to which respondents respond on a five-point Likert scale (0 - strongly disagree, 4 - absolutely agree). We recorded the basic statistical indicators (mean and standard deviation) in Tab. 2.

https://doi.org/10.18267/pr.2022.kre.2454.1

Table 2 Mean and standard deviation of individual statements CETSCALE10

CETSCALE10 items	Mean	St. dev
1. Only those products that are unavailable in the Slovak Republic should be imported.	2.38	1.25
2. Slovak products, first, last, and foremost.	2.49	1.05
3. Purchasing foreign-made products is un-Slovakian.	0.84	0.91
4. It is not right to purchase foreign products, because it puts Slovaks out of jobs.	1.35	1.07
5. A real Slovak should always buy Slovak - made products.	1.02	1.01
6. We should purchase products manufactured in Slovak Republic instead of letting other countries get rich off us.	2.45	1.17
7. Slovaks should not buy foreign products, because this hurts Slovaks business and causes unemployment.	1.62	1.06
8. It may cost me in the long-run but I prefer to support Slovak products.	2.45	1.07
9. We should buy from foreign countries only those products that we cannot obtain within our own country.	1.95	1.23
10. Slovak consumers who purchase products made in other countries are responsible for putting their fellow Slovaks out of work.	1.17	0.98

Source: own calculations.

As Table 2 shows, we measured the lowest value in statement 3. (Purchasing foreign-made products is un-Slovakian.) and we measured the highest value in statement 2. (Slovak products, first, last, and foremost.). However, CETSCALE10 is a comprehensive tool that, when the individual statements are summed, indicates the level of overall consumer ethnocentrism. From the above, it can be stated that the resulting value of consumer ethnocentrism will range from 0 to 40 points. The average measured value is at the level of 17.7 points with a standard deviation of 7.18 points. The median is 18 points and the mode are 17 points. The minimum measured value was 1 point and the maximum measured value of consumer ethnocentrism was at the level of 36 points. Overall, we rate the level of consumer ethnocentrism as below average (approximately 44.35 %).

RQ2: How can the perception of private labels in the selected country be characterized?

The perception of private labels was assessed using key factors, which we transformed into statements. Respondents expressed their degree of (dis) agreement on the five-points Likert scale for individual statements. We recorded the results for individual statements in Tab. 3.

https://doi.org/10.18267/pr.2022.kre.2454.1

Tab. 3 Evaluation of key factors in the perception of private foods

Statement	Mean	St. dev
1. Retail chain's own / private food labels are of better quality than other brands.	2.11	0.85
2. Retail chain's own / private food labels are cheaper than other brands.	2.43	1.07
3. Retail chain's own / private food labels taste better than other food brands.	1.97	0.81
4. I buy private food label of retail chains.	2.19	1.10
5. I plan to buy private food brands of retail chains.	2.28	1.01
6. Whenever I have the opportunity, I prefer private food brands to retail chains.	1.68	1.07

Source: own processing.

As Tab. 3 shows, the private labels of retail chains are rated as products at about the quality level of the brands, with a better price and about the same taste. It can be stated that a preference in terms of buying private exists, but in all circumstances.

H1: Is there a relationship between the perception of private labels and the level of consumer ethnocentrism?

We used correlation analysis to examine the relationship (intensity and direction). The results of the correlation coefficients in terms of a simple correlation matrix were recorded in Table 4.

Tab. 4 Correlation matrix

	SUM CETSCALE10
1. Retail chain's own / private food labels are of better quality than other brands.	0.152
2. Retail chain's own / private food labels are cheaper than other brands.	0.016
3. Retail chain's own / private food labels taste better than other food brands.	0.118
4. I buy private food label of retail chains.	0.051
5. I plan to buy private food brands of retail chains.	0.167
6. Whenever I have the opportunity, I prefer private food brands to retail chains.	0.302

Source: own processing.

The results in Tab. 4 indicate that in all cases there is a positive relationship in terms of direction. The differences can be seen in the intensity of the relationship. The strongest relationship exists between the degree of consumer ethnocentrism and the strong preference for private label retail chains. Little / low positive dependence can also be seen in the quality, taste, shopping plan and degree of consumer ethnocentrism. Trivial dependence was found between the purchase of private food labels and the degree of consumer ethnocentrism.

RQ3: What segments can be identified from the point of view of consumer ethnocentrism and the perception of food private labels?

We used cluster analysis to answer the research question. The Two-step Cluster method was used, which links hierarchical and non-hierarchical methods. Based on the Silhouette measure of cohesion and separation, the cluster analysis can be considered acceptable (value 0.4). We

https://doi.org/10.18267/pr.2022.kre.2454.1

did not determine the number of clusters in which we used an auto-clustering, specifically Schwarz´s Bayesian criterion (BIC). A range of intervals was calculated by the Log-likelihood method. This method is the latest method of cluster analysis, which takes advantage of both hierarchical and non-hierarchical methods, which indicates its explanatory power. Cluster analysis using the Two-step algorithm with seven imputes created three clusters:

Cluster 1

This segment contained 50.5 % (142) of respondents. This cluster achieved a low level of consumer ethnocentrism (average 16.59 points). From the point of view of private labels, this segment is not interested in purchasing private labels, nor does it prefer private labels. He perceives private labels as cheaper, of poorer quality and with worse taste than commercial brands.

Cluster 2

Cluster 2 is represented by 72 (25.6 %) respondents. This segment is characterized by a high degree of consumer ethnocentrism, with primary brands rated as better and tastier than brands. Overall, this segment is very interested in private labels, but perceives them as expensive, which indicates high price sensitivity.

Cluster 3

The last segment represents 23.8 % (67) of respondents. From the point of view of consumer ethnocentrism, these are mean values from among the created clusters. This segment is very interested in private labels and also prefers them, even though it perceives them as lower quality and less tasty than commercial brands. In terms of price, this segment perceives private labels as very cheap (level of agreement at an average level of 77.5 %).

3.2 Discussion

In the article we work with two topics, namely consumer ethnocentrism and the issue of private labels. Based on the results, a below-average level of consumer ethnocentrism was demonstrated, which may be due to several factors. From the point of view of individual items, it can be stated that consumers achieve a low level of consumer ethnocentrism, especially in the context of exports. Simply put, they are interested in foreign products and do not perceive their purchase and subsequent consumption as negative. On the contrary, strong ethnocentric tendencies can be seen in the context of employment and domestic product preferences.

However, it is questionable whether the strong preference for products stems from the effect of consumer ethnocentrism or the effect of the country of origin. These considerations should be verified in future research. In general, it can be stated that private labels are perceived as better quality, cheaper and with roughly the same taste as trademarks. From the point of view of behavioural intent, an above-average interest can be stated, but from the point of view of frequency, this is not a high level of preference. It would be useful to identify the impact in future research. In the future, it would be possible to examine the effects of consumer ethnocentrism on the perception of private labels in an international context.

Due to a certain discrepancy, a difference can be expected either in individual product categories or in individual brands. In general, it can be concluded that there is a link between the degree of consumer ethnocentrism and the perception of private labels (their quality, price, taste as well as shopping intent. In all cases, this is a weak positive relationship. In this context, ethnocentric consumers can be considered interested in private labels and future research should focus on the reasons, and at the time of research, retailers were introducing their own private label, which was strongly targeted at ethnocentric consumers. Based on the cluster analysis, we created three segments, with different priorities and characteristics for each

https://doi.org/10.18267/pr.2022.kre.2454.1

segment, which can be used in communication campaigns, in the creation of campaigns to promote domestic products, but also in strategic marketing management.

CONCLUSION

The main objectives of the article were (1) Measuring consumer ethnocentrism, (2) measuring private label perception, (3) examining the relationship between consumer ethnocentrism and private label perception / evaluation, and (4) identifying consumer segments based on private label perception and consumer ethnocentrism. Based on the primary survey, we met all goals.

Consumer ethnocentrism was measured based on CETSCALE10, which achieved an acceptable level of reliability estimation. The results indicate a below-average rate of consumer ethnocentrism (around 44.35 %). In general, it can be stated that private labels are perceived as better quality, cheaper and with roughly the same taste as trademarks. The existence of a relationship between the degree of consumer ethnocentrism and the perception of selected determinants of private labels has been proven, but the level of the relationship is low. The strongest relationship was demonstrated between the degree of consumer ethnocentrism and the preference for buying private labels. Based on cluster analysis, we created three segments and their profiles based on the examined variables.

The article also contains certain limits. One of them is a sample that, on the one hand, does not meet the conditions of representativeness and, on the other hand, has the character of a comfortable sample. We partially remove this limit with the help of statistical testing. The survey may have been influenced by several factors that could not be influenced (brand launch, pandemic), which have an impact on the level of consumer ethnocentrism and the perception of private labels.

ACKNOWLEDGEMENT

This paper was prepared in the framework of research project:

"**I-22-104-00:** Ethnocentrism and its influence on consumer behaviour: measurement, determinants, strategic and intervention options."

REFERENCES

Ailawadi, K.L. & Keller, K.L. (2004). Understanding retail branding: conceptual insights and research priorities. Journal of Retailing, 80(4), 331-342.

Ashley S. (1998). How to effectively compete against private-label brands. Journal of Advertising Research, 38(1), s. 75-82.

Bernard, Y., Collange, V., Ingarao, A. & Zarrouk-Karoui, S. (2020). Products labeled as "made in domestic country": the brand matters. European Journal of Marketing, 54(12), 2965-2987. https://doi.org/10.1108/EJM-04-2018-0229

Chaudhry, N.I., Mughal, S. A., Chaudhry, J.I. & Bhatti, U.T. (2021). Impact of consumer ethnocentrism and animosity on brand image and brand loyalty through product judgment. Journal of Islamic Marketing, 12(8), 1477-1491. https://doi.org/10.1108/JIMA-03-2019-0057

Čvirik, M. (2021). The Impact of Consumer Ethnocentrism and the Patriotism on Judgement for Selected Domestic Products: The Case of Slovakia. Central European Business Review, 10(3), 1-17.

https://doi.org/10.18267/pr.2022.kre.2454.1

De Wulf, K., Odekerken-Schröder, G., Goedertier, F. & Van Ossel, G. (2005). Consumer perceptions of store brands versus national brands. Journal of Consumer Marketing, 22(4), 223-232.

Fazli-Salehi, R., Torres, I.M., Madadi, R. & Zúñiga, M.Á. (2021). Is country affinity applicable for domestic brands? The role of nation sentiment on consumers' self-brand connection with domestic vs foreign brands. Asia Pacific Journal of Marketing and Logistics, 33(3), 731-754. https://doi.org/10.1108/APJML-11-2019-0656

Li Y. & He, H. (2013). Evaluation of international brand alliances: Brand order and consumer ethnocentrism. Journal of Business Research, 66(1), 89-97.

Lin, H.H., Li, H.T., Wang Y.S. et al. (2017). Predicting customer lifetime value for hypermarket private label products. Journal of Business Economics and Management, 18(4), 619-635.

Mendéz J.L., Oubiña J., Rubio N. (2008). Expert quality evaluation and price of store vs. manufacturer brands: An analysis of the Spanish mass market. Journal of Retailing and Consumer Services, 15(3), 144-155.

Murphy, J. (1990) Brand Strategy. Director Books, London, p. 61.

SHIMP, A. T. & SHARMA, S. (1987). Consumer Ethnocentrism: Construction and Validation of the CETSCALE. Journal of Marketing Research, 24(3), 280-289.

Souiden, N., Ladhari, R. and Chang, L. (2018). Chinese perception and willingness to buy Taiwanese brands: The role of ethnocentrism and animosity. Asia Pacific Journal of Marketing and Logistics, 30(4), 816-836. https://doi.org/10.1108/APJML-09-2017-0203

Wanninayake, W. M. C. B. & Chovancová, M. (2012). Consumer Ethnocentrism and Attitudes Towards Foreign Beer Brands: With Evidence from Zlin Region in the Czech Republic. Journal of Competitiveness, 4(2), 3-19. https://doi.org/10.7441/joc.2012.02.01

Wei, Y. (2008). Does Consumer Ethnocentrism Affect Purchase Intentions Of Chinese Consumers? Mediating Effect Of Brand Sensitivity And Moderating Effect Of Product Cues. Journal of Asia Business Studies, 3(1), 54-66. https://doi.org/10.1108/15587890880000491

Zielke S. & Dobbelstein T. (2007). Customers' willingness to purchase new store brands. Journal of Product & Brand Management, 16(2), 112-121.

https://doi.org/10.18267/pr.2022.kre.2454.1

Business Management Challenges of Companies in Europe during COVID-19 Period of 2019-2021

Robert Dygas
ORCID: 0000-0001-8536-08971
Robert.dygas@sgh.waw.pl
SGH Warsaw School of Economics, World Economy Research Institute, Department of East Asian Economic Studies , Warsaw, Poland

Abstract: COVID-19 made a disruptive change to business management in the world in dimensions of security concern, remote work, human resource management. To keep the cash-flow positive by the companies is the big challenge today during unexpected lockdowns and severe restrictions. It also impacts the companies operating in Central and Eastern Europe in countries like Poland, Czech Republic, Slovakia, Hungary. The chapter focuses on the challenges of the chosen companies in Europe. These challenges are namely: Global Value Chains and problems with production, export and import especially in automotive industry. The methodology is empirical research study of existing literature and reports in this subject. The goal of this chapter is to indicate main challenges for companies during COVID-19.

Keywords: General business management, GVCs, Lockdowns, Security management, Green energy transformation

JEL Classification codes: M00, M10, M19

INTRODUCTION

The main focus of this article are chosen challenges related to business management by European companies during COVID-19 pandemic time of 2019-2021. The importance of the change made by the pandemic and restrictions imposed by the governments of the countries in Europe on the businesses is significant and takes its momentum in the global business development. The decomposition of Global Value Chains (GVCs) and recent changes in Europe's structure such as Brexit and "green economy" directives passed by European Commission such as "Fit for 55" put many companies into the crossroads situation and even bankruptcies. The fact that mobility of the human capital is still restricted in many countries in Europe especially between EU and UK it makes more challenging for the SMEs businesses to function normally. EU is heading into more control and Superstate direction which does not help the business to operate more freely. This challenges are the headache of CEOs and Board Members managing the companies on the daily basis facing obstacles such as remote and disperse management problems, health standards control from the government authorities, empty space office lease costs increase. The situation of the companies is different regarding the sector and the size of the business. The multinational companies (MNE) operating globally not only in Europe also have some of these problems like SMEs in Europe but their financial position is usually much better due to the fact that they diversify the business risk while operating in different markets. In much better financial conditions are those global companies that operate in pharmaceutical industry and especially producing the COVID-19 vaccines such as Pfizer, BioNTech, Moderna. It was estimated by the analysts of People's Vaccine Alliance (PVA) that profit of those three giants from the COVID-19 vaccines is 1000 USD per second

https://doi.org/10.18267/pr.2022.kre.2454.2

which is the effect of patent protection legislations and decisions of the governmental health authorities in many countries to use only those listed and approved vaccine producers (Economictimes.indiatimes.com). Another challenge for not only SMEs but all companies operating in industry is a deglobalization and disruption of GVCs. The article is also discussing its impact from the business management perspective in the chosen companies such as Jaguar Land Rover in Slovakia (Tata Motors Group).

1. LITERATURE REVIEW

As the pandemic of COVID-19 continues more literature regarding business management challenges such as Global Value Chains disruption impact or economic effect of the lockdowns in this time is available. Mainly there are scientific reports and articles then the books but it is still quite valuable starting point to gather the data and information for the further research study of that problem. One of the recent reports requested by the European Parliament's committee on Industry, Research and Energy (ITRE) confirm that Europe is well positioned for reconstruction of Global Value Chains especially for batteries for electric cars (De VET et al., 2021). The impact of COVID-19 on the revenues of SMEs in different industries was also analysed by different authors. The key findings are interesting and show that the revenues of most small businesses in industrial sector were not adversely affected by the pandemic, and most of them did not change or adjust their business activities or the extent to which they employed open innovation tools and engage in innovation promotion processes (Harel, 2021). Pandemic lockdowns forced business to be remotely managed with the use of latest technology in the area of communication and use of virtual meetings platforms (Ting et al., 2020; Webster, 2020; Voccaro et al., 2020; Puddister & Small, 2020). Even with the big help of IT solutions some authors observed that, COVID-19 directly affected self-employed individuals more than employed individuals (Kritikos et al., 2020) and small businesses more than large businesses (Dua et al., 2020) with an average 20% decrease in sales and a 16% decrease in customer base (Digitally Driven, 2021). The most of the authors raised the issue of the lockdowns and their impacts on the Global Value Chains and on of course on the international trade. The review of the scientific literature in that area was presented by Ines Kersan-Škabić in his paper where he claimed that to restore GVCs the focus on regional framework with liberalization of trade policies should be started (Kersan-Škabić, 2021). According to World Bank Group the situation of disruption of GVCs should be a trigger for many businesses to improve their investment competitiveness in certain GVC segments (Qiang et al., 2021). It seems that there is no one common view among the authors on the COVID-19 impact on the business management and how it should be addressed to benefit from it. Surprisingly there are no golden rules for solution given to SMEs affected by the lockdowns in the literature. What can be found is rather different government's initiatives and anti-Covid-19 shield systems implemented by different countries. During the pandemic COVID-19 there is the effect of lay-offs as SMEs companies are in financial problems. During a short period, as much as 50% of the working population might not be able to find work (Gourinchas, 2020). That is why many countries especially in EU use Fiscal Policy Measures to stabilise the difficult situation of the suspended and collapsed business. The main problem with that funds is an effectiveness of helping employees because these fund are not transferred to employees directly. Some of the authors see pandemic COVID-19 as the "costly disaster" to global economy with high negative impact on the interest rate and rate of return on the investment. This is explained this way that investment demand decreases due to excess capital per labour unit, while savings flows increase due to either precautionary reasons or to replace lost wealth (Ludvigson et al. 2020; Jorda et al. 2020). Other authors underlines the fact that pandemic is not controllable so there is high level of uncertainty and because of that the projections regarding economic scenarios are quite difficult (Baker et al. 2020). That is why some of the authors used their own surveys

https://doi.org/10.18267/pr.2022.kre.2454.2

and based on that they try to outlook for a business perspective. One of the results of such surveys showed that rather lockdowns then COVID-19 infections are the main reasons for worsening the economy state (Coibion et al. 2020), disruption of Global Value Chains (GVCs) (Bonadio et al. 2020), decrease in productivity of the workers and drops of companies' revenues (Elenev et al. 2020; Cespedes at al. 2020; Muligan, 2020), lowering consumption and spending by the customers (Binder, 2020). Another aspect of the lockdown analysed by the authors was the social distancing which as the result of the research also negatively impacted economic activities across European and Asian countries between January and April 2020 (Demirguc-Kunt et al. 2020). It is also worth to mention the results of the SME surveys in 60 countries on the impact of COVID-19 conducted by OECD in July 2020. The chosen results for European countries regarding COVID-19 impact on SME business were presented in 3.1 in Table 2. (OECD, 2020)

2. METHODOLOGY

The research methodology is based on empirical research of existing literature and accessible data for COVID-19 business management companies reports during period of 2019-2021. Additionally the question "*What are the main challenges of SMEs business management during Covid-19?* was placed by the author on LinkedIN platform with direct access to 3248 business professionals from all over the world. There is not enough data for this period but the research is based upon reports published by the private businesses and governmental authorities institutions. Concerning that there are different estimations of the business management impact of COVID-19 in European companies The observations of business management changes are quite important for the conclusions and interpretations of presented data. This is also valid for identification of research gap and possibilities for future research.

3. RESULTS AND DISCUSSION

Results are specified in sections 3.1-3.3 regarding impact of the COVID-19 restrictions and lockdowns on businesses in Europe, LinkedIN question results about main challenges of SMEs business management during COVID-19, the example of real business case of Jaguar plant in Slovakia. The discussion is presented at the end of section 3.

3.1 Impact of the COVID-19 restrictions and lockdowns on businesses in Europe

One of the obvious effects of COVID-19 are the bankruptcies of the businesses. The data presented in Table 1 are the EU bankruptcy registered declarations change with comparison to the base year 2015 (=100).

https://doi.org/10.18267/pr.2022.kre.2454.2

Tab 1. Bankruptcy declarations in EU countries in 2016-2020, Index 2015=100

GEO/TIME	2015	2016	2017	2018	2019	2020
European Union - 27 countries (from 2020)	100.0	87.3	81.8	82.2	81.8	64.9
Euro area - 19 countries (from 2015)	100.0	89.5	83.1	82.0	80.6	62.6
Belgium	100.0	93.5	101.6	100.7	106.9	71.4
Bulgaria	100.0	102.2	126.7	118.0	129.3	107.9
Germany	100.0	93.0	86.9	83.4	81.0	68.5
Estonia	100.0	107.4	96.3	89.6	103.7	105.9
Spain	100.0	83.1	82.7	83.8	91.0	84.4
France	100.0	91.4	85.6	84.9	80.7	49.1
Italy	100.0	91.0	81.0	75.8	75.5	51.5
Lithuania	100.0	125.7	139.6	107.3	78.1	40.8
Netherlands	100.0	83.4	64.7	60.6	63.4	53.2
Poland	100.0	74.5	69.7	79.9	78.5	71.7
Portugal	100.0	77.4	66.8	89.7	67.0	77.5
Romania	100.0	45.0	44.7	59.8	70.6	66.8

Source:https://ec.europa.eu/eurostat/web/short-term-business-statistics/data/database,Industry, construction and market services (except public administration and defence; compulsory social security; activities of membership organisations).

Businesses and investors are experiencing a real risk during COVID-19 which can be compared to terrorist attack. There are investment opportunities but it is not clear how fiscal policy especially taxes will be regulated and how it explode. Transfer of the capital to off-shore accounts by the financial elite is still possible but more difficult. With each lockdown SMEs companies have more problems with cash-flow as customers are locked or allowed to buy just the food to survive. Many of the European SMEs business experienced a real problems with sales reduction and cost increase especially in Belgium, Italy, Greece, Ireland, Germany (please see Table 2 below). The companies choice is twofold: using financial support from the government or to go bankrupt. It is not a case that all sectors suffer because of the lockdowns. There is Amazon, DHL, Microsoft, Netflix which are doing well, but they are MNCs (Multinational Corporations) not SMEs. It does not mean that such companies are forever so it may happen that they can be nationalised due to the COVID-19 regulations e.g. the FED during COVID-10 focused on purchase of assets in US on the global scale (Cheng et al, 2021).

https://doi.org/10.18267/pr.2022.kre.2454.2

Tab 2. SME Surveys on the impact of COVID-19

Country	% of SMEs with negative impact or decline in sales or expectations to be out of business
Finland	33% (negative or very negative impact)
Italy	72% (SMEs directly affected)
UK	63% (moderate to high threat to SMEs business)
Germany	58% (decrease in revenue)
Poland	33% (cost increase and sales reduction)
Greece	60% (decrease in sales)
Belgium	75% (decrease in sales)
Hungary	60% (decrease in sales)
The Netherlands	50% (to be out of the business in 3 months)
Portugal	50% (do not have resources for more than 2 months)
Ireland	70% (decrease in revenue)

Source: based on OECD Policy Responses to Coronavirus (COVID-19) Coronavirus (COVID-19): SME policy responses, OECD 2020, updated 15 July 2020. Retrieved 14 January 2022 from https://www.oecd.org/coronavirus/policy-responses/coronavirus-covid-19-sme-policy-responses-04440101/

3.2 LinkedIn question results

As it was stated in methodology part of this article the author decided to ask its LinkedIN network of 3248 direct business professionals connections "What are the main challenges of SMEs business management during Covid-19?" There were four options as the answer: option A. restrictions and lockdowns, option B. remote work, option C. Global Value Chains, option D. too much of political correctness. The results are presented in Table 3 below.

Tab 3. Answers to the question "What are the main challenges of SMEs business management during Covid-19?" using LinkedIN platform, N=3248 direct connections

Option	Percentage
Restrictions and lockdowns	55%
Remote work	9%
Global Value Chains	27%
Too much of political correctness	9%

Source: answers to the question using LinkedIN platform by the author, 27 December 2021 – 3 January 2022, https://www.linkedin.com/in/robertdygas/recent-activity/shares/

The results of the questionnaire show that in opinions of the LinkedIn network respondents restrictions lockdowns and disruption of GVCs have significant impact on SMEs business management. The remote work and too much of political correctness have the minor influence and those are not classified as the main challenges for SMEs business management during COVID-19. Recent studies of 1502 SMEs in Czech Republic and Slovakia confirmed that the

https://doi.org/10.18267/pr.2022.kre.2454.2

pandemic has a negative impact on the financial performance of SMEs. The government economic measures may help the enterprises to recover, said 40.0% of Czech entrepreneurs, but only 30% of Slovak entrepreneurs. However, the entrepreneurs in SMEs equally perceive other aspects of corporate governance and business risk management during the pandemic (Belas et al, 2021).

3.3 Jaguar Land Rover (JLR) company in Slovakia – a case study

Jaguar Land Rover (JLR) plant was opened in Slovakia on 25 October 2018 as the investment of 1.4 billion EUR made by the Tata Motors also pure Indian company with annual capacity of 150 000 cars. Originally JLR was British but it was bought by Tata Motors in 2008 (M&A type of the investment) and before that time in the past JLR was in financial troubles after short merger episode with Ford automotive company. Since 2009 Tata Motors implemented a financial reform of the company which helped to focus on the new strategy for the further development and choice of the country for the new plant (Wyles et al, 2013). Since Tata's acquisition, JLR has gone through a significant development process. The company has managed to create a strong brand image and increase its popularity across the key markets (Brasil, China, UK, India, Austria). JLR has heavily invested in R&D, which is crucial for each car manufacturer if they wish to remain competitive. Thanks to the increasing sales and overall success, JLR started to expand its international activities and managed to launch several new production facilities across the globe (Bhasin, 2018). There was a strategic choice which country to choose for the new plant. The choice was tough as Poland and Slovakia seemed to be preferable options over Mexico and USA. There were two projects related to that choice. The project called "Oak" related to US market and "Darwin" which analysed CEE market. Slovakia was finally chosen and is well known country for automotive industry in CEE region and also a top player as the car producer in Visegrad Group and also a part of automotive cluster with well established supplier network (Jeakins, 2015). One of Slovakia advantage over the other countries in V4 was that it belongs to eurozone which helps to project the cash-flow for the potential investors. Another strong points for placing the investment of Tata Motors in Slovakia was the technology environment especially transforming FDI into technology transfer. It is worth to underline that also tax incentives played a significant role in choosing Slovakia over other countries. Besides that a new investment of Tata Motors was supported by the EU financial aid of 125 million EUR which helped to keep that investment in EU instead of moving it to Mexico or USA. Brexit was also a supportive factor with the choice of plant location in EU. Those factors helped to make the investment decision but it did not mean that it was easy and the investment project was out of challenges. The path of that investment of Tata Motors to Slovakia was quite rough for Indian company as it should have resolved couple of obstacles. The first one was a world competition as many countries such as Mexico, Poland, Hungary and USA was ready for the contract with Tata Motors. Moreover from macroeconomic perspective Slovakia was on the down trend regarding received FDIs during 2009-20014 with FDI of 2.1% of GDP (Dettoni, 2016). Another problem which needed to be solved was a land for the building the plant (roughly the land of 444 acres was required). Another issue was to secure a trained and skilled human capital. Nitra plant required 2800 employees while the city of Nitra itself had 85000. That is why Slovakia's government tried to offer the incentives schemes for those citizens who would move to Nitra to work in the plant. It also included Slovakia's citizens working abroad which had been estimated at 200 000 workers. As the first in Europe the plant uses Kuka's Pulse carrier system with over 30% faster transfer times. Jaguar Land Rover currently employs around 1,500 people in Nitra, 98% are Slovak nationals and 30% are women. The plant incorporates cutting-edge technologies and it is the first in Europe to use Kuka's Pulse carrier system which is 30% faster transfer times than conventional conveyance systems. It is also feature a highly automated paint shop process to ensure the highest quality

https://doi.org/10.18267/pr.2022.kre.2454.2

and minimize the environment impact. With an established network of suppliers in close proximity, Jaguar Land Rover has sourced and localised a number of components, such as seats and wheels, to support production of the Land Rover Discovery in Nitra delivering several thousand additional jobs in the automotive supply chain in Slovakia. Jaguar Land Rover works closely with the communities near to its manufacturing plants around the world. In the last six months, Jaguar Land Rover has delivered almost 500 volunteering hours to projects in Nitra and surrounding communities; launched its first employee grant programme supporting 12 local projects, including Nitra's first therapeutic sensory room, and most recently has opened a new endowment fund, in conjunction with the Pontis Foundation, to support local projects in the future. Over the course of the last three years, Jaguar Land Rover has delivered new education programs to inspire the next generation of automotive engineers in Slovakia.
Looking to the future, the factory will be designed with the flexibility to enable smart, connected manufacturing technologies, such as shop floor visualisation by using real time data to solve issues which will support improved process efficiency, delivery and quality. From 2020 all new Jaguar Land Rover vehicles will be electrified, giving our customers even more choice. The major problem which prevails now during COVID-19 not only in Nitra JLR factory is the demand for chips and semiconductors from China. These components delivery problems caused also car production suspension in many countries including Slovakia.

The above results shown in paragraph 3 give the input for the further discussion related to the researched problem. As of now at the end of March 2022 most of the European countries announced that majority of the COVID-19 restrictions were lifted and the CEE countries such as Poland officially returned to treating COVID-19 as the seasonal flue. In such turmoil environment more questions are raised up now regarding legitimacy of the lockdowns which had the influence on SMEs bankruptcies across Europe and serious business discontinuity like described in case of Jaguar's plant in Slovakia. Besides stated barriers to COVID-19 there are also other challenges such as requirement for energy transformation or zero carbon emission. This specific problem needs to be also stressed as it has a strong business influence. The entire concept of "Fit for 55" may require a deep revision as the war in Ukraine shown the strong dependency of European countries on the natural resources like gas and oil imported from Russia. The reality is that the most of SMEs simply do not have the resources on their own to pursue significant, lasting energy efficiency changes to their business. Government supporting programs are not clear for many SMEs how to use it efficiently. They also lack of the manpower and skills to pursue the available fundings. There are positive cases of government support from Sweden, where municipality was taking care of the project offered free energy audits and an investment plan for SMEs (Franklin-Mann, 2021), but in general majority of SMEs do not know even how to be prepared for zero carbon emission. Some other studies argue that SMEs are not widely incorporating decarbonization in their business models and there are almost no significant differences by size (Quintas et al. 2018). It is also confirmed in case of the Nordic SMEs that more emphasis needs to be placed on sharing information and best practices and making sure that SMEs actually implement efficiency improvements (Bröckl et al., 2014). The biggest issue with energy transformation in general is increase in energy prices. Taking into consideration some recent research studies (Amcham, 2022) show the performance readiness index for energy transformation. Unfortunately most of the CEE countries are not ready for such big change and it reflects also difficult situation of SMEs in the CEE especially in Poland where the main energy source is coal. Other CEE countries such as Hungary, Bulgaria, Czech Republic are lagged behind developed countries due to the historical heritage of former Soviet Union policy regarding industry development which was based on fossil economy where efficiency and decarbonization were not considered in economy plans.

https://doi.org/10.18267/pr.2022.kre.2454.2

CONCLUSION

Taking into consideration above data and the material presented the main conclusion is that business management of companies in Europe during COVID-19 period of 2019-2021 was very demanding putting many SMEs on the edge of bankruptcy mainly due to the severe lockdowns, GVCs disruption and the demand decrease. Besides that an unclear policy of energy transformation and lack of alternatives increased the prices of energy, which contributed to soaring inflation not only in Europe. The breakdown of the GVCs created the effect of stagflation in CEE countries such as Poland and even big companies such as JLR Nitra plant in Slovakia analysed in point 3.3 had problems with production continuity. It is worth to note that SMEs in Europe contribute in 54% to value added in EU (gross income from operating activities after adjusting for operating subsidies and indirect taxes) (LEAP4SME, 2021). it can be also concluded that majority of SMEs in Europe faced severe losses in revenues or were directly affected based on the results of surveys conducted by OECD in 2020 regarding the COVID-19 impact on SMEs business presented in the Table 1 in point 3.1. The legitimacy of the lockdowns and SMEs business recovery could be treated as the research gap and quite interesting topic for further analysis. Additionally the impact of economic and business effects on SMEs business in CEE region related to the war on Ukraine should be included in such analysis as the important input which shapes the future state of business continuity not only for companies operating in Europe.

REFERENCES

Amcham. (2022). *Energy Transformation in Poland*, American Chambers of Commerce in Poland, Business and Economics Review, vol. 1/2022, published 04.01.2022. Retrieved 09 January 2022 from https://amcham.pl/news/energy-transformation-poland

Analysis (2021). *Pfizer, BioNTech, Moderna making $1,000 profit every second*. Retrieved 27 December 2021 from https://economictimes.indiatimes.com//industry/healthcare/biotech/pharmaceuticals/pfizer-biontech-moderna-making-1000-profit-every-second-analysis/articleshow/87730723.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst.

Belas, J., Gavurova, B., Dvorsky, J., Cepel, M., Durana, P. (2021). *The impact of the COVID-19 pandemic on selected areas of a management system in SMEs*, Economic Research-Ekonomska Istraživanja, pp. 1-24, https://doi.org/10.1080/1331677X.2021.2004187

Bhasin, H. (2018). *SWOT Analysis of Jaguar - Jaguar SWOT analysis*. [online] Marketing91. Available at: https://www.marketing91.com/swot-analysis-jaguar, accessed 28.12.2021

Binder, C. (2020). *Coronavirus Fears and Macroeconomic Expectations* , Review of Economics and Statistics, MIT Press, vol 102, issue 4, pp. 721-730

Bonadio, B., Huo, Z., Levchenko, A. A., & Pandalai-Nayar, N. (2020). *Global Supply Chains in the Pandemic* (Working Paper No. 27224; Working Paper Series). National Bureau of Economic Research. pp. 1-53, https://doi.org/10.3386/w27224

Bröckl, M., Illman, J., Oja, L., Vehviläinen, I. (2014). *Energy Efficiency in Small and Medium Sized Enterprises*, Gaia Consulting Ltd., Tema Nord, Copenhagen: Nordisk Ministerråd, pp. 64, DOI: 10.6027/TN2014-510

https://doi.org/10.18267/pr.2022.kre.2454.2

Cheng, J., Powell, T., Skidmore, D., Wessel, D. (2021). *What's the Fed doing in response to the COVID-19 crisis? What more could it do?* 30 March 2021, Brookings, https://www.brookings.edu/research/fed-response-to-covid19/ , accessed 27.12.2021

Coibion, O., Gorodnichenko, Y., & Weber, M. (2020). *Labor Markets During the COVID-19 Crisis: A Preliminary View* (Working Paper No. 27017; Working Paper Series). National Bureau of Economic Research. pp. 1-15, https://doi.org/10.3386/w27017

Connected Commerce, Report of Digitally Driven (2021). *European Small businesses find a digital safety net during Covid-19*,. Retrieved 28 December 2021 https://digitallydriven.connectedcouncil.org/europe/

De VET, J.M., Nigohosyan, D., Núñez Ferrer, J., Gross, A-K., Kuehl, S., Fickenschild, M. (2021). *Impacts of the COVID-19 pandemic on EU industries*, IPOL, Policy Department for Economic, Scientific and Quality of Life Policies, Directorate-General for Internal Policies, https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662903/IPOL_STU(2021)662903_EN.pdf, accessed 28.12.2021

Demirguc-Kunt, A., Lokshin, M. M., & Torre, I. (2020). *The Sooner, the Better: The Early Economic Impact of Non-Pharmaceutical Interventions during the COVID-19 Pandemic* (No. WPS9257; pp. 1–95). The World Bank

Dettoni, J. (2016). *Will Jaguar Land Rover deal lead Slovakia into a golden age of FDI?*, https://www.fdiintelligence.com/article/66026, accessed 28.12.2021

Dua, A., Ellingrud, K., Mahajan, D., & Silberg, J. (2020). *Which small businesses are most vulnerable to COVID-19—and when*. McKinsey & Company

Elenev, V., Landvoigt, T., & Van Nieuwerburgh, S. (2020). *Can the Covid Bailouts Save the Economy?* (Working Paper No. 27207; Working Paper Series). National Bureau of Economic Research. pp.1-45, https://doi.org/10.3386/w27207

Franklin-Mann, J (2021). *The importance of small business to the energy transition*, Revolve media,. Retrieved 31 December 2021, from https://revolve.media/the-importance-of-small-business-to-the-energy-transition/

Gourinchas, P.O., (2020). *Flattening the pandemic and recession curves. Mitigating the COVID Economic Crisis: Act Fast and Do Whatever.* http://viet-studies.net/kinhte/COVIDEconomicCrisis.pdf#page=38 , accessed 28.12.2021

Harel, R. (2021). *The Impact of COVID-19 on Small Businesses' Performance and Innovation*, SAGE Journals, Global Business Review, pp.1-22, https://doi.org/10.1177/09721509211039145

Jeakins, R. (2015). *Supplier Jaguar Land Rover Subsidiary Strategy Central* Retrieved 28 December 2021 from https://www.linkedin.com/pulse/supplier-jaguar-land-rover-subsidiary-strategy-central-robert-jeakins

Jordà, Ò., Singh, S. R., & Taylor, A. M. (2020). *Longer-run Economic Consequences of Pandemics* (Working Paper No. 26934; Working Paper Series). National Bureau of Economic Research. pp.1-22, https://doi.org/10.3386/w26934

Kersan-Škabić, I. (2021). *The COVID-19 pandemic and the internationalization of production: A review of the literature*, https://onlinelibrary.wiley.com/doi/10.1111/dpr.12560

Kritikos, A.S., Graeber, D., & Seebauer, J. (2020). *Pandemie wird zur Krise für Selbständige*. DIW aktuell 47.

LEAP4SME April (2021). *Mapping SMEs in Europe, Data collection, analysis and methodologies for estimating energy consumptions at Country levels*,. Retrieved 9 January 2022 from

https://doi.org/10.18267/pr.2022.kre.2454.2

https://leap4sme.eu/wp-content/uploads/2021/07/LEAP4SME-D2.1-SME-energy-and-economic-mapping-in-Europe.pdf

Ludvigson, S. C., Ma, S., & Ng, S. (2020). *Covid-19 and the Macroeconomic Effects of Costly Disasters* (Working Paper No. 26987; Working Paper Series). National Bureau of Economic Research.pp.1-24, https://doi.org/10.3386/w26987

Mulligan, C. B. (2020). *Economic Activity and the Value of Medical Innovation during a Pandemic* (Working Paper No. 27060; Working Paper Series). National Bureau of Economic Research. Pp. 1-23, https://doi.org/10.3386/w27060

OECD (2020). *OECD Policy Responses to Coronavirus (COVID-19) Coronavirus (COVID-19): SME policy responses*, , updated 15 July 2020. Retrieved 14 January 2022 from https://www.oecd.org/coronavirus/policy-responses/coronavirus-covid-19-sme-policy-responses-04440101/

Puddister, K., Small, T. A. (2020). *Trial by zoom? The response to COVID-19 by Canada's courts*. Canadian Journal of Political Science/Revue Canadienne de Science Politique, 1–5. https://doi.org/10.1017/S0008423920000505

Qiang Ch., Liu, Y., Steenbergen, V. (2021). *An Investment Perspective on Global Value Chains*, World Bank Group, https://doi.org/10.1596/978-1-4648-1683-3, Chapter 5, pp.1-31

Quintas, M.A., Martinez-Senra, A.I., Sartal, A. (2018). *The Role of SMEs' Green Business Models in the Transition to a Low-Carbon Economy: Differences in Their Design and Degree of Adoption Stemming from Business Size*, MDPI, Sustainability pp.14-20, Basel, Switzerland

Ting, D. S. W., Carin, L., Dzau, V., Wong, T. Y. (2020). *Digital technology and COVID-19*. Nature Medicine, 26(04), 459–461

Vaccaro, A. R., Getz, C. L., Cohen, B. E., Cole, B. J., Donnally III, C. J. (2020). *Practice management during the COVID-19 pandemic*. The Journal of the American Academy of Orthopaedic Surgeons, 28(11), 464–470.

Webster, P. (2020). *Virtual health care in the era of COVID-19*. The Lancet, 395(10231), 1180–1181.

Wyles, R., Fraser, S. and Bell, D. (2013). *Efficiency and Transparency - Jaguar Land Rover*. [online] Available at: https://www.pwc.co.uk/assets/pdf/delivering-client_value-jaguar-land-rover.pdf, accessed 28.12.2021

https://doi.org/10.18267/pr.2022.kre.2454.2

Neuromarketing as a Tool for Data Acquisition in Consumer Behaviour

Róbert Hula
ORCID: 0000-0002-3433-3140
robert.hula@euba.sk
University of Economics in Bratislava,
Faculty of Commerce/Marketing, Bratislava, Slovakia

Abstract: Technological progress brings several benefits in different areas. It allows us to look at the consumer and his behaviour in a completely different way than before. For a long time now, it has not just been about examining purchasing decisions, today it is about finding out the reasons why consumers have done so. This paper deals with the interpretation of the term neuromarketing, which applies various neuroscientific methods to analyse and understand human behaviour. The ambition of the presented paper is also the evaluation of consumer opinions on the neuromarketing research itself using neuromarketing tools. In the next part, the paper also deals with selected ethical dilemmas that may arise during the research. Neuromarketing seems to be an ideal tool for obtaining data on consumer behaviour, so it is necessary to get thoroughly acquainted with it and this paper will offer the reader a suitable tool to use neuromarketing research to effectively obtain data in consumer behaviour.

Keywords: Neuromarketing, Neuromarketing methods, Eye-tracking, Electroencephalogram, Functional magnetic resonance

JEL Classification codes: M39

INTRODUCTION

Marketing and advertising have the task of convincing the consumer to buy the desired product. At the same time, rational decision-making makes up only 10% of the consumer's final decision. Therefore, examining consumer behaviour, for example through group interviews, does not have the desired effect, as consumers respond as if they were making rational decisions. Neuromarketing therefore offers us more benefits than we could make our activities more attractive to customers based on their personal preferences. The question therefore remains how to obtain this information. We will describe the methods we can use in this article and the reader will get a basic overview of all available methods that he can use in his research. Of course, the subject of research in this case is humans - living beings, and their rights and privacy must be respected.

Neuromarketing could also be a marketing communication tool that allows you to monitor consumer behaviour through the application of neuropsychology to marketing research. But better said, neuromarketing is a kind of window in the mind of the consumer, thanks to which companies can estimate the shopping behaviour of their customers

Obtaining information in this case is a real challenge from a scientific point of view. These surveys are very costly, but the value of the information obtained is enormous. In the following section, we characterize the individual neuromarketing methods and provide an overview of what data we can obtain from them.

https://doi.org/10.18267/pr.2022.kre.2454.3

1. LITERATURE REVIEW

Techniques and methodologies for examining consumer behaviour through neuromarketing are very important to know, which has prompted companies to look for new effective methods to better understand and predict consumer behaviour. Thus, researchers have explored how marketing research can use these techniques to develop marketing practices and advertising research. At the same time, the fMRI investigation showed that most consumer behaviour and decisions are made unconscious, which has significantly contributed to purchasing decisions (Agarwal & Dutta, 2015; Alsharif, Salleh, Baharun and Effandi, 2021; Brierley, 2017). This study was the threshold for a new approach to the study of consumer behaviour using neuroscience technologies in business research, called "neuromarketing". Thus, we can state that neuromarketing is on the border of marketing, neuroscience, and psychology (Alsharif et al., 2021a; Alvino et al., 2020).

According to several authors, neuromarketing is the application of neuroimaging and physiological tools to record the neural correlates of consumer behavior (eg decision-making, emotions, attention and memory) against marketing incentives such as various brands and advertisements. (Alsharif, Salleh, Baharun, 2021)

Fogašová and Oláh (2013) state that neuromarketing seeks to examine the impact of marketing incentives on customer and consumer reactions at the same time. These are cognitive, affective and sensorimotor stimuli. Neuromarketing examines the functions of the brain when making purchasing decisions. With this tool, companies try to find out the real preferences of people. Some see neuromarketing as a market research tool.

Lucaci (2012) states that neuromarketing is a new form of market research that uses neuroscience tools to measure the emotional impact of communication across all media and uses the results to make marketing recommendations.

Kozel (2011) states that neuromarketing is one of the new areas of research methods, which is based on the so-called neuroscience, loosely translated as neuroscience.

According to Lindstrom (2009), it is also a tool "used to help us decipher what we already think as consumers when we come across a product or brand — and sometimes it even helps us uncover dubious methods that traders use. to deceive and deceive us, without any idea.

According to Vysekalová (2011), neuromarketing is the application of neurological knowledge in any area of marketing, e.g. into packaging, research and development of new products and services, marketing communication, etc.

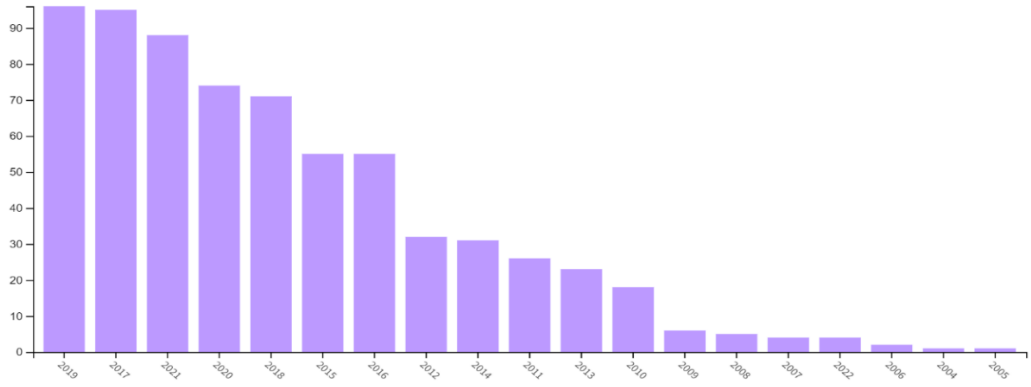
Traditional research methods have been widely used as self-reports (e.g., surveys, focus groups) to study consumer responses (e.g., decision-making) to marketing incentives such as advertising and brands (J. Harris et al., 2018). Self-assessment relies on awareness of consumer behavior and overlooks unconsciousness; thus, a discrepancy between what the consumer says and does. Traditional research methods therefore provide inaccurate and unreliable information on consumer behavior (Alsharif et al., 2021b; Alsharif, Salleh, Baharun, and Effandi, 2021), leading to the conclusion that most products and advertisements failed in the first year (Jordao et al., 2017; Vecchiato et al., 2015). Therefore, most consumer behavior (e.g., decision-making, perception) is unconscious, which cannot be predicted by traditional research methods (Alsharif, Salleh, Baharun, Hashem, et al., 2021; Alsharif, Salleh, Baharun, & Effandi, 2021).

In order to define the boundaries of neuromarketing, we collected the necessary material for analysis in the Web of Science and Scopus databases. In the first step, we needed to collect the necessary literature, which was the subject of the analysis itself. As part of the analysis, we performed an empirical overview in two databases, namely Scopus and Web of Science.

https://doi.org/10.18267/pr.2022.kre.2454.3

We entered 603 results in Scopus database after entering keywords - consumer neuroscience. As not all articles are always available in full text, we used only abstracts of the articles in question for our analysis purposes. In the Web of Science database, we entered 941 results of scientific publications after entering the same keywords.

Fig. 1 Availability of publications during the years 1984 - 2022 for the keywords neuromarketing



Source: Web of Science, available online (02.02.2022): https://www.webofscience.com/wos/woscc/analyze-results/c9b6eba6-5d96-402d-ab79-3b657ffeefb2-220bcbb2

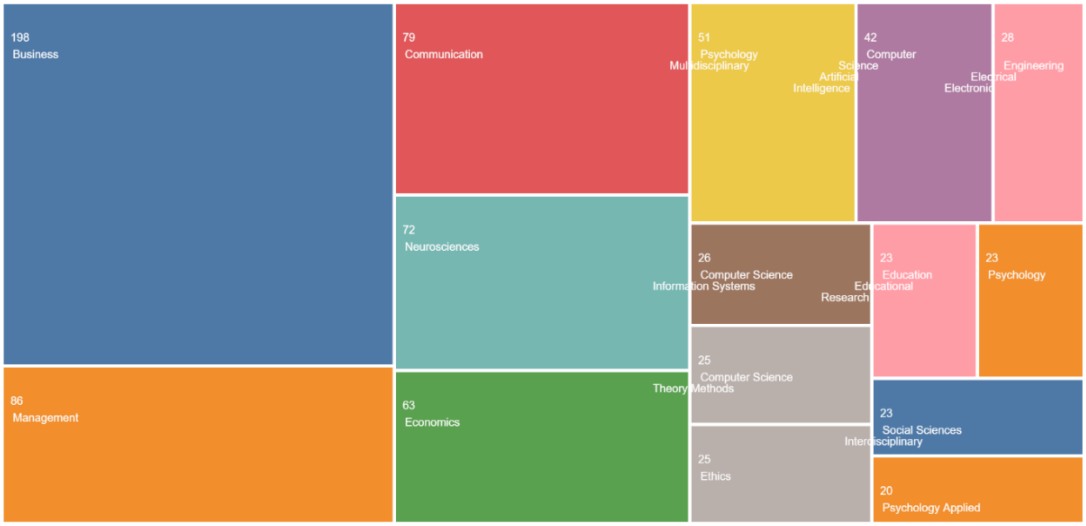
We can see from the graph that the number of publications has been growing rapidly since 2009. For our analysis, we have decided to filter publications from 2007 to the present. During this period, the publications also cite previous works, and before 2007 the essential ideas were included in the abstracts of publications after 2007. For our research needs, we collected the most cited publications from each database, gradually one by one from 2007 to 2021 inclusive. Since we have two databases from which we draw, we further filtered according to the number of citations by year - with the result that we eliminated the article from both databases that had fewer citations in a given year. We have reached the final number of 15 articles. The Web of Science database offers us, after entering keywords for the subject analysis of the subject areas, the Tree Map Chart, which characterizes the areas and the number of these areas in the subject search. Figure 2. describes these areas - neuromarketing, which is in the search in the largest number of publications in the number of 318, followed by business, multidisciplinary psychology, economics, sociology, psychology, management, applied psychology, communication, experimental psychology, food processing technology, clinical neurology, psychiatry and biopsychology, which examines psychological changes in connection with biological changes in the body. Based on this partial analysis, we have a good overview of potential concepts that we can obtain after performing an empirical overview and defining the boundaries of neuromarketing.

Figure 2 defines the boundaries at which we can characterize neuromarketing. Neuromarketing balances on the border of business and management and, to put it bluntly, is a good tool to enhance business activities. We can state that it also analyses marketing communication, which is the largest source of information. Of course, neuromarketing is based on a science that researches and is based on the knowledge of the brain and its influence on shopping behaviour, and it does not lead. Last but not least, on the basis of efficiency and its application, it also contributes to the economic result of each company, whether positively or negatively - we mentioned the high initial costs of procuring, for example, functional magnetic resonance

https://doi.org/10.18267/pr.2022.kre.2454.3

imaging. It is not just about instrumentation, we must also count on qualified staff, specially created facilities for instruments, financial rewards for research respondents and others. Based on the graph and the connections with the researched term, we also perceive the connection between the relationship and research ethics. We will comment on the ethics of research in the part of the results where they suggested an ethical approach.

Fig. 2 Tree map chart - neuromarketing



Source: Web of Science, available (01.01.2021) online from: https://www.webofscience.com/wos/woscc/analyze-results/f0255c57-7226-4029-b6e1-96cf2357d569-123f3f1e

Neuromarketing tools are divided into several categories. We will deal with this division in more detail in the results of this work. According to Ramsoy (Ramsoy, 2015), neuromarketing tools have been divided into four categories:

- neuroimaging tools such as functional magnetic resonance imaging (fMRI), positron emission tomography (PET), electroencephalography (EEG), magnetoencephalography (MEG), steady state topography (SST), functional near-infrared spectroscopy (fNIRS) and single photon emission (SP);
- Physiological techniques such as electrocardiogram (ECG), eye tracking (ET), electromyography (EMG), galvanic skin response (GSR) (Isabella et al., 2015);
- Self-administration, such as questionnaires, interviews and target groups;
- Behaviour measurement such as the Implicit Association Test (IAT). For example, physiological tools may record the physiological functions of consumers (e.g., respiration, heart rate, pupil dilation, saccade, fixation, eye movements, sweating, and facial muscle movements) during exposure to advertising (Hamelin et al., 2017).

Meanwhile, neuroimaging tools make it possible to record the dimensions of emotions, attention, and memory of advertisements (Alsharif, Salleh, Baharun, Hashem et al., 2021). According to the literature, EEG and fMRI are the most popular neuroimaging tools in research to obtain data (Alsharif, Salleh, Baharun, Hashem, et al., 2021; Alsharif, Salleh, Baharun, & Safaei, 2020), while eye-tracking is the most popular popular physiological tool. This tool is the most affordable in terms of financial possibilities. In our research, we plan to start working with this tool continuously. It allows you to evaluate several advertising options such as tracking the movement of the pupils on websites and e-shops, tracking and tracing the

https://doi.org/10.18267/pr.2022.kre.2454.3

movement of eyes on websites, as well as tracking and moving eyes in brick-and-mortar stores under category management conditions - i.e. placing products on store shelves.

In academia, the number of publications in the field of neuromarketing has risen sharply (Alsharif, Salleh and Baharun, 2020). As a result, neuromarketing research has attracted companies and scientists to use tools in their research to overcome / limitations of orthodox methods and solutions to marketing problems (Alsharif, Salleh, Baharun and Safaei, 2020; Morin, 2011; Sebastian, 2014). As a result, the benefits of neuroscientific methods have become significant in enriching consumer behavior research in the new millennium of marketing, leading several authors to talk about the benefits of neuromarketing (Lee et al., 2017; Ramsoy, 2015; Songsamoe et al., 2019)).

With neuromarketing, you find answers to the questions of what part of the brain results in a customer's response to an advertisement and how customers respond to an advertising stimulus. The final choice to buy a product is largely the result of the influence of the environment - family, friends, neighbours - or authorities (seller, dealerIn many cases, neuromarketing is used to understand how this digital interaction occurs and how brands can improve the usability and user experience of digital elements such as websites, applications or digital services / products, on computers, mobile devices, etc. (Šášiková, 2013) Thanks to its comprehensive view of the minds of customers and potential customers, it can help companies with the effective design of marketing campaigns or the creation of e-shops. Some examples of the use of neuromarketing in the digital environment are: (Kozel et al., 2011)

- Landing page or microsite evaluation - neuromarketing evaluates how a user behaves when navigating this site, helps us to understand which zones attract the user's attention, what emotions are evoked in a given consumer, or whether there are problems with the usability of the site;
- Usability studies - neuromarketing evaluates the usability of a digital element (website, application, digital product / service) from key tasks that the user must perform;
- Brand building - neuromarketing through PRE and POST tests assesses whether the consumer's perception of the brand has changed after exposure to a specific digital element.

Neuroimaging methods allow researchers to gather signals and interpret psychological processes in the brain while people perform tasks or experience marketing incentives to clarify the relationship between consumer behaviour and the nervous system. Furthermore, it is possible to use automatic technologies to predict customer preferences, provided that this technology is suitable for marketing purposes. In this way, we can reveal the motives and reasons for consumers' purchasing decisions.

2. METHODOLOGY

In preparing this paper, we used the method of abstraction, mainly from Internet sources and online databases. We also used the method of comparison, where we analysed various surveys and identified penetrations in characterizing consumer behaviour and consumer attitudes. We supplemented the consumer analysis with selected neuromarketing tools - functional magnetic resonance imaging, electroencephalography, eye-tracking, measurement of physiological reactions, monitoring of facial expressions and their description. The ambition of this paper is to identify neuromarketing as a suitable tool for obtaining information on consumer behaviour. The aim is not only to describe neuromarketing as a tool for efficient data acquisition, but also to evaluate consumer attitudes towards neuromarketing tools in the context of marketing research.

https://doi.org/10.18267/pr.2022.kre.2454.3

To prepare the paper, we used the basic methods for a general understanding of the topic and the subject matter, namely the analysis, which we used to process systematically collected empirical material on the issue. We have therefore defined the basic concepts using the method of analysis, synthesis and abstraction. We used the comparison method to evaluate neuromarketing tools. To evaluate consumers' attitudes toward neuromarketing tools in analysing their consumer behaviour and obtaining information, we conducted an online survey on a sample of 1080 respondents. To verify the assumption, we used Pearson's chi-square test of independence, using the chi-square formula to determine chi-square statistics, degrees of freedom, and the level of significance, and comparing the results with a chi-square distribution table. For this data, we were able to use a chi-square test to see if men are in higher directions in your neuromarketing marketing research tools. These respondents represented a non-random selection from all regions of the Slovak Republic. The information were founded about their perception of neuromarketing and neuromarketing tools and we analysed them thanks to the chi square test in Microsoft Excel. We have established the following hypotheses:

H0: Gender does not influence the promotion of the use of neuromarketing tools in consumer behaviour marketing research.

H1: Gender has a major impact on promoting the use of neuromarketing tools in consumer behaviour marketing research.

3. RESULTS AND DISCUSSION

In the first part of our work we provide an overview of neuromarketing tools. Our focus is on the three main ones that we will use in our conditions in the Slovak Republic in the future. According to the ideal scenario, we will start using the eye-tracking method and later focus on the combination of eye-tracking and EEG, and in the final phase we plan to use the possibilities offered by functional magnetic resonance imaging - fMRI.

In the next part, we will try to find out, based on an online survey of a sample of 1080 respondents from the Slovak Republic, whether there is a relationship between gender and the support of neuromarketing tools for obtaining information, in the analysis of consumer behaviour.

3.1 Classification of neuromarketing methods

In Figure 3 and in the following section, we identify neuromarketing methods useful in consumer research.

Neuromarketing methods are based on the knowledge of medical neuroscience and neurology. We distinguish these three basic groups of methods by whether they sense brain metabolic activity, which includes methods such as positron emission tomography and functional magnetic resonance imaging, or by brain electrical activity, where we classify steady-state topography, transcranial magnetic stimulation, magnetoencephalography, electroencephalography, or functional non- infrared spectroscopy, or do not capture brain activity at all, and this group includes methods such as facial coding - we also know the English term "facial coding", implicit association test, skin conductivity measurement, eye pupil monitoring - a method known in English nomenclature - eye-tracking, heart rate heart rate, measurement of physiological reactions and facial electromyography.

In our next work, we will consider all the factors that affect our research, not only financially, we have chosen a sequence of eye-tracking, where we will examine the respondents based on the movement of their eyelids. In the next part, we would expand our research with the

https://doi.org/10.18267/pr.2022.kre.2454.3

device that is closest to the EEG method and thus use a special helmet to examine specific brain reactions - which can already tell us about the respondent's positive or negative affection for the subject matter. The highest degree we plan to examine the respondent in the future is through functional magnetic resonance imaging, which with its potential can reveal the real reasons and motives for consumer decisions. In each method presented, we discussed how and how this method works and what types of data we can expect about consumer behaviour. Of course, we supplement this interpretation with information about the process of these methods and what areas in the brain they activate.

Fig. 3 Classification of neuromarketing methods

Source: Quantitative versus Qualitative in Neuromarketing Research (Bercea, 2013)

3.2 Eye-tracking – eye pupil monitoring

An eye tracking device can also be used to measure changes in pupil size, which is also used to track the direction of vision in consumer research. Modern eye-tracking devices use specialized sensors to derive the direction of tracking from patterns of infrared light reflected by the cornea during normal eye movements. These sensors can be placed on a table top or in a pair of specialized glasses that allow mobile eye tracking outside the laboratory. The basic premise of eye tracking is that the individual visually and mentally processes any stimuli to which his gaze is directed. Eye tracking is thus a good tool for assessing visual attention.

https://doi.org/10.18267/pr.2022.kre.2454.3

Eye-tracking studies have provided important insights into how consumers process and engage with marketing materials such as advertisements or catalogues, and how these attention patterns relate to consumer choice and behaviour. Eye tracking data revealed that participants noticed most of the large ads, but only a quarter of the simple lists; colour ads were viewed more often and longer than black and white ads, and the ads that were ultimately selected were observed over a longer period of time compared to other ads, suggesting that directing attention is a predictor of choice for the consumer.

Eye tracking allows researchers to understand which features of marketing materials and product information are most important and thus attract consumers' attention, but it can also help them understand how consumers process information and under what conditions all available information is used. However, there are some technical limitations regarding eye tracking; the available technology cannot follow the direction of gaze during blinking and does not work for all participants, such as spectacle wearers, the use of strong makeup, dark lashes or excessive tear fluid.

Eye movements can be considered good behavioural indicators to measure visual attention, as they are closely related to higher-order cognitive processes and eye tracking methodology is widespread in consumer behaviour studies, including food packaging analysis.

3.3 Electroencephalography (EEG) / Magnetoencephalography (MEG)

The EEG measures consumer cortical activation by detecting cortical electrical activity using an electroencephalogram (EEG) with electrodes placed along the scalp surface according to the International System (SI) 10-20. The EEG signal measures the activity of areas of the brain and reveals the state of cortical activation of the subject. EEG is only able to detect surface cortical activity, but the EEG signal has a high time resolution in milliseconds, which allows accurate detection of changes in brain activity due to rapid changes in stimuli. An alternative approach, magneto-encephalography (MEG), detects the magnetic field generated by the same neuronal activations and is therefore based on the same principles as EEG. Electroencephalography techniques can be further divided into two subgroups, either by detecting brainwave oscillations or by detecting event-related potentials (ERPs).

Brain wave oscillations are reflected by rhythmic activity in the EEG signal as groups of neurons synchronize their firing patterns. These oscillations are generally divided into frequency bands (alpha, beta, theta and delta). The EEG has been used in studies aimed at marketing incentives to measure various aspects of consumer responses, such as their involvement, the processing of television commercials and to predict whether advertisements will be remembered. The left part of the frontal cortex is part of the circuit involved in experiencing positive emotions, leading to a tendency to approach stimuli perceived as desirable, while the corresponding area on the right is an important part of the circuit involved in processing negative emotions. and in defensive withdrawal from stimuli. Frontal Asymmetry (FAA) is an indicator of the tendency to approach the product when watching different versions of the same TV commercial, identifying the most emotional scenes, but also aims to examine the attractiveness of the product with a special focus on different olfactory aromas.

Although EEG and neuroimaging techniques are costly and it is not possible to collect data from all populations, only a small number of samples are needed to predict consumer behaviour in an independent population when the sample is carefully selected to represent the target population. importantly, these predictions have also been shown to be more accurate than forecasts based on self-assessment measurements and in some cases more accurate than the actual sample behaviour, as these measurements are often unbiased and therefore provide

https://doi.org/10.18267/pr.2022.kre.2454.3

a more complete and informative measure for marketers compared to traditional classical marketing methods.

3.4 Functional magnetic resonance imaging (fMRI)

Functional magnetic resonance imaging (fMRI) provides insight into blood-oxygen-level (BOLD) signals in the brain. This method assumes that when neurons in specific areas of the brain are activated, they absorb oxygenated haemoglobin (oxyhaemoglobin), followed by a few seconds increase in oxyhaemoglobin, which can be determined by MRI. A key advantage of fMRI is its high spatial resolution (usually 2-3 mm3), which means that active areas of the brain can be labelled in detail with considerable accuracy. Although it is a non-invasive method, it has an acceptable resolution of approximately 2-5 s. Neuroscientific research allows us to create a map of regions and brain networks that are associated with various mental processes. This technique can be used to elucidate the basic brain mechanisms of consumer behaviour. fMRI is used to study a variety of mental processes that include attention, excitement, affect, reward, decision making, and memory, processes that are highly relevant to consumer behaviour.

A growing number of fMRI studies are examining neural correlates of product preferences. The following areas were found to correlate best with consumer behaviour: insula (I) bilateral, amygdala (A) bilateral, medial orbitofrontal cortex (PFC) bilaterally, frontal middle orbital fold and straight fold (gyrus rectus), hippocampus bilateral, lower frontal fold, dorsomedial prefrontal cortex on both sides, dorsolateral prefrontal cortex (DLPFC) on both sides and nucleus accumbens on both sides. The fMRI data suggest that activity in the nucleus accumbens (NAcc) was associated with product preference, while high prices induced activation in the insula (I) and decreased activity in the medial orbitofrontal cortex (PFC). The decision whether to buy at the recommended price was accompanied by higher activity in NAcc and mOFC and the decision not to buy due to the activity of Insula.

3.5 Data acquisition and consumer rights

We described how we can obtain this data and which parts of the brain are the subject of consumer behaviour research. We already perceive the fact that neuromarketing significantly interferes with consumer privacy and can be said to violate the privacy of respondents. Neuromarketing research is carried out either in marketing agencies and their laboratories or at universities in collaboration with medical staff, which is contrary to what the public expects from academics and doctors. In the US, since 2010, it has been criticized that devices for brain neuroimaging activities should be used primarily for treatment and medical research, not marketing. These devices are not meant to help us sell products that a normal person would not even consider in their consumer behaviour.

We were therefore interested in the views of consumer respondents on the promotion of the use of neuromarketing tools in marketing research on consumer behaviour. We conducted research on a sample of 1080 respondents, across all regions of the Slovak Republic. It was therefore a random selection of all age categories and levels of education. We were interested in the dependence between the sex of the respondents and the support of the use of neuromarketing tools in marketing research of consumer behaviour. In order to determine this dependence, we set the hypotheses that we wanted based on the performed chi square test and p - values to either refute or confirm.

H0: Gender does not influence the promotion of the use of neuromarketing tools in consumer behaviour marketing research.

https://doi.org/10.18267/pr.2022.kre.2454.3

H1: Gender has a major impact on promoting the use of neuromarketing tools in consumer research.

Tab. 1 The result of the Chi square test sex - support for the use of neuromarketing tools in marketing research

Row labels	yes	I do not care	I can't judge	no	Grand Total
man	80	64	232	136	512
woman	128	40	224	176	568
Grand Total	**208**	**104**	**456**	**312**	**1080**

Acquired (fo)	yes	I do not care	I can't judge	no	Grand Total
man	80	64	232	136	512
woman	128	40	224	176	568
Grand Total	**208**	**104**	**456**	**312**	**1080**

Expected (fo)	yes	I do not care	I can't judge	no	Grand Total
man	98.60740741	49.3037037	216.1777778	147.9111	512
woman	109.3925926	54.6962963	239.8222222	164.0889	568
Grand Total	208	104	456	312	1080

Chí-square test	yes	I do not care	I can't judge	no	Grand Total
man	3.511253561	4.380626781	1.158040936	0.959188	10.00910931
woman	3.165073633	3.948733999	1.043867886	0.86462	9.022295718
Grand Total					19.03140503

r-1	1
C-1	3
Critical value	7.814727903
p-value	0.000269341

Source: own processing

Based on the processing of the chi-square test, we obtained a critical value of 7.8 and the result of the chi-square test up to 19.03, and this value does not fall within the scope, so we must reject the null hypothesis. The null hypothesis tested in this analysis concerns the significance of the localization constant and the correlation coefficient, with the null hypothesis asserting the insignificance of the relevant coefficient and the alternative hypothesis its significance. The P-value for the localization constant is less than 0.05 (alpha), which indicates that the localization constant is statistically significant. alternative hypothesis H1: Gender has a major impact on promoting the use of neuromarketing tools in consumer behaviour marketing research.

With this test, we were able to demonstrate that gender has a major impact in promoting the use of neuromarketing tools in consumer behaviour research, and that the information obtained could improve the supply of products on the market. In this case, women are more open, where up to 31.5% of female respondents answered in a survey that they would support the use of neuromarketing tools. On the contrary, only 17% of men answered positively to support and up to 36.8% of men have a negative attitude towards the use of neuromarketing tools. For women, this percentage is lower and is at the level of 20.2%. Despite everything and a relatively negative attitude towards neuromarketing tools, we can state that a large

https://doi.org/10.18267/pr.2022.kre.2454.3

percentage of non-support for neuromarketing tools can stem from several reasons. The main reasons include the following:

- lack of information,
- fears of loss of privacy,
- concerns about the misuse of personal data,
- potential danger to humans,
    - from a physiological point of view (physical damage),
    - from a psychological point of view (mental damage),
- concerns about manipulating purchasing decisions.

In order for us to minimize these problems, or rather the differences between the negative attitude of the respondents and the willingness or support of the respondents towards neuromarketing tools, we must take a number of measures. Starting with education and awareness-raising, publishing various available materials and information that will be easily accessible to the public up to the actual implementation of research. We introduced how neuromarketing can help us and what kinds of information we can obtain. However, we cannot neglect the protection of research participants in this part either, and it is extremely important to describe the basics of the ethical approach in research.

3.6 Ethical approach

At the beginning of the whole process, it is important that the research respondents are acquainted with the whole research process and are also aware of the possible risks, if it is necessary to undergo some during the research. The basis of the information provided is informed consent. Each research participant should be clearly and comprehensibly informed before entering:

- the objectives of the specific research,
- potential risks,
- the possibility for the participant to withdraw from it freely at any moment without any consequences, possibly not to participate in it at all.

An important part of the strategy of this ethical approach to research is the absence of influence, leading to the subject deciding to participate in the survey arbitrarily. The rules that should guide the ethical approach to neuromarketing research are:

- Nuremberg Code,
- Declaration of Helsinki
- Convention on Human Rights and Biomedicine,
- UNESCO Declaration,
- NMSBA Code of Ethics,
- Code of Ethics of the International Chamber of Commerce.

The main function of the code of ethics is to regulate the behaviour of a group or individual in relation to ethical standards. The Code of Ethics helps resolve conflict, make decisions and assess what is and what is not ethically correct. It ensures that participants and researchers are fully informed about the purpose of the research. It ensures the anonymity of participants and their data or uses only non-invasive measuring tools. Companies can engage in research

https://doi.org/10.18267/pr.2022.kre.2454.3

activities solely for the overall ethical purpose. The principles of the Code of Ethics include respect for autonomy, the pursuit of justice, the conduct of good and the avoidance of malice. (Carter, 2017). The Code of Ethics should be revised after a period of time to ensure that the value of ethical standards is adequate for the neuromarketing research industry. Our goal is to acquire data, neuromarketing is the perfect tool for us. Therefore, we must take care of him and not abuse his possibilities.

CONCLUSION

With this article, we tried to point out the possibilities that neuromarketing offers and what information can be obtained thanks to it. It is true that today is very challenging in polarizing society. We see how the company is polarizing the Covid-19 vaccine, it would also be interesting to talk publicly about how we can sell products from neuromarketing research that the customer might not even consider voluntarily.

The paper characterizes the individual neuromarketing tools gradually from eye-tracking, through EEG to fMRI and acquaints the reader with how these methods work and what data we can receive. But we cannot forget the rights and obligations we have towards the consumer-respondent. By adhering to an ethical approach, we build the trust that is lacking in this segment, which we have pointed out through research.

By researching a sample of 1080 respondents, we identified the relationship between gender and the promotion of the use of neuromarketing tools in marketing research on consumer behavior. Based on this research, women are more open to research, where the object of research is their own body, with the proviso that this research can help improve the supply of products on the market. Men are more characterized by a greater distrust of neuromarketing tools. We have identified possible concerns as to what this mistrust may stem from:

- lack of information,
- fears of loss of privacy,
- concerns about the misuse of personal data,
- potential danger to humans,
    - from a physiological point of view (physical damage),
    - from a psychological point of view (mental damage),
- concerns about manipulating purchasing decisions.

There is no doubt about how great a tool neuromarketing can be in improving the product offerings in the market. It is a great tool for collecting data on consumer behaviour, but we must be careful when applying it, and this effort will pay off. In future research, we could focus on which factors affect people the most and therefore make it impossible to obtain information. It will be interesting to compare traditional marketing research and neuromarketing research and identify differences.

Our main limits that accompanied our research include a lack of funds that would motivate respondents to participate more in the survey and, on the other hand, the absence of comparison of results with research using neuromarketing methods - such as eye-tracking. This may be an area of our future research.

https://doi.org/10.18267/pr.2022.kre.2454.3

ACKNOWLEDGEMENT

This paper is an output of the science project I-22-107-00 "The use of neuromarketing as an effective tool for consumer research".

REFERENCES

Agarwal, S., Dutta, T. Neuromarketing and consumer neuroscience: current understanding and the way forward. Decision 42, 457–462 (2015). https://doi.org/10.1007/s40622-015-0113-1

Alsharif A., MD Salleh, N.Z., Baharun, R. a Effandi, M.E., 2021. Consumer Behaviour Through Neuromarketing Approach. Journal of Contemporary Issues in Business and Government, 27(3), pp.344-354.

Alsharif A., Nor Zafir Md Salleh, Rohaizat Baharun & Alharthi Rami Hashem E | Manish Gupta (Reviewing editor) (2021) Neuromarketing research in the last five years: a bibliometric analysis, Cogent Business & Management, 8:1, DOI: 10.1080/23311975.2021.1978620

Alsharif, A. H., Md Salleh, N. Z. and Baharun, R. (2021) "Neuromarketing: The popularity of the brain-imaging and physiological tools", Neuroscience Research Notes, 3(5), pp. 13–22. doi: 10.31117/neuroscirn.v3i5.80.

Alsharif, A. H., Salleh, N. Z. M., & Baharun, R. (2021). To Better Understand the Role of Emotional Processes in Decision-Making. International Journal of Academic Research in Economics and Managment and Sciences, 10(2), 49–67.

Alvino F., (2020) 'Reconceptualizing intercultural communicative competence: A multinational perspective', Research in Comparative and International Education, 15(1), pp. 52–61. doi: 10.1177/1745499920901948.

Brierley A., 2017. "The role of a pragmatist paradigm when adopting mixed methods in behavioural accounting research," International Journal of Behavioural Accounting and Finance, Inderscience Enterprises Ltd, vol. 6(2), pages 140-154.

Carter, M. A., et al. 2017. Australian university students and mental health : viewpoints from the literature. International Journal of Innovation, Creativity and Change, 3(3):1-25.

Harris L., Antwal N., (2018) Examining how brand authenticity is established and maintained: the case of the Reverso, Journal of Marketing Management, 34:3-4, 347-369, DOI: 10.1080/0267257X.2018.1447008

Jordão Icaro Luiz Dos Santos, Marina Teixeira De Souza, Jorge Henrique Caldeira De Oliveira, and Janaina De Moura Engracia Giraldi International Journal of Business Forecasting and Marketing Intelligence 2017 3:3, 270-288

Kozel, R. et al., 2011. Moderní metody a techniky marketingového výzkumu. Praha: Grada Publishing, 2011. ISBN 978-80-247-3527-6.

Lee N, Senior C, Butler MJR. The Domain of Organizational Cognitive Neuroscience: Theoretical and Empirical Challenges. Journal of Management. 2012;38(4):921-931. doi:10.1177/0149206312439471

Lee N, Senior C, Butler MJR: Leadership research and cognitive neuroscience: the state of this union. Leadersh, 2011, 23:213–218.

Lindstrom, M., 2009. Nákupologie. Praha: Computer Press, 2009. ISBN 978-80-251-2396-6.

https://doi.org/10.18267/pr.2022.kre.2454.3

Lucaci, D., 2012. Neuromarketing: The future of better communications. 2012. [online]. <http://www.slideshare.net/dianalucaci/neuromarketing-overview-neuromarketing-examples#btnPrevious>

Morin, C. (2011). Neuromarketing: The new science of consumer behavior. Society, 48(2), 131-135, cit. dňa: 4.5.2021 z http://dx.doi.org/10.1007/s12115-010-9408-1

Oláh, Ľ. a Fogašová, V., 2013. Neuromarketing – revolúcia v skúmaní správania spotrebiteľa? 2013.http://www.ruonline.sk/neuromarketing-%E2%80%93-revolucia-v-skumani-spravania-spotrebitela/

Ramsoy, T., 2015. Introduction to neuromarketing & consumer neuroscience. Denmark, 2015. ISBN: 978-87-9976020-6

Šášiková, M., 2013. Neuromarketing na Slovensku a v zahraničí a jeho etické aspekty. Bratislava: Ekonomická univerzita v Bratislave, Obchodná fakulta. 2013. [online]. http://www.cutn.sk/Library/proceedings/mch_2013/editovane_prispevky/42.%20%C5%A0%C3%A1%C5%A1ikov%C3%A1.pdf

Sebastián, N. & Costa, A. How does the bilingual experience sculpt the brain?. Nat Rev Neurosci 15, 336–345 (2014). https://doi.org/10.1038/nrn3709

Songsamoe, Sumethee & Saengwong-ngam, Ravinun & Koomhin, Phanit & Matan, Narumol. (2019). Understanding consumer physiological and emotional responses to food products using electroencephalography (EEG). Trends in Food Science & Technology. 93. 10.1016/j.tifs.2019.09.018.

Vecchiato Daniel and Tiziano Tempesta, Public preferences for electricity contracts including renewable energy: A marketing analysis with choice experiments, Energy, 2015, vol. 88, issue C, 168-179.

Vysekalová, J. et al., 2011. Chování zákazníka. Praha: Grada Publishing, 2011. ISBN 978-80-247-3528-3.

https://doi.org/10.18267/pr.2022.kre.2454.3

The Need for More and Better Implementation of Sustainability in the Marketing Curriculum

Katarina Chomová
ORCID: 0000-0001-5819-2963
katarina.chomova@euba.sk
University of Economics, The Faculty of Commerce, Department of Marketing
Bratislava, Slovakia

Abstract: The reset of the economy worldwide after the Corona pandemic, now in 2022, is the perfect opportunity to invest in industries and business models based on the principles of sustainability and circularity. In the transition towards a sustainable society and a circular economy model, the marketing educators will have a critical role by implementing environmental and social criteria in the marketing curriculum. At the same time marketing students understand that the world is a system in which their actions, as well as the actions of nations, have consequences across the globe and they require to learn more about sustainability during their university study. The author focuses on (i) analyzing why modern mainstream marketing as it has evolved is being challenged by emerging concerns about sustainability (ii) presenting why students are getting serious about sustainability (iii) describing curriculum and presenting key learning objectives in the area of sustainable marketing.

Keywords: Education, Higher education institutions, Sustainable development, Sustainable marketing, Students

JEL Classification codes: M31

INTRODUCTION

Marketers have a significant role the play when it comes to promoting and driving sustainability. No longer can the marketing professions ignore their impact on the environment. In an age of growing authenticity and consumer demands for more transparency, it is more important than ever for brands to communicate their responsible and sustainable practices.

Increasing numbers of marketing professionals are seeking to embrace a profits with-purpose approach to their marketing strategy whilst still naturally keen to ensure that their companies continue to grow. Following the period of coronavirus the 2020s will be the age in which boardrooms around the globe wake up to the reality of running a business focused on making profits with purpose, with an authentic desire to take a more sustainable approach.

The transformation of our societies and economies from the unsustainable thinking, practices, and technologies of the twentieth century to something much more sustainable is well underway. Sustainability has never been more important, but sustainability in a business sense is no easy task.

By shifting the mainstream of teaching and learning about marketing towards sustainability we can contribute something to this all-important transformation.

According to Fonseca et al. (2018) academia should focus on the dissemination and creation of knowledge in Sustainable Development and the Circular Economy.

https://doi.org/10.18267/pr.2022.kre.2454.4

The aim of the article is to analyze the evolution of modern mainstream marketing to sustainability marketing, to present students interest to sustainability and to describe curriculum of sustainable marketing.

1. LITERATURE REVIEW

The concept of education for sustainable development was born from the need for education to address the growing environmental challenges facing the planet.

Since the concept of sustainable development was presented in the Brundtland report Our Common Future' (WCED, 1987), education has increasingly been called upon to integrate issues of sustainability, and to contribute to a sustainability transition process in society.

One definition of Education for Sustainable Development is an "interdisciplinary learning methodology covering the integrated social, economic, and environmental aspects of formal and informal curriculum" (UNESCO, 2014).

Nowadays UNESCO declares environmental education must be a core curriculum component by 2025. Over 80 ministers and vice ministers and 2,800 education and environment stakeholders committed to taking concrete steps to transform learning for the survival of our planet. According to Director UNESCO Audrey Azoulay (2021) education can be a powerful tool for transforming our relationship with nature. We must invest in this field in order to preserve the planet.

According to Fabius (2021) fight against climate change begins at schools and universities. Paris Agreement called for increased efforts to improve teacher training on Education for Sustainable Development and increase financing. 2021 is the year in which we will overcome the pandemic and embark on a sustainable development model for the future that must include Education for Sustainable Development. If we miss this occasion, we will lose decades. This is a race against the clock.

Evidently, increasing sustainability challenges have resulted in difficulties to action global goals in Higher education for sustainable development most of which call for a complete overhaul of the university system. In doing so, lots of researches (Milutinović & Nikolić, 2014, Fonseca et al. ,2018 and Franco et al. ,2018) suggest closer attention to essential factors: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment in line with the global indicator.

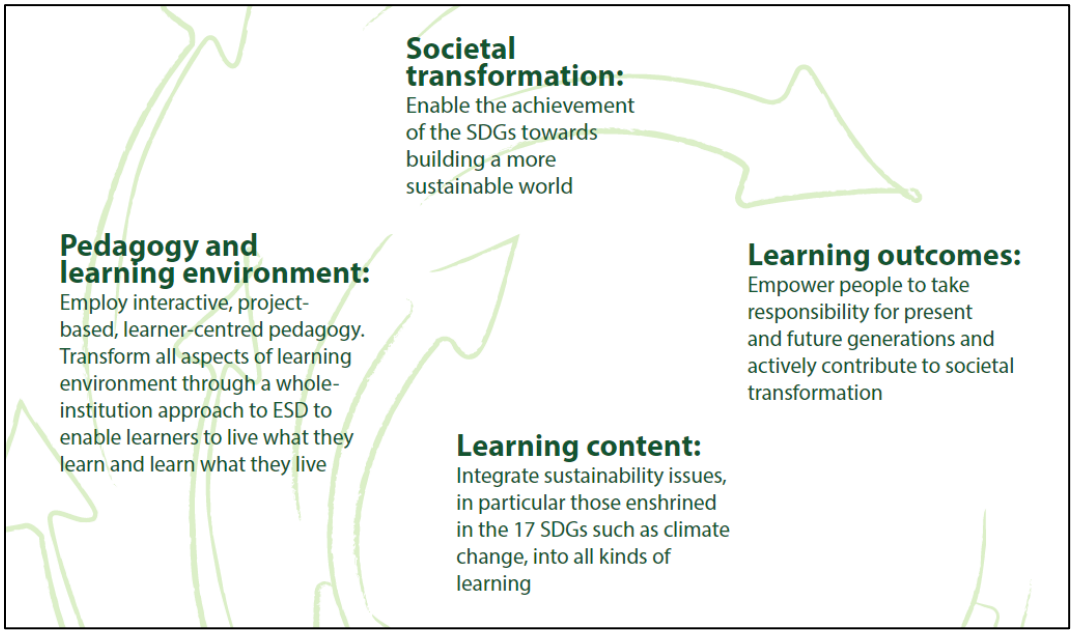
Besides a systematic analysis of education sector plans and national curriculum frameworks, finding creative ways to include environmental issues and concerns within diverse subjects, while challenging, conveys to teachers and students alike that multiple sources of knowledge and action are needed to address ecological crises as opposed to relying only on scientific or technical solutions (Hornsey et al., 2016).

All teachers and school leaders should be versed in Education for Sustainable Development, including in relation to environmental education, climate change and biodiversity. They should be prepared to realize their expertise in this area using transformative learning approaches.

Education for sustainable development for 2030 will promote the integration of sustainable development and the Sustainable development goals into education and learning, as well as ensuring the integration of education and learning into all activities that promote sustainable development (Figure 1).

https://doi.org/10.18267/pr.2022.kre.2454.4

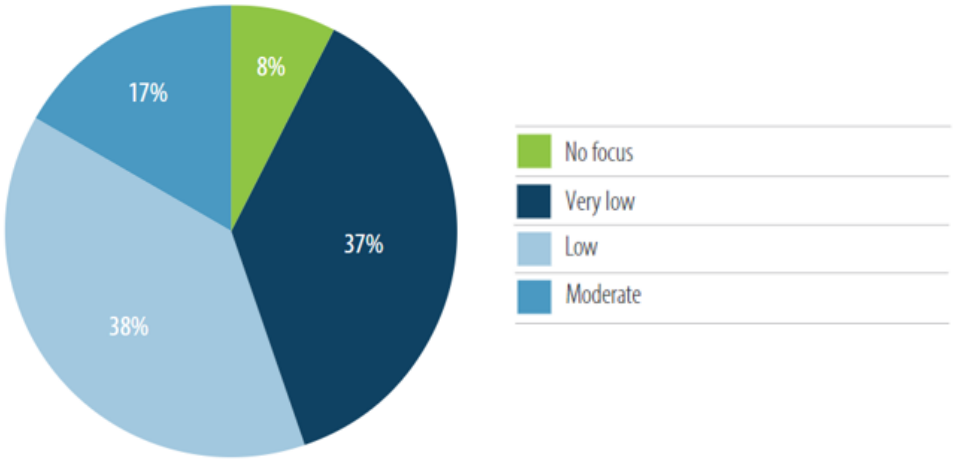
Fig. 1 Education for sustainable development is recognized as a key enabler of all SDGs and achieves its purpose by transforming society.



Source: UNESCO, 2021, p. 14

UNESCO analyzed educational plans and curricula frameworks in close to 50 countries informed the discussions. UNESCO found that more than half make no reference to climate change.

Fig. 2 Percentage of documents, by levels of focus on environmental themes



Source: UNESCO, 2021, p. 24

72 of the 78 documents studied made at least one explicit mention of environmental issues. However, the depth of focus given to environmental themes on each document varies substantially (Figure 2).

Learners in all walks of life across the world have opportunities to acquire the knowledge, skills, values and attitudes needed for promoting sustainable development and achieving the 17 SDGs and to experience sustainable development in action through a whole-institution approach to Education for Sustainable Development.

https://doi.org/10.18267/pr.2022.kre.2454.4

2. METHODOLOGY

Education for sustainability in higher education has gained strongly increasing attention. In this context, the paper aims to (i) analyze why modern mainstream marketing as it has evolved is being challenged by emerging concerns about sustainability (ii) present why students are getting serious about sustainability (iii) describe curriculum and key learning objectives in the area of sustainable marketing.

Theoretical background of the paper presents topics based on relevant literature sources. This article reviews the literature regarding: sustainability education, marketing and sustainability, Higher education institutions, sustainable development etc.

The article consists of three parts.

(i) In the first part of the results section, we used the main methods include analysis, comparative method, synthesis and deduction. Data was gained from published sources, such as books and articles, as well as the internet. The primary search engines used in section 1 are Scopus and Web of Science (WoS). Additionally, the search engines of the scientific publishers Emerald, and Springer. Lastly, Google Scholar served as the final search engine to identify relevant literature.

(ii) Second part of the results section, we used a technique of descriptive research-survey determining the opinions of a specified population.

The study was a census using an application MS Forms questionnaire to the 60 students the end of the semester in the 2021-2022 academic year in one of marketing course of master degree at Economic university in Slovakia.

55 responded resulting in a 92% response rate. Population size was small (N=55), this could provide the first step in measuring constructs that need to be replicated and further tested with larger sample sizes and more diverse groups of students.

The researchers used the questionnaire called "STUDENTS, SUSTAINABILITY AND EDUCATION". We do research on students and sustainability, that can leverage action to transform education and direct society to a more sustainable and fair future. The survey consisted of 26 questions but we used only following two for the purposes of this article.

(1) To what extent do you agree or disagree with the following statements?

- *Sustainable development is something which all universities/ colleges should actively incorporate and promote*
- *Sustainable development is something which I would like to learn more about*
- *Sustainable development is something which all courses should actively incorporate and promote*

It was used Likert scale with the answers: agree, no opinion one way or the other, disagree, i don´t know.

(2) To what extent has sustainable development been covered by your courses?

It was used Likert scale with the answers: 5-extensively covered, 4, 3, 2, 1-not at all covered, i don´t know.

https://doi.org/10.18267/pr.2022.kre.2454.4

(iii) In the last part of the results section, we design the curriculum and key learning objectives in the area of new approach of marketing respecting ecological and social criteria, sustainable development, and sustainable development goals.

The method of deduction was used to logically justify the conclusions from the generally valid pragmatic experience abroad.

3. RESULTS AND DISCUSSION

The author focuses on analyzing why modern mainstream marketing as it has evolved is being challenged by emerging concerns about sustainability (sub-chapter 3.1), presenting why students are getting serious about sustainability (sub-chapter 3.2), describing curriculum and presenting key learning objectives in the area of sustainable marketing (sub-chapter 3.3).

3.1 Evaluation of marketing towards sustainability

All this time, and through all these momentous changes, the way in which we teach marketing, and the books from which we teach it, have barely changed. They may have evolved to reflect the use of new technologies in marketing or to register that environmental and ethical concerns are one type of issue that may influence consumers' behavior or companies' strategies, but they have never sought to rethink marketing in light of the new realities.

Conventional marketing continues to exist within an economic hyperspace in which there are no physical limits on the availability of resources or on the number of holes into which waste can be poured. It also exists within the artificial bubble of the consumer society, in which the customer is king and no consideration is given to the consequences of consumption or the interests of the billions of people who cannot afford to join the consumer classes.

Conventional marketing thought and practice have struggled to adapt to a world that we now realize could be destroyed (or at least impaired to the impoverishment of us all) by unconstrained consumption as we strive to satisfy an ever-longer list of wants for an ever-growing global consumer class (Belz and Peattie, 2012).

Since the 1970s, several marketing concepts have emerged that consider marketing within its social and environmental context. Belz and Peattie (2012) list some of the previous marketing concepts that have been developed over the years: ecological marketing, green and greener marketing, environmental marketing, sustainable marketing and sustainability marketing. From these earlier approaches, sustainability marketing represents a logical evolution, and further extends and integrates them into one broad marketing approach.

The programs within social marketing are designed to influence the behavior of individuals or communities to improve their well-being or of the society. Ecological marketing however, emerged as a reaction to the worst examples of environmental damage, some pioneering companies at that time proactively embraced environmental and social values as central to their business (Belz and Peattie, 2012). Green marketing differs from ecological marketing since it is more characterized by a focus on environmental issues, and by an emphasis on reducing environmental damage.

Undoubtedly, there has been a substantial growth in "green", "environmental", and "sustainable" marketing, much of which has been focused on promoting "green" products,

https://doi.org/10.18267/pr.2022.kre.2454.4

understanding market segments and consumer's preferences for environmentally friendly products, and the role of the environment in branding.

Sustainable marketing is the next natural step forward and is considered as a broader concept. It focuses on achieving the 'triple bottom line' through creating, producing, and delivering sustainable solutions with higher net sustainable value and at the same time continuously satisfying customers and other stakeholders (Charter et al. 2002).

Achrol and Kotler argued that in the third millennium, the super phenomena of marketing will be characterized by sustainable marketing. Sustainable marketing is broadly characterized by a number of elements including: the recognition of resource limits of growth, sustainable consumption, a transition from an anthropocentric to a biocentric paradigm, and the development of sustainable product life cycles (Kemper, 2019).

Curriculum in universities has been seen as occupying an anthropocentric and modernist–humanist position which has been claimed to inhibit the pursuit of strong sustainability. Consequently, while a 'top-down' (managerial) approach to sustainability appears to have limited possibilities in being effective, it has been argued that a 'bottom-up' (individual) approach, through faculty and students, has potential to implement change in curriculum and research (Giacalone, 2004).

3.2 Students are getting serious about sustainability

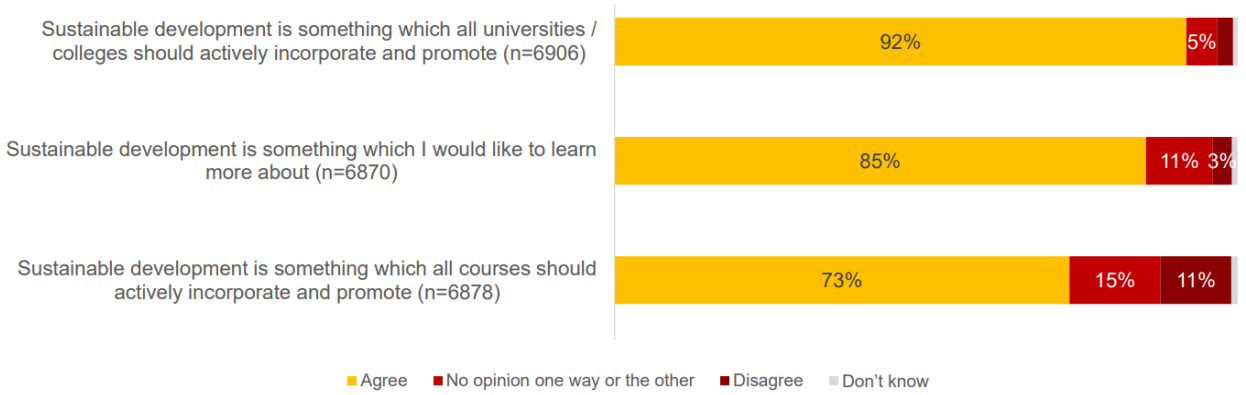
By our opinion most of students are getting serious about sustainability. They want to understand how marketing and sustainability issues can and do come together. This will include marketing students who want to understand sustainability as a new marketing paradigm and a practical marketing challenge business students studying courses in general management, strategic management, innovation, business ethics or corporate social responsibility who want to understand the marketing implications of sustainability, and sustainability or environmental management students who wish to learn about the field of marketing and how it deals with environmental and social challenges.

Sustainable marketing is the most relevant to students studying at advanced bachelor's, master's or doctoral level.

Students care about sustainability and education but there is little research to support this that is recognized as representative enough. One of them one of them was made by the organization - Students organizing for sustainability international. Between April and October 2020, SOS International invited higher education institutions and student-facing organizations to send out a survey designed to gather insight into student experiences of sustainability and education. More than 100 organizations took part and we received just under 7000 responses from students in higher education around the world (Graph 1).

https://doi.org/10.18267/pr.2022.kre.2454.4

Graph 1 To what extent do you agree or disagree with the following statements? (Global research)

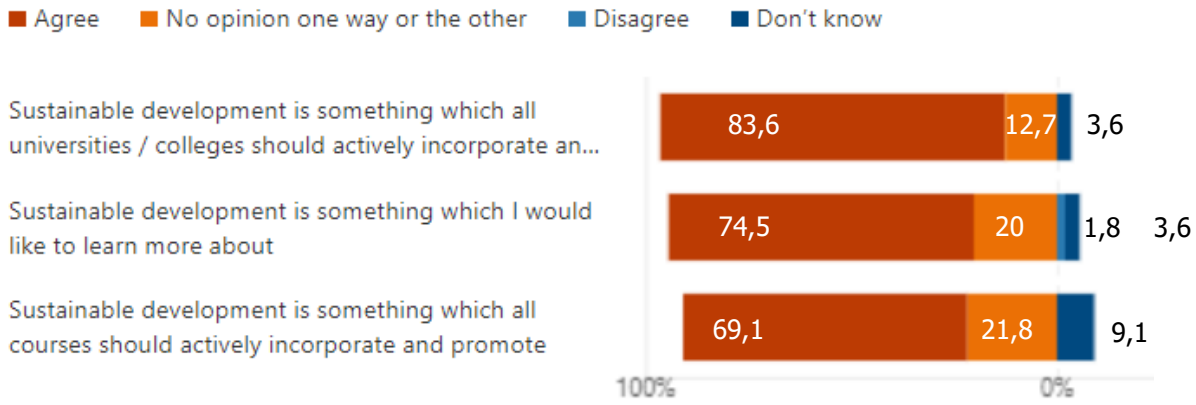


Source: SOS International, 2020

We also do research on students and sustainability, and we used the same question to our questionnaire Almost 84% students agree that sustainable development is something which all universities should actively incorporate and promote and almost 70% of all student agree with the statement that sustainable development is something which all courses should actively incorporate. Interestingly, no one said they disagreed with the statement (Graph 2).

Almost 75% agree and 2 % disagree with the statement that sustainable development is something which I would like to learn more about.

Graph 2 To what extent do you agree or disagree with the following statements? (Research in Slovakia)

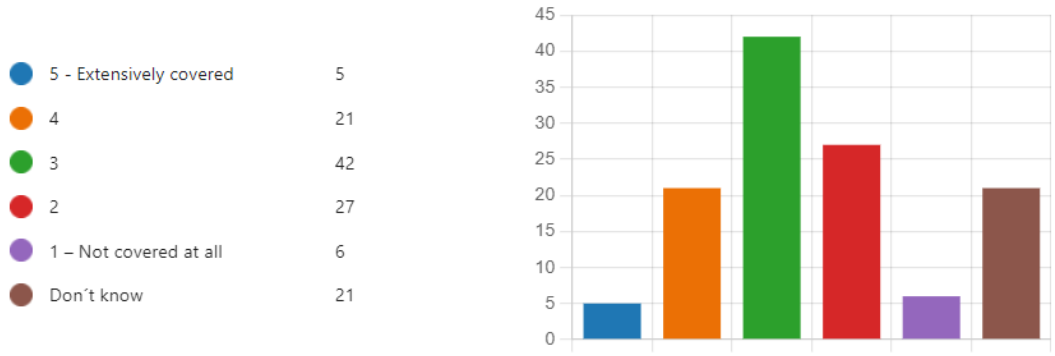


Source: author´s own graph

Based on this "small" research we suppose Slovak´s students understand that the world is a system in which their actions, as well as the actions of nations, have consequences across the globe and they require to learn more about sustainability during their university study. Of course, it was only first step in measuring constructs that need to be replicated and further tested with larger sample sizes and more diverse groups of students in Slovakia.

https://doi.org/10.18267/pr.2022.kre.2454.4

Graph 3 To what extent has sustainable development been covered by your courses? (Research in Slovakia)



Source: author´s own graph

Almost 21% agree with the statement that sustainable development been covered by their courses and 62% of the student think that the topic of sustainability covered by the course is average or insufficient.

3.3 Key learning objectives and curriculum of new marketing

Considering sustainability trends, the evolution of the marketing discipline, and the gap between sustainable development goals and students' knowledge about how to achieve them we suggest the new key learning objectives and new curriculum of new "basic" marketing.

The key learning objectives can be:

- understand the sustainability and 17 sustainable development goals, challenges for 21. century,
- understand sustainable customer behavior and how customers can be segmented based on sustainability,
- understand the various manufacturer and retailer strategies regarding sustainability,
- create a life cycle analysis,
- use a sustainable product/service development checklist or a sustainable design process to develop a new product or service concept,
- evaluate the pricing/ quality and labeling green versus nongreen product,
- development a promotional message that directs consumers to a sustainable product and
- create and manage an event sustainably.

The success in teaching and researching sustainability requires a change in universities' curriculum. Curriculum in universities has been seen as curriculum of sustainable marketing. In table 1 is comparison of curriculum conventional marketing and sustainable marketing.

https://doi.org/10.18267/pr.2022.kre.2454.4

Tab. 1 Conventional marketing versus sustainable marketing

CONVENTIONAL MARKETING	"NEW CONVENTIONAL MARKETING" SUSTAINABLE MARKETING
1. What is marketing? Creating and Capturing Customer Value	An introduction to the subject Sustainbale marketing. Understanding sustainability and marketing.
2. Company and Marketing Strategy. Partnering to Build Customer Value and Relationships.	Marketing in the Twenty-First Century. Challenges for the Twenty-First Century. Sustainable development. 17 Sustainable development goals
3. Sustainable Marketing. Social Responsibility and Ethics	Framing sustainable marketing. Elements of sustainable marketing. Corporate social responsibility. Ethical context. Socio-political context. Global context.
4. Analyzing the Marketing Environment	Socio-ecological problems. Socio-ecological problems on a macro level and socio-ecological impact of products on a micro level.
5. Understanding Consumer and Business Buyer Behavior	Understanding sustainable consumer behavior. Sustainability and consumption. Factors influencing sustainable consumer behavior
6. Managing Marketing Information to Gain Customer Insights Customer-Driven	Managing Marketing Information to Gain Customer Insights Customer-Driven
7. Marketing Strategy. Creating Value for Target Customers	Sustainability marketing values and objectives. Integrating sustainability into strategic plan, develop sustainable marketing strategy, market segmentation using environmental and social awareness
8. Products, Services, and Brands. Building Customer Value. New Product Development and Product Life-Cycle Strategies	Sustainable marketing mix: customer solutions. Developing a sustainable products and services. Eco and social innovations. Redesigning products for sustainability. Ecodesign. Life cycle management. Sustainable labeling. Sustainable branding
9. Engaging Customers and Communicating Customer Value. Personal Selling and Sales Promotion. Personal Direct, Online, Social Media, and Mobile Marketing	Sustainable marketing mix: communications. Communication mix. Cause-related marketing. Greenwashing, Social marketing, Digital marketing
10. Pricing. Understanding and Capturing Customer Value	Sustainable marketing mix: customer cost. Total customer cost. Price- setting approaches. Price strategies
11. Marketing Channels. Delivering Customer Value. Retailing and Wholesaling The Global Marketplace	Sustainable marketing mix: convenience. Distribution strategies. Reverse logistics, Sustainable packaging. Develop sustainable channel operations
12. Future of marketing	Future of sustainable marketing. Market, corporate and marketing transformations

Source: author´s own table

Sustainable marketing with focus on the importance of integrating of transdisciplinary approaches, critical thinking and integration of theory and practice, cognitive skills, social and emotional learning, collaboration skills, problem solving, resilience-building.

https://doi.org/10.18267/pr.2022.kre.2454.4

CONCLUSION

Higher education does not fully understand the true nature of the challenge and that sustainable development is still considered as an innovative idea in most universities, and has not yet permeated all disciplines, scholars, and university leaders. Although Higher education for sustainable development is being widely debated, issues on how to move from rhetoric to policy, curriculum and practice and in alignment with the global sustainability agenda remain under-investigated (Milutinović and Nikolić, 2014).

Conventional marketing thought and practice have struggled to adapt to a world that we now realize could be destroyed (or at least impaired to the impoverishment of us all) by unconstrained consumption as we strive to satisfy an ever-longer list of wants for an ever-growing global consumer class (Belz and Peattie, 2012). Sustainable marketing is the next natural step forward and is considered as a broader concept.

Almost 84% Slovak students (92% international students) agree that sustainable development is something which all universities should actively incorporate and promote and almost 70% (85% international students)of all student agree with the statement that sustainable development is something which all courses should actively incorporate. Interestingly, no one said they disagreed with the statement

The key learning objectives of "new conventional" marketing should focus on sustainability, 17 sustainable development goals, social-ecological problems, sustainable consumer behavior, sustainable values, objectives, and strategies, eco and social innovations, ecodesign, sustainable labeling and branding, sustainable communication mix, greenwashing, total customer cost, reverse logistic, sustainable channel operation, ecological and social criteria in supply chain, sustainable packaging etc.

Further research could be oriented toward surveys in other higher education institutions, and other study programs and curriculums. Other recommendations for further research are linking the results with specific learning and assessment oriented toward the acquisition of sustainability competences and linking the results between higher education institutions and efforts to integrate these competences in hiring strategies of companies.

REFERENCES

Belz, F. M., and Peattie, K. (2012). Sustainability Marketing: A global perspective. Chichester: Wiley. ISBN-13: 978-1119966197

Fonseca, L.M., Domingues, J.P., Pereira, M.T., Martins, F.F. and Zimon, D. (2018). Assessment of Circular Economy within Portuguese Organizations. Sustainability, 10, 2521; doi:10.3390/su10072521.

Franco, I., Saito, O., Vaughter, P. (2018). Higher education for sustainable development: actioning the global goals in policy, curriculum and practice. Sustainability Science doi:10.1007/s11625-018-0628-4.

Giacalone, R.A. (2017). A transcendent business education for the 21st century. Acad. Manag. Learn. Educ. 2017, 3, 415–420. https://doi.org/10.5465/amle.2004.15112547

Hornsey, M.J., Harris, E.A., Bain, P.G., & Fielding, K.S. (2016). Meta-analyses of the determinants and outcomes of belief in climate change. Nature: Climate Change, 6, pp.622-626. https://doi.org/10.1038/nclimate2943

https://doi.org/10.18267/pr.2022.kre.2454.4

Kemper, J.A., Hall, C.M., Ballantine, P.W. (2019). Marketing and Sustainability: Business as Usual or Changing Worldviews? Sustainability 2019, 11(3), 780; https://doi.org/10.3390/su11030780

Milutinović, S., Nikolić. V. (2014). Rethinking higher education for sustainable development in Serbia: an assessment of Copernicus charter principles in current higher education practices. J Clean Prod 62(2014):107–113. https://doi.org/10.1016/j.jclepro.2013.05.028

UNESCO (2014). Education for Sustainable Development. Available on: https://edugog.com/education-for-sustainable-development-teacher-guides/

Unesco declares environmental education must be core curriculum component 2025. Available on: https://en.unesco.org/news/unesco-declares-environmental-education-must-be-core-curriculum-component-2025 (accessed 21 May, 2021).

UNESCO (2020). Education for Sustainable Development roadmap. Available on:

https://unesdoc.unesco.org/ark:/48223/pf0000374802/PDF/374802eng.pdf.multi

Students organizing for sustainability international (SOS), (2020). Available on: Students, sustainability and education (sos.earth)

Wals, A.E.J. & Lenglet, F. (2016). Sustainability citizens: Collaborative and disruptive social learning. in Horne, R., Fien, J., Beza B. & Nelson A. (eds), Sustainability Citizenship in Cities: Theory and Practice. London: Routledge. ISBN 9781315678405

World Commission on Environment and Development, (1987). Our Common Future. Oxford University Press, Oxford. World Values Survey (n.d.). http:// www.worldvaluessurvey.org/wvs.jsp

https://doi.org/10.18267/pr.2022.kre.2454.4

Comparison of the Use of Decision-Making Methods in Czech Companies as a Result of the Covid-19 Pandemic

Petra Kašparová
ORCID: 0000-0002-8747-8052
petra.kasparova1@tul.cz
Technical University of Liberec, Faculty of Economics, Department of Business Administration and Management, Liberec, Czech Republic

Abstract: To quickly address the changes that have significantly affected our lives in the last two years, it is crucial for organisations to be able to use more sophisticated tools in their work processes. The paper aims to compare changes in the application of individual decision-making methods within Czech companies, focusing on tools based on data analysis. This comparison is created from the results of pilot research (conducted just before the outbreak of Covid-19 in February 2020) and a targeted questionnaire survey, which also dealt with decision-making methods in detail and emphasised the use of business intelligence (conducted in May 2021). The paper evaluates the position of data analysis compared to other methods between two groups of employees: managers and specialists without subordinates. Results show a growing trend in the utilisation of data analysis and MCDM methods, especially among managers. However, the application of MCDM is not as yet widely implemented by employees.

Keywords: Decision-making, Decision-making methods, Data analysis, MCDM

JEL Classification codes: C44, D81, D91

INTRODUCTION

While in the run-up to the Covid-19 pandemic managers had the opportunity to make decisions based on lessons learned and past data and trends, they were subject to different decision-making requirements during the pandemic than they had previously been accustomed to. The new problems and threats (which after the first wave of panic could be turned into opportunity) caused significant changes in current management practice, and not only in the decision-making process itself.

This paper aims to map changes in the use of decision support methods in work processes of Czech employees in relation to the Covid-19 pandemic. Data for this comparison was obtained in two questionnaire surveys. The first pilot research was conducted just before the pandemic outbreak in February 2020. In general, it dealt with decision-making habits in Czech companies, emphasising supporting decision-making methods based on data analysis, processing large amounts of data and its conversion into information. As a part of quantitative research, the targeted questionnaire survey, conducted in May 2021, was based on lessons learned from the pilot research. Again, the main goal was to reveal the respondents' approaches to decision-making and applied methods with a more detailed focus on business intelligence tools.

Data-based decision-making is an essential part of managerial work, but at the end of the solution process it is the managers who make the final decision (Pranjić, 2018). As some research shows, "the essence of big decision-making is a balance between instinct and analytics" (Carucci, 2016).

https://doi.org/10.18267/pr.2022.kre.2454.5

1. LITERATURE REVIEW

The following literature review presents the fundamentals of a rational decision-making process and the possibilities of decision support if the manager has (or doesn't have) relevant information available.

1.1 Models of decision-making process

The decision-making process describes the general procedure for solving the selected decision-making problem in detail. The individual activities and their content are closely connected with the structure of the decision-making process; they follow in time and can be divided into individual stages. The concept of individual phases and their division within relevant literature differs according to author. This approach to the decision-making process is characterised by the so-called rational model, which is described as a multi-stage analytical process built on logic, extensive use of information and determination of variants based on data. Users of this model strictly follow the defined phases (Eisenführ et al., 2010).

The rational model of decision-making is therefore based on the following assumptions: maximisation of return, perfect availability of information, measurability of variables having cognitive, time and resource expectations for the evaluation of each phase of the decision-making process (Pranjić, 2018). Data-based decision-making methods or MCDM are highly applicable in this type of modelled scheme.

Herbert Simon made a major contribution to a better understanding of the decision-making process in general. He is considered a pioneer in decision support systems. In his independent work (Simon, 1960), and its later additions (Newell & Simon, 1972), he was the first to propose an individual decision-making model and divided it into three basic phases (Nirmalya, 2010):

Intelligence (problem identification and data collection): is the first stage in the decision-making process. In this step, the decision-maker identifies the problem or opportunity. A problem in an organisational context is the detection of anything that is not following the plan, rules or standard.

Design (generation of alternative solutions): in the second phase, alternative ways to solve the given problem are presented. The evaluation of each variant is performed based on criteria defined to facilitate the identification of positive and negative aspects of each solution. Quantitative tools and models are used. At this stage of the decision-making process, the variants are only outlines of the actual results and are only defined for further suitability analysis.

Choice (selection of the optimal alternative): this is the last stage of the process, in which the potential solutions are compared with each other to find the optimal solution.

However, this decision-making model does not take into account the following factors that can potentially affect the quality of decision-making: variables that cannot be quantified, personal feelings, prejudices, emotions, intuition, and personal preferences (Pillai, 2014). The opposing decision-making model is defined by the so-called bounded rationality (Newell & Simon, 1972). The manager does not have enough information available, which, therefore, cannot be analysed according to a predefined process. The effort of the responsible employees is to make the best possible decision with limited access to information and the impossibility of using it properly (Pillai, 2014). And it is in these cases that managers resort to decisions based on previous experience or consultation with colleagues.

https://doi.org/10.18267/pr.2022.kre.2454.5

1.2 Decision-making methods

Countless publications dealing with decision-making in the corporate environment can be found in literature and professional journals. Some resources only deal with a selected group of tools; others offer a summary. The classification below offers a general view of possible ways to solve a problem, presenting several ways to proceed efficiently. A decision can be made (Grünig & Gaggl, 2006):

- purely intuitively without careful consideration of the nature of the problem,
- through previous routines,
- based on expert recommendations,
- random selection,
- based on rational thinking supported by relevant information.

Applied techniques can also be divided according to external decision-making conditions: in certainty, at risk or in uncertainty (Blažek, 2011). Šubrt (2015) deals with methods working on mathematical foundations. He further divides quantitative methods into these categories (Šubrt, 2015), unless otherwise stated):

- **Linear programming:** every decision problem is associated with several assumptions that define real solutions. When solving these problems, the restrictive conditions must be fully respected and, at the same time, the best solution must be found within these conditions. If only linear functions, equations and inequalities are used for its mathematical formulation, it is a model of linear programming.
- **Decision-making models:** the author classifies decision-making trees in this category, and the division of instruments according to the future state of conditions is repeated here: in certainty, at risk or in uncertainty.
- **Game theory:** modelling cases where the outcome of the decision-making process is influenced by several participants who are either interested in the outcome of the decision or influence the outcome of the decision, but are not interested in it (Gros, 2003).
- **Multi-criteria decision-making models:** multi-criteria decision-making (MCDM) refers to decision-making in the presence of multiple, usually conflicting criteria. MCDM problems can be broadly divided into two categories: multi-attribute decision making (MADM) and multi-objective decision making (MODM) (E. K. Zavadskas & Turskis, 2011).
- **Data envelopment analysis:** models based on the principles of this theory calculate efficiency coefficients as a ratio of the weighted sum of outputs to the weighted sum of inputs (Štědroň et al., 2015).
- **Structural analysis (balance models):** the basis of the analysis is the balance between consumption and production; each deviation of the balance in one part of the chain causes a change in the next part.
- **Graph theory:** real situations are rewritten into a graph with the help of a set of points and connections between them; this presentation is often more understandable and clearer for the layman than the classical outputs from mathematical models.
- **Stochastic models:** most decisions are made at risk; we assign probabilities of realisation to individual quantities in the real world. Data analysis is based on available data and the average values of random variables are fit to the models (Gros, 2003).

https://doi.org/10.18267/pr.2022.kre.2454.5

Recent studies also tend to select and classify methods based primarily on automatic data processing and more complex, computer-aided tools. The following breakdown can serve as an example: multi-criteria decision-making, mathematical programming, artificial intelligence and integrated methods (Chai & Ngai, 2020; Hoang et al., 2019).

If it is impossible to find the optimal solution using the above tools, heuristic decision-making methods can help speed up the whole process. Heuristics rely on mental acronyms that reduce cognitive burden in decision making. The principles of heuristics are evident when applying the trial-and-error method, educated estimation, intuition or common sense (MacKay et al., 2020).

Principles representing heuristic methods often ignore the otherwise emphasised importance of information. Contrary to the widely held view that a lower level of information processing reduces the accuracy of a decision, a study of heuristics shows that its accuracy can in fact be improved through less information, calculations and time. (Gigerenzer & Brighton, 2009). Computer simulations have even shown that despite limited processing requirements, heuristics provide very accurate predictions (Goldstein & Gigerenzer, 2002).

2. METHODOLOGY

First, the individual methods for decision support were examined within the literature search. Further, they were assigned to individual models of the decision-making process according to their nature. Subsequently, two research surveys were conducted, which are characterised in the next section.

2.1 Questionnaire surveys

The pilot survey was conducted in February 2020. In the analysis, 75 of the 90 addressed respondents were included. The initial set of questions in the questionnaire focused on obtaining demographic information about each employee (see Table 1). The aim was to classify respondents according to the company's size, business sector, departments and the utilization of information systems within the company, not only in the decision-making process. In the next section, the current level of use of business intelligence in Czech companies compared to other decision-making methods was determined. Based on the obtained data, it was then possible to verify the relationship between the use of BI and the system settings available in the organization and determine the factors affecting the involvement of more complex methods in the decision-making process (Kašparová, 2020). Three basic types of questions were included in this research. Respondents answered yes / no questions, selected from a limited number of alternatives, and a Likert scale (a five point one) representing the degree of agreement with the statement was also used.

Targeted quantitative research, partially based on the results of pilot research, was carried out in May 2021, and 152 respondents could be included in the analysis. In the beginning, basic facts about each respondent were monitored, including demographics and essential information about the type of employment. The second part of the survey focused on the most commonly used methods to support decision-making and business intelligence tools in general. It aimed to verify the model based on The Unified Theory of Acceptance and Use of Technology (UTAUT 2) concerning on utilization of BI in companies. The questionnaire in this section consisted of the following types of closed questions: dichotomous, enumeration, and Likert scale. In contrast to the pilot research, a seven-point scale was used for greater scalability, with respondents expressing a degree of agreement for individual statements: 7 stars represented absolute agreement, 1 star outright disagreement.

https://doi.org/10.18267/pr.2022.kre.2454.5

A set of questions dealing with decision-making methods was part of both of these surveys, so it is possible to make the above-mentioned comparison. In the presented research, decision support tools are divided into four major groups: intuition and previous experience, peer consultation, data analysis and multicriteria decision-making methods (MCDM). In the pilot research, respondents could choose consultations with external experts as well, but this option was excluded for further study due to low frequency. In both surveys, the addressed employees could also add any other method to support their decision-making in the "other" column. From the obtained data, it is possible to evaluate the position of data analysis as a tool to support decision-making compared to other methods. The application of selected methods is further examined according to the nature of the respondent, regardless of whether their job position is managerial or a specialist without subordinates.

The elementary characteristics of both research files are summarised in Table 1.

Tab. 1 Demographics and basic characteristics

Distribution by...	**Pilot research (out of 75)**	**Quantitative research (out of 152)**
Gender		
Male	49	113
Female	26	39
Enterprise size		
Micro- and small-sized enterprises (0-49 e.)	7	110
Medium-sized enterprises (50 to 249 e.)	15	21
Large enterprises (more than 250 e.)	53	21
Job level		
Management	32	101
Specialists	43	51
Business sector		
Automotive	40	19
Information technologies	10	72
Finance and insurance industry	9	11
Accommodation (hotels, etc.)	2	5
Agriculture, forestry, fishing	1	45
Other	13	0

Source: own processing

More respondents working in large companies took part in the pilot survey, while more respondents from smaller companies appeared in the targeted questionnaire survey. In the first case, respondents were most often contacted through the LinkedIn job network, where many employees of large companies can be found. This method was chosen as the simplest to obtain a relevant number of responses in the pilot research phase. The distribution in the follow-up survey is given by targeting companies from specified sectors of the economy that

https://doi.org/10.18267/pr.2022.kre.2454.5

were contacted by random selection. There was a greater willingness to answer and react among the employees of smaller companies.

Regarding the distribution of respondents in individual fields of business, in both cases most of them worked in sectors that show the highest long-term involvement of decision-making methods based on data analysis (Statista, 2018): automotive, information technology, finance and insurance. The involvement of these tools in the decision-making process, according to the field of business, was subjected to a detailed analysis in previous research. The follow-up research, presented in this paper, focuses on the differences in the approach and application of individual methods between respondents according to their job position. The presented outputs therefore evaluate the application, not only of data analysis, among managers and specialists without direct subordinates.

3. RESULTS AND DISCUSSION

Individual respondents could indicate any number of methods; on average they chose 2.5 from the offered list. The results in Table 2 summarising the application of selected methods to all respondents already indicate behavioural changes in the decision-making process. There was a decrease in the application of intuition and previous experience among the respondents, while consultations with colleagues increased and methods based on data analysis and MCDM were also more significantly applied. While data analysis, which includes processing of available data and its transformation into information using business intelligence tools, is already applied in the decision-making process by more than 2/3 of respondents (69%), while techniques based on multicriteria decision-making are used by only a third of respondents (32%). The complete results are summarised in Table 2.

Tab. 2 Most used decision-making methods

Method(s) based on...	Pilot research (out of 75)		Quantitative research (out of 152)	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
Intuition and previous experiences	61	81%	115	76%
Consultation with colleagues	50	67%	111	73%
Data analysis	47	63%	105	69%
Multi-criteria decision-making (MCDM) methods	19	25%	48	32%
Consultation with experts outside of the company	14	19%	not included	not included
Others	2	3%	10	6%

Source: own processing

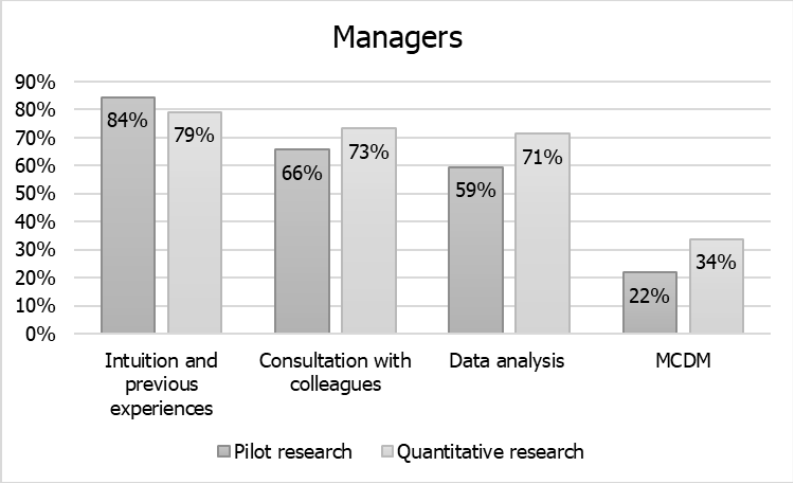
A comparison of the results of the two surveys shows a growing trend in the use of more complex decision support techniques. At this point, it is necessary to draw attention to the need to ensure the high quality of information provided by systems based on large-scale data processing, as mere regulation of inclusion in the work process by management can ultimately be counterproductive (Visinescu et al., 2017). A wide range of statistical and non-statistical decision-making techniques can be found in literature, among which MCDM has recently enjoyed great popularity and offers a wide range of applications for modelling complex

https://doi.org/10.18267/pr.2022.kre.2454.5

business processes (E. Zavadskas et al., 2019). However, as the outputs obtained in Czech companies suggest, their transfer to practice is still in its infancy. Nevertheless, the rising trend of their usability can be assessed positively.

Any extension of managerial experience with tools providing broad data analysis should lead to streamlining the complete decision-making process (Seddon et al., 2012). Figure 1 presents a comparison of managerial behaviour in decision-making in both surveys.

Fig. 1 Utilisation of methods among managers (relative frequency)

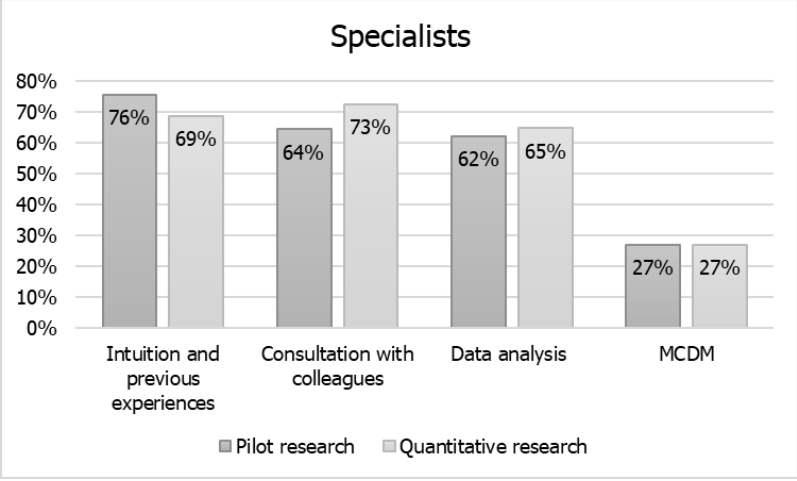


Source: own processing

And it was the largest increase in the relative share within the application of individual methods between the two surveys that was recorded among managers. Specifically in the application of data analysis and MCDM, this share increased by 12% over one year. While during the first survey, even more data analysis users were recorded as specialists (62% to 59%), in the next survey, over 70% of managers included these techniques in their decision-making process and rely on them almost as often as consultations with colleagues (73%).

Minor differences in habits in the decision-making process were found among specialists. The complete data is presented in the graph in Figure 2.

Fig. 2 Utilisation of methods among specialists (relative frequency)



https://doi.org/10.18267/pr.2022.kre.2454.5

Source: own processing

As for managers and specialists, it was impossible to rely so significantly on previous experience, and they used consultations with colleagues in decision-making in response to new events and situations far more often. Almost 2/3 of specialists have already used data analysis, but the increase was only marginal (62% → 65%). The involvement of MCDM in the decision-making process remained at the same level, yet only 27% of the respondents applied it in solving decision-making problems.

Although researchers have long (and successfully) explored applications of more complex decision-making tools (Bernroider & Schmöllerl, 2013; Ishizaka & Siraj, 2018; Seddon et al., 2012; Visinescu et al., 2017), applying techniques based on previous knowledge of both their own and closest colleagues still prevails among the respondents addressed. Asadabadi et al. confirm that although the above studies show better results from evaluating the researched problem using MCDM, companies still mainly rely on intuitive approaches. The main reason companies avoid them is their shortcomings (Asadabadi´s article discusses the inability of AHP (Analytic Hierarchy Process) method to provide a good assessment of options). According to Asadabadi, future research should focus on the reasons for the non-usability of the MCDM processes thus far promoted and develop more valuable methods (Asadabadi et al., 2019).

CONCLUSION

The paper aimed to present the evaluation of changes in the decision-making process among employees of Czech companies based on two questionnaire surveys conducted in 2020 and 2021. Due to the timing of both surveys, it was possible to reflect the possible consequences of the Covid-19 pandemic. Methods based on an irrational decision-making model, i.e., intuition, previous experience and consultation with colleagues, and methods used in a rational approach to solving decision-making problems, i.e., data analysis, business intelligence-based techniques and methods based on multicriteria decision-making, were selected for the survey.

Although both surveys have been relatively quickly consecutively conducted, the circumstances surrounding the global Covid-19 pandemic indicate trends that have changed behaviour within the decision-making process. It would previously not have been highly probable to capture significant behavioural changes among decision-makers in the course of one year.

More complex and time-consuming support tools have become more popular among the respondents in the surveyed group. The period between the two surveys when production completely stopped in some sectors gave managers more time to apply otherwise neglected techniques. At the same time the developers of these tools gained more time and feedback from users, which could lead to any necessary adjustments and optimisations for easier and faster applications in future situations.

As in most studies, several limiting facts can be revealed, one of which is the representativeness of both questionnaire surveys. Due to low availability and difficulty obtaining similar types of data, both surveys had to be based on voluntary participation in the research. These types of results cannot be generalised, but the obtained data can still be properly evaluated, outlining possible trends in the examined files. The selected techniques for obtaining the first overview of the researched topic were very generally chosen, and subsequent research can be focused on several directions.

With a one-year interval, it would be possible to repeat the survey, which could be further extended by more detailed research of individual methods and the way or timing of their application. In the next phase, a more extensive literature search can be carried out, focusing

https://doi.org/10.18267/pr.2022.kre.2454.5

on studies proposing modifications and updates of the MCDM methods thus far used to ensure their broader application in business practice.

ACKNOWLEDGEMENT

This work was supported by the Student Grant Competition of the Technical University of Liberec under the project No. SGS-2022-1042.

REFERENCES

Asadabadi, M. R., Chang, E., & Saberi, M. (2019). Are MCDM methods useful? A critical review of Analytic Hierarchy Process (AHP) and Analytic Network Process (ANP). Cogent Engineering, 6(1), 1623153. https://doi.org/10.1080/23311916.2019.1623153

Bernroider, E. W. N., & Schmöllerl, P. (2013). A technological, organisational, and environmental analysis of decision making methodologies and satisfaction in the context of IT induced business transformations. European Journal of Operational Research, 224(1), 141–153. https://doi.org/10.1016/j.ejor.2012.07.025

Blažek, L. (2011). Management: Organizování, rozhodování, ovlivňování. Grada.

Carucci. (2016). A 10-Year Study Reveals What Great Executives Know and Do. Harvard Business Review. https://hbr.org/2016/01/a-10-year-study-reveals-what-great-executives-know-and-do

Chai, J., & Ngai, E. W. T. (2020). Decision-making techniques in supplier selection: Recent accomplishments and what lies ahead. Expert Systems with Applications, 140, 112903. https://doi.org/10.1016/j.eswa.2019.112903

Eisenführ, F., Weber, M., & Langer, T. (2010). Rational Decision Making. Springer Berlin Heidelberg.

Gigerenzer, G., & Brighton, H. (2009). Homo Heuristicus: Why Biased Minds Make Better Inferences. Topics in Cognitive Science, 1(1), 107–143. https://doi.org/10.1111/j.1756-8765.2008.01006.x

Goldstein, D. G., & Gigerenzer, G. (2002). Models of ecological rationality: The recognition heuristic. Psychological Review, 109(1), 75–90. https://doi.org/10.1037/0033-295X.109.1.75

Gros, I. (2003). Kvantitativní metody v manažerském rozhodování. Grada.

Grünig, R., & Gaggl, R. (2006). Successful Decision-making: A Systematic Approach to Complex Problems. Springer Science & Business Media.

Hoang, T. T., Dupont, L., & Camargo, M. (2019). Application of Decision-Making Methods in Smart City Projects: A Systematic Literature Review. Smart Cities, 2(3), 433–452. https://doi.org/10.3390/smartcities2030027

Ishizaka, A., & Siraj, S. (2018). Are multi-criteria decision-making tools useful? An experimental comparative study of three methods. European Journal of Operational Research, 264(2), 462–471. https://doi.org/10.1016/j.ejor.2017.05.041

Kašparová, P. (2020). Evaluation of application of new decision-making methods in selected companies: The use of business intelligence in practice. ACC Journal, 26(2), 29–40. https://doi.org/10.15240/tul/004/2020-2-003

Newell, A., & Simon, H. A. (1972). Human problem solving. Prentice-Hall.

https://doi.org/10.18267/pr.2022.kre.2454.5

Nirmalya, B. (2010). Management Information Systems. Vikas Publishing House.

Pillai, R. S. N. (2014). Principles and Practice of Management. S Chand & Co Ltd.

Pranjić, G. (2018). DECISION MAKING PROCESS IN THE BUSINESS INTELLIGENCE 3.0 CONTEXT. Ekonomska Misao, 2, 603–619.

Seddon, P., Constantinidis, D., & Dod, H. (2012). How Does Business Analytics Contribute to Business Value? ICIS 2012 Proceedings. https://aisel.aisnet.org/icis2012/proceedings/KnowledgeManagement/3

Simon, H. A. (1960). The new science of management decision. ([1st ed.]). New York,. http://hdl.handle.net/2027/uc1.b3376401

Statista, S. (2018, June 1). Business intelligence penetration by industry 2018. Statista. https://www.statista.com/statistics/873143/business-intelligence-penetration-by-industry/

Štědroň, B., Moos, P., Palíšková, M., Pastor, O., Svítek, M., Svoboda, L., & Handlíř, J. (2015). Manažerské rozhodování v praxi.

Šubrt, T. (2015). Ekonomicko-matematické metody. Vydavatelství a nakladatelství Aleš Čeněk, s.r.o.

Visinescu, L. L., Jones, M. C., & Sidorova, A. (2017). Improving Decision Quality: The Role of Business Intelligence. Journal of Computer Information Systems, 57(1), 58–66. https://doi.org/10.1080/08874417.2016.1181494

Zavadskas, E., Antucheviciene, J., & Chatterjee, P. (2019). Multiple-Criteria Decision-Making (MCDM) Techniques for Business Processes Information Management. Information, 10(1), 4. https://doi.org/10.3390/info10010004

Zavadskas, E. K., & Turskis, Z. (2011). Multiple criteria decision making (MCDM) methods in economics: An overview / Daugiatiksliai sprendimų priėmimo metodai ekonomikoje: apžvalga. Technological and Economic Development of Economy, 17(2), 397–427. https://doi.org/10.3846/20294913.2011.593291

https://doi.org/10.18267/pr.2022.kre.2454.5

The Born Global Phenomenon - Case Study from Slovakia

Daniel Krajčík
ORCID: 0000-0003-2981-0843
daniel.krajcik@euba.sk
University of Economics in Bratislava, Faculty of Commerce, Department of International Trade, Bratislava, Slovakia

Abstract: The traditional theory of international trade suggests that companies will first establish a strong domestic market and only expand abroad in the later stages of their life cycle. This is in line with the so-called Uppsala model, whose basic idea is that sales and success abroad requires an understanding of the previously unknown environment and adaptation to it. However, this view is called into question by research, which shows that some companies internationalize very quickly (in some cases immediately) - they are so-called "born-globals". The existence of companies that sell a substantial part of their production abroad immediately or within a few years of its establishment is therefore a theoretical challenge. The aim of our article is to examine the concept of born-global companies from a theoretical point of view and to demonstrate the functioning of such companies in the Slovak environment on the case study in communication industry.
Using the method of a case study, the origin and development of the Slovak company Slido is described, focusing on the typical features of BGC. After subsequent analysis and comparison, it can be stated that the company Slido meets all the characteristics of the so-called born-global company.

Keywords: Upsalla model, Internalization theory, Born global companies

JEL Classification codes: F23, F62

INTRODUCTION

Internationalization of firms is a topic that has been researched for more than 40 years, with focus in small and medium sized companies or a large transnational corporations. Two streams of well-known theories describing the process of internationalization is the Uppsala model and the Inovation model, which describe how firm became international in traditional way – slowly following a number of stages. Its seen as a gradual process of capability build-up by which firms slowly accumulate the resources necessary to face foreign market uncerntainty. These models assume that firms growth in their domestic markets before they start to export abroad. The commom denominator of these theories is the process where the companies gradually internationalize their business.

The Uppsala model (U-model) describes that the the largest liability for a company´s internalization is based on its difference in culture, language, industrial development, business environment and political system for the potential market. The larger the difference is, the larger is the liability of foreignness (Johanson & Vahlne, 2009). The knowledge of the export market is central point for international engagement according to the Uppsala model.

The authors of the Uppsala model, Johanson and Wiedersheim, distinguish four different entrances to the foreign market, which are (Zohari, 2012): irregular export, export through independent agents, establishment of a sales branch abroad and production abroad.

https://doi.org/10.18267/pr.2022.kre.2454.6

In the literature we can find the Innovation Model as I-model. Together with the U-model, we can consider them behaviorally oriented. The I-model is characterized by the way it perceives internationalization. It is perceived as a process in which we can see an analogy with the process of introducing a new product to the market. Authors such as Bilkey, Tesar, Cavusgil and Czinkota consider internationalization decisions to be an innovation for their company. In analyzing the issue from different perspectives on a given topic, the decision on internationalization may be influenced by a push or pull strategy in the innovation model. The push mechanism is characterized by external change resulting from the environment, and the pull strategy is characterized by a change in the company's internal environment.

Internationalization is a process, it is never a "solo" effort, it is the result of various relationships that are both formal and informal. Traditional start-up growth models consist of not very structured and short-term plans in the first periods of existence. Emphasis is placed on product development and sourcing, while any strategies for expanding into foreign markets come later. The development of such traditional companies can be seen as a process that has certain developmental stages, and after overcoming and completing them, a phase of penetration into the foreign market follows. (Wren & Gabrielsson 2011).

Conventional models of internationalization face criticism (Andersen, 1993; McDougall et al., 1994). Empirical evidence points to small, young companies that have only limited resources that start exporting (and a relatively high share of their production) almost immediately after their establishment. This contradicts the traditional theoretical understanding of the internationalization process. Developments in the field of information and communication technology and technologies in the field of international transport give rise to completely new forms of companies and expand the possibilities of their international operations. For companies such as Spotify, AirBnb, Sygic or Uber, etc. it is thus possible to serve customers from one place using one application or website. Some studies (Chadee & Mattsson, 1998) point to certain sectors in which the internationalization process is not as complex and demanding as in other sectors.

This new phenomenon is behind several new research directions. One of them is research by born global companies (BGC).

1. LITERATURE REVIEW

Among the first experts to study internationally operating companies and companies operating rapidly are the American consulting firm McKinsey & Co and M.W. Rennie. As early as the early 1990s, based on a study of export companies in Australia, they gradually began to form the basis of knowlege about the BGC phenomenon. (Knight & Liesch, 2016) They defined it as a company that, shortly after its founding, perceives the global space as its market and thus does not focus only on the domestic market and possible expansions in foreign markets (McKinsey, 1993). Other studies have identified this type of company as "global start-ups" (Oviatt & Mc Dougall, 1994) or "international new ventures" (McDougall et al., 1994).

The explicit definition of BGC may sound like "Born global companies are business start-ups that, since or near their founding, have sought to earn a substantial portion of their revenue from the sale of products on international markets." (Knight & Cavusgil, 2004). In other words, companies that internationalize their activities within three years of their establishment and 25% of their total sales are made abroad. (Knight & Cavusgil, 2004).

Bell (Bell at al., 2003) sees BGC as a company operating in areas that are knowledge-oriented and do not consider the domestic market to be sufficiently attractive and important. Early and rapid internationalization at the global level ensures them a sufficient supply of customers and a more efficient use of knowledge.

https://doi.org/10.18267/pr.2022.kre.2454.6

The theoretical knowledge about BGC was supplemented by the statements of a group of Norwegian experts, which sound like: A real born global company is a new company that fills a global market gap from the very first day of its establishment. A company that was established as a global startup and therefore not as a company that over time, after a certain time in the domestic market, began to operate globally (Moen et al., 2008).

Other authors claim that these are companies born with the ability to penetrate the global market, which they have achieved with their attractive portfolio, thus attracting the attention of many consumers on an international scale. Rapid market absorption maximizes their profits and increases their chances of growth. They differ from traditional types of companies by the speed of internationalization, e.g. Uppsala model in which the company first operates on the domestic market and later gradually penetrates the foreign market. (Knight & Liesch, 2016)

BGCs have been given the opportunity to expand mainly due to rapidly evolving technologies and the ability to use digital knowledge. Thanks to these tools, they had a sufficient amount of knowledge needed to enter foreign markets.

1.1 The Difference Between Traditional Organizations and Born Global Companies

We can observe several differences between traditional companies and Born Global Companies. For a deeper understanding of the issue, we consider it essential to define the basic and different features of these companies.

Traditional companies
One of the primary goals of these companies is to provide goods and services mainly on the domestic market. After the subsequent establishment of a traditional company in the home country, it gradually begins to research and look for individual opportunities offered by the foreign market. Prior to their expansion, companies place emphasis on having sufficient information about foreign markets. When choosing a sales destination, they prefer geographically close, neighboring countries. Companies are opting for gradual expansion into nearby markets also due to cultural, linguistic and administrative similarity. In the literature, traditional companies are referred to as the Uppsala model or Stage model.

Born Global Companies
They are defined as organizations that have been entering for a few years after their establishment to foreign markets in order to expand its scope outside the domestic market or generate higher profits. In some studies, these companies are also referred to under terms such as: international new ventures, high-tech start-ups, global start-ups. Their main goal is to create competitive advantages as soon as possible after the company is established through the use of resources and the sale of their final products in foreign markets.

BGCs use a combination of three key principles to make them successful through their products and services in foreign markets. The principle of high-tech technologies applies to the available communication or technological infrastructure. Most companies use these technologies, which will facilitate the whole process of internationalization, as well as help create competitive advantages between companies. Conditions in foreign markets are one of the most important factors in the successful operation of BGCs.

1.2 Characteristics of Born Global Companies

Based on a number of distinctive features that we have identified so far, we can easily recognize BGC. In their publication "Born Global Firms: A New International Enterprise", Knight

https://doi.org/10.18267/pr.2022.kre.2454.6

and Cavusgil defined several specific specific features of BGC, such as activities in international markets, limited financial resources, the use of a differentiation strategy or the production of quality value-added products. (Knight & Cavusgil, 2004)

In this section, we would like to introduce and explain the main features of the BGC.

Tab. 2 Characteristics of Born Global Companies

1. Activity on international markets	5. Differentiation strategy
2. Limited financial and material resources	6. High-quality products
3. Occurrence in high-tech industries	7. Modern communication and information technologies
4. International business strategy and strong pro-foreign attitude of managers	8. External intermediaries

Source: own processing according to Cavusgil & Knight, 2009.

Significant activity in international markets

BGCs consider the export of products and services to be the main or only way to enter the market. The export orientation is starting to show in a relatively short time after the establishment of the companies. Studies have analyzed whether rapid internationalization as soon as they are set up is really a key factor in the success of these companies. They came to different conclusions, in which the individual factors are connected. The decision whether a company will be involved in the internationalization process stems from the company's specialization within the industrial sector, value chain or market in which it develops. Technologies are also an important factor, thanks to which the process itself is enabled.

Limited material and capital resources

BGCs represent small and medium-sized enterprises. As they are small companies, they show that they have limited financial, human or material resources compared to transnational corporations. The main advantage of multinational corporation (MNC) is its dominant market position and sufficient resource capacity. Historically, international trade has taken place mainly between large companies. Current trends in international trade, led by strong technology support, have created market conditions in which even small and medium-sized enterprises can establish themselves successfully. We are currently seeing a gradual increase in BGCs market activity compared to previous decades.

Occurrence in high-tech industries

According to experts, the phenomenon of BGC appears mainly in top high-tech industries. However, critics of the issue argue that these companies have a chance to succeed and thrive in any industry that is not necessarily technology intensive. An example is from Denmark, where BGCs are more developed and provide their products and services to customers in sectors other than technology. We are talking about industries such as: food, clothing, woodworking, accommodation, metallurgical and consumer industries.

International business strategy and strong pro-active managerial attitude

The managers of these companies have a strong business passion. Since the early establishment of the business, they have focused to the vision of exporting to foreign markets. During the implementation of the business, the managers of these companies consider the domestic market only as a supplement to a more promising international market,

https://doi.org/10.18267/pr.2022.kre.2454.6

which they show a primary interest in. The strategy for finding foreign markets is closely linked and influenced by the pro-active, aggressive approach of management. (Loane – Bell, 2007)

Differentiation strategy

BGCs prioritizes a product differentiation strategy over other strategies. (Knight & Cavusgil, 2004) The aim is to fill a gap in the market that MNCs or other companies are not interested in. The main goal is to design products with different designs and features that are designed for a specific group of customers. When applying the differentiation strategy, companies try to satisfy the specific needs of customers, and thus stimulate customer loyalty to the company or product or service. As BGC´s resources are narrowly specialized, customers are now increasingly interested in unique, tailor-made products. As a result, companies are gaining more and more opportunities to fill market gaps and meet customer needs.

Emphasis on quality products

BGCs strives for the best product quality, which they also achieve thanks to the modern technology at their disposal. They try to differentiate themselves from the competition through well-designed, provided products or services, which are created and subsequently placed in the market of specific needs. It is often stated in the literature that the establishment of BGCs is strongly encouraged by the creation and development of new, innovative products. (Zijdemans– Tanev, 2014)

Use of modern communication and information technologies

The scientific and technological progress that has led to the dramatic development of communication and information technologies has resulted in many positive conclusions. At present, even small companies have access to efficient and fast information management, or easy communication with partners or customers around the world at virtually zero cost. Many companies use technology to segment and integrate customers into the market according to their specific needs.

External intermediaries in foreign markets

Due to the size of the BGCs and the limited resources at their disposal, these companies are gaining ground with the help of the already mentioned exports on foreign markets. For distribution, they most often use external intermediaries, the so-called integrators such as FedEx, DHL, UPC and others. These companies operate on a home-to-home basis and are responsible for delivering the product to the final consumer directly at home. Operators seek to facilitate international operations and ensure flexibility during distribution. More experienced BGCs export in cooperation with joint ventures or use foreign direct investment. It is important to take into account that there is a distribution of risk and cost when cooperating with the SE. As a result, exports are becoming safer, cheaper and more advantageous for BGCs. (Cavusgil & Knight, 2009)

2. METHODOLOGY

The aim of our article was to define the concept of BGC with the help of analysis and search of available literature, to put it into the current development of internationalization theories and at the same time to point out the differences between traditional theories that explained the process of internationalization before BGC. We have studied dozens of relevant articles in the Web of Science and Scopus databases and several case studies that have addressed the issue of born global companies. So far, dozens authors have addressed the topic, and no uniform definition has been established. Subsequently, we pointed out the common features of the mentioned definitions.

In the case of Slovakia, there is only a limited volume of publications that would address the issue of BGC. In their research, most authors addressed the issues of international expansion

https://doi.org/10.18267/pr.2022.kre.2454.6

of already established companies, the issues of their competitive advantages on which this expansion could be based (eg Ferenčíková & Schuh, 2012) arguing that these companies focus mainly on neighboring countries with emphasis on good strategy. value for money (price advantages vis-à-vis developed-country firms) and the advantage of specialization. For this reason, we decided to test the BGC concept and its use in Slovak conditions. We focused our research on finding a company that can be described as BGC and using the case study method to approach its development. The basic research question is therefore in the position of confirming or refuting the relevance of the BGC concept on the identified company and then subjecting the analysis to the relevance to the BGC theory. Due to the limited space, we decided for a deeper analysis of one company, drawing logical conclusions from the comparison of theory and our observations in the observed case study. Since the general history of the selected company Slido is well known in Slovakia, it can be potentially described as BGC, but a detailed analysis and evaluation is provided by our case study. The preparation of the case study was accompanied by an interview with the company's managers and a study of relevant secondary sources.

3. RESULTS AND DISCUSSION

3.1 Slido – case study of BGC from Slovakia

Characteristics of Slido

Slido was founded in 2012 in Bratislava by three Slovaks. We were able to capture the concept of Slido for the first time at various conferences or lectures. It acts as a technology company that improves communication and interactivity at various events or meetings. It allows to gather questions that audience is interested in so that lead to meaningful conversations. Participants can vote on the issues they are most interested in. The aim is to increase the participation of participants in real time in the discussion and also to engage the audience in a live survey. Anyone present at the event can connect, using a simple code that they write into the application and then can anonymously ask a question, which will be displayed to the speaker.

Slido is currently very successful worldwide and has held several thousand successful events in more than 130 countries in which it operates. The number of employees has climbed to more than 150 in the 9 years of the company's existence. (SLIDO, 2022)

History of Slido

The founder of Slido is Peter Komorník, who worked as a teacher at the Comenius University in Bratislava. During his lectures, he wanted to get feedback from the students. He asked the students to write their anonymous comments or evaluation on paper. He was aware that this method was outdated, so he created an application that would help university colleagues get "feedback" from students. Later, Peter Komorník came up with the intention of creating a medium through which anonymous questions would be asked not only at school, but also at conferences and other events. The application was based on two functions, but over time it has improved. The first function was to collect questions and the second was "feedback" from the audience. "Because the functional concept of conferences and universities is very similar, the transition from academia to commercial has been very natural," said CEO Peter Komorník. (Denník Postoj, 2018) "Slido is more or less solving a hundred-year-old dilemma, and that is that when the presentation ends, the moment comes when the speaker asks if there are questions in the audience. In most cases, there will be silence, "said Slido's Marketing Director Juraj Holub. (Denník Postoj, 2018)

https://doi.org/10.18267/pr.2022.kre.2454.6

For many students, but also for representatives of various industries, asking a question in front of the whole audience is a big challenge. Thanks to Slido, they were able to ask questions and get an answer to their question via their mobile phone, laptop or tablet without raising a hand or a direct question in front of everyone involved.

As we mentioned above in 2012, Peter Komorník and his three friends were behind this unique solution. (Spodniaková, 2017) The entry in the Commercial Register took place on August 7, 2013. (FINSTAT, 2021)

CEO Peter Komorník has several work and study experiences. He worked few moths for Samsung and one year for Google. "At the beginning, we did not want to create a company, we only did a non-profit project with the aim of improving universities in Slovakia," said CEO of Slido for Hospodárske noviny. (Haršányová, 2016) In May 2012, they took part in the Startup Weekend Bratislava event with the application, which they won and achieved great success. (Spodniaková, 2017)

The product has been innovated based on positive feedback by adding the ability to ask questions to speakers through the application. It was this step that stimulated the further development of Slido.

Company portfolio

The company's portfolio was initially focused on the needs of clients in particular for asking questions, polls or voting that the speaker needed to get in real time. Many foreign companies have first seen how Slido works at conferences or other events, on the basis of which they subsequently decided to purchase their individual products. Another product that Slido provides is the creation of a real-time survey, for example in the form of test questions, which the lecturer can prepare in advance or during the event. The third product that Slido offers is to create a quiz, for example, for a fun ending of an "event", or to test the audience at the end of the lecture. Another interesting feature is analytics. In terms of integrations, Slido has built with Google Slides, PowerPoint, Zoom Webinar, MS Teams, Spotify and Slack. At the same time, it provides the possibility to integrate "streaming services" directly into Slido, for example Vimeo, Youtube or Facebook Live.

Financial indicators

In characterizing the financial side, we can say that Slido manages to maintain a growing trend in revenues every year. The company's total sales for the 5 months of 2013 were at the level of 15895 EUR. Every year during the period under review, sales show a growing trend and in 2020 reached the value of 9,42 mil. EUR. (Sli.do, 2020)

Slido as Born Global Company

Slido has a relatively broad presence and operates in the European, American, Asian and Australian markets. Since its establishment, it has pursued the idea of expansion, and its main goal has been to focus on the global marketplace. Due to the low diversity of the product portfolio, the Slovak market became small for Slido.

Slido started operating on the domestic market, where Slovak customers played a big role, helping Slido to improve and prepare for expansion. CEO Peter Komorník received an impulse to expand while listening to a podcast of the TechCrunch event, where they said: "If you want to create the best product on the market, you have to work with the best customers on it." (Spodniaková, 2017)

The main goal in deciding which market to focus on were large cities, respectively centers where events, conferences, congresses or lectures were constantly organized. These metropolises that "never sleep and are constantly on the move" include San Francisco, New

https://doi.org/10.18267/pr.2022.kre.2454.6

York, London and others. "Proximity to event centers and conferences was our strategy in deciding which market to enter, so we chose London." (Dolinka, 2019)

After several months of Skido's existence, the management decided to enter the foreign market. They bought a train ticket to the capital of the Czech Republic and decided to meet the first influential and potential customers there. (Dolinka, 2019)

However, the first foreign expansion went to the British market in 2013. During the interview, we learned that this attempt to establish itself on the foreign market was very challenging. They chose London not only because of the English-speaking multicultural population, but also because of the largest number of organized conferences in Europe and the geographical proximity to Slovakia. (Guráňová, 2020)

According to the CEO, it is very important: "that startups at the beginning of their existence follow the path of least resistance. So not to lose direction, but to choose at the beginning what is less demanding, less expensive."(Okšová, 2018)

In 2014, the expansion to the USA took place. That year, they established offices in San Francisco and later in New York. They chose San Francisco because it houses the largest and most successful companies in the world with which Slido wanted to work. (Guráňová, 2020)
In order to carry out a successful expansion, it was necessary to find a specialist in the US market, who would sell Slido products. However, the success was not what the founders had imagined. So they decided to change their strategy. With the new strategy came several new insights, from which the founders took an example. Ensuring the company's survival in the market is one of the most important points. A company's profit orientation often leads to the acceleration of processes that are not verified and sufficiently tested. CEO Slido recommends for everyone: "Before you decide to invest in a country, it is important to get the first few customers and fans first. Everything will then be easier. In 2015, the American market for Slido was one of the largest and we believe that thanks to this fact we will be able to enforce it even more significantly." (Andacký, 2017)

At present, the company operates on a global level and has long been striving for dynamic growth, especially on the US market. One of the reasons they focus on the US market is the advantageous geographical location. In the future, Slido plans to continue to grow, especially by establishing a new branch in North America. (Okšová, 2018)

The company has also started operating in the Asian and Australian markets and has built branches in Bali and Sydney, the company also operates in very developed Asian cities such as Singapore and Kuala Lumpur in Malaysia. (Andacký, 2017)

Notes on the internationalization of Slido
The company's products are developed in such a way that they are applicable to any territory. The company does not use aggressive marketing, sellers or traders, but on the contrary, customers contact Slido independently with their own interest through a website. A huge advantage is that people can see how Slido works at conferences. Many of these participants later organize their own events, and they are interested in using Slido. Since the beginning of building relationships with companies, they have focused on partnerships with key global players who focus on various events. **It is this ability that Slido considers to be its strongest marketing channel**, which requires a high degree of patience, as it is not possible to enter into a partnership extremely quickly.

In 2013, the company, with the help of business angels, managed to financially cover its expansion abroad. "It was not a huge capital, in the order of tens of thousands of euros. Investors acquired minority stakes, but this allowed the company to grow to seven employees, "added CEO Peter Komorník. (Andacký, 2017)

https://doi.org/10.18267/pr.2022.kre.2454.6

Since 2015, Slido has been financially self-sufficient and the further development of the company has been financed from the company's revenues. (Dolinka, 2019)
Introducing an unknown product to customers in a foreign market was accompanied by several difficult situations.

Successful moments of the Slido company

Slido currently operates globally and its products have been used at more than 400,000 events, with more than 9.1 million questions and 29.4 million participating users in the surveys. Slido has three-quarters of its corporate clients and includes world-renowned companies such as Spotify, Google, Booking.com, KPMG, SAP, Pinterest, Netflix, Airbnb, World Economic Forum, Web Summit SXSW, BBC, Oracle, Cisco, Adobe, Lufthansa, Money20/20, European Commission. (Okšová, 2018) At present, the company cooperates with many teachers from prestigious universities, such as Stanford, Harvard and MIT.

Slido ranked fourth among the fastest growing technology companies in Eastern and Central Europe, according to a study conducted by Deloitte in 2018. According to this study, Slido achieved growth of 2971% in the period 2014-2017. (Deloitte, 2018) According to the same source, it is also considered to be the first fastest growing company in Slovakia in 2018. The company has managed to conclude contracts with famous conference organizers such as South by Southwest. In terms of attending political conferences, Slido was also used in Davos at the World Economic Forum conference.

Impact of the pandemic on Slido and the acquisition

At first glance, it might seem that the global Covid-19 pandemic, and virtually the cancellation of long-term conferences, could harm a company that has grown to facilitate conference interaction. However, the opposite is true and Slido grew its sales by almost 19% year-on-year in 2020, which in absolute terms represents a value of more than 1.4 million euros.
The company practically continued the transformation, which began in 2016 - focusing on corporate customers. With the transfer of all corporate communications and meetings to the online environment, the need to interact with individual participants has become even more important than ever.

At the same time, Slido has gradually integrated into the various technology platforms that companies commonly use in the online environment. At present, Slido has over 300000 corporate customers, with the majority being corporate customers who use Slido for their internal purposes.

On May 3, 2021, Cisco announced the acquisition of Slido. Cisco bought Slido together with the London company IMImobile. Cisco bought Slido for its own platform "Cisco Webex platform" precisely because of the new needs brought by the pandemic and because of the much larger share of online meetings. Javed Khan, CEO of Cisco Collaboration, said: "Purchasing Slido will help the technology giant in its mission to make collaboration — and specifically the popular Cisco Webex platform — more inclusive for remote meeting attendees and those returning to the office. (Cn.com, 2021)

The entire Slido team (currently more than 200 people) has thus become part of Cisco, while CEO Peter Komorník has become the director and general manager of "Slido for Cisco". According to Jeet Patel, general manager of security and applications at Cisco, the goal of the acquisition is to improve Webex meetings so that they are 10 times better than personal meetings (Sli.do, 2021).

While Slido created more inclusive meetings together with Webex, Slido will remain a standalone platform and will continue supporting all customers no matter what tools they use in their business. (Komornik, 2021)

https://doi.org/10.18267/pr.2022.kre.2454.6

CONCLUSION

If we look at the presented case study of the Slovak company Slido from a theoretical perspective - according to the nomenclature of Cavusgil and Knight - see Table 2 (Cavusgil & Knight, 2009) - we come to the following findings:

Almost immediately after its establishment, the Slido company penetrated abroad with its product. The Slovak market was only marginal in terms of the company's potential. According to Ferenčíková and Hlušková, the size of the Slovak market is one of the unfavorable factors, and on the example of seven cases from the Slovak IT environment they showed that this factor is one of the decisive motivators in the relatively early internationalization of Slovak IT companies. (Ferenčíková & Hlušková, 2014)

The trajectory of its direction was influenced mainly by the presence of strong customers - the venues of the most important conferences and the need for direct connection to their organizers. Interestingly, the founders indicated the need for at least partial initial success proved to be a very important factor at the beginning of accession.

The company Slido was founded by students, its start and further operation was financed from its own resources, respectively from primary profits. External sources of capital were used much later.

The company operated in the ICT industry, the product was very easy to replicate. Unprecedented developments in the internet and modern communications industries have helped the company grow. The most important element was to convince the customer of its use and competitive advantage. After the first use and later after the positive references of the conference participants themselves, it was much easier to gain new customers.

From the very beginning, the company's founder spoke in the context of creating a global product, we can talk about pro-active managerial attitude and a global vision of the company's growth.

The Slido product solved the years of unresolved problem of large audience interaction at conferences, the dynamics of the discussion that fundamentally changed the level of conferences. The subsequent transfer from the university education environment to the business sphere (organization of conferences and later also company meetings) is also interesting. The company's product can be described as new, innovative and unique.

The company does not use aggressive marketing, sellers or traders, but on the contrary, customers contact Slido independently with their own interest through a website. A huge advantage is that people can see how Slido works at conferences. Since the beginning of building relationships with companies, they have focused on partnerships with key global players who focus on various events. It is this ability that Slido considers to be its strongest marketing channel.

We can confirm our research question that the company Slido, which we presented in detail in the case study, meets the conditions of the BGC concept in all its characteristics. It is an example of a company that has come to terms with a need that has not yet been addressed. Following the acquisition by Cisco, Slido remains a relatively independent part of the company and, in addition to incorporating this tool into the Webex platform, will continue to support customers regardless of the platform used.

The main limit of our research is the sample size, which, however, was limited by the capacity limitation of the article.

In future research, the authors aim to research the BGC phenomenon on a wider sample of Slovak companies from various industries. In this case study, we focused on a company from

https://doi.org/10.18267/pr.2022.kre.2454.6

the ICT industry, it will be also important to confirm the theory of BGC and define its boundaries on the case studies of companies from other industries.

ACKNOWLEDGEMENT

This paper is a part of a research project of the Ministry of Education, Family and Sports of the Slovak Republic KEGA 003EU-4/2022.

REFERENCES

Andacký, J. Ako išlo Slido do sveta. (2017). Retrieved 18 January 2022, from https://www.etrend.sk/trend-archiv/rok-2017/cislo-5/ako-islo-slido-do-sveta.html.

Andersen, O. (1993). On the internationalization process of firms: A critical analysis. Journal of International Business Studies, 24(2), 209-231.

Bell et al. (2003). Towards an Integrative Model of Small Firm Internationalisation. Journal of International Entrepreneurship. 1, https://doi.org/10.1023/A:1025629424041

Cavusgil, S. T. - Knight, G. (2009) Born Global Firms A New International Enterprise . New York: Business Expert Press,.

Chadee, D. D. - Mattsson, J. (1998). Do Service and Merchandise Exporters Behave and Perform Differently? European Journal of Marketing, 32.

Crn.com, Cisco closes Slido deal for inclusive Webex meetings, (2021)). Retrieved 18 January 2022, from https://www.crn.com/news/networking/cisco-closes-slido-deal-for-inclusive-webex-meetings

Deloitte Technology. Fast 50 Central Europe 2018 (2018).[Retrieved 18 January 2022,from https://www2.deloitte.com/content/dam/Deloitte/ce/Documents/about-deloitte/ce-technology-fast-50-2018-report.pdf

Denník Postoj. Slovenský start-up Slido sa na etabloval na európskom aj americkom trhu (2018). Retrieved 18 January 2022, from https://www.postoj.sk/34866/slovensky-start-up-slido-sa-etabloval-na-europskom-americkom-i-azijskom-trhu

Dolinka, J. Slido. 31.10.2019. Interview.

Ferenčíková, S. – Hlušková, T. (2014). The Magnificent seven - lessons from internationalization of the Slovak SMEs from IT sector. European International Business Academy (EIBA) : the 40th annual conference of the EIBA : Uppsala university, p. 1-28.

Ferencikova, S. – Schuh, A. (2012). The Internationalization of Firms from Central and Eastern Europe - A Discussion of Theoretical Contributions. In Proceedings of the 20th Annual Conference on Marketing and Business Strategies for Central & Eastern Europe, Reiner Springer and Petr Chadraba (eds.), Vienna: WU Vienna, 39-55.

FINSTAT. Sli.do. s.r.o. (2022). https://finstat.sk/47333421>

Guráňová, L. (2020). Fenomén born global company v medzinárodnom podnikaní. OF EUBA. 2020.

Haršányová, K. Nechceli sme založiť firmu. Dnes slovenský systém používajú státisíce ľudí z celého sveta. (2016). Retrieved 18 January 2022, from https://tv.hnonline.sk/success-story/833381-nechceli-ani-vytvorit-spolocnost-dnes-slovensky-system-pouzivaju-statisice-ludi-z-celeho-sveta.

https://doi.org/10.18267/pr.2022.kre.2454.6

Johanson, J. -Vahlne, J. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership, Journal of International Business Studies, p.1412

Knight, G. – Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. Journal of international business studies 35(2), https://doi.org/10.1057/palgrave.jibs.8400096

Knight, G. – Liesch, P.W. (2016). Internationalization: From incremental to born global. Journal of World Business. 51(1), https://doi.org/10.1016/j.jwb.2015.08.011

Knight, G., - Cavusgil, S. T. (2005). A Taxonomy of Born-Global Firms. *Management International Review*, *45*(3), 15-35.

Komornik, P.: Slido is Officially Part of Cisco (2021). Retrieved 18 January 2022, from https://blog.sli.do/slido-becomes-part-of-cisco/

Loane, S. – Bell, J. (2007). A cross national study on the impact of management teams on the rapid internationalization of small firms. Journal of Word Business, 2007. 4.

McDougall, P. - Shane, S. - Oviatt, B. (1994). Explaining the formation of international new ventures: The limits of theories from international business research. Journal of Business Venturing, 9(6): 469–487.

McKinsey & Co. (1993). Emerging Exporters. Australia's High Value-Added Manufacturing Exporters, Melbourne: McKinsey & Company and the Australian Manufacturing Council.

Moen, Ø. – Sorheim, R. - Erikson, T.(2008). Born Global Firms and Informal Investors: Examining Investor Characteristics. Journal of Small Business Management. 46, 4, https://doi.org/10.1111/j.1540-627X.2008.00255.x

Okšová, L. (2018). Forbes. Slido už použil Elon Musk aj Steve Wozniak. Peter Komorník o tom, ako majú namierené na svetovú jednotku. Retrieved 18 January 2022, from https://www.forbes.sk/slido-uz-pouzil-elon-musk-aj-steve-wozniak-peter-komornik-o-tom-ako-maju-namierene-na-svetovu-jednotku/

Sli.do. s.r.o. (2020). Retrieved 18 January 2022,from https://finstat.sk/47333421

Slido is Officially Part of Cisco (2021). Retrieved 18 January 2021, from https://blog.sli.do/slido-becomes-part-of-cisco/

Slido. About us. . (2022) Retrieved 18 January 2022, from <https://www.sli.do/about>

Slováci prišli s miliónovým biznisom v školskej lavici. Ich nápad odbremenil ľudí po celom svete od pocitu trápnosti. (2021). Retrieved 18 January 2022, from https://www.startitup.sk/slovaci-prisli-s-milionovym-biznisom-v-skolskej-lavici-ich-napad-odbremenil-ludi-po-celom-svete-od-pocitu-trapnosti/

Spodniaková, M. Ako išlo Slido do sveta. (2017) Retrieved 18 January 2022, from: https://www.etrend.sk/trend-archiv/rok-2017/cislo-5/ako-islo-slido-do-sveta.html

Wren, J. - Gabrielsson, M. (2011). The early development of Born Global firms in the software industry. Transfer and Commercialisation, Vol. 10, Nos. 3/4, pp.332---353.

Zijdemans, E. – Tanev, S. (2014). Conceptualizing Innovation in Born-Global Firms.) Retrieved 18 January 2022, from https://timreview.ca/article/826.

Zohari, T. (2012). The Uppsala Internationalization Model and its limitation in the new era. Retrieved 18 January 2022, from http://www.digitpro.co.uk/2012/06/21/the-uppsala-internationalization-model-and-its-limitation-in-the-new-era/

https://doi.org/10.18267/pr.2022.kre.2454.6

The UN Global Compact: A New Perspective – the Dynamic Cyclical Spiral Evolutionary Model

Tomáš Kristek
ORCID: 0000-0002-0461-8831
xkrit13@vse.cz,
Prague University of Economics and Business, Faculty of International Relations,
Department of International and Diplomatic Studies, Prague, Czech Republic

Abstract: Although the UN Global Compact (UNGC), as a CSR initiative, primarily targets businesses, it enables and facilitates disseminating standards and norms and communication between the international and local environment. However, the UNGC has faced considerable criticism. It has not lived up to expectations, does not respond to a global society's complexity, and manifests itself as static. This paper presents a new understanding of the UNGC as a Model of a Dynamic Cyclical Spiral Evolutionary Process. Its essence lies in linking international and local environments revealing the synergistic effect of standards and norms creation and diffusion in an evolutionary process. The methodological framework is represented by localisation and subsidiarity theories, norms, and standards translation, vernacularisation, and contestation theories. This perspective extends the UNGC's current understanding, revealing local actors' significance, creating a pre-requisite for global governance systems.

Keywords: UNGC Model, CSR, Dynamic Cyclical Spiral Evolutionary Model, Norm localisation-subsidiarity, Norm vernacularisation-contestation

JEL Classification codes: F59, L39, Q56

INTRODUCTION

The last two decades have been characterised by initiatives arising from the need to regulate commercial and civil relations (Rasche, 2009). Although the topic of Corporate Social Responsibility (CSR) is frequently researched, particularly in the economic disciplines, its considerable potential to impact international relations also comes to the fore. Key areas include human rights, labour, ethical management and ethical profit-making, transparency and anti-corruption (Ashrafi, Adams, Walker, & Magnan, 2014).

Such initiatives that address the areas as mentioned above include the Global Reporting Initiative, ISO standards, International Accountability Standards, and the United Nations Global Compact Model (UNGC), which is a landmark project in CSR initiatives (Sartor, Orzes, Di Mauro, Ebrahimpour, & Nassimbeni, 2016). Common to these initiatives is a growing tendency for the need for a form of standard and norm (Dashwood, 2020), as many of them face criticism that they are mere recommendations without internal mechanisms of control and enforceability. The lack of such mechanisms reduces their value as an instrument of economic management, on the one hand, and a potential tool for the development of international relations, on the other (Berliner & Prakash, 2012).

This article focuses on the UNGC because it, firstly, represents the most developed, overarching form of CSR initiatives, secondly, is a specific case of the diffusion of norms and standards in an international setting, and thirdly, because it has been the subject of much criticism. The question then is, what form should the UNGC take to respond to today's complex

https://doi.org/10.18267/pr.2022.kre.2454.7

relations, reflecting their dynamics towards the development of international relations, business, and towards global ethical governance?

1. LITERATURE REVIEW

The UNGC distinguishes four specific areas, i.e., human rights, labour, environment, and corruption, elaborated in the Ten Principles (van der Lugt, 2017). A significant potential of the UNGC is its ability to disseminate or support the diffusion of standards internationally and their localisation locally, even with the possibility that the state acts in the application only as a secondary actor (Risse & Sikkink, 1999), i.e., its function is to set a pro-competitive playing field. However, there are increasing situations in which it is impossible to apply international norms in a national setting in a completely unambiguous way and expect a relevant response from that setting (Hadden & Seybert, 2016). This problem raises the need for specific 'guidance' or, better, principles for addressing them. The UNGC Principles do not subsume legitimate national and international norms, and thus the role of the state and the international community is still important. However, the importance of the UNGC Principles becomes apparent precisely when the relevant norms fail in their essential functions, collapse, or do not even exist (Liu, 2020). An examination of the complexity and intricacy of relationships reveals in many cases latent tendencies to suppress democratic principles, the rule of law (Bugaric & Kuhelj, 2018), corrupt behaviour (Kubbe & Engelbert, 2018) or attempts to hide political power abuses behind a goodwill (Aikaterini, 2020).

A closer examination of the UNGC and its Principles reveals two fundamental areas in which its application shapes and influences local and global levels with actual or potential actors, such as companies, non-state and non-governmental agencies, civil society organisations, and others (Shoji, 2015). The first is the economic-ethical domain. It is at this level of UNGC application that the basis for the principles of CSR is formed and the actual implementation of the UNGC Principles is realised. They are intended to have a direct impact on the economic performance indicators of the firm and its success in competition (Mattera & Ruiz-Morales, 2021). Furthermore, the success of the application and implementation of this level can be monitored in mandatory annual reports (Communication on Progress - COP), which represent a form of economic and ethical reporting based on the ability and capacity of companies to not only apply the UNGC Principles, but also to direct their activities towards CSR (Bakanauskienė, Bendaravičienė, Juodelytė, & Vveinhardt, 2020).

The second area relates to the UNGC's considerable potential to disseminate standards and norms in the international environment (Abbott & Snidal, 2000). It can thus be thought as a specific case of a tool that shapes international political relations, but with significant overlap into the economic and ethical sphere (Shoji, 2015). In this area, the UNGC should take a form relevant to contemporary international-political and economic-ethical processes. This understanding of the UNGC is determinant for the future development of global political and economic relations and reveals distinct tendencies towards global governance (Haack & Scherer, 2014). Although the UNGC is primarily directed towards the business environment, and it is assumed that this environment will subsequently regulate its activities, it is the global sphere where the coordination of political and economic sectors, and their interests, is practically feasible. Aligning activities with the general assumptions of ethical, sustainable development is the task of the global framework, as local levels lack the necessary authority and oversight (Finnemore & Sikkink, 1998). On the other hand, the actual application process must occur at the local level due to a higher level of familiarity with the environment and more effective solutions to specific issues (Hellmüller, Palmiano, & Pring, 2017).

However, to achieve the desired effect, the economic-ethical and international-political levels cannot be separated. They should be seen as interrelated or mutually influencing (Deva, 2006).

https://doi.org/10.18267/pr.2022.kre.2454.7

This lack of or neglected interconnectedness has led to considerable criticism of the UNGC, which has failed to live up to expectations and has become another theoretical concept with a low level of commitment and enforceability (Andrews, 2021). In a critical perspective, the UNGC has a linear form, i.e., its application is satisfied by a simple implement-apply-report order (Voegtlin & Pless, 2014). Linearity causes rigidity, making the UNGC static. The static nature does not allow for forming a dynamic cycle in the direction of applying the UNGC Principles and thus lacks the development of national, international, and global spheres (Sethi & Schepers, 2014). The fundamental problem is the one-dimensionality of the UNGC, i.e., the aspect of time is only considered in the COPs, which only tell whether the stated UNGC Principle has been achieved or not. Time, as a dynamising variable must reflect the UNGC Principles as evolving in the context of society's increasing demands for a higher level of socially responsible behaviour and expresses the evolution or its change (Thérien & Pouliot, 2006). The static, linear, non-growth form of the UNGC also does not consider the potential for growth in bindingness.

Although considerable research has already been conducted on the application of the UNGC and its Principles, the lack of a dynamic concept and its application, specifically in the international environment, or the impact of the UNGC Principles on the corporate one (primarily on economic indicators) and their backward projection, has led to a widespread rejection. But its significance as a suitable tool for the application of ethical management standards, and the consideration of its application in the field of global governance is undeniable (Schembera, 2018). Therefore, this paper proposes a new view of the UNGC as a dynamic model, more precisely a Dynamic Cyclical Spiral Evolutionary Model (DCSE), which represents an original deepening of the CSR theme and contribution to the global governance theme, addressing the issue of the diffusion of standards in the (inter-)national business and political environment, their localisation and application in the local environment, and its subsequent response (Park, 2006).

2. METHODOLOGY

A methodological approach used to formulate the DCSE, which also provides the structure of the paper, is as follows:

1. The UNGC and the binary hard law – soft law problem.

2. Subsidiarity as a local response to localised standards towards the sustainable development of economic and political environment.

3. Translation and validation as a modus operandi in finding an inherent local context and cyclical contextualisation as mode of generalising local everyday practices and experiences.

4. The Dynamic Cyclical Spiral Evolutionary Model as a dynamic response of business environment to commitment to the need of sustainable management and development of both local and global society.

3. RESULTS AND DISCUSSION

Pursuing sustainable development, economically, politically, and personally necessarily presupposes active public, scientific communities, and governments participation, both locally and globally. Therefore, all levels need to see society, and its parts, working together towards the world wealth transformation. The joint effort is directed towards the benefits of individuals, especially the poorest, and towards the future that ensures a dignified life for all society members. The UNGC Model aspires to become just a tool to achieve sustainable results.

https://doi.org/10.18267/pr.2022.kre.2454.7

Although the UNGC Model aims at the business environment, it is also a specific example of an initiative that helps disseminate norms and standards and thus influence both the local and the international environment.

3.1 The square pegs in round holes? The hard law – soft law problem.

The international scientific and economic community considers the UNGC a soft law standard. The problem with soft law is that it lacks the characteristics of rule precision, obligation and associated enforceability, and the possibility of delegation to a third party (Abbott & Snidal, 2000). Advocates of soft-law normativity point to its principles as an effective tool in situations where hard law norms cannot be developed, or their application is impossible (Backer, 2016). But if the UNGC Principles are examined more closely, it is found that they are underpinned by documents that the international community considers credible, accountable, internationally recognised, and, above all, binding, i.e., a form of hard law. Although the UNGC can claim this form, it does not do so because of the basic premise and, at the same time, the weakness highlighted by many critics of the Model, voluntariness (Sethi & Schepers, 2014).

The UNGC has a unique position in the binary hard law – soft law problem normative systems. A natural actor implementing norms and standards is a state. Although the state's position is undeniable, the UNCG Principles implementation and application processes bypass the state to a certain extent, leaving it only a primary, business environment setting function (see Ch. 3.4). Therefore, in standard creating and disseminating processes, businesses and other non-state actors assume an active role in challenging claims of voluntariness. By contesting the nature of the UNGC, the awareness of bindingness comes to the fore and understanding of the UNGC Principles changes from a mere recommendation to a standard with an enforceability system (COPs supported by and linked with GRI G4).

3.2 Norms and standards should be respected; Voices must be heard.

In dissemination, implementation and application of standards, the recipient is in a subordinate position, only having a few means of responding to a hegemonic relationship, receiving pre-defined behaviour. This process called localisation "represents, through discourse, framing, grafting, and cultural selection, the adoption of foreign ideas by local actors, resulting in the recipient developing considerable conformity to local practices and beliefs" (Acharya, 2011, p. 97). The UNGC localisation process represents the formal contractual commitment of an actor to the UNGC Principles and the other signatories and seeks to address the dual problem associated with localisation. First, it does not ignore the existence of valuable local norms, standards, or codes and uses hard law tools, especially coercion. The UNGC's soft law approach uses more cooperation than command. Second, a positive attitude towards local norms and standards allows the UNCG to recognise the local context. Those two features organically lead to a subsidiarity process that is defined as "the process through which local actors make rules intending to preserve their autonomy in the face of domination, neglect, violation or abuse by a stronger power" (Ibid.). Precisely, when applying the UNGC Principles, subsidiarity mirrors efforts of local actors to respond meaningfully to the demands given to them as appropriate, with the potential for future development and thus competitive advantage (Ibid., p. 98, 116).

3.3 Towards a comprehensive understanding – translation and validation cycle.

When implementing the UNGC Principles, the original meaning is to be transferred to a local environment. It is a complex translation process (Benjamin, 1977, pp. 58-59) of finding one´s

https://doi.org/10.18267/pr.2022.kre.2454.7

language, finding congruence between different contexts and normative efforts that are beneficial for both local and international environment. Translations are developed in translation chains presenting an interface linking different actors in different contexts (formal – public/government, habitual – public/business, cultural – public/academia). Here the UNGC Principles come into a conflict with local background knowledge (Taylor, 1997, p. 167) incorporating decomposed domestic normative pre-existing context (language, symbols, ideas) subsequently reconstructed into comprehensive, understandable categories. It is a way to "ensure that the new mutual understanding is accepted by all actors and communicated through an inclusive dialogue that takes the specific form of a multi-layered dialogue" (Laden & Owen, 2007, p. 19).

The search for meaning is a crucial step in finding understanding, nevertheless, conflicts that arise in translation chains make an actual adaptation challenging (risk of rejection, misunderstanding) and expensive (implementation costs). But conflicts, as inevitable, reveal two needed processes, i.e., contestation and validation. Wiener (2017, p. 716) argues that the essence of contestation and validation is to achieve relationships that involve different, actively performing levels of society and create normative grids ensuring verification. Grids are divided into separate localia that represent various combinations of cultural contexts, including language, symbols, ideas, contain normative orders, and constitute a normative reality in which a three-step-cycle of formal, social, and cultural validation is revealed.

Formal validation involves key actors of expert teams from both governmental and non-governmental organisations discussing the UNGC Principles and the conditions under which they will be valid and their capturing in international declarations or treaties (Shoji, 2015, pp. 29-46). Social validation emphasises the requirements that are created by interactions in the social environment. Cultural validation expresses individual expectations mediated by individually attained background knowledge. It is assumed that this knowledge, acquired through practice at the appropriate management levels, corresponds to reality, is best achievable and represents a critical stage for the UNGC implementation. In essence, it expresses the practical application of the principle of subsidiarity.

After the validation cycle has been completed, it is possible to compare each localia, identify common and different features, and form homogeneous entities. In the UNGC practice, these units are local networks, i.e., spaces for the transfer of information, experience, and knowledge where standards are designed, developed, their practicality discussed. Moreover, local networks are independent, self-governed, and self-managed entities with a direct influence on local environment, enabling significant synergistic effect in achieving desired economic results. In doing so, the UNGC Principles respond to the demands of a complex world and help in shaping the relating business (primary) and global (secondary) environments (Ali, 2021).

Although the cyclical process allows actors to take the position of an active recipient in line with localisation, subsidiarity, and validation processes, the cycle itself resembles a high degree of stativity. This stativity, anchored in normative orders, does not allow the development of the UNGC Principles understanding in terms of evolution but holds them only as obligations to be fulfilled.

3.4 From a cycle to an evolution: The UNGC Model as a Dynamic Cyclical Spiral Evolutionary Model.

The idea of the evolution of the UNGC Principles represents a new, specific view. Several vital elements can be observed. Firstly, the DCSE assumes a different involvement of the state in implementing and applying the UNGC Principles. The state is an important actor but is more of a mediator, whose primary role is to help specify conditions under which business activity

https://doi.org/10.18267/pr.2022.kre.2454.7

can be freely conducted, and such can be bypassed to a certain extent. Moreover, it is increasingly evident that the UNGC Principles arise from the need to regulate an environment that is often, to some extent, for the state inaccessible, whether because of its lack of political or economic power (Liu, 2020).

Effective regulation involves two seemingly incompatible conditions. In the context of implementing and applying the UNGC Principles, specific and general do not represent opposites. Instead, they are organically linked areas where one (specific) sets the stage for the other (general) and vice-versa. Moving from the specific to the general is accomplished through generalisation, which allows specific principles or ethical standards (codes) to be grasped and transferred to a higher, international level, as with the UNGC Model.

Translating a specific practice to a general level presupposes a fundamental process that can be defined as reverse translation (secondary, i.e., in relation to direct translation in the original top-down direction). Its essence lies in searching for definitions that will be widely acceptable and applicable in different fields from an international perspective. Nevertheless, these definitions must remain sufficiently general to be formally, socially, and culturally validated by their retrospective application to the local (specific) environment (Berger, 2017, pp. 615-620). Therefore, the top-down and bottom-up (reverse) translation processes create specific UNGC translation chains (Voegtlin & Pless, 2014), in which ideas and thoughts are communicated within the local network to reach a consensus through various negotiations. In this process, businesses take impulses from their environment and translate them with the help of translation chains using specific (generalising) linguistic forms and symbols so that the international environment can contest them, accept them as valid, or reject them.

The purpose of reverse translation is to gain international legitimacy and recognition. After generalisation and the definition of general principles, the expert interface (translation chains) helps anchor these in legitimate structures and documents that express generally binding and enforceable commitments. Despite the problem of enforceability, this mode of binding is the most suitable because it allows the necessary flexibility for all involved parties. This stage of the UNGC resembles a great deal of dynamism, leading to an evolutionary process transforming the UNCG in DCSE Model. The idea of evolution is manifested predominantly in a local environment, i.e., in a specific business or organisation. Here, the mandatory COPs reveal the obligation to conform to the UNGC Principles because of a commitment to the UNGC, on the one hand, and evolution, on the other, as a long-term UNCG Principles practical rationalisation and operationalisation are expressed (Hellmüller, Palmiano, & Pring, 2017).

The cycle of an evolution process essence lies in four key areas (see Fig. 1). 1) The local environment adapts its activities to the agreed requirements of the internationally recognised standard set by the UNGC. Thus, the level of accountability is in the immediate environment in which it operates increased directly (Gilbert, Rasche, & Waddock, 2011). The economic, socio-cultural, and normative perspectives, including the basic knowledge, shape the understanding of transformational processes towards realising a sustainable ethical-economic and political environment.

2) The speed with which the UNGC Model has begun to be accepted by a broad audience of actors and the subsequent reflection of the scientific community shows an enormous potential for developing the topic of CSR. The fact that a 10th Principle, the fight against corruption, has been added to the existing nine Principles (UN General Assembly, 2003), based on the demands of the business community, and the proposal to introduce the 11th Principle to address money laundering, confirms the evolution and dynamism of the Model (Rose, 2020). However, the idea of the evolution goes beyond simply adding more possible principles to encompass and address as many issues as possible. The potential lies in how individual UNGC signatories broaden and deepen their understanding of the UNGC Principles and become more responsible. Increasing levels of understanding and deepening application of the UNGC

https://doi.org/10.18267/pr.2022.kre.2454.7

Principles are reflected in the commitment to mandatory annual reporting (COP), shaping DCSE into a learning model (Haack & Scherer, 2014).

3) At the local level, the company faces two factors. First, the local environment consists of the government, the public, the scientific community (academia), and other enterprises, either in partnership or competition (local market environment). The government acts as a creator of the conditions for a free-market environment and as its regulator. Unless necessary, it is not expected to enter more actively into this environment. The public reacts to business activity, to the positive or negative impacts on the environment. Scientific communities create or develop concepts of entrepreneurship, helping, based on professional activity, to solve the problems faced by the enterprise in the interconnected areas of economics, ecology, human resources, and others, as they address the ethical dilemma, the leadership dilemma, the management dilemma, the local-global dilemma, and the dilemma of everyday practice (Fussler, Cramer, & Van der Vegt, 2017, p. 19). Second, the international environment operating in the local environment is represented by the UNGC Model initiative Principles. The local and the international levels act on the individual enterprise simultaneously, creating a specific environment in which evolutions can be observed.

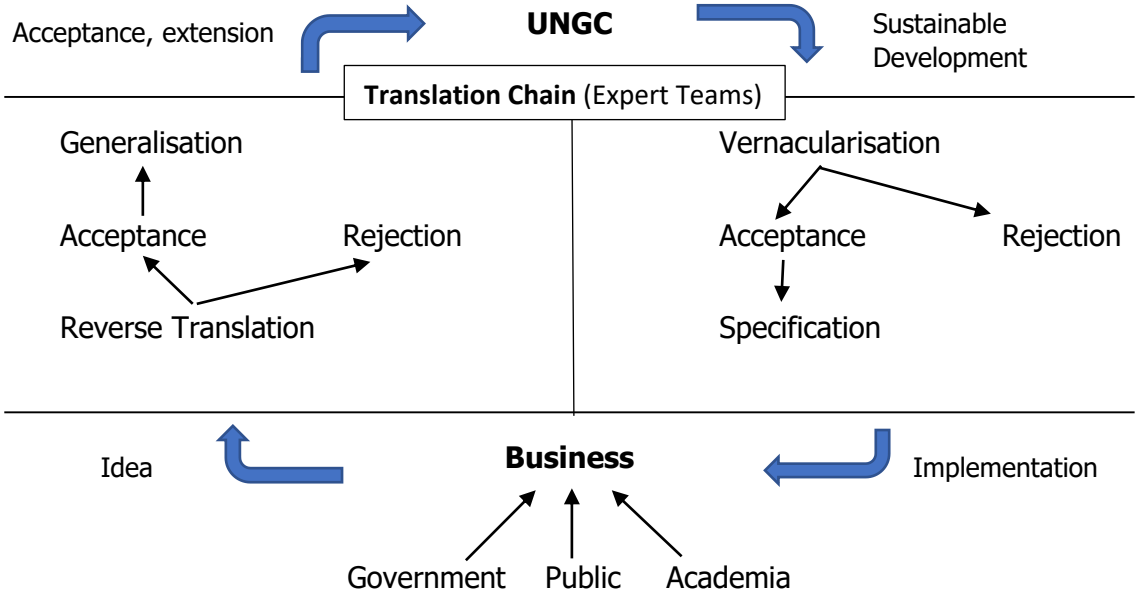
The actual evolutionary process fundamentally starts at the local level. The company is confronted with the local environment and the requirements of socially sustainable business as expressed in the UNGC Principles. Based on reflection on the stimuli of both environments and a deeper consideration of the enterprise's position within and contribution to these environments, an idea is formulated that either develop the current understanding or bring a new perspective to a particular feature of the applied and implemented UNGC Principles. This cycle step imposes both economic and personnel costs on enterprises. Next, the formulated idea enters the specific environment of the translation chain. Here it is translated in the process of reverse translation, a process that allows for the generalisation of a specific idea, as described above. If the idea is accepted and its generalisation is successful, it can also be accepted at the transnational level. This process leads to the actual expansion of the UNGC Model in terms of understanding and an additional expansion of the number of Principles (see Principle 10). In essence, this is an application of the principle of subsidiarity.

In the second phase of the cycle, the process returns inversely to the local environment. Through the vernacularisation process, the requirements of the UNGC Principles are translated in the translation chain and, if accepted, implemented. This phase represents an adapted localisation process where the binary contradiction of hard-soft law is overcome, and the necessary correspondence between mandatory and voluntary is found. The cyclical process thus ceases to be one-dimensional. Nevertheless, since it can be essentially infinite, depending only on the costs that businesses are willing to incur and the quality of the scientific base dedicated to business in the context of responsible management and sustainable development, it takes on the form of a spiral, thus turning the static UNGC Model into a two-dimensional dynamic one.

4) The evolutionary process facilitates the signatories of the UNGC to participate in the normative process (Finnemore & Sikkink, 1998, pp. 887-890), which is recognised and anchored in various international and UN documents and treatises. The DCSE fully incorporated in business practice becomes a specific tool for, first, achieving a competitive advantage and so potential higher yields, second, creating and disseminating standards and norms at the lowest, subsidiary level, and finally, a tool fundamentally forming a pre-requisite for an advanced global governance system (Abbott & Snidal, 2000).

https://doi.org/10.18267/pr.2022.kre.2454.7

Fig. 1 Cycle in a DCSE Model



Source: Author.

CONCLUSION

This paper has introduced a new view on the UNGC. For the UNGC to be relevant and responsive to today's complex relationships, it must take the DCSE form, which ceases to be static and becomes a dynamic one. Through building concepts, i.e., localisation and subsidiarity, vernacularisation and contestation, a translation chain is opened in which a multi-layered dialogue is enabled amongst local businesses, academia and international (non-) governmental actors. Such a dialogue is necessary for local actors to cease being passive recipients but actively engage in negotiation processes.

The new presented DCSE Model differs in several crucial features. First, the study has raised an important question about the nature of a state in the UNGC Principles application and implementation processes. As the state is seen as only a mediator, his role lies in defining the UNGC Principles´ favourable environment that helps achieve sustainable business results. Second, the DCSE assumes effective regulation based on knowledge of the specific and the general and their interplay, which requires a considerable understanding of the nature of the UNGC Principles and their potential. Third, the DCSE leads to a higher level of responsibility due to the active participation of the lowest levels of the business environment. The primary action in understanding the necessity of such a Model and shaping the Model towards a sustainable business environment lies in interlinking economic, socio-cultural, and normative perspectives. Fourth, in active participation, a considerable learning dynamism is manifested. Due to the evolutionary idea the DCSE becomes a learning platform for local networks. Fifth, the evolutionary process enables deepening the UNGC Principles understanding. This idea is not expressed solely in adding new Principles but in understanding that the DCSE presents a comparative advantage leading to higher sustainable business results. Finally, the DCSE evolutionary process changes individual layers of a local and global society while creating a pre-requisite for a global governance system.

https://doi.org/10.18267/pr.2022.kre.2454.7

Nevertheless, the validity of the assumptions about the DCSE will have to be proven by further study, especially into the mandatory reporting of the COPs and the local networks that influence the different levels of the UNGC Principles implementation.

ACKNOWLEDGEMENT

The author gratefully acknowledges institutional support by the Faculty of the International Relations, Prague University of Economy and Business.

REFERENCES

Abbott, K. W., & Snidal, D. (2000). Hard and Soft Law in International Governance. *International Organization 54, no. 3*, 421-456. https://doi.org/10.1162/002081800551280

Acharya, A. (2011). Norm Subsidiarity and Regional Orders: Sovereignty, Regionalism, and Rule-Making in the Third World. *International Studies Quarterly 55, no. 1*, 95-123. https://www.jstor.org/stable/23019515

Aikaterini, T. (2020). The new doctrine on misuse of power under Article 18 ECHR: Is it about the system of contre-pouvoirs within the State after all? *Netherlands Quarterly of Human Rights 38, no. 2*, 134-155. https://doi.org/10.1177/0924051920923606

Ali, H. M. (2021). "Norm Subsidiarity" or "Norm Diffusion"? A Cross-Regional Examination of Norms in ASEAN-GCC Cybersecurity Governance. *The Journal of Intelligence, Conflict, and Warfare 4, no. 1*, 122-148.

Andrews, N. (2021). The UN Global Compact: An Overview of the Promise and Pitfalls. In S. S. Crowther D., *The Palgrave Handbook of Corporate Social Responsibility.* (pp. 1-21). Cham: Palgrave Macmillan.

Ashrafi, M., Adams, M., Walker, T. R., & Magnan, G. (2014). How corporate social responsibility can be integrated into corporate sustainability: a theoretical review of their relationships. *International Journal of Sustainable Development & World Ecology* 25, no. 8, 672-682. https://doi.org/10.1080/13504509.2018.1471628

Backer, L. C. (2016). The Emerging Normative Structure of Transnational Law: Non-State Enterprises in Polycentric Asymetric Global Orders. *Brigham Young University Journal of Public Law 31, no. 1*, 1-52.

Bakanauskienė, I., Bendaravičienė, R., Juodelytė, N., & Vveinhardt, J. (2020). Sustainability of Nasdaq-listed companies : the effects of participation in the UNGC. *Polish Journal of Management Studies* 21, no. 1, 87-103. https://doi.org/10.17512/pjms.2020.21.1.07

Benjamin, W. (1977). Die Aufgabe des Übersetzers. In W. Benjamin, & S. Unseld, *Illuminationen* (pp. 57-60). Frankfurt a.M.: Suhrkamp-Taschenbuch 345.

Berger, T. (2017). Linked in translation: international donors and local fieldworkers as translators of global norms. *Third World Thematics: A TWQ Journal 2, no. 5*, 606-620. https://doi.org/10.1080/23802014.2017.1333451

Berliner, D., & Prakash, A. (2012). From norms to programs: The United Nations Global Compact and global governance. *Regulation & Governance 6, no. 2*, 149-166. https://doi.org/10.1111/j.1748-5991.2012.01130.x

Bugaric, B., & Kuhelj, A. (2018). Varieties of Populism in Europe: Is the Rule of law in Danger? *Hague journal on the rule of law 10, no. 1*, 21-33. https://doi.org/10.1007/s40803-018-0075-4

https://doi.org/10.18267/pr.2022.kre.2454.7

Dashwood, H. S. (2020). The Rise of Corporate Social Responsibility as a Global Norm Informing the Practices of Economic Actors. In H. Hanson-Magnusson, & A. (. Vetterlein, *The Rise of Responsibility in World Politics* (pp. 167-187). Cambridge: Cambridge University Press.

Deva, S. (2006). Global Compact: A critique of the UN's "public-private" partnership for promoting corporate citizenship. *Syracuse Journal of International Law and Communication 34*, 107–151.

Finnemore, M., & Sikkink, K. (1998). International Norm Dynamics and Political Change. *International Organization 52, no. 4*, 887-917.

Fussler, C., Cramer, A., & Van der Vegt, S. (2017). *Raising the bar: Creating value with the UN Global Compact.* New York: Routledge.

Gilbert, D. U., Rasche, A., & Waddock, S. (2011). Accountability in a global economy: The emergence of international accountability standards. *Business ethics quarterly 21, no. 1*, 23-44. https://doi.org/10.5840/beq20112112

Haack, P., & Scherer, A. G. (2014). Why sparing the rod does not spoil the child: A critique of the "strict father" model in transnational governance. *Journal of Business Ethics 122, no. 2*, 225-240.

Hadden, J., & Seybert, L. A. (2016). What's in a Norm: Mapping the Norm Definition Process in the Debate on Sustainable Development. *Global Governance 22*, 249-268. https://doi.org/10.1163/19426720-02202005

Hellmüller, S., Palmiano, F. J., & Pring, J. (2017). *Are Mediators Norm Entrepreneurs? Exploring the Role of Mediators in Norm Diffusion.* Bern: Schweizerische Friedensstiftung.

Kubbe, I., & Engelbert, A. (2018). Corruption and the impact of democracy. *Crime, Law and Social Change, 70, no. 2*, 175-178. https://doi.org/10.1007/s10611-017-9732-0

Laden, A. S., & Owen, D. (. (2007). *Milticulturalism and Political Theory.* Cambridge: Cambridge University Press.

Liu, C. (2020). A Theory of Norm Collapse. *Rationality and Society 32, no. 2*, 119–143. https://doi.org/10.1177/1043463120921255

Mattera, M., & Ruiz-Morales, C. A. (2021). UNGC principles and SDGs: perception and business implementation. *Marketing Intelligence & Planning 39, no. 2*, 249-264.

Park, S. (2006). Theorizing norm diffusion within international organizations. *International politics 43, no. 3*, 342-361. https://doi.org/10.1057/palgrave.ip.8800149

Rasche, A. (2009). "A necessary supplement" what the United Nations Global Compact is and is not. *Business & Society 48, no. 4*, 511-537. https://doi.org/10.1177/0007650309332378

Risse, T., & Sikkink, K. (1999). The socialization of international human rights norms into domestic practices: introduction. In T. Risse, S. Ropp, & K. Sikkink, *The Power of Human Rights: International Norms and Domestic Change* (pp. 1-38). Cambridge: Cambridge University Press.

Rose, K. J. (2020). Introducing the missing 11th principle of the United Nations Global Compact to reach sustainability–follow the money... *Journal of Money Laundering Control 23, no. 2*, 355-367. https://doi.org/10.1108/JMLC-12-2019-0099

Sartor, M., Orzes, G., Di Mauro, C., Ebrahimpour, M., & Nassimbeni, G. (2016). The SA8000 social certification standard: literature review and theory-based research agenda. *International Journal of Production Economics 175*, 164-181. https://doi.org/10.1016/j.ijpe.2016.02.018

https://doi.org/10.18267/pr.2022.kre.2454.7

Sethi, P. S., & Schepers, D. H. (2014). United Nations global compact: The promise–performance gap. *Journal of Business Ethics 122, no. 2*, 193-208.

Shoji, M. (2015). Global accountability of transnational corporations: The Global Compact as global norm. *Journal of East Asia and International Law 8, no. 1*, 29-46.

Schembera, S. (2018). Implementing corporate social responsibility: Empirical insights on the impact of the UN Global Compact on its business participants. *Business & Society 57, no. 5*, 783-825. https://doi.org/10.1177/0007650316635579

Taylor, C. (1997). *Philosophical Arguments.* Cambridge: Harvard University Press.

Thérien, J.-P., & Pouliot, V. (2006). The Global Compact: Shifting the Politics of International Development. *Global Governance, 12*, 55-75.

UN General Assembly. (2003, October 31). *United Nations Office on Drugs and Crime.* Retrieved November 5, 2021, from https://www.unodc.org/documents/treaties/UNCAC/Publications/Convention/08-50026_E.pdf

UN Global Compact. (2022). *Region-Europe.* Retrieved February 7, 2022, from UN Global Compact: https://www.unglobalcompact.org/engage-locally/europe

van der Lugt, C. T. (2017). The UN Global Compact and Global Reporting Initiative: Where Principles Meet Performance. In U. Petschow, J. Rosenau, & E. U. von Weizsäcker, *Governance and Sustainability. New Challenges for States, Companies and Civil Society.* (pp. 200-212). London: Routledge.

Voegtlin, C., & Pless, N. S. (2014). Global governance: CSR and the role of the UN Global Compact. *Journal of Business Ethics 122, no. 2*, 179-191. https://doi.org/10.1007/s10551-014-2214-8

Wiener, A. (2017). Agency of the Governed in Global International Relations: Access to Norm Validation. *Third World Thematics: A TWQ Journal*, 1-17. https://doi.org/10.1080/23802014.2017.1359064

https://doi.org/10.18267/pr.2022.kre.2454.7

Financing Long-Term Care in Germany and Slovakia

Gerda Schmahl
schmahl1@uniba.sk
Comenius University, Faculty of Management, Bratislava, Slovakia

Abstract: The importance of long-term care (LTC), in terms of costs and demand, continues to grow in Slovakia and Germany. This is a direct consequence of demographic changes. The two countries are under pressure to find solutions to finance LTC. This paper aims to contribute to the acquisition of more knowledge about LTC financial systems within the EU and, in particular, to present how the financial risk of LTC dependency is covered in Slovakia and Germany. The paper organizes existing literature on organization and financing of LTC and uses it to analyze as well as to compare the economic, policy and behavioral forces that underpin the observed equilibrium. The Slovak and German LTC systems share a high degree of family-based and informal service provision. The emphasis is not placed on the actual needs of the care recipient, but rather on minimizing the public expenditures. It seems that a mixed financing system based on private payments with public subsidies is the path they have chosen in covering the financial risk of LTC.

Keywords: Long-Term Care, Financing, Social care insurance, Long-term care system

JEL Classification codes: G22, I11, J14

INTRODUCTION

Long-term care (LTC) is defined as a range of services and supports for people who, as a result of mental and/or physical fragility and/or disability (Social Protection Committee, 2014), require assistance in the instrumental- and/or activities of daily living for an extended period of time (Costa-Font, Courbage & Zweifel, 2017). The declining relative size of the working-age population, decreasing family-based care supply due to higher female labor force participation, and reducing family size will drive up the demand and cost of LTC in the coming decades (Costa-Font & Courbage, 2012). In recognition of these factors, there is growing concern in Europe that the current mechanisms for financing LTC will not be sufficient to adequately protect people from the risk of needing LTC (Comas-Herrera et al. 2003). Since many European countries are facing this challenge, it is worthwhile to take a look abroad in order to identify different models in the area of care and generate possible starting points for improvements. In this article, the regulatory and financial framework as well as the basic structure for provision of LTC in the German and Slovak care systems is described. The incentives associated with respective regulatory structures are theoretically explained and the findings are discussed. The aim of this article is to compare the German and Slovak LTC systems in terms of their regulatory, financing and benefits structure (Jacobs et al. 2020) and to make a statement about the sustainability of LTC financing.

1. COUNTRY PROFILES

For the European comparison two countries were selected which take a different approach to the financing structure of the LTC system and are associated with a different welfare model. The objective of this chapter is to provide a comprehensive overview of the current state of LTC systems in Germany and the Slovak Republic.

https://doi.org/10.18267/pr.2022.kre.2454.8

1.1 Germany

On 1 January 1995, the fifth pillar of the social security system in Germany created a LTC insurance (Heintze, 2015). It is intended to cover the financial risk of the need for care (Kimmel & Breuninger, 2016). Unlike in most European countries this marked the beginning of a process of de-communalisation. LTC insurance is regulated at the national level. This includes above all the determination of the degree of care and the type and amount of care services. Carriers of the social care insurance (SCI) are the LTC insurance funds. They are financed within the federal legal framework at state level by means of contracts between the LTC insurance funds and the providers of social services (Auth, 2012). They negotiate the compensation rates and other contractual provisions. The national regulatory system with a market orientation should ensure greater social justice and consumer choice. The responsibility is transferred to the lower levels of both state and private actors (Nadash, Doty & van Schwanenflügel, 2018). LTC insurance is an addition to the health system. Since 2009, it is compulsory for every citizen to join LTC insurance. The principle is that the LTC insurance follows the health insurance. Accordingly, members of the statutory health insurance scheme must be compulsorily insured within the framework of the SCI and all members of private health insurance are covered by private care insurance (PCI).

Care benefits

All persons in need of care, regardless of their age, are entitled to benefits from the SCI (Gerlinger, 2018). The benefits are flat-rate and do not vary according to income or assets (Nadash, Doty & van Schwanenflügel, 2018). An independent medical service of the German health insurance funds determines whether the need for LTC exists and at what level (Heintze, 2015). The granting of the LTC allowance depends on the level of care assessed and the care measures taken (at home or in a retirement home). Independent of the care level, support services for prevention and rehabilitation can be granted. These are given priority over all other care benefits, just as home care has priority over institutional care (Gerlinger, 2018). As of 2022, strong incentives will be provided for the expansion of short-term care services due to the passage of the Health Care Expansion Act (Gesundheitsversorgungsweiterentwicklungsgesetz, GVWG) (Bundesministerium für Gesundheit, 2021). The benefits from SCI do not differ between regions and are unlimited in time (Gerlinger, 2018). In Germany there are three different arrangements that a person in need of LTC can choose from: Cash benefits or benefits in kind such as home care and institutional care (Schmähl, Augurzky & Mennicken, 2014). There has been no increase in benefits since the introduction of LTC insurance until 2008. Benefits were only adjusted inconsistently and irregularly thereafter (Rothgang & Müller, 2021).

In 2019, a total of 4.1 million people were entitled to receive benefits from SCI. Of these about 818,000 (20%) persons received benefits for inpatient care. At home 3,3 million (80%) people in need of LTC were cared for. A combination of outpatient care benefits and cash allowance was paid to 983,000 (24%) people. The remaining 2.3 million dependent people received only cash benefits which meant that they had to look after their own care provision (Statistisches Bundesamt, 2020). In Germany, the relatives of those in need of care are the main service providers (Rothgang & Müller, 2018). In 2019, 56% of all people in need of care will be cared for without the involvement of external care services. This resulted in about 2.3 million informal main caregivers in 2019. In addition to these, there are often other people who look after those in need of care (Statistisches Bundesamt, 2020). According to a study conducted in 2017, 59% of people in need of care in private households stated that they receive help from two or more people. This means that the number of people involved in home care is at least twice as many as 2.3 million informal main caregivers. Germany's largest care service thus consists of the informal care workers (Rothgang & Müller, 2018). LTC insurance requires that a large proportion of the care work is self-financed and privately provided. Thus, Germany

https://doi.org/10.18267/pr.2022.kre.2454.8

relies on subsidiarity: the state only provides what the lowest level, in this case the family, cannot afford (Kesselheim et al. 2013).

Funding

The LTC insurance is based on the structure of the statutory health insurance. One major difference, however, is that it is only partially comprehensive insurance. As a rule, persons in need of nursing care have to make additional payments (Auth, 2012). Thus, the SCI already bears only just under half of the actual costs of the need for LTC with a downward trend. The remaining amount is borne privately by those in need of LTC. Those who cannot afford the additional payments are entitled to social assistance under the "Help for Care" scheme (Breyer, 2016). Social assistance is financed through national tax revenues. However, this component plays only a minor role in the funding of publicly financed care services (BMASGK, 2020). In Germany, the most important sources of financing are the SCI, social welfare and private equity (Rothgang & Müller, 2018). In 2019, 89% of the German population is covered mandatory under the SCI. The remaining 11% of citizens are obliged to purchase a mandatory PCI (to supplement their private health insurance) (Bundesministerium für Gesundheit, 2021). Premiums have risen since the SCI was founded. Most recently, on January 1, 2019, the premium rates were increased by 0.5 points to 3.05% of the gross income (Bundeministerium für Gesundheit, 2018) and for childless persons, the premium was increased by 0.1 percentage points in 2022 (Bundesministerium für Gesundheit, 2021). Employers pay one half, while after retirement the insured pays the full premium (Nadash, Doty & von Schwanenflügel, 2018). As of the age of 23, childless persons must pay a surcharge of 0.26 percentage points from their income, to be paid by them solely. PCI charge premiums regardless of the income of the insured. All employees who are privately insured receive a subsidy from their employer in the amount that would be charged if they were members of the SCI (Heintze, 2015). In Germany, LTC is mainly financed by the SCI. The income of the SCI is almost exclusively generated by contributions, which are paid on a pay-as-you-go basis (Rothgang et al. 2014). The PCI operates on the basis of the projected unit cost method. Under this method, age-related provisions are set up for the expected future need for care. In the event of needing nursing care and outpatient services are used, the principle of cost reimbursement applies to the PCI and the principle of benefits in kind to the SCI (Heintze, 2015). In 2019, 86.7% of total public expenditure on LTC was covered by the SCI. A further 8% of this expenditure is covered by social welfare. In contrast, the share of public spending, borne by the PCI with a quota of 2.6%, war victims' benefits with a quota of 0.1% and civil servants' allowances with a quota of 1.3%, is relatively small. Overall, these sources of funding accounted for 76.9% of total LTC expenditure. The SCI is thus the most important funding source and at the same time covers only 66.7% of the costs incurred. Another 23.1% of total LTC expenditure was privately financed in 2019 (Rothgang & Müller, 2021). However, this figure does not take into account the opportunity costs of family care nor the privately funded costs for board, lodging and investment allowance in nursing homes. The partial insurance character of the LTC system is therefore very clear (Rothgang & Müller, 2018).

LTC insurance contains a number of birth defects that still have an impact today and are shaping current reform projects and debates. These include the dual system of SCI and PCI (Rothgang et al. 2014). In 2016, the average per capita expenditure from public sources for a PCI person (plus those entitled to subsidies) was € 168 and € 393 per SCI person. This corresponds to about 42% of the expenditures of the SCI for a PCI person (Rothgang & Müller, 2018). These result in a disadvantage for those insured under the SCI. An integrated LTC insurance system comprising the entire population would be the easiest way to compensate for the unequal distribution of risks (Rothgang, Müller & Unger, 2013). The concept of advance financing through a demographic reserve fund was enabled in 2015 with the establishment of the LTC provision fund (Nadash, Doty & von Schwanenflügel, 2018). Currently, 0.1% of the SCI contributions per year are invested in this fund. The aim is to pay into this fund by 2034.

https://doi.org/10.18267/pr.2022.kre.2454.8

Thereafter, the paid-in funds plus interest will be added to the contributions to finance expenditure (Nadash, Doty & von Schwanenflügel, 2018). The LTC provision fund has been the subject of considerable criticism. The Deutsche Bundesbank concedes that it is not possible to protect these reserves from future access by the finance minister, so there are doubts that this fund is really secure. On the other hand, the fund is so small that a relief of 0.1 contribution rate points is inevitable in the period from 2035 to 2045, when the contribution rate is likely to be closer to 4 contribution rate points. In addition, the fund is not sustainable. This is because it will be exhausted precisely when the highest number of people in need of LTC will probably be reached at the end of 2050 (Rothgang et al. 2014). In 2022, a fixed annual federal subsidy of €1 million was approved by the German Health Care Expansion Act (Gesundheitsversorgungsweiterentwicklungsgesetz - GVWG). Its purpose is to help finance expenditures in SCI (Bundesministerium für Gesundheit, 2021).

Recent policy reforms aim to address one of the program's core problems: the financial sustainability of SCI in view of an ageing population. However, it remains to be seen what the long-term impact of this will be, given the unpredictability of demographic change and future care needs and the adequacy (or otherwise) of funding reforms (Nadash, Doty & von Schwanenflügel, 2018).

1.2 Slovak Republic

The LTC system in Slovakia can be characterized by family orientation, residualism, welfare orientation, and a comparatively low level of service provision (Costa-Font & Courbage, 2012). LTC is not regulated in a legally separate social insurance (Golinowska & Sowa, 2013) and does not consist of a unified social and health care system (Social Protection Committee, 2014). The responsibility for legislative and oversight of LTC is divided between two bodies - the Ministry of Labor, Social Affairs and Family (MoLASF) and the Ministry of Health (MoH) (Nádaždyová et al. 2013). Individual benefits are covered by multiple regulations and laws (Radvanský & Páleník, 2010), which address different conditions and/or risks, including old age, invalidity, social security, and health care (Social Protection Committee, 2014). Health care is legally and formally provided by the state, while social care (including care for the elderly, disabled or chronically ill) is partially provided by the state, regions, non-profit and private institutions. The MoLSAF is in charge of determining national strategy and supervising providers of social services. The role of municipalities is to provide LTC. They bear responsibility over social services in terms of developing municipal plans, defining a local policy, contracting with service providers, and even determining contributions. The MoH is responsible for medical services and defines the national strategy in the medical field (Radvanský & Páleník, 2010). Social care is separate from health care. They are insufficiently aligned, as LTC is only partially provided in both systems. Thus, an integrated model of care is not in place (Smatana et al. 2016).

Care benefits

The Slovak legislation does not contain a definition of LTC (Lamura et al. 2014). Eligibility criteria for social benefits is defined differently within each of the various welfare sectors (MISSOC, 2020). As a result, social protection may differ significantly for people with similar health problems (MoF SR & MoH SR, 2019). Access to state LTC benefits is based on an assessment of the applicant's personal situation (Gerbery & Rastislav, 2018). Based on the outcome of the assessment, the amount as well as the type of care required and thereby the benefits granted are determined (Schulz & Geyer, 2014). In Slovakia, both benefits in kind and cash benefits are available. There is a free choice of services and providers. During the receipt of benefits in kind, the person in need of LTC is obliged to contribute to the costs. In an inpatient care facility, the costs incurred must be paid by the recipient according to his income, up to 25% of the subsistence level per month. For home care services, the recipient must at least maintain 165% of the subsistence income (MISSOC, 2020). Eligibility for cash benefits is

https://doi.org/10.18267/pr.2022.kre.2454.8

means-tested (European Commission, 2019). The granting of cash benefits is limited from two sides. It is limited according to the income of the person in need of care (means testing) and to the earned income of the caregiver (Gerbery & Rastislav, 2018). Moreover, social care services offer different financial compensations for the disabled. These include cash benefits to assist with mobility, communication, and orientation (Smatana et al. 2016).

From a historical perspective, the provision of inpatient care was the main and often the only public response to LTC in Slovakia. Given the lack of alternative care arrangements outside the family, inpatient care remains an important alternative even today when informal care networks are not available (Österle, 2010). This is also confirmed by Eurostat data: In 2014, only 1.3% of the population reported using home care services, compared to a total of 4% for the EU average (Gerbery & Rastislav, 2018). The strategy for deinstitutionalizing social services and strengthening care, adopted by government resolution at the end of 2011, provides for a systematic transition from institutional to community-based care (European Commission, 2019). Services provided by the healthcare sector for LTC are found in the inpatient sector (in special facilities and in departments of general hospitals) as well as in the outpatient sector (Costa-Font & Courbage, 2012). Currently, inpatient follow-up care capacity in Slovakia is insufficient, resulting in redundant readmissions (MoF SR & MoH SR, 2019). It is estimated that more than 20% of inpatient hospitalizations in Slovakia are "ambulatory care-dependent," meaning that they are preventable and could potentially be treated in ambulatory care facilities (Kuenzel & Solanič, 2018). In 2019, the government passed an amendment to the Health Care Act. According to it, inpatient follow-up care capacity is to be increased (MoF SR & MoH SR, 2019), by transforming acute care beds into LTC beds (Kuenzel & Solanič, 2018). The lack of capacity in home care leads to long waiting lists for places in social inpatient care (OECD, 2017). The number of people on waiting lists in nursing homes for the elderly and in specialized facilities exceeds the number of available places by 30% (MoF SR & MoH SR, 2019). Demand for LTC has increased significantly, but the system still relies on informal caregivers (Smatana et al. 2016). Most services (about 60%) are provided through informal home care (OECD, 2017). The shortage of formal care capacities is replaced by informal caregivers. This form of care is not sufficiently supported in Slovakia. In 2018, 54,700 people received financial compensation for providing care to a person in need of LTC, which amounts to an average of €215 per month for one person in need of care. According to the AOPP survey, 71% of respondents reported taking care of their relatives themselves. Of these, only 20% were entitled to care benefits (MoF SR & MoH SR, 2019).

Funding

In the Slovak Republic, a mixed financing system for LTC is in place. It is financed from two public sources, depending on the type of service provided (Österle, 2010). The medical LTC component is financed through the statutory health insurance (Nádaždyová et al. 2013). Thereby the regulations of the social insurance apply (Österle, 2010). Health-related services are fully reimbursed by the health insurance company. No additional co-payments are charged for home nursing. The social LTC component is financed through taxes (Radvanský & Páleník, 2010). Social welfare principles are applied in this scheme (Österle, 2010). Social services, such as formal LTC services and cash benefits, are provided by several tax sources. The in-kind services are financed by the regional municipalities through local taxes and (Nádaždyová et al. 2013) cash benefits are provided through the state´s central budget (Giorno & Londáková, 2017). Health and social insurance are mandatory in Slovakia. Contributions to health insurance are shared by the employee and the employer (Radvanský & Páleník, 2010).

The Slovak LTC system suffers from chronic funding problems which have worsened under the influence of the economic crisis which began in 2009 and budget restrictions imposed by regional authorities. These difficulties forced the central government to intervene in the social sector with occasional bailouts to prevent the closure of several care centers (OECD, 2017).

https://doi.org/10.18267/pr.2022.kre.2454.8

As a result, an amendment to the law came into force on March 1st, 2012, determining a direct state participation in the financing of certain types of social services (mostly LTC) (European Commission, 2019). At present, social services are partially subsidized through the state´s central budget (Nádaždyová et al. 2013). Both sectors are under budgetary pressure, which not only increases financial stress within the segments, but also creates incentives for stakeholders to shift responsibilities and costs to other sectors (Österle, 2010). Beneficiaries of social LTC services were asked to contribute directly to its financing, which created social tensions given the low-level of pensions (OECD, 2017). Public funding covers around two-thirds of expenditure. About one-third is supplemented by private co-payments from recipients. This applies to both institutional and home care (Radvanský & Páleník, 2010). On average, private co-payments amount to €320-350 per month (Smatana et al. 2016). All social services, with a few exceptions such as counseling services and social rehabilitation, are subject to cost-sharing (Nádaždyová et al. 2013).

Public spending on LTC in 2016 amounted to 0.9% of the country's GDP, therefore lying considerably below the EU average of 1.6% (European Commission, 2019). The spending level of the health- and social care sector is relatively low compared to the EU average. Therefore, it is not surprising that LTC funding from the modest resources of both sectors is low. In Slovakia, the structure of spending on LTC services is diverse and volatile. A comprehensive evaluation of LTC expenditures requires numerous estimations, as the amount of spending on LTC services is not distinguished (reported separately) in either the health or social sectors. This complicates the breakdown of financial data for LTC and demonstrates that the sector is still in a developing state (Golinowska & Sowa, 2013).

The fragmented organization of the LTC system makes it difficult for beneficiaries to access and use. The multiple channels for assistance administered by different agencies make the system non-transparent and difficult for users to navigate. The bureaucracy involved in assessing the need for care is burdensome, and the various types of assistance are poorly coordinated (Giorno & Londáková, 2017). The social care sector is considered an appropriate context for the provision of LTC, but the relevant infrastructure in this sector is far from sufficiently developed (Costa-Font & Courbage, 2012). There is a lack of home-based care capacity and the few existing nursing homes are considered inadequate due to low personnel resources. This is mainly due to the lack of funding (Smatana et al. 2016). The Slovak Republic presents a family-based LTC system with a social security system in the process of being established (Schulz & Geyer, 2014).

2. DISCUSSION

The countries of Germany and Slovakia have developed their own systems in accordance with social traditions, their cultures and the financial means available. Germany has created a universal social insurance system based on the Bismarck model and introduced a LTC insurance. In Slovakia, as a former socialist country, LTC is not regulated in any uniform system. It is still strongly rooted in the health care system, has a high institutionalization degree and is in the process of establishing a social sector. The design of the two LTC systems is largely determined by the underlying welfare state model and thereby strongly influenced by social norms as well as legal regulations. Consequently, there is great heterogeneity in the design of LTC systems. For the two European countries, they can be assigned to two organizational and financing models of LTC.

Two models can be identified in the area of organizational structure: All responsibilities are located on a central level (Germany) in the LTC system or the responsibilities are distributed among several entities (Slovakia). A centralized LTC system provides uniformity in the service structure by centrally defined specifications (Jacobs et al. 2020). For example, it specifies a

https://doi.org/10.18267/pr.2022.kre.2454.8

universal entitlement for LTC without hindering the access (Heintze, 2015). The German LTC system has a positive impact on equitable distribution, as it offers little or no incentive to shift benefits. In Slovakia, LTC services which are not linked to the health care system are designed differently as a municipal task in each region. This has a negative impact on equitable distribution. In terms of allocative efficiency, such designed LTC systems require very well-thought-out regulations to counteract negative effects due to the inherent incentives to shift from one service sector to another. Unfortunately, this is not the case in the Slovak LTC system. However, a decentralized LTC system offers the advantage of being sensitive to local preferences or taking local circumstances into account, which is harder to do in centrally controlled systems.

In terms of financing the LTC systems, two main models can be derived: First, financing is primarily provided by social security contributions (=social security model) and second, financing is provided by a mix of tax and social security funds (=mixed financing model). The German social insurance model has the following advantages compared to the mixed-financed Slovak model: There is an assigned care budget, it does not compete for funding with other public benefits, it has high transparency due to clear responsibilities, it provides security of entitlement for insured persons, it prevents variation in the provision of benefits, and it is possible to dynamize contributions. However, the German financing model also has disadvantages: the financing risk and the entitlement to benefits are limited to certain groups of people, the link to earned income restricts revenues, and the increased indirect labor costs resulting in contributions create negative incentives on the labor market (Jacobs et al. 2020). Slovakia provides LTC services under its health insurance and other social security programs through a tax-funded LTC system (Costa-Font, Courbage & Swartz, 2014). In these provision mechanisms, financing originates from the public budget (through central, regional or local government). The tax revenue collected by the state constitutes the revenue (Rodrigues, 2015). The strengths of tax-based public systems are: Broad tax diversity for revenue generation, fair resource allocation for horizontal equity, and flexible expansion in times of high need. The disadvantages of tax-funded LTC systems are: Poor eligibility transparency of benefits, tax revenues are in direct competition with other uses, and the stability of tax revenues may vary over the business cycle (BMASGK, 2020).

An LTC model that offers primarily fixed cash benefits creates few, if any, disincentives for informal caregivers. This would help moderate the increase in public spending on LTC (Courbage, Montoliu-Montes & Wagner, 2020). Expanding coverage can be done by developing a partnership. This involves extending the availability of proportional in-kind benefits (Costa-Font & Zigante, 2020). This type of public benefit provides disincentives for informal caregivers and could be socially beneficial because it reduces the burden of caregiving in terms of health and their low labor force participation (Courbage, Montoliu-Montes & Wagner, 2020). In Germany and Slovakia, social care benefits are currently provided in the form of cash benefits and benefits in kind. Eligibility for social benefits is subject to a one- to twofold means test in Slovakia. Entitlements to cash benefits and/or benefits in kind are linked in both countries to strict bureaucratic regulations for assessing the need of care. In this context, a narrowed definition of care has the function of keeping the proportion of those in need of care to a minimum according to the law. In addition, the fragmented organization of the Slovak LTC system makes access difficult for users (Heintze, 2015). As a result, Slovakia favors the incentive for informal care and a slowdown in public spending. Germany's latest reform addresses potential care needs for sustainable financing. With the expansion of benefits in the area of respite care, the focus is on supporting informal caregivers, and by strengthening preventive services, the growth in formal care needs should be moderated in the longer term (Jacobs et al. 2020).

The concept of value for money or cost-effectiveness does not come easy in the social service sector. Services for LTC present complexities which make it difficult to evaluate efficiency and

https://doi.org/10.18267/pr.2022.kre.2454.8

especially in a system comparison. The most obvious way to reduce cost would be to lower potential dependency and support independent living in an LTC-system (Colombo et al. 2011). Implementing a value-based service approach would promote coverage of care options that provide the greatest benefits to dependent people and their informal caregivers at the lowest cost to the system. It would ensure that resources are not wasted on low-impact services, and therefore could be an economically dominant strategy in the long run. This suggests a re-evaluation on which services should be covered in the LTC-System. New technologies (Rapp & Swartz 2021) and comprehensive information platforms to improve information sharing (Colombo et al. 2011) as well strengthening preventive services could favor an optimization of resources (Rapp & Swartz 2021).

CONCLUSION

The importance of LTC, measured in terms of costs and utilization, is growing in both countries. It is a direct consequence of the ageing population and, in particular, the increasing number of very old people in the population (Costa-Font & Courbage, 2012), whereby Slovakia is expected to be slightly more affected than Germany. Despite drastic reforms, the financing of the German LTC-System is not yet sustainable in the long run. If attempts are made to maintain the current levels of benefits in the nursing care insurance system, the contribution rates will have to be increased considerably. In addition to this, there is the fact that the LTC insurance already covers only just under half of the actual costs of care. Those in need of LTC who are unable to pay privately for the costs of care have claims on their social welfare institutions. This amount is likely to increase dramatically in the next few years, as the level of benefits will probably fall and the many costs will rise disproportionately (Beyer, 2016). It is expected that there will be an even larger "care deficit" in Slovakia in the next few years. The nature of the "Slovak care deficit" results from the fact that many elderly people in need of LTC do not receive any social assistance. However, this is not due to a shortage of local (national) workforce, but to inadequate funding and efforts to meet LTC needs primarily through family members (Nádaždyová et al. 2013). The declining relative size of the working-age population, decreasing family-based care supply due to higher female labor force participation, and reducing family size will drive up the demand and cost of LTC in the coming decades. The evidence shows that institutional models do not have much impact when needs assessments are conducted and countries rely heavily on private cost-sharing to build the demand for services (Costa-Font & Courbage, 2012). Germany and the Slovak Republic share a high degree of familiarization and informal service provision. In the case of informal care provided by relatives, only a small recognition payment known as care allowance is paid. This assigns care-giving relatives the role of cheap care providers. The main focus is not on the specific needs of dependent persons, but on keeping public expenditures to a minimum (Heintze, 2015). It can be summarized that both countries with their family-based care systems are unable to show sustainable financing for the future challenges. However, the German LTC system has already started to build up sustainable financing, with concrete measures such as a possible dynamization of social security contributions and the introduction of a LTC provision fund (Jacobs et al. 2020).

https://doi.org/10.18267/pr.2022.kre.2454.8

REFERENCES

Auth, D. (2012). Ökonomisierung von Pflege in Großbritannien, Schweden und Deutschland. *Zeitschrift Für Gerontologie Und Geriatrie*, *45* (7), 618-623. https://doi.org/10.1007/s00391-012-0389-0

BMASGK - Bundesministerium für Arbeit, Soziales, Gesundheit und Konsumentenschutz. (2019). *Zukünftige Finanzierung der Langzeitpflege Ansatzpunkte für Reformen* (pp. 28 - 43). Wien: Bundesministerium für Arbeit, Soziales, Gesundheit und Konsumentenschutz.

Breyer, F. (2016). Die Zukunft der Pflegeversicherung in Deutschland: Umlage und Kapitaldeckung. *Zeitschrift Für Die Gesamte Versicherungswissenschaft*, *105* (5), 445-461. https://doi.org/10.1007/s12297-016-0357-7

Bundesministerium für Gesundheit. 2021. *Gesundheitsversorgungsweiterentwicklungsgesetz (GVWG)*. [online] Available at: <https://www.bundesgesundheitsministerium.de/gesundheitsversorgungsweiterentwicklungsgesetz.html> [Accessed 13 February 2022].

Bundesministerium für Gesundheit. (2021). *Siebter Bericht der Bundesregierung über die Entwicklung der Pflegeversicherung und den Stand der pflegerischen Versorgung in der Bundesrepublik Deutschland Berichtszeitraum: 2016-2019* (p. 11). Berlin: Bundesministerium für Gesundheit.

Bundesministerium für Gesundheit. (2018). *Warum höhere Pflegebeiträge notwendig sind*. Bundesgesundheitsministerium. Retrieved 15 August 2020, from https://www.bundesgesundheitsministerium.de/themen/pflege/pflegeversicherung-zahlen-und-fakten/warum-hoehere-beitraege-zur-pflegeversicherung-notwendig-sind.html.

Colombo, F., Llena-Nozal, A., Mercier, J., & Tjadens, F. (2011). Help wanted? Providing and Paying for Long-Term Care (pp. 296-315). OECD Publishing.

Comas-Herrera, A., Gori, C., Maio, A., Patxot, C., Pickard, L., & Pozzi, A. et al. (2003). *European study of long-term care expenditure: Investigating the sensitivity of projections of future long-term care expenditure in Germany, Spain, Italy and the United Kingdom to changes in assumptions about demography, dependency, informal care, formal care and unit costs* (p. 4). European Commission, Employment and Social Affairs DG.

Costa-Font, J., & Courbage, C. (2012). *Financing Long-Term Care in Europe - Institutions, Markets and Models* (pp. 17 & 240). Palgrave Macmillan.

Costa-Font, J., & Zigante, V. (2020). Building 'implicit partnerships'? Financial long-term care entitlements in Europe. *Policy Sciences*, *53* (4), 697-712. https://doi.org/10.1007/s11077-020-09403-1

Costa-Font, J., Courbage, C., & Swartz, K. (2015). Financing Long-Term Care: Ex Ante, Ex Postor Both?. *Health Economics*, *24*, 45-57. https://doi.org/10.1002/hec.3152

Costa-Font, J., Courbage, C., & Zweifel, P. (2017). Policy dilemmas in financing long-term care in Europe. *LSE Research Online Documents On Economics*, (61032), 38.

Courbage, C., Montoliu-Montes, G., & Wagner, J. (2020). The effect of long-term care public benefits and insurance on informal care from outside the household: empirical evidence from Italy and Spain. *The European Journal Of Health Economics*, *21*(8), 1131-1147. https://doi.org/10.1007/s10198-020-01215-7

European Commission. (2019). *Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability* (pp. 460 - 461). Directorate-General for Economic and Financial Affairs.

https://doi.org/10.18267/pr.2022.kre.2454.8

European Commission. (2019). *Country Report Slovakia 2019 - Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011* (p. 31). European Commission.

Gerbery, D., & Rastislav, B. (2018). *ESPN Thematic Report on Challenges in long-term care - Slovakia* (pp. 4 -10). Brussel: European Union.

Gerlinger, T. (2018). *ESPN Thematic Report on Challenges in long-term care - Germany* (pp. 6 - 7). Brussel: European Union.

Giorno, C., & Londáková, K. (2017). Improving the efficiency and outcomes of the Slovak health-care system. *OECD Economics Department Working Papers*, *1404*, 36 - 37. https://doi.org/10.1787/f2b496cd-en

Heintze, C. (2015). *Auf der Highroad - der skandinavische Weg zu einem zeitgemäßen Pflegesystem* (pp. 15 - 18). Bonner Universitäts-Buchdruckerei.

Jacobs, K., Kuhlmey, A., Greß, S., Klauber, J., & Schwinger, A. (2020). *Pflege-Report 2020 - Neuausrichtung von Versorgung und Finanzierung* (pp. 27 - 36). Springer Nature.

Kesselheim, H., Schildmann, C., Schmidt, S., Steffen, M., Stiegler, B., & Wallrafen-Dreisow, H. (2013). *Pflege zwischen Familie, Markt und Staat - Wie Pflegearbeit in Zukunft organisiert werden kann* (p. 5). Bonner Universitäts-Buchdruckerei.

Kimmel, A., & Breuninger, K. (2016). Pflegereform 2017 - Grundlagen des neuen Pflegebedürftigkeitsbegriffs und des neuen Begutachtungsinstruments zur Feststellung der Pflegebedürftigkeit nach dem SGB XI. *Das Gesundheitswesen*, *78* (07), 477 - 488. https://doi.org/10.1055/s-0042-101411

Kochskämper, S. (2017). *Alternde Bevölkerung: Herausforderung für die Gesetzliche Kranken- und für die soziale Pflegevericherung* (p. 10). Cologne: IW - Institut der deutschen Wirtschaft.

Kuenzel, R., & Solanic, V. (2018). *Improving the cost-effectiveness of Slovakia's healthcare system* (p. 7). Publications Office of the European Union.

Lamura, G., Chiatti, C., Barbabella, F., & Di Rosa, M. (2014). *Zweckorientierte Migrationspolitik gegen Fachkräftemangel in der Langzeitpflege* (p. 19). Publications Office.

MISSOC. (2020). *MISSOC Vergleichstabellen Datenbank Ergebnisse anzeigen*. MISSOC Gegenseitiges Informationssystem für soziale Sicherheit. Retrieved 24 November 2020, from https://www.missoc.org/missoc-information/missoc-vergleichende-tabellen-datenbank/?lang=de.

MoF SR & MoH SR - Ministry of Finance of the Slovak Republic & the Ministry of Health of the Slovak Republic. (2019). *Healthcare spending review II Final report* (pp. 109 - 113). Bratislava.

Nadash, P., Doty, P., & von Schwanenflügel, M. (2018). The German Long-Term Care Insurance Program: Evolution and Recent Developments. *The Gerontologist*, *58* (3), 588 - 597. https://doi.org/10.1093/geront/gnx018

Nádaždyová, M., Brichtová, L., Mesároš, S., Laktišová, M., & Repková, K. (2013). *Filling the gap in long-term professional care through systematic migration policies - In search for win-win solutions in the LTC sector making use of managed migration* (pp. 3 - 6).

OECD. (2017). *OECD Economic Surveys: Slovak Republic 2017* (pp. 132 - 134). Paris: OECD.

Österle, A. (2010). Long-term Care in Central and South-Eastern Europe: Challenges and Perspectives in Addressing a 'New' Social Risk. *Social Policy & Administration*, *44* (4), 461 - 480. https://doi.org/10.1111/j.1467-9515.2010.00723.x

https://doi.org/10.18267/pr.2022.kre.2454.8

Rapp, T., & Swartz, K. (2021). Implementing Value-Based Aging in Our Long-Term Care Systems. ISPOR | International Society For Pharmacoeconomics and Outcomes Research. Retrieved 13 April 2022, from https://www.ispor.org/publications/journals/value-outcomes-spotlight/vos-archives/issue/view/the-benefits-and-challenges-of-aging-in-place/implementing-value-based-aging-in-our-long-term-care-systems.

Rodrigues, R. (2015). *Langzeitpflege - das Problem nachhaltiger Finanzierung* (p. 8). European Union.

Rothgang, H., & Müller, R. (2021). *BARMER Pflegereport 2021 - Wirkungen der Pflegereformen und Zukunftstrends* (pp. 116 - 133). Berlin: BARMER.

Rothgang, H., & Müller, R. (2018). *BARMER Pflegereport 2018* (pp. 20 - 101). BARMER.

Rothgang, H., Müller, R., & Unger, R. (2013). *BARMER GEK Pflegereport 2013* (p. 2). Asgard-Verl.-Service.

Rothgang, H., Müller, R., Mundhenk, R., & Unger, R. (2014). *BARMER GEK Pflegereport 2014* (pp. 17 - 116). Asgard-Verl.-Service.

Schmähl, W., Augurzky, B., & Mennicken, R. (2014). *Pensions, health and long-term care - Germany* (p. 22). European Commission.

Schulz, E., & Geyer, J. (2014). Pflegebedarfe und Pflegesettings – Ein Vergleich formeller und informeller Pflege in ausgewählten europäischen Ländern. *Vierteljahrshefte Zur Wirtschaftsforschung*, *83* (4), 137 - 157. https://doi.org/10.3790/vjh.83.4.137

Smatana, M., Pažitný, P., Kandilaki, D., Laktišová, M., Sedláková, D., & Palušková, M. et al. (2016). Slovakia: Health system review. *Health Systems In Transition*, *18* (6), 122 - 146.

Social Protection Committee. (2014). *Adequate social protection for long-term care needs in an ageing society* (pp. 12 & 230). Publications Office of the European Union.

Statistisches Bundesamt (Destatis). (2020). *Pflegestatistik 2019 - Pflege im Rahmen der Pflegeversicherung Deutschlandergebnisse* (p. 19). Berlin: Statistisches Bundesamt. Retrieved from https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Gesundheit/Pflege/Publikationen/Downloads-Pflege/pflege-deutschlandergebnisse-5224001199004.pdf;jsessionid=604212E08388739B2E4B5DF8858494DF.live712?__blob=publicationFile

https://doi.org/10.18267/pr.2022.kre.2454.8

Digital Nomadism - Implemented Policies

Darina Svobodová
ORCID: 0000-0002-0020-202X
svobodova@vshe.cz
The Institute of Hospitality Management and Economics, Department of Hospitality and Tourism, Prague, Czech Republic

Abstract: In the last two years, the global tourism and hospitality industry has experienced an unprecedented shock from the COVID-19 pandemic. Challenges across different fields in these industries worldwide became an important topic as well as remote forms of work. This study aims to investigate and compare what digital nomad policies have been implemented in twenty-three various countries of the world to attract a legal digital workforce. The author reviewed countries' nomad visa requirements using official governmental and visa information and contacted national visa offices where clarification was needed. The findings showed significant differences in obtaining these visas in the countries that offer these visas. It has also been shown that the number of countries providing access to these specifically tailored visas has grown fast in the past two years, and governments are crediting increasing importance to this significant trend. Additionally, this paper proposes a framework for future research agenda for the digital nomad form of work and its links to the host country's international tourism and hospitality industry challenges.

Keywords: Digital nomads, Hospitality, Tourism, Trends, Visa

JEL Classification codes: J61, L83, Z32

INTRODUCTION

The global mobile workforce has been rising rapidly in the past years (Ameen et al., 2021). The quick expansion of digital nomads has been connected with tremendous technological improvement, including wireless connectivity, ease of travel, and general advancement in worldwide mobility (Olga, 2020). Nomads who work from home cannot maximize their lifestyle since they do not have access to other essentials such as social connections and recreational activities (Orel, 2019). Nowadays, many countries have decided to embrace the spreading trend of digital work in their economies, thanks to Covid-19. However, the Covid-19 pandemic saw the intensification of what was referred to as digital nomadism by Makimoto and Manner (1997) in the last two years. Different professionals are working in the digital space, ranging from teleworkers to freelancers. For instance, 15.7% of workers worked in digital platforms in Spain in 2017 (Boavida & Moniz, 2019). While many may consider this concept an impossible merger between tourism, leisure, and work, it has been there, and many countries support the idea of digital nomadism. Policies are being formulated to grant travellers visas allowing them to work from foreign countries and legally contribute to their workforce. This begs the question, why would many countries support this? The most straightforward answer to this question would be the economic value digital nomads bring to the tourism and hospitality sectors. It would be wrong to compare digital nomads and "volunteer tourists" because they work and earn while enjoying their travelling (Jarvis & Peel, 2013). In the majority of cases, they pay taxes to the host country and tourism fees. The economic importance of this hence cannot be ignored. This is increasingly important in the times when the possibilities to travel were seriously disrupted on one side. The majority of the workforce was forced to work from

https://doi.org/10.18267/pr.2022.kre.2454.9

their home on the other side. Digital nomads are people who have chosen to utilize the availability of stable internet connections and advanced technological gadgets such as laptops and work remotely.

Having observed and realized that several countries such as Bahamas, Brazil, Croatia, Georgia, Greece, and Spain among others, have started to invest in attracting digital nomadism recently, this study aims to investigate and compare what digital nomad policies and practices have been implemented in twenty-three various countries of the world to attract a legal digital workforce.

1 LITERATURE REVIEW

Many researchers have written and defined digital nomadism or nomads. Although there seems to be no specific definition, the rationale of the explanations revolves around working on the internet in foreign countries. According to de Almeida et al. (2021), digital nomadism has begun to get the significant attention of academic researchers. Despite the economic value of digital nomadism in tourism, the definition of digital nomads varies from one researcher to the next (Chevtaeva & Denizci-Guillet, 2021; Olga, 2020; Reichenberger, 2018; Hall et al., 2019).

The mention of the term "digital nomad" to someone triggers different meanings and understanding depending on the listener's knowledge. The term 'digital nomad' comprises two words; digital and nomad. The word 'digital' refers to that which is related to electronic technology, while the word 'nomad' refers to people who move from one place to another or rather do not stay in one place (Mouratidis, 2018). A digital nomad is a person who chooses a vocation that allows for international travel, regular breaks from the conventional office environment, and flexibility in working hours (Nash et al., 2018; Boavida & Moniz, 2019). Schlagwein (2018) defines digital nomads as a group of professionals who live a traveling lifestyle and do their work digitally over the internet at the same time. Mancinelli (2020) says that digital nomads are people who can work from any location in the world because they take advantage of the fast internet connection and work while traveling around the globe. According to Richter & Richter (2020), digital nomads give work a new meaning by showing the possibility of global travel and remote working simultaneously. Digital nomads travel worldwide and stay in a particular country for a shorter period (Tyutyuryukov & Guseva, 2021). The focal point of all these definitions by different researchers is that digital nomads use portable computing technologies to work remotely from any part of the globe.

Digital nomads are characterized as having the behavior of moving from one location to another and are always found hanging out in areas with stable internet connectivity (Prabawa & Pertiwi, 2020). There is a typology of various nomads ranging from spiritual nomads, digital nomads, and corporate nomads. Other researchers like Thompson (2018) further define in specificity what digital nomads do. Thompson (2018) says that digital nomads specialize in online marketing, web design, and programming. Green (2020) states that some work as travel bloggers, online teachers, or lifestyle coaches. While there isn't any established standard that the three areas of specialization mentioned above are what digital nomads do, this shows just an example of what working in the digital space may entail.

Although digital nomads need more than just room, source of network, portable devices, they also require sociability with other coworkers and the ability to find a balance between time spent doing things for enjoyment and time spent working (Orel, 2019). They spend a substantial amount of time searching for and researching workplaces appropriate for their working modes, and they can pay a premium to access these locations (Nash et al., 2018).

https://doi.org/10.18267/pr.2022.kre.2454.9

For all digital nomads, the most necessities are a laptop and a workstation with reliable internet connectivity, both of which may be situated anywhere you choose (Hannonen, 2020 p. 338). In contrast, if you do not have a regular desk, you may find yourself without these necessities.

Digital nomads are widespread in European nations such as Croatia, the Czech Republic, Estonia, Iceland, Germany, and Spain. Different nations have different rules and regulations in place regarding digital nomad visas. Some may need petitioners to go via an embassy or bring their application in person to their offices, while others may enable eligible nationals to apply online (Jarvis & Peel 2013). For example, in Croatia, a remote worker may apply for a one-year residency visa after arriving, as per their legislation (Waterbury 2014, P. 37). They are not permitted to give services to Croatian firms during their stay and are not subject to income tax.

2 METHODOLOGY

This study analysed data from twenty-three countries and their existing digital nomad policies. Based on the literature review, these countries were randomly selected from those offering legal possibilities to work for digital nomads. Namely this study includes Australia, Bahamas, Bali, Barbados, Bermuda, Brazil, Cayman Islands, Croatia, Czech Republic, Dominica, Estonia, Georgia, Greece, Germany, Hungary, Iceland, Latvia, Malta, Mexico, Portugal, Romania, Spain and Thailand. The study draws on qualitative methods using secondary data and information analysis. The data were analysed and compared using official governmental and visa information, individual national visa offices, and a literature review. A table of studied countries with implemented visa policies was drafted to make the obtained data visually more straightforward (Table 1). The author's original intention was also to gather the available data on the number of nomad visas issued in the studied countries. However, the efforts to obtain credible data from at least half of the studied countries have unfortunately failed. These data are not available in most countries up to date.

3 RESULTS AND DISCUSSION

Following the examples of countries that had already implemented digital visa policies, many countries joined the global trend after the 2020, thanks to Covid-19. In March 2020, the Bahamas government launched the Extended Access Travel Stay policy, which allowed alien citizens to study and work in the Bahamas. This policy allowed students and professionals to freely travel around the 16 islands of the Bahamas as they work remotely (Department of Immigration, 2020). This policy, however, had a limit of up to one year. Other countries such as Thailand have visa policies allowing for a longer period compared to the Bahamas' one year. Thailand introduced the Thailand Elite Visa Program in 2003 to allow tourists, businessmen, and professionals to stay in the country for longer periods, of up to 10 years. Although digital nomadism may not have been rampant by then, researchers perceive this as a digital nomad policy because it allows for travel and leisure and remote working. The Indonesian government established a tourist destination and digitalization scheme to promote digital nomadism in 2018 in Bali. The program defined various types of nomads, including digital nomads. The government formulated several visa policies to facilitate this. They included: the first option, which has 30 days maximum on arrival, the second option, which has 30 to 60 days maximum, and the third option, which has multiple alternatives to choose from.

The republic of Estonia launched the E-residency visa policy, which allows digital nomads to work remotely for up to one year (E-residency, 2020). The policy enables one to become an 'electronic resident' of Estonia from its name. This may sound like an awkward term, but it

https://doi.org/10.18267/pr.2022.kre.2454.9

primarily refers to individuals staying in Estonia while using electronic means to work for their employers in foreign countries. The Estonian government enacted this policy to mitigate tourists' common challenges while working abroad using tourist visas. This move would also see an increment in revenue collection in Estonia. The Croatian government first issued Croatia Digital Nomad Visas in January 2021. The visa allows one to work for up to 12 months (GoVisaFree, 2021). The policy recognizes a digital nomad as an individual who doesn't work for any company or employer registered under the Croatian government, does not contribute to the labor market of Croatia, and utilizes communication technology to work (European Migration Network, 2021). Such individuals, however, are bound to pay taxes to the Croatian government. Other republics offering digital working visas with a validity period of up to one year include Barbados, Bermuda, Australia, and Spain. The Global Citizen Concierge Program was launched in October 2020 in the Cayman Islands to give global citizens a chance to work there remotely. This program gives one a permit to work for non-Cayman employers while in the Cayman Islands for up to two years. Some other countries do not have digital nomad visas per se but allow remote working using valid tourist visas. These include Mexico's 6-month tourist visa policy, Schengen visa for travel, visit, and tourism in Poland, and applicability of any passport issued within the last ten years in the Czech Republic. Additionally, other countries like Portugal do not have any official digital nomad visa policies. Malta has a work and residency nomad permit policy to allow digital nomadism. Germany and Dominica don’t have any remote working visa policies but have a short-stay visa policy with a maximum of 90 days. Like Germany's policy, Iceland has a Schengen visa policy allowing for a maximum of 180 day working days. Following the same trend, Georgia launched its 'Remote from Georgia' digital nomad visa policy, which will enable one to work in Georgia for at least 180 days up to one year remotely. As for Latvia, the draft legislation about digital nomads is still under review and waiting for approval. Hotels provide a more significant number of main amenities that make staying in more convenient and enjoyable. Because hotels are considered one of the most desirable possibilities for digital nomads, there is a current opportunity to promote digital nomads in the hospitality industry. An online study of 500 digital nomads conducted by FlexJob indicated that 51 percent prefer to stay in hotels over another lodging such as Airbnb and hostels (Satterstrom 2019). In addition to staying in a hotel, 16 percent of travelers prefer to stay in a hostel, and 36 percent prefer to stay in an Airbnb rental (Simon 2017; Tyutyuryukov & Gusev, 2021). As a result, it seems that not all digital nomads have the financial wherewithal to spend the whole length of their voyage in high-end hotels. Consequently, some nomads prefer to stay in lower-cost accommodations or find a traveling companion to share expenditures to save money (Nash et al., 2018). Various nomads have a solid connection to social media platforms (Willment, 2020). They use social media to capture their daily activities and inspire their followers with the ideal lifestyle they lead. Accordingly, having digital nomads stay at hotels is considered free marketing since it would promote awareness among other digital nomads who want to be in the vicinity. Moreover, hotels that provide amenities geared toward attracting digital nomads do not limit themselves to this market segment but instead attract other visitors and residents as well; as a result, the hotel may still be able to generate revenue from market segments other than digital nomads.

The bulk of problems for managers is caused by a lack of awareness of the visitor profile of their customers. Orel (2019) stated that some of the drawbacks of being a flexible worker include a lack of vital infrastructure, a loss of social connection, and a lack of emotional support from colleagues (Hill et al., 2003). Accordingly, hotels can take the initiative to create an online platform for digital nomads by delivering programs that include activities that are customised ideally for remote professionals; this will enable them to connect emotionally with one another. In the future, this will entice digital nomads to identify the hotel that best matches their criteria, as shown below. Nash et al. (2018) study on digital nomads revealed that media sources fail to comprehend that nomadic work is significantly reliant on location and technology, which

https://doi.org/10.18267/pr.2022.kre.2454.9

may severely restrict this lifestyle. The hotel industry can bridge the gap in this market by offering various services and providing perfect settings for digital nomads, such as working areas equipped with desktop PCs. The elimination of the necessity for nomad guests to separate their lodging from their company office will save them both time and money in the long run.

The hospitality sector has been renovating its infrastructure in responding to the increase in digital nomads and their need for co-working space; as a result, the notion of a "coworking" hotel has been established. Coworking hotels blend working, sleeping, and living areas that allow visitors to save time by removing the need to travel to and from their destinations. This proposal proposes a comfortable area for digital nomads to dwell in that contains facilities that encourage relaxation and leisure time and a workspace for them to do their business. This will boost production while easing the restricting forces associated with a nomadic existence.
Specifically, this research aims to become more aware of the rising trend of digital nomadism and how it is continuing to emerge due to technological improvement, especially in more-developed nations (Green 2020). Nomads need more than just portable equipment and workspace when it comes to their necessities; they want human connection and leisure time to operate correctly (Chevtaeva & Denizci-Guillet, 2021). Due to an increase in the number of digital nomads, the hotel business is seeing increased lucrative chances to leverage. Therefore, the coworking hotel idea drives competitiveness within the sector since it addresses physical and emotional demands in a single place, promoting and enriching this way of life and encouraging others to do the same. In the end, this study will be enhanced further by critically assessing how hotels may gain a competitive edge by attracting digital nomads and by offering measures that can boost the number of nomad guests to their facilities (Yang et al., 2019). Aside from that, more study into the different sorts of digital nomads and how their needs may change will most certainly aid in improving the advice of marketing techniques in the future.

https://doi.org/10.18267/pr.2022.kre.2454.9

Table 1: An outline of nomad visa policies overview in various countries across the globe

Country	Existing Visa policy
Australia	Work and holiday visa. Digital nomads to work and live in the country for a maximum of 1 year. Only between 18 and 35 years old to qualify for this visa.
Bahamas	Bahamas Extended Access Travel Stay (BEATS). Proof of employment for remote workers is needed. Proof of self-employment or an employment contract is accepted. Maximum of 1-year visa, but it can be renewed twice. Maximum total stays up to 3 years. Based on the country of origin, additional requirements may apply.
Bali	Business visa valid for 60 days if the applicant is not in the country yet. Otherwise, it's 30 days. The maximum length of stay is 120 days. A temporary stay permit may be applied for after that.
Barbados	Up to 12 months Barbados Welcome Stamp Visa for digital nomads. It is possible to reapply. Introduced in June 2020.
Bermuda	Work From Bermuda Certificate. Maximum of 1-year visa with possibility of a new application.
Brazil	Brazil digital nomad visa for 12 months which can be renewed for another 12 months. Launched in January 2022.
Cayman Islands	Global Citizen Concierge Program (GCCP) is valid for up to 2 years.
Croatia	Temporary residency permits up to 12 months. It can be reapplied after six months outside of the country. Introduced in January 2021.
Czech republic	6-12 months business visa "Živnostenské oprávnění". Hard to get for foreign nationalities, but possible.
Dominica	The Work in Nature (WIN) visa. Relocation for up to 18 months.
Estonia	Digital nomad and freelancer visa, well organized and inspirational e-residency program for up to 12 months. It was introduced in June 2020.
Georgia	Remotely from Georgia program, 1-year maximum.
Greece	Nomad visas for non-EU/EEA residents. It is allowed to work for a foreign employer or own a foreign registered company. 1-year visa, which can be extended twice to up to 3 years. It was introduced in October 2021.
Germany	"Aufenthaltserlaubnis für selbständige Tätigkeit" for up to 3 years. Not easy to get, like in the Czech Republic, but possible.
Hungary	White card, One-year residence permit, which can be extended by another year. One of the easiest to get in the EU. It launched in February 2022.
Iceland	Long term visas for remote workers. Six months validity, and if applied whilst in the Schengen area, it's only 90 days.
Latvia	Latvia Digital Nomad Visa. Currently in the process of Government draft. The nomad visa holders will not be permitted to work for a Latvian-registered employer or seek social assistance in Latvia.
Malta	Nomad Residency Permit targeting non-EU workers for up to 1 year. This can be renewed.
Mexico	Temporary Resident Visa. Up to one year of stay and can renewed be for up to 3 years.
Portugal	Independent workers and entrepreneurs visa for up to 12 months, can be renewed up to 5 years with possible permanent residency status following that.
Romania	Digital nomad visa for 12 months. It can be renewed for another 12 months. It was approved in December 2021.
Spain	In plan: "Startups Law". Twelve months visa with up to 24 months of possible extension. It was proposed in July 2021.
Thailand	Special Tourist Visa (STV). 90-day tourism visa that can be extended twice for a total of 270 days. This is a type of tourist visa, and it comes with a tax and working status. It was introduced in October 2020.

https://doi.org/10.18267/pr.2022.kre.2454.9

Source: Processed by the author according to the data collected from literature review and using official governmental and visa information of individual countries

CONCLUSION

This study showed significant growth of countries offering some forms of digital nomad visas. This is, among other factors, fostered by the rampant technological advancement across the globe today. Noting the economic value digital nomads bring to tourism and hospitality, many governments have recently formulated policies to attract and allow digital nomads to work in their countries for periods between 120 days (Bali) up to five years (Portugal). Other countries are still in the process of developing such policies, while some have not even begun. While it may seem as easy as just having a laptop and travelling to the preferred destination of work, it is not the reality for digital nomads because they have to condone the challenges of the tourism and hospitality sectors of the host countries.
During the pandemic and linked to significant travel restrictions, attracting digital nomads was one of the few ways to promote tourism and hospitality and at least partially subsidise the lack of economic income in these sectors. While in the run-up to the pandemic, digital nomadism was a relatively marginal issue, in times of severe travel restrictions, the possibility of such work became more important for many. Forced work from home and a complete revolution in the concept of labour worldwide have made both companies and workers think about work differently. It was almost impossible to travel from one country to another, but moving for a longer time, although temporarily to another country from where one could do the work, was feasible. As a result, we could witness the growing possibilities of digital nomad visas, which also met people's need not to work from home. This has also allowed many people to experience a sense of normality in their lives again.

In some countries, it has been possible for a long time to work remotely on different types of visas, allowing any job, for example, in Australia or Portugal. Other countries such as Brazil, Croatia, Estonia, Greece, Hungary, Romania, Spain, and Thailand have introduced visas specifically designed to attract digital nomads in the past two years.
The conditions to obtain the nomad visas in these countries are very different across the researched countries, especially in the amount of the visa fee, the need to prove a minimum income and the opportunity to have the whole family joining the visa. In the case of entire families, there are also fundamental differences in whether children have free access to local schools and, for example, in the possibility of receiving health care. Additionally, the conditions of entry also change constantly depending on the coronavirus measures. In many cases, the process and the speed of issuing a visa depend on the applicant's country of origin.

The findings of this study have to be seen in the light of some limitations, mainly due to the unavailability of credible data on the number of nomad visas issued in the studied countries and the fact that digital nomad policies may change promptly based on fast-changing rules for travelling into studied countries.

Further research needs to be done in the future to identify with specificity the forms of work that digital nomads do and ways of mitigating challenges related to the tourism and hospitality sector of the host country. Additionally, when there is a sufficient amount of data on a number of permits issued more detailed research can demonstrate the economic impact of nomad visas on individual countries tourism and hospitality sector.

https://doi.org/10.18267/pr.2022.kre.2454.9

REFERENCES

Ameen, N., Tarhini, A., Shah, M.H., Madichie, N., Paul, J. and Choudrie, J. (2021). Keeping customers' data secure: A cross-cultural study of cybersecurity compliance among the Gen-Mobile workforce. *Computers in Human Behavior*, *114*, p.106531. https://doi.org/10.1016/j.chb.2020.106531

Boavida, N. and Moniz, A. (2019). Work in digital platforms: Literature review and exploratory interviews in Portugal.

Chevtaeva, E. and Denizci-Guillet, B. (2021). Digital nomads' lifestyles and coworkation. *Journal of Destination Marketing & Management*, *21*, p.100633. https://doi.org/10.1016/j.jdmm.2021.100633

de Almeida, M.A., Correia, A., Schneider, D. and de Souza, J.M. (2021). COVID-19 as an opportunity to test the digital nomad lifestyle. In *2021 IEEE 24th International Conference on Computer Supported Cooperative Work in Design (CSCWD)* (pp. 1209-1214). IEEE.

Department of Immigration (2020). *Extension of Stay – Bahamas Immigration*. [online] Bahamas Immigration. Available at: https://www.immigration.gov.bs/extension-of-stay/#:~:text=The%20Department%20of%20Immigration%20has [Accessed 12 Feb. 2022].

E-residency (2020). *Estonian Digital Nomad Visa | Eligibility & How to Apply*. [online] e-Residency. Available at: https://www.e-resident.gov.ee/nomadvisa/ [Accessed 12 Feb. 2022].

GoVisaFree (2021). *Croatia Digital Nomad Visa: All You Need To Know | Go VisaFree*. [online]

GoVisaFree. Available at: https://govisafree.com/croatia-digital-nomad-visa/ [Accessed 12 Feb. 2022].

Green, P. (2020). Disruptions of self, place, and mobility: Digital nomads in Chiang Mai, Thailand. *Mobilities*, *15*(3), pp.431-445. https://doi.org/10.1080/17450101.2020.1723253

Hall, G., Sigala, M., Rentschler, R. and Boyle, S. (2019). Motivations, mobility and work practices; the conceptual realities of digital nomads. In *Information and communication technologies in tourism 2019* (pp. 437-449). Springer, Cham.

Hannonen, O. (2020). In search of a digital nomad: defining the phenomenon. *Information Technology & Tourism*, *22*(3), pp.335-353. https://doi.org/10.1007/s40558-020-00177-z

Hill, E.J., Ferris, M. and Märtinson, V., (2003). Does it matter where you work? A comparison of how three work venues (traditional office, virtual office, and home office) influence aspects of work and personal/family life. *Journal of Vocational Behavior*, *63*(2), pp.220-241.

Jarvis, J. and Peel, V. (2013). Tourists for hire: International working holidaymakers in a work-based destination in regional Australia. *Tourism Management*, *37*, pp.114-124. https://doi.org/10.1016/j.tourman.2012.10.014

Makimoto, T. and Manners, D. (1997). Digital Nomad. John Wiley & Sons Ltd, Baffins Lane, Chichester, West Sussex PO19 1UD.

Mancinelli, F. (2020). Digital nomads: freedom, responsibility and the neoliberal order. *Information technology & tourism*, *22* (3), pp.417-437.

Mouratidis, G. (2018). Digital nomads: Travel, remote work, and alternative lifestyles.

Nash, C., Jarrahi, M.H., Sutherland, W. and Phillips, G. (2018). Digital nomads beyond the buzzword: Defining digital nomadic work and use of digital technologies. In *International Conference on Information* (pp. 207-217). Springer, Cham.

Network, European Migration. (2021). AD HOC QUERY ON 2021.35 Digital Nomad Visas.

https://doi.org/10.18267/pr.2022.kre.2454.9

Orel, M. (2019). Coworking environments and digital nomadism: Balancing work and leisure while on the move. *World Leisure Journal*, *61*(3), pp.215-227. https://doi.org/10.1080/16078055.2019.1639275

Prabawa, W.S.W. and Pertiwi, P.R. (2020). The digital nomad tourist motivation in Bali: exploratory research based on push and pull theory. *Athens Journal of Tourism*, *7*(3), pp.161-174.

Reichenberger, I. (2018). Digital nomads–a quest for holistic freedom in work and leisure. *Annals of Leisure Research*, *21*(3), pp.364-380.

Richter, S. and Richter, A. (2020). Digital nomads. *Business & Information Systems Engineering*, *62*(1), pp.77-81.

Sandoz, L. (2021). Localizing informal practices in transnational entrepreneurship. *Migration Letters*, *18*(2), pp.135-148.

Satterstrom, S. (2019). *An Exploration of Digital Nomads* (Doctoral dissertation, Doctoral Dissertation, National Sun Yat-sen University] Department of Global Human Resource Management: etd-0213119-010005. pdf).

Simon, K. (2017). *Cross-cultural competency model for digital nomads: a study of digital nomads living in the Czech Republic* (Doctoral dissertation).

Schlagwein, D. (2018). "Escaping the rat race": Justifications in digital nomadism.

Thompson, B.Y. (2018). Digital nomads: Employment in the online gig economy. *Globalism: Journal of Culture, Politics and Innovation*, *1*, pp.1-26. https://doi.org/10.12893/gjcpi.2018.1.11

Tyutyuryukov, V. and Guseva, N. (2021). From remote work to digital nomads: tax issues and tax opportunities of digital lifestyle. *IFAC-PapersOnLine*, *54*(13), pp.188-193.

Waterbury, M.A. (2014). Making citizens beyond the borders: Nonresident ethnic citizenship in post-Communist Europe. *Problems of Post-Communism*, *61*(4), pp.36-49.

Willment, N. (2020). The travel blogger as a digital nomad:(Re-) imagining workplace performances of digital nomadism within travel blogging work. *Information Technology & Tourism*, *22*(3), pp.391-416. https://doi.org/10.1007/s40558-020-00173-3

Yang, E., Bisson, C. and Sanborn, B.E. (2019). Coworking space as a third-fourth place: changing models of a hybrid space in corporate real estate. *Journal of Corporate Real Estate,* 21(4). https://doi.org/10.1108/JCRE-12-2018-0051

https://doi.org/10.18267/pr.2022.kre.2454.9

Level of Enterprise Risk Management in SMEs – Case study Czech Republic

Lenka Syrová
ORCID: 0000-0003-1401-9784
syrl00@vse.cz
Prague University of Economics and Business, Faculty of Business Administration, Department of Strategy, Prague, Czech Republic

Abstract: Paper is focusing on assessment of the current level of Enterprise risk management (ERM) in SMEs in Czech Republic and evaluates the determinants for implementing the ERM. The primary data was collected by questionnaire survey conducted in 2021, the sample size was 296. The paper employs Latent Class Analysis to segment classes, Tukey's test to identify significant differences across classes with respect to firm size, firm age, and percentage of foreign capital. The results show the relatively low level of ERM in SMEs. The level of ERM is influenced positively by the company's size, the percentage of foreign capital and negatively with firm age. The level of foreign capital in SMEs in the Czech Republic is affected by the post-communist regime. To the best of our knowledge, no similar study in the field of ERM in SMEs has been conducted in Czech Republic and surrounding countries.

Keywords: Enterprise Risk Management, Czech Republic SMEs, Latent Class Analysis, Foreign capital in SMEs

JEL Classification codes: G32, G15

INTRODUCTION

At present, the majority of enterprises are struggling with the situation associated with COVID-19. In contrast to the Great Financial Crisis (2007-2015), when the financial sector was primarily affected, this pandemic crisis has affected all sectors and all types of enterprises. Pandemic risk has long been considered an important area of risk management, although the COVID-19 pandemic showed that the general risk of a pandemic was underestimated. The role of enterprise risk management (hereinafter ERM) is to assess and identify risks that may determine the success of the enterprise in achieving its strategic objectives (Pagach & Wieczorek-Kosmala, 2020). The ERM approach raises risk awareness throughout the enterprise and sets the atmosphere for proactive risk management by identifying, analysing and responding to risks, as well as reporting centralized information to the risk management function (Sax & Torp, 2015). The adoption of an ERM approach can help enterprises prepare for incoming risks and remain competitive.

The relevance of the ERM approach increased during the Great Financial Crisis. Financial institutions became more regulated. For example, Basel regulatory requirements for the supervision of operational risks were implemented along with credit and market risks to determine the capital adequacy of financial institutions (Jabbour & Abdel-Kader, 2016). The implementation of risk management system is associated with many internal changes. Such strategic changes are financially and organizationally demanding, and it sometimes takes several years for an enterprise to comply with the respective standards. Small and medium-zed enterprises (hereinafter SMEs) typically have lowered the budget capacity to implement a comprehensive and formal approach to risk management. Simultaneously, SMEs may not reach

https://doi.org/10.18267/pr.2022.kre.2454.10

a level of ERM maturity where the benefits outweigh the costs invested (Falkner & Hiebl, 2015). That is one of the explanations why SMEs do not have established international risk management standards or other formal risk management approaches such as ERM or ISO. However, the recent situation increases the pressure to implement holistic risk management such as ERM in SMEs.

The question arises what the current level of implementation in SMEs and what determinants is affect adoption. The research was driven by the global demand for empirical evidence of SMEs. The aim of the research is to determine the current state of implementation of ERM in the Czech Republic in SMEs and to identify factors that affect the implementation.

1. LITERATURE REVIEW

The ERM approach was originally developed for financial institutions in response to the Great Financial Crisis. After that the ERM has spread to large and international non-financial institutions, to listed companies or companies with the highest ratings in a particular country.

Generally, it has been acknowledged that the popularity of ERM has resulted from a response to pressure on organizations to manage risk holistically (Lundqvist, 2014). ERM remains in the centre of attention due to the pandemic situation. The COVID-19 pandemic has drastically changed daily life throughout society (Chakraborty & Maity, 2020). SMEs, which are significantly affected by the pandemic situation, must respond to these disruptive environmental changes. Globally, SMEs are an indispensable and vital part of the national economies; in 2021, SMEs employed almost 84 million people in the EU and contribute considerably to value added (Statista, 2021). However, empirical research on ERM in SMEs is exceptional. Notwithstanding this, SMEs are particularly well-positioned to manage risk. They are in close distance to all aspects of each activity and are aware of the many strengths and weaknesses of their enterprise. At the same time, SMEs are very sensitive to changes in the business environment, which are always reflected in the quantitative characteristics after a certain period of time (Hudáková & Masár, 2018).

Therefore, it is crucial to analyse the level of ERM in SMEs as one of the key instruments that can support SMEs. Deficiencies in risk identification and insufficient implementation of risk management can cause problems for SMEs in terms of competitiveness and sustainability (Oláh et al., 2019). Currently, the ability to compete is increasing in its significance.

In the EU, there is a specific group of countries, the so-called post-communist countries (these include Poland, the former East Germany, the Czech Republic, the Slovak Republic, and Hungary). Since the early 1990s, post-communist European countries have achieved development goals in the areas of democratization, integration into the European Union (EU), the development of bilateral and multilateral relations, and the economic and political transformation of financial systems, especially banking (Bilenko, 2013). In the post-communist countries, the process of legal, moral and historical settlement with the previous regimes was underway and the remnants of the political regimes are still noticeable. The post-communist political era has left characteristics in companies that are apparent, such as the way foreign capital is managed and the proper allocation of both labor and capital. The incorrect way of capital allocation is difficult to correct and interferes with the typical export-oriented development strategy. Such a strategy involves attracting foreign capital, which leads to higher productivity and higher wages. The biggest benefits are achieved when goods are produced for export, where they can be sold at the highest prices. By contrast, the former communist countries already had capital-intensive economies, only capital was massively misallocated. This meant that a foreign investor often bought, for example, an existing factory, only to simply decommission it and sell it for scrap (and lay off most of the workers) (Tarko, 2020).

https://doi.org/10.18267/pr.2022.kre.2454.10

For this reason, multi-generational enterprises have also disappeared. Enterprises started to re-emerge after the change of political regime from 1990 onwards, but with a loss of continuity in the way they were managed.

A study conducted by SME in the V4 countries examined key entrepreneurship risks. The study highlighted the greatest threat of market risk associated with the positioning of goods and services in domestic and foreign markets. Financial, personnel and economic risks were identified as the second, third and fourth most serious risks. The results show the importance and relevance of evaluating the most important risks and their sources in SMEs (Hudáková & Masár, 2018). A survey carried out in Poland to identify the main enterprise risks focused on SMEs (n = 332) and the results show that most entrepreneurs identify and assess risks in their business spontaneously and do not manage risks in a formal way (Dankiewicz et al., 2020). Another study conducted in Slovakia found that ERM is not formally managed in SMEs. Due to the circumstances of the transforming post-socialist economy, managers had to implement risk into their management decisions. As research shows, risk management has been rather intuitive, without data support and without appropriate methods, know-how and trained employees to provide input for managerial decisions (Klučka & Grünbichler, 2020). The findings are supported by a study (Virglerova, 2019) where one of the main issues is the lack of financial risk management professionals. Shareholders are forced to take responsibility for risk management themselves. A study conducted in Poland, investigated the level of risk management in SMEs. The results of the study show a low level of risk management knowledge among entrepreneurs in SMEs regardless of the size of the business and the financial situation (Iwona, 2016). Managers responsible for risk management are primarily based on their knowledge of past data (Hudáková et al., 2017). Based on the literature, the determinants of ERM implementation in SMEs were identified - firm size, firm age and percentage of foreign capital.

2. METHODOLOGY

A quantitative questionnaire survey was conducted in 2021 to assess the level of ERM implementation in SMEs in the Czech Republic. The research was conducted using a questionnaire survey (n=300). Respondents were primarily directors, business owners and top - management. The total number of respondents was n=296 (4 respondents removed based on low response variability). The questionnaire survey consisted of 3 parts - identification part (legal form of the firm, role or job classification of the respondent, classification in CZ NACE), control variables (% of foreign capital, firm size by number of employees and firm age) and the level of ERM. The level of ERM was measured based on a standardized questionnaire survey by Sprčić et al. (2017), where respondents answered 14 statements with a binary variable (1-statement is valid for the firm, 0-statement is not valid for the firm).

To assess the current state, the Latent Class Analysis (hereinafter LCA) method was employed. LCA is a statistical procedure used to identify qualitatively different subgroups within populations that share certain external characteristics. The basic assumption of LCA is that membership in unobserved groups (or classes) can be explained by patterns of scores in survey questions, rating indicators, or scales (Weller et al., 2020). The significance of the determinants of ERM was performed based on ANOVA and contingency table. Maintaining all statistical assumptions, Tukey's test was used to analyze the significance of differences between classes. Between-class significance for the control variable of firm size was analysed using Chi-squared tests.

https://doi.org/10.18267/pr.2022.kre.2454.10

3. RESULTS AND DISCUSSION

All analyses were performed in Jamovi software. Table 1 shows the LCA analysis and the resulting optimum number of 3 classes.

Tab. 1 Latent class analysis - results

	1 class	2 classes	3 classes	4 classes	5 classes	6 classes
Number of Cases	296	296	296	296	296	296
Number of Complete Cases	296	296	296	296	296	296
Number of Parameters Estimated	14	29	44	59	74	89
Residual D. F	282	267	252	237	222	207
Maximum Log-Likelihood	-2670.954	-2131.698	-2001.254	-1983.850	-1968.073	-1954.111
AIC	5369.908	4321.395	4090.508	4085.701	4084.146	4086.222
BIC	5421.573	4428.416	4252.884	4303.432	4357.233	4414.664
LR/Deviance	2568.513	1490.001	1229.113	1194.306	1162.751	1134.827
Chi-squared	230797.043	23656.852	18989.869	20714.037	19885.319	14450.882
Number of repetitions	80	80	80	80	80	80

Source: Author

Based on the Estimated Class Conditional Probabilities, the individual classes were assessed as follows.

Class 1 (31.8% of firms). These firms do not have a dedicated risk manager or a dedicated risk management department or division. Firms do not have written limits for the maximum loss they would be willing to accept. The firms also do not have formally defined policies/guidelines or procedures for risk management. It is obvious, accordingly, that this group of firms have not implemented formal risk management frameworks such as COSO or ISO 31 000. Risks in the firm are not managed in an integrated manner and across all categories and levels of enterprise risk. The impact of the interdependence of individual risks on the overall portfolio is not identified or quantitatively assessed in relation to key performance indicators. Firms do not conduct any workshops on the firm's risk exposure or risk management strategy. Firms do not have risk management maps or contingency plans for responding to significant risks.

Class 2 (29.4% of firms). These firms have a dedicated risk manager, or a separate department/division dedicated to risk management. Firms have a written risk appetite and formal risk management policies/policies/guidelines and procedures. Most firms in this class have implemented a formal risk management framework in the form of a COSO framework or ISO 31,000 certification. Risks are managed in an integrated manner and across all categories and levels of corporate risk. Firms identify the impact of interdependencies of individual risks on the overall risk portfolio, have risk maps and response plans in place for all significant risks, quantitatively assess the impact of risks on key performance indicators of the firm, and hold risk management strategy workshops. Firms track key risk indicators and information focused on emerging risks. A formal report on risks and risk management is presented to owners or the board of directors at least annually.

https://doi.org/10.18267/pr.2022.kre.2454.10

Class 3 (38.8% of firms). Firms in Class 3 do not have a dedicated risk manager or a dedicated risk management department. They do not have a formalized risk management framework (COSO, ISO 31 000) implemented or a written risk appetite. However, these firms typically have formal policies/policies/guidelines and procedures in place to manage risk in an integrated manner across all categories and levels of enterprise risk. Firms do not calculate the impact of risk on key performance indicators of the enterprise and typically do not identify the impact of interdependencies of individual risks on the overall asset portfolio or create risk maps. These firms do not conduct risk management strategy workshops, and most firms do not have a plan to respond to significant risks. However, formal risk and risk management reports are presented to owners or the board of directors on a regular basis, at least once a year, monitoring key information focused on emerging risks.

The descriptions of the qualitative characteristics of the classes highlight the different levels of ERM implementation in the Czech Republic. Risk management in firms in Class 1 is not formally conducted and neither owner or the board of directors require a report on risks and their governance. The level of ERM in Class 1 is therefore at a very low level. Overall, firms in Class 2 can be described as the opposite of firms in Class 1, as the level of ERM in Class 2 is at a high level. Thus, firms in Class 3 have the beginnings of a formal risk management system in the form of policies and procedures but manage risks mainly qualitatively with an emphasis on emerging risks. This concept is close to informal qualitative scenario planning.

Additionally, the author analyzed the determinants, which are affecting the implementation of ERM. Ensuring all the assumptions for the calculation of the Tukey HSD test (homogeneity of variances test, equality of means, ANOVA), the significance (of the differences between classes with respect to the firm's age and % of foreign capital (Table 2) and firm size (Table 3) was computed. Confidence interval with a significance level of 0.05.

Tab. 2 Tukey HSD test – firm age and percentage of foreign capital

		firm age			percentage of foreign capital		
		Mean Difference (I-J)	Std. Error	Sig.	Mean Difference (I-J)	Std. Error	Sig.
Class 1	Class 3	1.770	1.586	0.505	-7.728	3.823	0.109
	Class 2	4.847*	1.691	0.012	-29.042*	4.060	0.000
Class 3	Class 1	-1.770	1.586	0.505	7.728	3.823	0.109
	Class 2	3.077	1.631	0.144	-21.313*	3.995	0.000
Class 2	Class 1	-4.847*	1.691	0.012	29.042*	4.060	0.000
	Class 3	-3.077	1.631	0.144	21.313*	3.995	0.000

* The mean difference is significant at the 0.05 level.

Source: Author

https://doi.org/10.18267/pr.2022.kre.2454.10

The statistically significant differences of the firm's age between the classes were found. Significant differences exist between the class with a low level of ERM (class 1) and the class with a high level of ERM (class 2), where the average age of low level ERM enterprises (20.4 years) is higher than the average age of high level ERM firms (15.6 years). Statistically significant differences in the share of foreign capital between the classes of firms by ERM level were found. Significant differences exist between the low/medium and high level ERM classes, with the average share of foreign capital for high level ERM firms being higher (35.1 %) than for low (6%) and medium level ERM firms (13.8%).

Tab. 3 Contingency table – firm size

			Class 1	Class 3	Class 2	Total
Number of employees	4–49	Count	64	69	26	159
		% within Number of employees	40.3%	43.4%	16.4%	100.0%
		% of Total	21.6%	23.3%	8.8%	53.7%
		Adjusted Residual	2.8	2.3	-5.3	X
	50–99	Count	22	24	31	77
		% within % within Number of employees	28.6%	31.2%	40.3%	100.0%
		% of Total	7.4%	8.1%	10.5%	26.0%
		Adjusted Residual	-1.0	-1.3	2.4	X
	100–249	Count	12	18	30	60
		% within % within Number of employees	20.0%	30.0%	50.0%	100.0%
		% of Total	4.1%	6.1%	10.1%	20.3%
		Adjusted Residual	-2.4	-1.3	3.9	X

Source: Author

The proportion of firms with a high level of ERM (16.4%) was found to be significantly lower in the group of small enterprises. In contrast, the group of larger medium-sized enterprises has a significantly higher proportion of enterprises with a higher level of ERM (50%). Thus, there is an association between the firm size according to the number of employees interval and the level of ERM.

Results identified that SMEs in the Czech Republic do not use the ERM approach to a large extent, i.e. 70.6% of the participating SMEs. The remaining SMEs (29.4%) already have a dedicated risk management role in place, with the majority of the group having a formal COSO or ISO 31 000 framework in place. Class 3 has already established the beginnings for the development of an ERM approach, at the moment it is more of an informal and qualitative risk management approach.

The results also show that there are statistically significant differences by firm age and between classes of firms by ERM level. While on average older firms have a lower level of ERM

https://doi.org/10.18267/pr.2022.kre.2454.10

implementation. This may be due to the consistency of managers or directors during the transition from the communist regime, as supported by Klučka and Grünbichler (2020). Similarly, the level of ERM implementation is influenced by the percentage of foreign capital in the firm, with results showing that a higher percentage of foreign capital is present in firms with a higher level of ERM implementation (Class 2). The largest representation of firms is in the classes with relatively low levels of ERM and at the same time with a relatively low percentage of foreign capital. The results of the research support Tarko (2020), who states that the post-communist political era left characteristics in firms that are still evident today, such as mismanagement of foreign capital, misallocation of labour and capital, and fear of foreign capital exploitation. Foreign direct investmens has a positive impact on the adoption of modern production methods (Žďárek, 2009), firms' innovation activity (Ramadani et al., 2017) and firms' productivity (Hampl et al., 2020). The inflow of foreign capital into firms implies not only the strengthening of capital, but also control by foreign investors and the adoption of new managerial practices. Risk management in the Czech Republic is limited to companies that are required by their parent company abroad to follow formalised procedures, a similar result to neighbouring Slovakia (Klučka & Grünbichler, 2020). Foreign direct investment is risky and investors are interested in controlling the risks associated with the investment. In practice, this reinforces the control and influence of the foreign investor over the enterprise (Yin et al., 2019). Consequently, the introduction of ERM will improve the quality of investment decisions - the higher the maturity of ERM, the better the company's ability to identify, manage and mitigate potential risks arising from investment decisions (Faisal et al., 2021).

The firm's size as measured by the number of employees also has an impact on the implementation of ERM. The results show that the group of larger and medium-sized enterprises has a significantly higher proportion of enterprises with a higher level of ERM (50%). This may be due to the fact that if a company grows in number of employees, it is necessary to manage risks in a more sophisticated and formal way. The intuitive level of risk management that is common in micro-enterprises becomes insufficient. This finding supports the economies of scale argument that larger companies have a more developed risk management process due to their greater exposure to risk and high implementation costs. Accordingly, most studies show that larger companies are more likely to implement ERM activities (Sprčić et al., 2017).

CONCLUSION

The results show a relatively low level of ERM implementation in SMEs, which opens up opportunities for further qualitative research to identify the causes and barriers to ERM implementation. The results show a positive effect of foreign capital and firm size on ERM implementation and a negative effect of firm age. On the one hand, the implementation of ERM strengthens control over the invested capital and, on the other hand, helps to improve the company's investment decision-making in the future. There is therefore no need to worry about foreign capital. In addition to the acquisition of an equity share, foreign direct investment is usually associated with the transfer of know-how, the exploitation of cost effects in the target country for the investor and also with investments in the modernisation of existing assets of the acquired companies or in new investments. Arguments of Czech owners referring to tradition and "family silver" are not always beneficial for the company from a long-term strategic point of view and often express rather a hidden fear for their own career and fear of losing control over the company.

A limitation of the research may be the questionnaire survey, which is a subjective assessment and therefore may be biased by respondents who may overestimate responses.

https://doi.org/10.18267/pr.2022.kre.2454.10

The research findings can be pilot research for other V4 countries that have similar historical context. The research results also have wider implications beyond the V4 countries, generally for SMEs with regard to ERM implementation. The research shows important determinants of ERM for SMEs. The opportunity for further research is a comparison with "southern wing" of the EU, such as Portugal, Italy, Greece and Cyprus. Another opportunity for the future is a detailed examination of the impact of foreign capital in SMEs and the implications for other firm functions. The research provides quantitative findings, the recommendation for further research is to identify through qualitative research the barriers to ERM implementation in SMEs.

ACKNOWLEDGEMENT

This article was supported by funding: Internal Grant Agency, University of Economics, Prague F3 / 16 / 2021 (Project name: The relationship between the level of ERM and the firm performance).

REFERENCES

Bilenko, Y. (2013). Economic and institutional fundamentals of the divergence of development paths in Central and Eastern Europe. *Ekonomika, 92*(3), 24–40. https://doi.org/10.15388/Ekon.2013.0.1625

Dankiewicz, R., Ostrowska-Dankiewicz, A., & Bulut, C. (2020). The attitudes of entrepreneurs of the small and medium-sized enterprises sector in Poland to key business risks*. Equilibrium, 15*(3), 511–536. https://doi.org/10.24136/eq.2020.023

Faisal, F., Abidin, Z., & Haryanto, H. (2021). Enterprise risk management (ERM) and firm value: The mediating role of investment decisions. *Cogent Economics & Finance, 9*(1). https://doi.org/10.1080/23322039.2021.2009090

Falkner, E. M., & Hiebl, M. R. W. (2015). Risk management in SMEs: a systematic review of available evidence. *In Journal of Risk Finance*, *16*(2). Emerald Group Publishing Ltd. https://doi.org/10.1108/JRF-06-2014-0079

Hudáková, M., & Masár, M. (2018). The Assessment of Key Business Risks for SMEs in Slovakia and Their Comparison with other EU Countries. *Entrepreneurial Business and Economics Review, 6*(4), 145–160. https://doi.org/10.15678/EBER.2018.060408

Hudáková, M., Schönfeld, J., Dvorský, J., & Lusková, M. (2017). The Market Risk Analysis and Methodology of its More Effective Management in Smes in the Slovak Republic*. Montenegrin Journal of Economics, 13*(2), 151–161. https://doi.org/10.14254/1800-5845/2017.13-2.10

Iwona, G.-M. (2016). *Leading Risk Management Determinants of Small and Medium-Sized Enterprises (SMEs): An Exploratory Study in Poland* (pp. 289–298). https://doi.org/10.1007/978-3-319-27570-3_23

Chakraborty, I., & Maity, P. (2020). COVID-19 outbreak: Migration, effects on society, global environment and prevention. *Science of The Total Environment, 728*, 138882. https://doi.org/10.1016/j.scitotenv.2020.138882

Jabbour, M., & Abdel-Kader, M. (2016). ERM adoption in the insurance sector: Is it a regulatory imperative or business value driven? *Qualitative Research in Accounting and Management, 13*(4), 472–510. https://doi.org/10.1108/QRAM-03-2015-0035

Klučka, J., & Grünbichler, R. (2020). Enterprise Risk Management – Approaches Determining Its Application and Relation to Business Performance. *Quality Innovation Prosperity, 24*(2), 51–58. https://doi.org/10.12776/QIP.V24I2.1467

Lundqvist, S. A. (2014). An exploratory study of enterprise risk management: Pillars of ERM. *Journal of Accounting, Auditing and Finance, 29*(3), 393–429. https://doi.org/10.1177/0148558X14535780

Oláh, J., Virglerova, Z., Popp, J., Kliestikova, J., & Kovács, S. (2019). The assessment of non-financial risk sources of SMES in the V4 countries and Serbia. *Sustainability (Switzerland), 11*(17), 4806. https://doi.org/10.3390/su11174806

Pagach, D., & Wieczorek-Kosmala, M. (2020). The Challenges and Opportunities for ERM Post-COVID-19: Agendas for Future Research. *Journal of Risk and Financial Management, 13*(12), 323. https://doi.org/10.3390/jrfm13120323

Ramadani, V., Abazi-Alili, H., Dana, L.-P., Rexhepi, G., & Ibraimi, S. (2017). The impact of knowledge spillovers and innovation on firm-performance: findings from the Balkans countries. *International Entrepreneurship and Management Journal, 13*(1), 299–325. https://doi.org/10.1007/s11365-016-0393-8

Sax, J., & Torp, S. S. (2015). Speak up! Enhancing risk performance with enterprise risk management, leadership style and employee voice. *Management Decision, 53*(7), 1452–1468. https://doi.org/10.1108/MD-10-2014-0625

Sprčić, D. M., Kožul, A., & Pecina, E. (2017). Managers' Support – A Key Driver behind Enterprise Risk Management Maturity. *Zagreb International Review of Economics and Business*, 20(s1), 25–39. https://doi.org/10.1515/zireb-2017-0003

Europe: number of SMEs | Statista. Statista. (2021). Retrieved 29 March 2022, from https://www.statista.com/statistics/878412/number-of-smes-in-europe-by-size/.

Tarko, V. (2020). Understanding post-communist transitions: the relevance of Austrian economics. *Review of Austrian Economics, 33*(1–2), 163–186. https://doi.org/10.1007/s11138-019-00452-1

Virglerova, Z. (2019). Differences in the Concept of Risk Management in V4 Countries. International *Journal of Entrepreneurial Knowledge, 6*(2), 100–109. https://doi.org/10.2478/ijek-2018-0017

Weller, B. E., Bowen, N. K., & Faubert, S. J. (2020). Latent Class Analysis: A Guide to Best Practice. *Journal of Black Psychology, 46*(4), 287–311. https://doi.org/10.1177/0095798420930932

Yin, H.-B., Kim, B.-H., & Jung, H.-J. (2019). The Relationship on Risk Type, Risk Management and Business Performance – Evidence from Korean FDIs in China. *Journal of Korea Trade, 23*(5), 45–65. https://doi.org/10.35611/jkt.2019.23.5.45

Žďárek, V. (2009). Modern methods of production and foreign direct investment. *Politická Ekonomie, 57*(4), 509–543. https://doi.org/10.18267/j.polek.696

https://doi.org/10.18267/pr.2022.kre.2454.10

Green Hydrogen Production in Slovakia as Part of the Circular Economy

Pavol Štuller[1] – Peter Drábik[2] – Dominika Vernerová[3]
ORCID: 0000-0002-3683-1143[1], 0000-0002-2740-4756[2], 0000-0002-3636-6659[3]
pavol.stuller@euba.sk, peter.drabik@euba.sk, dominika.vernerova@euba.sk
University of Economics in Bratislava, Faculty of Commerce, Department of Marketing, Bratislava, Slovakia

Abstract: The global energy system needs to perform a profound transformation to achieve the targets set by the Paris Agreement. In this context, low carbon electricity production from renewable sources, embedded with then global and national circulation economies, may become the preferred energy source. The share of electricity in all the energy consumed by end users worldwide will need to increase by 40% in 2050 to achieve the decarbonized energy world envisaged by the Paris agreement. However, the total decarbonization of specific industrial sectors, such as transport, production industry that require high-grade heat, may be difficult only be means of electrification. This challenge could be addressed by hydrogen from renewable that allows large amounts of renewable energy to be channeled from the power sector to end users. Even though Slovakia has relatively low-carbon electricity production structure, hydrogen production may represent the solution to such pressing issues as shutting down of coal power plants and mining in the Upper Nitra region and can also be the missing link in the energy transition of Slovakia and become the integrated part of the circular economy focused, among others, on decarbonization.

Keywords: Circular economy, Decarbonization, Hydrogen, Value chain.

JEL Classification codes: Q42, Q410

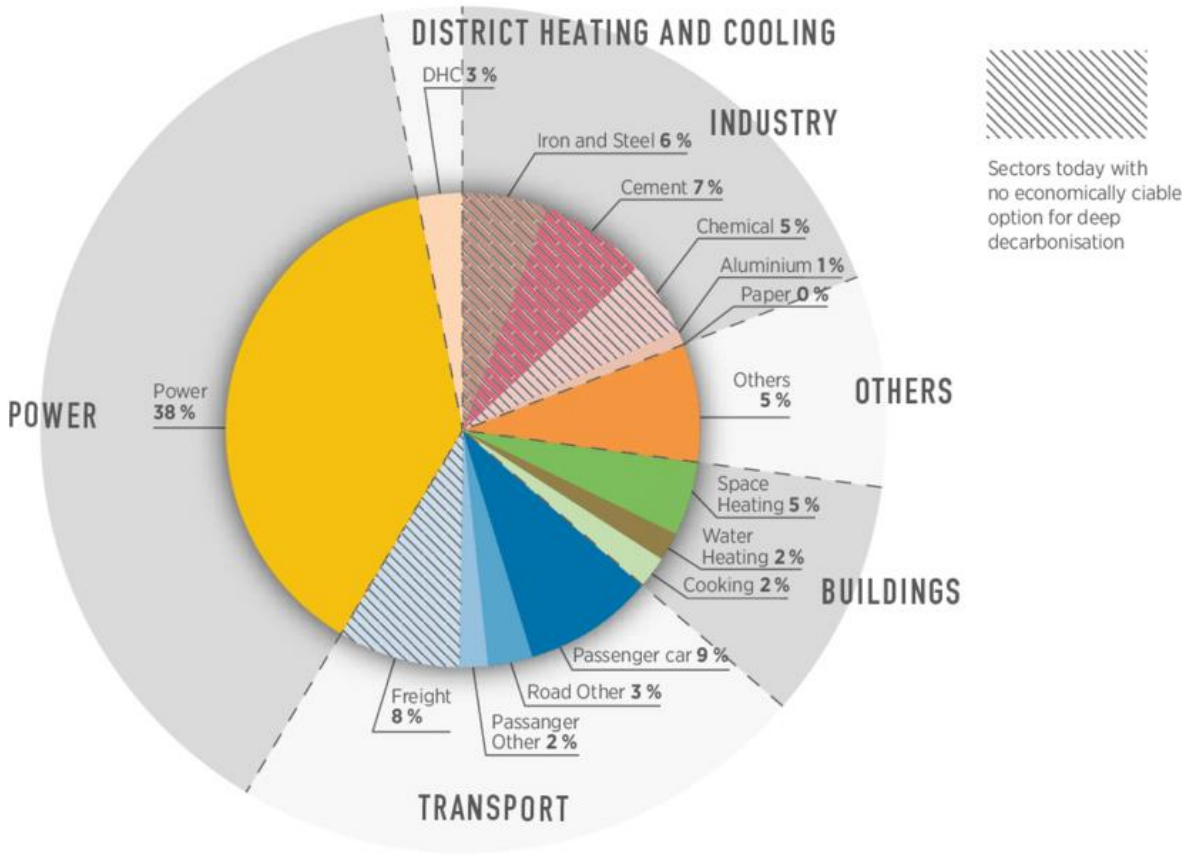
INTRODUCTION

The Paris Agreement aims to limit the increase in average global temperature by "below 2°C" in this century as compared to pre – industrial levels, which can be only achieved by substantial reduction of emissions in all sectors. To achieve the targets in the Paris Agreement, the global energy system must undergo a profound transformation from one largely based on fossil fuels to an efficient and renewable low-carbon energy system. According to analysis by the International Renewable Energy Agency (IRENA, 2018), over 90% of the necessary global CO2 emission reductions could come from these measures; renewable energy is expected to contribute 41 % of the required emission reductions directly and an additional 13% through electrification. To meet this objective, renewable energy's share of global final energy consumption needs to increase from 18% today to 65% in 2050. Variable renewable energy in the power system, in particular wind and solar, will make up the vast majority of generation capacity and ca. 60% of all electricity generation. The power system needs to become more flexible to economically integrate such large shares of variable generation.

Today, one-third of global energy-related emissions come from economic sectors for which there is presently no economic alternative to fossil fuels (IRENA, 2018). These emissions originate mostly from the energy- intensive industry sectors and freight transport (Figure 1).

https://doi.org/10.18267/pr.2022.kre.2454.11

Figure 1 Breakdown of global energy related CO_2 emissions by sector in 2015



Source: Irena, 2018

In the context of Slovakia that also faces significant challenges associated with decarbonization goals, hydrogen could be the "missing link" in the energy transition from a technical perspective: hydrogen from renewable electricity allows large amounts of renewable energy to be channeled from the power sector into sectors for which electrification (and hence decarbonization) is otherwise difficult, such as transport, buildings, and industry.

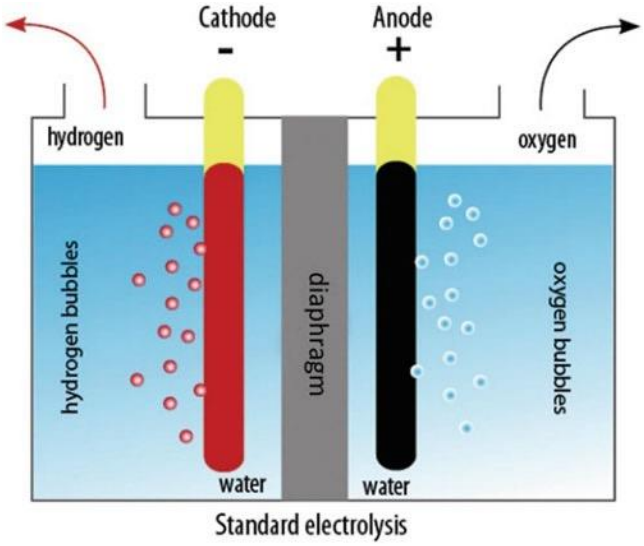
Hydrogen could thus play a key role in facilitating three positive outcomes: the decarbonization of main CO2 producing sectors; the integration of large amounts of variable renewable energy and the decoupling of variable renewable energy generation and consumption through the production of transportable hydrogen.

Within an electrochemical classification, the most utilized industrial process for hydrogen production today is water electrolysis. Hydrogen is produced through water electrolysis by splitting water molecules into hydrogen (H2) and oxygen (O2). The process takes places within an electrolytic cell where two partial reactions occur at two separate electrodes.

There are high energy requirements for electrolysis in the form of electric power, therefore high production rates of hydrogen can become economically unfeasible due to the elevated cost of electricity based on fossil fuels, such as coal or diesel to generate such power. However, the alternative of powering massive electrolysis arrangements with a combination of renewable energy sources such as solar and wind is possibly an economical alternative for hydrogen production (Silveira, 2017), which provide an ideal alternative for diversification and utilization of renewable energy for hydrogen production in Slovakia.

https://doi.org/10.18267/pr.2022.kre.2454.11

Figure 2 Water electrolysis for hydrogen production



Source: Silveira, 2017

1. LITERATURE REVIEW

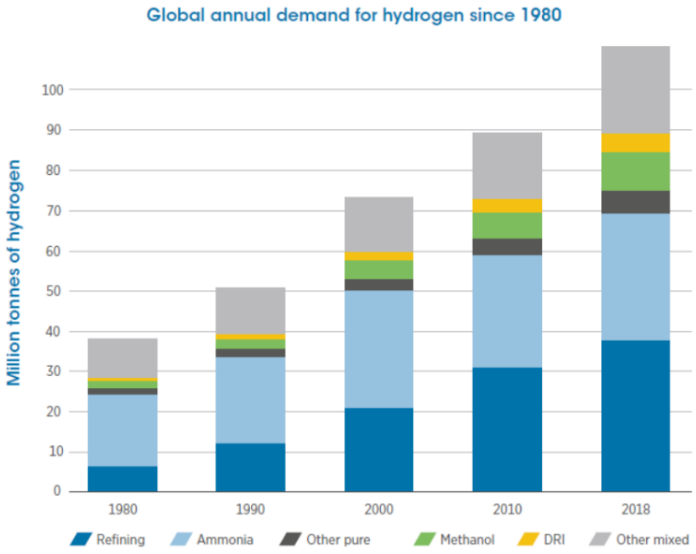
The energy demand has increased exponentially worldwide owing to the continuously growing population and urbanization. The conventional fossil fuels are unable to satiate this requirement causing price inflation and significant environmental damage due to unrestrained emission of greenhouse gases. The focus now has shifted towards alternative, economical, renewable and green sources of energy such as hydrogen to deal with this bottle-neck. Hydrogen is a clean energy-source having high energy content (122 kJ/g) (Sharma, Surbhi et al. 2020).

Hydrogen production from renewable sources has become one of the fastest developing topics for decarbonization of industry sectors and transportation in developed countries. As part of the research, we have reviewed available sources with recent research results focused on green hydrogen production, current official documents and plans of the Slovak republic, mainly in connection with the Generation EU (Plán obnovy, 2021) as well as presentations and proceedings from the hydrogen focused conferences.

Today, around 120 Mt of hydrogen are produced globally each year, of which two-thirds is pure hydrogen and one-third is in mixture with other gases. This equals 14.4 exajoules (EJ, equivalent of 4000TWh or 102 Mt), about 4% of global final energy and non-energy use, according to International Energy Agency (IEA, 2019) statistics. Around 95% of all hydrogen is generated from natural gas and coal. Around 5% is generated as a by-product from chlorine production through electrolysis. In the iron and steel industry, coke oven gas also contains a high hydrogen share, some of which is recovered. Currently there is no significant hydrogen production from renewable sources (IRENA, 2018). To achieve a net-zero greenhouse gas economy, the increase of GDP invested in energy system to 2.8% (or around € 520-575 billion annually) will be needed (European Commission, 2018).

https://doi.org/10.18267/pr.2022.kre.2454.11

Figure 3 Global annual demand for hydrogen since 1980



Source: IEA, 2019

The increasing ambition of climate targets creates a major role for hydrogen especially in achieving carbon-neutrality in sectors presently difficult to decarbonize. In late 2019, the European Commission (EC) presented the European Green Deal, outlining the main policy initiatives for reaching net-zero greenhouse gas (GHG) emissions by 2050 (European Commission, 2021). The Green Deal identifies clean hydrogen as a priority area for achieving carbon neutrality.

There are two aspects:

1. First, the European Union (EU) currently uses approximately 9,7 million tons (Mt) of hydrogen annually and this needs to be decarbonized (Kakoulaki, 2020). Most of the hydrogen consumption is associated with two industries – oil refineries (ca. 52%) and ammonia production (ca. 43%) (European Hydrogen Infrastructure, 2007), the rest is other industrial use (ca. 2%). Together with methanol production (ca. 5%) and use in metal industries (ca. 3%), these four sectors correspond to 90% of the total hydrogen consumption in Europe. Today hydrogen accounts for less than 1% of Europe's energy consumption and is mainly produced through highly carbon-emitting pathways ('grey' hydrogen) and used as feedstock in sectors such as fertilizers and refineries. Because of this, H2 production is responsible for release of 70 to 100 million tons CO2 annually in the EU (Maisonnier, 2007).
2. Second, hydrogen is considered a key input to the future energy system as a flexible energy carrier for industry and transport, helping to reduce GHG and particle emissions. At least 6 GW (of electrolysers powered by renewable energy) should be installed between 2020 and 2024. Depending on its utilization, such capacity could produce up to 0.8 Mt of clean hydrogen, annually. Another 40 GW should be added by 2030 with aim to produce up to 10 million tons of renewable hydrogen in the EU (A hydrogen strategy for climate, 2020. By 2025, about 1 million public recharging and refueling stations will be needed for the 13 million zero- and low-emission vehicles expected on European roads (European Commission, 2021).

https://doi.org/10.18267/pr.2022.kre.2454.11

By 2030, the hydrogen demand in EU + UK according to the 2019 Hydrogen Roadmap Europe's ambitious scenario will be 665 TWh or 16,9 Mt. Analysts estimate clean hydrogen could meet 24% of energy world demand by 2050 (corresponding to ~2251 TWh of energy) (Kakoulaki, 2020) and value chain could employ up to 1 million people, directly or indirectly. Green and blue (not clean, but low carbon) hydrogen demand in sectors, where hydrogen is primarily used as feedstock, can be expected to increase to 238 TWh in 2030, 692 TWh in 2040 and 983 TWh in 2050 (Wang, 2021).

2. METHODOLOGY

The main goal of the paper is analysis of the existing framework for the hydrogen production as integrated part of the circular economy both in context of international requirements of achieving decarbonization targets of the Slovak economy as well as local needs and opportunities in the light of industry structure and energy demands as projected for upcoming decades and expected major investments into the renewable sources from the Next Generation EU from, which Slovakia is planning to use 2.201M EUR (Plan obnovy, 2021). In order to meet these goals, we have performed comparation, analysis and synthesis of the current state of the hydrogen production data worldwide and in the context of the Slovak republic. As part of this process, we have analyzed the conditions for the hydrogen production from renewable sources on the background of international and EU requirements and performed analysis of the economic and financial conditions for hydrogen production.

3. RESULTS AND DISCUSSION

3.1 Description of existing H2 value chain

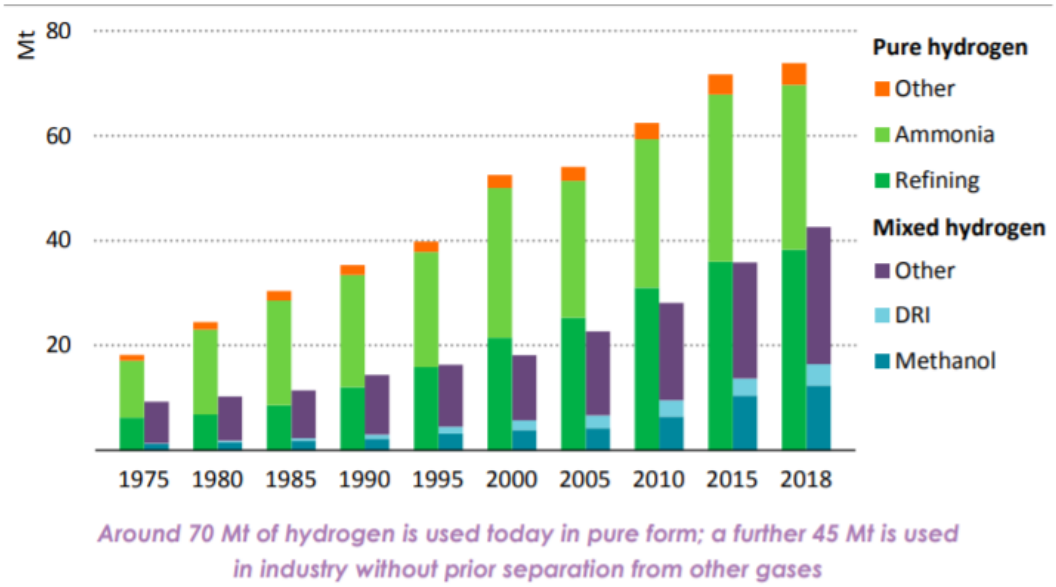
World and EU

Hydrogen is not new to the energy system. Supplying hydrogen to industrial users is a major business globally and there are companies with extensive experience of producing and handling hydrogen. The scope of the hydrogen discussion has expanded beyond an initial focus on road transport and the stakeholder community has broadened to include renewable electricity suppliers, electricity and gas network operators, automakers, oil and gas companies and major engineering firms. Among governments, there is increasing attention from both energy exporting and importing countries, as well as city and regional authorities around the world.

Demand for hydrogen in its pure form is currently around 70 million tonnes (Mt) per year, equivalent to around 330 Mtoe. This hydrogen is almost entirely supplied from fossil fuels: 6% of global natural gas consumption and 2% of global coal consumption goes to hydrogen production today. Most of this is used for oil refining and chemicals production. A further 45 Mt of hydrogen is used without prior separation from other gases in the industry sector (IEA 2019).

https://doi.org/10.18267/pr.2022.kre.2454.11

Figure 4 Historic global annual demand for hydrogen



Notes: DRI = direct reduced iron steel production. Methanol, DRI and "other mixed" represent demand for applications that use hydrogen as part of a mixture of gases, such as synthesis gas, for fuel or feedstock.

Source: IEA, 2019

Hydrogen has also been used extensively in the past in gas networks. In 1950, the United Kingdom had over 1 000 facilities producing "town gas", which was a mixture of gases produced from coal or oil that had a hydrogen content of around 50%. Over 100 000 kilometres (km) of distribution pipelines were built to transport it to end-use sectors. Many of these pipelines were replaced after the discovery of natural gas in the North Sea but some are still in use. Other countries, including the United States, Canada and many northern European countries such as Austria, France and Germany, also underwent government-led transitions from town gas to natural gas from the 1950s to 1970s (European Hydrogen Infrastructure, 2007). The hydrogen market comprises three main players: merchant companies which trade hydrogen, captive producers who produce hydrogen for their direct customer or their own use and by-product hydrogen resulting from chemical processes (Maisonnier, 2007). In 2007, 80% of the total hydrogen in Western Europe was consumed by mainly two industrial sectors: the refinery (50%) and the ammonia industry (32%), which are both captive users. If one adds hydrogen consumption by methanol and metal industries, those four sectors cover 90% of the total (Maisonnier, 2007).

By 2050, hydrogen demand in industry grows further and is expected to be spread across Europe and total demand is estimated to reach 1,200 TWh per year (Kakoulaki, 2020). As a result of this trend, several new innovative projects are starting around the world:

• group of regions – led by California, Germany, Japan, and South Korea – is driving developments, spending more than $850 million annually to advance hydrogen and fuel-cell technology (Heid, 2017).

• the world's largest green-hydrogen plant currently has been inaugurated in Quebec, Canada, by industrial gases giant Air Liquide. The Bécancour facility, which is powered by local hydroelectricity, is now producing up to 8.2 tonnes of green H2 per day – close to 3,000 tonnes annually (Collins, 2021).

https://doi.org/10.18267/pr.2022.kre.2454.11

• the undisputed leader in the world hydrogen market is Ballard Power Systems. The company was founded in 1979 and was focused on the development of lithium filters. In 1989, their focus switched on PEM fuel cell technology.

• Nel ASA, also known as Nel Hydrogen, is a Norwegian company based in Oslo that offers solutions for the production, storage and distribution of hydrogen from renewable energy sources. The company is also currently working on the launch of the new RotoLyzer product, which is considered a revolution in hydrogen production.

• the "Energiepark Mainz" in Germany is the world largest producer of hydrogen by electrolyzers - they use it to store extra electricity made by wind and water turbines for later use (Energie-Park Mainz, 2021)

• New start-ups with business models connected to hydrogen were founded, including HyPoint, Hydra, Ways2H or Lavo.

• Interest is visible in international organization membership as well – number of companies joining the International Hydrogen Council has grown from 13 in 2017 to 81 today (Maisonnier, 2007). Above that, the European Clean Hydrogen Alliance was announced as part of the new industrial strategy for Europe in March 2020. It is part of efforts to accelerate the decarbonisation of industry and maintain industrial leadership in Europe.

Slovakia

According to its NECP (Integrated National Energy and Climate Plan), Slovakia considers the use of decarbonised gases and hydrogen as a way to "ensure environmental sustainability", "very promising fuel" and a good option (also regarding air quality) to replace natural gas on the one hand and fossil fuels in the transport sector on the other hand. Slovakia estimates that by 2030 around 1% of its RES target for the transport sector will be covered by the direct use of hydrogen (2 ktoe hydrogen out of a total of 229 ktoe renewable fuels). By 2040, this share could be multiplied by more than 20. Slovakia addresses the entire value chain from generation, over underground storage, delivery infrastructure to end uses mainly in the transport sector and the industry (FCH Slovakia, 2020). There are currently 2 major hydrogen producers – Duslo Šaľa and Fortischem Nováky, both using H2 mostly for internal purposes (TASR, 2020).

In Slovakia, the opportunities relating to hydrogen demand occur most strongly in industry and the built environment. In industry, existing hydrogen use as a feedstock exists, but is limited. Therefore, hydrogen deployment will likely primarily contribute to the decarbonisation of the gas supply in industry and act as a low-emission solution for the provision of high temperature process heat. In the built environment, where direct and indirect use of natural gas is a very dominant application for heat generation (natural gas accounts for almost half of the final energy demand in households and services and for over 60%), hydrogen can be deployed to decarbonise the gas supply. In Slovakia's transport sector, the largest opportunities for hydrogen relate to its deployment in road transport, where it can play a role in the decarbonisation of trucks, buses and vans. Additionally, together with electrification, hydrogen can be deployed to replace fossil fuel use in the passenger car sector (FCH Slovakia, 2020).

Hydrogen demand in the year 2030 has been estimated in a low and a high scenario covering the range of uncertainty. Today, conventional hydrogen mainly used in industry is produced from fossil fuels (e.g. through steam methane reforming) or is a by-product from other chemical processes. Both scenarios assume that in 2030 renewable hydrogen will be provided to partially substitute current conventional production and to cover additional demand (e.g. from transport sector). According to the estimations, the hydrogen refuelling station network

https://doi.org/10.18267/pr.2022.kre.2454.11

will by 2030 encompass between 20-30 stations for 8 000-17 000 fuel cell vehicles on the road. In addition, the analysis estimates substitutions of up to 1% of the conventional steel production by renewable hydrogen-based steelmaking. Further use of renewable hydrogen is foreseen in ammonia production (up to 5%). Finally, the introduction of 980-4 290 stationary fuel cells for combined power and heat production is estimated.

Analyses shows that in the years 2020-2030 around 20 million EUR can be retained annually in the domestic economy as value added in the low scenario, and over 50 million EUR in the high scenario (value added is defined here as sum of wages for employees, margins for companies and taxes). If the indirect effects induced by the investment in and operation of hydrogen technologies are also taken into account, around 60 million EUR (low scenario) and over 160 million EUR (high scenario) of value added can be created in the Slovak economy annually, which is almost equivalent to the amount of annual investment needed. Most of this value added is expected to be created by building and operating dedicated renewable electricity sources and electrolysers for hydrogen production, and by building and

operating hydrogen transport networks and storage facilities. The hydrogen-related expenditures in 2020-2030 are estimated to generate employment of 360 – 1 000 direct jobs (in production and operations & maintenance) and contribute to a further 920 – 2 600 indirectly related jobs, depending

on the scenario. Most of these jobs are expected to be created in the by building and operating renewable electricity sources, electrolysers and hydrogen transport infrastructure (FCH Slovakia, 2020).

Spill-over by a contribution to green deal investment

For climate experts, green or renewable hydrogen is indispensable to climate neutrality. It features in all eight of the European Commission's net zero emissions scenarios for 2050 (European Commission, 2018). In theory, it can do three things: store surplus renewables power when the grid cannot absorb it, help decarbonize hard-to-electrify sectors such as long-distance transport and heavy industry and replace fossil fuels as a zero-carbon feedstock in chemicals and fuel production.

The Hydrogen Council, a global industry group, estimates that by 2050 hydrogen will represent 18 percent of the energy delivered to end users, avoid six gigatons of carbon emissions annually, enable US$2.5 trillion in annual sales and create 30 million jobs globally (Hydrogen Council, 2017).

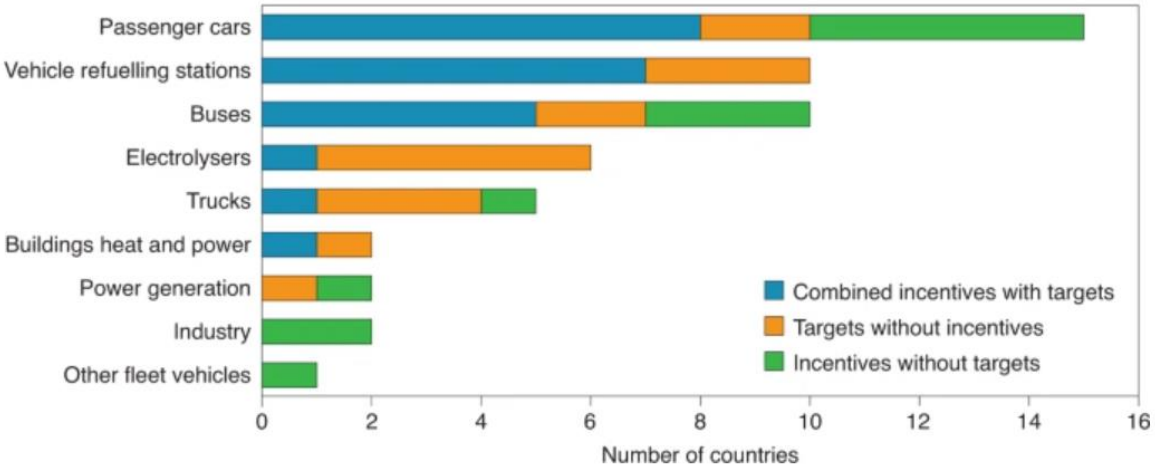


Figure 5 Policies directly supporting hydrogen deployment by target application

Source: IEA, 2019

https://doi.org/10.18267/pr.2022.kre.2454.11

The hydrogen economy is a priority for the EU's post-COVID-19 economic recovery package (European Commission, 2020). The emergence of a clean hydrogen economy depends on regulation (see table of policies directly supporting hydrogen deployment by target application):

There is important industrial dimension – Europe is the global leader in electrolysis technology. It has filed about twice as many patents and publications as its nearest competitors — the US, China and Japan — over the last 10–15 years (Biebuyck, 2019). But green hydrogen economy needs tailored support. Eurogas, representing the European gas industry, wants policymakers to set targets for renewable and decarbonized gas and let the market decide what works best for a variety of end-uses. Other stakeholders such as Agora Energiewende and ECF believe that hydrogen support should reflect the need to prioritize specific sectors. It must, after all, remain supplementary to energy efficiency, renewables and direct electrification.

3.2 Green Certificates

In order to support decarbonisation in commercial trade relations, institute of green certificates was established – terminology predominantly used in Europe, but now becoming more widespread globally, which is a tradable asset proving that certain electricity is generated using renewable energy sources. Typically, one certificate represents the generation of one Megawatthour of electricity. What is defined as "renewable" varies from certificate trading scheme to trading scheme, but in general we understand it as wind, solar, geothermal, hydro or biomass energy sources. Several countries use green certificates as a means to make the support of green electricity generation closer to a market economy instead of more bureaucratic investment support and feed-in tariffs. Such national trading schemes are in use in e.g. Poland, Sweden, the UK, Italy, Belgium and some US states. More recently certificates (tradable white certificates (TWCs)) for the electricity saved by demand-side energy efficiency measures (EEMs) have been introduced in some European countries, such as UK, Italy or France.

Energy attribute certificates (EAC) have been around since the late 1990s and the market has developed significantly. While these markets were initiated in Europe and the US, in many countries around the world EAC markets are now emerging and evolving. Regulation and procedures may differ between these EAC systems, but at their core these systems have one common function, to trace the attributes of a given megawatt-hour of electricity from a producer to a consumer.

At its most basic level, the Energy attribute certificates work as follows:

1. A producer of (renewable) electricity generates 1 unit of electricity (generally this is 1 megawatt-hour (MWh))
2. For each MWh of power they inject into the grid the producer requests an EAC from the issuing entity; the EAC, which is an electronic certificate, contains factual information attributes about the specific unit of electricity such as the technology used to generate the power and where it is located.
3. The EAC can be traded between market participants through registries with the ultimate aim of selling it to a consumer (also known as an end-user).
4. The end-user or their representative consumes the EAC by cancelling it so that it cannot be used again – without cancellation, there is a risk that one EAC can be used twice (known as double counting)

https://doi.org/10.18267/pr.2022.kre.2454.11

5. The consumer can then claim to have consumed the unit of power that was represented by the EAC (RECS, 2021).

Green certificates are traded for compliance reasons or on a voluntarily basis. They are issued and traded in compliance markets because of governmental policies which require suppliers to have a certain percentage of renewable production in their supply portfolio. With green certificates, governments can set exact targets as to the level of renewable production in a country, while the market finds the most efficient way to meet these targets. It is an alternative to other policy mechanisms, such as renewable investment subsidies, renewable production subsidies, fiscal benefits and feed-in tariffs. For corporates, this has commercial benefits, as it improves their reputation and provides a competitive edge in a society in which awareness and the importance of environmental impacts are ever increasing. For individuals, it can be tool to reduce own CO2 footprint (KYOS, 2021).

The price of the green certificates depends on the scarcity in the market. The price is higher when the green certificates scheme is driven by tight targets of government policies. Certificates cannot be transferred between the European markets, as opposed to emission certificates, so the total market size is often small and trading rather illiquid.

Standards are required for the successful development of EAC markets around the world. The importance of standards is seen clearly in Europe with the development of the Guarantee of Origin system (GO or GoO). The creation of the EECS (European Energy Certificate Standard) for GOs allowed for the development of a robust and reliable EAC market in Europe that is now adhered to by most EU Member States, as well as some other EEA/EFTA countries. On an annual basis, we see more than 600-TWh of voluntary trade with 15% growth year-over-year in the use of EECS-GOs in Europe (RECS, 2021).

Slovak national authority for Guarantee of Origin certificates is OKTE - Short-term electricity Market Operator (OKTE, 2021). The Guarantee of origin is issued for the amount of electricity corresponding to 1 MWh of electricity supplied to the system and is active for a period of 12 months from the date of production. In this period it is possible to trade and/or transfer it between account holders. Guarantees of origin that enter the auction will be automatically generated three months after the production of electricity after the final settlement. Only guarantees of origin of electricity from RES will be included in the process of automatic generation, last such auction happened August 6, 2021 Tariff for issuing a guarantee of origin is 0,005 €/MWh, annual fixed account management fee is 120 EUR (OKTE, 2021).

CONCLUSION

Slovakia is facing number of challenges associated both with ensuring its energy security, mainly connected to diversification of its energy sources (gas, nuclear fuel, crude oil) but is also bound to fulfill its international commitments associated with decarbonization and reduction of CO2 production and development of the circular economy. Despite a relative low-carbon electricity production base (mainly nuclear and water power plants), it still lacks sufficient investments into the renewable energy production base that would both diversify existing production assets but would also further improve our position as low emission economy. Recent spikes in the energy prices, especially in Europe, are creating further incentives for countries and electricity producer to invest into localized, renewable sources that would decrease dependency on international commodity prices, would provide a more stabile base for the industry and most importantly would provide the country with means to meet its international environmental obligations.

Green hydrogen production (Slovakia can also further extend production of Blue Hydrogen from nuclear power plants once Mochove 3.4 units will be put into operation in 2022 and 2024

https://doi.org/10.18267/pr.2022.kre.2454.11

and Slovakia will become a net exporter of electricity) provides an opportunity to invest into a diversified, flexible energy carrier infrastructure ideal for both industry as well as transportation. Implementation of the Generation EU (Plán obnovy, 2019) plan provides a significant milestone that can enable investments into building the complete infrastructure of hydrogen generation (e.g. planned JESS company at Bohunice site – solar park combined with hydrogen electrolyser) , storage and delivery with involvement of industry, research capacities of Slovak universities, municipalities and government. Analyses shows that in the years 2020-2030 around 20 million EUR can be retained annually in the domestic economy as value added in the low scenario, and over 50 million EUR in the high scenario (value added is defined here as sum of wages for employees, margins for companies and taxes). If the indirect effects induced by the investment in and operation of hydrogen technologies are also taken into account, around 60 million EUR (low scenario) and over 160 million EUR (high scenario) of value added can be created in the Slovak economy annually, which is almost equivalent to the amount of annual investment needed. Most of this value added is expected to be created by building and operating dedicated renewable electricity sources and electrolysers for hydrogen production, and by building and operating hydrogen transport networks and storage facilities. The hydrogen-related expenditures in 2020-2030 are estimated to generate employment of 360 – 1 000 direct jobs (in production and operations & maintenance) and contribute to a further 920 – 2 600 indirectly related jobs, depending on the scenario.

ACKNOWLEDGEMENT

This paper is output of the project VEGA 1/0046/20 *„Consumer attitude towards electromobility in the automotive market in the Slovak Republic."*

REFERENCES

Biebuyck, B. (2019). FCH-JU making hydrogen and fuel cells an everyday reality. Fuel Cells and Hydrogen Joint Undertaking. Retrieved 03 December 2021, from https://bit.ly/3kgTJOE.

Collins, H. (2021). World's largest green-hydrogen plant inaugurated in Canada by Air Liquide. Retrieved 10 December 2021, from https://www.rechargenews.com/transition/worlds-largest-green-hydrogen-plant-inaugurated-in-canada-by-air-liquide/2-1-952085

Energie-Park Mainz (2021). Energy. Retrieved 10 December 2021, from https://www.energiepark-mainz.de/en/energy/

European Commission (2018). A clean planet for all: A European Long-term Strategic Vision for a prosperous, Modern, Competitive and Climate neutral Economy. Retrieved 03 December 2020, from https://ec.europa.eu/clima/eu-action/climate-strategies-targets/2050-long-term-strategy_en

European Commission (2020). Europe's moment: Repair and prepare for the next generation. Retrieved 10 December 2021, from https://ec.europa.eu/commission/presscorner/detail/en/ip_20_940

European Commission (2021). A European Green Deal. Retrieved 03 December 2021, from https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

FCH Slovakia (2020). Opportunities for Hydrogen Energy Technologies Considering the National Energy & Climate Plans. Retrieved 10 December 2021, from https://www.fch.europa.eu/sites/default/files/file_attach/Brochure%20FCH%20Slovakia%20%28ID%209474177%29.pdf

https://doi.org/10.18267/pr.2022.kre.2454.11

Heid, B. et.al. (2017). Hydrogen: The next wave for electric Vehicles? Retrieved 10 December, from https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/hydrogen-the-next-wave-for-electric-vehicles

Hydrogen Council (2017). Hydrogen, Scaling up. Retrieved 10 December, from https://hydrogencouncil.com/en/study-hydrogen-scaling-up/

IEA (2019). World Energy Outlook. Retrieved 10 December, 2021, from https://iea.blob.core.windows.net/assets/98909c1b-aabc-4797-9926-35307b418cdb/WEO2019-free.pdf

Kakoulaki, G. et al. (2020). Green hydrogen in Europe – A regional assessment: Substituting existing production with electrolysis powered by renewables. Energy conversion and management, 228, 2. ISSN: 0196-8904. Doi: 10.1016/j.enconman.2020.113649

KYOS (2021). What is a green certificate? Retrieved 10 December 2021, from https://www.kyos.com/faq/green-certificate/

Maisonnier, G. et al. (2007) European hydrogen infrastructure atlas and Industrial excess hydrogen analysis. Part II. Industrial distribution infrastructure. In: Roads2HyCom. p. 10. Retrieved 10 December , 2021, from https://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.477.3069

OKTE (2021). Guarantees of origin. Retrieved 10 December 2021, from https://www.okte.sk/en/guarantees-of-origin/

Plán obnovy. (2021). Retrieved 10 December 2021, from https://www.planobnovy.sk/kompletny-plan-obnovy/

RECS (2021). Understanding EAC markets. Retrieved 10 December 2021, from https://recs.org/public-information/#Understanding%20EAC%20markets

Silveira, José Luz. (2017). Sustainable Hydrogen Production Processes : Energy, Economic and Ecological Issues. Ed. José Luz Silveira. Switzerland: Springer, ISBN : 9783319416168

Sharma, Surbhi et al. (2020). Waste-to-Energy Nexus for Circular Economy and Environmental Protection: Recent Trends in Hydrogen Energy. The Science of the total environment 713 136633–136633.

TASR (2020). ANALÝZA: Využitie vodíka pomôže znížiť emisie aj rozvinúť priemysel. Retrieved 10 December 2021, from https://www.teraz.sk/ekonomika/analyza-vyuzitie-vodika-pomoze-zn/512393-clanok.html

IRENA (2018). Hydrogen from renewable Sources. Retrieved October 9, 2021, from https://www.irena.org/-/media/files/irena/agency/publication/2018/sep/irena_hydrogen_from_renewable_power_2018.pdf

Wang, A. et. al. (2021). Analysing future demand,supply, and transport of hydrogen. Retrieved 03 December 2020, from https://gasforclimate2050.eu/wp-content/uploads/2021/06/EHB_Analysing-the-future-demand-supply-and-transport-of-hydrogen_June-2021.pdf

https://doi.org/10.18267/pr.2022.kre.2454.11

The Attractiveness of Weekend Housing and Holiday Cottages as a Trend in Slovakia and Surrounding Countries Impacts Real Estate Markets

Michal Vávra
ORCID iD: 0000-0001-5932-8420
michal.vavra@euba.sk
University of Economics in Bratislava, Faculty of Commerce, Department of Marketing, Dolnozemská cesta 1, 852 35 Bratislava, Slovak Republic

Abstract: During the coronavirus pandemic, holiday properties increased significantly in all regions of the Czech Republic and the Slovak Republic. The aim of the paper is to examine the current state of recreational real estate in the Czech and Slovak areas with the following definition of the intensity of the influence of decisive factors in the issue of recreational real estate by consumers. The research used the primary research to determine the influencing factors in recreational real estate for Slovak consumers. The author also used secondary research of professional literature and advertising or statistical portals. The output of the article is an analysed state of this type of real estate in Slovakia and the Czech Republic. In 2020, we recorded an average price increase of 30% in the Slovak Republic and 12% in the Czech Republic. We recorded a significant increase in 2021; compared to 2019, the average price level in the Slovak Republic increased by up to 73%. In the Czech Republic, the price level increased by 119%. At the same time, the author analysed the current moods of Slovak respondents in deciding on the purchase of the recreational real estate.

Keywords: Real estate market, Recreational property, Impact factors

JEL Classification codes: O18, R23, R33

INTRODUCTION

Increased interest in recreational real estate, its low current supply, and the change in consumer values in the area have seen a phenomenon that has long persisted in residential real estate. With the arrival of the pandemic situation in our conditions, with the subsequent adoption of restrictive measures, a strong motivator has been created within consumers' decision-making process in the field of recreational real estate. To more options or activities, ways were sought to meet the personal ambitions and goals of consumers within the cultural and recreational opportunities. The very attractiveness of real estate depends on meeting the consumer's internal and external preferences. For this reason, the article focuses on the factors and expectations that influence the consumer when deciding to purchase a vacancy property. The aim of the paper is to examine the current state of recreational real estate in the Czech and Slovak areas with the following definition of the intensity of the influence of decisive factors in the issue of recreational real estate by consumers. Subsequently, we will specify the interconnectedness of influencing factors in consumer decision-making in these regions. To achieve the goal, the author will analyse appropriately selected professional literature, statistical portals, and primary research. To fulfil the goal, the author uses the method of hypothesis and scientific questions. The output of the paper will be formulated responses to the results of a survey aimed at examining the factors, current expectations, as well as the intensity of the impact of respondents' expectations on the decision-making process in the field of recreational real estate.

https://doi.org/10.18267/pr.2022.kre.2454.12

1. LITERATURE REVIEW

To further elaborate on the researched issue, it is first necessary to define recreational real estate. We define recreational real estate in Slovak legislation according to Act no. 50/1976 Coll. on Spatial Planning and Building Regulations (Building Act). This law regulates recreational real estate by Section 139b as a simple building. According to the requirements of § 139b par. 1 letter b) of the Building Act, facilities for individual recreation are included in the category of simple buildings, while the law does not set any specific restrictions in terms of built-up area, floor, or height. For this reason, we will be based on the definition of recreational real estate in the financial and insurance segment in the Slovak Republic. We characterize recreational real estate as real estate used for recreational purposes while it is inhabited for less than 183 days a year (Kooperativa, 2021). We include cottages, log cabins, and apartments in this area. Recreational real estate, with its socio-cultural value, ecological or socio-economic aspect, has become a strong aspect in developing peripheral parts of towns or villages. This created the conditions for transforming the previously socially unused area into a tourist and recreational area to ensure its sustainable growth. The author Kononova (2015) characterizes the tourist and recreational area as: *"an area with natural, historical, the cultural potential for creating requirements for a healthy lifestyle and maintaining sustainable development through ecological health and safety in production, having the status of protected and maintained habitat, favorably affecting real estate development"*.

In recent decades, holiday properties have seen a steady increase in popularity among the population. The resulting popularity significantly supports local tourism, thus providing the city with income, employment, and development support (Taugbøl et al., 2001). This phenomenon was investigated in his study by Ericsson (2010), who divided economic aspects into three categories:

- Economic effect on the municipality,
- Local economic effect,
- Impact on industrial and rural development.

We can summarize the economic effect on two factors. The first factor focuses on the revenue from local taxes for the municipality. The following factor describes the used relations of tax revenue for the city (restoration of local civic amenities, infrastructure, and communal services). The regional economic effect is characterized by the inflow of funds into a particular community in the construction, furnishing, and aftercare of real estate. The last factor characterizes the relationship of the brought financial capital with the development of the local area, the offer of goods and services related to recreational real estate. These three categories are also strongly influenced by the location of the recreational area, the distance of the property from the owner's home, and the very availability of activities and services (Tiller, 2020). The main localization factor of recreational housing is the attractiveness of the environment and the landscape, which plays an important role as a background for people's recreational activities. Rural areas satisfy this demand and have undergone a long transformation into the principal recreational function (Kadlecová & Fialová, 2010). The distance of holiday homeowners from home ensures a significant transfer of private capital from the city to the local region, increasing income for the entire region. The recreational real estate as an economic tool for raising funds through rental also contributes to this aspect of development (Colwell et al., 2008). Recreational property owners have become an economically important part of villages and towns, and their activities help in the subsequent development of the whole area. This development comes with several types of environmental challenges. One of the most well-known ecological challenges is land use itself, which may conflict with the conservation interests of the area (Ellingsen & Arnesen, 2018). The land on which the property stands has conflicts with the possibility of carrying out agricultural activities

https://doi.org/10.18267/pr.2022.kre.2454.12

and raising livestock. Expanding the property with small outbuildings helps to increase the environmental burden through increased noise, waste, and used foreign materials. Increasing demand for this type of real estate has also increased the load on the natural environment. We can see this in more detail in the cottage area. The required increased standards, the size of the cottage itself, or a possible reconstruction of the cottage came into conflict with natural possibilities. The growing human factor has influenced the creation of roads, electricity, and access to water in the region. These activities increase the environmental burden, with more than 90% of people visiting their cottages using their cars, which puts high pressure on infrastructure and pollution (Tiller, 2020).

The expected demand for housing depends not only on the ability of individuals but also on various other attributes or factors associated with the housing. These factors must meet the needs of the consumer. For economic and some social reasons, it is often the case that consumers define the most important factors they expect from their homes. Sufficient space is created to understand consumer behavior in a given issue. Understanding the factors and expectations influencing decision-making in residential real estate requires a comprehensive approach and cooperation between a wide range of social sciences. A more comprehensive understanding of consumer needs in holiday housing is needed. The decision-making process in the issue of recreational housing is influenced by internal and external factors, personal preferences, or the expectations of the consumer himself. Urban development, culture, and tradition are strong attributes to housing decisions. Urban development brings the necessary value and experience for the inhabitants. This creates an effect of "interest" for investors, companies, the state administration, and the residents themselves. Applying this effect makes a strong causality linked to population migration. By improving the conditions of cities and strong migration, space is created to develop the city itself in terms of its urbanization, infrastructure, or services themselves. A city that meets the attributes of interest, offers a sufficient number of jobs, has solid cultural conditions, a long tradition or provides a wide range of services is becoming the most common reason for population migration. The perception of the value of recreational housing by different groups of consumers has become an essential part of the development of society. Therefore, it is necessary to address this issue.

2. METHODOLOGY

The aim of the paper is to examine the current state of recreational real estate in the Czech and Slovak areas with the following definition of the intensity of the influence of decisive factors in the issue of recreational real estate by consumers. To achieve the goal of the paper, it was necessary to use various background materials consisting mainly of studying suitably selected professional domestic and foreign literature. We summarized the acquired knowledge by the following methods and logically arranged it. The paper also used selected methods using the principles of logical thinking such as abstraction, comparison, analysis, synthesis. To process the knowledge base, which consists of domestic and foreign sources, we used the method of abstraction to set aside the most important facts. The method of synthesis revealed the interrelationships between the various areas of research. Using the comparison method, the individual data were evaluated together with the respective sexes. Mathematical and statistical methods were used to process the results of the questionnaire. In this paper, the author used the method of analysis and synthesis to obtain and process the necessary statistical data. For better understanding, these statistics were presented graphically in the form of tables and graphs. The paper contains 4 tables, 4 graphs and 1 figure.

A significant part of the paper consists of primary data, which we obtained based on the implementation of the survey carried out by a research tool - a standardized questionnaire. The questionnaire was divided into four separate parts. The questionnaire itself consisted of

https://doi.org/10.18267/pr.2022.kre.2454.12

18 questions, of which 6 classification questions, 3 scale questions, 3 dichotomous questions, 3 polynomial questions, 2 multiple-choice questions and 1 selective question. The questionnaire was created and distributed in electronic form using the Google form to obtain as many respondents as possible. It was distributed on the social network Facebook in groups focused on recreational real estate. The survey involved 120 respondents in November. The respondents were fans of Facebook groups focused on recreational real estate and related categories. We used the randomisation technique of getting the respondents from these Facebook groups. With Facebook status, we encouraged people who own recreational real estate to answer and people who will buy recreational real estate soon. General and logical research methods processed these data. For a better understanding of the research participants, we will define the individual demographic characteristics of the respondents in the following table. An overview of demographic variables is shown in Table 1.

Tab. 1 Demographic variables of respondents

Gender:		**Age:**		**Residence:**		**Working status:**	
Female	51.7%	<20	4.2%	Female	51.7%	<20	4.2%
Male	49.3%	20-29	44.2%	Male	49.3%	20-29	44.2%
		30-39	20%	Trenčín region	6%	30-39	20%
		40-49	9.2%	Nitra region	5%	40-49	9.2%
		50-59	13.3%	Banskabystrica region	5%	50-59	13.3%
		60-69	8.3%	Žilina region	3%	60-69	8.3%
		70>	0.8%	Prešov region	10%	70>	0.8%
				Košice region	11%		

Educational attainment:		**Average monthly income:**	
primary education	-	0 - 400,- Eur	17.5%
secondary education with the graduation	35%	401 – 800,- Eur	14.1%
secondary education without the graduation	0.8%	801 - 1200,- Eur	20.8%
higher education i. degree	10.8%	1201 - 1600,- Eur	24.2%
higher education ii. degree	50.1%	1601 – 2000,- Eur	17.5%
higher education iii. degree	3.3%	over 2001,- Eur	5.9%

Source: Own calculations based on data from primary research (2021)

In the first part of the research, respondents were asked using a polytomy and question about their relationship in recreational real estate. The survey involved 63 respondents who own recreational real estate. Of the total number, this represents 52.5% of all respondents. From the point of view of gender, female respondents had the upper hand, whose total number of owners was up to 74.6%. In the second part of the research, respondents were asked using multiple choice questions and polynomial questions on defined factors influencing decision-making in the issue of recreational housing, their intensity of influence and preferred housing options within recreational real estate. These research factors were determined based on analysis and synthesis by the author of the paper. At the same time, the respondents were asked about their mutual preferences of selected factors that are more decisive in the issue of recreational housing. In simplicity, it can be stated that a higher score indicates a higher intensity of the influence of the factor when deciding on accommodation. In the third part of the research, we used three dichotomous questions, one Likert scale and one polynomial closed question to ask about the perception of the current state of the real estate market in Slovakia. In our chosen case, we record a unified phenomenon, where 40% of respondents negatively perceive the current real estate market. The recent real estate development is positively perceived by 17.5% of respondents. Regarding the dichotomous question of current

https://doi.org/10.18267/pr.2022.kre.2454.12

real estate legislation perception, we found that 19.17% of respondents perceive it sufficiently. From the point of view of gender, this is perceived by 61% of female respondents and 39% of male respondents. Using a polynomial closed question, we asked respondents about their active monitoring of the current real estate market. From the results, we recorded a phenomenon where 55.8% of respondents regularly monitor the real estate market in Slovakia. Female respondents tend to favour regular monitoring of the real estate market. On average, 61.3% of female respondents regularly monitor the real estate market. From the point of view of male respondents, this phenomenon represents 50% of respondents who regularly watch the real estate market.

The author of the article focused on answering the chosen and research questions (RQ):

RQ1: How did the demand for recreational real estate change during the COVID-19 pandemic in Slovakia and the Czech Republic?

RQ2: What factors most often influence consumers in solving the problem of recreational real estate in the defined regions of the Slovak Republic?

The output of the paper will be formulated responses to the results of a survey aimed at examining the factors, current expectations, as well as the intensity of the impact of respondents' expectations on the decision-making process in the field of recreational real estate.

All the findings led the author to a deeper analysis of the measurement of consumer behaviour in the field of recreational real estate using a comparative, systematic analysis of scientific literature and statistical data to determine the interrelationships of the researched issues.

3. RESULTS AND DISCUSSION

3.1 Evaluation of researched research question

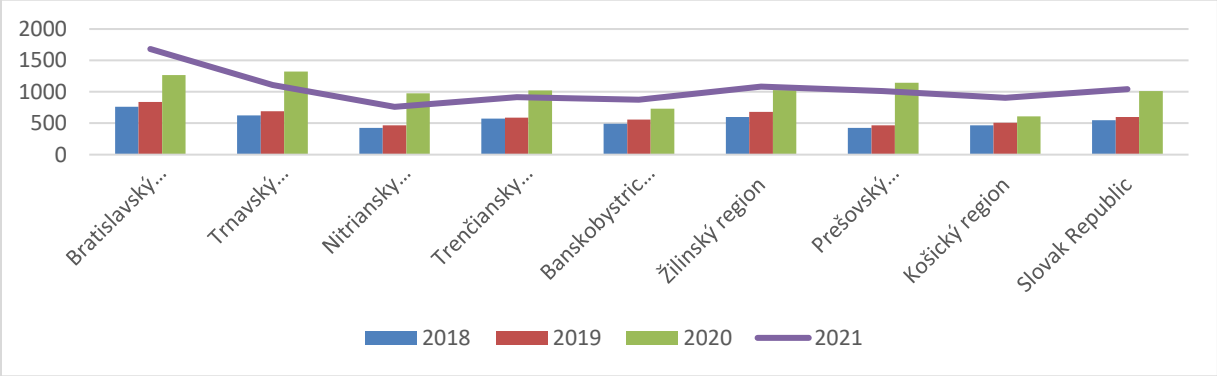
RQ1: How did the demand for recreational real estate change during the COVID-19 pandemic in Slovakia and the Czech Republic?

Although the pandemic has hit most economic areas economically, we have seen a phenomenon in which, despite the deteriorating social, economic, and epidemiological situation, the price level of the real estate market has not changed. This trend has not changed after many years of regular growth due to the pandemic. In some cases, we have experienced a momentary stagnation - rental property. However, we recorded a significantly higher demand for some types of real estate than before the pandemic. We can include recreational real estate among this type of real estate. Recreational real estate, by its nature, function, possibilities, and situation, created an effect of interest, which increased the demand of those interested in buying. The deteriorating epidemiological situation has resulted in restrictive steps by world governments to protect the public health of citizens. Several general activities and assemblies have been banned from seeing if this has led to restrictions on movement. These situations have created the necessary motivators for purchasing recreational real estate, which by their nature provide sufficient space for self-realisation. In several cases, holiday properties are in small villages close to nature. This created opportunities for residents of larger cities who were looking for a necessary place to meet their needs with limited movement or travel abroad. These facts helped to increase demand, which was reflected in the price levels for this type of real estate. We recorded the mentioned phenomena in Slovakia and the Czech Republic. We presented them in graphs and tables for their closer characterisation while examining them in 2018 - 2021. In the following graph 1 we will describe the average price per m2 in the mentioned period for recreational real estate in the Slovak Republic. We will

https://doi.org/10.18267/pr.2022.kre.2454.12

examine the mentioned price level in individual self-governing regions and the average value at the national level. The price level data were taken from the statistics of the largest real estate advertising portal in the Slovak area - nehnutel'nosti.sk.

Graph 1 Average price per m2 of recreational real estate in the period 2018 - 2021 in the Slovak Republic



Source: own processing based on Nehnutel'nosti.sk, 2021

The data expressed in the graph 1 confirm the examined phenomenon of a significant rise in the price level for recreational real estate during the first period of the pandemic. Between 2018 and 2019, the price level of recreational real estate in the Slovak Republic increased on average by 9% to 547€ per m^2. In the period under review, the price level in the Žilina and Banská Bystrica regions increased most significantly by 12%. The price level in the Trenčín Region increased the least by 2.4%. Comparing the price level between 2019 and 2020, we recorded a nationwide increase of 41%. The average absolute value reached the level of 1013€ per m^2. The Prešov Region grew by 59% to the level of 1147€ m^2. The Nitra region also recorded a significant increase of 52% or the Trnava region by 48%. The smallest increase in recreational real estate price level in the observed period was recorded in the Košice Region when we recorded an average year-on-year increase of 17%. Compared to 2018, we recorded a more than 100% rise in the Trnava, Nitra, Trenčín and Prešov regions. This phenomenon was most pronounced in the Prešov Region when the average increase in the price level for recreational real estate was 269% compared to 2018. The national average increase was 47%. In 2021, we recorded a continuous year-on-year nationwide increase of 2.9%. The year-on-year price level in the Bratislava Region increased the most by 24.6% to 1682€ m^2. In the Trnava, Nitra, Trenčín and Prešov regions, on the other hand, we recorded a continuous year-on-year decline in the price level by 15%.

To examine the selected issue in more detail, in the following table 2 we expressed the average price in absolute value for recreational real estate in individual regions in 2018-2021. We took over the data for the period 2018 - 2019 from the statistics of the real estate advertising portal nehnutelnosti.sk. The data for 2020 were supplemented based on the assumption of the President of the National Association of Real Estate Agents of Slovakia (NARKS) Ján Palenčár on the growth of recreational real estate prices for 2020 by approximately 30% (NARKS, 2021). For the year 2021, we took over the data based on the statistics of the advertising real estate portal nehnutel'nosti.sk.

https://doi.org/10.18267/pr.2022.kre.2454.12

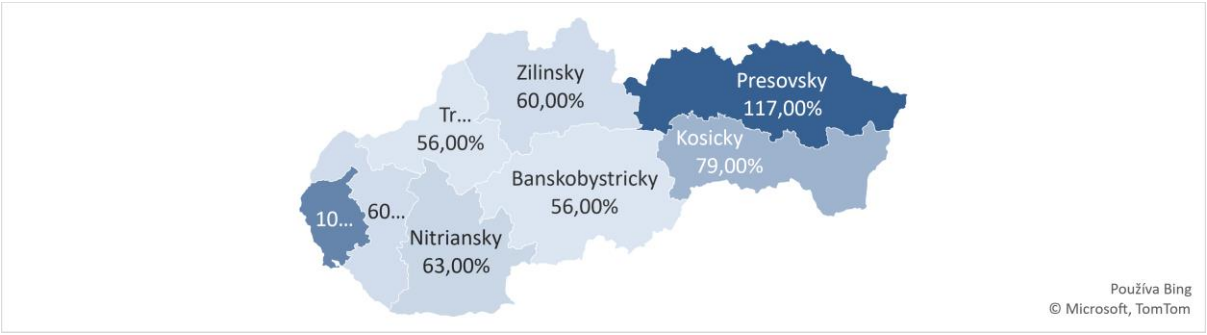
Tab. 2 Development of recreational real estate prices in € in the period 2018 - 2021 in the Slovak Republic

Region / Year	2018	2019	2020	19/20	2021
Bratislava region	57 000	63 000	81 900	+30 %	126 150
Trnava region	47 000	52 000	67 600	+30 %	83 025
Nitra region	32 000	35 000	45 500	+30 %	57 075
Trenčín region	43 000	44 000	57 200	+30 %	68 475
Bánskabystrica region	37 000	42 000	54 600	+30 %	65 700
Žilina region	45 000	51 000	66 300	+30 %	81 375
Prešov region	32 000	35 000	45 500	+30 %	75 975
Košice region	35 000	38 000	49 400	+30 %	67 950
Slovak Republic	41 000	45 000	58 500	+30 %	78 215

Source: own processing based on Nehnuteľnosti.sk, NARKS, 2021

Recreational property prices recorded a regular growth trend until 2020. In 2020, this trend will become even more pronounced. In 2020, we expected an increase of 30% compared to the previous year, 2019. In 2019, recreational real estate prices increased by 9% year on year. The average price of holiday property was 45 000€. At the same time, we recorded above-average prices in the Bratislava, Trnava and Žilina regions. The highest average price for recreational real estate was recorded in the Bratislava region at the level of 63 000€. In the Trnava region, it was at the level of 52 000€, and in the Žilina region at the level of 51 000€. Considering the assumption of a price increase of 30% in 2020, the average price of recreational real estate was at the level of 58 €500. Based on this assumption, the order of the regions does not change and thus the prices in the Bratislava region increased the most to the level of 81 900€. Subsequently, the Trnava region continues at the level of 67 600€ and the Žilina region at the level of 66 300€. During the period under review in 2021, we recorded a continuous nationwide year-on-year increase of 25% to an average level of 78 215€. We recorded the most significant increase in the Prešov Region by 40% when the average value of the recreational real estate is at the level of 75 975€. We also recorded a significant increase in the Bratislava Region, where 35% was recorded, representing the current average value of recreational real estate at 126 150€. Compared to 2019, this is an increase of 100%. We recorded the highest growth in the Prešov Region by 108%, representing an absolute value of 75 975€.For a better graphic highlight of the increase in the price level of recreational real estate in the Slovak Republic during the pandemic period, we can see this increase in the graph 2.

Graph 2 % change in the price level of recreational real estate in the Slovak Republic between 2019 and 2021

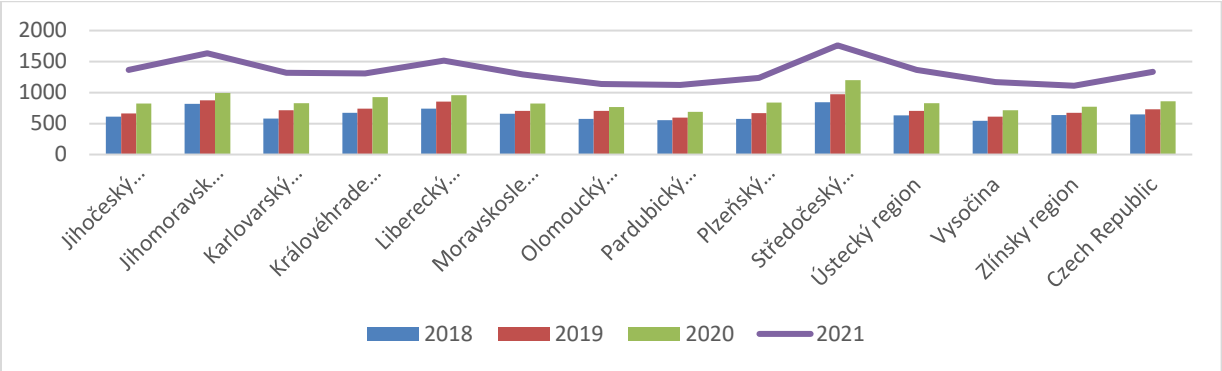


Source: own processing based on Nehnuteľnosti.sk, NARKS, 2021

https://doi.org/10.18267/pr.2022.kre.2454.12

The Czech Republic recorded a similarly high increase in bidders, which directly affected the price level. It is this effect of increasing the price level per m2 that we have expressed in the following graph 3. Due to historical and geographical similarities, we also examined the mentioned phenomena in the Czech Republic. We will examine the mentioned price level in individual self-governing regions and the average value at the national level. The data showing the price level were taken from the statistics of the largest real estate advertising portal in the Czech area - sreality.cz. Due to the differences in the monetary system, the data obtained were converted using the currency calculator of the National Bank of Slovakia, according to the valid exchange rate in the given period.

Graph 3 Average price * per m² of recreational real estate in the period 2018 - 2021 in the Czech Republic



Source: own processing based on data from sreality.cz; NBS, 2021
* prices were converted from Czech crowns to euros using the NBS currency calculator, according to the exchange rate in individual years / months

The data expressed in the graph 3 confirm the examined phenomenon of a significant rise in the price level for recreational real estate during the first period of the pandemic. Between 2018 and 2019, the price level of recreational real estate in the Czech Republic increased on average by 11% to 729€ per m2. In the period under review, the price level in the Karlovy Vary and Olomouc regions increased the most by 18%. The price level in the Zlín Region increased the least by 5%. Comparing the price level between 2019 and 2020, we recorded a nationwide increase of 15%. The average absolute value reached the level of 858€ per m². The Pilsen Region grew the most, by 21% to 840€ per m². The South Bohemian and Hradec Králové regions also recorded a significant increase by 20%. The Central Bohemian Region recorded a year-on-year increase of 19%. The smallest increase in recreational real estate price level in the observed period was recorded in the Olomouc Region when we recorded an average year-on-year increase of 8%. Compared to 2018, we recorded the most significant increase in the Pilsen Region by 32%. In the Karlovy Vary and Central Bohemia regions, there was an increase of 30% compared to 2018. The nationwide increase in recreational real estate compared to 2018 was at the level of 24%. The Hradec Králové Region (27%), the South Bohemian Region (26%) and the Olomouc Region (25%) also performed above average. In the first three quarters of 2021, we recorded a continuous year-on-year significant increase of 36%. Vysočina (39%) and Ústecký (39%) got above the mentioned average limit. Pardubický (39%), Moravskoslezský (36%), Liberecký (37%), Karlovarský (37%), Jihomoravský (39%) and Jihočeský region (40%). The year-on-year price level in the Bratislava Region increased the most by 40% to 1364€ per m². In the Central Bohemian Region, we recorded an increase of 32%, while in the period under review the price level was at the level of 1761€ per m².

To examine the selected issue in more detail, in the following table 3 we expressed the average price in absolute value for recreational real estate in individual regions of the Czech Republic

https://doi.org/10.18267/pr.2022.kre.2454.12

in the period 2018 - 2021. We obtained data for the mentioned period based on RE / MAX Czech Republic data. Due to the non-uniform common currency between the surveyed countries, the prices found were converted by the National Bank of Slovakia's currency calculator, according to the surveyed periods' exchange rate.

Tab. 3 Average price * of recreational real estate in € in the period 2018 - 2021 in the Czech Republic

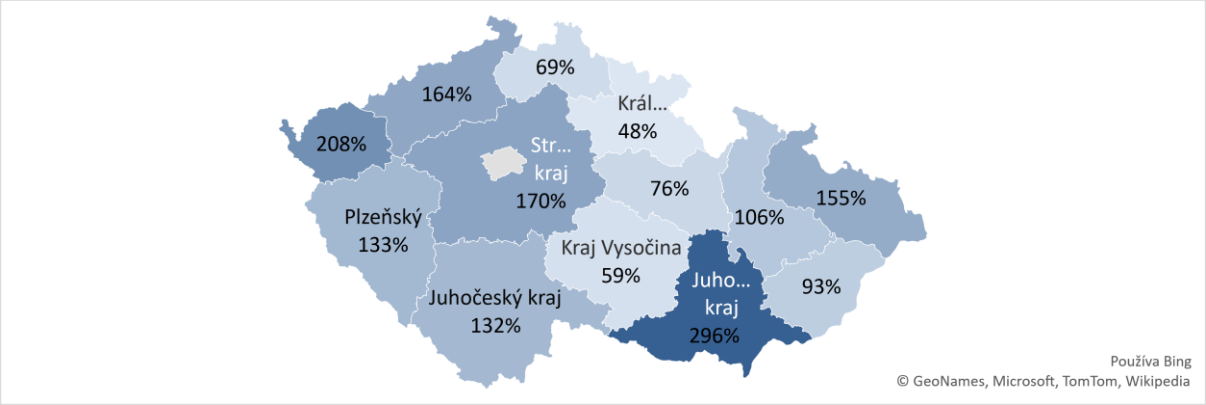
Region / Year	2018	2019	2020	19/20	2021
Jihočeský region	39 451	45 519	53 006	+14 %	105 417
Jihomoravský region	25 988	31 397	31 841	+1 %	124 421
Karlovarský region	25 515	32 110	44 052	+27 %	99 016
Královéhradecký region	51 065	67 419	70 404	+4 %	99 575
Liberecký region	67 010	69 539	76 164	+9 %	117 528
Moravskoslezský region	38 495	38 774	45 651	+15 %	98 831
Olomoucký region	38 205	46 593	51 906	+10 %	95 939
Pardubický region	37 424	47 312	56 571	+16 %	83 136
Plzeňský region	42 741	43 236	50 971	+15 %	100 931
Středočeský region	73 269	52 345	64 031	+18 %	141 304
Ústecký region	34 077	39 251	48 095	+18 %	103 640
Vysočina	34 511	45 456	51 091	+11 %	87 626
Zlínský region	56 732	53 950	53 473	-1 %	85 946
Czech Republic	45 515	47 146	53 635	+12 %	103 332

Source: own processing based on data from RE / MAX Czech Republic; NBS, 2021
* prices were converted from Czech crowns to euros using the NBS currency calculator, according to the exchange rate in individual years / months

Recreational real estate prices recorded a regular growth trend until 2020. Only in two (Central Bohemian and Zlín) regions did we record a negative price growth trend. In 2020, this positive trend will become even more pronounced. In 2020, the average price of recreational real estate increased by 27% to the price level of 44 052€. We recorded a significant increase in the Central Bohemian and Ústí nad Labem regions by 18%. In the Central Bohemian Region, we reached the level of 64 031€, but this was still a decrease of 13% compared to 2018. In contrast, in the Ústí nad Labem Region, it was an increase of 41% compared to 2018 to an average price level of 48 095€. We recorded a negative trend in 2020 only in the Zlín Region when a decrease in the average price by 1% to an average price value of 53 473€ was recorded. The nationwide year-on-year increase represented a price level of 53 635€, an increase of 12%. We recorded a significant jump in the current year 2021 for the first three quarters. Interim values are characterized by a high increase compared to previous years. The year-on-year continuous nationwide increase is at the level of 93%, which represents a price level of 103 332€. We recorded the most significant year-on-year increase in the South Moravian Region when prices increased by 291% to 124 421€. We recorded a very substantial increase in the Karlovy Vary (125%), Moravian-Silesian (116%), Central Bohemia (121%) and Ústí nad Labem (115%) regions. The most significant increase compared to 2019 was recorded in the South Moravian Region, when the average price level increased by 296% to 124 421€. We also recorded a significant increase in the Karlovy Vary region by 208% to 99 016€.For a better graphic highlight of the increase in the price level of recreational real estate in the Czech Republic during the pandemic period, we can see this increase in the graph 4.

https://doi.org/10.18267/pr.2022.kre.2454.12

Graph 4 % change in the price level of recreational real estate in the Czech Republic between 2019 and 2021



Source: own processing based on data from RE / MAX Czech Republic; NBS, 2021

RQ2: What factors most often influence consumers in solving the problem of recreational real estate in the defined regions of the Slovak Republic?

Recreational real estate is a specific segment in real estate, whether due to the legislative, technical, or the very cultural nature. For this reason, this perception is also specific from the consumer's point of view, and it cannot be united. The consumer's decision-making process is made up of his internal and external factors, which are specific to him. Nevertheless, we can find a breakthrough in the field of recreational real estate. In his research, the author focused on the most common influencing factors determining the purchase of the recreational real estate. The factors were chosen based on the author's personal research in the field of housing in the Slovak Republic, while only the most frequent ones were singled out. The intensity of these factors was reported using a polynomial closed-ended question. For a better understanding, the factors were shown in the table 4. In the table 4 we dealt with individual factors about the selected variables - average measured value, standard deviation, or Cronbach's alpha with emphasis on the demographic variable - gender.

https://doi.org/10.18267/pr.2022.kre.2454.12

Tab. 4 Statistical parameters of selected factors by gender

Gender	Female / Male			
Factors / Variables	**Average measured value**		**Standard deviation**	
Real estate price	3.90	**4.10**	0.78	0.87
Property location	4.35	**4.79**	0.36	0.24
Co-ownership of the land	3.06	**3.29**	1.37	2.67
Property condition	**4.08**	3.69	0.57	1.34
Property equipment	**2.87**	2.17	1.69	1.20
Connection to engineering networks	**3.69**	3.33	0.97	1.42
Human factor (partner, parents, siblings ...)	**3.05**	2.33	1.46	1.07
Environmental of real estate	**2.60**	1.36	1.20	0.73
Aesthetic side of real estate	**3.56**	2.60	1.04	1.05
View from the property (nature, tourist attractions)	3.53	**4.10**	1.70	0.73
Civic amenities (possibilities offered by the municipality for recreational activities, infrastructure ...)	**3.19**	2.45	1.37	0.81
Land size	**3.37**	3.28	1.45	2.06
Land type (flat, hilly ...)	2.82	**3.26**	1.82	1.91
Soil type (clayey, sandy…)	**2.31**	2.19	1.56	0.58
Personal reasons (wage ...)	**3.06**	2.38	1.80	0.84
Used material for real estate	2.61	**3.09**	1.45	0.96
Residents of the regions (neighbourhood)	2.58	**3.57**	1.76	1.62
Property environment (secluded property by the forest)	3.60	**4.09**	1.56	0.78
Long-term land contract and the right of way	3.16	**3.36**	2.33	2.45
Availability by car	**3.89**	3.47	1.64	1.69
Other (Land settlement)	0	**1**	0	0

Legend: * The closed polynomial question used selects the intensity of the influence (1 = strongly disagree, 5 = strongly agree)

Source: Own calculations based on data from primary research (2021)

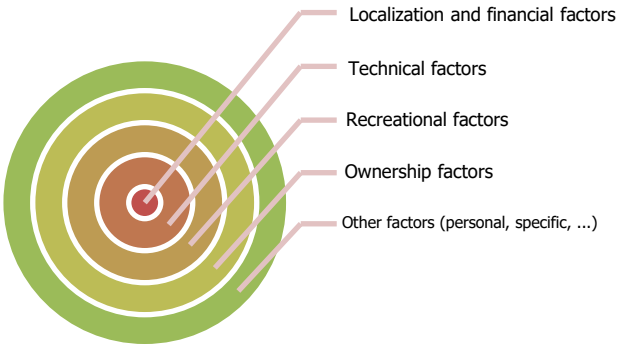
From the data presented in the table 4, we can record respondents' similar perceptions of some factors and differences. The strongest factor identified by both factors is the real estate location factor. This factor was strongly positively perceived by male respondents when its average measured value was at the level of 4.79 and female respondents at the level of 4.35 respondents. Strong positive factors can also include the price, condition, outlook, and environment of the property. Among such factors, we can also have the factor of accessibility by car, which was perceived by more positive women in the average score of 3.89. For male respondents, this point difference reached an average value of 3.47. We noticed the most significant differences in the Environmental factor aspect of real estate, which generally gained a small degree of intensity of influence on consumer decisions.

Nevertheless, the average impact rate for female respondents was 2.60 and for male respondents 1.36. We also recorded high differences in the Aesthetic side of the real estate factor, which was perceived more positively by female respondents at the level of 3.56 than male respondents at 2.60. Male respondents perceived the factor of the region (neighbours) more positively, with male respondents sensing this factor more intensively in the average value of 3.57 and female respondents in the value of 2.58. We also recorded larger differences in personal reasons (salary), where the average measured value for female respondents was 3.06 and for male respondents 2.38. We also noted differences in the Civic Amenity factor favouring female respondents in score 3.19 and male respondents 2.45.

https://doi.org/10.18267/pr.2022.kre.2454.12

The understanding of influencing factors in consumer behaviour within recreational real estate in the conditions of the Slovak Republic is expressed by some similar features across the demographic variable - gender. However, we must consider that each region is specific in its possibilities, which also depend on consumer expectations and consumer behaviour. Nevertheless, after the information obtained, we can define a group of factors that are decisive in consumers' decision-making process in the Slovak Republic according to their level of importance. We have summarized these factors in the decision-making process using figure 1.

Fig. 1 Levels of the decision-making process of Slovak consumers in the issue of recreational real estate according to the nature of factors



Source: Authors' own processing based on data from primary and secondary research (2021)

The examined scheme expressed factors according to the discussed importance of the consumer's decision-making process in solving the issue of recreational real estate. These factors were arranged logically seldom, with the most important influencing factors being presented at the very centre of this scheme. Among the most marked decisive factors, which by their nature present financial and localization factors. These factors have gained a strong positive decision-making position among all respondents, while they are also generally known when dealing with real estate in local conditions. We recorded a strong representation of technical factors, while their intensity of influence differed from the specific region in the gender of respondents. The presented technical condition of recreational real estate is intensely individual, especially for this type of real estate. Due to strongly differing internal preferences, the technical condition of this type of real estate cannot be directly proportionally proportional. This is directly related to recreational, infrastructural possibilities, a strong attribute of the already presented personal preferential form of recreational activity. After understanding these factors, consumers focus on the legal side of real estate. In this species, we record several forms of combination of total ownership. Since, in addition to the direct purchase of the real estate, land under the real estate and co-ownership share on the relevant roads, in the conditions of the Slovak Republic, we primarily encounter a combined form of ownership as the buyer buys movable and leases land from the municipality on a long-term contract. On this basis, too, it has a material burden for the passage of vehicles on the relevant roads. Consequently, there are factors that we have classified as different due to their diversity, narrow personal preference, and time variability. Here we include the influences of the family, the immediate environment, various motivators, wishes and others.

https://doi.org/10.18267/pr.2022.kre.2454.12

CONCLUSION

The deteriorating epidemiological situation in the world and in our country has created several new trends and the health side of the community. We have seen a trend of buying holiday properties in several countries. This trend has been mainly supported by restrictive measures by world governments to reduce the mobility of the population to slow down the spread of the new coronavirus. Holiday properties have experienced their price boom similarly to residential properties across Europe. The aim of this paper was to examine the current state of recreational real estate in the Czech and Slovak areas with the following definition of the intensity of the influence of decisive factors in the issue of recreational real estate by consumers. The article pointed out the current demand trend in the field of recreational real estate, which has an impact on the increase in the prices of this commodity. On this basis, it was desirable to use the primary to define the influencing factors and their intensity in a closer investigation of this issue. Understand the factors that influence these consumers in the issue of recreational housing, which has also become a desirable topic in the private, public, and academic world. The necessary challenges are created, which, if properly understood, can be covered by a correctly set up marketing strategy. Practical knowledge in recreational housing forms the necessary basis for the future development of theoretical knowledge directly applicable in the future development of the community.

ACKNOWLEDGEMENT

This paper is output of the project VEGA 1/0587/19 Possibilities and perspectives of using marketing in the transition period to the circular economy in the Slovak Republic as a new business model.

REFERENCES

Akinyode, B. F., Khan, T. H., & Ahmad, A. S. B. H. (2015). Socio-economic factors in measuring the demand for residential neighbourhood in Nigeria. *Asian Social Science*, *11*(12), 235. https://doi.org/10.5539/ass.v11n12p235

Ceny na trhu - chata, chalupa Slovensko. (2021). Retrieved 6 December 2021, from https://tinyurl.com/2p8e3pt6

Colwell, P. F., Dehring, C. A., & Turnbull, G. K. (2008). Partial interests in recreational property. *The Journal of Real Estate Finance and Economics*, 37(1), 1-20. https://doi.org/10.1007/s11146-007-9063-5

Ellingsen, W., & Arnesen, T. (2018). Fritidsbebyggelse-fra byggesak til stedsutvikling. *Journal of Geography*, *63*(3), 154-165.

Ericsson, B., Arnesen, T., & Vorkinn, M. (2010). Ringvirkninger av fritidsbebyggelse. *ØF-rapport*, *3*, 2010.

Gajdoš P., Lalíková D. 1987: Formovanie sociálno-priestorových štruktúr v širšom zázemí veľkého mesta. In *Životné prostredie*, 1987, roč. XXI., č. 6

Gajdoš, P. Moravanská, K., 2020. Suburbanizácia v zázemí Bratislavy a jej hodnotenie z pohľadu obyvateľov Záhorie

Chalupa na prodej je „zlatý důl". . (2021). Retrieved 11 December 2021, from https://www.remax-czech.cz/blog/chalupa-na-prodej-je-zlaty-dul

https://doi.org/10.18267/pr.2022.kre.2454.12

Kadlecová, V., & Fialová, D. (2010). Recreational housing, a phenomenon significantly affecting rural areas. Moravian Geographical Reports, 18(1), 38-44.

Kononova, M. J. (2015, June). Geoecological marketing of tourist-recreational zones of cities territories. In ENVIRONMENT. TECHNOLOGIES. RESOURCES. Proceedings of the International Scientific and Practical Conference (Vol. 2, pp. 141-147).

KOOPERATIVA poisťovňa, a.s. – Poistenie nehnuteľnosti, domácnosti a zodpovednosti za škodu. (2021). Retrieved 18 December 2021, from https://www.netfinancie.sk/kooperativa/poistenie-domov-domacnosti/

Taugbøl, T., et al. (2001). Hyttebygging i Norge. En oppsummering og vurdering av ulike miljø- og samfunnsmessige effekter av hyttebygging i fjell-og skogtraktene i Sør-Norge. *NINA oppdragsmelding*, *709*, 1-65.

Tiller, Å. V. (2020). *Development of a circular economy model for the leisure-related economy and investigation of potential of implementing. A case study of the leisure-related economy at Oppdal, Norway* (Master's thesis, NTNU).

Vývoj inzerce nemovitostí v ČR. (2021). Retrieved 10 December 2021, from https://www.sreality.cz/ceny-nemovitosti?typ=rekreacni-objekty

Zákon o územnom plánovaní a stavebnom poriadku (stavebný zákon). (2021). Retrieved 18 December 2021, from https://www.zakonypreludi.sk/zz/1976-50

https://doi.org/10.18267/pr.2022.kre.2454.12

Legal Aspects of Operating E-shops in the Slovak Republic

Štefan Žák[1] – Mária Hasprová[2]
ORCID: 0000-0002-6056-4727[1], 0000-0003-1726-8719[2]
stefan.zak@euba.sk, maria.hasprova@euba.sk,
University of Economics in Bratislava, Faculty of Commerce, Department of Marketing, Bratislava, Slovakia

Abstract: The main goal of the paper is to define the legal framework for the operation of e-shops and their mandatory documentation and to identify the limitations associated with the legislative regulation of the operation of e-shops in the conditions of the Slovak Republic. The theoretical framework of the article deals with the issue of e-business and e-commerce, the principle of operation of e-shops and especially the legal framework of e-shop operation in Slovakia. The empirical part of the paper is focused on the presentation of selected results of the author's research study examining the legislative restrictions on the construction and operation of e-shops. The paper results in a discussion on the application of selected problem areas in the practice of Slovak e-shops.

Keywords: E-shop, Personal data protection, GDPR, E-commerce

JEL Classification codes: K22, M20, M30

INTRODUCTION

E-commerce has become a phenomenon in the recent decades. It has helped bridge the boundaries of time and space, changed traditional business structures, improved the flow of goods, capital and information, and helped companies gain a competitive advantage by effectively reducing costs. However, the impact of e-commerce has gone beyond business itself and has had a significant impact on every aspect of human activity, such as manufacturing, employment, education, legal and governmental systems, and many others. At the same time, it increased productivity, the efficiency of economic operations, reduced the costs of the economy and affected people's lifestyles. It offers consumers the opportunity to make purchases almost everywhere, while watching TV, streaming videos and movies on the Internet and when searching with smartphones. Today, it offers a wide range of home electronic assistants, not only facilitating the operation of the household but also enabling immediate purchase. The global COVID-19 pandemic has only accelerated the expansion of e-commerce to new companies, customers and product types. Today, there is almost no product that cannot be bought online. In addition to classic product groups such as clothing, household appliances, pharmaceuticals, footwear and sports and leisure products, food is now one of the best-selling goods online. In 2020, a total of 14,300 e-shops operated in Slovakia (Heureka, 2021). Even with this number, it is quite obvious that the area of electronic commerce must be strictly regulated. Not only the creation and operation of e-shops, but also the consumers rights in online business are governed by several laws. E-shop operators perceive some of the legal regulations as restrictions, also due to the fact that non-compliance with them results in the possibility of financial sanctions by the control authorities. Other legal regulations, which define the scope of mandatory information, on the other hand, are perceived as an aid for e-shops themselves in reaching their customers and implementing marketing activities. The scientific contribution is based on the above facts, the aim of which is to define the legal framework for the operation of e-shops and their mandatory documentation and to identify

https://doi.org/10.18267/pr.2022.kre.2454.13

the limitations associated with the legislative regulation of the operation of e-shops in the Slovak Republic.

1. LITERATURE REVIEW

The concept of electronic commerce, or e-commerce, is closely connected with electronic business, i.e. e-business. The meaning and understanding of these terms have often been debated. According to Gála (2015, p. 45), these concepts already differ considerably: *"while in the past e-business corresponded to e-commerce and was understood as e-shops or reservation systems, today the field of e-business is much more extensive and aims to increase efficiency internal and external processes in the company, and this term includes activities of marketing, sales, customer relationship management, but also, for example, technology development and management"*. The basic premise is the use of information and communication technologies to support and manage the company's activities (Solomon, 2019). Today, online stores and reservation systems are referred to as e-commerce. E-commerce can be considered a subset of e-business. According to Suchánek (2012, p. 10): *"e-business is perceived in terms of all business and production activities, which include all operational and technological-administrative activities and e-commerce as activities focused on the exchange of goods or services".*

In the online environment, e-shops are a substitute for the "brick and mortar" shops of the real, physical world. They work on a similar principle, where the customer in a certain specialized store, e-shop chooses goods and pays for them using various payment methods. Unlike the "brick and mortar" shop, the goods are not sold directly to his hands, but are then sent to the logistics service used by the e-shop. Another way to use online shopping is through research (Khurana, 2019). The customer comes to a "brick and mortar" shop with a certain product focus in order to see the product, test the quality of workmanship, materials and the like. Then he searches for the product online and orders the product at a lower price through e-shops. The situation is also the opposite when "brick and mortar" shops provide discounts on a large number of goods, from which the customer chooses online and comes to the "brick and mortar" shop to buy the product (Plunkett, 2018).

E-shop is the most common form of e-commerce in which all business activities are transferred from the "brick and mortar" shop to its electronic form. To use the e-shop, it is necessary to use internet technologies and convert the business model of the "brick and mortar" shop into an electronic form (Havlíček et al., 2008). According to the economic lexicon, Kollman (2016) defines an e-shop as *"e-shop that offers opportunities to initiate and support transactions and process them electronically in full. It is a platform on which providers present their goods or services and the interested party has the opportunity to obtain information about the products".* In both "brick and mortar" stores and e-shops, customers are offered a comprehensive range of goods, which reduces search costs on the demand side. The e-shop in its narrower sense, typically perceived by the general public, is very easy to understand. It represents everything that has been possible in "brick and mortar" stores until now and replaces services that require the physical presence of customers and employees.

In addition to the actual sale of products or services, virtual online stores also replace a wide range of services that have been provided to customers by employees of companies and resellers. When a customer needs advice, e-shop operators often integrate a chatbot or online consultant into their systems and websites to respond to the customer's requests in real time (Hanuláková, 2021). A necessary part of every e-shop is a detailed description of the products that are sold to customers. On the one hand, the customer receives a guarantee for the goods he buys and certainty about the information he receives and on which he can rely in the event of a complaint, on the other hand, there is no need for staff training as is necessary in the

https://doi.org/10.18267/pr.2022.kre.2454.13

case of stone shops. According to Gburová and Fedorko (2018), *"e-commerce has become the standard and is a very good alternative for carrying out business activities between different types of entities"*.

Doing business through the e-shop has been a very popular form of trade for a relatively long time, and its popularity is constantly growing, even with regard to the current situation due to the COVID-19 pandemic and restrictions on the physical market. The operation of the e-shop has its specifics. The first is that the seller does not physically meet the buyer, who in most cases is a consumer. The e-shop must therefore contain clear, concise and well-arranged information about the seller's products and services, which it provides in order to replace personal contact enabling the provision of additional questions. The e-shop must therefore contain answers to all common questions that the buyer might otherwise ask before buying in the store.

In the Slovak online environment, the operation of the e-shop is specially regulated. A natural or legal person may establish and operate an e-shop, and the legal basis is regulated in particular by the following regulations:

- Act No. 22/2004 Coll. on electronic commerce, as amended,
- Act No. 102/2014 Coll. on consumer protection in the sale of goods or provision of services under a distance or off-premises contract, as amended,
- Act No. 18/2018 Coll. on the protection of personal data, as amended.

In addition to the obligations arising from these legislative norms, the business activity itself is regulated by other regulations concerning the establishment of the company or trade that will operate the e-shop, or concerning accounting and taxation.

Of course, although the above-mentioned legal regulations regulate special rules that must be observed when operating an e-shop, this does not mean that other basic standards arising from the Civil Code, the Commercial Code, the Trade Licensing Act or the Consumer Protection Act apply to e-shops. do not apply. If the above-mentioned, so-called special legal regulation does not provide answers to some questions, it is necessary to draw on general rules, such as for limitation, debt collection, general requirements of the purchase contract, etc.

The manner and requisites of concluding contracts as well as the right to withdraw from the contract in the environment of e-shops are regulated in particular by Act No. 22/2004 Coll. on Electronic Commerce and Act No. 102/2014 Coll. on consumer protection in the sale of goods or provision of services under a distance or off-premises contract. According to them, the seller is obliged to create a basic information framework concerning the technical side of concluding the contract. Not only because of the rules of personal data protection, but also, for example, to facilitate the recovery of the claim, it is essential that the contract always contains the correct data of all parties.

When operating an e-shop, personal data is inevitably processed. Therefore, each operator must also ensure compliance with the rules of personal data protection, the so-called GDPR. In 2018, a new Act No. 18/2018 Coll. was adopted in the Slovak Republic. on the protection of personal data, which has changed many established standards. Today, for example, it is no longer the case that personal data is processed only when it comes to at least three different personal data. According to the said Act, the processing of personal data means their acquisition, storage, retrieval, recording, use, provision, dissemination, etc. This means that it is about any handling of personal data. Personal data is identification data that allows you to specify a person. In practice, it is necessary to imagine such information on the basis of which it is possible to clearly identify who it concerns. E-shop operators mainly process the personal data they obtain when registering their customers, resp. when concluding distance contracts, such as name, surname, date of birth, address, personal telephone number, private e-mail,

https://doi.org/10.18267/pr.2022.kre.2454.13

etc. As the e-mail address is also considered personal data, the operator must work with the information only in accordance with GDPR rules.

2. METHODOLOGY

In the process of elaborating the scientific contribution, various methods of scientific research were used, which enabled the fulfillment of the primary goal by solving the partial goals. Of the methods used, the following can be mentioned in particular. The *content analysis* of available theoretical sources of domestic and foreign origin and the comparison of these findings contributed to the creation of a knowledge base in the field of e-commerce and e-shop operation. *Comparison* of theoretical knowledge with practical experience in building e-shops. The basic basis for this comparison was the implementation of *empirical research*. The authors carried out the research study *"Legislation of e-shops SK - LESK 2021"* during the months of June to August 2021. The aim of the research study was to identify legislative restrictions in building and operating an e-shop in Slovakia. The intention was not only to point out the problematic areas that are regulated by legislation, but also to find out how e-shops prepare basic mandatory documents related to their operation. The research study also offered a general view of real sanctions for non-compliance with legal guidelines. The data for the needs of the research study were collected through a standardized online survey on a sample of 114 e-shops based in the Slovak Republic. *Synthesis* of knowledge from the realized empirical research and subsequent use of the *induction method* in the identification of legislative restrictions and the *deduction method* in the design of recommendations for the elimination of the identified restrictions for e-shop operators.

3. RESULTS AND DISCUSSION

This section of the article "Results and Discussion" is divided into two parts. In the first part, the authors present the results of a research study, which was a prerequisite for the subsequent determination of restrictions in the operation of e-shops in Slovakia. The authors focused on comparing theoretical knowledge with real experiences of Slovak e-shops. The results of the research study led to a discussion of how legislative restrictions are perceived in practice and how e-shop operators can deal with them. The research study was larger than can be mentioned in the article. The authors therefore offer selected results in the form of graphs as well as selected problem areas from the discussion.

3.1 The main findings from the research study

The standardized online questionnaire used in the research study offered respondents a set of questions, the answers to which brought interesting and inspiring findings. The introductory question focused on evaluating the importance of legislative regulations for the operation of the e-shop. The answers showed that e-shops consider Act No. 18/2018 Coll. on the protection of personal data (so called GDPR Act) and Act No. 102/2014 Coll. on consumer protection in the sale of goods or provision of services under a distance or off-premises contract to be the most important legal regulation affecting their business. The results are understandable from a practical point of view, because these two regulations significantly regulate the conditions that e-shops must ensure in their business. The distribution of answers to the first question is shown in the Figure 1.

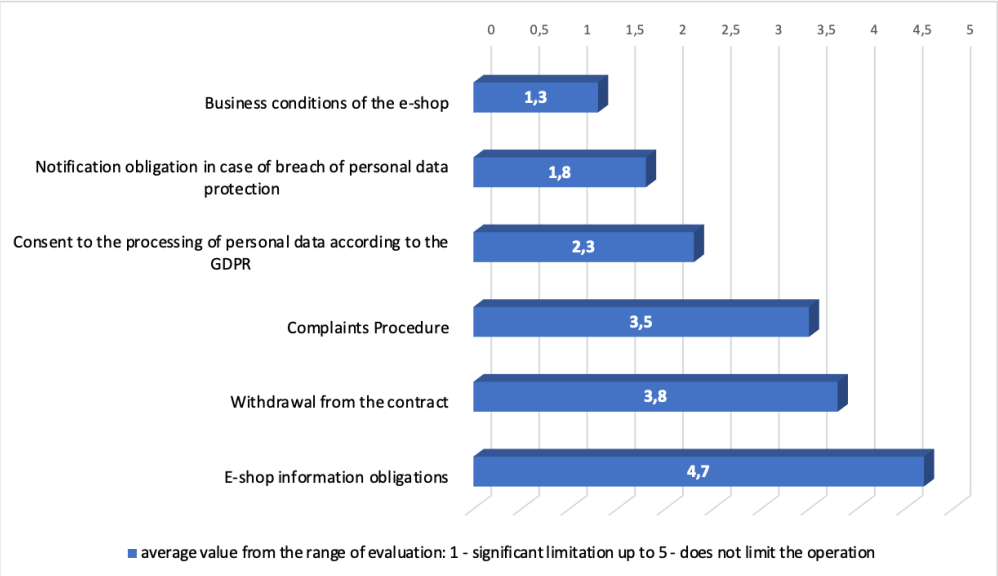
https://doi.org/10.18267/pr.2022.kre.2454.13

Fig. 1 Distribution of answers to the question "Assess how important the legislative regulations are for the operation of your e-shop" (n = 114, average value)

Source: results of the research study carried out by the authors

As indicated in the literature review, e-shop operators are bound by several legal obligations. The second question in the questionnaire was aimed at finding out how e-shop operators perceive these obligations. Respondents were asked to assess the limitations of these obligations. In particular, they perceive the e-shop's business conditions, the notification obligation in the event of a personal data breach and the consent to the processing of personal data in accordance with the GDPR in a very restrictive manner. The least limiting for them are the information obligations, which are already a kind of standard, the fulfillment of which actually helps in presenting the offer and the e-shop operator himself. The distribution of answers to the second question is shown in the Figure 2.

Fig. 2 Distribution of answers to the question "Assess what significant restrictions on the operation of your e-shop are these obligations" (n = 114, average value)

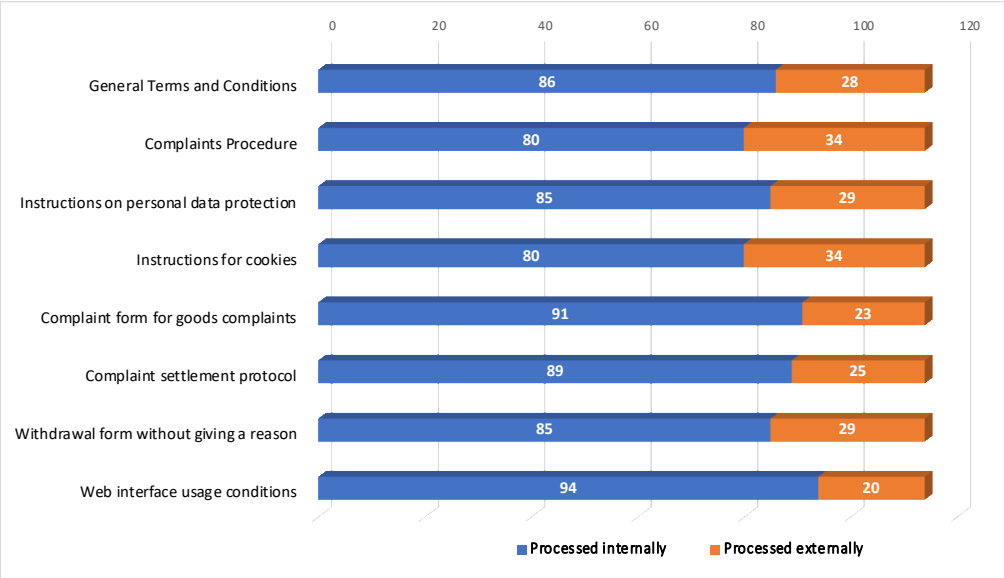


https://doi.org/10.18267/pr.2022.kre.2454.13

Source: results of the research study carried out by the authors

Legislation related to the business of e-shops implies the need to prepare mandatory documents. It goes without saying that these mandatory documents must comply with the requirements set by law, and therefore it was assumed that e-shops left their elaboration to external companies. Well, the results do not indicate that. It is clear from the answers that most e-shops have prepared the required documents themselves. The results showed that e-shops, which had a mandatory documentation prepared by an external company, are characteristic that they were created only recently, a maximum of 5 years ago. An overview of mandatory documents and the method of their preparation is shown in the Figure 3.

Fig. 3 Distribution of answers to the question "Indicate how you created the following mandatory documents of your e-shop" (n = 114, number of answers)



Source: results of the research study carried out by the authors

The answers to the previous questions could be marked by a subjective perception of the limitations that come with the legislative regulations of e-shop business. Failure to comply with the obligations also entails sanctions arising from the law. Therefore, the final questions concerned whether the respondents were affected by sanctions during the operation of the e-shop and whether sanctions were imposed on them. The amount of the sanction was not determined, but the e-shops were subsequently required to determine which statutory obligation the sanction applied to. Almost 70% of e-shops did not meet with penalties for non-compliance, 19.3% of e-shops met with penalties and 12.4% of e-shops were also provided with sanctions for non-compliance with legal obligations. E-shops, which have been penalized for non-compliance with legal obligations, commented on the reasons for the sanction in the last question. The sanction most often concerned irregularities in the general terms and conditions (40,3%), the instruction on personal data protection (24,2%) and the complaints procedure (16,1%).

3.2 Discussion

The basic findings from the respondents' answers created a suitable basis for the subsequent analysis of problem areas and the preparation of recommendations for the effective elimination

https://doi.org/10.18267/pr.2022.kre.2454.13

of their negative impact on the business of e-shops and to avoid inconsistencies in the creation of mandatory documents. Therefore, the next text deals with a closer description of those areas that e-shops perceive as problematic and restrictive - terms and conditions of business, notification obligation in case of breach of personal data protection and consent to the processing of personal data under the GDPR.

As such, *terms and conditions of business* are in fact not mandatory by law, but there are a number of information obligations towards consumers, which e-shop operators fulfil with the help of them. In addition to mandatory information for consumers, the terms and conditions of business may also regulate various rights and obligations between the e-shop operator and the customer, rules for participation in consumer competitions, rules on personal data protection, etc. In practice, e-shop operators often draw inspiration from competitors, conditions on other websites or use various model documents when formulating terms and conditions of business. The results may be incorrect formulations and subsequent sanctions imposed by the Slovak Trade Inspection Authority. It is important not to underestimate the preparation of terms and conditions of business and to use consultations with experts and specialized companies in particular, which can often be a faster and ultimately cheaper solution. The research study showed that e-shops most often create terms and conditions themselves, without consulting experts, which is not an appropriate solution in terms of possible sanctions. Mandatory requirements of the e-shop terms and conditions of business represent information that the e-shop operator must notify the consumer before concluding the contract (before accepting a binding order).

As for another problem area, *the obligation to report personal data breaches*, this is evaluated in practice depending on the specific circumstances and seriousness of the case. As a rule, it comes into consideration only in the more serious cases, where such a violation may lead to a risk to the rights of a natural person. When notifying the Office for Personal Data Protection, only the probability of a risk to the rights of individuals is sufficient. The operator of the e-shop must assess the level of risk to the rights of individuals in order to take effective action to remedy the personal data breach and also to assess whether and to whom the breach is to be reported. In practice, the e-shop operator can assess the level of risk according to the type of personal data breach (e.g. disclosure of sensitive personal data has other consequences such as data loss), type of personal data processed (e.g. whether the information stored by him does not contain special categories of personal data such as health condition of the data subject), the volume of personal data processed, the severity of the consequences for the data subjects (property damage, loss of reputation, physical injury) and, for example, according to the number of data subjects and the possibility of their identification. Each case of personal data breach must be documented by the operator, including the facts related to the personal data breach, its consequences and the corrective measures taken. The operator is obliged to report personal data breaches in addition to the Office and the person concerned, if the breach may lead to a high risk to the rights of individuals. It is clear that in practice the application of these guidelines is a concern. The risk assessment is up to the e-shop operator itself and no precise procedure is specified. For each, a particular risk has a different weight and a different danger or degree of damage. In case of doubt about the occurrence of a notification obligation, the operator should take the opportunity to report the breach preventively. The Office for Personal Data Protection often issues methodologies or recommendations in order to guide the procedure of liable persons in practice, and this is also the case when fulfilling the notification obligation. Therefore, it is appropriate for operators to regularly monitor the Office's website.

Another problem area was *the provision of consent to the processing of personal data*. Act No. 18/2018 Coll. on the protection of personal data does not stipulate any prescribed form for this consent. However, in § 14 (2), it states that consent must be distinguished from other facts (in order to prevent the person concerned from being overlooked) and must be expressed

https://doi.org/10.18267/pr.2022.kre.2454.13

in a clear, comprehensible and easily accessible form. At the same time, according to § 14 (1), the operator is obliged to prove the consent obtained by the person concerned, and therefore it is not sufficient in practice to obtain consent only in oral form (thus, the written form of consent (paper or electronic) comes into consideration. In the case of so-called electronic consent, the consent to the processing of personal data must be provided by a deliberate act of the person concerned. This is most often done in practice by clicking on the box with the appropriate text: "I agree to the processing of personal data" (when registering on the e-shop website). In the event of a legal dispute, the burden of proof to prove the valid consent of the person concerned and also the fulfilment of the information obligation before obtaining the consent always lies with the e-shop operator. In practice, procedures such as a pre-checked box in electronic form or the inclusion of consent in the contract or e-shop terms and conditions should be avoided. In practice, there are also facts where the operator can process personal data without the consent of the person concerned. This is the case, for example, when fulfilling the legal obligation of the operator, i.e. personal data are processed on the basis of a special law (e.g. Labour Code, Social Insurance Act) or an international agreement by which the Slovak Republic is bound. Another case is the purpose of the contract to which the person concerned is a party or the purpose of the legitimate interest pursued by the operator or a third party (a legitimate interest exists if there is already a relationship between the operator and the person concerned, such as an employment contract).

CONCLUSION

Innovations in information and communication technologies have created a digital revolution that has changed the way the world works, communicates and trades. New technologies, a growing number of Internet users and new characteristics of the online consumer behaviour have a significant impact on e-commerce. In recent years, e-commerce has become part of the daily lives of people who increasingly prefer to order goods from home before visiting a stone shop. The main attraction for consumers are increased convenience, greater choice and lower prices. Therefore, e-commerce is constantly growing strongly and is affecting the social and economic growth of countries. On the one hand, e-commerce technologies have helped countries accelerate their economic growth and provide more opportunities for business growth, but they have also created many challenges and effects in many areas of society. These problems include, among other things, the area of legislative regulations for doing business in the online environment and the operation of e-shops.

A practical view of possible problem areas perceived by e-shop operators in the Slovak Republic pointed to the fact that legislative regulations related to their business in the online environment primarily protect consumers and thus their customers. However, it must not be forgotten that practical compliance with obligations protects companies themselves in particular. In conclusion, it can be stated that the Slovak legislation in the form of laws focused on e-commerce itself, consumer protection in the online environment and personal data protection does not deviate from the framework of comparable legislation related to traditional forms of business. Given the real impact of the laws in question, the perceived limitation can be understood more as a subjective perception of the potential threat, which in practice can be eliminated by vigorous compliance with the established obligations.

The article pointed out the perception of problem areas by Slovak e-shops. But the future will bring another problem in 2023, when we say goodbye to 3rd party cookies. These identify users on the Internet and, by tracking the web activity of these users, allow e-shops to target ads on the Internet more accurately. This information is stored directly by the user's web browser and is collected and shared across domains. From a data point of view, their abolition will be critical in the field of data marketplace, especially in the case of programmatic

https://doi.org/10.18267/pr.2022.kre.2454.13

purchasing and data management, ie the way in which individual platforms exchange user information and use it for ad targeting, retargeting, frequency determination and ad intervention . This will create space in the future to investigate the impact of e-shops.

ACKNOWLEDGEMENT

This article is an output of research project VEGA No. 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.

REFERENCES

Gála, L. et al. (2015). Podniková informatika: počítačové aplikace v podnikové a mezipodnikové praxi. Praha: Grada Publishing.

Gburova, J. – Fedorko, R. (2018). Online Shops And Online Shopping From The Point Of View Of The Slovak Consumer. Retrieved 17 January 2022, from https://search.proquest.com/conference-papers-proceedings/onlineshops-shopping-point-view-slovak-consumer/docview/2176206404/se-2?accountid =17203

Hanuláková, E. et al. (2021). Marketing. Nástroje, stratégie, l'udia a trendy. Bratislava: Wolters Kluwer.

Havlíček, Z. et al. (2008). E-business solutions and OSS for the SMEs. Agricultural Economics, 54(3), s. 102-107.

Heureka. (2021). Obrat e-commerce 2020. Retrieved 19 January 2022, from https://onas.heureka.cz/upload/593-infografika-obrat-e-commerce-2020-sk.png

Khurana, A. (2019). Advantages and Disadvantages of E-Commerce. The Balance Small Business. Retrieved 18 January 2022, from https://www.thebalancesmb.com/ ecommercepros-and-cons-1141609

Kollman, T. (2016). Electronic Shop: Definition. Retrieved 18 January 2022, from https://wirtschaftslexikon.gabler.de/definition/electronic-shop-36299

Plunkett, J. W. (2018). E-Commerce & Internet Business Industry Market Research, Statistics, Trends & Leading Companies. New Jersey: Plunkett Research, Ltd.

Solomon, M. R. et al. (2019). Marketing: Real People, Real Decisions. Harlow: Pearson Education Ltd.

Suchánek, P. (2012). E-commerce elektronické podnikání a koncepce elektronického obchodování. Praha: Ekopress.

Zákon č. 22/2004 Z. z. Zákon o elektronickom obchode a o zmene a doplnení zákona č. 128/2002 Z. z. o štátnej kontrole vnútorného trhu vo veciach ochrany spotrebiteľa a o zmene a doplnení niektorých zákonov v znení zákona č. 284/2002 Z. z.

Zákon č. 102/2014 Z. z. Zákon o ochrane spotrebiteľa pri predaji tovaru alebo poskytovaní služieb na základe zmluvy uzavretej na diaľku alebo zmluvy uzavretej mimo prevádzkových priestorov predávajúceho a o zmene a doplnení niektorých zákonov

Zákon č. 18/2018 Z. z. Zákon o ochrane osobných údajov a o zmene a doplnení niektorých zákonov

https://doi.org/10.18267/pr.2022.kre.2454.13

Revision of Social Costs of Gambling in the Czech Republic

Jakub Žofčák[1] – Josef Šíma[2]
ORCID: 0000-0001-5064-9471[1], not available[2]
Jakub.Zofcak@ujep.cz, Josef.Sima@mup.cz
[1,2] Jan Evangelista Purkyně University in Ústí nad Labem, Faculty of Social and Economic Studies, Department of Economics and Management, Ústí nad Labem, Czech Republic
[2] Metropolitan University Prague, Department of International Business, Prague, Czech Republic

Abstract: Calculation of social costs of gambling is a widely used analytical tool to measure (often negative) impact of consumer (gambler) behavior to society. However, this tool is very often burdened with biases, inconsistent methodology and, most of all, incompatibility with well-established and widely used economic concepts. Along with comprehensive review of different approaches to the calculation of these costs we use economic approach to revise the most influential Czech study done by Winkler et al. (2014; 2017). Using this improved approach, we were able to reduce authors' sum of social costs by 84% (from 541.6–619.6 million EUR to 88.6–99.9 million EUR), although there are still other costs that have to be taken into account for a complete picture of impacts on society. The objective of the paper is not to downplay the impact of gambling but to provide better foundations for comprehensive evaluations of its effects and suggest routes for further improvement of the analysis.

Keywords: Social costs, Gambling, Addiction,Consumer behavior, Public policy

JEL Classification codes: L83, D61, I18

INTRODUCTION

Together with the tobacco and alcohol industry, the gambling industry is generally a negatively perceived sector, mainly because of behavior of its consumers and its social impact. It is true that it is one of the sectors of the entertainment industry which also brings considerable amount of money to state budgets, yet it also poses a certain risk of addiction on players. Once addiction is established, (pathological) gambler's behavior affects not only himself, but also his or her family and, through associated effects, society as a whole. Since 1990s there has been an ongoing debate about an effective regulation of this social ill (see Eadington (2003)).

A very popular and widely used analytical tool to assess the impact of gambling on society is the calculation of social costs. However, these calculations often suffer from many problems, in particular fragmented methodology, inconsistent assumptions and sometimes even biased results. Another problem is that although the problem in question is predominantly of economic nature (as costs, benefits or externalities are standard economic concepts), researchers attempting to do the calculations of social costs are often addictionologists and there is a significant lack of proper *economic* calculations of social costs of gambling (Walker, 2013). Thus, even the most cited and the most influential studies in the field are overwhelmingly inconsistent or simply incorrect when it comes to using the concepts and conducting the calculations. Although economics is not the only relevant scientific discipline to study the effects of addiction, its well-established toolkit and value-free nature of its inquiry (as opposed

https://doi.org/10.18267/pr.2022.kre.2454.14

to addictionologists, see Eadington (2003)) make the most suitable discipline to talk about external side-effects of human behavior. Economics is also concerned with the study of the impact of various policies.

Therefore, our research represents a push towards more economically robust and meaningful calculation of the social costs of gambling. In the paper we will revise the most ambitious and influential Czech study examining such costs – study done by Winkler et al. (2014; 2017) which had a significant impact on the most important piece of regulatory legislation in the field as it was featured in explanatory memorandum of the Czech Lottery Act (Act No. 186/2016 Coll.). After comprehensive review of relevant literature and obstacles that social costs researchers are facing in part 1 of the paper, in part 2 we will introduce more consistent methodology which we will use in part 3 to correct the overall sum of social costs of gambling. We will not calculate costs ourselves, as it goes beyond the scope of this paper. Part 4 concludes the paper.

1. LITERATURE REVIEW

Already the very first essential point of the analysis of various authors – the definition of social costs – is problematic from an economic point of view. For example, one of the most cited studies done by Australian authors of the Productivity Commission (1999; 2010) defines social costs as "*the benefits and costs that are relevant as a basis for possible government intervention in private decisions*" (chapter 4, box 4.1). However, definitions of this kind are circular – as Eadington (2003) correctly points out, virtually any information can serve as a basis for possible government intervention. A common (and understandable) practice of researchers of the social costs of gambling is to adopt definitions and methodologies from research on the social impacts of the tobacco and alcohol industries. For example, the pioneering study by Ladoceur et al. (1994) adopted the model of economic cost of alcohol abuse by Rice et al. (1991). An often-adopted definition of the social cost of gambling is that of the social cost of smoking in Markandya and Pearce (1989): *the private cost is borne by the consumer or producer, the social cost by society*. The focus is generally on those "unconscious" costs of consumers that cause the most social costs. However, it is still a rather vague definition, which has been adopted by, among others, Collins and Lapsley (2003) in their widely cited paper. Among the Czech studies, particularly relevant is the study by Winkler et al. (2014; 2017), which was the first sophisticated attempt to identify and calculate the social costs of gambling in the Czech Republic. In their original 2014 study, which served as one of the main bases for the explanatory memorandum of the Lottery Act (Act No. 186/2016 Coll.), the authors again used a rather vague definition of social costs: *losses caused to society as a result of gambling*. Some studies (e.g. the aforementioned study by Ladoceur et al. (1994)) do not deal with the definition of social costs at all and only list the categories of costs that are then subsequently calculated. Without a much more rigorous approach that economics offers arbitrariness of the calculations cannot be avoided.

A definition of social costs that is anchored in economic theory and compatible with economic analysis has been provided by Douglas Walker (in particular in Walker and Barnett (1999) and Walker (2003)). A social cost arises when an activity results in a situation where a member of society is worse off without anyone else being better off. Walker and Barnett (1999) add that a good measure of such a cost is the transfer required to compensate the member of society who is worse-off. In his 2003 study Walker developed his definition of social cost in a microeconomic context and illustrated the example of social cost in the case of theft as described by Gordon Tullock (1967). If a thief steals an item, the value of the item is not a social cost, as its value has not disappeared from society (as it is just a transfer). The social cost could be the stress, the need to acquire a lock, the expense of acquiring a security system,

https://doi.org/10.18267/pr.2022.kre.2454.14

etc. This social cost can be represented, for example, by the value of unproduced goods due to the need to produce locks, security systems, etc. Furthermore, such social cost can be represented by, for example, the value of unproduced goods due to the need to produce locks, security systems, etc. (Walker, 2003)

In current literature, however, such standard economic understanding is still not the norm – the authors of social cost analyses are mostly addictionologists and other medical professionals. Their studies then suffer from this lack of appreciation of economics. Walker (2007) and Eadington (2003) point out in detail the biases that such studies suffer from. Most often, such studies suffer from biased methodology or inflated sums of resulting social costs – Walker (2007) mentions, for example, the work of Grinols and Mustard (2006) or Kindt (2001) in this context. An extreme case is the concept of *abused dollar* and *sin good*, where any activities in the context of gambling are taken a priori as harmful (see Gross (1998) and Grinols (2004)). Of course, studies can also be biased in the opposite way, underestimating the harmful effects of gambling, see e.g. Anderson (1997).

There are two more issues related to these biases and to assumptions about the social costs of gambling that are often not reflected in the addiction literature – the issue of the social benefits of gambling and the rationality of the gambler.

In terms of the social benefits of gambling, although it is a negatively-perceived industry, the gambling industry as a form of entertainment also provides benefits to society (Colins and Lapsley, 2003). The most commonly considered social benefits of gambling are consumer surplus (see e.g. Productivity Commission, (1999; 2010), Walker (2003), Rockloff et al. (2019)), labor market benefits and product variety (see Walker (2007)). The omission of calculating social benefits can be understood in the case of cost-of-illness studies – which focus more on the harmfulness of a given activity (gambling, alcohol, drugs, etc.) – but not in the case of the economic approach. This approach should assess the overall impact of an activity (e.g. through cost-benefit analysis), especially in the case of large influential studies that affect policy-making. For example, the authors of the above-mentioned Australian study done by Productivity Commission (1999) calculated social benefits however they did not take them into account in the overall evaluation, justifying by the argument, that it is impossible to compensate for the losing groups, i.e., pathological gamblers. In a similar manner Winkler et al. (2014) did not calculate social benefits at all because, in their view, the data cannot be cleaned of irrationally seeded money. One recent attempt to do so is a study by Rockloff et al. (2019) that calculated the social benefits of gambling in Tasmania. To see how misleading it can be not to include social benefits to the calculation is when we realize that some authors have even concluded that the social benefits exceed the costs, e.g., Walker and Sobel (2016), Chhabra (2016) or, paradoxically, the Productivity Commission (1999) study.

Rationality of a gambler, let alone pathological one, is a rather complex issue. Many addictionologists dismiss rationality of gamblers as implausible or unrealistic in the first place (e.g., Productivity Commission (1999; 2010), Auld and Grootendorst (2004) and also Winkler et al. (2014)). In the context of economics, this issue is not so clear-cut as there are two concepts to consider: the neoclassical concept of *homo oeconomicus* (i.e., man is a utility-maximizing individual) and the behavioral concept of *bounded rationality* (man is limited in his perception by his imperfect cognitive abilities, see for example Gigerenzer and Selten (2002)). For example, according to the Productivity Commission (1999; 2010), a pathologically addicted individual is unable to consider the "true cost" of his behavior and in such a situation authors question the concept of voluntary decision-making altogether. However, in an economic sense it would be a mistake to dismiss the rationality of gamblers, even addicted ones. (Walker and Barnett, 1999) In this context the decision to (not) participate in the game is purely rational, as it is made knowing the possible outcomes and benefits. Even in the case of the subsequent emergence of addiction, this decision was rational because risk does not automatically imply

https://doi.org/10.18267/pr.2022.kre.2454.14

irrationality – even in hindsight. Furthermore, as Ludwig von Mises (2006, p. 18) emphasizes, it is difficult to find scientific reasons for declaring the individual as *a priori* irrational and decide on his behalf what is best for him. Given subjectivity of utility and hence costs in economics, it is utterly impossible for an outside observer to assess true costs to the acting individual. Becker and Murphy (1988) introduced their model of rational addiction which shows that actions of addicted individual are compatible with microeconomic theory (see also Mobilia (1993)). Although this model has been criticized by the Productivity Commission (1999; 2010) and by Auld and Grootendorst (2004), it remains the most sophisticated description of addiction in purely economic terms.

Because of all these issues, the methodology for determining and calculating the social costs of gambling is highly inconsistent and often fragmented (see Wynne and Schaffer (2003)), and hence the results of individual studies are quite difficult to compare as they typically include different lists of categories (vaguely linked to the concept of social welfare) and their often problematic enumeration. Thus, the influential study by Ladoceur et al. (1994) included in the sum of social costs the costs of treatment and related services, money wagered, debts, employment effects (reduced work productivity, absenteeism, etc.), correlation with other addictions (e.g. alcoholism), and illegal activities related to the financing of gambling. The authors of the study, who were the first to come up with such calculation in the context of gambling, calculated a specific amount based on data from 60 anonymous gamblers interviewed in four Canadian cities. Another noteworthy calculation was made by Thompson et al. (1997), who included in the social costs the effects on employment (lost work hours, unemployment benefits, and lost productivity), debt, justice costs (including prosecution, arrest, incarceration, etc.), therapy costs, and government transfers. The Productivity Commission (1999; 2010) study – being the main inspiration for Winkler et al. (2014; 2017) and other authors – included financial costs (family debt and bankruptcies), effects on productivity and employment, crime (theft, lawsuits and incarceration) personal and family impacts (divorce and separation, depression, suicide) and treatment costs. Schwer et al. (2003) included virtually all of these categories in their sum of social costs. One of the more recent attempts to unify the methodology is the British study by Wardle et al. (2018).

Eadington (2003) stresses the economic approach to the issue and sets out six main issues involved in calculating the social costs of gambling: (1) it is very difficult to assess whether the impacts are solely caused by the gambling, (2) certain types of costs are very difficult to conceptualize and categorize, (3) private costs need to be distinguished from social costs, (4) in addition to the difficulty of conceptualization, these costs are difficult to measure or calculate, (5) for some costs there may be weak or non-existent methods to measure them (e.g. costs related to suicide), and finally (6) studies measuring the social costs of gambling should have a policy objective and they should compare it with the state of nature. Therefore, it is important to compare, for example, the social costs of the situation before the Lottery Act ("natural state") and the situation after the introduction of the law.

2. METHODOLOGY

An economically robust methodology was proposed in the study Walker and Barnett (1999) and Walker (2007). Apart from working with correct definition of social costs and assuming rationality of (even pathological) gamblers, their methodology could be summarized by those four principles. First, the value of the monetary transfer – the mere transfer of money from one individual to another – does not count as a social cost, since society has not lost that amount. Thus, from an economic point of view, the value of the debt or the money forfeited cannot be included in the social cost category. However, it is possible to include secondary costs that would not otherwise have been incurred – e.g. the cost of collecting the debt.

https://doi.org/10.18267/pr.2022.kre.2454.14

Second, internalized costs cannot be considered as social costs. This eliminates often-used items such as lost productivity or lost employment – both costs are borne either by the gambler (through lower wages) or by the employer, who is in a voluntary contract with the gambler and can compensate with lower wages or by finding a new employee. Various authors include the emotional and psychological costs borne by the gambler's family but these costs are very difficult to calculate. The third principle is the distinction between technological and pecuniary externalities. Only technological externalities that reduce the ability of an entity to produce the same amount of product as before (e.g. the need for a restaurant to soundproof its windows because of a neighboring casino) should be counted as social costs. In contrast, pecuniary externalities, e.g. competitive pressure on restaurant prices caused by the casino, are a natural market process and not a social cost.

The last and most difficult problem is the evaluation of comorbidities. Comorbidities in a medical context are common causes of a given problem, which in the case of gambling can be, for example, depression. It is extremely difficult to determine the direction of causality – whether depression is to blame for gambling problems or whether gambling is to blame for depression. This problem could be illustrated by the Thompson et al. (1996) study which found out that out of the 98 Gamblers Anonymous (GA) members surveyed in Wisconsin, 30 admitted to alcoholism, 25 admitted to compulsive shopping, 22 admitted to binge eating, 14 admitted to drug problems, and four admitted to depression. Consequent research by WEFA (1997) in Connecticut produced very similar results on sample of 112 local GA members. The authors of the Productivity Commission (1999; 2010) solved this comorbidity problem for example, by simply discounting certain cost categories by a certain percentage. Walker's and Barnett's perspective was criticized by McGowan (1999) and their quite illustrative discussion is summarized by Smith and Wynne (2000).

Therefore, Walker's methodology can serve as a basis for the revision of social costs of other researchers. Walker and Barnett (1999) themselves revised the calculation of the Thompson et al. (1997) study and were able to reduce the calculated annual social cost per pathological gambler from $9,469 to $2,974. Moreover, according to the authors, this amount is not final, as adjustments for comorbidities would still need to be included. In the case of the study by Schwer et al. (2003) examining the social cost per pathological gambler in Las Vegas, Walker (2007) was able to reduce the social cost from $8,207 to just $881. Using Walker's principles, Eadington (2003) reduced the total annual social cost of gambling calculated by the Productivity Commission (1999) study from AUD 1.8–5.6 billion to less than AUD 100 million (mainly due to the high share of internalized costs).

Following this line of research, the study by Winkler et al. (2014; 2017) – mainly the more recent 2017 study – will be reviewed. This study stands as the most important and most influential attempt to calculate social costs of gambling in the Czech Republic. It is also the first such study to do so in the whole region of Central and Eastern Europe.

The underlying assumptions of the authors, the definition of social costs, the approach to rationality, and the overall consistency and compatibility with the findings of economics will be discussed in the context of aforementioned studies and perspectives. In particular, the calculations of the social costs themselves and their compatibility with an economic approach to the issue will be reviewed. Specifically, Walker's methodology described in Walker and Barnett (1999), Walker (2007) and Eadington (2003) will be applied. The four principles mentioned in Walker's studies will be used: (1) non-inclusion of transfers, (2) non-inclusion of internalized costs, (3) non-inclusion of pecuniary externalities, and (4) inclusion of comorbidities. Just as these studies have revised the calculations of previous authors, this work will result in a corrected sum of the social costs of gambling in the Czech Republic.

https://doi.org/10.18267/pr.2022.kre.2454.14

3. RESULTS AND DISCUSSION

Winkler et al. (2017) misunderstand several basic assumptions about gamblers and the gambling itself. Authors consider gambling to be a "*zero sum game*" (p. 1294), but at the same time they state that "[f]*or many people, gambling is a form of entertainment*". From the technological point of view the gambling indeed is a zero-sum game (if one loses $100 another gains $100) but not in the economic sense. Analogically to any exchange, all participants – buyers and sellers – expect to benefit. If the transaction is voluntary (which is somewhat discussable in case of pathological gamblers, but not in case of ordinary players) it gives the player utility as a form of entertainment, the player also has consumer surplus from the game. That is true even if the player suffers a loss at the end of the day. By willingly (often repeatedly) entering the game, the player demonstrates by his actions that he values the enjoyment of the game (with the risk and pay-off involved) more than the money wagered, even knowing the possible outcome of losing. This is after all the essence and attraction of the game.

Since their 2014 study authors updated their vague definition of social costs (mentioned above) to more economically consistent form: "[…] *social costs arise only when some activity leads to society as a whole getting poorer. That is in cases where any individual or group of individuals is losing without anyone else gaining.*" (p. 1295). Yet, correct definition notwithstanding, a crucial problem arises with proper categorization of concrete types of social costs.

The authors do not explicitly discuss the rationality of gamblers, but we see another progression from the 2014 paper. In 2014 they rejected rationality quite strictly; in a more recent paper they suggest a softer approach: "*problem gamblers can be considered to behave, at least to a certain degree, irrationally*" (p. 1295).

Regarding the methodology of calculation of social costs, authors adapt the methodology of Productivity Commission (1999; 2010) – both in the choice of categories of social costs and in their calculation itself, including a very vague 20% reducing of some costs due to comorbidities.

In terms of epidemiological data, prevalence of gambling in certain groups, number of problem and pathological gamblers etc. we do not have any major objections to those. Winkler et al. collaborate with experts and cite numerous sources, quantitative researches and high-quality studies. One possible objection could be against some samples that are quite small (e.g. 20 respondents in case of people who were judicially ordered to avoid gambling), but that is widespread problem among such studies (see for example Ladouceur et al., (1994) or Schwer et al. (2003)).

Tab. 1 summarizes results and overall social costs of gambling presented by Winkler et al. (2017).

https://doi.org/10.18267/pr.2022.kre.2454.14

Tab. 3 Types of social costs of gambling in the Czech Republic and their results by Winkler et al. (2017)

Type of cost	Estimate (thousands of EUR)
Costs of treatment	
Treatment	1,508
Financial costs	
Costs of bankruptcy	3,512–4,854
Costs of productivity loss	
Reduced work performance	19,933–47,120
Reduced housework performance	138–326
Costs of unemployment	
Employee search	12,241–16,918
Job search	5,406–7,472
Crime and legal costs	
Police interventions	25,861–35,803
Judicial proceeding	2,051
Prison system	42,887
Personal and family costs	
Burden of family members	67,873
Relationships breakdowns	35,746
Divorces	34,442
Violence	14,298
Depression	1,431–5,035
Suicidal thoughts	15,597–44,580
Suicide attempts to gambler	92,603
Suicide attempts to family	72,232
Suicide attempts to parents	16,670
Cost of completed suicide	
Completed suicides	77,190
Total	**541,619–619,608**

Source: Winkler et al., 2017, own processing

3.1 Costs of treatment

The first type of costs that Winkler et al. (2017) include are costs of treatment and other services. In particular, the authors multiplied average health insurance company spending by the extrapolated number of relevant gamblers. In this case, these are clear internalized costs that pathological gamblers pay themselves (or their employers) through insurance. From the

https://doi.org/10.18267/pr.2022.kre.2454.14

economic point of view the insurance company evaluated the risk, which included the probability of an insurance payout due to the health consequences of pathological gambling, and set an equilibrium price. This sum cannot therefore be counted as a social cost. To evaluate social costs for this category, it would be necessary to account for the non-internalized costs impacting wider society, e.g. the increase in the equilibrium price of insurance for all insured people due to pathological gambling.

3.2 Financial costs

Regarding second type of social costs – financial costs – Winkler et al. correctly assumed that gamblers' expenditures are transfers and therefore not social costs. Regarding secondary costs authors multiplied fees for judicial proceedings by relevant number of bankrupted gamblers. The calculation is correct – average administrative fee is multiplied by estimated number of relevant gamblers. Unfortunately, authors were not able to find data to calculate costs of unsuccessful distraints, which would be another important addition to the sum of social costs.

3.3 Costs of productivity losses

Winkler et al. multiplied the estimate of the percentage reduction in productivity by the number of gamblers affected and the average wage. In the case of household productivity, the authors took the estimate to be two-thirds lower than work productivity. However, those are again internalized costs. Gamblers who go to work less (or not at all), or lose this productivity at home, bear this loss themselves through lower wages, or through layoffs and unemployment. We have three further objections to the authors' calculation – firstly, it is debatable whether pathological gamblers earn the average wage and whether isn't better to use the median wage. The second criticism is the thoughtless adoption of the assumption by the authors of the Productivity Commission (1999) that household productivity is comparable to one-third of labor productivity. Not only is this figure almost 20 years old at the time of writing, but it is very much country-specific. And finally, in this case the issue of comorbidities is highly relevant. For example, if someone suffers from gambling-related depression, it is very difficult to say how much of the problem is gambling and how much is depression.

3.4 Costs of unemployment

In this case Winkler et al. multiplied cost of finding new employee (or job) by number of relevant job losses (or job changes). As in the case of loss of productivity, these costs are in fact again internalized. In the case of cost of gambler finding a new job, it is quite evident, that these costs are borne by the gambler. Also internalized are the cost of finding a new employee – these costs are a risk that the employer takes and optimizes. Neither item is therefore part of the social costs. Moreover, the actual costs calculated by Winkler et al. are greatly exaggerated – the authors cite the Productivity Commission (1999), when, among others, the internet was not yet widespread, which can realistically be expected to dramatically reduce the cost of finding both a job and an employee. At the same time, it can be considered that in a period when it is difficult to find employees, it will be easy to find jobs and vice versa, so these two effects will complement each other. And again, the case of comorbidities is relevant here.

https://doi.org/10.18267/pr.2022.kre.2454.14

3.5 Crime and legal costs

Crime and legal costs seem to be mostly correct. The authors have included the costs of courts (costs of proceedings times cases relevant to gambling), police interventions (unit costs times cases relevant to gambling) and imprisonment of people who have committed gambling-related crimes (average daily cost of prison times relevant prisoners time 365) as a social cost. Unfortunately, because of data unavailability, the authors were not able to calculate the portion of costs attributable to the prevention of gambling-related crimes (most often non-violent crimes). Another problem is that some of the costs of imprisonment that the authors have calculated are paid by the prisoners themselves. (Vězeňská služba České republiky, 2022) This average amount multiplied by the number of relevant gambling prisoners should therefore be deducted from the social cost as it is an internalized cost.

3.6 Personal and family costs

By far the most problematic types of costs are the last two – personal and family costs and cost of completed suicides. Specifically, the authors calculate emotional costs for immediate family and for the parents, relationship breakdown, divorce or separation (even though the Czech legal system has no such concept at all), violence, depression and cost of attempted suicide for the gambler, immediate family and parents. In general Winkler et al. simply multiplied the specific unit cost (taken from Productivity Commission studies) by estimated number of relevant gamblers. In these categories (including completed suicides), the authors included comorbidities in the calculation and, like the Productivity Commission authors, subtracted 20% from costs.

Two major issues regarding economic approach are problematic adoption of practices and results from abroad and internalized costs. Authors simply used personal and family unit costs published in Australian study, and then convert it from AUD to EUR (adjusted to Czech GDP per capita and to inflation by PPP). In their original 2014 study, Winkler et al. acknowledged the methodological problems and argued that the Australian study provides the most appropriate method to use. Authors even mentioned the fact that Australian costs may not be the same or similar to Czech costs. However, these items make up the vast majority of the total estimated social costs (74–79%) and are inherently highly sensitive and problematic, so emphasis on credible calculation is key. Moreover, most of these are internalized costs.

Out of all the personal and family costs presented by Winkler et al. only one is admittedly correct in the context of economic approach – costs of violence calculated by multiplication of number of relevant violent crimes and unit cost of such event (comorbidity-adjusted). Other costs are problematic. Firstly, in the case of costs affecting the gambler itself (depression, suicidal thoughts and suicide attempts affecting the gambler), those are purely internalized costs and not permissible as social costs. Second, in the case of the life partner and parents of gambler, although this topic is extremely sensitive, in economic sense, life partner is in voluntary relationship with gambler (see Walker and Barnett (1999) or Manning et al. (1991)). Therefore, costs of relationship breakdown, divorce or separation, emotional costs for the parents and attempted suicide for the parents are again not permissible, because parents could again be considered to be in voluntary relationship with the gambler. The only case in which we would consider relevant social costs are underage children, as they cannot be considered to be in voluntary relationship.

Thus, the task for addictionologist experts would be to determine the portion of the remaining type of costs (burden of family members and attempted suicide for the immediate family) attributable to children. Such estimation is indeed extremely problematic not only in practice, but also philosophically, because such items are quite difficult to grasp. The authors should

https://doi.org/10.18267/pr.2022.kre.2454.14

have at least tried to adjust the quantified items to Czech conditions or at least explain why for example cost of attempted suicide bore by the immediate family is the same size as the cost of divorce. These data are also adjusted for comorbidities, which is correct, but again, it would be beneficial to at least try to find a specific percentage reduction for Czech conditions. Especially in the case of suicide attempts, comorbidity (e.g. depression) is a huge problem, so it is not sensible to give those comorbidities the same weight as for example in the case of relationship breakdown.

3.7 Costs of completed suicides

Winkler et al. decided to include costs of *completed* suicides into their calculation of social costs of gambling (by multiplying cost of male and female suicides by estimated number of relevant cases), despite the fact that the authors of the Productivity Commission did not include them in their analysis. There are multiple problems with this. First, it is extremely difficult – philosophically, let alone practically – to estimate the cost of ending a human life. Authors again adopted the unit cost (1.4–1.6 million EUR) from another study, this time from Ireland, which again shows lack of sophisticated methodology. If we venture onto such thin ice – can it be argued that all people are worth the same in an economic context? Even some gamblers who e.g. have lower market output, are violent towards their surroundings, financially drain their family, etc.? We are not arguing that they are or are not, only that these are the issues that the authors need to discuss if they go ahead with the calculation. Second, regarding the number of such suicides, authors again adopted very vague methodology, in particular, that Australian gamblers are 5–10 times more likely to commit suicides than regular population. It is very questionable whether this number can be transferred to Czech conditions – especially when authors also showed, that Czech registers exhibited higher number (7% of discharged treated gamblers committed suicides within a year). Third, the comorbidity problem is hugely important here, it is highly unrealistic that only 20% of gamblers (same amount as in other categories) who committed suicide did not have any more underlying problems present. And finally, the most important objection – in economic sense completed suicides are again internalized costs for which the gambler himself bears the consequences (again with the exception of the effect on underage children). Therefore, the only permissible social cost in this category is the impact of suicides on underage children of the gambler.

In Tab. 2 we present the results in the form of a table of corrected categories of social costs of gambling.

https://doi.org/10.18267/pr.2022.kre.2454.14

Tab. 4 Corrected social costs of gambling in the Czech Republic

Type of cost	Estimate (thousands of EUR)	Notes
Costs of treatment		
Treatment	0	Internalized costs, need to add costs of raising equilibrium price of insurance for all people insured
Financial costs		
Costs of bankruptcy	3,512–4,854	Need to add costs of unsuccessful distraints
Costs of productivity loss		
Reduced work performance	0	Internalized costs
Reduced housework performance	0	Internalized costs
Costs of unemployment		
Employee search	0	Internalized costs
Job search	0	Internalized costs
Crime and legal costs		
Police interventions	25,861–35,803	Need to add costs of prevention of gambling-related crimes
Judicial proceeding	2,051	
Prison system	42,887	Need to subtract the costs that gamblers pay themselves
Personal and family costs		
Burden of family members	0	Internalized costs, need to add costs attributable to underage children
Relationships breakdowns	0	Internalized costs
Divorces	0	Internalized costs
Violence	14,298	
Depression	0	Internalized costs
Suicidal thoughts	0	Internalized costs
Suicide attempts to gambler	0	Internalized costs
Suicide attempts to family	0	Internalized costs, need to add costs attributable to underage children
Suicide attempts to parents	0	Internalized costs
Cost of completed suicide		
Completed suicides	0	Internalized costs, need to add costs attributable to underage children
Total	**88,609–99,893**	

Source: own processing

https://doi.org/10.18267/pr.2022.kre.2454.14

CONCLUSION

Using the aforementioned economic approach to calculating the social costs of gambling (developed primarily by Walker and Barnett (1999) and Walker (2007)), we recalculated the sum of the social costs of the study done by Winkler et al. (2014; 2017). Mainly by accounting for internalized costs we were able to reduce the overall estimate of social costs by 84% (from 541.6–619.6 million EUR to 88.6–99.9 million EUR). However, our estimate represents only the lower bound of the social costs, as the costs of unsuccessful distraints, costs of crime prevention and emotional costs attributed to underage children of the gambler needs to be added. The calculation of these items is beyond the scope of this paper and may present an opportunity for follow-up research.

Even though Winkler et al. worked with high-quality epidemiological data and followed relevant studies, their approach lacks methodological consistency and extensively relies on the results and methods of foreign studies. Unfortunately, many of those methods and results do not necessarily fit the Czech realities. The resulting sum of social costs which they come up with is therefore vastly misleading. In addition, a cost-of-illness study is not suitable for a comprehensive assessment of the impact of gambling on society, as the social benefits, which Winkler et al. refused to calculate, need to be included in the calculation. However, this is rather a mistake of the Czech legislators who cited this type of study in the explanatory memorandum of the Lottery Act.

The Winkler et al. study demonstrates the need for complementing medical and epidemiological knowledge with the findings of economics, especially when it comes to dealings with costs, benefits or risk, i.e. categories connected to human action which economics has been studied for centuries. For future research we propose those areas where the use of economics could be particularly fruitful: to refine both the methodology and the calculation of the social costs and benefits of gambling itself, to establish methods and factors specific to social cost analysis in the Czech Republic, and to evaluate public policies or policy proposals designed to respond to gambling and other addictions.

Although our results showed drastic reduction of social costs, we do not want to downplay the issue of pathological gambling in the Czech Republic. The effects of gambling addiction extend to hundreds of thousands of Czechs (see Mravčík et al. (2021)) and their families, friends and communities. However, the solution of this problem does not lie in estimating excessive inconsistent social costs and by ignoring economics, but rather by methodical and multidisciplinary analysis of a specific problem at a specific location.

ACKNOWLEDGEMENT

This paper is output of the project UJEP-SGS-2021-45-014-2 "Společenské náklady hazardního hraní se zaměřením na kriminalitu".

REFERENCES

Act No. 186/2016 Coll., Zákon o hazardních hrách. In: Sbírka zákonů. 26. 5. 2016

Anderson, A. (1997). Economic Impacts of Casino Gaming in the United States. American Gaming Association.

Auld, M. C., & Grootendorst, P. (2004). An empirical analysis of milk addiction. Journal Of Health Economics, 23(6), 1117-1133. https://doi.org/10.1016/j.jhealeco.2004.02.003

https://doi.org/10.18267/pr.2022.kre.2454.14

Becker, G. S., & Murphy, K. M. (1988). A Theory of Rational Addiction. Journal Of Political Economy, 96(4), 675-700. https://doi.org/10.1086/261558

Collins, D., & Lapsley, H. (2003). The Social Costs and Benefits of Gambling, An Introduction to the Economic Issues. Journal Of Gambling Studies, 19(2), 123-148. https://doi.org/10.1023/A:1023677214999

Eadington, W. R. (2003). Measuring Costs from Permitted Gaming: Concepts and Categories in Evaluating Gambling's Consequences. Journal Of Gambling Studies, 19(2), 185-213. https://doi.org/10.1023/A:1023681315907

Gigerenzer, G., & Selten, R. (2002). Bounded Rationality: The Adaptive Toolbox. MIT Press.

Grinols, E. L. (2004). Gambling in America: Costs and Benefits. Cambridge University Press.

Grinols, E. L., & Mustard, D. B. (2006). Casinos, Crime, and Community Costs. Review of Economics and Statistics, 88(1), 28-45. https://doi.org/10.1162/rest.2006.88.1.28

Gross, M. (1998). Legal Gambling as a Strategy for Economic Development. Economic Development Quarterly, 12(3), 203-213. https://doi.org/10.1177/089124249801200301

Chhabra, D. (2016). Estimating Benefits and Costs of Casino Gambling in Iowa, United States. Journal Of Travel Research, 46(2), 173-182. https://doi.org/10.1177/0047287507299591

Kindt, J. W. (2001). The costs of addicted gamblers: should the states initiate mega-lawsuits similar to the tobacco cases?. Managerial and Decision Economics, 22(1-3), 17-63. https://doi.org/10.1002/mde.997

Ladouceur, R., Boisvert, J. -M., Pépin, M., Loranger, M., & Sylvain, C. (1994). Social cost of pathological gambling. Journal Of Gambling Studies, 10(4), 399-409. https://doi.org/10.1007/BF02104905

Manning, W., Keeler, E., Newhouse, J., Sloss, E., & Wasserman, J. (1991). The Costs of Poor Health Habits. Harvard University Press.

Markandya, A., & Pearce, D. W. (1989). The Social Costs of Tobacco Smoking. Addiction, 84(10), 1139-1150. https://doi.org/10.1111/j.1360-0443.1989.tb00710.x

McGowan, R. (1999). A Comment on Walker and Barnett's "The Social Costs of Gambling: An Economic Perspective". Journal of Gambling Studies, 15(3), 213-215. https://doi.org/10.1023/A:1023041227863

Mises, L. (2006). Lidské jednání. Praha: Liberální institut.

Mobilia, P. (1993). Gambling as a rational addiction. Journal of Gambling Studies, 9(2), 121-151. https://doi.org/10.1007/BF01014864

Mravčík, V., Rous, Z., Chomynová, P., Grohmannová, K., Janíková, B., Cibulka, J., Černíková, T., & Cibulka, E. (2021). Výroční zpráva o hazardním hraní v České republice v roce 2020. Národní monitorovací středisko pro drogy a závislosti. https://www.drogy-info.cz/data/obj_files/33497/1102/VZhazard2020_final_20210727.pdf

Productivity Commission. (1999). Australia's Gambling Industries: Final Report. AusInfo. https://www.pc.gov.au/inquiries/completed/gambling/report

Productivity Commission. (2010). Gambling: Productivity Commission Inquiry Report. Australian Government Productivity Commission. https://www.pc.gov.au/inquiries/completed/gambling-2010/report

Rice, D. P., Kelman, S., & Miller, L. S. (1991). The economic cost of alcohol abuse. Alcohol Health and Research World, 15, 307-316.

https://doi.org/10.18267/pr.2022.kre.2454.14

Rockloff, M. J., Browne, M., Russell, A. M. T., Merkouris, S. S., & Dowling, N. A. (2019). A Quantification of the Net Consumer Surplus from Gambling Participation. Journal Of Gambling Studies, 35(4), 1147-1162. https://doi.org/10.1007/s10899-019-09845-0

Schwer, R. K., Thompson, W. N., & Nakamuro, D. (2003). Beyond the Limits of Recreation:Social Costs of Gambling in Southern Nevada. Annual Meeting of the Far West and American Popular Culture Association. http://stoppredatorygambling.org/wpcontent/uploads/2012/12/Beyond-the-Limits-of-Recreation-Social-Costs-of-Gambling-inSouthern-Nevada.pdf

Smith, G. J., & Wynne, H. J. (2000). A Review of The Gambling Literature in the Economic and Policy Domains. Alberta Gaming Research Institute. https://prism.ucalgary.ca/bitstream/handle/1880/1633/economic.pdf?sequence=1&isAllowed=y

Thompson, W. N., Gazel, R., & Rickman, D. (1996). The social costs of gambling in Wisconsin. Alberta Gambling Research Institute. https://prism.ucalgary.ca/bitstream/handle/1880/49232/Social_Costs_of_Gambling_in_Wisconsin_1996.pdf?sequence=1&isAllowed=y

Thompson, W. N., Gazel, R., & Rickman, D. (1997). Social and Legal Costs of Compulsive Gambling. Gaming Law Review, 1(1), 81-89. https://doi.org/10.1089/glr.1997.1.81

Tullock, G. (1967). The Welfare Costs of Tariffs, Monopolies and Theft. Western Economic Journal, 5(3), str. 224-232.

Vězeňská služba České republiky. (2022). Věznice Rapotice: Dluhy. Vězeňská služba České republiky. Retrieved February 3, 2022, from https://www.vscr.cz/organizacni-jednotky/veznice-rapotice/sdilene-sekce/dluhy

Walker, D. M. (2003). Methodological Issues in the Social Cost of Gambling Studies. Journal of Gambling Studies, 19(2), 149-184. https://doi.org/10.1023/A:1023629331837

Walker, D. M. (2007). Problems in Quantifying the Social Costs and Benefits of Gambling. American Journal Of Economics And Sociology, 66(3), 609-645. https://doi.org/10.1111/j.1536-7150.2007.00529.x

Walker, D. M. (2013). Overview of the Economic and Social Impacts of Gambling in the United States. In L. Vaughan-Williams & D. S. Siegel (Eds.), The Oxford Handbook of the Economics of Gambling.

Walker, D. M., & Barnett, A. H. (1999). Social Costs of Gambling: An Economic Perspective. Journal of Gambling Studies, 15(3), 181-212. https://doi.org/10.1023/A:1023089111024

Walker, D. M., & Sobel, R. S. (2016). Social and Economic Impacts of Gambling. Current Addiction Reports, 3(3), 293-298. https://doi.org/10.1007/s40429-016-0109-8

Wardle, H., Reith, G., Best, D., McDaid, D., & Platt, S. (2018). Measuring gambling-related harms: a framework for action. Gambling Commission. http://eprints.lse.ac.uk/89248/1/McDaid_Gambling-Related_harms_Published.pdf

WEFA. (1997). A study concerning the effects of legalized gambling on the citizens of the state of Connecticut: prepared for state of Connecticut, Department of Revenue Services, Division of Special Revenue. Department of Revenue Services, Division of Special Revenue. https://cslib.contentdm.oclc.org/digital/collection/p128501coll2/id/70612/

Winkler, P., Bejdová, M., Csémy, L., & Weissová, A. (2014). Problémové Hráčství: Společenské Náklady na Hazadní Hry v České Republice. Psychiatrické centrum Praha. https://www.nudz.cz/files/common/winkler_problemove_hracstvi.pdf

https://doi.org/10.18267/pr.2022.kre.2454.14

Winkler, P., Bejdová, M., Csémy, L., & Weissová, A. (2017). Social Costs of Gambling in the Czech Republic 2012. Journal of Gambling Studies, 33(4), 1293-1310. https://doi.org/10.1007/s10899-016-9660-4

Wynne, H. J., & Shaffer, H. J. (2003). The socioeconomic impact of gambling: The Whistler symposium. Journal of Gambling Studies, 19(2), 111-121.

https://doi.org/10.18267/pr.2022.kre.2454.14

Web page of our publishing house
https://oeconomica.vse.cz/

Publisher: Prague University of Economics and Business
Oeconomica Publishing house
Year of publication: 2022

ISBN 978-80-245-2454-2
ISSN 2453-6113
https://doi.org/10.18267/pr.2022.kre.2454.0

ISBN 978-80-245-2454-2