Volume 16 Issue 1 2024

DETUROPE

Central European Journal of Regional Development and Tourism

Czech Republic ◆ Hungary ◆ Serbia

DETUROPE

THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM

Volume 16, Issue 1

2024

DETUROPE – the Central European Journal of Regional Development and Tourism is an international online open-access scientific journal publishing results of theoretical and applied research in the fields of regional and rural development and tourism. The articles published in this journal pass through a double-blinded peer reviewing process.

DETUROPE is covered by Web of Science Emerging Sources Citation Index and indexed in the Scopus, ERIH plus, DOAJ (Directory of Open Access Journals), MTMT (The Hungarian National Scientific Bibliography), and the KoBSON (Serbian Consortium for Coordinated Acquisition of Electronic Resources) databases.

Published by the Regional Science Association of Subotica, Serbia in co-operation with the University of South Bohemia, Faculty of Economics and University of Pannonia, Georgikon Faculty, Kesthely, Hungary.
Address of the contact information: DETUROPE. Regionális Tudományi Társaság Szabadka/Društvo za Regionalne Nauke, Corvin Mátyás/Matije Korvina 9. 24000 Szabadka/Subotica, Serbia, deturope@gmail.com
ISSN 1821-2506

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Original scientific paper

FINANCIAL AWARENESS OF YOUNG ADULTS – EXPERIENCE FROM A CROSS-BORDER SURVEY AMONG HUNGARIAN SPEAKING STUDENTS

Szabolcs SZIKSZAI[a], Andrea Magda NAGY[b], Nikolett BOSNYÁK-SIMON[c], Csilla RAFFAI[d]

[a] Associate Professor, University of Pannonia, Faculty of Business and Economics, Department of Economics, H-8200 Veszprém Egyetem Str. 10., szikszai.szabolcs@gtk.uni-pannon.hu
[b] Associate Professor, University of Pannonia, Faculty of Business and Economics, Department of Economics, H-8200 Veszprém Egyetem Str. 10., nagy.andrea@gtk.uni-pannon.hu
[c] Assistant Research Fellow, University of Pannonia, Faculty of Business and Economics, Department of Accountancy and Finance, H-8200 Veszprém Egyetem Str. 10., simon.nikolett@gtk.uni-pannon.hu
[d] Lecturer, Veszprémi SZC "SÉF" Hospitality-Tourism Technical and Vocational Training School, H-8200 Veszprém Halle Str. 3., .info@turajo.hu

Cite this article: Szikszai, S., Nagy, A.M., Bosnyák-Simon, N. Raffai, C. (2024). Financial Awareness of Young Adults – Experience From A Cross-Border Survey Among Hungarian Speaking Students. *Deturope*, 16(1), 4-20.

Abstract

The focus of the present study was to investigate the financial knowledge, attitude, and overall financial awareness of recent high school graduates starting their undergraduate studies in economics in 2021. The authors' objective was to assess the impact of the strategy adopted by the Hungarian government in 2017, and the related Money7 series of programmes launched in 2015, aimed to improve the financial literacy of secondary school students. The research methodology was based on an internationally recognised model developed by the OECD. For the purpose of international comparison, the authors conducted empirical research among Hungarian native-speaking students in two neighbouring countries, where similar strategies were adopted to develop financial literacy of young adults. The results of the survey were analysed using analysis of variance to investigate whether participation in financial literacy development programmes and demographic characteristics such as gender and location, i.e., the university where the student is studying, influence financial knowledge, behaviour, attitude and overall financial awareness. The results showed that the level of financial awareness of both Hungarian and cross-border Hungarian speaking students exceeds the level of financial awareness of their relevant population. This confirmed the positive medium-term effects of the strategy and the related financial programmes aimed to improve the financial literacy of young adults, as suggested by other authors. In terms of demographic characteristics, research findings also reinforced the results of previous international research, as female students in the sample were characterised by a higher level of financial attitude, while male students were found to possess a higher level of financial knowledge.

Keywords: financial knowledge, financial awareness, financial attitude, financial literacy, first-year students

INTRODUCTION

Financial awareness contributes to consumer welfare and, in the long term, it facilitates a more efficient use of resources, improves family welfare and provides for safer institutions on a macroeconomic level. Ultimately, it enables the economy to grow on a more sustainable development path.

Previous international and domestic research has shown that people's perceptions of financial security depend on their financial literacy and their ability to put it into practice. Several studies among university students have shown that young people display a low level of financial literacy, often overestimate their financial knowledge and are not always able to apply it in practice. First, a brief theoretical summary of the definitions of financial literacy and financial awareness is provided, together with the presentation of the main results of similar research conducted in the past. Then the methodology of the research and the database used are detailed, followed by a conclusion, highlighting the main findings and outlining possible directions for further research.

Based on the results of previous OECD surveys and the lessons of the financial crisis, in 2015 Hungary joined the European Money Week (Money7) programme, a school-based initiative spanning nearly 30 countries, with the main objective of raising financial literacy among primary and secondary school students. The focus of the programme is on financial education in schools, with extra-curricular classes on financial topics scheduled for the time of the Financial and Management Week. In addition, the Government of Hungary has developed a 7-year strategy covering the period 2017-2023 to improve the financial literacy of students still in the school system. The strategy has been developed taking into account OECD/INFE and international best practices and focuses on developing financial literacy among primary and secondary school students.

The main objective of this research is to assess the results of the government's financial literacy programmes and strategy, through the evaluation of the financial knowledge, behaviour, attitude and overall financial awareness of young people fresh out of secondary school in 2021. The empirical research, therefore, examines the impact of the Money7 programme over a 5-year time horizon and the impact of the strategy to improve young people's financial literacy over a 4-year time horizon.

As the authors are lecturers at the Faculty of Economics of the University of Pannonia, the primary target group of the research were first-year economics students of the University of Pannonia. These are young people who had just started their secondary school studies at the time of the adoption of the financial literacy strategy and who, as secondary school students, participated in financial literacy programmes in the preceding years. In addition to the original research objectives, the survey also sheds light on which components of financial literacy are still lacking and, thus, need to be more strongly emphasised in higher education. The set of questions, the analyses and the evaluation of the results were based on the internationally recognised OECD methodology, ensuring that the level of financial literacy of students is comparable with the level of financial literacy of the relevant population as measured by the OECD.

Subsequently, in order to extend the research beyond the national borders of Hungary, the survey was also conducted among first-year economics students at Babes-Bolyai University in Romania, which is very similar to the University of Pannonia in terms of its main characteristics and training portfolio. The reason for choosing the Romania-based Babes-Bolyai University as a peer study is that the National Bank of Romania (Banca Nationala a Romaniei) has been organising financial awareness development programmes for primary, secondary and college students since 2011. Initially, there were events related to "financial awareness" in only 4 cities, but by 2022, 78,000 students from 600 educational institutions were reached through the "Let's talk about money and banks" project. In 2018, the Ministry of National Education, the National Bank of Romania, the Ministry of Finance, the Financial Supervision Authority and the Romanian Banking Association signed a cooperation agreement to jointly implement financial education activities and map out a National Financial Education Strategy. The document sets out an inter-institutional framework in which the five organisations jointly carry out financial education activities.

The paper begins with a brief theoretical summary of the definitions of financial literacy and financial awareness and the main results of previous research on the subject. Then the exact methodology of the present research is presented, together with the database used. The paper concludes by highlighting the main findings and outlining possible directions for further research.

THEORETICAL BACKGROUND

Despite nearly 40 years of research, there is no uniform definition of financial literacy and no uniform methodology for its analysis. In numerous international and national publications, the concept of financial literacy is typically defined according to the purpose of the research and the target group.

In everyday language, financial literacy is most often reduced to financial knowledge and financial awareness. In most publications, financial literacy is understood as the ability to be informed about finance, to process information and to make good financial decisions. In Hungary, the National Bank of Hungary was one of the first to develop a comprehensive definition that encompassed many elements of financial literacy concepts such as financial knowledge, and skills (see MNB, 2008).

In the English literature financial culture is referred to by two distinctive terms, “financial capability” and “financial literacy”. “Financial capability” refers primarily to financial skills and abilities, while “financial literacy” refers to comprehensive financial knowledge. In addition, the term “financial awareness” is often used in the financial literature.

The importance of financial decisions is highlighted by the OECD definition of financial literacy as *“a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing”* (OECD, 2014, p.33). Financial awareness is, therefore, considered to be an important part of financial literacy. But since these terms may have various meanings depending on the context, it is important to pin down in the beginning of the discussion what the authors of this study understand by the word “financial awareness”. In this study and the related survey, financial awareness is defined as a combined measure of financial knowledge, financial attitude and financial behaviour. Therefore, the level of financial awareness in this study is determined by a combination of the levels of financial knowledge, attitude and behaviour, which is very similar to the definition of the OECD, only that financial awareness in our understanding is equivalent with financial literacy.

Several international organizations, such as the World Bank (World Bank, 2019) and the OECD, highlighted the positive impact of financial awareness on the economy. Previous OECD research examined the financial literacy of the adult population in 26 countries (OECD, 2005; OECD, 2016). According to the latest 2020 survey, Hungary’s population is in the middle of the financial literacy rankings (OECD, 2020). However, financial decisions still lacked financial planning and had low risk-taking capacity. This clearly pointed to the fact that the practical application of existing knowledge remains the area most in need of improvement.

The market for financial products and services is now so complex that everyone needs a constantly updated knowledge base to be able to use the products on offer with confidence. Low levels of financial awareness can also have a negative impact on the development of the financial services market. The existence and development of adequate financial knowledge is of paramount importance not only at the microeconomic level but also at the macroeconomic level, and its impact is strongly felt in times of economic crisis (see for example Kovács-Terták, 2019).

Several national and international surveys were conducted on financial awareness (Huzdik et al., 2014; Potrich et al., 2016). The results showed that students in higher education had some financial knowledge in almost all the observed dimensions (e.g. knowledge of the benefits and risks of FinTech innovations), but this knowledge was incomplete and not necessarily applicable in practice (SAO, 2021a).

According to a 2020 survey by the State Audit Office of Hungary, nearly 40% of students in higher education overestimated their financial knowledge, which put them at risk of making uninformed financial decisions (SAO, 2021b). Risk aversion was still prevalent among students, but a positive change in financial attitude could be observed. Students considered it important to make savings and maintain a safety margin. The pandemic probably contributed to this process.

Nitoi et al. (2022) examined the factors affecting financial well-being in Romania and identified the lack of financial resources, lack of financial capability and knowledge, lack of trust in financial institutions, and disconnection from information as factors having a negative impact on financial well-being. This research also unveiled that 92% of the Romanian population was financially illiterate.

Horobet et al. (2020) surveyed undergraduate and master's students at the Bucharest University of Economics and Business in 2019-2020. They asked a total of 23 questions. Of these, 8 were from the OECD and the other 15 concerned socio-demographic and other factors that the authors believed influence financial awareness, such as place of work, type of workplace, living conditions. They divided the level of financial awareness into three parts (low, medium and high) and found that women outperform men at both the low and the high level of financial awareness. Overall, students were found to show a relatively high level of financial awareness. However, the authors found that factors such as age, educational degree, living conditions, property and presence in capital markets significantly affect the level of financial awareness.

Several international analyses have examined the gender gap in financial knowledge and awareness. Research has shown that there is a significant difference between women and men, with women generally having lower financial knowledge than men (see for example Bucher-Koenen et al., 2017; Almenberg - Save-Soderberg, 2011; Boisclair - Lusardi - Michaud, 2017; Lusardi - Mitchell - Curto, 2014; Shih - Keh, 2014; Hsu, 2016). Fonseca at el. (2012) also looked at the possible causes of the gender gap. The author pointed out that the gap is not primarily due to male and female characteristics, but to the very process of creating financial awareness.

In a study of college students, Jorgensen and Savla (2010) showed that perceived parental influence has a direct and moderately significant effect on financial attitude, no effect on financial knowledge, and an indirect and moderately significant effect on financial behaviour through financial attitudes. Campenhout (2015) also suggests that parental involvement in financial education programs for young people is not well developed.

The literature on financial awareness among young people is summarised in Garg and Singh (2018). In their study, they highlight the low level of financial knowledge among young people in most parts of the world. They find that various socio-economic and demographic factors such as age, gender, income, marital status and educational attainment affect the level of financial literacy of young people and there is a correlation between financial knowledge, financial attitudes and financial behaviour.

Several authors examined the relationship between education and financial awareness (e.g. Carlin and Robinson, 2012; Xiao and O'Neill, 2016; Xiao and Porto, 2017). In their study, Kaiser and Menkhoff (2017) showed that financial education significantly influences financial behaviour and, even more so, financial literacy. However, the effects of education are highly heterogeneous: less effective in low- and middle-income economies.

The purpose of this research is to show the extent to which conscious financial behaviour and informed financial decision making are typical traits of first-year economics students of the surveyed universities in a financial environment that had changed significantly by 2021.

DATA AND METHODS

The main objective of this research was to map the financial awareness of Hungarian and cross-border Hungarian university students. The first part presents the average financial literacy level of young people who have completed their secondary school studies and are starting their studies in economics, and who also have been participating in a financial literacy development programme. The second part of the analysis maps students' financial attitudes, financial behaviour and the factors determining these traits. And, finally, in an effort to establish the connection between financial literacy and good consumer behaviour, the preferences related to bank selection, that is, the aspects and factors young people take into account when selecting a bank, are also discussed.

The analysis uses data gathered through an online questionnaire survey. To compile the questionnaire, the guidelines of the OECD were adopted, which provide detailed information on how to measure financial awareness (OECD, 2018). These guidelines served as the starting point for the survey, and were supplemented by further questions exploring aspects of bank selection and general demographic data. Thus, the questionnaire contained 29 questions in total. In terms of its structure, it covered the following issues: financial knowledge; financial attitude, and behaviour; knowledge of digital financial (FinTech) solutions; knowledge of financial products; bank selection factors; general demographics (see the questionnaire in the Supplement).

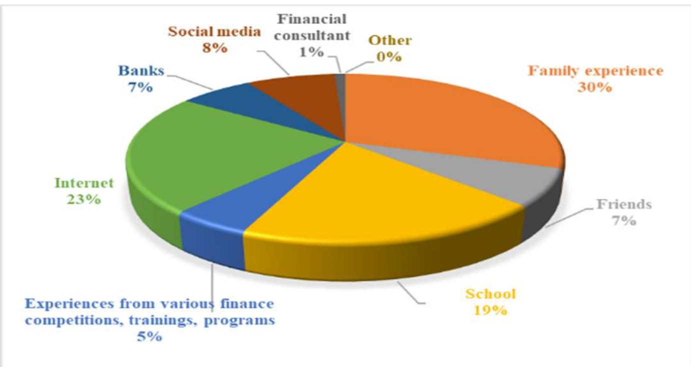
The questionnaire was only available to students online. Data collection started in March 2021 and ended in November 2021. The target group of this data collection was first-year full-time students studying economics. In the data collection process, another higher education institution was chosen in the neighbouring Romania, closely matching the characteristics of the home university of the authors both in terms of the education portfolio and the number of first-year students. Therefore, finally, the first-year students of the Faculty of Business and Economics of the University of Pannonia[1] and the Faculty of Economics and Business Administration of the Babes-Bolyai University[2] were contacted in the data collection process. A total of 315 students from the two institutions completed the questionnaire in full and provided assessable responses (PE: 174; BBT: 141).

RESULTS

Descriptive Statistics

The following descriptive statistical methods help explore the characteristics of the research sample. At the beginning of the questionnaire, students were asked about the main sources of their financial knowledge. In this case, they were allowed to select more than one option, but no more than 3. The distribution of responses is illustrated in Fig. 1.

Figure 1 Sources of students' financial knowledge



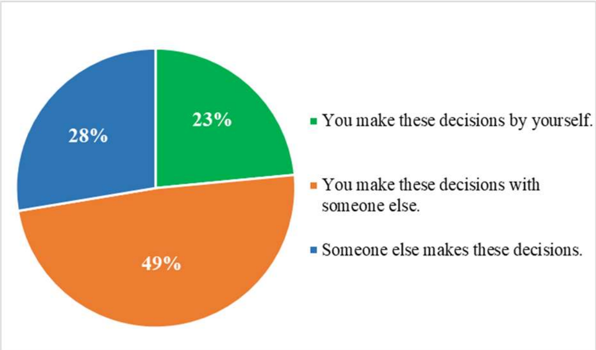
Source: own editing, N=315

[1] PE, "Pannon Egyetem"
[2] BBT, "Babes-Bolyai Tudományegyetem"

In light of the results obtained, it is clear that most students draw their financial knowledge from their immediate environment, and from family experience. The social impact is, therefore very significant, but the fact that almost 20% of the respondents (also) rely on financial knowledge acquired at school supports previous research findings (Noh, 2022) that the younger generation is trying to become more financially aware. In addition to these sources, the internet also plays a key role, with 23% of respondents also using online platforms to gain information.

Students were then asked to share who in their household was responsible for making daily financial decisions. As illustrated in Fig. 2, approximately 50% of respondents make these decisions by consulting and supported by their parents (family members). 28% of respondents said that these decisions are made by others. They are basically those who are still living at home with their parents, not working while studying at university.

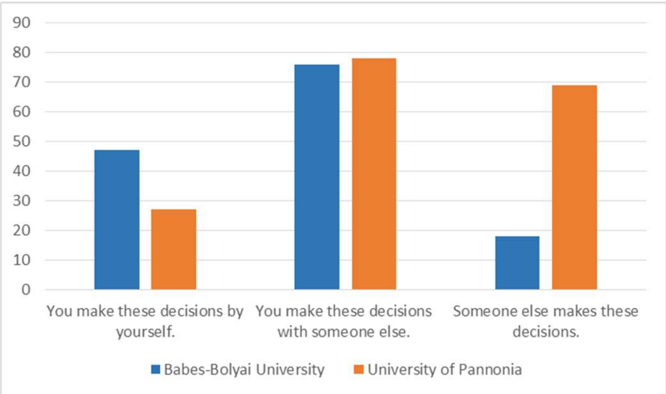
Figure 2 How financial decisions are made



Source: own editing, N=315

For this question, the distribution of respondents by location was investigated. The results are illustrated in Fig. 3.

Figure 3 How financial decisions are made in relation to location



Source: own editing, N=315

On one hand, the sample is balanced between students who make important daily financial decisions together with others. On the other hand, the figure shows that, compared to PE students, more BBT students make decisions on their own, based on their family experience and knowledge acquired at school.

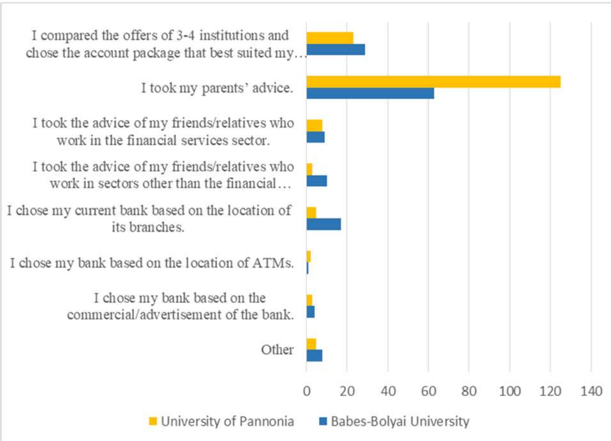
Covid-19 related lockdowns significantly accelerated digital innovation in the financial sector. Therefore, the study also seeks to assess the knowledge and use of FinTech solutions among young students today. In relation to this subtopic 6 statements were formulated (see the questionnaire in the Supplement).

They were asked to rate their answers on a scale of 1 to 5 (1 not true at all, 5 absolutely true*)*. In the evaluation of the answers, students were given 1 point per statement for a rating of 4 or 5, otherwise 0 point. Accordingly, students received a score between 0 and 6 points.

Based on the results obtained, first-year PE students scored an average of 3.6, while BBT students scored a lower average of 2.8. This comparison shows that PE students are more open to and interested in technological innovations, new products and services available online.

Looking at the institutions along gender lines, at BBT, males scored 2.9 while females scored 2.7. At the same time, the average score for first-year female students (3.6) was higher than for males (3.4) at PE.

Figure 4 University students' banking preferences



Source: own editing, N=315

As already indicated in the methodological part of the research, the questions in the OECD guidelines were supplemented by an examination of the aspects of bank selection. In order to identify the factors that influence the respondents' bank selection, the students were asked to tell which criteria they used to select a bank.

The preferences related to bank selection are illustrated in Fig. 4, which shows that parental recommendation plays a crucial role in these young people's bank selection. However, the second most important factor influencing bank selection is the review and comparison of offers published by banks, which also confirms the fact that the young generation is becoming more aware of their finances.

Analysis of Variance

One research goal was to explore the relationship between gender and the average level of financial knowledge. The investigation into whether the sample differs significantly between males and females in terms of financial knowledge, confirmed the results of several previous studies (see for example Siegfried and Wutke, 2021; SAO, 2021).

Financial knowledge is measured using questions from the OECD guidelines. These questions mainly cover the level of knowledge complemented by calculation skills, interest calculation, inflation, the relationship between risk and return, and portfolio management. The surveyed students answered seven questions. If they answered the question correctly, they received one point; otherwise, they received zero. This gave a total of 7 points. Thus, financial knowledge can be measured on a scale of 0 to 7, based on the answers to the questions. In light of the measurement level of the variables, the relationship between gender and the value of financial knowledge is examined using analysis of variance (ANOVA).

The results show that, on average, male students in the sample had a score of 5.0, while females had a lower score of 3.9. ANOVA shows whether the gender group means are significantly different from each other. As seen in the ANOVA table, the significance level of the probability associated with the F test (p=0.000) is less than 0.05, so the null hypothesis is rejected. The result of Levene’s test for homogeneity of variance (p=0.602) indicates that the homogeneity of variance between the two groups is satisfied (Northcott, 2008). This also means that there is a significant difference in the average level of financial knowledge between male and female students in the sample.

Next it is examined whether the location of the institution where students study has a significant impact on their financial knowledge.

The mean value of financial knowledge of first-year students studying economics in the two institutions is 4.3. The probability significance level for the F test is 0.900. This means that there is no significant difference between the mean values. Thus, it can be concluded that students' financial knowledge is not determined by the university they study at.

In a further analysis, the existence of a relationship between gender and financial behaviour is analysed. The question is whether there is a significant difference in the financial behaviour of male and female students.

Questions in the OECD guidelines were used to assess financial behaviour. Accordingly, the behaviour score is calculated based on responses to questions on taking responsibility for financial decisions, budget planning, active saving, keeping track of finances, striving to achieve financial goals, making prudent purchases and paying bills on time. The resulting score is taken as a measure of "financially literate" behaviour.

If respondents make decisions alone or with others, that is, taking responsibility for financial decisions, they are given 1 point. For budget planning, an additional 2 points are given if at least 2 of the statements given were true (see the questionnaire in the Supplement). For active savings, respondents who saved money in any of the ways enlisted in the questionnaire receive an additional 2 points (see the Supplement). Finally, respondents were asked to rate the four statements on a scale of 1 to 5 (1 not true, at all, 5 absolutely true). When the answers were evaluated, respondents were given 1 point per statement for a rating of 4 or 5, otherwise, 0 point. Thus, a total of 9 points were given to respondents. Therefore, financial behaviour is measured on a scale of 0 to 9, based on the answers to the questions

The results of ANOVA show that among the university students included in the survey, the indicator of financial behaviour is also higher for men. The group mean for men was 6.8, while the mean for females was lower, 6.1. The analysis showed a significant difference, as the F test resulted in a p-value of 0.003. However, the p-value of the Levene's test is very low in this case ($p=0.03$), which weakens the result of ANOVA.

It is then investigated whether location, that is, the institution where students study, has a significant impact on their level of financial behaviour.

According to the results, the financial behaviour of Hungarian-speaking students across the border has an average score of 6.7, while the average score of students living in Hungary is slightly lower, 6.1. ANOVA shows a significant difference, as the p-value for the F test is 0.001. But again, the p-value of the homogeneity test ($p=0.000$) shows that the homogeneity of variance condition is not fulfilled, so the result cannot be considered statistically supported.

When asked about their financial attitude, respondents were asked to rate statements on a scale of 1 to 5, with 1 point given to those that they considered not true, at all, and 5 points given to those that were considered absolutely true (see the questionnaire in the Supplement). The attitude score can be calculated as the average of the responses to the three attitude questions, that is, the sum of the scores for these three statements divided by three. Thus, financial attitude is measured on a scale of 1 to 5 based on the responses to the survey questions.

As to the question whether gender affects financial attitude, the analysis of variance answers yes. Female students show a higher mean value of 4.2 for financial attitude, while the group mean for men is 3.8. The difference between the means is significant, as the p-value associated with the F test is 0.000. The condition of homogeneity of variance is also met, with a p-value of 0.534 for the Levene's test.

As to the question of whether the higher education institution attended by the student influences financial attitude, the ANOVA results suggest that it does not. Although PE students have a higher mean value of 4.1 for financial attitude, while the group average for BBT students is 4,0, this difference is not significant, as the p-value of the F test is 0.187.

The score for the overall financial awareness indicator is obtained as the sum of the scores for financial knowledge (7), financial behaviour (9) and financial attitudes (5), as described in detail earlier. The indicator can take any value between 1 and 21.

In this comparative study of financial awareness, the objective was to find out if there was a significant difference between students at the institutions included in the study. The results of ANOVA show that there is no significant difference between the group averages. First-year BBT students have a mean of 15.0, while PE students have a mean of 14.5, but the result of the F test (p=0.072) does not support the statistical significance of this difference.

International comparisons

The results were then compared to values from the OECD survey published in 2020. The three components of OECD's financial literacy indicator are the level of financial knowledge, the ability to apply this knowledge, that is, financial behaviour, and financial attitude. These indicators were studied by OECD in 26 countries, including Hungary and Romania, and the results were also screened by age and gender. For gender comparisons, only data for the total population (18-79 years old) are available; for the other indicators, the data for young people (aged 18-29) could be used. The sample of the research in this article is even narrower as only the responses of first-year students were analysed. Thus, the results of this present survey turned out to display a similar pattern but with higher values than those seen in the OECD survey.

Generally, the results of this present analysis show that university education leads to an increase in financial knowledg scores among first-year students, shown by significantly higher scores among students at both universities compared to the relevant population. One can also make two observations on the impact of location and gender on the financial knowledge of students in this sample, as compared to the results of the OECD survey. First, the impact of gender in this sample seems to be very similar to that seen in the OECD survey, with the male population showing a higher level of knowledge and the female population higher levels of attitude and behaviour.

Second, as shown in Tab. 1, although the financial knowledge of BBT and PE students are on the same level, BBT students' knowledge is higher than the Romanian average, while PE students are below the average of Hungarian youngsters. To put this result into perspective, it should be emphasised that Hungary achieved its highest score in the OECD survey in the category of financial knowledge both in the young and in the total population. In fact, the knowledge of basic financial concepts (e.g. inflation, simple interest, compounded interest, risk, and diversification) in Hungary was close to the OECD average.

Table 1 International comparison of financial awareness

	Financial						Financial awareness	
	knowledge		attitude		behaviour			
	M	F	M	F	M	F	M	F
PE	5,4	4,0	3,6	4,2	6,9	5,9	16,0	14,1
	4,3		4,1		6,1		14,5	
BBT	4,8	3,8	3,9	4,1	6,7	6,7	15,4	14,7
	4,3		4,0		6,7		15,0	
PE&BBT	5,0	3,9	3,8	4,2	6,8	6,1	15,6	14,3
	4,3		4,1		6,4		14,8	
HU (18-29)	4,7		3,1		4,3		12,1	
RO (18-29)	3,3		2,5		4,9		10,6	
HU (18-79)	4,7	4,5	3,2	3,3	4,4	4,6	12,3	12,4
	4,6		3,3		4,5		12,3	
RO (18-79)	3,5	3,4	2,7	2,8	5,0	5,0	11,2	11,2
	3,5		2,7		5,0		11,2	

Source: own research, OECD (2020).

CONCLUSION

This present study used the results of a survey to assess and compare the financial knowledge, attitude and behaviour of first-year economics students at two higher education institutions with the objective of gaining an insight into the level of financial awareness of students at the two universities. In the survey, in addition to measuring subject knowledge, students' financial attitudes, habits and goals were also examined. Data collection took place between March and November 2021 and the research was conducted using the internationally recognised OECD methodology, which allows for international comparisons and can be used to measure changes in a future survey.

The survey results show that financial awareness among students in the regional centres of higher education included in the study exceeds the level of financial awareness of the relevant young population (18-29 years old). This clearly demonstrates that there has been and still is a relevance and social utility of the strategy and the series of programmes aimed at developing financial literacy among young adults. The results also support the conclusions of the international literature that young people in higher education are more financially literate than the general population. Within the financial awareness of young people, levels of financial behaviour and financial attitudes are higher than average, with financial knowledge being higher for Hungarian speaking Romanian students of BBT and lower for Hungarian students of PE than for the population aged 18-29.

The results of the survey also show that personal contact is a determining factor in the development of financial literacy, with the family environment playing a key role, alongside the internet and education. In the overall sample, parental influence is also dominant in the management of daily finances. Parental recommendation plays a decisive role in bank choice, as well as in knowledge acquisition and financial decision making. This was followed by a review and comparison of the offers published by banks, which suggests that the younger generation is trying to become more aware of their finances. The role of education is expected to increase as the number of semesters spent in business education grows, and the rapid spread of new technologies is predicting a greater role for the internet.

The average use of FinTech services by PE students is higher than that of BBT students, indicating that cross-border students are less likely to use the opportunities offered by new financial innovations to manage their finances. The comparison shows that Hungarian students in the home country are more interested in benefiting from the results of financial technology innovation.

Analysis of variance between gender and financial knowledge levels shows that young men in the sample are on a significantly higher average financial knowledge level than young women. When the relationship between gender and financial behaviour is examined, men also show a higher value, but the latter result is weakened by the fact that the homogeneity of variance condition is not met. Analysis of variance between gender and financial attitude showed that females scored significantly higher than males on their level of financial attitude. In the OECD international survey, the gender gap in financial knowledge and financial attitudes shows the same trends for the whole population (18-79 years). However, the average for financial attitudes is higher for women (Hungary) or the same as for men (Romania). Overall, these findings support the findings of international research, and, in a future study, the reasons for these differences should be investigated in more detail.

An analysis of the relationship between participation in financial educational programmes and financial awareness shows that students who have previously participated in such training have significantly higher levels of financial awareness. The analysis has also shown that there is no significant difference between the two universities in terms of the mean value of students' financial literacy. In conclusion, there is no significant difference in financial knowledge and financial awareness between students at the two universities studied, i.e. their financial awareness is not affected by the university they study at. Consequently, the financial programmes implemented in recent years in the 2 countries under study have achieved the same results in terms of developing young people's financial awareness.

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DETUROPE – *THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 16 Issue 1 2024 *ISSN 1821-2506*

Original scientific paper

MEASURING SUSTAINABLE DEVELOPMENT IN THE EUROPEAN UNION BASED ON THE 2030 AGENDA INDICATORS

Dorottya Edina KOZMA[a]

[a]University of Pannonia, Egyetem street 10, Veszprém, H-8200, kozma.dorottya.edina@gtk.uni-pannon.hu

Cite this article: Kozma, D.E. (2024). Measuring Sustainable Development in the European Union Based on the 2030 Agenda Indicators. *Deturope*, 16(1), 21-42.

Abstract

The author's research was based on the indicators of the 2030 Agenda for Sustainable Development, which are used to explore the measurement of sustainable development in the European Union for the period 2014-2018. Various statistical and econometric methods were used in the quantitative research, such as factor analysis, correlation analysis, and scale-alignment transformation. The main objective of the research is to show the diversity of the possibilities for measuring sustainable development and the extent to which the selected methods can reduce the indicators in the 2030 Agenda database. The results suggest that the set of indicators for the 2030 Agenda can be reduced in size without significantly reducing the information content. The established sustainable development factors show a strong relationship with GDP and HDI indicators. Sustainable development can be analyzed using a single composite indicator (CSDGI) for the five years under study. The assessment of sustainable development indicators, together with these methods, provides a new methodological basis for measuring sustainability.

Keywords: the 2030 Agenda, European Union, sustainable development, database

INTRODUCTION

Achieving sustainability and sustainable development is a huge challenge for humanity. This is because human activities and behaviour have contributed in an integral way to the development of unsustainable processes. The population explosion of the 20th century, globalization and economic growth triggered a crisis that created a system of interconnected problems in nature, economy and society. In our daily lives, be it in our personal lives or in the world of work, sustainable development as a concept and a definition in most disciplines, emerges significantly in terms of its diffusion from the 20th century onwards (Kerekes & Fogarassy, 2007). Also, this era is mentioned in a study by Silva et al. (2014), where we read that the concern for environmental issues and impacts can be attributed to developments in the post-World War II period. The war has not only had an impact on the environment, but also in terms of widening disparities in development between countries, which has been paralleled by changes in living standards (Faragó, 2015). Minimal attention has been paid to the waste and by-products of industrial production and the irreversible processes they generate. The description of these factors contributes to the essential study of sustainable development, both conceptually and in terms of measurability.

Defining the concept of sustainable development, exploring the relationship between the dimensions and measuring the progress of countries is a complex and careful task. Conferences and conventions held over the decades – as well as the various framework strategies at UN and EU level – have contributed to measuring progress towards sustainable development and quantifying and monitoring progress towards the targets. In this research, the author examines the measurement of sustainable development, sustainability based on the objectives of the current framework strategy *"Transforming our world: the 2030 Agenda for Sustainable Development"* (hereinafter: Agenda 2030) and the related indicator framework. The main objective of the research is to measure sustainable development based on the 2030 Agenda using different mathematical-statistical-econometric methods, while at the same time, the reduction of the indicators is also implemented. An additional aim is to explore the relationship between the factors created and the GDP, HDI indicators and to be able to assess the performance of the EU Member States in sustainable development by creating a single indicator. The new outcome of the research is the development of a methodology using applied methods. This should facilitate future research on measuring sustainable development.

THEORETICAL BACKGROUND

Sustainable development and sustainability is for everyone. There is hardly a single person on the planet who knows all its concepts and contents. The main reason is that countless researchers have developed their own definitions to describe the concept. Of course, in this case we cannot forget the concept of the Brundtland Commission (WCED), which was introduced in the 1980s as follows: *"... development that meets the needs of the present without compromising the ability of future generations to meet their own needs"* (WCED, 1987, p. 16). In fact, we need to achieve a development that meets the needs of those living today without compromising the provision for future generations. We might ask, then, what exactly do we need to maintain? In the first place, utility, physical performance and natural capital are necessary to achieve sustainability (Daly, 2002). It is necessary to sustain the community and society, and to support life.

Before the concept was formulated, a number of conferences and conventions have sought to focus on the concept of sustainability since 1972. Before discussing these, however, we should not forget Rachel Carson's seminal book *"Silent Spring"*, which recognized the powerful impact of pesticides on the environment (Carson, 1962). After that, some kind of change was set in motion, which the Club of Rome tried to carry forward. They identified global problems, analyzed them and published a plan of action to solve them. The emergence of sustainability was basically attributed to the fact that humanity must stop uncontrolled quantitative growth and thus be able to prevent catastrophe (Szabó, 2008).

The first "real" sustainability-based conference was held in Stockholm in 1972, which launched the conceptual history of sustainable development (Zolcerova, 2016). General principles such as environmental preservation, eco-development and the right to a healthy human life were discussed. A central task of the World Commission on Environment and Development (Brundtland Commission) was to examine the industrial performance of developing countries to see if they could ever match that of developed countries. Through their work, they have strengthened the definition of development as being within ecological limits (Moran et al., 2008). Their report has sought to address the problems facing the world through the complexity of the three dimensions of sustainable development (Burjánné Botos, 2002).

Further conferences were held in the period that followed, with the focus remaining on catching up with developing countries and the need to address the problems in the dimensions together rather than aspect by aspect. The 1992 UN conference produced the first Sustainable Development Action Plan (Agenda 21), which set out the principles to be addressed, the measures needed to make the transition and the series of steps needed to achieve it (Endl & Sedlacko, 2012). Adopted in 2000, the Millennium Development Goals, also known as "the world's biggest promise", carried forward the approach of previous conferences and set as their main goal the improvement of the lives of the world's poor and sustainable development (Griggs et al., 2014). 8 goals, 18 sub-goals and 48 indicators were identified for follow-up, which, even after the programme's closure, failed to address the world's sustainable development gaps. Of the 8 goals, 3.5 were achieved and developing countries were still at a significant disadvantage compared to developed countries.

The Johannesburg conference in 2002 was needed to assess progress using indicators as part of the monitoring process (Endl & Sedlacko, 2012). Building on the experience of the previous conferences, the Rio+20 World Conference on Sustainable Development was held in Rio de Janeiro from 20 to 22 June 2012, with the aim in addition to broadening international dialogue, to promote and prepare proposals for the establishment of sustainable development (Raworth, 2012). In the author's opinion, the greatest achievement is the initiative that emerged from the conference to establish the Sustainable Development Goals (SDGs), which will replace the Millennium Development Goals (MDGs).

Agenda 2030 is the most recent framework for sustainable development in force, adopted by the United Nations in September 2015 under Resolution A/RES/70/01 (Walsh et al., 2020). In January 2013, UN member states established an Open Working Group to promote sustainable development (Jancsovszka, 2016). The work of the group resulted in the creation of 17 Sustainable Development Goals (SDGs), complemented by 169 additional targets (de Vries, 2015), creating a unique opportunity to create a coherent framework to keep the world on a sustainable path to 2030. It aims to address the challenges facing humanity, recognizing the importance of eradicating poverty (Miola & Schlitz, 2019). The key objective of the SDGs is to stimulate efforts, guide humanity towards sustainability and address the challenges.

The author's research is based on the SDG indicators adopted in March 2016, which can also be seen as a key monitoring element and the basis for the review mechanism (Eurostat, 2018). In total, 244 indicators have been developed for the 17 SDGs to measure progress towards sustainability (Galli et al., 2018). Compared to the MDGs, the innovation lies in the comprehensive assessment, where not only economic stability and environmental integrity but also social equity of well-being are taken into account (Kynčlová et al., 2020). A critical element of the system lies in the overlap between the goals, as the achievement of some goals may trigger ripple effects while achieving others. Understanding the interactions between these goals requires far more detailed information (Weitz et al., 2018). Achieving past and present sustainable development goals is a major challenge for the world's people and countries. For the period 2015-2030, the 17 Sustainable Development Goals (SDGs) represent an ambitious step towards sustainability, as they can provide a much broader picture of the results achieved. The conferences and conventions that preceded it carry the vision forward and reflect an even greater effort by the world to tackle the issues.

Research questions and hypothesis

The quantitative research is based on a database covering all the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda which were downloaded from the Eurostat website (https://ec.europa.eu/eurostat/web/sdi/database). The common feature is that the indicators are all high-level variables, measured on a metric scale, and are therefore well suited to demonstrate the main objective and to implement the chosen methods. The research question is: *"what methods can be used to measure progress towards the SDGs using the Agenda 2030 database?"* In this context, the author of the study has made the following assumptions:

H1: The complex set of indicators for the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda can be well described by fewer indicators in case of the 28 Member States of the European Union.

H2: A statistically significant relationship between the SDGs and GDP, HDI indicators can be found in most cases.

H3: The set of indicators covering the 17 SDG's of the 2030 Agenda can be used to create composite indicators that provide a good description of sustainable development for the 28 EU Member States. By creating them, they will contribute to the characterization and easier interpretation of sustainable development in a single number and to easier measurement of progress.

In all cases, the "goodness" of the methods used in the research was evident in their implementation, i.e. they served their purpose well by meeting the requirements attached to them. In the present case, more possibilities and a simpler interpretation of the measurement of sustainable development were made possible.

DATA AND METHODS

The author's research is based on the indicators of the 2030 Agenda, which are used to explore the measurement of sustainable development in the European Union for the period 2014-2018. It is characteristic of the individual sustainability goals that there is often overlap between them, which is also reflected in the fact that an indicator appears for several goals. In terms of database availability, the indicators of the framework strategy are available on Eurostat's website (https://ec.europa.eu/eurostat/web/sdi/database), collected according to the 17 SDGs, with a minimum time span of 5-10 years. This is the only system that includes statistical data from all 28 Member States and thus provides the required data. In total, 347 indicators were examined, including sub-indicators over a five-year period. The importance of the system also lies in the fact that the indicators have been developed on the basis of the same methodology.

Sustainable development was measured in this study using several statistical-econometric methods for example Factor analysis with Principal Component Analysis, correlation analysis and scale-alignment transformation. In case of FA, the main objective was to reduce the number of indicators for the 17 SDGs in such a way that the author could create as few factors as possible and thus draw conclusions that were close to the original ones with a minimum loss of information. In this case the method of factorization is PCA. Correlation analysis showed the closeness of the relationship of the factors created in the factor analysis with GDP and HDI indicators. The scale-alignment transformation has helped to create a composite indicator for the three dimensions of sustainable development.

Statistical analysis of multivariate compositional data, as seen here, is often a contentious issue, but it is nevertheless essential for quantitative analysis of the growing number of large-scale data sets. The use of various multivariate statistical techniques such as PCA or FA helps to better interpret the results and makes the process less subjective (Tripathi & Singal, 2019). Research using FA and PCA is summarised in Tab. 1.

Table 1 Data reduction-based studies published in the field of sustainability

Name of the authors	Year	Aim	Subject of the study	Applied method(s)
Filzmoser et al.	2009	methodological presentation through a geochemical example	769 agricultural soil sample	FA, PCA
Mahdinia et al.	2018	propose an algorithm as a framework that takes into account the different number of indicators in the different dimensions and divisions of transport sustainability	-	PCA, FA
Mainali et al.	2015	introducing a methodology to assess the sustainability performance of energy technologies in rural electricity	11 indicators	PCA, FA
Mascarenhas et al.	2015	identify a set of sustainability indicators for strategic monitoring of regional territorial plans	Algarve Regional Spatial Plan (130 indicators)	PCA, FA
Nardo et al.	2005	methodological study	there are no specific indicators	PCA, FA, Gronbach Coefficient Alfa, cluster analysis

Table 1 (continued)

Name of the authors	Year	Aim	Subject of the study	Applied method(s)
Reisi et al.	2014	review the main initiatives presented in the literature that measure sustainable transport	9 sustainability indicators	PCA, FA
Riccioli et al.	2020	examine the SFM (Sustainable Forest Management) indicators	6 SFM indicators	PCA, FA
Zarrabi & Fallahi	2014	sustainability rate assessment	Tehran Province, Iraq	FA, cluster analysis

Source: own editing

In their study, Mascarenhas et al. (2015) used PCA to reduce the number of indicators in the regional plan of one region of Portugal (Algarve) that contribute to sustainable development. The work of the other authors can be divided in terms of whether they have carried out a methodological study, such as Reisi et al. (2014), Nardo et al. (2005), Filzmoser et al. (2009) or have used the method specifically to analyze indicators of sustainability (Zarrabi & Fallahi, 2014; Riccioli et al., 2020; Mainali et al., 2015).

Quantitative analyses were carried out using IBM SPSS and Microsoft Excel. The indicators are all high level variables and therefore metric and therefore suitable for implementing different and complex methods. The EU Sustainable Development Strategy was in force from 2014 to 2015, and the 2030 Agenda was adopted in September 2015. Regardless of this division, the indicators were already available under the EU strategy and thus became a coherent whole with the 2030 Agenda.

The different methods used meant examining different numbers of data points. For the 17 SDGs, the data content of the factor analysis was 9,632 data points with sub-indicators, which is 48,160 over the five-year period. Of course, it should be borne in mind that there are indicators *(such as EU imports from developing countries)* that are achievable for several targets, but there are also indicators where the criterion of measurability is not feasible due to their aggregate nature *(global average ocean surface acidity).* The existence of relationships was further explored by examining the relationship between factors from Factor Analysis (hereinafter: FA) and GDP, HDI indicators. In this case, the author performed FA for 52 for 2014, 61 for 2015, 55 for 2016, 62 for 2017 and last but not least, 66 factors for 2018.

To characterize sustainable development by a single number, the author has created composite indicators at Member State level based on the three dimensions (economic, social, environment), or one that includes all aspects. To create the composite indicators, the author used a scale-alignment transformation to ensure that the magnitude and content of the underlying indicators are preserved. In the case of economic, social and environmental targets, the author did not allow that if an indicator appears for more than one target, it can be used for all of them, so they appear only once in the creation of composite indicators. Thus, for one year, the author has analyzed and created composite indicators for 2,044 data units for the economic dimension (73 indicators), 2,072 for the environmental dimension (74 indicators) and 3,136 for the social dimension (112 indicators).

RESULTS

Capturing sustainable development and sustainability at a theoretical and practical level, and interpreting the concept at a theoretical and practical level, involves a number of difficulties and challenges. The 2030 Agenda, as formulated and launched by the UN, makes a significant contribution to making sustainable development tangible and to quantifying and measuring the goals and targets that have been set over the years. The selection and analysis of indicators measured at the appropriate scale is a key issue in helping to achieve this research objective. In the following, the author will present the results obtained for the different methods.

Factor analysis-based data reduction

The complexity of sustainability requires easier and better interpretability, which can only be achieved by reducing the set of indicators. In the field of indicators and within this context, data reduction, there are two similar methods that belong to the same methodological *"family"*. These two methods are Factor Analysis (FA) and Principal Component Analysis (PCA). In terms of similarity, both methods are based on the principle of data reduction and within this, the method of factorization is PCA, where the method is transformed back into factor analysis by rotating the factors.

In this research, the author sought to reduce the number of indicators for the 17 SDGs by FA. The main objective in this case is to generate the fewest number of factors to get a clearer picture of the indicator set, i.e. to reduce the number of indicators, but also to minimize the loss of information and to draw the same conclusions as the original. The present research covered five years and for illustrative purposes, the author presents the results of *"Decent work and economic growth (Goal 8)"* for the year 2018. The suitability of the variables included in the study (26 indicators) was determined on the basis of the KMO (Kaiser – Meyer – Olkin) criterion, with a minimum acceptance threshold of 0.5, so that a value below this threshold cannot be accepted. For all SDGs, the value of the KMO varied between 0.531 and 0.739. In case of the presented SDG 8, this value was 0.720, which is considered to be good-enough, so the method can be implemented on the indicators. During the research, the author did not change the default settings of the SPSS program to determine the number of factors, nor did she change the number of interactions the algorithm should perform. Only the method of implementation was chosen (PCA).

The question that arises in the next step is whether or not the variables are adequately characterized by the factor in question. For this very reason, great attention must be paid to the magnitude of the values, which can be seen by measuring the coefficient of variance (how much explained variance the factors contain). The four factors created for purpose 8 retain 75.70% of the information, which is also the total explanatory power. The criterion is that the information content should be at least 50%. Before drawing the final conclusion, the rotation of the factors must be taken into account. In the tests, the author used a *"promax"* method, which allows for an even better interpretation of the factors and maximizes the variance. It can take values between -1 and 1. Factors could include indicators whose sample item number has the appropriate factor weight.

The KMO and Bartlett's test shows the sample element number, which in this case is 78, so the factor weight must be at least 0.625 for the sample to be significant. Of the total 26 indicators, 12 indicators remain as factor content (for example: "total employment rate", "long-term unemployment rate", "the proportion of young people not in education nor in training", "resource productivity", "GDP per capita" etc.). Indeed, the other indicators were dropped when testing for communality. The 17 SDGs have been analyzed by the author according to the three SDG aspects for the period 2014 to 2018, whose aggregated data for 2018 are shown in Tab. 2.

Table 2 Data reduction-based studies published in the field of sustainability

	SDG 1	SDG 2	SDG 3	SDG 4	SDG 5	SDG 6	SDG 7	SDG 8	SDG 9
KMO	0.579	0.604	0.725	0.684	0.647	0.563	0.680	0.720	0.604
Information content (%)	89.411	78.920	77.863	82.584	82.399	75.335	70.625	75.704	67.125
Level of significance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Number of factors	5	4	4	3	5	3	3	4	3
Number of initial/final indicators	24/12	18/6	31/15	21/6	24/13	16/4	21/7	26/12	22/4
	SDG 10	SDG 11	SDG 12	SDG 13	SDG 14	SDG 15	SDG 16	SDG 17	
KMO	0.736	0.641	0.650	0.624	0.531	0.638	0.709	0.707	
Information content (%)	86.785	75.900	74.956	77.017	88.242	80.481	84.869	80.369	
Level of significance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Number of factors	5	4	4	4	3	4	4	4	
Number of initial/final indicators	23/15	22/14	22/11	15/5	7/4	14/9	25/13	16/12	
	In total			347 initial indicators / 162 final indicators					

Source: own editing

The FA, which performs data reduction and indicator reduction, is an excellent method to prove the hypothesis (*H1. The complex set of indicators for the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda can be well described by fewer indicators in case of the 28 Member States of the European Union)*, as it can illustrate the complexity of indicators with far fewer indicators. Overall, it can be concluded that the criteria of the method is fulfilled without exception in the different steps, the information content is above 50% in all respects, and the KMO criterion is above 0.5. The SPSS program generated between 2 and 6 factors for the five years, with the corresponding indicators selected according to the factor weights. The purpose of the method was fulfilled, so FA is an excellent way to reduce the size of the database, and it is now easier to draw conclusions from the "new" database, measuring the performance of EU Member States. The remaining variables express the SDGs more emphatically with the complexity of the information content.

Relationship between factors and GDP, HDI indicators

The relationship between the factors generated by the FA method used in the first hypothesis was examined in terms of the relationship with GDP and the HDI indicator. More specifically, the question is whether there is a relationship between them and, if so, what kind of relationship. To prove the second hypothesis *(H2. A statistically significant relationship between the SDGs and GDP, HDI indicators can be found in most cases)*, the author used correlation analysis, which shows what the relationship is and the degree of closeness. Correlation analysis quantifies the relationships between variables that can be measured at a high level of measurement (Molnár, 2015). The Pearson correlation coefficient (which can take a value between -1 and 1) can be used to determine the degree of closeness. A property of the method is that it is not necessary to determine the dependent and independent variables, as it is symmetric and thus the variables are interchangeable.

The author's research has drawn conclusions for the five years under study in the light of the factors and the GDP, HDI indicators. The reliability of the conclusions is determined by the level of significance, which is acceptable below 5%. By theme or target, the FA has produced 66 factors for 2018, with a wide range of relationships between the two selected indicators. In several cases, a medium to strong correlation was found between the factor and GDP and between the factor and the HDI. Significant relationships with positive or negative signs for GDP are shown in Tab. 3. For the factors shown in the table, SDG_01_01 indicates that the first factor is significant at Goal 1, while SDG_08_02 is the second factor at Goal 8. The interpretation is the same for significant factors and HDI.

Table 3 Significant GDP - factor relationships for the year 2018

Name of the factor	Correlation coefficient	Name of the factor	Correlation coefficient
SDG_01_ No poverty		SDG_08_02	0.813***
SDG_01_02	-0.493***	SDG_08_03	-0.357*
SDG_01_03	-0.431*	SDG_09 Industry, innovation and infrastruc.	
SDG_02_ Zero hunger		SDG_09_01	0.430**
SDG_02_02	0.427**	SDG_09_02	-0.492***
SDG_02_04	0.483***	SDG_10_ Reduced inequalities	
SDG_03_ Good health and well-being		SDG_10_02	0.916***
SDG_03_01	-0.540***	SDG_10_05	-0.385*
SDG_03_02	-0.517***	SDG_11_Sustainable cities and communities	
SDG_03_03	-0.565***	SDG_11_01	-0.449**
SDG_04_Quality education		SDG_11_03	-0.531***
SDG_04_01	-0.458**	SDG_12_ Responsible consmuption and prod.	
SDG_04_02	0.657***	SDG_12_01	0.567***
SDG_05_Gender equality		SDG_12_04	0.733***
SDG_05_01	0.422**	SDG_13_ Climate action	
SDG_05_02	0.491***	SDG_13_02	0.348*
SDG_06_Clean water and sanitation		SDG_13_03	0.544***
SDG_06_02	-0.426*	SDG_16_Peace, justice and strong institutions	
SDG_06_03	-0.362*	SDG_16_01	0.779***
SDG_07_Affordable and clean energy		SDG_16_03	-0.498***
SDG_07_01	0.685***	SDG_17_ Partnership for goals	
SDG_07_03	0.426*	SDG_17_01	0.351*
SDG_08_Decent work and economic growth		SDG_17_02	0.696***
*The significance level of the correlation coefficient *: 5% > p < 2,5%; **: 2,4% > p < 1,1%, ***: 1% > p < 0%*			

Source: own editing

It can be seen that factor-GDP pairs with different strengths and directions of relationship have been created for the different SDGs. In the case of the goals describing the social dimension (SDG_03_03; SDG_04_01), a negative correlation can be seen, due to the fact that they take away from the value of GDP and add nothing to it; and for the factors that describe the health of people and the development of society, it can be seen that health expenditure accounts for a very large proportion of GDP. In the case of the economic aspect (SDG_08_02), there is an explicit link with GDP, since some indicators (included in the factor) are based on GDP itself. The existence of a close, positive correlation is due to this factor. From the environmental point of view, the factors typically include indicators (e.g. primary and final energy consumption) whose correlation is due to a long-term relationship. Research has shown/shows that energy generates economic growth in the long run. The moderately negative relationship of air pollution indicators with GDP (SDG_11_03) can be explained by the fact that the economy is heavily burdened by the damage caused by various pollutants. The economic damage results from the following factors: illnesses, deaths, medical treatments and the number of hours lost from work.

For the HDI indicator, the author of the study examined the same 66 factors as for GDP. Again, in terms of the type of relationship, significant and non-significant; positive and negative; loose, medium and close relationships were found. Cases with a loose correlation coefficient were largely excluded from the analysis due to the level of significance, but those with a corresponding value showed a detectable relationship between the factors and HDI. The relationship between the factors, which are then broken down into the three aspects of sustainable development, and the HDI indicator is also complex. Significant relationships with positive or negative signs for HDI are shown in Tab. 4.

Table 4 Significant HDI - factor relationships for the year 2018

Name of the factor	Correlation coefficient	Name of the factor	Correlation coefficient
SDG_01_ No poverty		SDG_08_03	-0.465**
SDG_01_02	-0.733***	SDG_09 Industry, innovation and infrastruc.	
SDG_01_03	-0.376*	SDG_09_02	0.639***
SDG_01_04	-0.441**	SDG_09_03	0.398*
SDG_02_ Zero hunger		SDG_10_ Reduced inequalities	
SDG_02_02	0.544***	SDG_10_01	0.444**
SDG_02_03	-0.575***	SDG_10_02	0.651***
SDG_02_04	0.676***	SDG_10_03	-0.521***
SDG_03_ Good health and well-being		SDG_11_Sustainable cities and communities	
SDG_03_01	-0.671***	SDG_11_01	-0.588***
SDG_03_02	-0.584***	SDG_11_02	0.411*
SDG_03_03	-0.819***	SDG_11_03	-0.653***
SDG_04_Quality education		SDG_12_ Responsible consmuption and prod.	
SDG_04_01	-0.738***	SDG_12_01	0.551***
SDG_04_02	0.654***	SDG_12_04	0.632***
SDG_05_Gender equality		SDG_13_ Climate action	
SDG_05_01	0.424**	SDG_13_02	0.392*
SDG_05_02	0.502***	SDG_13_03	0.409*
SDG_05_03	0.427**	SDG_14_Life below water	
SDG_06_Clean water and sanitation		SDG_14_01	0.385*
SDG_06_02	-0.483***	SDG_16_Peace, justice and strong institutions	
SDG_06_03	-0.398*	SDG_16_01	0.853***
SDG_07_Affordable and clean energy		SDG_16_03	-0.454**
SDG_07_01	0.685***	SDG_17_ Partnership for goals	
SDG_08_Decent work and economic growth		SDG_17_01	0.459**
SDG_08_01	-0.430**	SDG_17_02	0.523***
SDG_08_02	0.738***		
The significance level of the correlation coefficient *: 5% > p < 2,5%; **: 2,4% > p < 1,1%, ***: 1% > p < 0%			

Source: own editing

In this case, however, the complexity of the indicator used as a basis for comparison becomes apparent, in that life expectancy at birth, educational attainment and a decent standard of living (GDP at purchasing power parity) are also integral components of the HDI. Indicators covering social factors are characterized by the fact that they can be found to be inversely related, even if they are also components of the HDI. In the case of the economic dimension (SDG_08_02), the strong relationship is due to the correlation with GDP, which is also characteristic of the correlations with the environmental dimension.

Overall, it can be concluded that for the year 2018, there are positive or negative, significant or non-significant, loose, medium and strong relationships between the factors and GDP and HDI indicators. For GDP, 31 of the 66 factors have a statistically significant relationship, while for the remaining 35 no relationship can be interpreted. In the 2014 study, there is a 50/50 ratio (26-26) of significant to non-significant factors, compared to 32-29 in 2015. The relationship between indicators and GDP for 2016 has 30 significant and 25 non-significant relationships, while 2017 shows a ratio of 32/30. In contrast, for HDI, a significant relationship is shown for 37 out of 66 factors. Compared to the other years studied, in 2014, 36 out of 52 factors had a linear positive or negative relationship, while in 2015 the ratio is 38/23. In 2016, 35 out of 55 factors have positive and negative significant cases, while 2017 data shows a ratio of 36/26. These results show that each year there are more factor - HDI pairs with a significant relationship, so significant results could be generated.

Composite indicator for sustainable development

It may often seem simpler to examine a single indicator than to grapple with identifying trends in several indicators of a similar nature, which are significantly more useful in comparing the performance of several Member States simultaneously (Li et al., 2012). The way in which sustainable development concepts appear in a myriad of disciplines can make it difficult to assess closely related indicators. A further complication is that sustainability processes can vary in space and time, often requiring the integrity of multiple indicators to create a single composite index (Cîrstea et al., 2018). A study by Zhou et al. (2007) concludes that they are increasingly being used by international organizations for performance monitoring, public communication and policy analysis. One might ask what exactly the term composite indicators means.

A summary table (Tab. 5) is presented to familiarise the reader with the main areas for the creation of composite indicators for sustainable development and to identify the newly created indicators and the methodology used.

Table 5 Composite indicators for sustainable development

Name of the authors	Year	Aim	Name of the composite indicator	Applied method(s)
Bolcárová & Kološta	2015	create an aggregate indicator of sustainable development from the EU SDIs indicators	(aSDI) Aggregated Sustainable Development Index	PCA
Cîrstea et al.	2018	create an index that represents the sustainability of renewable energy	RESI – Renewable Energy Sustainability Index	FA, PCA
Foa & Tanner	2012	an introduction to the methodology of the social development indicators	HDI, GEM, WGI	methodological
Mazziotta & Pareto	2013	general guidelines for the development and compilation of the composite index	there is no specific composite indicator	simple arithmetic mean, PCA, Multicriteria Analysis
Saisana & Philippas	2012	sustainable society assessment using the composite index	SSI – Sustainable Society Index)	indicator selection, missing data, normalization, weighting, aggregation

Source: own editing

In the author's research, a scale-alignment transformation was used to create composite indicators by dimension and their standardized versions. This method should be used when the object of the study contains several variables, because it allows to combine the scale and size of the variables. Creating the composite indicator consisted of a series of steps defined by dimension. The European Union's sustainable development database itself defined the phenomenon, selected and then defined a set of indicators for the SDGs. The next step was to homogenize the data using a scale-alignment transformation (the variables are transformed to values between 0 and 1), a method that is appropriate for cases involving several variables. The variables are scaled (i.e. "normalized") by subtracting the mininum value of the variable from the actual value of the variable and then dividing this difference by the range of the variable (i.e. the difference between the maximum and minimum values) (Feuerstahler & Wilson, 2021). Last but not least, the author did not weight the homogenized data, but simply aggregated them and, as a last step, a composite indicator was created.

According to this research, this method was performed by the author for 112 social, 73 economic and 74 environmental indicators. The composite indicators ($CSDGI_{Economic2018}$; $CSDGI_{Environmental}2018$; $CSDGI_{Social2018}$) for 2018, which were created separately for the three pillars of sustainable development, are presented in Tab. 6.

Table 6 Composite indicators based on the three pillars of sustainable development

	Countries	$CSDGI_{Eco2018}$	Countries	$CSDGI_{Env2018}$	Countries	$CSDGI_{Soc2018}$
28	Greece	1.0503	Bulgaria	-8.4555	Romania	-33.4009
27	Romania	2.8600	Poland	-7.1848	Bulgaria	-32.8986
26	Bulgaria	3.0660	Luxembourg	-6.9889	Latvia	-23.1744
25	Croatia	6.1890	Belgium	-5.9205	Italy	-21.2999
24	Lithuania	7.5031	Estonia	-5.7269	Greece	-20.3406
23	Spain	7.5698	Lithuania	-5.1564	Croatia	-19.0202
22	Portugal	8.3536	Malta	-5.1124	Lithuania	-17.2479
21	Slovakia	8.6832	Romania	-5.0739	Slovakia	-15.5858
20	Italy	8.9131	Czechia	-3.3148	Hungary	-15.4634
19	Poland	8.9401	Hungary	-3.2510	Portugal	-14.6260
18	Cyprus	9.6014	Cyprus	-2.9041	Poland	-12.7871
17	Latvia	10.5349	Slovakia	-2.8281	Spain	-12.7617
16	Estonia	10.6080	Germany	-2.6313	Cyprus	-11.2110
15	Hungary	12.2809	Latvia	-2.1027	UK	-8.9617
14	Slovenia	13.3239	Netherlands	-1.7218	Germany	-8.6248
13	Malta	13.6450	Finland	-1.7166	France	-8.2907
12	Ireland	13.8945	Austria	-1.1093	Czechia	-8.2203
11	Luxembourg	16.0685	Portugal	-0.6699	Estonia	-7.7039
10	UK	16.5903	Italy	-0.4505	Malta	-5.9824
9	Czechia	16.8120	Greece	-0.1101	Belgium	-5.0405
8	Austria	17.6194	Slovenia	-0.0865	Slovenia	-3.8143
7	France	17.6339	Croatia	0.0175	Luxembourg	0.3175
6	Belgium	17.7023	Spain	0.1384	Austria	1.4871
5	Finland	18.5915	Ireland	0.3143	Netherlands	1.5897
4	Sweden	20.5654	UK	0.7104	Denmark	1.7553
3	Denmark	20.5805	Denmark	1.6839	Ireland	2.5091
2	Germany	26.3618	Sweden	1.9376	Finland	4.1619
1	Netherlands	27.9187	France	2.3387	Sweden	7.3470

Source: own editing

By ranking aggregated indicators in this way, they are already able to draw conclusions at the appropriate level at EU level. This complex information gives us a picture of the situation in the 28 Member States at environmental, social and economic level. The lowest ranking Member States have performed best, while the highest-ranking Member States have performed worst in terms of the Agenda 2030 indicators. Two countries, Denmark and Sweden, are true pioneers in all three pillars, each ranking in the top five. They have shown a strong commitment to the vision of sustainability and sustainable development and have been working from the very beginning to integrate the objectives of the sustainability framework strategies into their daily lives and to implement the targets. For the composite indicators, the content of the SDGs is fully reflected in the indicators, as they are invariably integrated into the process of their creation. As such, they convey the same meaning as if the indicators were presented separately per goal.

From the composite indicators describing the three aspects of sustainable development presented above, the author of the study created the CSDGI indicator measuring all pillars together, based on the same methodology. The calculation method and steps to generate the CSDGI indicator differ from those of the dimension-by-dimension indicators. In this case, the values of the economic, environmental, and social composite indicators were added together by the country and then re-ranked.

Examining the rankings for the period 2014 to 2018, it can be concluded that Sweden leads the field in all cases. The top five ranking includes Sweden, Denmark, the Netherlands, Finland, Germany and Austria. The rankings are identical in three of the years examined (2014, 2015 and 2017), while the composition is different in 2016 and 2018. Sweden's leadership is not without reason, as it has appointed a committee and a delegation to implement the 2030 Agenda at the national level. In the case of the Netherlands, the policy to achieve sustainable development indicates that national efforts to achieve the goals are very strong, which can be seen in the existing strategies. Denmark's strategy shows a similar commitment to sustainability, providing a level playing field for people and fighting to help the poorest in society.

In addition to all these emphatic factors, we cannot ignore a strong contrast. Member States' ranking in composite indicators describing sustainable development is very appealing, but on a something-for-something basis, these countries leave a much larger footprint on the planet in other indicators (e.g., ecological footprint), contributing more to global sustainability problems. In addition to technological development, the top-ranked countries need more water and land to sustain themselves and absorb waste. We expect to see this in the 2019 WWF study on the per capita ecological footprint of EU Member States, which shows a contrast between sustainability as measured by the composite indicator and the ecological footprint (WWF, 2019). Overall, it can be concluded that the composite indicator of sustainable development by dimension, as well as the aggregated CSDGI index, is able to capture the current status of sustainable development in the EU Member States based on the methodology developed.

DISCUSSION

The author's research aims to measure sustainable development at EU level. In this context, the author has proved her research hypotheses by means of various mathematical-statistical and econometric methods. These methods have been widely used in research in the field, and in the future, it will be easier to draw conclusions on progress towards sustainable development goals. The widespread use of factor analysis provides an excellent opportunity to reduce a diverse database. The goodness of the method is also very well illustrated in the present study, i.e. the indicators for the 17 SDGs have been reduced significantly. The set of indicators has been reduced by between 46.7% and 63% over the five years studied so that the factors created retain the properties of the SDGs and can be used to simplify future research. The thesis related to the first hypothesis can be formulated as follows:

T1. A reduced set of indicators based on SDGs provides a simpler description of the state of the environment, employment and health care, economic and health status, not least resource productivity. In terms of the information content, the 2030 Agenda set of sustainable development indicators faithfully reflects the properties and content of the complex indicator system in a similar way to the original.

The relationship between the factors developed in the FA was examined to see if a correlation could be found between them and the GDP, HDI indicators. To prove this, correlation analysis was used by the author of this paper. A statistically significant correlation between the 17 SDG factors and GDP was found for four years, as there were more cases with a good correlation coefficient than those with a bad one. However, the assumption is overturned for one year. This relationship is much more favourable with the HDI indicator, as there are more statistically significant relationships in all years examined. The HDI indicator has a much stronger correlation coefficient with the 2030 Agenda factors, with 36/16 in 2014, 38/20 in 2015, 35/20 in 2016, 36/26 in 2017 and 37/29 in 2017 with a corresponding correlation coefficient. The thesis based on these is the following:

T2. There is a significant correlation between the factors created from the 17 SDGs and the GDP indicator ($r = -0.83$ - -0.38; $r = 0.38$ - 0.92), which is also found for the HDI ($r = -0.9$ - -0.38; $r = 0.39$ - 0.87). For GDP, the correlation is due to factors including energy, health expenditure, factor income in agriculture, justice, Official Development Assistance (ODA), and, last but not least, R&D. The HDI indicator for human development shows a stronger relationship with employment, education and R&D investment, i.e. social factors, while the relationship is weaker for agricultural R&D.

An examination of the international literature reveals a number of studies that use composite indicators to measure the impact of processes in a selected area, even progress, as in this hypothesis of the author's present study. In order to prove the hypothesis of composite indicators, the author used a scale-alignment transformation to create the indicator.

Accordingly, the author has created the $CSDGI_{Econ, Env, Soc}$ indicators related to the dimensions of sustainable development for the five years under study, as well as the CSDGI composite indicator. The related thesis is as follows:

T3. The composite indicators ($CSDGI_{Econ, Env, Soc}$), developed from the SDGs, show the commitment of the 28 EU Member States to sustainable development, both in part – as dimensions – and together (CSDGI). For the studied five years, Denmark, Sweden, Finland, the Netherlands, Austria, and Germany have topped the rankings, which is also explained by the size of their ecological footprint and the targets set in their sustainable development strategies.

By comparing the results presented in this study with other studies measuring sustainable development, it can be concluded that the topic has not been studied in this form, with exactly these methods and in this composition by other researchers. Nevertheless, a number of researchers, such as Filzmoser et al. (2009), Mainali et al. (2015), and Nardo et al. (2005), have used factor analysis in their research to methodologically demonstrate the extent to which the method is suitable for data reduction. In the case of correlation analysis, the results of the research are not at all comparable with the work of other authors, since no one carried out an analysis of the factors created in this combination. Thus, the results can be considered as completely new.

There are many examples of composite indicators in the literature, but they are not typically based on Eurostat's SDG database. Bolcárová & Kološta (2015) created an aggregated indicator (aSDI – Aggregated Sustainable Development Index) from the old database of sustainable development indicators called SDIs, where the main method was PCA. In contrast, Cîrstea et al. (2018) considered the sustainability of renewable energy sources as a sub-area of sustainable development in their research where they developed az index, called RESI (Renewable Energy Sustainability Index). Overall, the research cannot be compared with the findings of other researchers in terms of the methods used and the database.

Based on the theses presented here, the first and third hypotheses proved to be true, while for the second hypothesis it is only half true for GDP, while for HDI it is fully true. Thus, overall, the selected methods can be properly implemented on the database and are well suited for characterization.

CONCLUSION

The history of sustainable development has really changed since the 1960s. Beginning with the recognition of the problem in Rachel Carson's Silent Spring and followed by various conferences and conventions, there has been a growing emphasis on identifying problems and possible solutions, not least measurability. The present research has also attempted to measure and present progress towards the SDGs in the EU Member States for the period 2014-2018. The 2030 Agenda is difficult to measure through indicators due to its diverse characteristics and can only be measured in a cautious way.

By proving the hypotheses, the author has demonstrated that the set of indicators can be reduced by FA (more precisely, by creating factors) and that the factors created from it can be further explored to achieve sustainable development. A significant statistical relationship has been demonstrated by correlation analysis, which is due to the fact that the indicators in the factors have retained their properties during the reduction process. The Composite Sustainable Development Goal Indicator (CSDGI) allows Member States to be assessed using a single composite score. One limitation of the study is that it only covered five years between 2014 and 2018. Nevertheless, measuring sustainable development will be much easier in the future based on the existing methodology. The second limitation is that Eurostat is constantly reviewing the database, and the presentation of indicators according to the SDGs will change and cannot be ignored. Some indicators may no longer be part of the SDGs. In conclusion, there are significant differences between global issues, sustainable development strategies the relevance of the issue itself, and the relevance of each goal, but they are quantifiable.

Acknowledgement

"This work has been implemented by the TKP2021-NKTA-21 project with the support provided by the Ministry of Culture and Innovation of Hungary from the National Research, Development and Innovation Fund, financed under the 2021 Thematic Excellence Programme funding scheme."

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Original scientific paper

CORPORATE SOCIAL RESPONSIBILITY (CSR) IN A TRANSITIONAL COUNTRY CONTEXT

Maja B. MIJATOV LADIČORBIĆ [a], Aleksandra S. DRAGIN[b], Alberto CALAHORRO-LÓPEZ[c], Tamara JOVANOVIĆ[d], Vladimir STOJANOVIĆ[e], Judit SULYOK[f], Imre NAGY[g]

[a] Faculty of Sciences: Department of Geography, Tourism and Hotel Management (University of Novi Sad), majamijatov@gmail.com, majam@dgt.uns.ac.rs
[b] Faculty of Sciences: Department of Geography, Tourism and Hotel Management (University of Novi Sad) and Faculty of Social Sciences and Law: Department of Business Organization, Marketing and Sociology (University of Jaén), sadragin@gmail.com, the corresponding author
[c] Faculty of Social Sciences and Law: Department of Business Organization, Marketing and Sociology (University of Jaén), acalahor@ujaen.es
[d] Faculty of Sciences: Department of Geography, Tourism and Hotel Management (University of Novi Sad), tamarajovanovicpmf@gmail.com
[e] Faculty of Sciences: Department of Geography, Tourism and Hotel Management (University of Novi Sad), vladimir.stojanovic@dgt.uns.ac.rs
[f] Faculty of Business and Economics, Department of Tourism (University of Pannonia), sulyok.judit@gtk.uni-pannon.hu
[g] Faculty of Sciences: Department of Geography, Tourism and Hotel Management (University of Novi Sad), nagyi@rkk.hu

Cite this article: Mijatov Ladičorbić, M. B., Dragin, A., Calahorro-López, A., Jovanovic, T., Stojanovic, V., Sulyok, J., Nagy, I. (2024). Corporate Social Responsibility (CSR) in a Transitional Country Context. *Deturope.* 16(1), 43-74.

Abstract

This research was done on the sample of 206 employees in hotels of Kopaonik, Serbia. The goal of the study was to establish relationships of the employees' perception of the previously established dimensions of corporate social responsibility (CSR) (Philanthropic, Legal, Economic and Ethical) and their socio-demographic characteristics (gender, age, education, marital status, monthly income, place of the residence). CSR was measured using Carroll's Model of Social Performances (Caroll 1979; Carroll/Shabana 2010; Caroll 2016). Results indicate that there are significant relationships between the employees' perception of Philanthropic, Economic and Ethical dimensions of CSR and their age. Another significant relationship of the employees' perception is identified between Philanthropic dimension and the employees' education degree. Finally, the research results show that there are relationships between employees' perception of Legal dimension and their monthly income. Research results provide the information necessary for better understanding of the employees with different socio-demographic background. Finally, the study shows that employees are an important resource of the organisation and that implementation of CSR activities depends on them.

Keywords: corporate social responsibility, Carroll's Model of Social Performances, socio-demographic characteristics, hotel employees, Serbia

INTRODUCTION

In recent decades, Corporate Social Responsibility (CSR) has become increasingly prominent as a guiding framework for businesses worldwide, reflecting a growing awareness of their impact on society and the environment (Abad-Segura, Cortés-García, Belmonte-Ureña, 2019; Mijatov et al., 2023). CSR encompasses a range of responsibilities, including ethical conduct, environmental stewardship, philanthropic activities and compliance with legal standards (Fatima, & Elbanna, 2023; Wang, 2016).

The hospitality industry plays a crucial role in the global economy (Dragin et al., 2022a), encompassing a diverse array of businesses, including hotels, restaurants, resorts, and travel services. Given its extensive interactions (Dragin et al., 2024) with guests, employees, suppliers and local communities, the hospitality sector is uniquely positioned to contribute to CSR goals and address societal and environmental challenges. CSR initiatives in the hospitality industry often focus on areas such as environmental sustainability, community engagement, ethical labour practices and responsible tourism (Mijatov et al., 2022).

Within the hospitality industry, where interactions with diverse stakeholders are integral to business operations, understanding the perceptions of CSR among employees is paramount to fostering sustainable business practices and enhancing stakeholder engagement. This paper investigates the perceptions of hotel employees regarding the dimensions of CSR - namely, Philanthropic, Legal, Economic and Ethical (Carroll, 1979, 2016) - and explores the influence of their socio-demographic characteristics on these perceptions. By examining how employees perceive and prioritise different aspects of CSR, as well as how their socio-demographic profiles shape these perceptions, this study aims to provide valuable insights for hotel managers, policymakers and CSR practitioners seeking to enhance CSR initiatives within the hospitality sector in countries in transition such as Serbia.

Theoretical background

As already mentioned, organisations worldwide are increasingly focused on investing into the various activities related to CSR, as well as in the better understanding of this concept. Starting from the 60s of the XX century, there is a constant growth in the number of studies regarding the importance and the effect of CSR for business environment of organisations (Dahlsrud, 2008; Carroll, & Shabana, 2010). “CSR should be involved in a triple bottom line that considers that an organisation’s success depends on its economic profitability, environmental sustainability and social performance” (Zadek, Sabapathy, Døssing, & Swift, 2003). According to some sources “CSR helps improve financial performance, enhance brand image and increases the ability to attract and retain the best workforce – contributing to the market value of the company by up to 30 per cent” (Baskin, & Gordon, 2005). No matter the fact, academics and practitioners are mainly oriented towards a macro perspective, by researching the external effect of CSR, mostly reflected in the form of the customers' perceptions (Samu, Wymer, 2009; Yoo, Kwak, 2009; Peloza, & Shang, 2011; Randle et al., 2019), while perception of employees is often neglected (Bigné, Currás-Pérez, & Aldás-Manzano, 2012; Devinney, Auger, Eckhardt, & Birtchnell, 2006; Diamantopoulos, Schlegelmilch, Sinkovics, & Bohlen, 2003; Fatma, Rahman, & Khan, 2016; Janssen, &Vanhamme, 2015; Kim, Hur, & Yeo, 2015; Öberseder, Schlegelmilch, & Murphy, 2013; Tian, Wang, & Yang, 2011).

This is precisely why this study focuses on employees, with author's intention to answer the following questions:

- How do hotel employees' demographic characteristics (e.g., age, gender, education) influence their perceptions of CSR?
- What are the underlying factors driving differences in CSR perceptions among hotel employees from diverse demographic backgrounds?
- What are the implications of these findings for hotel management and CSR practitioners?

Through a deeper understanding of the relationship between demographic characteristics and CSR perceptions, this research seeks to inform evidence-based strategies for promoting employee engagement, fostering a culture of corporate social responsibility and ultimately enhancing the sustainability and social impact of hotels in the hospitality industry.

Importance of understanding relationship between the socio-demographic characteristics of hotel employees and their perception of socially responsible business

When it comes to the employees, previous studies were mainly focused on the effects that CSR has on their motivation and commitment to the organisation (Brammer, Millington, Rayton, 2007; Ditlev-Simonsen, 2010; Mozes, Josman, & Yaniv, 2011; Skudiene, & Auruskeviciene, 2012; Ferreira, & Real de Oliveira, 2014; Zientara et al., 2015), as well as their general perception of ethics within the workplace (Mijatov Ladičorbić et al. 2023; Jahantigh, Zare, Shahrakipour, 2016; Li, Chang, 2016; Poorsoltan, Amin, & Tootoonchi, 1991). However, As CSR activities often represent company values and norms, frontline employees' perceptions of them can influence how they identify with the company, which is an impetus for their attitudinal and behavioural support to help achieve the company's goals. This is the main reason why CSR activities require adequate attention in the further research, especially considering the perception of such activities among the employees in the service sector (Yaman, Gurel, 2006; Lynes, & Andrachuk, 2008; Coles, Fenclova, & Dinan, 2013). Moreover, as human resource is a fundamental element in service (Chang, 2014; Svec et al., 2012) such as the hotel industry, its evaluation impacts on the customers (Kaya, 2018), furthermore customer satisfaction affects operating performance (Chang, Lin, 2014). Accordingly, CSR activities can be a critical tool in engaging frontline employees to achieve better performance and derive more meaning in their careers, and in attracting good quality employees" (Park, Levy, 2014).

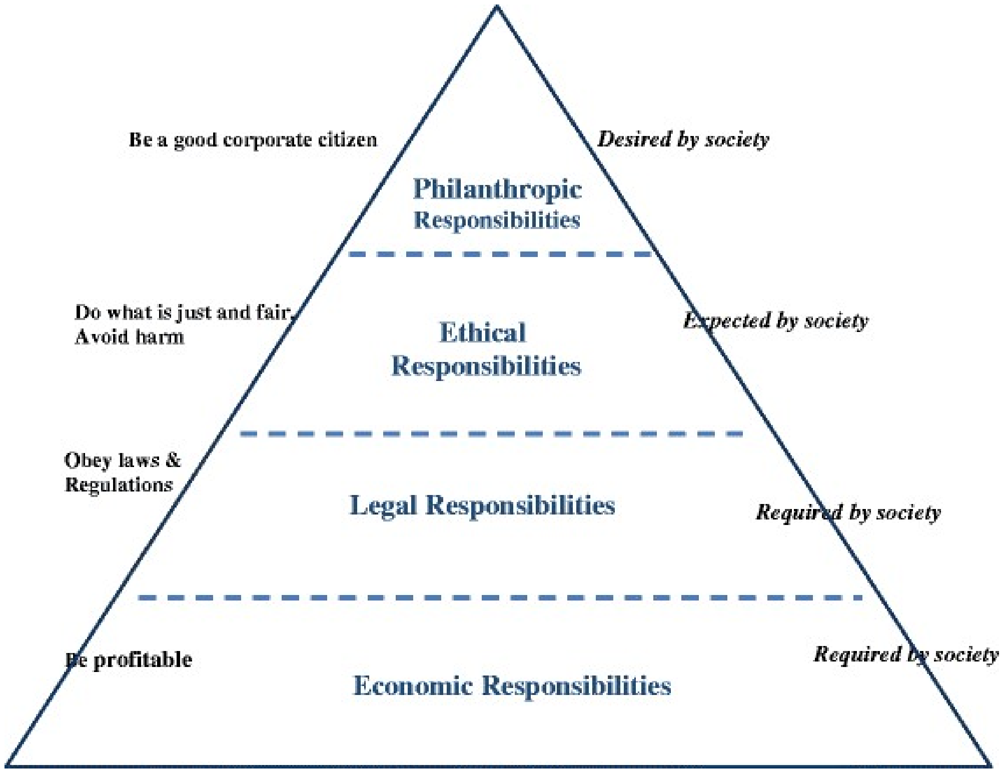
CSR activities might be shaped by regulatory or legal requirements, concrete situation in the business environment, characteristics of internal and external stakeholders, but also by cultural specificities. Motivation for adopting these business principles is often more directed by internal than external factors (Chan, 2008). In respect to that, it could be said that employees' attitudes might have a significant impact on the implementation of CSR activities, especially in societies like Serbia, with lack of legislative regarding CSR in the hotel industry. Therefore, it is interesting to point out the manners in which socio-demographic characteristics of employees are reflected in the perception of CSR in specific social and economic conditions of a transition country such as Serbia, where numerous hotels are one step away from making a decision of accepting the CSR practices in their business (Bradić, Đeri, Marković, Blešić, 2014; Mijatov et al., 2018; Mijatov et al., 2022; Jovanović, et al., 2022).

Demographic characteristics such as age, gender, education, tenure and job role can significantly influence individuals' attitudes, values and behaviours in the workplace. Understanding how these factors intersect with perceptions of CSR is crucial for several reasons. First, it can shed light on potential disparities in employee engagement and support for CSR initiatives across demographic groups. Second, it can inform the development of targeted interventions and communication strategies to enhance employee buy-in and participation in CSR activities. Third, it can contribute to a more inclusive and equitable approach to CSR implementation, ensuring that the needs and perspectives of all employees are considered.

For this purpose, authors used four CSR dimensions proposed by Carroll's Model of Social Performances (Carroll's pyramid of CSR: Fig. 1). Ethical dimension of CSR is defined by organisational activities that are not prescribed by law, but still expected by society, while Philanthropic dimension of CSR refers to organisational activities that even exceed social expectations. Dimension, marked as Economic one, refers to financial aspects of business, while the Legal dimension starts from understanding that CSR activities are often shaped by legal regulations (Mijatov, 2018).

Carroll explained the pyramid of CSR in the following manner: economic responsibility is considered a base, because it represents a foundational business requirement, but also due to the fact that CSR infrastructure is built upon the premise of economically sustainable business. In parallel, society is expecting of business organisations to comply with prescribed law and regulations. Besides that, business is also expected to operate in line with the ethical values, as a manner of organisational obligation to avoid or minimise the harmful effects to all stakeholders that are directly or indirectly involved in business operations. Finally, business organisations are also expected to be good corporate citizens, by providing financial support and other manners of support to communities of which they are a part (Carroll 2016). This study focuses on the socio-demographic profiles of employees in the hotel industry and their perception of mentioned Philanthropic, Legal, Economic and Ethical CSR dimensions proposed by Carroll (1979, 1991, 2016).

Figure 1 Carroll's pyramid of CSR



Sources: Carroll, 2016

Four CSR dimensions suggested by Carroll (Carroll, 1979, 1991) became an important topic among scholars (Ahn, Lu, 2021; Wong, Kim, 2020; Kim, Lee, Roh, 2020). According to Lee, Carroll's article in which CSR dimensions were published (Carroll's pyramid of CSR) became "one of the most widely cited articles in the field of business and society" (Lee, 2008; Carroll, 2016). For example, Xiao, Hao and Lee (2017) discussed about different consumers' perceptions across dimensions of CSR and hotel types by using the Carroll's model while Boğan and Sarıışık (2020) explored employees' CSR-induced attributions and their organisation-related predictors. Ahn and Lu (2021) pointed out that their "results provide important implications for scholars concerning the effects of CSR activities on customer behaviour for efficaciously managing customers' positive experience with facilities and employees" (Ahn, Lu, 2021). Furthermore, Santhosh and Baral (2015) argue that "the success of an organisation lies in enhancing positive attitudes among employees and probably, one of the ways to promote this is through CSR". The focus is mainly on ethical dimension (Cheng, Yang, Wan, Chu, 2013; Christie, Kwon, Stoeberl, Baumhart, 2003; Fearne, García Álvarez, López García, García, 2013; Huimin, Ryan, 2011; Jahantigh et al., 2016; Li, Chang, 2016; Poorsoltan et al., 1991; Whiteoak, Crawford, Mapstone, 2006; Ladičorbić et al., 2023). Jarkovská and Jarkovská (2022) study about hotels in Prague points out that CSR predicts employees' attitudes and behavior, its ethical and legal dimensions stimulated employees' desirable behavior. However, there is still a significant gap in the understanding of the hotel employees' CSR behaviour with attention to all four dimensions of CSR: Philanthropic, Legal, Economic and Ethical dimensions of CSR. Limited application of theory is reflected in the insufficient explanations from both, researchers and practitioners, in terms of developing the effective CSR strategies. Properly designed and implemented CSR programs could contribute to human resource management strategies, especially in the field of activities related to employment, increase of the employees' retention rates, as well as in activities focused on reaching a certain level of their productivity, considering the fact that employees are important business resource, as well as the fact that they are the ones who transfer CSR activities from ideas to reality. Accordingly, perception of the employees regarding the CSR of their hotels could provide information from an insider's point of view to hotel management.

This research was focused on analysing whether all these relationships, not only based on the employees' age, but also on other socio-demographic characteristics, are represented within the business environment of hotels in Kopaonik, popular destination of winter tourism, a ski centre and the National Park in Serbia. Furthermore, detailed analysis of socio-demographic characteristics might enable a better understanding of various stakeholders' needs, such as employees, which could be beneficial for organisations (Diamantopoulos et al., 2003). Besides that, as already mentioned, there is a gap in the literature when talking about a detailed insight into the relationships between employees' socio-demographic characteristics and their perception of CSR.

CSR in Hotel Business of Serbia

Social awareness and concern regarding the CSR are constantly rising, which put the organisations worldwide in a situation of increased expectations for demonstrating the CSR and participating in a creation of shared values. Such expectations were limited to large or multinational organisations in the past. However, the overall situation has changed. Nowadays, CSR expectations are extended to SMEs, considering their dominance in national economies and their significant cumulative impact in public (Colovic et al., 2019; Lepoutre, Heene, 2006; Mijatov Ladičorbić et al., 2023; Murillo, Lozano, 2006; Simat et al., 2019).

Numerous hotels in transitional countries, such as Serbia, are on the crossroads of making a decision on accepting CSR practices in their business operations. Thus, hotel business in Serbia is still in the phase of sporadic accepting and implementing of CSR activities (Bradić et al., 2014; Kicošev, Blešić, Bradić, 2011). Milovanović (2014) pointed out that pioneers in the implementation of the concept of CSR in Serbian hotel industry are actually hotels that belong to international hotel chains. These hotels have the necessary infrastructure for the implementation of CSR, which is reflected in the possession of modern technologies, capital and knowledge. In addition to solving important social problems, by implementing CSR programs, these hotels have also improved their relationships with customers, employees, and suppliers. On the other hand, domestic hotels in Serbia have far fewer capabilities, so the implementation of their CSR is still at initial level, which is in line with the main results of the previous studies conducted in hotels in Serbia (Kicošev et al. 2011). In respect to that, there is a rising question regarding the CSR implementation in such business environment, as well as regarding its perception by those who are first in line when it goes to its realisation.

Hoteliers who implemented the CSR activities in Serbia indicated that they are satisfied with gained results of the implementation of these programs, pointing out that these programs could provide numerous benefits in terms of the cost reduction, quality increase, working atmosphere, customer relations, relations with the business partners and community, which is reflected in improving not only the image of the hotel, but also the trust and loyalty of the stakeholders (Milovanović 2014). Milovanović (2014) also pointed out that an increase in the level of implementation of CSR activities in hotels in Serbia could be expected, considering the ratio of investments in CSR programs and accompanying benefits, as well as the fact that the number of foreign tourists in Serbia is increasing the awareness of the hotel management on importance of CSR, as well as on the fact that such activities might be required from the hotel. As a result, activities of CSR could prove to be a powerful tool for the market differentiation and gaining the competitive advantage, especially in conditions of the economic crisis and globalisation (Milovanović 2014).

As Čelić (2019) highlighted, hotel might achieve CSR through internal and external business activities, which is additionally raising the need for better understanding of the employees' perception of such an important business concept. No matter the fact that there is a growing interest in CSR in SMEs throughout the recent years, knowledge on this topic could still be considered as incomplete and fragmented. We believe that findings of this research might help in providing the advanced understanding of CSR in SMEs from a perspective of transitional countries.

Institutional Background of CSR in hotels in Kopaonik (Serbia)

Although CSR is an aspect that is an integral part of the ethical codes of large hotel chains in Serbia (Milovanović 2014), these items are not significantly incorporated into the ethical codes of hotels in Kopaonik (Mijatov 2018). It could be seen that CSR is given a minimum of space in the code of ethics of hotels in Kopaonik, primarily in the form of defining the relationship to improve the quality of services and customer service. The attitude towards the local environment, including the natural environment and the local population, is missing, or is formally defined, by pointing out that improvement of the business of a particular organisation might affect both employees and the wider community (Mijatov 2018).

The research results of the study conducted by Mijatov et al. (2022) already showed that implementation of the ethical code within the business environment of hotels in Kopaonik shaped the stronger employees' perception of Legal and Economic dimensions of CSR, while all of the researched CSR dimensions (Philanthropic, Legal, Economic and Ethical) are shaped by the form of the ethical code. All dimensions are stronger within hotels with transparent written form of the ethical code. Furthermore, Legal and Ethical dimensions of CSR are stronger in hotels where ethical code is more commonly used as a source of information, while organisation of the meetings with employees regarding the various ethical topics led to higher perception of Philanthropic dimension of CSR among the hotel employees in Kopaonik (Mijatov et al. 2022).

Finally, based on the review of the websites of these hotels, as places where hotels most often advertise their activities in the field of the CSR, it could be noticed that the mission and vision of hotels in Kopaonik is primarily aimed at achieving the interests of the organisation. Thus, information on received awards could be found on hotels' Internet presentations, which most often refer to improvement of the service quality, as well as development of new ideas, such as improvement of entrepreneurship, or recognition for the business brand. There are also represented information that might be considered as a form of promotion of local natural and cultural tourism resources and events within the territory of Kopaonik. Surprisingly, hotels do not emphasise the need to protect Kopaonik, which is the national park on whose territory they are located. The information about Kopaonik states that it is a National Park, but there is almost a complete absence of information about protection zones and activities that could reduce the damage to the natural environment or about prohibited activities. In this way, it could be noticed that hotels are, above all, oriented towards improving the quality of their products and services. However, information on the website is often set on the fact that certain hotels invest in their professional teams, through employment and encouraging the advancement of their staff in the field of tourism, or more precisely the hotel management. Due to this important fact, it is necessary to research how employees in hotels in Kopaonik perceive the CSR and how this further reflects on the business results of hotels in this popular tourist destination (Mijatov 2018).

This paper identifies socio-demographic characteristics of hotel employees in Kopaonik and it is focused on the relationship of these characteristics with perception of CSR, in order to provide benefits for hotels, as business units, that might be achieved on the basis of understanding the socio-demographic profile of the employees. Besides that, as Cheah et al. (2011) stated, insight into the profile of internal and external stakeholders might shape the business policy formulations. May (2008) also highlighted that preliminary empirical studies related to perceptions of employees might expand our knowledge regarding this key internal stakeholders, which is additionally supporting the importance of this research conducted by the authors.

By shedding light on hotel employees' perceptions of CSR and the socio-demographic factors that influence these perceptions, this study seeks to contribute to the growing body of knowledge on CSR within the hospitality industry. Ultimately, the findings of this research can inform strategic decision-making and enhance the effectiveness of CSR initiatives in hotels, thereby fostering sustainable practices and positive social impact.

Socio-demographic variables play an important role in employees' behaviour, especially in countries where there is still lack of the legislative related to the CSR topic. In such transitional societies, the best way to start to transfer values through the collective is related to the orientation to the human resources profile. Thus, findings of this study are contributing to advances in theoretical understanding of antecedents of hotel employees' perception regarding the Philanthropic, Legal, Economic and Ethical dimensions of CSR. Therefore, this study relies on the research question that there are significant relationships between the employees' perception of CSR and their socio-demographic characteristics regarding Philanthropic, Legal, Economic and Ethical dimension of CSR.

DATA AND METHODS

Instrument

The survey was conducted by using a questionnaire with two groups of questions. The first group included questions related to the respondents' socio-demographic characteristics, specifically their gender, age structure, education degree, marital status, monthly incomes, as well as their place of the residence. The second group of questions referred to CSR, researched on the basis of the Carroll's Model of Social Performances (Caroll 1979; Carroll, Shabana 2010; Caroll 2016), widely used by the other authors (Mijatov, 2018; Ehie, 2016; Fadun, 2014; Lee, Song, Lee, Lee, Bernhard, 2013; Lu, Ren, Zhang, Rong, Ahmed, Streimikis, 2020). More precisely, items were based of four dimensions of CSR: Ethical, Philanthropic, Economic and Legal (Carroll's pyramid of CSR) and original items of Carroll's Model of Social Performances were translated into Serbian language for the purpose of the study. Characteristics of CSR dimensions were previously defined and explained within the research conducted by Mijatov et al. (2018). In the previous research, Mijatov et al. (2018) extracted four dimensions of CSR by using exploratory factor analysis (Varimax rotation), while Cronbach Alpha for the entire scale was 0.917, indicating thus a high reliability. Results related to Philanthropic dimension of CSR are highlighting the employees' perception on their hotels' involvement in various actions aimed at helping the local and wider community. Furthermore, Legal dimension of CSR identified among the hotel employees in Kopaonik is indicating their perception related to hotels' readiness to adhere various business regulations, labour law and other legal acts, such as contracts. Next dimension of CSR, labelled as the Economic one, pointed to the employees' perception of hotels' orientation towards covering the operational costs, improving the employees' productivity and establishing the long-term strategy for organisational economic growth. Finally, Ethical dimension of CSR within hotels in Kopaonik was focused on the employees' perception regarding the ethical behaviour, starting from their perception of living and working conditions, over hotels' relation towards behaviour of customers, colleagues and other stakeholders (Mijatov et al. 2018). That was the beginning of the broader scope of research on this topic, raising new issues, continued in this paper.

Procedure

The research started in Kopaonik in 2013 and it is based on the study of Mijatov et al. (2018), as already mentioned, which identified four dimensions of CSR within hotels in Kopaonik. Responses were collected by using a standard pen and paper procedure. Employees who showed an interest in participating, together with understanding the needs of conducting such study, were involved in the research, which is the main reason why the sample could be considered as sample of convenience. Respondents were informed that the research was anonymous. Before starting the survey, authors contacted the hotel supervisors who significantly helped the research, considering the fact that they reminded their employees to fill out the questionnaires. Besides that, supervisors also participated as respondents, in addition to providing assistance to data collection procedure. It is important to indicate that items related to CSR were formulated in the form of statements regarding specific activities of hotels as business units. Respondents were not asked to assess these activities as positive or negative. They were also not asked to state their opinion regarding the fact which of these activities they perceive as positive or negative. The main idea was to provide the employees' answers regarding their perception of whether hotels where they are employed implement cited activities in their usual business operations or not.

Sample

The sample consisted of the employees from the hotel industry in Kopaonik, aforementioned National Park, developed ski and mountain tourism centre in Serbia. The sample included 206 respondents of which 51.5% were male. Majority of the respondents in the sample were aged between 21 and 30 years (50%). Furthermore, 21.4% of the respondents were aged between

31 and 40 years. Group of up to 20 years was 11.2% and those aged between 41 and 50 were 10.2% of the total sample. Minority of the respondents were between 51 and 60 years old (7.3%). About 32% of the respondents were in a relationship, while 28.6% of the respondents were single or in a marriage (27.7%). The most common level of education was a high school degree (64.6%) and their education was mostly not related to tourism (83.5%). Most of the respondents indicated that their monthly incomes are in the amount between 15,001 and 30,000 RSD (51.5%) and between 30,001 and 50,000 RSD (31.6%) (1€ = 118 RSD, average monthly income during the research period was about 45,000 RSD). According to the place of the employees' residence, it could be noticed that 30.6% of them were from villages, 41.7% of them were from a smaller town, while 27.7% of the respondents were from a larger town. Proportion of seasonal and permanent employees in the sample was 75:25 which is reflecting the general situation in terms of the employment at Kopaonik as a seasonal destination. For the purpose of this study, analyses were not conducted separated based on this type of the employment, due to the fact that permanent employees are in significant deficit, comparing to seasonal ones. Besides that, seasonal employees are spending several seasons in the same hotels during the winter and they are introduced with overall organisational values. It could be said that they are building their career in such environment, no matter the fact that they are formally seasonal employees. Also, employees are often the family members who are working in the same hotel at Kopaonik together for years which is reflecting their loyalty and sustainable business development.

RESULTS

Multivariate General Linear Model analysis was conducted in order to determine the existence of relationships between employees' sociodemographic characteristics and their perceptions of CSR dimensions. There was no significant relation between gender and CSR perception, as it could be seen in Tab. 1. However, there are significant relationships between the perception of Philanthropic ($F = 2.643$; $p < 0.05$), Economic ($F = 3.435$; $p < 0.05$) and Ethical dimensions of CSR ($F = 4.106$, $p < 0.01$) and the age structure of the respondents (see Tab. 1).

Tab. 1 Perception of CSR dimensions according to the respondents' socio-demographic characteristics - General Linear Model Results

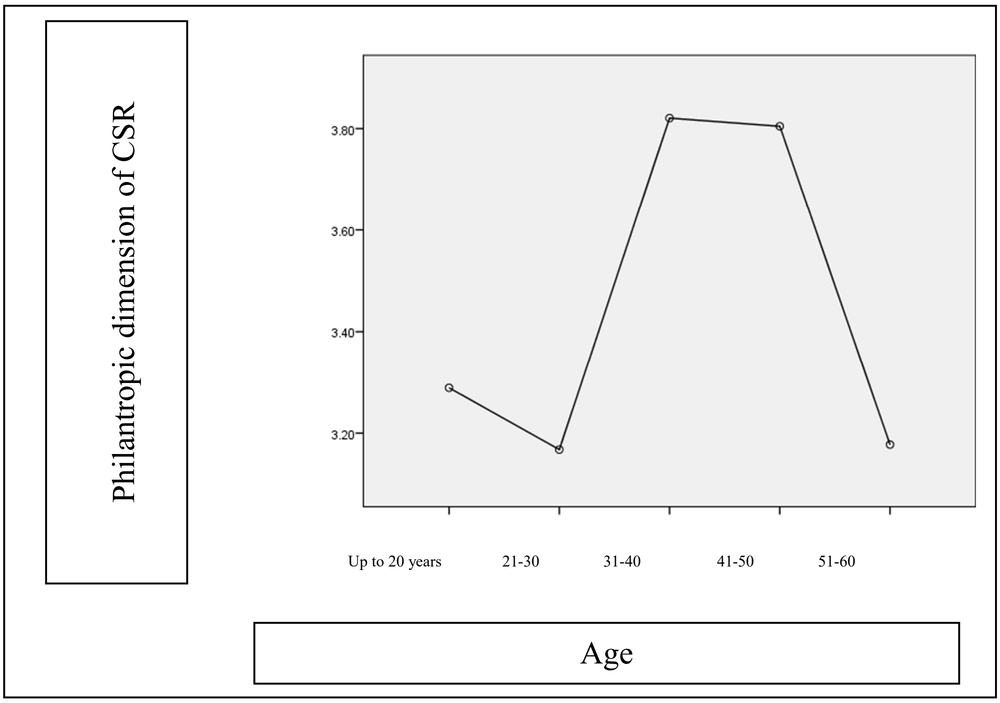
Source		F	Sig.
Gender	Philanthropic dimension of CSR	2.538	.113
	Legal dimension of CSR	.883	.349
	Economic dimension of CSR	1.081	.300
	Ethical dimension of CSR	1.564	.213
Education degree	Philanthropic dimension of CSR	2.784	.042
	Legal dimension of CSR	.811	.489
	Economic dimension of CSR	.164	.920
	Ethical dimension of CSR	1.038	.377
Place of residence	Philanthropic dimension of CSR	.424	.655
	Legal dimension of CSR	.161	.851
	Economic dimension of CSR	.061	.941
	Ethical dimension of CSR	1.511	.223
Marital status	Philanthropic dimension of CSR	.983	.430
	Legal dimension of CSR	.295	.915
	Economic dimension of CSR	.513	.766
	Ethical dimension of CSR	1.748	.126
Monthly incomes	Philanthropic dimension of CSR	.028	.994
	Legal dimension of CSR	3.276	.022
	Economic dimension of CSR	.853	.467
	Ethical dimension of CSR	.201	.896
Age	Philanthropic dimension of CSR	2.643	.035
	Legal dimension of CSR	2.049	.089
	Economic dimension of CSR	3.435	.010
	Ethical dimension of CSR	4.106	.003

Philanthropic dimension of CSR. R Squared = .144 (Adjusted R Squared = .062)
Legal dimension of CSR. R Squared = .121 (Adjusted R Squared = .036)
Economic dimension of CSR. R Squared = .129 (Adjusted R Squared = .046)
Ethical dimension of CSR. R Squared = .134 (Adjusted R Squared = .051)

Source: Research results

Perception of Philanthropic dimension of CSR is the strongest among the respondents aged between 31 and 40 years, as well as for those aged between 41 and 50. Perception of this dimension for respondents aged between 21 and 30 years and those aged between 51 and 60 years is the least pronounced (Fig. 2).

Figure 2 Perception of the Philanthropic dimension of CSR according to the respondents' age (F = 2.643; p <0.05)

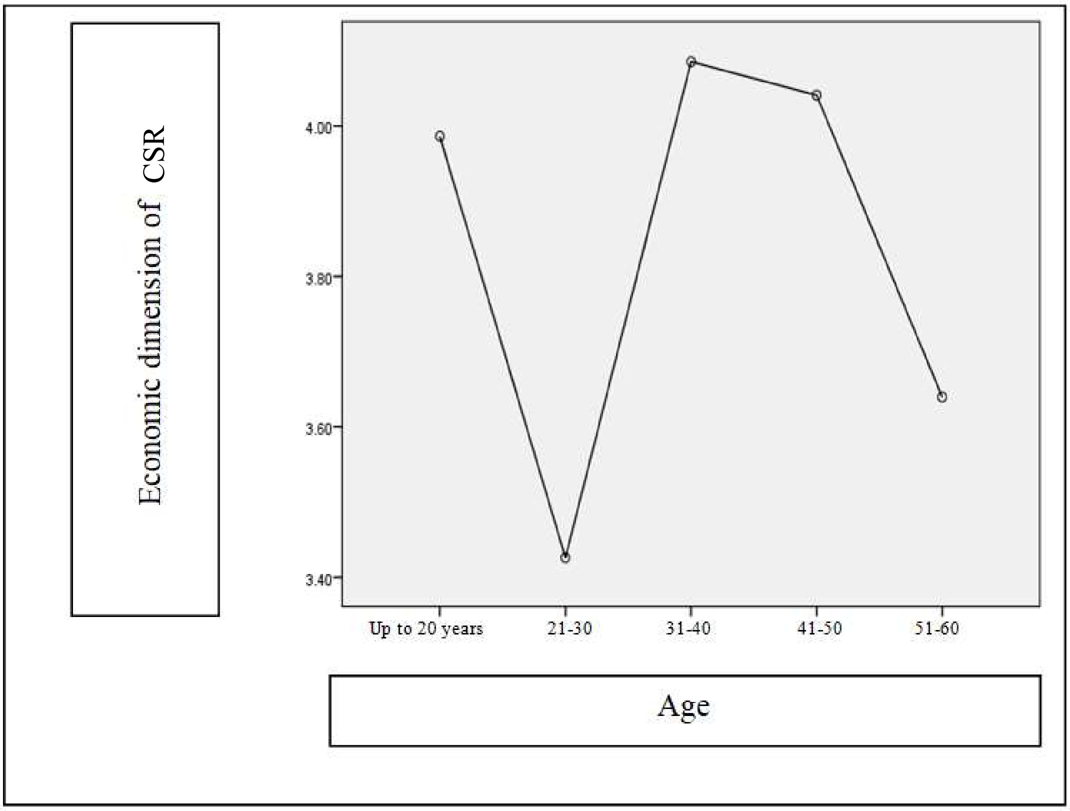


Source: Research results

Furthermore, significant relationship was recorded between the employees' perception of the Economic dimension of CSR and their age. The strongest perception of this dimension is recorded among the respondents aged between 31 and 40. Slightly lower perception of Economic dimension of CSR was identified among the respondents who have between 41 and 50 years and those aged up to 20 years. Significantly lower perception of Economic dimension of CSR is characteristic for the respondents aged between 21 and 30 years and the oldest ones, aged between 51 and 60 years (Fig. 3).

CSR

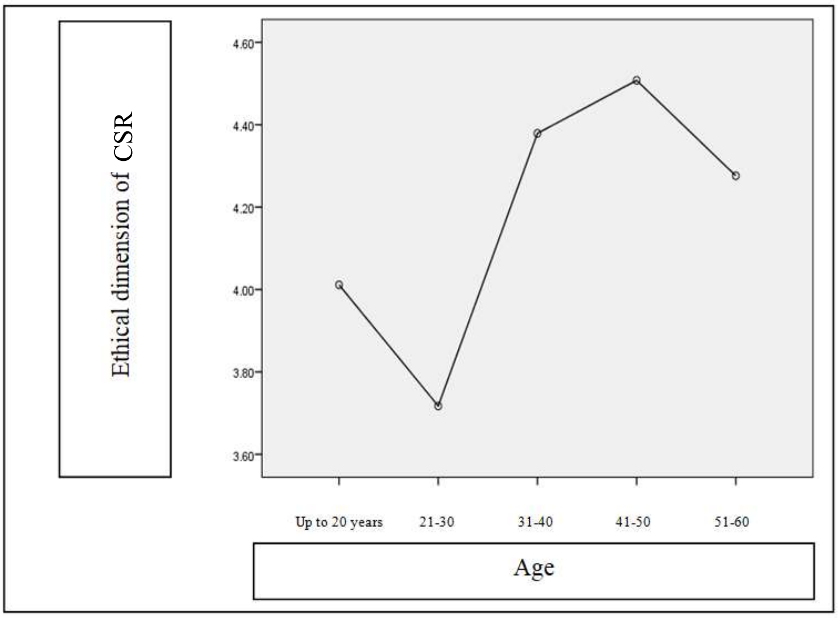
Figure 3 Perception of Economic dimension of CSR according to the respondents' age ($F = 3.435$; $p < 0.05$)



Source: Research Results

The research results represented within the Fig. 4 also indicate that perception of the Ethical dimension of CSR is the strongest among the respondents aged between 31 and 40, as well as among those aged between 41 and 50 years. Slightly lower perception is recorded for the respondents aged between 51 and 60 years. However, their perception of Ethical dimension of CSR is still high, comparing to the perception of the respondents aged up to 20 years, for example. The lowest perception of Ethical dimension of CSR is recorded for the group of the respondents aged between 21 and 30 years. It is interesting to notice that perception of the respondents aged between 21 and 30 years is significantly different from the perception of the Ethical dimension among younger and older respondents.

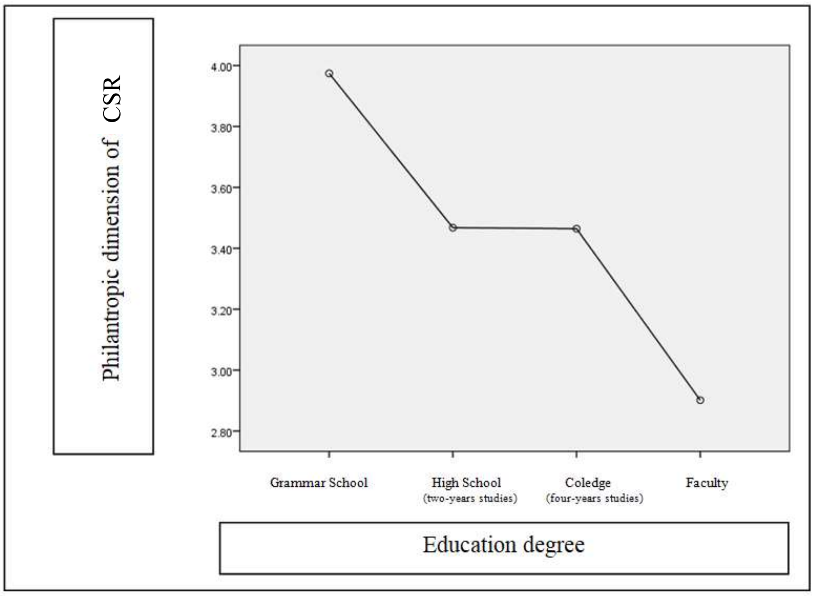
Figure 4 Perception of the Ethical dimension of CSR according to the respondents' age (F = 4.106; p <0.01)



Source: Research Results

Level of education of employees in hotels on Kopaonik is related to the perception of only one dimension of CSR. Thus, significant relationship was identified only for the Philanthropic dimension of CSR (F = 2.784; p <0.05). Based on the research results represented within the Fig. 5, it could be noticed that perception of Philanthropic dimension of CSR is stronger if the level of education is lower.

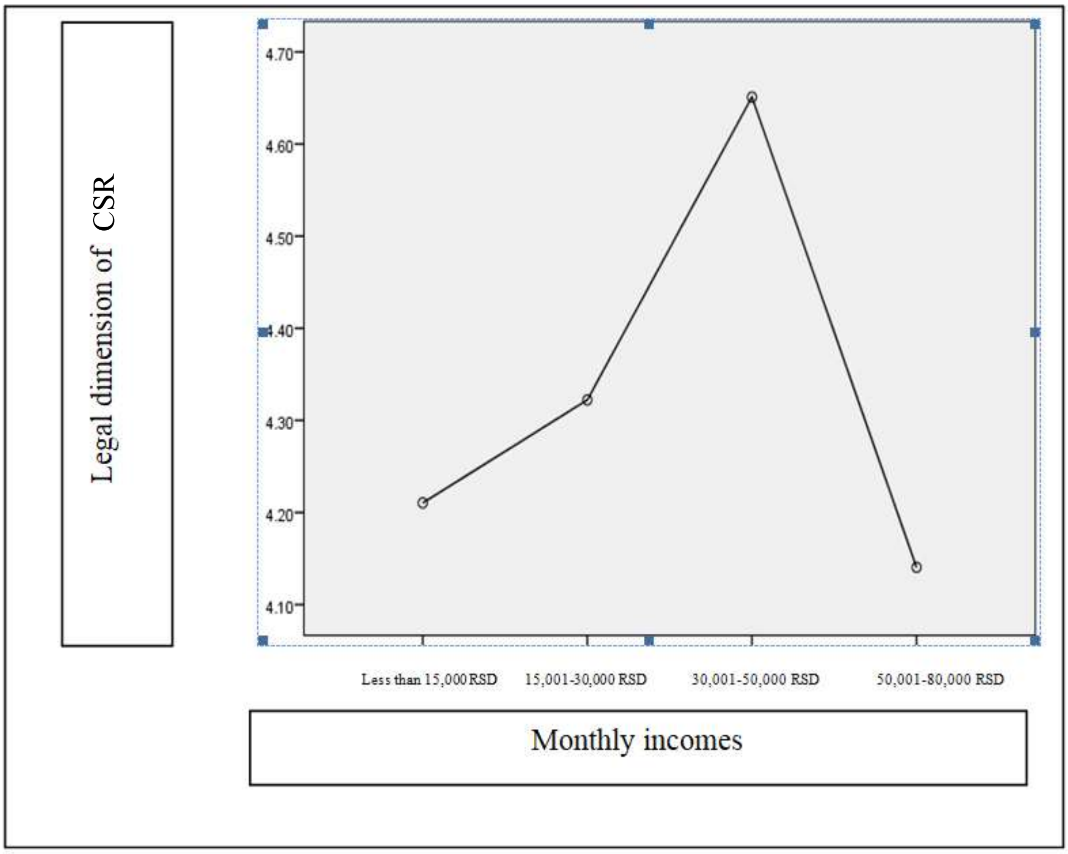
Figure 5 Perception of the Philanthropic dimension of CSR according to the respondents' education degree (F = 2.784; p <0.05)



Source: Research Results

Furthermore, results indicate that there is no relation between marital status and CSR and place of residence and CSR. In terms of monthly income, the research results show that significant relation exists only with the Legal dimension of CSR ($F = 3.276$; $p < 0.05$). Fig. 6 indicates that perception of the Legal dimension of CSR of the respondents with monthly incomes between 30,001 and 50,000 RSD differs significantly from all other respondents i.e. their perception of the Legal dimension of CSR is significantly higher.

Figure 6 Perception of the Legal dimension of CSR according to the amount of monthly income of the respondents ($F = 3.276$; $p < 0.05$)



Source: Research Results

DISCUSSION

Findings of numerous studies indicated that, besides development of business profitability (Lee 2008), a chance to make a business different from the competition is identified as one of the core motivations for implementation of CSR strategies (Porter, Kramer, 2006; Levy, Park, 2011; Kim, Lee, Lee, Kim, 2010; Tsai, Tsang, Cheng, 2012; Holcomb, Upchurch, Okumus, 2007; Bohdanowicz, Zientara, 2009; Vlastelica, Kostic, Okanovic, Milosavljevic, 2018). Benefits arising from CSR, such as formation of a positive brand image and reputation, could be achieved only if stakeholders are aware of these CSR activities (McWilliams, Siegel, 2001; Rhou et al., 2016), and an important segment of stakeholders are the employees themselves. However, there is a lack of research that have addressed the employees' perception of CSR dimensions in the hotel industry and further studies should be undertaken to minimise the literature gap on this topic.

The research results indicate that perception of CSR is not related with gender of the hotel employees. In line with this finding, several previous studies showed that gender has no impact on the employees' perception of ethics within the workplace (Jahantigh et al., 2016; Li, Chang, 2016). Contrary to this, there is also a previously conducted study that showed relationships between gender and the perception of CSR. More precisely, Bossuyt and Van Kenhove (2018) pointed out that female consumers are more influenced by the ethical activities of companies. However, the previous study was conducted on the sample that covers the customers, not employees.

Poorsoltan et al. (1991) indicated that married employees have greater degree of conservatism, because unethical behaviour could damage their work position and affect financial security of the whole family. However, these research results did not show that there is no relation between marital status and perception of all four dimensions of CSR. Same can be said for the place of the residence of employees in hotels on Kopaonik and CSR.

On the other hand, the research results indicate that perception of CSR is related to three socio-demographic characteristics of the respondents: age, monthly income and education. Employee's age affects the perception of Philanthropic, Economic and Ethical dimensions of CSR. Results of the research conducted in hotels in Kopaonik, showed that perception of these dimensions of CSR is the strongest among the respondents aged between 31 and 40, and 41 and 50 years. This is in line with some previous findings (Bharthy, Sethi, 2020; Freund, Blanchard-Fields, 2014; Ibarra, 2005; Nazar, Van der Heijden, 2014). Regarding the Economic dimension of CSR, it could be said that younger respondents are motivated by a possibility to gain a profit in a short period of time (during the season, from December to April), while those aged between 31 and 40, as well as those who are between 41 and 50 years old are more focused on their career progress, thus considering the Economic dimension of CSR more seriously. Nazar and Van der Heijden (2014) indicated that socio-economic conditions, besides dynamic changes within the labour market, are related to the new demands that are present for middle-aged employees when they are developing their business careers. These demands additionally raise middle-aged employees' awareness of difficulties when looking for a job, making them prone to identify with their current jobs. The process of forming an identity at work is based on formal experiences of learning, as well as on the involvement in activities and groups at work (Ibarra, 2005). Besides that, the aforementioned age groups also showed significantly higher perception of Philanthropic dimension of CSR, when compared with other age groups of the respondents. Bharthy and Sethi (2020) also highlighted that the age of employees' impacts their altruistic behaviour. According to the previous findings, altruism is positively related to age, which means that older employees are more altruistic (Bharthy, Sethi, 2020; Freund, Blanchard-Fields, 2014). Besides that, Bharthy and Sethi also indicated that altruistic behaviour might be driven by job experience and job security which is usually absent when talking about the younger employees. As for the Ethical dimension of CSR, majority of the previously conducted studies supported the fact that older people are more consistent in terms of following the ethical rules, while younger ones are more lenient with this issue (Cheng et al., 2013; Christie et al., 2003). More precisely, the older generation of employees is prone to consideration of the ethical issues in context that is more legally oriented. On the other hand, younger employees are more concerned for the ethical issues related to the gender equality, as well as to environmental protection (Cheng et al., 2013; Whiteoak et al., 2006). According to the research results, it could be said that a sense of commitment to the specific business environment and appropriate cooperation with other stakeholders, which are the main characteristics of the Ethical dimension of CSR, are more usual for the respondents grouped into the two categories: those aged between 31 and 40 years, and those between 41 and 50. These groups of respondents are in the period of life when they are striving towards developing their career without changing the business environment. On the other hand, younger respondents are often open to changing the organisations, making this Ethical dimension of CSR less important, while the older respondents also pay less attention to this CSR dimension, due to the fact that they will be retiring soon. Dhanesh (2012) stated that Ethical and Legal dimensions of CSR are significant predictors of three dimensions of organisational commitment. Besides that, the main findings of the study conducted by Dhanesh (2012) indicated that employees are open for experiencing a higher sense of organisational commitment to organisations, within business environment characterised by following the laws and other regulations, but also high ethical standards. In such circumstances, employees believe that staying in a concrete organisation is the right thing to do (Dhanesh, 2012). Besides that, Grunig and Huang (2000) also believe that commitment might be considered one of the important outcomes in relationship-management theory, which additionally highlights its importance for organisational environment. Therefore, special attention should be focused towards developing the awareness of younger individuals related to the necessity and importance of social responsibility, especially considering the fact that younger respondents are highly present within hotels in Kopaonik. Further research on this topic should include the three-component conceptualisation of organisational commitment proposed by Meyer and Allen (1991), who defined affective commitment (employees' sense of identity with a concrete organisation), continuance commitment (dependent on the costs that might occur upon leaving the organisation) and normative commitment (sense of obligation to the organisation).

Furthermore, perception of Philanthropic dimension of CSR is related with the level of education of employees within hotels in Kopaonik. The research results indicated that perception of Philanthropic aspect of CSR is stronger among the respondents with lower level of education. It seems that employees with higher education degree have more information on what Philanthropic dimension of CSR really means and how it should be implemented within an organisation. Even Carroll, as the author of observed CSR pyramid, indicated that, considering all the dimensions of CSR, Economic and Legal dimensions are predominant when compared to others, especially Philanthropic one. This means that, philanthropy in its essence is rarely represented in business actions of organisations. Organisational intention to participate in CSR is usually pushed by different factors, mainly related to improving the image or adhering the prescribed law or other regulations, rather than a true will to help someone (Carroll, 1979, 2016). According to the research results, it could be said that employees with higher education degree are more aware of this fact, so their criteria for being convinced in organisational philanthropic intentions are higher. Previous research also conducted on this issue pointed to the low relation between education, on the one hand, and ethical perception, on the other (Fearne et al., 2013), while one study pointed out that people with higher level of education might even show cynical perception of ethics (Huimin, Ryan, 2011).

Research results showed that differences in monthly incomes are reflected in the perception of the Legal dimension of CSR, which is the strongest among the respondents with monthly incomes between 30,001 and 50,000 RSD. Employees with monthly incomes between 30,001 and 50,000 RSD are mainly employed within subordinate positions, and thus, they are under the constant pressure of their managers to follow the rules, starting from the local to national levels. According to the main findings of Dragin et al. (2019), Abiding the Rules is the most dominant ethical climate type within organisations operating in the tourism sector of Serbia. Most of the surveyed organisations belong to a private sector. In such business environment, it is not surprising that owners and the management require Abiding the Rules in order to provide the business success on the basis of the costs control and making a profit (Dragin et al., 2019). A similar situation was recorded in a narrower environment of tourism sector in Serbia, or more precisely within hotels in Kopaonik, where Adhering the law, procedures and rules were also identified as the mostly represented ethical climate type (Mijatov, 2018).

To sum up, the main findings of this study showed that age is the most dominant socio-demographic predictor of the employees' perception of CSR dimensions. Previous study indicated that young people, often termed as representatives of Generation Z, are more aware of sustainable issues, when compared to the older ones (Dragin et al., 2022b), which is not in line with the main findings of this study. However, important difference is reflected in the fact that the previously conducted study of Dragin et al. (2022b), considered the younger individuals as tourists, while in this study, they represent a part of the business environment. It seems that, when talking about the personal benefits, younger people are prone to show a higher awareness of sustainable issues, especially those related to a higher quality of life. But, when activities are of importance for a wider society, younger respondents show less concern. Considering the fact that they will soon take a majority of business positions, both managerial and subordinating ones, it is important to put a focus on raising their awareness of important CSR issues, starting from their education programs to legislation that will motivate the implementation of these activities in a concrete business environment.

It could also be said that respondents of the middle age (those aged between 31 and 40 and 41 and 50) are in the period of life when they are aware of the fact that they are often over-educated for delegated business tasks, and thus less paid for their job positions. Similar situation regarding the high rates of over-education is evident in various EU countries, including Spain, for example. No matter the fact that researched jobs usually require only general skills, they are mostly occupied by employees which are over-educated for such type of the working tasks, mainly because of the high levels of unemployment and significant percentage of unemployed workers with university degrees on the market (Molina, López-Roldán, 2015). Such circumstances might cause the employees' awareness of the overall situation that possibilities for their career progress in such business environment will not significantly be changed in the following period, especially considering the fact that there is a lot of younger employees in researched hotels. In respect to that, their perceptions of hotels' activities, including those oriented towards social responsibility are more pronounced, which might be the consequence of their tendency to observe the overall strivings of hotels to help the society in wide and employees in narrow terms. Such circumstances are also characteristic for transitional societies, considering the fact that difficulties of finding the other job keeps them in such business environment. On the other hand, respondents' gender, place of residence and their marital status are not significantly related with the employees' perceptions of CSR, which might be the consequence of the fact that hotel business is characterised by various job positions, which are not conditioned by the previously mentioned characteristics. More precisely, people of both genders, from different place of residence across Serbia and with different marital background are often represented within hotels in Kopaonik. It could be said that these employees are not concerned of finding the other job outside this destination, while the absence of such concern is reflected in the absence of significant relation between their gender, place of residence, marital status and perceptions of CSR. Such circumstances are additionally confirming the fact that employees' age is the main socio-demographic characteristic that is causing the fear of not only losing the job, but also the fear of not finding the other in transitional societies, such as Serbia. All together is raising the middle-aged employees' sensitiveness on wide hotels' activities, including those in the field of CSR.

These results contribute to the understanding of the perception of CSR among the employees, considering the fact that impact of socio-demographic characteristics of employees is rarely explored, compared with research on the effects of CSR on their motivation and commitment to the organisation which they work for (Brammer et al., 2007; Ditlev-Simonsen, 2010; Mozes et al., 2011; Skudiene, Auruskeviciene, 2012; Ferreira, Real de Oliveira, 2014).

CONCLUSION

The research results indicate that perception of CSR is related to certain socio-demographic characteristics of the respondents i.e. age (Philanthropic dimension, Economic dimension and Ethical dimension), level of education (Philanthropic dimension) and monthly incomes (Legal dimension) of employees within hotels.

However, there are no significant relationships between the perception of CSR (for all four dimensions: Philanthropic, Legal, Economic and Ethical) and the gender structure of the respondents as well as on the marital status or place of the respondents' residence.

Large hotel chains, as well as small independent hotels in developed countries, already recognised importance of conducting the CSR, not only due to full and true meaning of this term, but primarily because of financial and other benefits that such activities might provide. However, situation is quite different in Serbia, not only in practice, but also in the literature, considering that issue of CSR is still insufficiently researched and applied within hotels that belong to the category of small and medium enterprises. Situation is only somewhat different within those who are operating as part of some larger hotel chains.

Regardless the size and type of the business, it is important to develop the awareness of management and hotel owners in Serbia about the benefits that CSR could provide, when it comes to business performances. This should be especially taken into consideration when researching the CSR within the hotels in Kopaonik, because they are located within the territory of the National Park, which imposes the necessity for particularly careful application of business activities. It is necessary to keep in mind that employees are an important resource of the organisation and that implementation of CSR activities depends on them, so it is important to develop a positive perception of CSR among the employees, while results of this research might be used for that purpose.

Finally, it should be noticed that there is a lack of research that have addressed the employees' perception of CSR dimensions in the hotel industry and further studies should be undertaken to minimise the literature gap on this topic.

Contribution to theory and practice

Theoretical Contributions

Advancement of CSR theory: By investigating hotel employees' perceptions of CSR dimensions, particularly within the context of the hospitality industry, the study contributes to the theoretical understanding of CSR. It enriches existing CSR frameworks by exploring how different dimensions of CSR are perceived and prioritised by employees, shedding light on the multifaceted nature of CSR within organisational settings. More precisely, the theoretical contribution of gained results is reflected in filling the gaps regarding relationship between socio-demographic variables and CSR concerns that might help in a detailed procedure of profiling the human resource segments.

The study integrates socio-demographic factors such as gender, age, education, marital status, monthly income and place of residence into the analysis of CSR perceptions. This theoretical framework enables a nuanced examination of how individual characteristics influence employees' attitudes and priorities regarding CSR, contributing to a more comprehensive understanding of CSR dynamics.

By examining the intersectionality of socio-demographic characteristics in shaping CSR perceptions, the study extends discussions on diversity and inclusion within CSR research. It highlights how multiple dimensions of identity intersect to influence employees' perceptions of CSR, thereby broadening the theoretical lens through which CSR is studied.

Practical Contributions

As far as the authors are aware, this is the first attempt to understand this topic with the attention to all four dimensions of CSR – Philanthropic, Legal, Economic and Ethical dimensions. Thus, managers can utilise the knowledge on demographic characteristics for profiling the CSR conscious employees, which could help shape the desirable value chain in the organisation, as a critical prerequisite for developing CSR segment profiles. Accordingly, this study provides guidelines to practitioners by identifying the mechanisms that drive behaviour of human resources in hotel industry with various socio-demographic characteristics. Moreover, socio-demographic variables play an important role in employees' behaviour, especially in countries where there is still a lack of prescribed legislative regarding the CSR issues. In such transitional societies, the best way to start to transfer values through the collective is related to orientation to the human resources profile.

Better understanding of CSR is of significant importance for its managerial implications, considering the fact that organisations are constantly looking for the manner of improving their image. In respect to that, the main results of this study might enable meeting the expectations of internal and external stakeholders, by managing interpersonal relations with all of them, including the employees.

The insights generated from the study can inform the development of CSR strategies tailored to the needs and preferences of hotel employees. By understanding employees' perceptions of CSR dimensions, hotel managers can prioritise initiatives that resonate with employee values and motivations, enhancing the relevance and effectiveness of CSR programs.

Hotels can foster a sense of ownership and commitment among employees by actively involving employees in CSR activities and decision-making processes. This, in turn, can lead to higher levels of employee engagement, satisfaction, and retention, ultimately benefiting organisational performance and reputation.

The study's findings can guide the design of targeted training and development programs aimed at enhancing employees' understanding of CSR principles and practices. By addressing specific knowledge gaps and misconceptions identified through the study, hotels can equip employees with the skills and knowledge needed to champion CSR initiatives within their organisations.

By aligning CSR initiatives with employee values and socio-demographic characteristics, hotels can strengthen relationships with employees, customers, suppliers and local communities. This can lead to enhanced stakeholder trust, loyalty and goodwill, creating a positive impact on brand reputation and long-term sustainability.

The study's findings can inform policy discussions and advocacy efforts aimed at promoting CSR practices within the hospitality industry. By highlighting the importance of considering socio-demographic factors in shaping CSR perceptions, the study can influence policy decisions related to CSR regulation, reporting, and accountability.

In summary, the theoretical and practical contributions of the study extend our understanding of CSR dynamics within the hospitality industry and offer valuable insights for stakeholders involved in CSR strategy development, employee engagement and stakeholder relations. By bridging theory and practice, the study seeks to drive positive change and foster sustainable business practices within the hospitality sector.

The findings of this study are important from the point of view of generating valuable insights, improving theoretical knowledge, and making practical contributions to the theory and practice of CSR in the context of countries in transition. Authors suggest future research that can build upon the findings and insights of our study. Here are some suggestions:

- Longitudinal Studies - It could be helpful for tracking the evolution of CSR practices and their impacts over time in transitional countries. Long-term analysis can provide valuable insights into the sustainability and effectiveness of CSR initiatives in dynamic socio-economic environments.
- Cross-Country Comparisons - It could be beneficial comparing CSR practices across multiple transitional countries to identify common trends, differences and factors that influence CSR adoption and implementation. Comparative studies can offer valuable lessons for policymakers, practitioners and researchers working in transitional economies.

Acknowledgement

This research is a part of the project approved by the Autonomous Province of Vojvodina, Provincial Secretariat for Higher Education and Scientific-Research Activity, Program 0201, with the project title "Research of the entrepreneurial potentials among the local population for using the thermo-mineral water resources of Vojvodina", registration number: 142-451-3467/2023-02 (2021–2024). The authors also gratefully acknowledge the financial support of the Ministry of Science, Technological Development and Innovation of the Republic of Serbia (Grants No. 451-03-66/2024-03/200125 & 451-03-65/2024-03/200125).

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Original scientific paper

THE ASSESSMENT OF THE PRODUCTS WITH GEOGRAPHICAL INDICATIONS IN TERMS OF THEIR AVAILABILITY IN RESTAURANTS BASED ON MULTI-MOORA METHOD

Erkan AKGÖZ[a], Bengü Su KARAGÖZ[b]

[a]Selcuk University, Faculty of Tourism, Department of Tourism Management, eakgoz@selcuk.edu.tr
[b]Selcuk University, Social Sciences Institute, Department of Tourism Management, karagozbengusu@gmail.com

Cite this article: Akgöz, E., Karagöz, B. S. (2024). The Assessment of the Products with Geographical Indications of Konya in terms of Their Availability in Restaurants based on Multi-Moora Method. *Deturope.* 16(1), 75-94.

Abstract

Local cuisines constitute a significant heritage for the respective regions, and the promotion, sustainability, and certification of this heritage are crucial. The Konya cuisine, which is a rich local cuisine in Turkey, encompasses various products with geographical indications. The registration of these geographical indications helps prevent confusion. The presentation of region-specific and registered products in local restaurants is essential for preserving and sustaining the local culinary heritage and enabling tourists to experience local flavours. Consequently, it holds significance for businesses. The primary objective of this research is to determine the inclusion status of geographically indicated products in restaurant menus and provide recommendations to restaurant managers to contribute to the development of Konya cuisine. Initially, geographically indicated dishes and soups specific to the Konya region, as well as products in the categories of bakery, pastry, dough-based products, and desserts, were identified. The inclusion status of these products in local restaurant menus was evaluated as a criterion. Data were obtained from restaurant officials for criteria such as cooking time (minutes), the number of staff involved in preparation, portion material cost, daily sales portion, and portion profit (%). The Multi-Moora method, an objective approach for determining the most suitable decision based on multiple criteria, was employed for ranking. The research concludes that the most crucial geographically indicated products to be offered in restaurants in Konya are meat bread (a type of meat bread), bread spread (bread with meat), höşmerim (a local dessert), and bamya çorbası (okra soup). The results were analyzed to provide recommendations for the sector.

Keywords: Restaurant, Menu, Multi-Criteria Decision-Making, Multi-Moora

INTRODUCTION

The word "mutfak," which is derived from the Arabic word "matbah," has entered the Turkish language and is defined as the place where food is cooked and preserved, encompassing the entire culinary culture (Hatipoğlu and Batman, 2014: 63). Nowadays, almost every cuisine has its own distinct features. Local dishes specific to each cuisine have become a defining characteristic that sets them apart (Ertaş et al., 2017: 53). Values and history unique to societies also influence the eating and drinking habits of those societies. Therefore, the presence of different culinary cultures between societies plays a fundamental and determining role in distinguishing one regional cuisine from another (Bulut Solak and Eken, 2021: 372).

When Turkish cuisine is examined, the country's historical background, geographical location, and its connection with various civilizations stand out. It is observed that the different characteristics and living conditions among regions have influenced the formation of regional Turkish cuisine. Regional cuisine can be defined as the food and beverages that have become tradition over time, identified with the local culture, and consist of products grown in a specific region (Seçim and Esen, 2020: 280). In Konya province, located in the Central Anatolia Region of Turkey, grain production, small-scale livestock farming, and sugar beet production are widely practiced. This situation is reflected in the distinctive dishes of Konya cuisine, as well as in dishes made with dough and various sweets (Seçim and Akyol, 2022: 180). In general, when examined, the soup category specific to Konya cuisine includes dishes made with flour, dough, okra, and yoghurt; the meat and vegetable dishes category includes dishes made with meat, eggplant, green beans, bread, and dough; the rice category includes dishes made with meat, rice, and bulgur; the pastry category includes dishes made with homemade dough; the compote category includes dishes made with dried fruit, water, and sugar; and the dessert category generally consists of sweets made with flour and bread (Büyükşalvarcı et al., 2016; Seçim and Akyol, 2016: 180; Temiz, 2019: 42-44). Until the 1960s, trying to maintain its classical traits, the decreasing knowledge of local dishes and cultivated areas did not harm the traditional structure significantly, although it caused some changes in the local cuisine (Büyükşalvarcı et al., 2016: 166). Konya cuisine has survived until today and is present both in special banquet meals and in the daily meals of Konya families (Çölbay and Sormaz, 2015: 1731). Local cuisines, which are particularly important for gastronomy tourism, have various region-specific food and beverages in different geographical regions of Turkey. To prevent the devaluation and disappearance of these foods and beverages over time, they are registered by the Turkish Patent and Trademark Office under certain conditions. The registration of regional food and beverages also contributes to the promotion of the region and socio-economic development.

Tourism, which makes a significant contribution to the country's economy, has focused on promoting cultural and traditional values. In this context, "Geographical Indications" are granted to products with tourist value and economic contribution to the region through a law prepared to ensure the preservation of regional values without any confusion (Orhan, 2010: 243).

It is highly important for restaurants serving in destinations where geographical indication products are registered to include these products in their menus. This helps promote the gastronomic values of the destination and holds significant importance for the restaurants themselves. Objective methods should be employed to determine which geographical indication products should have a greater presence in restaurant menus. Nowadays, various scientific methods are being used for decision-making in this regard. These methods are primarily based on minimizing costs and maximizing profits. The main objective of this research is to determine the inclusion status of geographically indicated products in restaurant menus and to be offered to restaurant managers in making recommendations, thereby contributing to the development of Konya cuisine.

THEORETICAL BACKGROUND

A geographical indication is referred to as "CI" (Gökovalı, 2007; Doğan, 2015; Tekelioğlu, 2019) in Turkish and as "geographical indication" abbreviated as "GI" (Raimondi et al., 2020; Török et al., 2020; Kimura & Rigolot, 2021) in English. It represents a quality mark that indicates the origin, characteristics, and the relationship between these characteristics and the geographical region, providing consumers with a guarantee. This indication protects products with a reputation for quality, tradition, the use of local raw materials, and local characteristics (Turkish Patent and Trademark Office, 2023a). Geographical indication ensures the protection of local products or values within the scope of specific laws (Sezen Doğancılı, 2020: 248).

Geographical indications are classified as "designation of origin" and "geographical indication." If a product's all or essential characteristics are composed of natural and human factors specific to a certain geographical region, it is referred to as a "designation of origin." In order to obtain this designation, the entire production, processing, and other stages of the product must take place within the designated geographical region. In this context, geographical indications that are registered as designations of origin have a strong connection to the geographical region they originate from. Geographical indications that are associated with a specific geographical region due to a distinct characteristic, reputation, or other features, where at least one of the stages of production, processing, or other processes takes place within the designated geographical region, are referred to as "geographical indication." While one stage, such as sourcing, production, or processing, occurs within the region for a product registered as a geographical indication, the other stages can be carried out in different regions (Turkish Patent and Trademark Office, 2023a). Products that do not fall under the scope of designation of origin or geographical indication but have been traditionally used in the relevant market for at least thirty years, stemming from traditional production or processing methods, traditional composition, or traditional raw materials or ingredients, are referred to as "traditional product name" (Celep and Akdemir, 2022: 552).

The benefits provided by geographical indication products and the interest shown in these products also contribute to an increased demand for the products. The desire to possess products with this designation, driven by the interest in these products, leads to visiting the destination where the products are produced, resulting in tourist mobility. Individuals participating in tourism activities for various reasons also show interest in geographical indication products specific to the destinations they visit. Therefore, the interest shown in geographically indicated products both directly and indirectly during tourism activities contributes to the regional economy and rural development (Bahar et al., 2019; Paslı, 2021: 94). Geographical indication products are generally prepared using locally sourced ingredients. Therefore, offering geographically indicated products not only contributes to the business but also benefits the local community. This practice has a significant impact on the preservation and sustainability of local products.

Upon reviewing the relevant literature, it can be observed that there are numerous studies on geographical indication products. Some of these studies include the consumption of geographical indication products and the willingness to pay more for these products (Toklu et al., 2016; Menapace et al., 2011), the economic evaluation of geographical indication products (Requillart, 2007; Moschini et al., 2008), the relationship between geographical indication products and branding (Acar, 2018; Uygurtürk and Güner, 2021), and the presence of geographical indication products in restaurant menus (Yılmaz and Çilingir Ük, 2021; Murat and Ergen, 2022; Şahin and Güçlütürk Baran, 2022).

In the literature, studies on geographically indicated products are generally focused on defining the number, types, and regions of local dishes (Usta and Şengül, 2022; Denk, 2021; Kızıltuğ et al., 2017). Research on geographically indicated products featured in restaurant menus is limited. İflazoğlu and Yaman (2020) examined the presence of local dishes on menus in Mardin, finding that out of 34 dishes, 14 were not included in restaurants located in tourist areas. Ercan and Bayesen (2022) investigated the presence of geographically indicated products on menus in Diyarbakır restaurants and concluded that only a limited number of products were included.

Studies examining the inclusion of geographically indicated products in restaurant menus in the literature generally conclude using qualitative methods. There is a limited number of studies that provide recommendations for determining geographically indicated products to be presented to restaurant managers. What distinguishes this research from previous studies is the methodology employed. In addition to qualitative research, this study combines quantitative research to examine geographically indicated products featured on restaurant menus. By ranking these products based on specific criteria, recommendations have been formulated regarding which products would be more advantageous for restaurants to include in their menus.

The inclusion of geographically indicated products on restaurant menus featuring local cuisine contributes to the promotion, branding, and potential for repeat visits of the destination. In this context, in order to evaluate the presence of geographical indication products specific to Konya province in restaurant menus and make decisions regarding the inclusion of these products in restaurant menus, Tab. 1 has been prepared, which showcases the geographical indication products in the categories of meals/soups and bakery, pastry products, dough products, and desserts specific to Konya province.

Table 1 Geographical Indication Products in the Categories of Meals/Soups and Bakery,Pastry Products, Dough Products, and Desserts specific to Konya Province

Year	The Name of the Meal/Soup
2022	Akşehir Hersesi
2020	Akşehir Tandır Kebab
2021	Konya Okra Soup
2021	Konya Bütümet/Orta (Boiling the forearm, hind leg or rib portion of the middle mutton first, then frying it)
2022	Konya Calla Dish (Prepeared with meat with bones, plums and eggplant)
2021	Konya Cimcik (It is kind of Turkish ravioli)
2021	Konya Domalan Dish (Made with truffles and meat)
2022	Konya Bread Salmas (It is pouring the roast on tandoori breads and filling it with roasting)
2022	Konya Sour Squash (Sour zucchini)
2011	Konya Wedding Pilaf with Meat (Rice with meat)
2021	Konya Meat Stuffed Rolled Grape Leaves (Meat and rice wrapped in vine leaves)
2022	Konya Fırın Kebab/Fürun Kebab (Roasted beef kebab)
2021	Konya Hassaten Lokma
2021	Konya Ildız Root Dish (It is a dish cooked with carrots, potatoes, onions and tomato paste and served with garlic yogurt)
2021	Konya Kikirdekli Kesme Soup (A type of soup made with dough)
2021	Konya Stuffed Dry Zucchini
2021	Konya Crispy Mantı
2021	Konya Violet Rice (Bulgur pilaf made with bulgur and green lentils)
2021	Konya Ovmaç Soup
2021	Konya Stuffed Eggplant
2022	Konya EggplantTirid
2022	Konya Trotter Stew (Cooking lamb's feet with onion, tomato, pepper, tomato paste and salt)
2022	Konya Tandır Soup
2021	Konya Çebiç in Tandır (Cooked lamb is brought to the table and can also be prepared with çebiç)
2022	Konya Tarragon Soup (Made with roasted lamb meat and boiled chickpeas)

Table 1 (continued)

Year	The Name of the Meal/Soup
2022	Konya Tirid
2022	Topalak (Prepared with bulgur, meat and chickpeas)
2021	Tutmaç Soup (Soup made with 1 tea glass of noodles, boiled green lentils and 1 tea glass of boiled chickpeas)
2022	Konya Zülbiye/Sülbiye (Unique meeting of shallots, garlic, chickpeas and meat)
2022	Konya Çirli (Made with shredded lamb ribs, lamb cubes, butter, oil, black seed raisins, black pepper, sugar)
2022	Konya Çullama (It is a type of pastry prepared with chicken meat and rice)
2021	Konya Çöpleme (It is made by cutting meat, onions and tomatoes into small pieces and arranging garbage bottles)
2021	Konya Şalgam Gallesi (a meal made with meat and turnips)
Year	**Bakery and Pastry Products, Dough Products, Desserts**
2021	Aksehir Cheese Halva
2022	Cihanbeyli Gömec Bread
2013	Kadınhanı Tahinli Pidesi
2022	Konya Almond Halva
2017	Konya Meat Bread
2021	Konya Haside Tatlısı (Dessert made with molasses)
2022	Konya Höşmerim (a sweet made of unsalted cheese)
2021	Konya Crunchy Börek (Pastry scrambled with roasted tail fat)
2021	Konya Roasted Black Plum
2021	Konya Hemp Halva
2021	Konya Paluze/Palize (Ottoman dessert made with starch and sugar and served by sprinkling crushed walnuts on it)
2021	Sac Arası (a sherbet dessert)
2021	Konya Sour Tirid (It is a local dessert by pouring cherry sherbet on bread fried in butter or ghee)
2022	Konya Fat Roll (Made with sourdough bread dough and moldy cheese)
2021	Konya Zerde (Dessert made with rice, put in bowl with saffron and turmetic and poured rose water on it)
2021	Konya Semolina Halva

Source: (Prepared by the researcher from the website of the Turkish Patent and Trademark Office, 2023b, accessed on April 1, 2023).

When Tab. 1 is examined, it can be seen that as of April 1, 2023, there are 33 products in the food and soup category and 16 products in the bakery, pastry products, dough products, and desserts category, which are geographical indication products belonging to the province of Konya. Tab. 1 shows the names of these products and the years in which they were registered.

DATA AND METHODS

The presence of geographical indication products in restaurant menus is important both for presenting the product in its place of origin and for promotional purposes. It is crucial to determine the extent to which geographical indication products from Konya province are included in restaurant menus that cater to the local Konya cuisine as well as which of these products would be appropriate to include in the menus. The research was conducted with local restaurants located in the central district of Konya, particularly those in close proximity to the Mevlana Museum, which holds significant tourist value. This choice was motivated by the crucial role that geographically indicated products play in introducing the local cuisine to tourists. In the region, there are a total of 32 restaurants providing local cuisine services (Tripadvisor, 2023; Foursquare, 2023). Restaurants with multiple branches and those exclusively focusing on a specific product or its varieties (such as a tirit restaourant) were not included in the study. Restaurants offering at least 6 different geographically indicated products on their menus were included. Additionally, only one branch of restaurants with multiple branches in the same region was included due to identical menus. In line with these criteria, data was obtained through face-to-face interviews using a semi-structured questionnaire with 7 restaurant officials who voluntarily participated in the research. The collected data were then processed and evaluated in accordance with the methodology. In this context, the research has been conducted following the methodology outlined below.

In the research, the presence of geographical indication products (in the categories of food and soup, as well as bakery, pastry products, dough products, and desserts) in the menus of local restaurants in Konya province was examined using content analysis method. Content analysis is primarily based on a classification system. The aim of content analysis is to determine the existence of categories in the classification system, understand their meaning, and determine their overall significance (Yeniçıktı, 2016: 103). Based on the obtained information, the geographical indication products included in the menus were identified. To evaluate why these products, have the highest presence in the menus and assess their significance for the restaurants, the Multi-Moora (Multi-Objective Optimization on the basis of Ratio Analysis) method, which is one of the multiple decision-making methods, was utilized. The process generally followed in decision-making using the Multi-Moora method and aiming to achieve an effective outcome is as follows (Akgöz & Salieva, 2019);

- A decision matrix is created, including numerical data for all identified criteria related to each alternative.
- After the decision matrix, the direction of the data is determined. If a criterion provides an advantage to an alternative, it is designated as a maximum value; if it creates a disadvantage, it is designated as a minimum value.

- After obtaining the maximum and minimum values of the criteria, a normalized matrix is created by calculating the sum of squares for each criterion and taking the square root of the sums.
- Based on the maximum and minimum values of the criteria, rankings are made using the ratio method.
- In the Multi-Moora method, in addition to the ranking based on the ratio method, a new matrix table is prepared for the reference point approach. This table uses the maximum values to create a new ranking.
- After the reference point approach, a new decision matrix is prepared according to the full conjunctive form, and a separate ranking is made for it as well.
- After all the processes, using the rankings prepared based on the ratio, reference, and full multiplicative forms, a dominance table is created. In the dominance table, all values are summed, and their averages are taken to determine the most effective decision based on the final ranking.

Geographical indication products are not offered in all restaurants. Therefore, the limitation of the research is that it mainly focuses on local restaurants where it is assumed that geographical indication products are available. Accordingly, the menus of 7 local restaurants serving in Konya province were examined, and data were obtained from the authorities of these restaurants in May 2023. Another limitation of the research is that the examined restaurant menus do not consist of the same products across all menus. The questions directed to the authorities of the selected restaurants regarding the geographical indication products in their menus include cooking time (in minutes), the number of staff involved in the preparation process, portion ingredient cost (₺), daily sales portion, portion profit (%), and the number of restaurants where the product is found, obtained through analyzing the menus of the restaurants.

RESULTS

The research focused on 7 local restaurants serving in Konya province. The menus of these restaurants were examined, and based on the analysis, it was observed that most of the geographical indication products from Konya province were not included in the menus. As a result of the menu analysis, it has been observed that in some restaurants, the geographically indicated products included in the menus are either not referred to by their full or certified names, and/or visual representations are absent. Additionally, discrepancies have been noted in the ingredients used in some geographically indicated dishes, indicating a deviation from their original composition. The evaluation of the restaurants within the scope of the research was based on selected criteria, including the total number of restaurants offering geographically indicated products, cooking duration, the number of staff, ingredient cost, the number of portion, and profit rate. In these processes, excluding the criterion of the number of restaurants, the data obtained for the other criteria were divided by the total number of restaurants offering geographically indicated products. For instance, the cooking duration for a specific dish (e.g., tutmaç soup) was calculated by dividing the total cooking time by the number of restaurants offering that dish (e.g., 120/1). Arithmetic averages were then computed for each criterion by considering the ratio of the specific criterion to the total number of restaurants. Subsequently, these arithmetic averages for each criterion were used to create Tab. 2, allowing for a comprehensive evaluation of the restaurants based on the specified criteria, while taking into account the influence of the number of restaurants offering geographically indicated products.

Table 2. Data and Decision Matrix for the Geographical Indication Products

Geographical Indication Product	The Number of the Restaurants	Cooking Duration	The Number of Staff	Ingredient Cost (₺)	The Number of Portions	Profit Rate (%)
Okra Soup	7	145	1	57	65	33
Tutmaç Soup	1	120	1	15	23	20
Tarragon Soup	1	150	1	65	110	15
Tandır Soup	3	60	1	42	18	36
Hassaten Lokma	1	30	1	40	13	15
Meat Stuffed Rolled Grape Leaves	2	157	4	50	58	42
Fırın/Fürun Kebabı	7	364	1	86	66	28
Tirit	7	138	1	106	48	28
Bütümet/Orta	1	270	1	175	48	5
Meat Bread	5	11	3	60	162	30
Konya Wedding Pilaf with Meat	3	133	1	93	60	31
Bread Spread	1	30	1	60	60	75
Sac Arası	5	114	2	28	27	48
Höşmerim	6	130	1	32	45	42
Almond Halva	1	45	2	15	23	25

Minimum and maximum importance levels have been determined for the restaurants. In determining the decision direction, the criterion of "the number of restaurant" has been set to a minimum, as offering geographically indicated products to a lesser extent in the business provides a differentiation advantage. Additionally, "cooking duration" has been set to a minimum as it is crucial for reducing both time and energy expenses. "Number of staff" and "ingredient cost" have also been minimized since they contribute to reducing the overall expenses of the business. On the other hand, the "profit rate" and "number of portions" of geographically indicated products offered in the establishment have been evaluated in a maximum direction, considering their positive impact on the business's revenue. In this context, considering that the number of restaurants where the product is available, cooking time (in minutes), the number of the staff, and portion ingredient cost (Turkish Liras (₺)) should be minimized, while the number of portion and portion profit (%) should be maximized, Tab. 3 has been created to determine the direction of the decision.

Table 3. Decision Direction of the Criteria, The Sum of the Squares, Square Root of the Total

Decision Direction	**Min**	**Min**	**Min**	**Min**	**Max**	**Max**
Geographical Indication Product	**The Number of the Restaurants**	**Cooking Duration**	**The Number of Staff**	**Ingredient Cost (₺)**	**The Number of Portions**	**Profit Rate (%)**
Okra Soup	49	21025	1	3249	4225	1089
Tutmaç Soup	1	14400	1	225	529	400
Tarragon Soup	1	22500	1	4225	12100	225
Tandır Soup	9	3600	1	1764	324	1296
Hassaten Lokma	1	900	1	1600	169	225
Meat Stuffed Rolled Grape Leaves	4	24649	16	2500	3364	1764
Fırın/Fürun Kebabı	49	132496	1	7396	4356	784
Tirit	49	19044	1	11236	2304	784
Bütümet/Orta	1	72900	1	30625	2304	25
Meat Bread	25	121	9	3600	26244	900
Konya Wedding Pilaf with Meat	9	17689	1	8649	3600	961
Bread Spread	1	900	1	3600	3600	5625
Sac Arası	25	12996	4	784	729	2304
Höşmerim	36	16900	1	1024	2025	1764
Almond Halva	1	2025	4	225	529	625
Total Square	**261**	**362145**	**44**	**80702**	**66402**	**18771**
The Square Root of the Total	**16,155**	**601,785**	**6,633**	**284,081**	**257,686**	**137,007**

After creating the decision matrix and determining the direction of the decision, a normalized matrix is constructed. For the normalized matrix, the squares of the values of the geographical indication products for each criterion are combined and the resulting value is divided by its square, revealing Tab. 4 for the normalized matrix.

Table 4 Normalized Matrix of the Geographical Indication Products

Decision Direction	**Min**	**Min**	**Min**	**Min**	**Max**	**Max**
Geographical Indication Product	**The Number of the Restaurants**	**Cooking Duration**	**The Number of Staff**	**Ingredient Cost (₺)**	**The Number of Portions**	**Profit Rate (%)**
Okra Soup	0,433	0,241	0,151	0,201	0,252	0,241
Tutmaç Soup	0,062	0,199	0,151	0,053	0,089	0,146
Tarragon Soup	0,062	0,249	0,151	0,229	0,427	0,109
Tandır Soup	0,186	0,100	0,151	0,148	0,070	0,263
Hassaten Lokma	0,062	0,050	0,151	0,141	0,050	0,109
Meat Stuffed Rolled Grape Leaves	0,124	0,261	0,603	0,176	0,225	0,307
Fırın/Fürun Kebabı	0,433	0,605	0,151	0,303	0,256	0,204
Tirit	0,433	0,229	0,151	0,373	0,186	0,204
Bütümet/Orta	0,062	0,449	0,151	0,616	0,186	0,036
Meat Bread	0,309	0,018	0,452	0,211	0,629	0,219
Konya Wedding Pilaf with Meat	0,186	0,221	0,151	0,327	0,233	0,226
Bread Spread	0,062	0,050	0,151	0,211	0,233	0,547
Sac Arası	0,309	0,189	0,302	0,099	0,105	0,350
Höşmerim	0,371	0,216	0,151	0,113	0,175	0,307
Almond Halva	0,062	0,075	0,302	0,053	0,089	0,182

After constructing the normalization matrix, in order to perform ranking using the ratio method, the maximum and minimum values obtained from the normalization matrix are separately summed. Subsequently, the difference between the maximum and minimum values is calculated, and the obtained results are ranked to determine the most suitable decision. Tab. 5 has been created to determine the ranking established based on the ratio method.

Table 5 The Properties and the Ranks of the Geographical Indication Products Based on Ratio Method

Geographical Indication Products	**Yi***	**Rank**
Okra Soup	-0,533	**11**
Tutmaç Soup	-0,230	**5**
Tarragon Soup	-0,154	**3**
Tandır Soup	-0,251	**7**
Hassaten Lokma	-0,243	**6**
Meat Stuffed Rolled Grape Leaves	-0,632	**12**

Table 5 (continued)

Geographical Indication Products	Yi*	Rank
Fırın/Fürun Kebabı	-1,031	**14**
Tirit	-0,796	**13**
Bütümet/Orta	-1,055	**15**
Meat Bread	0,144	**2**
Konya Wedding Pilaf with Meat	-0,426	**9**
Bread Spread	0,307	**1**
Sac Arası	-0,444	**10**
Höşmerim	-0,370	**8**
Almond Halva	-0,219	**4**

Upon analyzing Tab. 5, it has been determined that among the 15 geographical indication products found in the menus of local restaurants in Konya, the province where the research was conducted, the most advantageous choice is "ekmek salması" (bread spread) with a value of 0.307. Following that, "etliekmek" (meat bread) with a value of 0.144 and "tarhun çorbası" (tarragon soup) with a value of -0.154 are considered favourable options. On the other hand, the product that should be least preferred is "bütümet/orta".

In order to determine the most effective decision, ranking is also conducted based on the reference point approach. When determining the reference point, maximum points are identified if the goal is to maximize a criterion, and minimum points are identified if the goal is to minimize a criterion. Subsequently, Tab. 6 has been created by calculating the distances of each criterion to its respective reference point.

Table 6 Determining the Reference Points of the Geographical Indication Products

Decision Direction	Min	Min	Min	Min	Max	Max
Geographical Indication Product	**The Number of the Restaurants**	**Cooking Duration**	**The Number of Staff**	**Ingredient Cost (₺)**	**The Number of Portions**	**Profit Rate (%)**
Okra Soup	0,433	0,241	0,151	0,201	0,252	0,241
Tutmaç Soup	0,062	0,199	0,151	0,053	0,089	0,146
Tarragon Soup	0,062	0,249	0,151	0,229	0,427	0,110
Tandır Soup	0,186	0,100	0,151	0,148	0,070	0,263
Hassaten Lokma	0,062	0,050	0,151	0,141	0,050	0,110
Meat stuffed rolled grape leaves	0,124	0,261	0,603	0,176	0,225	0,307
Fırın/Fürun Kebabı	0,433	0,605	0,151	0,303	0,256	0,204
Tirit	0,433	0,229	0,151	0,373	0,186	0,204
Bütümet/Orta	0,062	0,449	0,151	0,616	0,186	0,037
Meat Bread	0,310	0,018	0,452	0,211	0,629	0,219
Konya Wedding Pilaf with Meat	0,186	0,221	0,151	0,327	0,233	0,226

Table 6 (continued)

Decision Direction	Min	Min	Min	Min	Max	Max
Geographical Indication Product	**The Number of the Restaurants**	**Cooking Duration**	**The Number of Staff**	**Ingredient Cost (₺)**	**The Number of Portions**	**Profit Rate (%)**
Bread spread	0,062	0,050	0,151	0,211	0,233	0,547
Sac Arası	0,310	0,189	0,302	0,099	0,105	0,350
Höşmerim	0,371	0,216	0,151	0,113	0,175	0,307
Almond Halva	0,062	0,075	0,302	0,053	0,089	0,183
Reference Points	**0,062**	**0,018**	**0,151**	**0,053**	**0,629**	**0,547**

Once Tab. 6 is created, the ranking based on the reference point approach should be performed to determine the most suitable decision. In this approach, a new decision matrix is formed by subtracting the values of each criterion that influence the selection of each alternative (geographical indication product) from the reference point. Subsequently, Tab. 7 is created by taking the maximum values of each alternative (geographical indication product) for the purpose of ranking.

Table 7. Ranking the Geographical Indication Products based on their Reference Points

Decision Direction	Min	Min	Min	Min	Max	Max	Maximum	Rank
Geographical Indication Product	**The Number of the Restaurants**	**Cooking Duration**	**The Number of Staff**	**Ingredient Cost (₺)**	**The Number of Portions**	**Profit Rate (%)**		
Okra Soup	0,371	0,223	0,000	0,148	0,377	0,307	**0,377**	**2**
Tutmaç Soup	0,000	0,181	0,000	0,000	0,539	0,401	**0,539**	**9***
Tarragon Soup	0,000	0,231	0,000	0,176	0,202	0,438	**0,438**	**4**
Tandır Soup	0,124	0,081	0,000	0,095	0,559	0,285	**0,559**	**10**
Hassaten Lokma	0,000	0,032	0,000	0,088	0,578	0,438	**0,578**	**12**
Meat Stuffed Rolled Grape Leaves	0,062	0,243	0,452	0,123	0,404	0,241	**0,452**	**6**
Fırın/Fürun Kebabı	0,371	0,587	0,000	0,250	0,373	0,343	**0,587**	**13**
Tirit	0,371	0,211	0,000	0,320	0,442	0,343	**0,442**	**5**
Bütümet/Orta	0,000	0,430	0,000	0,563	0,442	0,511	**0,563**	**11**
Meat Bread	0,248	0,000	0,302	0,158	0,000	0,328	**0,328**	**1**
Konya Wedding Pilaf with Meat	0,124	0,203	0,000	0,275	0,396	0,321	**0,396**	**3***
Bread Spread	0,000	0,032	0,000	0,158	0,396	0,000	**0,396**	**3***
Sac Arası	0,248	0,171	0,151	0,046	0,524	0,197	**0,524**	**8**
Höşmerim	0,310	0,198	0,000	0,060	0,454	0,241	**0,454**	**7**
Almond Halva	0,000	0,057	0,151	0,000	0,539	0,365	**0,539**	**9***

Once the ranking is determined based on the reference point approach, the decision matrix is formed according to the full multiplication form to perform ranking. The decision matrix is created by dividing the minimum criteria and multiplying the maximum criteria. Tab. 8 is then constructed to represent the ranking obtained through the calculation of the decision matrix using the full multiplication form.

Table 8. Ranking of Geographical Indication Products Based on the Full Multiplication Form

Geographical Indication Product	Full Multiplication Form	Rank
Okra Soup	1,817	**4**
Tutmaç Soup	0,256	**11**
Tarragon Soup	0,169	**12**
Tandır Soup	0,771	**6**
Hassaten Lokma	0,163	**13**
Meat Stuffed Rolled Grape Leaves	0,155	**14**
Fırın/Fürun Kebabı	0,413	**10**
Tirit	0,643	**7**
Bütümet/Orta	0,005	**15**
Meat Bread	12,273	**1**
Konya Wedding Pilaf with Meat	0,451	**8**
Bread Spread	2,500	**3**
Sac Arası	1,015	**5**
Höşmerim	2,726	**2**
Almond Halva	0,426	**9**

Afterwards, to determine the most suitable product, a dominance comparison is made based on the values obtained from the ratio method, reference point approach, and full multiplication form. The rankings from these three methods are combined in the Multi-Moora method, and then their averages are taken to determine the final decision. Tab. 9 has been created for this purpose.

Table 9 The comparison and Ranking of the Geographical Indication Products Based on Dominance

Geographical Indication Product	Ratio Method	Reference Point	Full Multiplication Form	Multi-Moora Method	Rank
Okra Soup	-0,533	0,377	1,817	0,554	**4**
Tutmaç Soup	-0,230	0,539	0,256	0,188	**8**
Tarragon Soup	-0,154	0,438	0,169	0,151	**10**
Tandır Soup	-0,251	0,559	0,771	0,360	**6**

Table 9 (continued)

Geographical Indication Product	Ratio Method	Reference Point	Full Multiplication Form	Multi-Moora Method	Rank
Hassaten Lokma	-0,243	0,578	0,163	0,166	**9**
Meat Stuffed Rolled Grape Leaves	-0,632	0,452	0,155	-0,008	**13**
Fırın/Fürun Kebabı	-1,031	0,587	0,413	-0,010	**14**
Tirit	-0,796	0,442	0,643	0,096	**12**
Bütümet/Orta	-1,055	0,563	0,005	-0,162	**15**
Meat Bread	-0,144	0,328	12,273	4,152	**1**
Konya Wedding Pilaf with Meat	-0,426	0,396	0,451	0,140	**11**
Bread Spread	0,307	0,396	2,500	1,068	**2**
Sac Arası	-0,444	0,524	1,015	0,365	**5**
Höşmerim	-0,370	0,454	2,726	0,937	**3**
Almond Halva	-0,219	0,539	0,426	0,249	**7**

Upon analyzing Tab. 9, it is observed that the most suitable geographical indication product to be offered in restaurants operating or to be operated in Konya province is "meat bread" (etliekmek). Following that, "bread spread" (ekmek salması), "höşmerim," and "bamya çorbası" (okra soup) are ranked accordingly. The product that is least suitable to be offered is "bütümet/orta".

It would be appropriate for local restaurants in Konya to include meat bread, bread spread, höşmerim, and okra soup in their menus. Furthermore, incorporating other geographically indicated dishes not currently featured in the menus could contribute to diversity, competitive advantage, and the promotion of local products in restaurants. Therefore, the presentation of geographically indicated products in restaurants can serve as a compelling travel motivation, particularly for gastronomy tourists who travel to taste local products. Furtermore, it can add value to businesses as an effective tool for building a positive image and enhancing promotion and marketing efforts. Geographically indicated products are generally prepared with local products, so they can also contribute to the local people who grow these products benefiting from touristic income.

DISCUSSION AND RECOMMENDATIONS

Local cuisines, which hold an important place in the food and beverage sector, carry the identity of their respective destinations. Preserving this important heritage and preventing its gradual disappearance are crucial. The national or international registration of geographically

indicated products serves as a quality mark that identifies the origin, characteristics, and the relationship between these features and the geographic region, providing consumers with assurance. The presentation of geographically indicated products in local restaurants is also important as it reflects the connection between the products and the geographic region.
Including geographically indicated products from their respective regions in the menus of local restaurants can be intriguing. However, due to the limited production capacity of local restaurants, it becomes challenging to produce and offer all geographically indicated products specific to the region to the target audience. In this context, restaurant managers need to consider certain criteria to determine the products they will offer in their establishments.

In this research, the menus of seven local restaurants in Konya province were examined. It was found that most of the geographical indication products were not included in the menus. The most frequently featured items on these menus were identified as bamya çorbası (okra soup), fırın/fürun kebabı (oven-baked kebab), and tirit. Additionally, it was noted that the names of geographically indicated products were written on menus using similar or different names without employing their full or certified names.

The study employed the Multi-Moora method, an objective approach for determining the most suitable decision based on multiple criteria, to rank geographically indicated products. As a result, it was concluded that the most crucial geographically indicated products to be offered in restaurants in Konya, in order of priority, are meat bread, bread spread, höşmerim, and okra soup. The least preferred product was identified as bütümet/orta. According to the research findings, it would be appropriate for local restaurants in Konya to include meat bread, bread spread, höşmerim, and okra soup in their menus. Furthermore, incorporating other geographically indicated dishes not currently featured in the menus could contribute to diversity, competitive advantage, and the promotion of local products in restaurants.

Yılmaz (2020) evaluated the menus of local restaurants in Trabzon and found that local dishes were significantly underrepresented. Similarly, Kurnaz and İşlek (2018) noted in their research on restaurants in Marmaris that local dishes were not adequately featured in the menus. The current study evaluating the menus of local restaurants in Konya yielded similar result. It was determined that geographically indicated dishes lacked a distinctive symbol on the menus. The insufficient representation of geographically indicated dishes in the menus of local restaurants may not only hinder the formation and promotion of the destination’s image but also contribute to the fading of these specific culinary items. Therefore, recommendations for restaurant managers specializing in local cuisine are as follows:

- The use of objective methods to determine and present the most suitable dishes on the menu can be advantageous in the selection.
- Employing knowledgeable and experienced staff or proving training to existing staff about the specific geographically indicated products unique to the destination where the restaurant is located can enhance the authenticity of the offerings.
- Ensuring that geographically indicated products are prepared in accordance with standard recipes without deviating from their original formulations preserves the uniqueness of the dishes. Kitchen controls should be implemented to ensure adherence to the recipes and maintain the originality of the dishes.
- Consideration may be given to placing geographically indicated products at the top of the menu list or in a special section, emphasizing their significance.
- Including a brief expression (such as making geographically indicated dishes as CI) or an image of the dish in the menu can help customers recognize and choose these registered local meals.
- Incorporating geographically indicated products not found in competitors' menus can serve as a differentiation strategy, leading to a competitive advantage.
- To contribute to rural development, geographically indicated products need to be promoted, protected, and awareness needs to be raised in the community (Kan et al., 2012). This could involve organizing fairs and festivals, with the participation of all stakeholders through collaboration between the public and private sectors.

Considering the preference for objective methods in decision-making, it is important to evaluate criteria beyond a single criterion to reach the most suitable decision. This research is expected to contribute to studies on local restaurants, which constitute a valuable portion of the food and beverage sector, as well as to other research in terms of methodology. Future researchers are recommended to assess restaurant menus in different cities and opt for objective methods in the decision-making process.

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Original scientific paper

OPINION OF LAKE BALATON RESIDENTS ON LOCAL TOURISM AFTER THE PANDEMIC

Andrea SZŐLLŐS-TÓTH[a], Zoltán BUJDOSÓ[b], Tünde CSAPÓNÉ RISKÓ[c]

[a] PhD Student, University of Debrecen, Faculty of Economics, Institute of Economics and World Economy, toth.andrea@econ.unideb.hu
[b] Professor, Hungarian University of Agriculture and Life Sciences, Institute of Rural Development and Sustainable Economy, Department of Sustainable Tourism, bujdoso.zoltan@uni-mate.hu
[c] Associate Professor, University of Debrecen, Faculty of Economics and Business, Institute of Economics and World Economy, Non-independent Department of World Economy and International Business, risko.tunde@econ.unideb.hu

Cite this article: Szőllős-Tóth, A., Bujdosó, Z., Csapóné Riskó, T. (2023). Opinion of Lake Balaton Residents on Local Tourism after the Pandemic. *Deturope.* 16(1), 95-112.

Abstract

The unexpected outbreak of the coronavirus in 2020 caused extreme damage to tourism, but after the release of the restrictions, Lake Balaton has once again become the focus of attention, especially for domestic tourism. According to a questionnaire survey of local people, they perceived a change in the level of tourist arrivals since COVID-19, with a significant percentage either just tolerating the presence of tourists in the area or being particularly disturbed by visitors. Typically, the respondents who are the most dissatisfied with the number of tourists are those who have lived at Lake Balaton in their entire lives. According to the feedback from respondents on their perception of the positive and negative effects of tourism, the disadvantages were somewhat more strongly experienced than the advantages.

Keywords: Lake Balaton, attitude survey, coronavirus, waterfront tourism, lake tourism

INTRODUCTION

In Hungary's tourism sector, waterfronts are one of the key attractions for travellers. The focus of the study is on the tourism area of Lake Balaton, which according to the website of the Hungarian Tourism Agency is one of the most important tourism areas in Hungary (MTÜ, 2023a). When breaking down tourist overnight stays in commercial accommodation establishments by tourism region, the Budapest-Central Danube Region (36.7%), which includes the capital, recorded the highest share of overnight stays in 2022, followed by the Balaton Tourism Region (19.8%) (KSH, 2023). As its role in the tourism industry in Hungary is very important, further, more detailed and specific studies are needed to contribute to the development of the region.

The research has a strong focus on the feedback of the population living in the Lake Balaton area, which was collected and systematically analysed through a questionnaire survey. Understanding and regularly reviewing the attitudes of the people living in the host area is essential, as locals are affected by both the positive and negative impacts of tourism in the immediate surroundings of their homes.

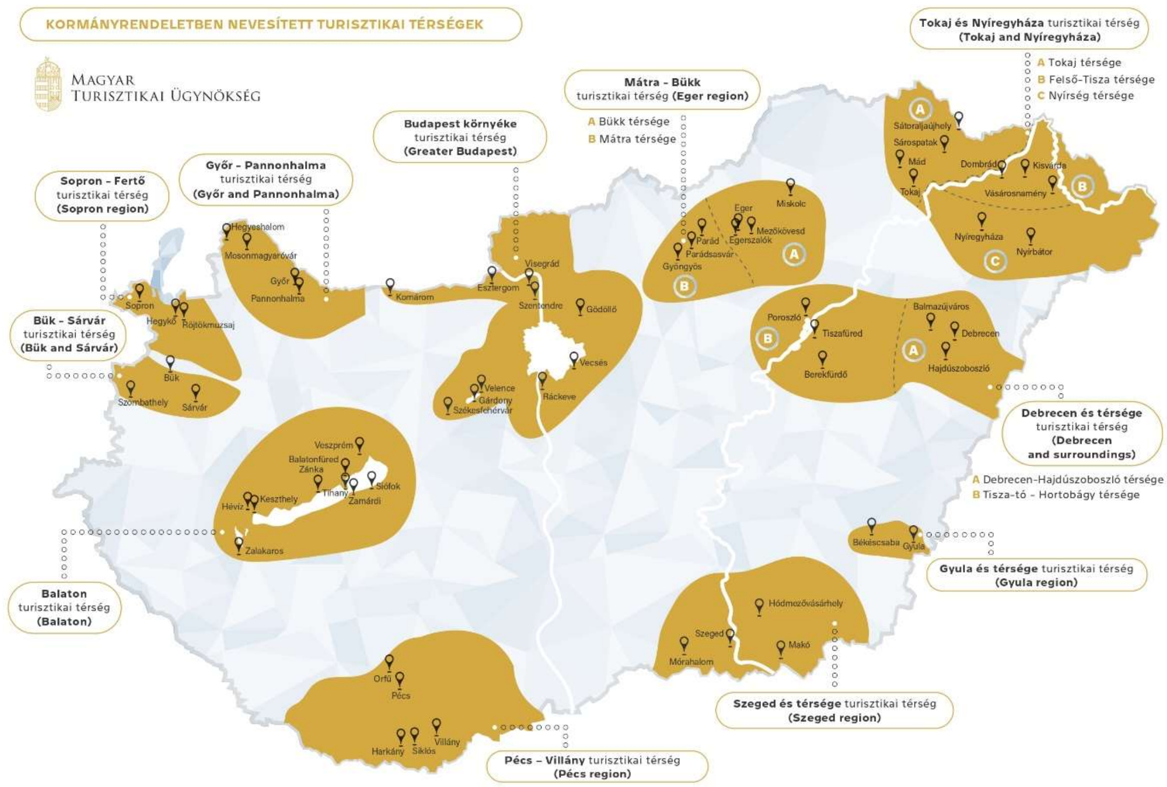
As part of the primary research, the experience of the population about tourism around Lake Balaton in the period following the COVID-19 outbreak will be presented, as there have been many changes in tourism since the outbreak of the coronavirus, and a transformation of travel habits has been observed worldwide, including in Hungary. The study also aims to assess the quality of the relationship between locals and tourists, to examine the impact of tourism as perceived by the local population, and to explore the current situation and development potential of tourism in Lake Balaton from the perspective of the local population.

THEORETICAL BACKGROUND

As Hungary does not border the sea, it does not have a coastline and is not involved in the so-called 3S tourism (sea, sand, sun) as a host country (Szőllős-Tóth, 2022). Nevertheless, the country has waterfronts of tourist importance (riverbanks, lakeshores), which provide a variety of recreational opportunities for both domestic and foreign tourists (Pókó, 2019, Hojcska-Szabó, 2011). As a result, Hungary is able to achieve success in the field of water tourism, which includes activities in, on, or near the water (Csapó – Darabos, 2011; Győri – Horváth, 2018). The term 'lake tourism' is used when the main motivation of the visitor is to visit the lake, when the lake is a key factor in the visitor's experience (Pókó, 2019). Cooper (2006) points out that water quality is crucial for lake tourism, as many of the larger lakes are saltwater (e.g. the Caspian Sea).

In Hungary, 11 tourism regions have been designated by the government (Fig. 1), of which the Hungarian Tourism Agency (MTÜ, 2023b) has given special attention to the Lake Balaton tourism region, which is an excellent destination for holiday tourism, waterfront tourism, health and active tourism, and attracts visitors interested in culture, wine and gastronomy.

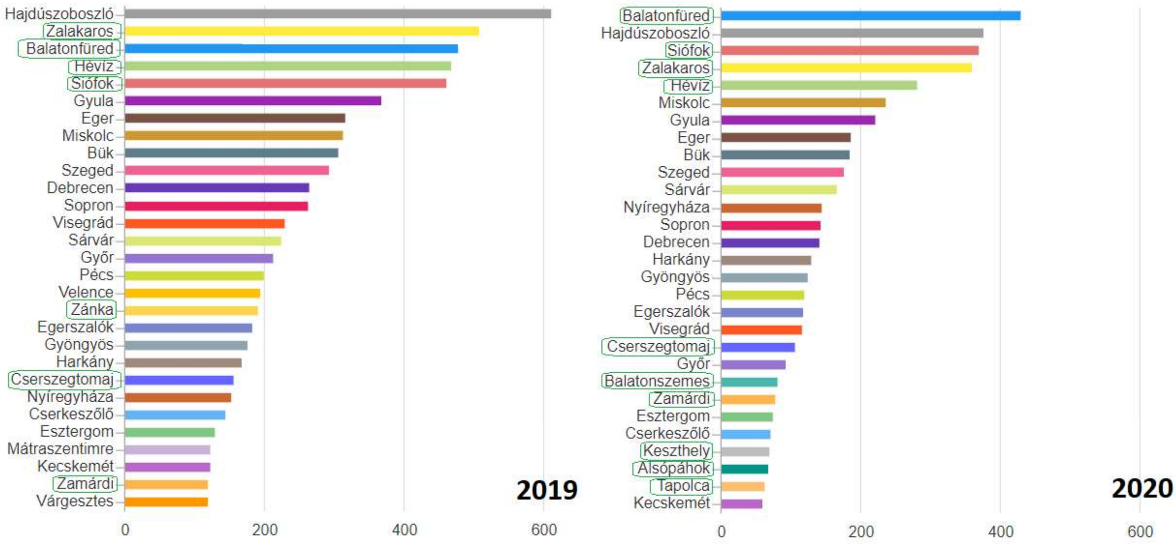
Figure 1 Tourism regions of Hungary



Source: MTÜ (2023b)

Some destinations in the Lake Balaton tourist region (Fig. 2) have been among the most popular domestic destinations for many years, based on the preferences of travellers.

Figure 2 The most popular rural settlements by nights spent in commercial accommodation in 2019 and 2020 (thousand)*



Source: KSH (2020) modified by the authors
*Settlements of the Lake Balaton tourist area marked with green

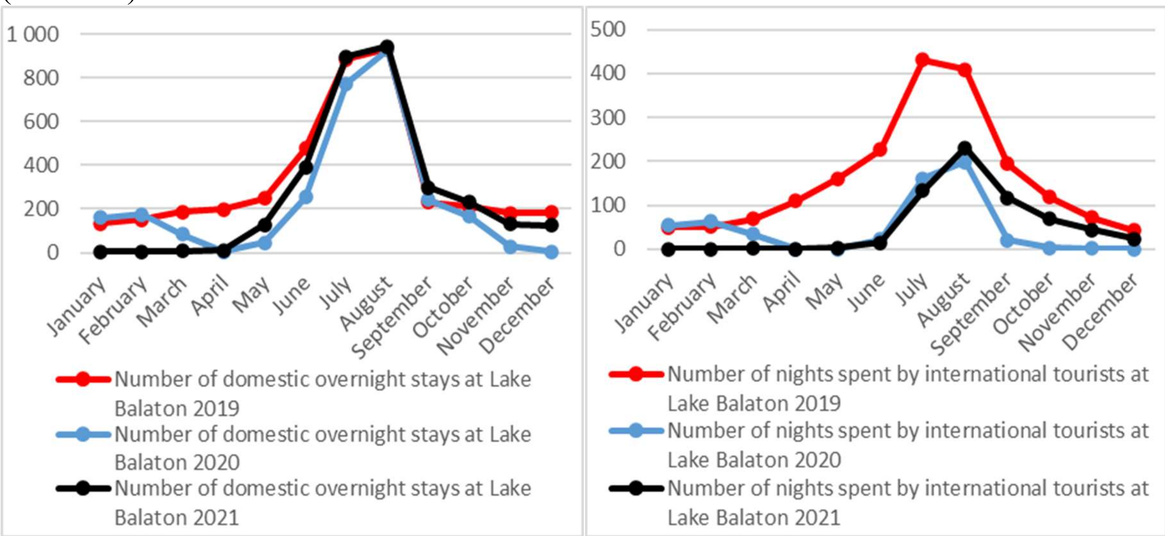
Among the most popular destinations at Lake Balaton are Zalakaros, Hévíz, Balatonfüred and Siófok. Hévíz has been the most visited location by international tourists for more than a decade now, after the capital.

The world was shocked by the COVID-19 epidemic in early 2020, the total impact of which could hardly be mentioned on an endless list. The most significant drop in turnover was in sectors where personal contact is more important (Dey-Chowdhury et al., 2022; Haryanto, 2020). In Hungary, the turnover of hotels and restaurants in 2020 was only 43.4% of the 2019 result (KSH, 2022b), while the turnover of spas in 2020 was 50.8% of the previous year's turnover (KSH, 2022c). According to a recent study, the operators in the domestic tourism sector did not expect any threat from health risks before the emergence of COVID-19 (Keller et al., 2022).

The role and situation of Lake Balaton in tourism have been the subject of significant research for decades, with Rátz (1999) on the socio-cultural impacts and Puczkó (1999) on the environmental impacts of local tourism, but the latest results from recent years are also worth mentioning, for example, Szalók et al. (2017) or Lőrincz et al. (2019). The study by Szalók and colleagues highlights the importance of the local population's attitude towards tourism development and how much it means for tourism if local people are "tourism-friendly". Lőrincz and his colleagues' primary research among residents shows that Balatonfüred, Tihany and Siófok are the most attractive settlements in the region. These destinations are also popular among visitors and are shown in Fig. 2.

The importance of Lake Balaton for domestic tourism is undisputed, even during the periods when the availability of most tourist services was limited due to the pandemic. Fig. 3 shows the number of overnight stays by foreign and domestic visitors for the year before the pandemic and the two years after the pandemic.

Figure 3 Nights spent in tourist accommodation in the Lake Balaton tourist region* (thousand)



Source: edited by the authors based on KSH (2022a)
*Data comparability is limited due to incomplete data reporting due to the coronavirus pandemic.

The data of the peak summer period show that while the number of domestic overnight stays in August 2020 (928 thousand nights) almost reached the August 2019 level (932 thousand nights) and exceeded it in 2021 (944 thousand nights); the number of foreign overnight stays in August of the two years under review (2020: 200 thousand nights; 2021: 231 thousand nights) was far below the base year of 2019 (408 thousand nights). This is in line with the results of several international studies of other tourist destinations, where a major decrease in the number of foreign visitors has been reported (Kubíčková – Holešinská, 2021; Mandić, 2023).

The specific objectives of the research are to assess, through a primary questionnaire survey, the following:

- The opinion of the local population on the current situation of tourism in Lake Balaton.
- The residents' opinion on the direction of tourism development in the area of their residence.
- The attitude of the local population towards tourists coming to their residential area.
- The perceived negative and positive effects of tourism in their residential area.

DATA AND METHODS

This paper was based on a questionnaire survey that used database analysis, data visualisation, and statistical tests. Attitude research, as a primary research tool, can be successfully applied in many disciplines. Studies are known from the field of pedagogy (Cotton et al., 2007), marketing (Nábrádi et al., 2017), environmental issues (Erhabor – Don, 2016), travel and security (Repnik – Mekinc, 2015), tourism development (Vargáné Csobán, 2007), as well as from the examination of the perception of the impact of tourism (Szőllős-Tóth – Vargáné Csobán, 2021).

This study aims to explore the perspectives and attitudes of local people towards regional tourism and the positive and negative impacts of tourism in the years following the pandemic. The questionnaire was also based on a review of other authors' primary research papers (Juray, 2008; Szőllős-Tóth – Vargáné Csobán, 2021).

The respondents to the questionnaire included property owners and people who live in the area of Lake Balaton (within a maximum distance of 20-30 km). The survey, which was available online in the Lake Balaton-related groups (e.g.: Minden, ami Balaton - Balaton.hu, Balatoni programok, Balatoni társaság) of the social media platform, was open to locals who wished to participate in the survey in the first half of 2022, during which a total of 261 valid responses were received and analysed.

The results of this study include Pearson Chi-square tests, which is a statistical method used to determine if there is a significant association between two categorical variables. The chi-square test is based on comparing the observed frequencies in each category with the frequencies that would be expected in those categories by chance. The Pearson Chi-Square test is the most commonly used and assesses the discrepancy between observed and expected frequencies (Field, 2009).

The authors of this paper wish to highlight the limitations of using statistical tests such as the chi-square test. Since the data from primary research are not representative, it is not possible to draw conclusions on the whole population, and possible biases must be taken into account. Nevertheless, the use of non-representative samples to gain a preliminary understanding can be beneficial. Such surveys help in formulating hypotheses and identifying key variables for further study. Other researchers (Szondi, 2018) believe that using Chi-square tests on non-representative samples provides meaningful data that contribute to scientific knowledge, even if the results cannot be generalised to the wider population.

RESULTS

Characterisation of the participants

The primary research aimed to survey the attitudes of the residents of the settlements located on the coast of Lake Balaton. Representativeness was not ensured in this survey. The largest number of respondents - 100 people - live in Balatonfüred, 25 respondents from Balatonlelle, 22 from Szigliget, 21 from Zamardi, and responses were also received from other settlements. The uneven geographical distribution of respondents is mostly due to the high activity of the members of the group of residents of Balatonfüred, who were eager to share their opinions and express their agreement or disagreement on the topics discussed in the comments below the post. The respondent who has lived in the Lake Balaton area the longest has been a resident since birth, i.e. for 72 years. Of the 261 respondents, 110 have lived in Lake Balaton since they were born. When asked what the respondent's main connection to the town was, the most popular answer was family (52.1%), followed by nature and water (26.4%) and then work (12.6%).

The survey also found that 59% of the Balaton residents surveyed were married, and 34.5% of the sample had two children. Almost half of the survey respondents (47.1%) were employed, 16.5% were self-employed and 14.9% were retired. In terms of income, 25.7% of respondents had significantly below-average and also 25.7% had significantly below-average incomes, while 20.7% had average incomes and 18.8% had above-average incomes.

Questions concerning the tourism of Lake Balaton

One of the fundamental questions about tourism on Lake Balaton is what residents think the main attractions for tourists are. In addition to nine pre-defined options, the respondents were allowed to give their own opinions. The most popular answers were festivals and events (151 respondents), followed by open beaches (122 respondents) and then closeness to nature (121 respondents). For this question, nine of the respondents gave their own opinion, of which six specifically mentioned the prestige of the Lake Balaton area.

This is in line with a primary survey published in 2019 (Lőrincz et al.), where the respondents are residents of a municipality in the Lake Balaton region, either working or studying there, or have a second home or holiday home in the area. When participants were asked what they were most proud of in the Lake Balaton region, the majority (31%) said that it was a natural feature (location, landscapes). They were also asked what first came to mind about Lake Balaton and found that the most common (42%) were summer-related terms (beach, paddle boats, tourists, festivals).

The survey participants were asked to rate local tourism on a 5-point Likert scale according to the criteria given (Tab. 1). The collection of criteria was inspired by the doctoral thesis of Tünde Juray, who surveyed the tourism attitudes of the inhabitants of a major Hungarian city – Szeged (Juray, 2008). When rating tourism in Lake Balaton, the scale scores were reported as follows: 5 - excellent; 4 - good; 3 - fair; 2 - acceptable; 1 - unsatisfactory.

Table 1 Evaluation of tourism in Lake Balaton on a 5-point Likert scale

Aspect to be evaluated	Average	Standard deviation
Public safety	3,54	1,02
Spending by tourists	3,36	0,94
Quality of events	3,33	1,09
Number of tourists	3,25	1,37
Information about attractions	3,22	1,00
Awareness of attractions	3,22	1,02
Cleanliness, tidiness	3,08	1,15
Infrastructural facilities	2,77	1,10
Visitors' knowledge about the area	2,62	0,98
Behaviour of tourists	2,13	0,96

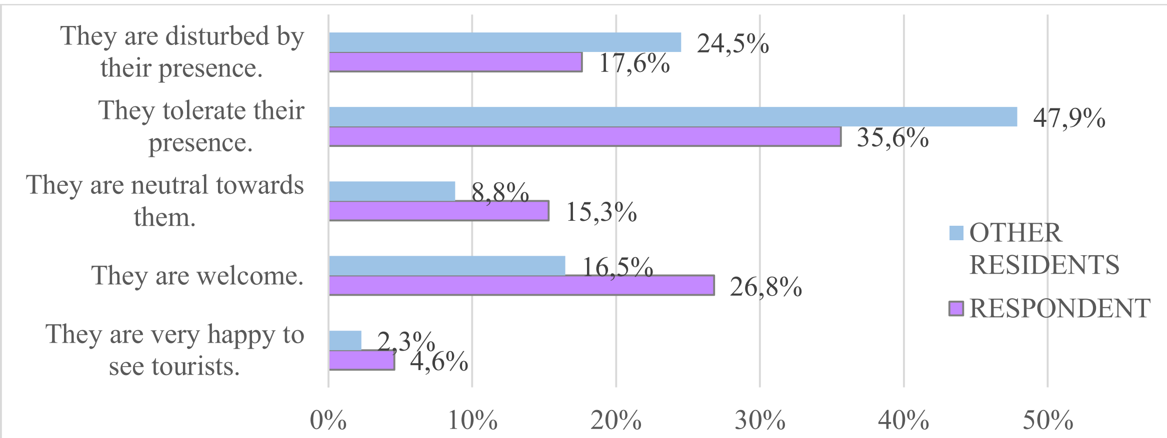
Source: own research (2022)

As can be seen from Table 1, public safety (3.54) received the highest average score from residents, who are the most satisfied with this aspect. Tourist spending also received a high score (3.36), as did the quality of events (3.33). The lowest average scores were for tourist behaviour (2.13), visitor knowledge about the area (2.62) and the quality of local infrastructure (2.77). The standard deviation from the mean was quite low for the tourist spending aspect (0.94), and the largest standard deviation was found for the number of tourists (1.37).

The higher standard deviation also shows that the opinion of locals is divided on the number of tourists coming to Lake Balaton: 31.4% of the sampled respondents consider the number of tourists in their place of residence to be satisfactory. Only 4.2% said that there are too few tourists, and 64.4% said that there are too many tourists in the Balaton area.

It was also surveyed how the respondent personally feels about tourists visiting Lake Balaton and how the respondent thinks other members of the local population in general feel about tourists visiting the area (Fig. 4).

Figure 4 The respondent's attitude towards tourists and the attitude of other locals towards tourists coming to Lake Balaton



Source: own research (2022)

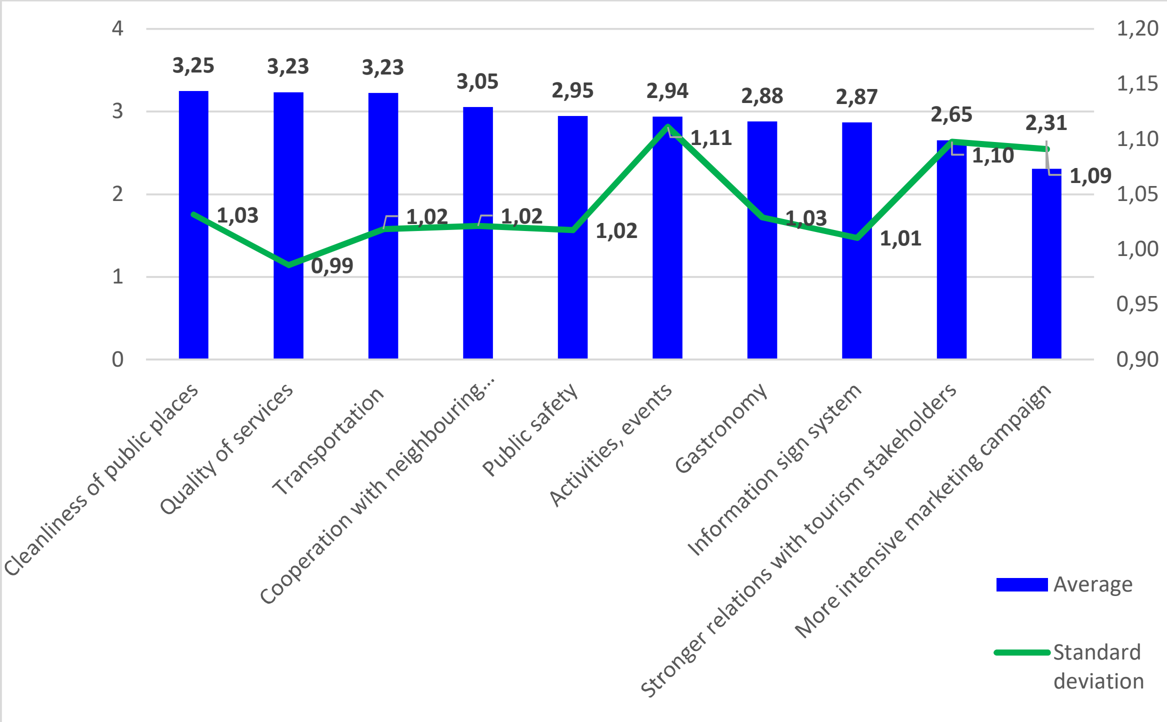
When looking at the attitude of locals towards tourists, it is striking that only 4.6% (respondents' own attitude) and 2.3% (attitude of other locals, according to the respondents) of the residents are particularly happy to see tourists. The two most popular responses (annoyed by tourists and tolerates tourists) together account for 53.3% (own attitude) and 72.4% (attitude of other locals). Not only is it remarkable that the two most negative attitudes received the most marks, but also that respondents see the attitudes of other locals as being significantly more negative than their own.

Similarities can be observed with the results of the primary research of Szőllős-Tóth and Vargáné Csobán (2022) in Hajdúszoboszló. According to the results of their research, only a small proportion of the residents of Hajdúszoboszló are specifically happy to see tourists, and in the majority of cases, the locals are more likely to just tolerate the presence of tourists.

Since data in Fig. 3 presented earlier cannot be considered fully reliable in light of the lack of data due to the coronavirus outbreak, it was important to get an idea of the perceptions of the local population. Collecting information was important not only because the reliability of the data is uncertain due to the coronavirus but also to gather information on the interests of the residents, which could lead to a better relationship between the residents and the tourists, and ultimately contribute to the tourist experience. This form of primary data collection is neither suitable nor intended to test the reliability of the Hungarian Central Statistical Office's data, but it can be useful in assessing attitudes towards tourism. Almost half of the sample (49.8%) perceived that tourist arrivals in the two summers following the outbreak of the coronavirus (year 2020 and 2021) exceeded those of the previous years; 29.1% felt that the same level of arrivals had occurred; and just 21.1% perceived that the number of tourists had decreased in the area. The respondents' opinion on this subject is a rather subjective assessment, but it is important to highlight it, as it is the local population that first perceives seasonal congestion, overcrowding, and other signs of overtourism.

The responses received on the possible directions for the development of tourism in Lake Balaton are presented below (Fig. 5). To ensure a clear distinction between questions on tourism impact and questions on tourism development, different scales were used for the two types of questions. The 4-point Likert scale used for rating the directions of development is defined as follows: 1 - would not do; 2 - might do; 3 - probably would do; 4 - definitely would do.

Figure 5 If you had the opportunity, which of the following would you improve in order to attract more tourists to Lake Balaton?



Source: own research (2022)

According to local people, the cleanliness of public places is the aspect most in need of improvement, with the highest average score (3.25) and 58.2% of respondents selecting option 4 (would definitely do). The cleanliness of the places is essential not only for visitors but also for the population, so improving it would meet the needs of several stakeholders. Similarly, high average scores (3.23) were given to improving the quality of services and transportation, which would also improve the living conditions of the local population, as well as the tourist experience.

The lowest average scores were for a more intensive marketing campaign (2.31) and stronger relations with tourism stakeholders (2.65). These two development options and the development of activities and events were the most divisive, with the largest standard deviations (1.09; 1.10; 1.11).

In the next section, on a 5-point Likert scale, respondents were asked to indicate how much they perceive the positive and negative impacts of tourism (Tab. 2 and 3). The Likert scale scores in this case are: 1 - not at all; 2 - a little; 3 - moderately; 4 - rather yes; 5 - very much.

Table 2 Perception of the positive effects of tourism by local population

Positive effect	Average	Standard deviation
Social and cultural life revitalisation	3,11	1,19
Increased role of the services sector	3,11	1,13
Revitalisation of local arts and cultural events	3,01	1,18
More leisure opportunities	2,99	1,12
Increased value of vocational skills, language skills	2,95	1,21
Infrastructure development	2,93	1,15
More quality leisure opportunities	2,93	1,15
Job creation	2,87	1,22
Rise in living standards	2,66	1,25
Protection of natural resources	2,21	1,15

Source: own research (2022)

In the questionnaire, a total of ten positive impacts of tourism are listed. The highest average scores were given to the boost to social and cultural life (3.11) and the strengthening of the service sector (3.11), followed by support for local arts and cultural events (3.01) and the expansion of leisure opportunities (2.99).

The least perceived by surveyed locals was the impact of tourism in creating jobs (2.87) and raising living standards (2.66), as well as the protection of natural resources (2.21).

The standard deviation of the scores for the perception of the impacts studied ranged from 1.12 to 1.25. The average score for the perception of all positive impacts was 2.88.

Table 3 Perception of the negative effects of tourism by local population

Negative effect	Average	Standard deviation
Rising property prices	4,72	0,71
Increased difficulty in buying property	4,30	1,13
Rising rental costs	4,20	1,14
Increased number of non-residents	4,19	1,11
Crowding, congestion	4,18	1,06
Increase in seasonal jobs	3,92	1,08
Excessive noise	3,77	1,27
Waste, polluted environment	3,66	1,20
Increase in stereotypes	3,57	1,18
Labour shortages in traditional sectors	3,47	1,26
Growth of the grey economy	3,17	1,21
Fading of local traditions	3,16	1,36
Damage to public goods, vandalism	3,12	1,20
Reduced sense of security	2,79	1,28
Increase of crime	2,55	1,27

Source: own research (2022)

82% of the surveyed residents around Lake Balaton chose the highest possible score for their perception of rising property prices, meaning they experience this negative effect to a large extent. The average score is thus 4.72; the standard deviation for this aspect was the lowest (0.71) even when positive and negative effects are examined together. Therefore the opinion of the sample was the most consistent in this case. Difficulty in buying property (4.30) and rising rental costs (4.20) also received high average scores. Cases of negative impacts related to housing difficulties were at the top of the ranking in terms of average scores.

The lowest average scores were given to increasing crime (2.55), reduced sense of security (2.79), damage to public goods, and vandalism (3.12), all of which were related to security. Based on the responses, security issues seem to be the least perceived of all the negative aspects of tourism.

In our sample, the standard deviation for the perception of negative impacts ranged from 0.71 to 1.36. The mean score for the perception of all negative impacts was 3.66.

Cross-tabulation analysis, Chi-square test

The use of SPSS software has enabled us to carry out several Chi-square tests. In most cases, comparing nominal or ordinal measurement-level variables did not reveal a relationship. The variables tested were mostly independent of each other, even in cases where, according to the conditions of the Chi-square test, we treated some cluster variables together in order to achieve the expected number of items per cell of at least 5 (e.g. age grouping, conversion to dummy variables).

In the following, cases are presented where the null hypothesis "H0: there is no relationship between the variables under investigation" was rejected at a 5% significance level.

In the first of these tests of significance, the independent variable was gender. In the case when we selected the option of programmes and events as the dependent variable among the development opportunities for tourism in Lake Balaton, it turned out that the two variables were not independent (Chi2=8.873; df=3; p=0.031; Cramer's V=0,184). Among the options of the four-point scale, the value 4 was chosen by a significantly higher proportion of women (46.9%) than expected (41.8%), while it was less popular among men (30.5%). In parallel, the lowest value of the scale was less popular among women (14%) than expected (16.9%), while it was more popular among men (23.2%).

While 7.3% of men chose a score of 4 - the highest possible - for a more intensive marketing campaign among the development proposals, 22.3% of women did, with an expected frequency of 17.6% (Chi2=10.506; df=3; p=0.015; Cramer's V=0,201).

The development of an information sign system around Lake Balaton was also divisive between genders, with a significant difference revealed by cross-tabulation analysis (Chi2=8.063; df=3; p=0.045; Cramer's V=0,176). Women (36.9%) were more supportive than expected (32.2%), while men were less so (22%).

In the question where respondents were asked to rate the tourism of Lake Balaton on a 5-point Likert scale, a relationship between the two variables was also found. Despite the expected prevalence (7.3%), 17.1% of men and 2.8% of women chose a score of 1 (unsatisfactory) for the quality of events (Chi2=18.633; df=4; p=0.001; Cramer's V=0,267). Therefore, it showed that among men, there was a higher level of dissatisfaction with the events at Lake Balaton.

Although in the questionnaire several possible answers were given to the question of whether the work of the respondents was related to tourism, in the cross-tabulation analysis some of these categories were merged to meet the Chi-square test criterion of a frequency of at least 5 in each cell of the cross-tabulation. Thus, it ended up with 'yes' (70 persons, 26.8%) and 'no' (191 persons, 73.2%) as dummy variables, where the 'yes' answer includes individuals who are owners in the tourism industry as well as those who are employees in either hospitality, hotel industry, tour operator or other tourism fields.

Regarding the future orientations of local tourism, a significant relationship was found between the variables for stronger marketing activity, which are not independent of each other (Chi2=9.613; df=3; p=0.022; Cramer's V=0,192). For this question, on a 4-point scale, a score of 3 (3: likely to develop) was more frequent than expected (26.4%) among those working in tourism (40%), while a lower proportion of those not working in the sector (21.5%).

Among the surveyed residents, those who work in tourism had a more favourable relationship with tourists, meaning that being in the industry influences the relationship with tourists visiting the area (Chi2=14.875; df=4; p=0.005; Cramer's V=0,239). While only 20% of those working in the industry chose a score of 2 on the 5-point Likert scale (2: tolerates their presence), 41.4% of those not working in the industry chose a score of 2. Furthermore, 35.7% of those working in tourism selected a 4 (4: welcome), while only 23.6% of those working in other fields selected a 4.

In order to meet all the conditions of the Chi-square test, it was also necessary to group the sample according to the age of the respondents. This resulted in a group of 155 respondents under the age of 50 (or 50 years) and a group of 106 respondents over the age of 50.

It was found that a higher percentage (33%) of those aged over 50 perceive the negative effects of tourism on labour shortages in traditional sectors (Likert scale 4: rather yes) than those younger than them (18.7%) (Chi2=10.458; df=4; p=0.033; Cramer's V=0,200). However, a high perception of the presence of stereotypes (score 5) is more prevalent in younger people (31.6%) than in people over 50 (20.8%) (Chi2=10.075; df=4; p=0.039; Cramer's V=0,196).

The authors hypothesise that residents who have lived in the Lake Balaton area since birth think differently about certain issues than local people who moved to the lake at different time in their lives. Among the options for improvement, a significant difference was found for transport: respondents who have lived near Lake Balaton since birth were less likely (14.5%) to choose 3 (3: would probably develop) out of the four options than those who moved to the area later in their lives (30.5%) (Chi2=10.224; df=3; p=0.017; Cramer's V=0,198).

Findings of another analysis showed that a higher proportion of those who had lived near Lake Balaton all their lives (26.4%) considered the number of tourists in the area inadequate compared to those who had moved to the area later (9.9%) (Chi2=17.160; df=4; p=0.002; Cramer's V=0,256).

Among the negative effects of tourism, 53.3% of the sample rated crowding and congestion as a 5, which means a high level of perception. Cross-tabulation analysis revealed that a higher proportion of residents who had lived near Lake Balaton all their lives (62.7%) chose this rating than those who had not lived there since birth (46.4%) (Chi2=13.800; df=4; p=0.008; Cramer's V=0,230).

CONCLUSION

Examining the relationship between tourists and locals, it was found that the proportion of people who are particularly pleased to see tourists is negligible. The highest scores on the five-point Likert scale (bothered by tourists and tolerate tourists) together reflect the attitudes of more than half of respondents, and almost three-quarters of locals think that these two scores characterise the attitudes of other locals. It can be seen that the two most negative attitudes were the most frequently selected. Residents who took part in the questionnaire survey perceive their own attitudes as more friendly towards tourists, while they believe that the attitudes of other locals are more negative. Improving relations between the permanent population and temporary visitors would be essential for all stakeholders, as one of the basic conditions for tourism is the existence of calm and peaceful conditions (except for disaster tourism).

The evaluation of tourism in Lake Balaton revealed that locals are most satisfied with public safety, which is in line with the analysis of the perception of tourism-generated negative impacts, which showed that the least perceived negative impacts in our sample are vandalism, damage, reduced sense of security and crime. A sense of security is essential not only for the residents but also for travellers, and it is important to continue to ensure this in the tourism area.

The other side of the list, the perception of negative impacts, has also been surveyed. Based on the average scores, the negative impacts related to housing difficulties were the most perceived by residents. A large number of non-permanent residents may not only lead to a lack of a safe environment, but can also contribute to rising property prices and rents through increased demand and make it more difficult to afford property. In recent years, the sharing economy has become an important player in the real estate market in Lake Balaton, including the sharing of accommodation for short-term rentals, i.e., Airbnb (Dudás et al., 2019). As the responses of local people show that real estate is the most difficult issue for them, we believe that there is a need to provide support and detailed information to residents about the possibilities available.

The aspect of crowding and congestion should be highlighted specifically, as it is one of the most easily noticeable signs of the overtourism phenomenon. According to the Balaton population, the perception of this is also strong in the area, so it is suggested to support activities that aim to reduce seasonality. An excellent example of this is cycling tourism, of which Lake Balaton and Lake Tisza are popular destinations. Lake Balaton is mostly visited by cycling tourists in September and Lake Tisza in June, so neither case are tourists concentrated in July-August, which is the peak season. This is related to the fact that a significant number of waterfront tourism visitors visit the lakes during the high season, while cyclists have difficulties bypassing the mass of holidaymakers (Somogyi, 2018).

An analysis of the perception of the positive effects of tourism has shown that the local population experiences relatively low levels of protection of natural resources. There is also a lack of perception of the effects of tourism in terms of job creation and raising living standards. The protection of natural resources is not only in the interest of those living there, but also of visitors. Greater involvement of the general public and tourists in the conservation activities of the national park authorities would be beneficial to society as a whole. To achieve this, it seems essential to promote environmental protection programmes more widely and then to increase the number of programmes.

When looking at the positive and negative impacts together, it can be seen that the disadvantages scored higher on average than the advantages, suggesting that residents experience the inconveniences of tourism more strongly in their daily lives.

The hypothesis testing revealed that a higher proportion of women among our sample of Balaton residents would improve the range of local programmes and events, place more emphasis on the existence of signage to provide information and also support marketing campaigns. Women are more supportive of improving the quality of events. Meanwhile, men are more dissatisfied with the quality of programmes. It would therefore be desirable to develop a more favourable offer of events for both women and men.

Based on the sample examined, the null hypothesis that those residents who work in tourism have a more positive relationship with tourists than those who work in other areas has been accepted. Working in this sector has a positive impact on the relationship with tourists visiting the area.

When evaluating the number of tourists, respondents who have not spent their whole life near the lake were more likely to rate the number of tourists in the area as excellent, in other words, respondents who have lived in the area all their lives are more likely to rate the number of tourists as inadequate. This is in line with another finding that among the negative effects of tourism, crowding and congestion are most felt by those who have lived in the area since birth.

As with most papers, this study has various limitations. First of all, the primary research is not representative, only 261 inhabitants could be reached, of which 38.3% come from one municipality – Balatonfüred. As respondents were voluntarily included in the survey, it should be taken into account that certain groups may be over- or under-represented. Of the social media groups, it was possible to reach more people in those where there was discussion or debate in the comments. Further statistical methods could have been used to analyse the data collected. The Chi-square test used by the authors is only suitable for testing the relationship between two categorical variables, so it does not show causality. For the Chi-square test, the expected frequencies must be at least 5, in order to meet this condition, certain groups were merged. Nevertheless, it is hoped that this study will provide a useful and interesting perspective to ensure that future tourism, entertainment, cultural and infrastructure developments serve the interests of both local populations and holidaymakers.

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Review paper

EMPIRICAL REVIEW ON USER CREATED CONTENTS AND THE ONLINE REPUTATION: IMPLICATIONS FOR DESTINATION MANAGEMENT COMPANIES IN SRI LANKA AND GENERAL CONCEPTUAL FRAMEWORK

Ruwan RATNAYAKA[a], S.M. Ferdous AZAM[b], Jacquline THAM[c], Sakinah Mohd SHUKRI[d]

[a] Managing Director, Beyond Escapes Private Limited, Sri Lanka
[b] A. Prof. Dr. Ferdous Azam, Graduate School of Management (GSM), Management and Science University, Malaysia
[c] A. Prof. Dr. Jacquline Tham, Graduate School of Management (GSM), Management and Science University, Malaysia
[d] A. Prof. Dr. Sakinah Mohd Shukri, Graduate School of Management (GSM), Management and Science University, Malaysia

Cite this article: Ratnayaka, R., Azam, S.M. F., Tham, J., Shukri, S.M. (2024). Empirical Review on User Created Contents and the Online Reputation: Implications for Destination Management Companies in Sri Lanka and General Conceptual Framework. *Deturope*, 16(1), 113-130.

Abstract

This paper aims to consolidate existing knowledge on User-Created Content (UCC) and its influence on the online reputation of tourism organizations, particularly Destination Management Companies (DMCs), in Sri Lanka and globally. While research on this topic is burgeoning within the tourism industry, empirical evidence continues to enrich the literature. Thus, there is a need to organize and categorize current knowledge on UCC and Online Reputation to facilitate a deeper understanding of its evolving landscape. Drawing from recent literature, this research note synthesizes insights on UCC and Online Reputation pertinent to DMCs in Sri Lanka and beyond, offering a generalized conceptual framework to guide future studies and strategic initiatives.

Keywords – User Created Contents (UCC), Electronic word of mouth (eWOM), Online Reputation, Destination Management Companies (DMCs)

INTRODUCTION

More online contents are available today on the internet and customers depend on these contents five times more than they did five years ago (Lemaić, 2019). These contents not only influence the image of the products and brands of a company but also the cognitive process of the online users during their purchasing decisions (Forsey, 2021). The development of web2.0 technology enabled the users to create their own contents on the worldwide web (Kaldeen,, 2019) and share these contents to contribute significantly for the growth of information on the web with no control (Nath & Iswary, 2015). These digital contents have become a more powerful marketing tool for the tourism organizations (Gayetree, 2017). Owing to these new developments in digital tourism economy, the tourism industry rapidly adopting a third "T" in addition to the two "T" that represent Travel and Tourism. This third "T" represents the Technology which has been empowered through the web2.0 platforms (Gonzalo, 2017). This evolution facilitated new virtual platforms on the internet to engage more people online and converted the internet users in to information providers and players (Gayetree, 2017). Poor understanding and management of these contents can lead the companies to face major PR crisis on their products and brands (Dan, 2019).

The emergence of new technologies gave the birth to virtual reality, augmented reality, artificial intelligence and many more digital solutions for the internet users over the last 10 years (PandoraFMS, 2022). With these developments, the user participation on the web was transformed to necessity from luxury (Dan, 2019). Emergence of the mobile era with the development of the mobile applications and smart phones shifted content creation from desktop computers to smart phones (Melumad, Inman, & Pham, 2019). Evolution of worldwide web from web2.0 to web3.0 and web4.0 made the content creation easier for the internet users (Kujur & Chhetri, 2015). Kannan (2022) states that the development of web3.0 technology enabled self-learning internet with personal assistance to create knowledge within the internet whereas the web4.0 technology further improved the internet to provide virtual assistance to the users which is comparable with human brain (Smartdestination, 2022). Search functions and content creations become very easy with these new developments on the internet.

Though the internet is developing faster than ever before with the new smart technologies, adopting to these new market challenges by the Destination Management companies (DMC) in Sri Lanka have been very slow (Bandara & Silva, 2016). DMCs in Sri Lanka very often face threats in the online travel market than taking the advantage of the online market opportunities created by these new marketing trends due to the lack of understanding about the online market. DMCs in Sri Lanka are currently facing unseen waves of negative user created contents over the internet owing to the poor review management, customer sentiment analysis, lack of online monitoring and social media analysis. This is mainly due to the lack of information and limited research findings in the digital-tourism economy of Sri Lanka (Bandara & D.A.C. Silva, 2016).

LITERATURE REVIEW

User created content is regarded as the user's own materials that are uploaded to the internet. These contents have a greater influence on the purchasing decisions of the online buyer behavior (Bahtar & Muda, 2016). Most of the studies have emphasized the power of UCC in different angles (Anatoli, Ashish, & Peter, 2019; Bashir, Ayub, & Jalees, 2017; Bahtar & Muda, 2016). The UCC is a positive or negative statement about past, current or potential customers about a company or its products that are available to the public on the internet (Anatoli, Ashish, & Peter, 2019). The UCC that are shared by the users always based on their own experiences that provide useful, unbiased and trustworthy information (Bashir, Ayub, & Jalees, 2017). Users create contents based on their own experiences and those contents are not controllable or directed by the marketing people (Bahtar & Muda, 2016). Most of the online buyers often trust the contents created by the previous users when they make purchasing decisions (Grewal & Stephen, 2019).

The Evaluation of Internet & Emergence of User Created Contents

The worldwide web evolved with different functionalities at different stages (Aghaei, 2012). It started with web1.0 technology and gradually evolved to the web4.0 (Nath & Iswary, 2015). Web1.0 is a web that connects information (information connections) whereas the web2.0 connects the people (people connections) (Kujur & Chhetri, 2015). Development of social media networks and other community based online platforms have happened due to the evolution of web2.0 technology (Bashir, Ayub, & Jalees, 2017). Web3.0 evolved as knowledge connections and web4.0 as intelligent connections (Nath & Iswary, 2015). The web3.0 technology enabled the users to create, retrieve and share contents easily through transparent, robust and synergetic systems (Ivanov, 2019). This technology has been further improved by the web4.0 to facilitate virtual assistance for creating, retrieving and sharing information (PandoraFMS, 2022).

WEB1.0 – This is the first edition of worldwide web which is regarded as the read only web that provides only a little interaction for the users to share the information on the internet generation (Aghaei, 2012). Nath & Iswary (2015) stated that the web1.0 is only an information web that contains information for the users to read and share. Web pages are generated by few developers but accessed by large number of users (Terra, 2023). This makes the internet browsing very slow. Majority of the companies create read only webs by using the web 1.0 technology and often they do not facilitate the users to engage with these contents that are posted in the company websites (Kaldeen, 2019).

The WEB2.0 – Though the web1.0 facilitated read only web, the web2.0 technology was able to enable read-write web (Aghaei, 2012). This is also known as people-centric web, wisdom web and participative web (Bahtar & Muda, 2016). User was powered to have more control over the web and interact freely through the web2.0 technology (Bashir, Ayub, & Jalees, 2017). The information shared through the web2.0 technology was discussed, shared and further contributed to the growth of the online content over the internet (Nath & Iswary, 2015. Emergence of social media platforms was one of the major events that occurred due to the birth of web2.0 technology (Huete-Alcocer, 2017). The web2.0 technology was able to shift the traditional online consumer in to a participant on the web (Obar and Wildman, 2015). Web2.0 has the open access to users in most of the online platforms (Bahtar & Muda, 2016) and the users can generate any kind of information which cause high risks for the companies than web1.0 websites (Nath & Iswary, 2015).

The WEB3.0 – The web2.0 technology enabled user participation on the web and it powered heavy flow of unstructured data on the internet (Bahtar & Muda, 2016; Obar and Wildman, 2015; Nath & Iswary, 2015). Web3.0 technology was born to structure these contents and build knowledge within the internet (Lyons T. , 2020). Web3.0 is a self-learning web that helps the users by suggesting solutions with easy access to the contents that the users frequently search (Resuello, 2022). This third version of web has been powered by machine learning, data mining, microformats, natural language search, and artificial intelligence to support the web to identify the user behavior and preferences (Maurya, 2019). This is a paradigm shift in the web interactions (Lyons T. , 2020). The web3.0 has created some important changes in the way the websites are designed and how the users are engaged with these websites (Kannan, 2022). These new changes will support the users to find exact information what they are searching for with the support of artificial intelligence (Ivanov, 2019).

The WEB4.0 – The modern version of the web is web4.0 technology (Smartdestination, 2022). This web does not limit to simple display of information and provides comprehensive and personalized interactions like and intelligent mirror (Nath & Iswary, 2015). PandoraFMS (2019) concluded that this new version of web has facilitated the internet to provide virtual assistance to the users. This web can understand the natural spoken and written languages. It acts as a human assistant to provide precise information to the virtual questions that are asked by the users (Peceny et al., 2019). The users can create retrieve and share messages very easily by using the web4.0 technology (Kujur & Chhetri, 2015). Smartphone and other mobile devices will play a major role for user created contents with the new development of web4.0

technology (Resuello, 2022). The web4.0 technology creates an interdependent relationship between human and the machines (Nath & Iswary, 2015). The 4.0 technology is a result of a comprehensive digital transformation that has happened during the last decade (Resuello, 2022). It has given the birth to industry4.0, web4.0 and tourism4.0 (Pencarelli, 2020). This digital revolution has been backed by the smart devices and artificial intelligence and it is a paradigm shift of the digital technology that has added many changes to the online domain (Smartdestination, 2022). Khan & Javaid (2022) concluded that the 4.0 technology is very much linked with the internet of things (IoT). The smart devices play a major role in connecting sensors and services in a common network to offer personalized services to the internet users, especially in the tourism industry (Pencarelli, 2020). Automation systems, production technologies and data exchange have powered to transform the existing business models. Internet of things, blockchain, big data, artificial intelligence, virtual reality and augmented reality are the pillars that have given the birth to tourism4.0 technology (Peceny, et al., 2019).

The evolution of web from 1.0 to 4.0 enabled a significant web involvement of the users on the internet (Peceny, et al., 2019). The user is more powerful in creating their own materials and upload them to the internet as contents which has a greater influence on purchasing behavior (Bahtar & Muda, 2016). With the evolution of web from web1.0 to web4.0, the amount of user created contents on the worldwide web have been significantly increased during the last five years (Tunçel & Yılmaz, 2020). Anatoli, Ashish, & Peter (2019) stated that the UCC shared by the customers are more useful, unbiased and trustworthy as they are based on their own experience. These user-created contents are often not controlled by the companies or directed by the marketing people (Baker, 2022). UCC influence the brand equity (Bruno et al. 2019). These contents significantly influence the online reputation of the companies (Schooley, 2023) and online buyers use these contents when they take purchasing decisions (Grewal & Stephen, 2019).

The Role of Smartphone and Mobile Applications in UCC

The mobile phone usage by people in the globe during the year of 2022 hits 6.3 billion which is 67 % of the total global population (Laricchia, 2023). The number of people connected to the internet during the year 2018 was more than 3.5 billion worldwide and mobile phone was used by many people as the only tool to access the internet (GSMA Intelligence, 2019). The new developments in the shared media have integrated mobile applications to facilitate easy to use tools for generating, editing and sharing contents directly from the mobile devices to other available networks (Laricchia, 2023). With the development of new mobile devices that are integrated to the smartphone, the time that the smartphone users spend with these devices has gone up more than ever before (Melumad, Inman, & Pham, 2019). The mobile phone usage by 55-75 years old mobile users in 2023 will rise up to 90% in the developed countries and mobile only revolution will hit the globe (McMenemy, 2019). Creating contents and sharing them on social media platforms has become the most common activity of the mobile users (Grewal and Stephen, 2016). Smartphone is not limited to receiving and transmitting information. It is becoming a major source of information about the individual preferences and requirements (Johnston, Kelly, & Kvilhaug, 2023). The contents generated by the users through their smartphone are more emotional than the contents generated through the personal computers (Ransbotham, Lurie , & Liu, 2019). The evolution of internet has become much faster with the development of smartphone and mobile applications (Kaur & Kaur, 2022). Content has become the driving force of social media that facilitate the user engagement on the web through these mobile applications (McMenemy, 2018). The major concerns of theses contents are the trustworthiness, authenticity and quality of information published by individuals using mobiles (Bashir, Ayub, & Jalees, 2017). Generating contents as users and posting them through the online platforms like Facebook, Twitter, Instagram, Amazon, TripAdvisor and Yelp is the most common activity of the mobile users (Grewal, 2016).

The User Created Contents (UCC) and Electronic Word of Mouth (eWOM)

UCC is not just regarded as an online content. It is similar to eWOM whereby the users share their experiences and opinions (Bahtar & Muda, 2016). However, they are two individual concepts (Thao & Shurong, 2020). The eWOM is also known as “word of mouse”. The electronic word of mouth is known as a special communication tool with influential power on the web (Abubakar & Ilkan, 2016). The eWOM has become a liability that a company can’t control (Yang, 2017). Pencarelli (2020) concluded that eWOM is a media that is enabled by ICT which has a greater influence on the purchasing behavior in the field of tourism. eWOM is the most cost-effective way of identifying the perceptions and needs of the customers and communicating with them (Huete-Alcocer, 2017). Though, most of the authors (e.g., Filieri and McLeay, 2014) have stated eWOM as the electronic form of traditional word of mouth, these two have significant differences in terms of privacy, credibility, diffusion speed and accessibility (Hussain et al., 2017). As both communicator and the receiver of information present during the WOM, it has a positive influence on credibility than eWOM (Huete-Alcocer, 2017). However, accessibility of the information is very high in eWOM as the information is freely available on the internet whereas the information of WOM is not available if the receiver is not present (Ransbotham, Lurie , & Liu, 2019). The ITC has a greater influence on communication today than 10 years back when the WOM was a more powerful marketing tool (Yang, 2017). eWOM is regarded as the most influential pre-purchase source of information in the field of tourism (Pencarelli, 2020). Though UCC is slightly different to eWOM, it has more similarities that are extremely relevant to tourism industry as most of the experiences are shared by the tourists (Rodríguez-Díaz , Rodríguez-Díaz , & Espino-Rodríguez, 2018).

The User Created Contents in Tourism Industry

The evolution of Internet has not only converted Internet to a public virtual environment to meet and discuss about their interests and experiences but also become an online library. Therefore, online reputation is a critical subject in the tourism industry (Iglesias-Sánchez, Correia, Jambrino-Maldonado, & Heras-Pedrosa, 2020). With the development of new trends in user created contents, the internet offers many opportunities to generate contents, share experiences, make suggestions and recommendations to improve or weaken a tourist destination with significant amount of information (Iglesias-Sánchez, Correia, & Jambrino-Maldonado, 2019). The users can publish their own contents using many online tourism channels such as tourism networks, house swapping sites, videos sharing sites, general social networks, hospitality travelers' sites, blogs and map sites (Llodrà-Riera, Martinez-Ruiz, Jimenez-Zarco, & Yusta, 2015). These User Created Content has become a significant part in tourism industry (Ajanovic & Çizel, 2015). UCC is now included by many organizations in their content marketing mix (Lemaić, 2019). These user generated contents help the tourist organizations to shape their online reputation (Marchiori & Cantoni, 2011). The new technology and smartphones offer a significant control to influence the user created contents and reputation of the tourism companies (Smartdestination, 2022). The international travellers search information that are available in the social media and they give more priorities to online reviews than other information (Musanovic & Dorcic, 2016). The largest review platform in the tourism industry is TripAdvisor with 320 million reviews creates a big influence on the travellers' buying decisions. Managing the relationship in the TripAdvisor is important to make good relationship with the future travellers (Carreirão, 2019). Some of the reviews in the TripAdvisor are false and biased according to the users as they are not verified reviews based on the TripAdvisor customers. Booking.com and Expedia.com on the other hand generate only the verified reviews from their own customers. Therefore, varied reviews in these platforms are more reliable than TripAdvisor reviews (Sauciuc, 2020). Different authors (Zimmatore , 2020; Verot, 2020; Capatina & Schin , 2017) have listed several types of UCC in their online reputation models and commonly they have mentioned online reviews and recommendations, ranking and ratings, social media contents and travel blogs as the main types of UCC in the tourism industry.

Online Customer Reviews

Positive and negatives information about a product by its past, current and potential customers are considered as the online reviews (Schuckert, Liu, & Law, 2015). Based on the product category and popularity, the level of impact of the review can vary (Moen, Havro, Bjering, & Wright, 2017). The online reviews and recommendations are contents that can be easily accessible (Carreirão, 2019). These feedbacks have become the source of company's online reputation in the digital era. Saleh (2018) stated that more than 90% of the online customers read reviews before visiting a business. 88% of them trust these reviews. 86% of the customers refuses the businesses that are having negative reviews. Online reviews have a greater influence on the online reputation and they require zero effort (Schuckert, Liu, & Law, 2015). Online reviews provide good support for SEO and enhance the search rankings (Bahtar & Muda, 2016). Abramyk (2022) concluded that a company that ignore online reviews faces more reputation challenges and it is one of the worst things a business can do. The travel websites that have empowered the customer reviews have become hubs for potential travellers (Schuckert, Liu, & Law, 2015). As the online reputation has been a key component in online marketing, fake reviews and contents have become more frequent in the travel domain (Verot, 2020). Different algorithms have been developed by the travel community sites to identify these manipulation threats (Gössling, et al., 2018). The positive online reviews not only enable the companies to protect their online reputation but also enable the growth of the business (Kaemingk , 2020). Eddy (2015) stated that online review can have greater influence on a potential traveler before a DMC even notice it's been posted.

Online Customer Rating & Ranking

The visibility of many products is determined by the rating and ranking (Da Silva C. N., 2021). Today the products need a social proof to show that it is worth buying and the rating and ranking plays an important role in that (Gordon, 2018). This social proof carries the reputation of a brand or the product (Bahtar & Muda, 2016). Li et al. (2012) concluded that user ratings are meaningful when ranking the objects in terms of the average ratings.

Companies require to manage both ranking and rating to enhance the online reputation (Rodríguez-Díaz , Rodríguez-Díaz , & Espino-Rodríguez, 2018). Most of the travellers can post their contents related to their own experience and rate the products and brands online in the sites such as TripAdvisor, HolidayCheck, DaoDao and Tourout. Based on these ratings, potential travellers make their judgements about the brands (Bahtar & Muda, 2016). Gayetree (2017) concluded that the customer rating indicates the satisfaction of the customer and it is available everywhere in the tourism domain now.

Social Media Contents

Social acceptance of the purchasing decisions made by the individuals is very important for the online customers (Barysevich, 2020). Social media platforms provide this functionality for the people to retain their brains and eyes to see real photos from real people (Lemaić, 2019). The contents that are created by users act as a social proof that decide the brand legitimacy through videos, photos, reviews, and other contents posted by consumers (Loudermilk, 2018). García-Perdomoa et al. (2017) concluded that the social networking and content sharing has been the most popular activity in 2016. More than 97% of the millennials in the tourism sector post their contents in social media when travelling. Patel (2019) stated that the contents created by the users in social media enable the customers to see the brands through the eyes of the other customers and those contents often influence the reputation of the brands.

Customer Travel Blogs

Travel blogs are the e-form of customer word of mouth made out of hypertext contents to connect what others have written on a topic with no limit (Abubakar & Ilkan, 2016). Some blogs are like websites and often these blogs are followed by a comment button to allow feedback (Kaldeen & Mohamed, 2019). WordPress users generate 70 million blog posts and 77 million comments are generated by the readers during each month (Ouellette, 2022). The contents that are shared by the travellers include very useful information about products, brands and companies. These contents often provide valuable inputs for destination marketing (Banyai, 2016). The online travel blogs usually include contents about satisfactions, expectations, services offered and recommendations (Gonzalo, 2017). Marketers believe that the blogging has been one of the most influential factors in marketing as 52% B2B marketers and 51% B2C marketers believe that blogging will be a critical factor to achieve success (Harris, 2017).

Implications for The Destination Management Companies in Sri Lanka

Most of the DMCs need good user created contents to build a good online reputation in order to be more competitive (Musanovic & Dorcic, 2016). As the competitive advantage is an important tool in the online tourism domain, maintaining online reputation is very important (Freire, 2011). Most of the travel companies are in undesirable positions due to the online word of mouth in the travel industry (Abubakar & Ilkan, 2016). Destination Managament companies in Sri Lanka tourism industry has failed to make use of the e-tourism opportunities and they require a comprehensive reenginearing in their operations and marketing activities to adopt new startegies to enhance their online image (Bandara & Silva, 2016). Online reputation is very imporatant in the tourism indsutry and social media and online reviews signficanly important in online repuation management (Bruno, et al., 2019). Managing online repuatation of a destination management company is not like managing the reputation of a celebirity. Destination Management Companies need to aviod the customers getting a wrong idea about the company throgh online reviews and ratings and use those feedback to improve the quality of the customer service proactively (Ajanovic & Çizel, 2015). Travel industry is very sensitive to service compalints, health concerns and negative reviews. Travel companies need positive reviews and ratings to build credibility and brand image as significant number of customers review the company profiles on the sites like Google, Yelp, Oyster and TripAdvisor (Zimmatore , 2020), and 90% of the customers look these sites before they book a trip (Abramyk, 2022). Though many traditional travel companies in Sri Lanka possess full-service websites (Bandara & Silva, 2016), they have failed to compete with online travel agents and make use of the new online travel opportunities. Most of these organizations have very little user created contents to drive the online reputation.

Implications for The Destination Management Companies Globally

The insights gleaned from the referenced studies hold significant implications for Destination Management Companies (DMCs) worldwide, particularly within the dynamic landscape of online tourism. The cultivation of a robust online reputation through user-generated content (UGC) stands as a pivotal factor in enhancing competitiveness within the tourism industry. Studies emphasize the importance of UCC in shaping online reputation, serving as a powerful tool for DMCs to distinguish themselves and attract potential tourists. Moreover, the maintenance of a positive online reputation is paramount, as it not only fosters competitiveness but also serves as a strategic compass for DMCs in their planning and decision-making processes (Iglesias-Sánchez, Correia, Jambrino-Maldonado, & Heras-

Pedrosa, 2020). Online reputation is increasingly viewed as a critical indicator of a DMC's standing within the industry, guiding strategic initiatives and resource allocation. Leveraging shared media platforms enables DMCs to harness the potential of tourists in amplifying their online presence and bolstering their reputation (Iglesias-Sánchez, Correia, & Jambrino-Maldonado, 2019). However, it necessitates significant investments of time, resources, and active involvement in reputation management endeavors. The advent of online word-of-mouth presents both opportunities and challenges for DMCs. While positive reviews and ratings can enhance credibility and brand image, negative feedback can have detrimental effects on reputation. Hence, proactive measures to address customer concerns and utilize feedback for service improvement are imperative. The influence of online reviews and ratings cannot be understated, with a significant proportion of travelers relying on platforms like Google, Yelp, TripAdvisor, and others for decision-making (Zimmatore , 2020). This underscores the criticality of maintaining a positive online presence and actively managing online reviews to foster trust and credibility among potential customers. Despite the prevalence of online travel opportunities, many DMCs globally, including those in Sri Lanka, have struggled to capitalize on these advancements fully (Abramyk, 2022). This highlights the need for comprehensive reengineering of operations and marketing activities to align with evolving digital trends and seize emerging opportunities. The implications drawn from these studies underscore the imperative for DMCs worldwide to prioritize online reputation management, embrace digital innovation, and leverage user-generated content to enhance competitiveness and thrive in the digital era of tourism.

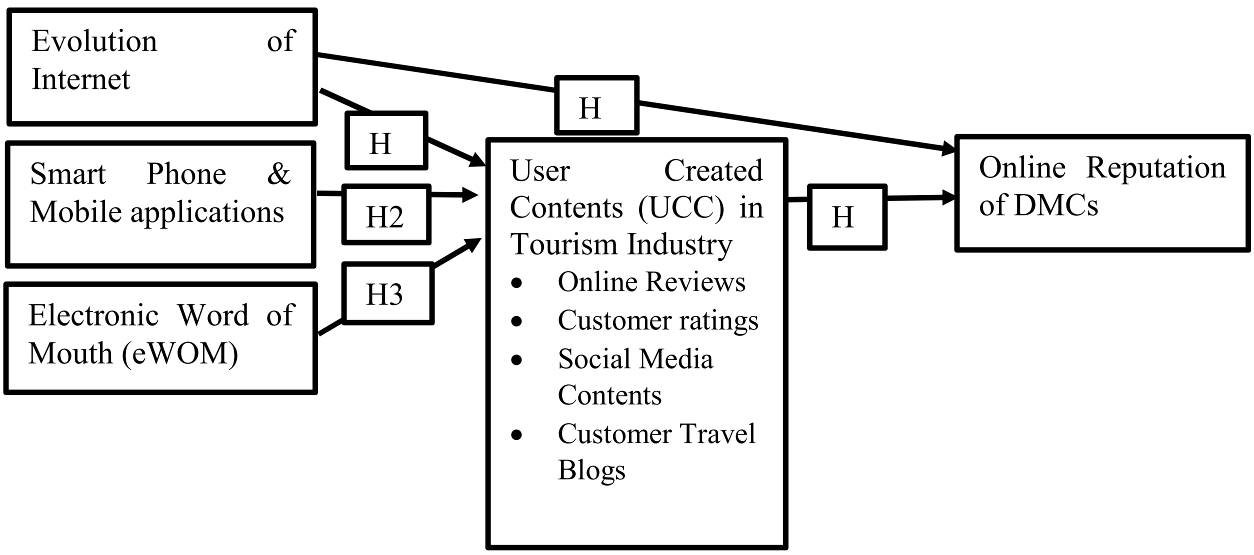
METHODOLOGY

The methodological approach employed in this review paper entails a comprehensive examination of existing literature pertaining to User Created Content (UCC) and Online Reputation, with a specific focus on its implications for Destination Management Companies (DMCs) within Sri Lanka's tourism sector. The authors systematically conducted an extensive search of relevant literature concerning UCC, Electronic Word of Mouth (eWOM), Online Reputation, and their intersections with the tourism industry, particularly within the Sri Lankan context. The selection of literature for inclusion in the review was conducted judiciously, considering factors such as currency, credibility, and pertinence to the research topic. Through this meticulous process, the authors identified and gathered pertinent information, theories, concepts, and empirical findings from the selected literature. This involved summarizing key insights, identifying recurrent themes, and amalgamating the gathered information to construct a cohesive narrative. Subsequently, based on the synthesized literature, the authors developed a conceptual framework delineating the theoretical constructs and interrelationships pertinent to the study. This framework served as a guiding scaffold for comprehending the dynamics between UCC, eWOM, technological advancements, and their repercussions on DMCs' online reputation. The paper critically analyzed the findings derived from the literature review, elucidating the ramifications of UCC and eWOM on online reputation management for DMCs operating in Sri Lanka. The discussion underscored key challenges, opportunities, and strategic approaches for DMCs to adeptly navigate the digital landscape of tourism. Ultimately, the authors concluded the paper by encapsulating the key insights gleaned from the literature review and offering actionable recommendations for DMCs in Sri Lanka to fortify their online reputation management practices. These recommendations were formulated based on identified gaps, obstacles, and exemplary practices highlighted within the review. Overall, the methodological approach employed in this review paper exemplifies a systematic and rigorous process of synthesizing existing knowledge to furnish valuable insights for both industry practitioners and researchers within the realm of tourism, particularly within the Sri Lankan context.

Conceptual Framework

The online reputation has become the scoreboard for the Destination Management Companies to make their strategic decisions and the modern technology provides a significant contribution for building and influencing the online reputation through user created contents (Iglesias-Sánchez, Correia, & Jambrino-Maldonado, 2019). The below figure conceptualizes the theoretical construct of this study based on the available literature.

Figure 1 Conceptual Framework



The evolution of web 2.0 technology has given birth to social media platforms, web 3.0 has helped to evolve knowledge connections and web4.0 has enabled intelligent connections (Kujur & Chhetri, 2015). These technologies have empowered content creations, retrieving and sharing easily through transparent, robust and synergetic systems (Ivanov, 2019). The integration of mobile applications and the increasing usage of smartphones have significantly contributed to the growth of user created contents (Melumad, Inman, & Pham, 2019). Frequent contributions of these type of contents by the travellers generate online reputation with a digital identity that can't be easily generated through marketing (Llodrá-Riera et al., 2015). The eWOM which has a greater influencing power on the web is a special communication tool that creates powerful user created contents (Abubakar and Ilkan, 2016). It has become a liability with no control (Yang, 2017). The empirical evidences suggest that the evolution of internet, smartphone and mobile applications, electric word of mouth (eWOM) influence the growth of user created contents in the tourism industry. These users created contents significantly influence the online reputation of the destination management companies.

CONCLUSION

The evolution of Worldwide web from web1.0 to web4.0 has created a paradigm shift in the online travel market during the last decade (Khan & Javaid, 2022). The travellers can create their own contents and share them to many others on the internet via the online tourism platforms. The recent developments of ICT, smartphone, mobile applications have empowered the users to create these contents even more conveniently and share with many others on the internet (Ransbotham, Lurie , & Liu, 2019). eWOM is becoming a more powerful tool in the online travel domain (Cantallops & Salvi, 2014). Users create contents about the products, brands and the companies and share them with others even before the organizations know it. Most of these contents are feedback of past, current and potential online buyers. More online users read these contents and see them as unbiased and trustworthy. This wave of user created contents in the tourism industry has kept most of the Destination Management Companies tested for their online reputation. This paper reviewed the literature related to User Created Content and Online Reputation with the view to provide a clear understanding about the implications that the Destination Management Companies in Sri Lanka should examine before they face an unseen wave of an online reputation crisis. The paper discussed about the contribution of the evolution of internet, smartphone and mobile applications and eWOM for the growth of user created contents in the tourism industry. Emphatical evidences discussed under this literature survey emphasize the user-created contents about the destination management companies significantly influence their online reputation. In contrast, different authors have different viewpoints about the theatrical framework of user created content and online reputation. However, the empirical evidences depicted by the authors describe their power of influencing online reputation of the tourism products, companies and their brands and these findings give pre-signals for the Destination Management Companies in Sri Lanka.

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Review paper

ANALYSIS OF RESEARCH TRENDS IN DIGITAL MEDIA AND URBAN BRANDING: INSIGHTS FROM CITESPACE (2013-2023)

Fan GAO[a], Veronika KELLER[b]

[a] Széchenyi István University, 9026 Győr, Egyetem tér 1, fangao827@gmail.com
[b] Széchenyi István University, 9026 Győr, Egyetem tér 1., kellerv@sze.hu

Cite this article: Gao, F., Keller, V. (2023). Analysis of Research Trends in Digital Media and Urban Branding: Insights from CiteSpace (2013-2023). *Deturope*. 16(1), 131-152.

Abstract

With the continuous development of smart cities, the relationship between digital media and city branding has attracted significant attention. This study uses the CiteSpace tool to provide a comprehensive visual analysis of the research landscape in the field of digital media and city branding from 2013 to 2023. A systematic literature review (n=689 articles) was used to explore the main trends. The methodology included the analysis of publication volume, international collaboration network, research field (including keyword co-occurrence and keyword clustering), and research hotspots and frontiers analysis. The study underlines the importance of digital marketing and market communication research in the context of city branding. The study highlights the complex dynamics of this relationship and the importance of exploring the interactive influences within these interdisciplinary fields. Finally, the data analysis highlights several potential research questions related to the development of creative accounting, offering valuable insights for future studies. Additionally, this study provides a framework for firms to design and implement creative accounting development strategies. The study recommends that future research topics should include interdisciplinary approaches, consumer engagement, global collaboration, and long-term branding strategies. These approaches are necessary to advance understanding and effective management of city brands in the digital age.

Keywords: Digital Media, City Branding, Citespace, Wos Database, Research Trends, Systematic Literature Review

INTRODUCTION

The Statista report (2023c) indicates that the global online travel market will continue to expand, from approximately US$475 billion in 2022 to over US$521 billion in 2023. It is projected that this market will reach a value of over US$1 trillion by 2030, with over two-thirds of revenue derived from online sales channels (Statista, 2023d). Concurrently, the advancement of digital media and city branding is propelling the evolution of smart cities across the globe. This trend has brought the relationship between digital media and city branding into sharp focus. City branding is defined as the process of creating and promoting a distinctive identity for a city (Vanolo, 2020). Concurrently, digital media play a pivotal role in city branding, enabling cities to effectively disseminate their brand messages (Rojíková et al., 2023). Consequently, this paper employs CiteSpace, a sophisticated academic literature analysis tool, to provide a comprehensive visual analysis of the research landscape in digital media and city branding from 2013 to 2023.

The objective of this study is to utilise CiteSpace to visualise citation relationships and trends in the academic literature. This approach is intended to illuminate the research hotspots and frontiers in this dynamic field, ultimately contributing to a deeper understanding of the evolving intersection between digital media and city branding. Consequently, this paper identifies a crucial research gap in the field, emphasising the need for further exploration of digital marketing and market communication in the context of city branding. The current research illuminates the intricate interrelationship between digital media and city branding, underscoring the significance of incorporating consumer perspectives and interests when devising efficacious city branding strategies. Future research endeavors should endeavor to delve more deeply into the interactive influences within these interdisciplinary domains in order to effectively guide city branding practices and harness the potential of digital media. Such an exploration will enhance our understanding of the complex relationship between urban branding and digital media, provide valuable insights for practical applications, and inspire future research directions.

THEORETICAL BACKGROUND

The advent of the digital age has brought about profound changes in the production and consumption of media content. The advent of video technology and digital editing has revolutionised the production of television content (Pečiulis, 2021). Concurrently, the digital industry, propelled by the convergence of human ingenuity and cutting-edge technologies, has undergone a period of rapid expansion, resulting in the exponential growth of digital media and the facilitation of resource sharing and communication (Wan, 2021). However, the advent of digital transformation has led to a disruptive and innovative change in the production and dissemination of news (Pavlik, 2021). Concurrently, the proliferation of social media platforms, including online social networks and media-sharing services, has facilitated the rapid production and dissemination of information. The pervasiveness of social media has had a profound impact on various aspects of society, including communication, culture, and knowledge sharing (Hassan, et al., 2022).

In the context of these digital advancements and the profound impact of social media, the concept of city branding has emerged as a valuable asset that can enhance a city's reputation and competitiveness in the global arena (Shirvani Dastgerdi and De Luca, 2019). City branding is the process of creating and promoting a unique identity and image for a city with the objective of attracting visitors, investors, and improving the quality of life for its residents (Malamud et al., 2022; Abd et al., 2022; Ma et al., 2021). It encompasses a multitude of elements, including integrated design, landmarks, signature architecture, city vision, culture, and symbolic assets. The utilisation of branding strategies is found to be positively correlated with a city's level of urban development (Ma et al., 2021). In essence, city branding is a multidisciplinary approach that aims to create a distinctive and attractive identity for a city, thereby contributing to its reputation and competitiveness (Al-Hinkawi and Zedan, 2021). Moreover, in the context of the evolving landscape of digital media and social platforms that redefine information sharing, cities are increasingly utilising these tools to advance their branding strategies.

Over time, social media has emerged as an effective channel for relationship marketing objectives, promoting the creation and reinforcement of consumer identity, thereby facilitating the establishment of a strong consumer base (Abeza et al., 2020). Some researchers posit that the integration of social media in the use of visitor behavior and experience data strategies can enhance the application of business intelligence in destination management (Van der Zee et al., 2020). As van Asperen and his colleagues (2018) have observed, there is a clear correlation between social media engagement and customer loyalty to brands. This indicates that optimising online effectiveness and active customer interaction is crucial for companies employing social media activities. Moreover, the intensity of social media use has been demonstrated to have a significant impact on brand recognition (Stojanovic et al., 2018). Finally, visitor evaluations and comments on social media have become crucial indicators that reflect the image of destinations. This further highlights the continuous evolution of social media in destination management and brand building (González-Rodríguez et al., 2016; Kladou and Mavragani, 2015).

Collectively, these factors are propelling the growth of social media in the field of destination management and brand development, rendering it a pivotal component of the contemporary tourism industry. Furthermore, destination marketing organisations (DMOs) have also acknowledged the significance of social media. They recognise that social media is not merely a conduit for disseminating information; it is also a powerful instrument for shaping the brand image of destinations (Jimenez-Barreto et al., 2019) and attracting visitors. To achieve this goal, they actively work to establish a quality online image that helps potential tourists gain a comprehensive insight into the destination's strengths and weaknesses, conduct risk assessments, and ultimately make travel decisions. Concurrently, DMOs optimise the sharing of brand-related stories and experiences on social media with the objective of highlighting the attractiveness of their products and contributing to city brand awareness (Lund et al., 2018). This comprehensive approach to social media helps to better meet the needs of modern travellers and drives the continued development of the industry as a whole.

The pervasive popularity of online social networks has given rise to the phenomenon of social media influencers, or "internet celebrities." This phenomenon is currently experiencing a period of significant growth. While celebrity endorsements have long been an effective marketing strategy, particularly in the travel industry, the emergence of social media influencers has opened up new opportunities. They have become a powerful tool to attract modern travellers, especially when the image of the destination is closely aligned with the target market (Xu and Pratt, 2018). This collaboration serves to differentiate destinations in a highly competitive market, while also fostering deeper engagement.

Concurrently, Angelidou et al. (2018) posit that researchers must persist in their efforts to elucidate the nexus between digital media and city branding, particularly in the context of intelligent and sustainable urban development. The advent of smart technology enables cities to enhance efficiency and resource utilisation, thereby facilitating more sustainable urban development. This not only enhances the quality of life for city residents but also reinforces the city's brand and reputation. It is conceivable that the tourism industry may eventually embrace immersive technologies such as the Metaverse, which would facilitate awareness of destinations, positioning, branding, coordination, and management through digital twins (Buhalis et al., 2023).

DATA AND METHODS

This section delineates the methodology used for the comprehensive analysis of literature retrieved from the Web of Science Core Database (WOS). The data collection process entailed two rounds of searches, with the initial round focusing on city branding and the subsequent round focusing on digital media research. To identify pertinent articles, authors applied a set of specific search queries and criteria. These were then subjected to an in-depth analysis using CiteSpace 6.1.R6, a prominent bibliometric analysis software. The analysis encompasses several dimensions, including the volume of publications, researcher collaboration networks, national networks, research area analysis, and the identification of research hotspots and frontiers. These methodologies were employed to address the research objectives and questions central to this study.

Data

The literature data for this article were obtained from the Web of Science Core Database, with a data collection date of September 16, 2023. The data collection process involved a two-round search strategy with specific search queries and criteria to obtain relevant articles.

First Round of Searching:

In the first round of searching, the search query included the subject term "City Branding" and its related terms, including "Urban Marketing," "City Identity," "Urban Image," "Urban Tourism," "Urban Competitiveness," "Urban Vitality," and "Urban Development Strategy." The search query for the first round was as follows: TS=(City Branding OR Urban Marketing OR City Identity OR Urban Image OR Urban Tourism OR Urban Competitiveness OR Urban Vitality OR Urban Development Strategy) AND (DT==("ARTICLE")). This round of searching aimed to identify articles related to the topic of city branding.

Second Round of Searching:

In the second round of searching, the subject term "Digital Media" and its related terms were used, including "Digital Media" "Digital Content," "Online Media," "Electronic Media," "New Media," "Multimedia," "Internet Media," "Digital Communication," "Web-Based Media," "Interactive Media," and "Digital Platforms."The search query for the second round was as follows: TS=(Digital Media OR Digital Content OR Online Media OR Electronic Media OR New Media OR Multimedia OR Internet Media OR Digital Communication OR Web-Based Media OR Interactive Media OR Digital Platforms) AND (DT==("ARTICLE")). This round of searching aimed to identify articles related to digital media.

Additional Criteria:

- The search was limited to articles published between 2013 and 2023.
- Document type was restricted to articles, excluding other publication types.
- Web of Science categories were set to include "hospitality leisure sport tourism," "urban studies," "management regional urban planning," and "area studies."
- A total of 815 articles were retrieved, and 689 were considered useful after screening.

Method

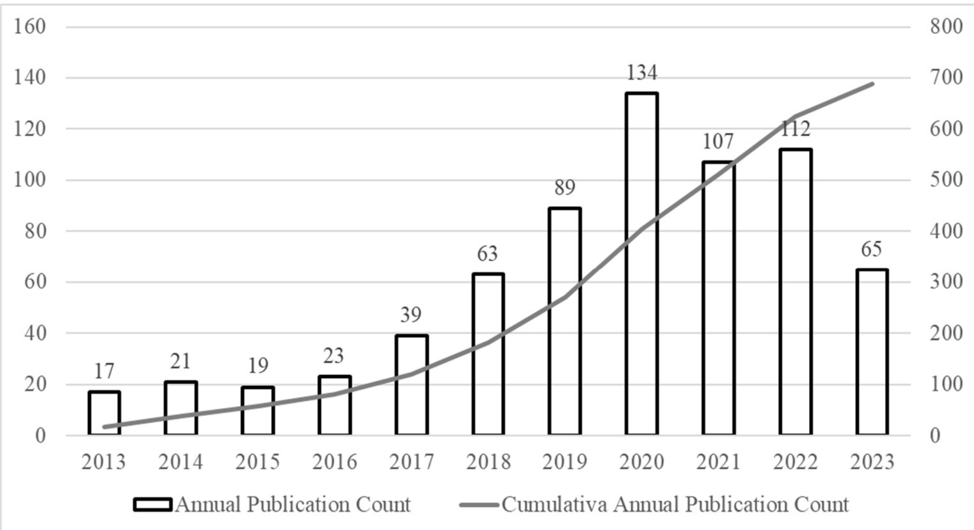
Citespace is a visualisation and analysis software developed by Dr. Chaomei Chen, a Chinese-American, based on the Java language. This software facilitates expeditious and rigorous bibliometric analysis of a substantial corpus of research papers within a particular field or area of study, visually representing pivotal issues such as the current research hotspots, frontiers, and future research trends within that field or area of study. Citespace is regarded as one of the most prominent programs in the field of international scientific bibliometric software (Chen et al., 2015). This study employs CiteSpace 6.1.R6 for a comprehensive scientific literature analysis, which encompasses the following steps: The following steps are employed in the analysis: (1) Publication volume analysis; (2) Researcher collaboration network analysis; (3) National network analysis; (4) Research field analysis, including keyword co-occurrence and keyword clustering; (5) Research hotspots and fields analysis.

DATA ANALYSIS AND RESULTS

Publication Volume Analysis

The change in publication volume can be indicative of the research level and development of the field (Gao and Chen, 2021). To some extent, it serves as an important source of information for evaluating the dynamic development trends and attention level, as well as for predicting the future development of the field. In this study, the data from 689 literature sources were imported into Excel to facilitate the determination of the annual number of publications and the cumulative annual number of publications. The creation of line graphs based on the annual publication count and cumulative annual publication count allows for the deduction of trends in the core research of "digital media and city branding" from 2013 to 2023 (Fig. 1).

Figure 1 The annual publication volume related to digital media and city branding research from 2013 to 2023



Source: Own compilation

The annual number of publications shows a fluctuating growth, and the core research in "Digital Media and City Branding" can be roughly divided into three stages: the growth stage (2013-2020), the fluctuation stage (2020-2022), and the decline stage (2022-2023). During the growth stage, the annual number of published articles ranged from 17 to 134, indicating a significant increase in the publication base. This suggests that digital media technologies experienced rapid development and widespread adoption during this period. As Steenkamp (2020) noted, "*more people are now using this latest technology of global connectivity than have ever flown, traveled by train, or owned a car*". These technologies also provided new channels and tools for city branding, stimulating research interest among scientists and attracting the attention of more researchers; during the fluctuation phase, the global pandemic significantly disrupted research activities. The outbreak led to interruptions, delays, and reallocation of resources for many research projects, which likely contributed to the decline in the number of research articles in 2020 and 2021. Despite the temporary setback caused by the pandemic, the importance of digital media in city branding remained relevant. Researchers may have gradually refocused their attention on this area, leading to a gradual increase in the number of articles in 2022; as for the decline phase, it can be attributed to research saturation on the topic, leading scholars to gradually decrease their focus on this area.

Network analysis of researchers

A visual analysis of a network with the node type "author" was performed using the CiteSpace software on 689 pieces of data. In the upper left corner of Figure 2, we find relevant data labeled as "N=301, E=102." The author collaboration network comprises a total of 301 nodes and 102 edges. Some authors exhibit a greater degree of interconnectedness, suggesting a closer degree of collaboration. Notable examples include authors such as Kumar, Navin; Adhikari, Kishalay; and Panda, Rejeev Kumar (Fig. 2).

Figure 2 Visual knowledge mapping of high-yield authors in research related to digital media and city branding from 2013 to 2023

Source: Own compilation, N=301, E=102
Note: N represents nodes corresponding to the positions of authors in the network. The size of an author's name in the figure reflects the frequency of its appearance in the 689 data points. Larger font sizes indicate higher frequencies of occurrence. E represents edges, which indicate connections between nodes. Thicker edges indicate that the authors connected by these edges have a higher frequency of co-occurrence in the same literature (Chen et al., 2015). Thus, these edges illustrate the collaborative relationships between authors.

The top 10 authors who have published the most papers are listed in Tab. 1. Among them, Foroudi, Camp, and Adhikari, etc. have published 3 articles, with the latter three (Meenghan, Panda and Rubio) contributing 2 articles each. Combined with the author's collaborative network, it becomes clear that research on digital media and city branding follows a single-core development pattern.

Table 1 Top 10 authors in research related to digital media and city branding from 2013 to 2023

No	Count	Author	Year
1	3	Foroudi, Pantea	2017
2	3	Camp, Sara	2019
3	3	Adhikari, Kishalay	2022
4	3	Huertas, Assumpcio	2015
5	3	Marine-roig, Estela	2015
6	3	Andreu, Luisa	2018
7	3	Beatson, Amanda	2018
8	2	Meenghan, Tony	2013
9	2	Panda, Rajeev Kumar	2022
10	2	Rubio, Natalia	2020

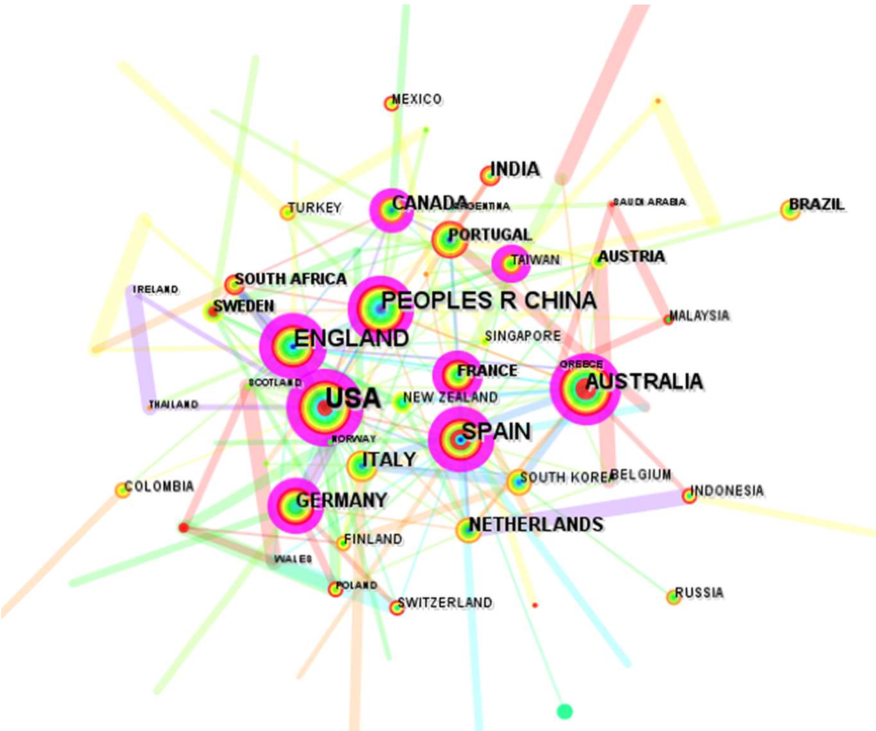
Source: Own compilation

Countries Network Analysis

Using CiteSpace 6.1.R6 software to visually analyse the countries and create a map (Fig. 3), there are a total of 81 nodes and 177 edges. The total network density is 0.0546. Each node in the graph represents a country, and the size of the node corresponds to the production of research literature related to digital media and city branding for that country. The edges connecting the nodes represent collaborations between two countries. The peripheral nodes in purple indicate countries with high centrality (Li et al., 2022).

The nodes representing the United States, Spain, and England have the largest purple circles, with centrality values of 0.25, 0.35, and 0.34, respectively. These countries have the highest centrality and are leaders in this research area, indicating significant academic influence. China, Australia, Canada, Germany, and France also have noticeable purple circles around their nodes, with centrality values of 0.15, 0.13, 0.11, 0.12, and 0.11, respectively, ranking just below the United States in terms of centrality.

Figure 3 Visual knowledge mapping of high-yield countries related to media and city branding from 2013 to 2023



Source: Own compilation

Keyword Frequency

The author selected the node type as "Keywords" in the CiteSpace user interface to transform the scientific knowledge map into a co-occurrence table of keywords. The top 27 high-frequency keywords all have frequencies of 20 times or more (Tab. 2).

Table 2 Top 27 co-occurring keywords in research related to digital media and city branding from 2013 to 2023

No	Freq	Centr	Keyword	Year	No	Freq	Centr	Keyword	Year
1	203	0.20	social media	2013	**15**	27	0.07	intention	2018
2	76	0.08	city	2013	**16**	27	0.02	online	2015
3	71	0.12	impact	2013	**17**	26	0.06	information	2014
4	62	0.04	tourism	2014	**18**	26	0.03	perception	2018
5	56	0.02	model	2017	**19**	25	0.05	consumer	2017
6	53	0.07	image	2015	**20**	24	0.06	hospitality	2015
7	47	0.08	word of mouth	2015	**21**	24	0.03	brand	2017
8	45	0.08	media	2016	**22**	24	0.04	big data	2015
9	40	0.02	experience	2017	**23**	24	0.01	smart city	2018
10	37	0.01	identity	2018	**24**	23	0.03	management	2017
11	36	0.05	destination image	2015	**25**	23	0.02	place	2018
12	34	0.12	internet	2014	**26**	22	0.06	communication	2014
13	30	0.02	destination	2018	**27**	22	0.08	technology	2018
14	29	0.05	behavior	2016					

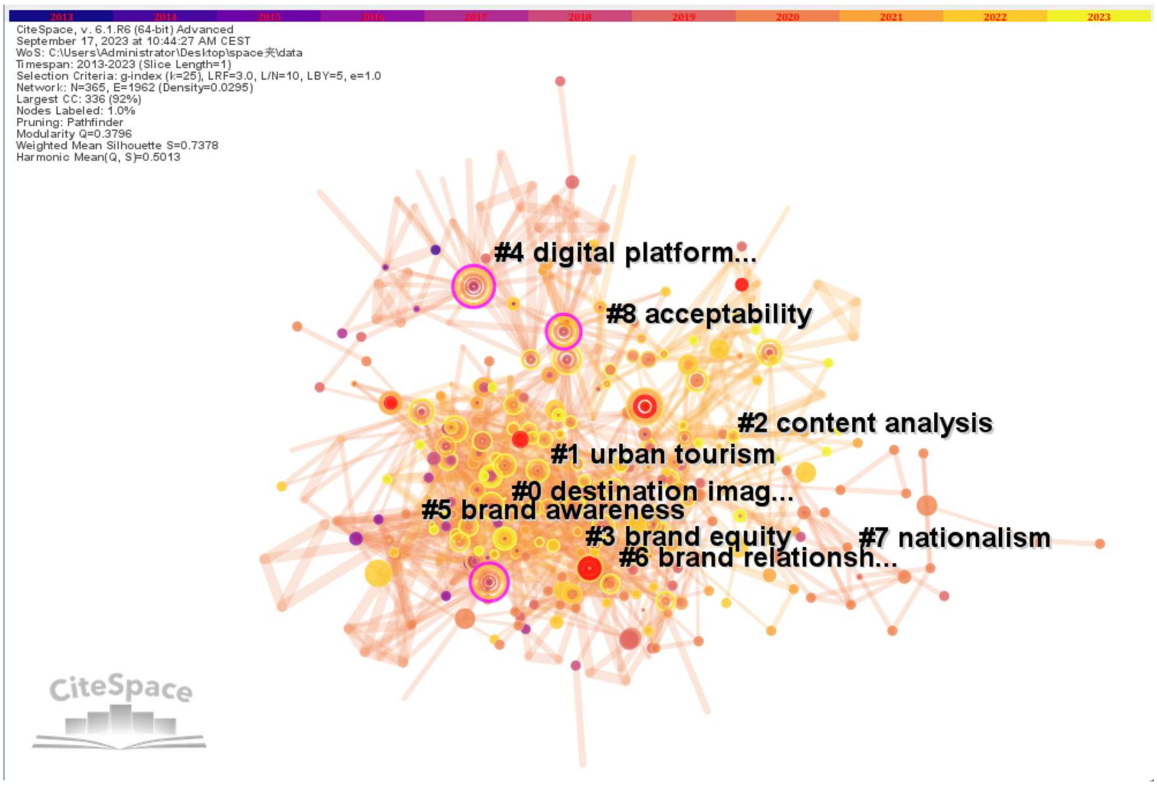
Source: Own compilation

The most frequent keyword is "social media" with a frequency of 203 times. The second most frequent keyword is "city" with a frequency of 76 times. This indicates that "social media" and "city" are fundamental elements and crucial pillars of research in the field of digital media and city branding. Other highly central keywords include "impact" and "internet", which are also key nodes in this research structure. Particularly noteworthy is the keyword "impact", which has a frequency of 71 times and a centrality of 0.12, indicating its central position within this theme.

Keywords Clustering Analysis

There are many keywords in Tab. 2, to increase the precision of summarising the research field given the abundance of keywords in the co-occurring keywords table, this paper utilises Citespace's keyword clustering functionality. This allows for the consolidation of closely related keywords in the map into clusters, resulting in the keyword cluster map shown in the Fig. 4. Citespace provides two metrics, Modularity (Q-value) and Mean Silhouette (S-value), based on network structure and clustering quality. If the Q-value > 0.3, the clustering structure is considered significant, and if the S-value > 0.7, the clustering is considered persuasive (Chen, 2015). The data shown in the upper left corner of the figure indicates that the Q-value = 0.3796 and the S-value = 0.7378. Therefore, the clustering structure in this keyword cluster map is highly significant, and the results are convincing (Fig. 4).

Figure 4 Top 9 clusters of digital media and city branding literature from 2013 to 2023



Source: Own compilation

Each cluster contains a decreasing number of documents from small to large in numerical order. This article has extracted data related to the top 9 clusters from Citespace, which is summarised in Table 3. In the "keywords (LLR)" column, the top four or five most representative and strongest keywords for each cluster are extracted. In the "Cited reference Keywords" column extracts some high-frequency keywords from the cited references in each cluster are extracted. The use of keywords helps to identify the core research areas in the study of digital media and city branding.

Table 3 Top 9 clusters of digital media and city branding literature from 2013 to 2023

Cluster No.	Size	S	Keywords (LLR)	Cited reference Keywords (Partial)	Year
#0 destination image	52	0.687	destination image (17.36, 0.000); consumer-based brand equity (11.86, 0.001); destination branding (11.44, 0.001); consumer engagement (8.62, 0.005)	model, word of mouth, experience, destination image, intention, online, customer engagement, destination, branding loyalty, user generated content, satisfaction, scale development	2019
#1 urban tourism	50	0.683	urban tourism (31.11, 0.000); tripadvisor (12.23, 0.001); digital footprints (10.33, 0.005); gis (10.33; 0.005)	tourism, destination, behavior, big data, hospitality, management, quality	2018
#2 content analysis	50	0.670	content analysis (13.09, 0.001); urban governance (11.8, 0.001); smart city (11.39, 0.001); host cities (7.86, 0.01); digital geographies (7.86, 0.01)	city identity, smart city, politics, Twitter, content analysis, urban, dynamics	2019
#3 brand equity	44	0.735	brand equity (10.76, 0.005); destination brand (9.32, 0.005); platforms (8.19, 0.05); WOM (8.19, 0.005); reputation (6.12, 0.05)	image, consumer, place, technology, communication, brand equity, Facebook, engagement, equity	2017
#4 digital platforms	42	0.720	digital platforms (20.07, 0.000); social media (13.22, 0.001); digital device (10.02, 0.005); South Africa (10.02, 0.005); internet (7.38, 0.01)	social media, Internet, culture, consumption, digital platform, digital device	2015
#5 brand awareness	39	0.829	brand awareness (12.66, 0.001), brand placement (12.15, 0.001), prominence (8.43, 0.005), sports mega-events (8.43, 0.005), Iran (8.43, 0.005)	impact, media, information, perception, community, place branding	2015
#6 brand relationship quality	22	0.741	brand relationship quality (8.43, 0.005), performance (8.43, 0.005), culinary tourism (6.8, 0.01); Barcelona (6.06, 0.05); grounded theory (6.06, 0.05)	strategy, antecedent, customer satisfaction, performance, challenge, brand community, attachment	2019
#7 nationalism	17	0.906	nationalism (7.74, 0.01); social power (7.74, 0.01); world cities (7.74, 0.01); citizenship rights (7.74, 0.01); ride-hailing (7.74, 0.01)	organisation, place attachment, globalisation, policy	2019
#8 acceptability	15	0.868	acceptability (7.18, 0.01); research and development (7.18, 0.01); perceived image (7.18, 0.01); manufacturing enterprise (7.18, 0.01); visibility (7.18, 0.01)	travel, place, brand, China, information, technology, acceptance	2019

Source: Own compilation *Note LLR (Log Likelihood Ratio) is primarily used to statistically measure the co-occurrence of keywords in a collection of literature.

Based on the integration and analysis of the keywords in Tab. 3, along with the information provided in Table 2, research in the field of digital media and city branding can be categorised into the following three areas:

1. *urban branding and image* (destination image, consumer-based brand equity, brand equity, destination brand, brand awareness, brand placement);
2. *digital media and urban marketing* (urban tourism, TripAdvisor, digital footprints, urban tourism, TripAdvisor, digital footprints, digital device);
3. *urban policy and social impact* (content analysis, urban governance, smart city, nationalism, social power, world cities, civil rights, acceptance, research and development, perceived image, productive enterprise).

Keywords Bursting Analysis

Keyword bursting refers to a particular keyword variable that has undergone significant changes in a short period of time (Xiao & Xiao, 2018). The authors set the display option of CiteSpace 6.1.R6 to "Burstness" and then clicked "View" to obtain a bursting keyword co-occurrence map of digital media and city branding research over the past 10 years (Fig. 5).

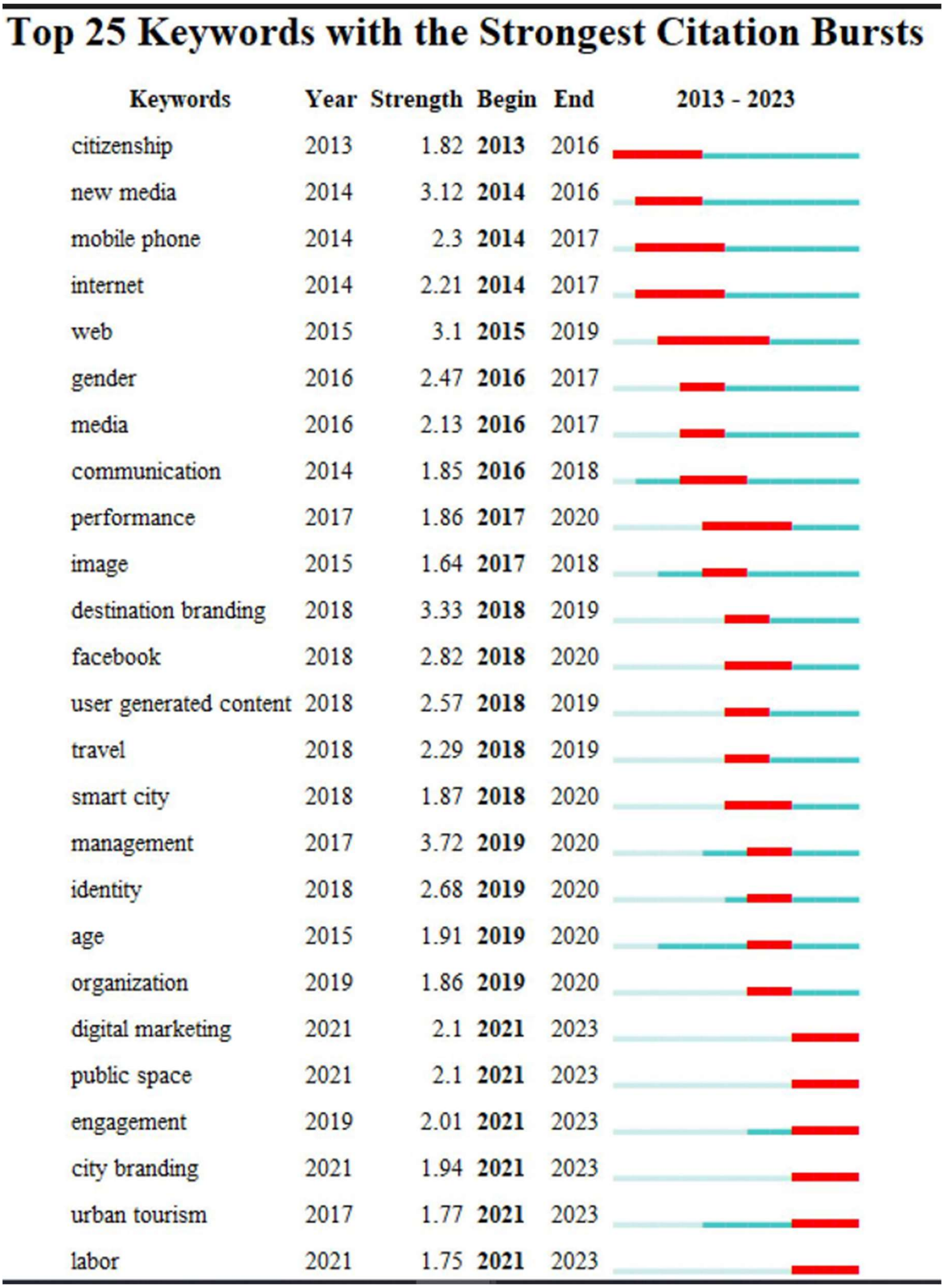
From 2013 to 2017, research focused primarily on the impact of the digital society and communication technology. Due to the rapid advancement of digital technology, the proliferation of smartphones, high-speed Internet connectivity, and digital tools have changed people's lifestyles and media consumption behaviour. Various aspects of society began to be profoundly impacted by digital technology, including communication, information retrieval, work, and entertainment. the introduction of an entirely new business model and economic infrastructure around digital platforms (Minoia & Jokela, 2020). Researchers began to focus on the ongoing evolution of the digital society and the influence of communication technology on social structures, cultures, and individual behaviors. They began to explore the pros and cons of the digital society, privacy issues, information dissemination, and digital exclusion; from 2017 to 2021, research shifted to social media and brand management.

Currently, the global social network penetration rate is nearly 54 percent (Statista, 2023b). Social media platforms are growing at a staggering pace, attracting millions of new users across various platforms (Xu and Pratt, 2018). These platforms such as Facebook, X (formerly Twitter), Instagram, and others became essential communication tools for billions of users worldwide (Statista, 2023a). Social media created new opportunities for marketing and brand management. Meanwhile, the intensity of a brand's interaction on social media can have a positive impact on the destination's brand awareness at the moment when travel decisions are made (Stojanovic, et al. 2018).

Researchers started to pay attention to how to effectively utilise social media for brand promotion, customer interaction, and social media analytics. They conducted studies on how social media impacts brand image, reputation, and marketing strategies. From 2021 to 2023, digital marketing and urban development continued to evolve and adapt. The expanding networks of information and communication technology (ICT) along with the dizzying spread of ubiquitous computing, enabling the connection of places, people, and objects, shape the reality of urban development (Castells, 1996, Sassen, 2011). Besides, digital marketing continued to evolve due to the ongoing growth of the Internet and e-commerce. Over the past few years, social media marketing has become one of the most popular and successful forms of digital marketing. Thanks to the extremely high number of users of networks like Facebook and Instagram, advertisers can reach billions of potential customers at the click of a mouse. Among the many benefits of using social media platforms for business purposes, industry professionals particularly value the increased exposure for their brands and products, as well as the increased traffic on their websites (Jie & Ou, 2020, Statista, 2023a). Consumers also became accustomed to digital channels, which became crucial for businesses to attract customers and boost sales. According to the United Nations, urbanisation trends have accelerated. Currently, more than half of the world's population resides in urban areas, and it is projected to increase to 68% by 2050 (Kundu & Pandey, 2020). As a result, cities are encountering challenges related to population growth, sustainability, and infrastructure development. Urban planners and researchers started focusing on how to leverage digital technology and innovative urban development strategies to address these challenges. Researchers began to focus on how to effectively use social media for brand promotion, customer interaction, and social media analytics. They conducted studies on the impact of social media on brand image, reputation, and marketing strategies.

Based on the keyword co-occurrence analysis presented earlier, it is clear that the current research landscape in this area is undergoing a significant shift. Previously, research hotspots were primarily concentrated in isolated areas such as social media, cities, impact, and tourism. However, there is a noticeable shift towards more interdisciplinary research areas, including smart city, city branding, and digital marketing. Of particular note is the increasing attention being paid to different stakeholders, including consumers.

Figure 5 The network visualisation with the strongest citation bursts in studies regarding digital media and city branding from 2013 to 2023



Top 25 Keywords with the Strongest Citation Bursts

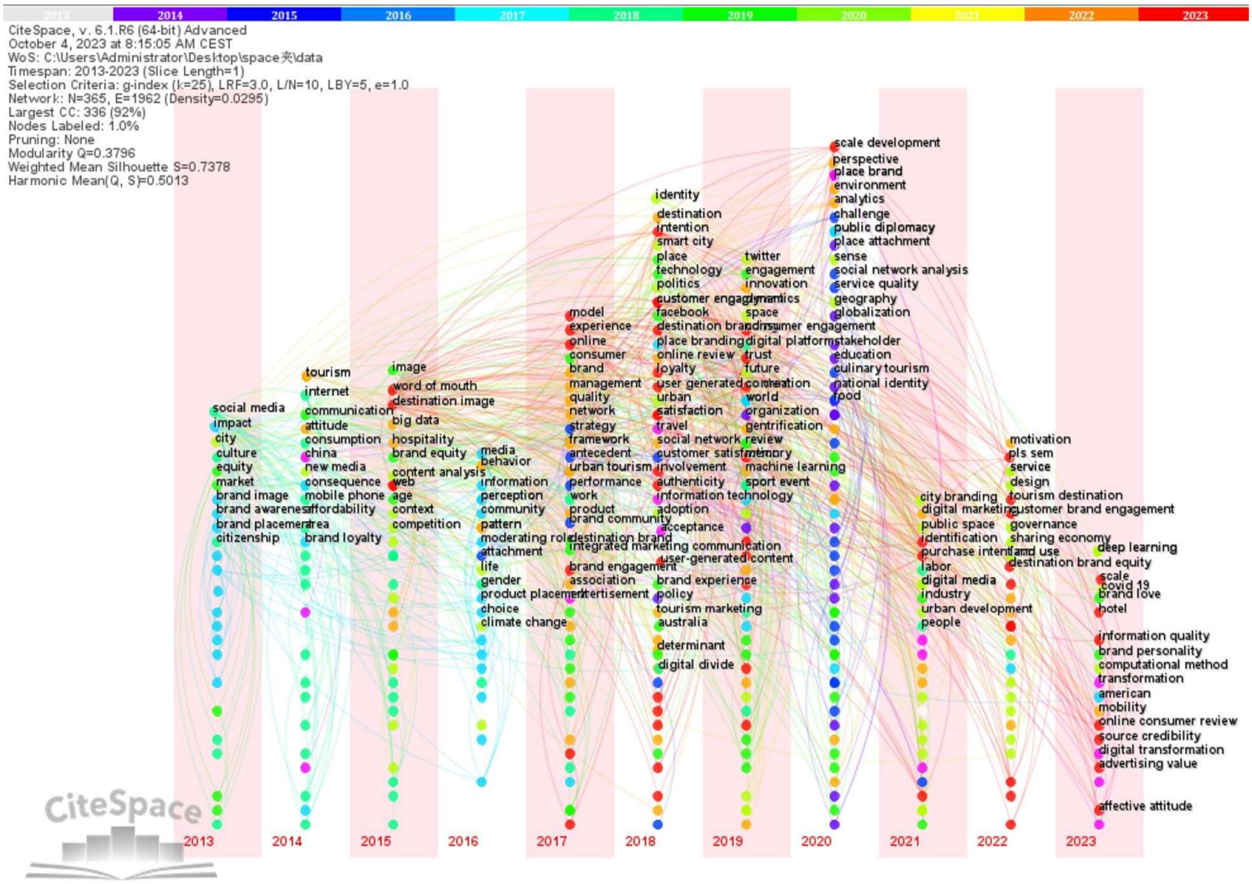
Keywords	Year	Strength	Begin	End	2013 - 2023
citizenship	2013	1.82	**2013**	2016	
new media	2014	3.12	**2014**	2016	
mobile phone	2014	2.3	**2014**	2017	
internet	2014	2.21	**2014**	2017	
web	2015	3.1	**2015**	2019	
gender	2016	2.47	**2016**	2017	
media	2016	2.13	**2016**	2017	
communication	2014	1.85	**2016**	2018	
performance	2017	1.86	**2017**	2020	
image	2015	1.64	**2017**	2018	
destination branding	2018	3.33	**2018**	2019	
facebook	2018	2.82	**2018**	2020	
user generated content	2018	2.57	**2018**	2019	
travel	2018	2.29	**2018**	2019	
smart city	2018	1.87	**2018**	2020	
management	2017	3.72	**2019**	2020	
identity	2018	2.68	**2019**	2020	
age	2015	1.91	**2019**	2020	
organization	2019	1.86	**2019**	2020	
digital marketing	2021	2.1	**2021**	2023	
public space	2021	2.1	**2021**	2023	
engagement	2019	2.01	**2021**	2023	
city branding	2021	1.94	**2021**	2023	
urban tourism	2017	1.77	**2021**	2023	
labor	2021	1.75	**2021**	2023	

Source: Own compilation

Research Frontiers Analysis

Development trends refer to the most current and promising research topics in a field (Jie & Ou, 2020). Tracking these trends is beneficial for determining research directions and providing guidance for future studies. Based on the interactive relationships and evolutionary paths of the frontiers in digital media and city branding, the researchers have designed the frontier time-zone view. This is also a unique feature that distinguishes CiteSpace from other visualisation software (Cai et al., 2012). In the CiteSpace analysis, we set the time slice to one year, performed the keyword analysis, and selected the "time zone view" as shown in Fig. 6.

Figure 6 Frontier Time Zone View related to digital media and city branding from 2013 to 2023



Source: Own compilation

Fig. 6 provides a clear overview of the research trends for each year, highlighting a period of significant growth and prosperity in research from 2017 to 2020. Furthermore, it can be seen that the main keywords in digital media and city branding research from 2013 to 2023 are: social media, impact, city, tourism, internet, communication, attitude, image, word of mouth, destination image, media, behavior, identity, experience, consumer, Twitter, perspective, city branding, motivation, brand love, information quality, brand personality, affective attitude. Combining keyword frequency and clustering information, it can be seen that the research includes the following main directions:

1. *Impact of digital media on urban branding*: this direction explores how digital media influences a city's brand image, information dissemination, and reputation. It covers the use of social media, information quality, and the impact of digital media on urban tourism. Keywords in this context include social media, the internet, and media communication.
2. C*onsumer attitudes and behaviours in urban tourism*: this direction investigates consumer attitudes, behaviours, and experiences in urban tourism, as well as their perceptions and emotions toward urban brands. Keywords in this context include consumers, behaviour, attitude, and experience, emphasising the role of consumers and the personality of urban brands.
3. *Urban branding, management, and marketing*: this research area focuses on the establishment of urban brands, brand management strategies, marketing strategies, and the attractiveness of urban brands to residents and tourists. Keywords include urban branding, brand management, marketing, and city image, emphasising the importance of urban brand management and strategy development.

These directions collectively explore the impact of digital media on urban branding, consumer attitudes and behaviours in urban tourism, and urban branding, management, and marketing strategies. Furthermore, in recent years, research on digital brand management and consumer behaviour has become a research hotspot and frontier.

DISCUSSION

After conducting an extensive study in the field of digital media and city branding, several key findings emerged. First, the research landscape has undergone a notable evolution, with a fluctuating increase in the number of published articles from 2013 to 2023. This trend is indicative of the growing importance of digital media in the field of city branding. Additionally, researchers have fostered collaborative relationships that drive knowledge innovation and dissemination. Researchers such as Foroudi, Camp, Adhikari, and Huertas have played a pivotal role in advancing digital media and urban branding research. Furthermore, national network analysis has revealed that countries such as the United States, Spain, and the United Kingdom have significant academic influence in the field, fostering global research collaborations. The critical role of digital media in city branding remains undiminished, and further in-depth research is expected to meet the evolving needs of urban marketing. These studies will elucidate the intricate relationship between digital media and urban branding, furnishing invaluable insights for practical applications and furthering the field's continued development.

Conversely, a comprehensive analysis of the literature reveals a notable shift in the focus of research within the field of digital media and city branding. Historically, research efforts have been concentrated on specific domains, including social media, cities, impact, and tourism. Nevertheless, the prevailing tendency is towards interdisciplinary domains, encompassing subjects such as smart cities, city branding, and digital marketing. In particular, there is a growing emphasis on engaging different stakeholders, including consumers, in these studies. This shift underscores the intricate interrelationship between city branding and digital media, and highlights the significance of incorporating consumer perspectives and interests in the formulation of efficacious city branding strategies. Future research should endeavor to examine the interactive influences within these interdisciplinary domains in greater depth in order to effectively guide urban branding practices and harness the potential of digital media. Such an investigation will facilitate a more profound comprehension of the intricate interrelationship between urban branding and digital media, offer valuable insights for practical applications, and provide a foundation for future research directions.

CONCLUSION

The present paper offers a comprehensive overview of the trends and developments in digital media and city branding research, with an analysis of 689 articles from the WOS database. This bibliometric study identifies the countries that have produced the most research output and engaged in the most international collaboration. The United States, Spain, and the United Kingdom are the leading countries in this regard. Moreover, the study identifies the most prolific authors in the field, including Foroudi, Camp, and Adhikari. The analysis encompasses co-authorship, co-occurrence of keywords, and author keywords in order to offer insights into the evolution of digital media and city branding research over time.

The field of research on "digital media and city branding" experienced a period of significant growth from 2013 to 2020, followed by a period of fluctuation due to the impact of the pandemic in 2020-2022. This was followed by a decline in 2022-2023 due to saturation of the research landscape The term "keyword bursting" refers to a notable shift in the focus of a particular keyword over a relatively short period. This is exemplified by the CiteSpace bursting keyword co-occurrence map for digital media and city branding research, which illustrates the evolving emphasis from digital society and communication technology (2013-2017) to social media and brand management (2017-2021), and more recently to digital marketing and urban development (2021-2023). This indicates a proclivity towards interdisciplinary research domains, such as smart cities and city branding.

This research employs a bibliometric approach based on the WOS database to contribute to the existing literature by mapping the historical and developmental trajectory of creative accounting studies. The study identifies key principles, models, and trends within the field, providing a chronological analysis of keyword congruence, significant journals, institutions, countries, and scientific partnerships.

From a practical standpoint, this paper offers guidance for companies in formulating strategies to leverage digital media and city branding for competitive advantage. For managers, an understanding of the historical development of city branding research is crucial for the identification of areas for enhancement of their organisation's performance. Theoretically, this paper addresses gaps in previous studies by applying a bibliometric analysis to the field of city branding. In the digital age, one area of research could focus on strategies and practices that cities can employ to effectively manage and enhance their brand equity. This could entail the analysis of successful case studies, the identification of best practices, and an understanding of the role of digital media in this process.

In the digital age, city and destination branding has emerged as a significant field of study, underscoring the crucial role of brand equity management in ensuring the long-term health of a brand. Moreover, consumer attitudes and behaviors are of paramount importance in determining the success of digital marketing. Consequently, a comprehensive examination and comprehension of the interconnections between these domains will empower cities to strategically leverage digital media and devices, enhance brand equity, attract consumers, achieve success in digital marketing, and facilitate the sustainable growth of city brands. This research contributes to the advancement of knowledge in the field of digital media and city branding. Consequently, the researchers for an interdisciplinary approach to smart city branding. In the future, the authors propose four possible research topics: (1) Interdisciplinary research, (2) Consumer engagement, (3) Global collaboration, (4) Long-term branding strategy. In light of the growing convergence of disciplines, including smart cities, city branding, and digital marketing, a study could investigate the intersections between these fields and their contributions to overall smart city branding strategies. This research could investigate the manner in which digital media and devices are employed to construct and sustain brand equity in the context of smart cities while also considering the perspectives and behaviors of consumers in this domain. One avenue for further inquiry could be to examine the manner in which consumer attitudes and behaviours influence the efficacy of city branding strategies in the digital age. This could include an examination of consumers' perceptions of cities, their engagement with digital media related to city branding, and the influence of these factors on their overall impression and loyalty to the city.

It should be noted, however, that the study is limited to the WOS database. Further research could be enhanced by the examination of additional databases, such as Scopus, and the undertaking of comparative studies between databases such as Scopus and WOS. Subsequent studies might also concentrate on particular timeframes, such as the previous two decades, or specific journals, such as Tourism Management. Furthermore, an expansion of the scope beyond titles and abstracts to include studies addressing city branding under different terminologies, such as destination image and engagement, would be beneficial. Such an approach could facilitate a more comprehensive understanding of the field.

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