Macroeconomic Factors Influencing the Development of the Sharing Economy in the Lithuanian Tourism Sector

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Abstract
The sharing economy expands and becomes a significant part of tourism, contributing to economic development. The Lithuanian tourism sector is changing from an internal perspective and is influenced by various external macro-environment factors. Currently, as the tourism sector recovers, not only on a national but also international scale, to achieve rapid development of the tourism sector, and assess the importance of one of the biggest catalysts of the tourism sector - the sharing economy, the research aim is to determine the macroeconomic factors that have the influence on the sharing economy in the tourism sector, Lithuania. This research will help policymakers and other stakeholders to create conditions for the sharing economy in the tourism sector for future development and growth in Lithuania. The paper is carried out in the following logical order. First, the literature analysis identifies the macro-environment vectors that significantly impact the development of the sharing economy. The further analysis identifies specific parameters that, according to various literature reviews, influence sharing economy's development in the tourism sector. Further research is aimed at verifying coefficients of influential macroeconomic factors and impact directions by experts. The authors found a positive, most substantial medium-term relationship: between 21-49 years old population growth; increase in monthly income; higher education level of population; the number of households with children; consumer confidence index. The results suggest that the growth of these and other analyzed parameters would have the most influence while encouraging sharing economy's development in the tourism sector. The authors also analyzed other political, economic, sociocultural, technological, environmental, and legal parameters.

1. Introduction

The relevance of sustainable development of the tourism sector and sustainable regional development is reflected in strategic documents at various levels: global, European Union, and national.

In 2015, the first public discussion on the application of sharing economy models in Lithuania was launched at the Ministry of Economy's event "Lithuanian tourism: experience, topicalities and future goals". Representatives of national and international organizations described the Lithuanian tourism sector as an integral part of the country's economy and one of the priority sectors. The main topics were the difficulties in regulating the development of the sharing economy in the tourism sector, the lack of research on the sharing economy, and the opportunities and measures for the development of the tourism sector. Participants of the Lithuanian Tourism event agreed that the sharing economy is inexorably penetrating the country's tourism sector, becoming an integral part of the tourism sector, which needs further analysis.

The EU Sustainable Tourism Strategy, adopted on 25 March 2021, draws attention to the importance of the impact of the tourism sector on Lithuania. It also targets to reach 49th place in the Travel and Tourism Competitiveness Index by 2030 (59th place in 2019). Furthermore, the Economic Recovery and the Recovery and Resilience Framework (RRF) also includes funds to address the pandemic's negative economic and social impacts while ensuring and promoting digital transformation in the tourism sector.

Given the international importance of the tourism sector, it is highlighted that, according to the World Travel and Tourism Council, the sharing economy contributed to 10.3% of the global gross domestic product (GDP) in the tourism industry in 2019. The sharing economy has become one of the largest and fastest-growing markets in the world, especially in the tourism sector. However, according to an OECD report (2022), following rapid growth and expansion, the direct contribution of tourism to GDP has declined by 1.9 percentage points (to 2.8%), while the share of services exports in OECD countries has fallen by 10.6 percentage points on average (to 9.9%).

However, tourism remains a severe challenge due to the length and global scope of restrictions on movement and geopolitical instability, particularly in Lithuania, a country close to political instability. The development of the tourism sector, both internationally and nationally, has been identified as one of the main objectives to reduce the adverse socio-economic consequences experienced by tourism workers, businesses, and other stakeholders.

Many authors have sought to identify the determinants of sharing economy development in different sectors (Kumar et al.,2018; Lyaskovskaya, Khudyakova, 2021; Gursoy, Chi, 2018; Sundararajan, 2016), but the analysis has not included coefficients, indices or quantitative data, models that would explain the development of the sharing economy by identifying specific macroeconomic factors. It is also noted that, according to researchers (Cesnuityte et al., 2021), the sharing economy needs to be sufficiently analysed in the Lithuanian tourism sector. There needs to be more comprehensive research to answer questions for planning the country's future development and combining the various instruments used to influence the growth of different sectors.

The researchers have already looked at the motivations behind developing the sharing economy concerning tourism and other stakeholders in the sharing economy as elements of a connected ecosystem. However, the previous analysis needs to fully answer the question of what influences the development of the sharing economy in the tourism sector. This study will fill the gap by identifying the significant drivers of sharing economy development for the tourism sector from a macroeconomic perspective.

Moreover, to further the recovery and growth of the tourism sector, it is necessary to promote the development of sharing economy-based services in the tourism sector as an essential part of the tourism sector. To carry out a qualitative study on the impact of the sharing economy on the tourism sector and to develop realistic scenarios, this study aims to identify the macro-environmental factors influencing the development of the sharing economy in the tourism sector and to assess their significance through the importance coefficients. Identifying significant parameters affecting the development of the sharing economy in the tourism sector would help government representatives and managers of business entities to make appropriate decisions to promote the sector's development and achieve the set objectives. The analysis is helpful for researchers to understand better the development of the sharing
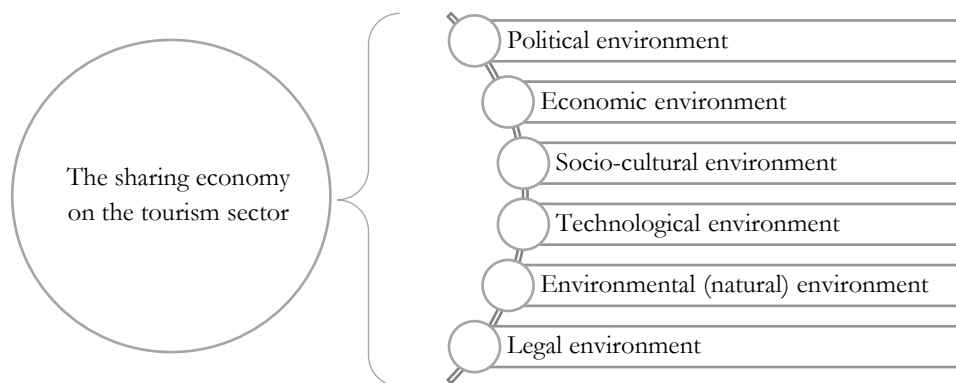
economy in the tourism sector, complementing the scientific literature with the missing and necessary data.

2. Literature review

Research on macro-environmental factors helps to comprehensively study the impact of environmental changes, determine competitive advantage, and increase the efficiency of added value creation. Qualitative methods such as PEST analysis, PESTEL analysis, Environment Dynamics analysis, Scenario analysis, and SWOT analysis are usually used in scientific literature to analyze macro-environmental factors. The methods mentioned before when studying the tourism sector were examined by Sijabat (2019); Roy, Chowdhury (2021); Melnychenko et al. (2020); Tambunan (2020), and others. However, the scientific literature needs to distinguish a specific method of analyzing the components of the macro environment components and methods. In consideration of the results of the author's research in the article "The Impact of the Sharing Economy as an Ecosystem on the Tourism Sector" further in the research, such components as political environment, legal environment, sociocultural environment, economic environment, technological environment, and environmental (natural) environment. The PESTEL method of macro-environmental factor analysis will be applied (Figure 1).

Figure 1. **The macro environment vectors of the sharing economy on the tourism sector.**
Source: own research based on Francis Aguilar model

Source: own elaboration

After identifying the main vectors of the sharing economy's macro-environment in the tourism sector, which include the groups of the totality of components, further research will be aimed at identifying the factors (parameters) of the macro-environment that influence the development of the sharing economy in the tourism sector.

Next, how the sharing economy in the tourism sector is related to macro-environment factors will be examined. Since the sharing economy is understood as a result of the fourth industrial revolution and as part of the tourism sector, further assumptions are made based on authors and organizations that have studied sharing economy, tourism sector, or both.

2.1. Macroenvironmental factors that determine the development of the sharing economy in the tourism sector

Political environment. After analyzing the development of the tourism sector (Maia et al., 2020; Vu et al., 2020; Paulauskienė, 2013), scientists distinguished such significant factors of the political

environment as the implementation of tourism marketing at the municipal level; increasing the image and awareness of the country; formulating the vision of tourism infrastructure. Even though the formation of the state's image and reputation management affects the ability of a country to achieve a competitive position, priority is given not only to improving the image but also to increase awareness, which is formed through the content of communication (Lithuanian Assessment Survey of Lithuania's Awareness and Reputation in Target Foreign Countries and the Country's Residents, 2019)). It was established that in 2021-2027 during the multiannual financial program, the European Regional Development Fund (ERDF) contributed financially to 14 programs related to the development and promotion of tourism, contributing to the preservation of the natural environment, improvement and popularization of tourism services. Thus, the amount of European Union support for the country can be seen as one of the factors influencing the development of the tourism sector. In promoting the development of the tourism sector, the EU plays a complementary role in tourism policy, supporting and coordinating actions taken by member states.

Table 1. **Macroenvironmental political factors determining the development of the sharing economy in the tourism sector.**

Indicator	Source	The implied impact of the indicator
Membership in the EU	Estol, Camilleri & Font, 2018; Pjerotic ir kt., 2017	+
Amount of EU support	Pjerotic et.al., 2017	+
Management of tourism services at the regional level	Paulauskienė, 2013	+
Management of tourism services at the national level	Maia et.al. 2020; Vu et.al, 2020	+
Political Stability Index (WGI)	Kaufmann, Kray & Mastruzzi, 2010; Bayar, Vener, 2018	+

Source: own research, based on other authors in the table.

Also, an essential factor of the political environment contributing to the development of the tourism sector and sharing economy-based models in the tourism sector is the possibility to move freely. According to the data of the European Parliament (2021), approximately 3.5 million people cross the internal borders of the EU every day. However, the nature of free movement varies depending on the category of the country. The importance of the Schengen area is unquestionable. Another critical factor of the political environment is political stability in the country (Bayar & Yener, 2018; Kauman, Kray, and Mastruzzi, 2010). It is noticeable that the areas most visited by tourists have a stable political environment and can be considered safe. The fact that political stability in the country is an essential factor for the development of the tourism sector and, at the same time, platforms based on the sharing economy in the tourism sector is illustrated by the low level of tourist interest in culturally and naturally rich countries such as Iraq, Syria or Ukraine but poor in political stability. In addition to personal insecurity caused by political instability, the high share of shadow economic activities creates obstacles to developing advanced modern services (Kozmenko et al., 2020; Mishchuk et al., 2018). Kaufmann, Kray, and Mastruzzi (2010) created the Political Stability Index (WGI) to measure and evaluate political stability, which reflects how the country's citizens perceive their position in choosing the government, freedom of expression, and access to media channels. The index authors also factored in the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence or terrorism. Moreover, the political stability index includes the quality of public services, quality of regulation, compliance with legal procedures, and control of corruption.

Economic environment. The rise of the sharing economy in tourism coincides with the global financial crisis (2008-2009). Gansky (2010) studied that changes in consumer behavior often occur during economic downturns - a tendency to try new brands and a greater focus on the cost-value ratio. Thus, in the face of economic recession, lower purchasing power and the need to save and obtain additional funds became a space for sharing economy models to establish themselves in the tourism sector. According to Dominici, Giudice, and Lombardi (2018), the first goods of the sharing economy were related to tourism services (car and housing rental), which gave tourists more alternatives in choosing the optimal solution that meets their needs and possibilities.

Meo, Chowdhury, Shaikh, Ali, and Sheikh (2018) examined the crucial aspects of the growth of the tourism sector in Pakistan. According to him, as the price of oil increases, the income of potential users of tourism services decreases. It is observed that the increase in oil prices also increases the cost of production in many sectors, potentially reducing the demand side and increasing the unemployment rate.

Table 2. **The factors of the economic macro-environment, determining the development of the sharing economy on the tourism sector.**

Indicator	Source	The implied impact of the indicator
Oil price	Meo, Chowdhury, Shaikh, Ali & Sheikh, 2018	-
Interest rate	Gozgor, Lau, Zeng, Yan & Lin (2022).	+
Consumer confidence index	Gražulis & Narkūnienė (2017); Andiuškevičius & Raibužytė (2019)	+
Business confidence index	Gražulis & Narkūnienė (2017); Andiuškevičius & Raibužytė (2019)	-
Consumer price index	Martins, Gan & Ferreira-Lepoes (2017)	-
Exchange rate, (ER)	Martins, Gan & Ferreira-Lepoes (2017)	-

Source: own research, based on other authors in the table.

First, it is predicted that as interest rates rise, the demand for services based on the sharing economy in the tourism sector will increase. Higher interest rates reduce the amount of tourists' money spent on travel, so tourists are encouraged to look for alternative services that require less use of economic resources. However, although the percentage of potential sharing economy customers in the tourism sector may increase compared to total tourists, it is noticeable that the total number of tourists may decrease.

Appositive impact of the consumer confidence index, which shows households' expectations about future economic development, on the future development of the sharing economy is also predicted. The business confidence index, similar to the consumer confidence index, shows business expectations about future economic development. However, contrary to the analysis of the consumer confidence index, it is predicted that as the business confidence index increases, the demand for services based on the sharing economy in the tourism sector will decrease, as competition in the market may increase.

When analyzing the factors determining the development of the tourism sector, the variables identifying the factors reflecting the country's purchasing power are also significant. According to Martins, Gan, and Ferreira-Lepoes (2017), the purchasing power of a visiting country can be determined by the Consumer Price Index (CPI), which is likely to be negative because the higher the purchasing power of the visiting country, the less likely it is to receive more tourists.

According to Martins, Gan, and Ferreira-Lepoes (2017), the nominal exchange rate is a determining factor because the depreciation of the local currency relative to others can increase the demand for tourism as domestic prices become relatively cheaper.

Sociocultural environmental factors that have facilitated the growth of the sharing economy in the tourism sector include the increase in population density. As the world population increases and the density of the world increases, and the quality of life improves due to industrial, scientific, technical, and medical advances, the large world population enables the more accessible establishment of the sharing economy. It provides greater potential demand and supply opportunities. Based on research (Kowalczyk-Aniol & Warwas, 2021; Ketter, 2017) conducted on the target groups of users of the sharing economy, it was found that sharing economy-based services in the tourism sector are used mainly by 35-year-olds aged people. Based on the conducted research, when analyzing the demographic indicators of users of the sharing economy in the tourism sector, it was found that about 90 percent of users are between 21 - 49 years old. Thus, when analyzing the factors of the social and cultural environment on the tourism sector of the sharing economy, it is expected that in the years 21-49, population growth will positively affect the development of the sharing economy in the tourism sector (Table 3).

It was established (Navickas, Petroke & Bačiulienė 2020; Maia et al., 2020) that users in the tourism sector of the sharing economy receive higher than average monthly incomes, usually live in urbanized areas, have graduated from higher education, and have children. Attention was drawn to the fact that a higher level of personnel specialization and developed abilities are necessary for carrying out tourism-related activities as an integral part of the tourism sector, which has an impact on the development of the sharing economy in the tourism sector.

Table 3. **The factors of the social-cultural macro-environment determining the development of the sharing economy in the tourism sector.**

Indicator	Source	The implied impact of the indicator
21-49 years old population	Kowalczyk-Aniol & Warwas, 2021; Ketter, 2017	+
Number of persons with tertiary education level (5-8)	Navickas, Petroke & Bačiulienė 2020; Kowalczyk-Aniol & Warwas, 2021; Ketter, 2017	+
Monthly income > min.	Kowalczyk-Aniol & Warwas, 2021; Ketter, 2017	+
Number of households with children	Navickas, Petroke & Bačiulienė 2020; Maia & kt., 2020	+

Source: own research, based on other authors in the table.

Technological developments are one of the biggest catalysts for the sharing economy in the tourism sector (Gursoy & Chi, 2018). Although interpersonal tourism activities are not new, these interactions have been limited to sharing between friends or acquaintances (Sundararajan, 2016). In tourism, this pattern is difficult to change despite the steep penetration of IT tools and services in business (Roshchyk et al., 2022). In the tourism sector, their successful implementation and virtual reality technologies allow for analyzing and maintaining demand even during crises (Florek & Lewicki, 2022; Kostynets et al., 2020). Because online platforms are one of the main elements of the sharing economy as a business model, information and communication systems that enable fast, high-quality, and widespread use of information and communication systems are extremely important. The use of

communication tools (social networks, blogs, mobile apps) also contributed to establishing the sharing economy's development in the tourism sector. The development of technology and the internet have made it possible to reserve and pay for services online, to increase the quantity and quality of information for tourists.

It is noticeable that investing in the expansion, modernization, and improvement of the communication network creates a favorable environment for developing businesses based on the sharing economy in the tourism sector. According to a feasibility study prepared by InCom systems - an investment project for broadband infrastructure (2015), one of the elements on which the informational development of society depends is the development of Next Generation Networks (NGN). The main problem, the solution of which contributes to the development of NGN networks, is the geographical differentiation of the population, limiting the opportunities to use broadband Internet access and ensuring the availability of electoral services. Based on the literature analysis (Table 5), the leading indicators of information technology development are internet penetration; the number of people using new or better information technology infrastructure; internet connection quality; big data. Considering the importance of information and communications is predicted that the identified technological factors of the macro environment will positively affect the development of the sharing economy in the tourism sector.

Table 4. **The factors of the technological macro-environment, determining the development of the sharing economy in the tourism sector.**

Indicator	Source	The implied impact of the indicator
Internet penetration	Alioto, 2017	+
The number of people using new or better information technology infrastructure	Zalieckaitė & Zilinskas, 2015	+
Internet connection quality	Alioto, 2017	+
Big data	Zalieckaitė & Zilinskas, 2015	+

Source: own research, based on other authors in the table.

The authors who examined the factors necessary for the development of the sharing economy (Siuskaitė et al., 2019) also pay attention to environmental-natural factors. It is noted that the development of traditional tourism services in the tourism industry is closely related to the deterioration of the living environment of the local population and the destruction of natural resources. Part of the adverse environmental effects are also related to developing tourism infrastructure (construction of hotels, restaurants, and other facilities). Realizing that the negative impact of tourism development can destroy the natural environment resources, attention was paid to business initiatives based on the sharing economy in the tourism sector, which allows the use of already built or purchased tourism products.

According to the researchers who analyzed the tourism sector's development and economic growth dependence, the variables are highlighted in the table below (Table 5). It was found that although many environmental-natural variables potentially contribute to the development of the sharing economy in the tourism sector, it is possible to single out factors related to the quality of the tourist destination from an ecological aspect and factors determining competitiveness within the tourism sector, which negatively affect the development of the sharing economy in the tourism sector. It is assumed that services ordered through sharing economy platforms are less in demand in highly visited areas with a good level of tourism infrastructure. As a result, the customers' loyalty leads to the intention to visit again and advise others (Tovmasyan, 2020). This is supported by the research conducted by Gyodi (2019), during which concentration maps of traditional accommodation tourism services and sharing economy-based

accommodation services provided to tourists in the most extensive, most visited European cities were drawn up.

Table 5. **The factors of the environmental (natural) macro-environment, determining the development of the sharing economy in the tourism sector.**

Indicator	Source	The implied impact of the indicator
Infrastructure of tourist facilities (hotels, restaurants, etc.)	Ili & Jovanovič, 2016	-
Natural disasters	Gražulis & Narkūnienė, 2017	+
Seasonality	Martin & Martinez, 2020	+
The number of natural resources allocated in a recreational geographic location: terrain (mountains, gorges, caves, valleys, plains, islands, spits), water bodies, etc.	Sabonienė & Zykienė, 2012	+
Air pollution	Zhang, Ren, Zhang & Zhang, 2020	-
Water pollution	Riyadi, Rachmansyah & Yanuwiadi, 2018	-

Source: own research, based on other authors in the table.

Legal environment. Sharing economy-based tourism services provided through sharing economy-based platforms were not clearly regulated at the beginning of their establishment. Although the legal environment clearly defined what rules should be followed by traditional service providers in the tourism sector, there was no similar regulation for tourism services provided through platforms based on the sharing economy. The regulatory, competitive advantage in the tourism sector of the sharing economy led to the rapid growth rates of the analyzed business model. However, as the sharing economy penetrates and spreads in the tourism sector, attention has been drawn to the lack of a regulatory mechanism. Moreover, with the rapid establishment of the sharing economy in the tourism sector, the hastily adopted draft laws were aimed at limiting the idea of sharing economy activities in the tourism sector rather than for the sustainable development of traditional and sharing economy-based business in the tourism sector.

Table 6. **The factors of the legal macro-environment, determining the development of the sharing economy in the tourism sector.**

Indicator	Source	The implied impact of the indicator
Sharing economy index	-	+
Internet connection support standards	Zalieckaitė & Žilinskas, 2015	+

Source: own research, based on other authors in the table.

The sharing economy index could be used to assess the legal environment in the tourism sector in the context of the sharing economy in the tourism sector. The index illustrates the possibility of using services based on the sharing economy and assesses the need for special permits for businesses based on the sharing economy and the tax burden. The index is compiled by evaluating the above criteria in accommodation, transportation, and other services. Another critical variable is the standards of Internet connection support established by protocols (Zalieckaitė & Zilinskas, 2015).

In summary, we can say that the sharing economy is the result of the change and development of many interconnected political, legislative, sociocultural, economic, technological, and environmental environments, which correlates with many challenges identified in the tourism sector as a convenient and rational solution.

3. METHODS

When assessing the macro environment of the sharing economy in the tourism sector, the macro environment components of the sharing economy in the tourism sector are formalized. The components of the macro-environment are evaluated according to the primary factors that determine them by determining the complex measure by experts. This method was also used by Zvirblis (2007) to analyze the macroenvironment in the cargo transport service.

According to Augustinaitis (2009) it is recommended to include at least five independent experts in the expert assessment to achieve accuracy and reliability, and the minimum recommended size of the expert group is three experts. According to many researchers, the optimal size of the respondent group is from eight to fifteen experts. Ten respondents participated in the expert survey, so this number corresponds to the optimal size of the expert group and is suitable for further data analysis. To ensure the obtained data's reliability and suitability for further analysis, the following requirements were imposed on the interviewers: at least five years of work experience in the tourism sector and higher education. All expert's where from Lithuania.

While analyzing the sharing economy, researchers used different methods such as interviews, focus groups, text analyses, and surveys for qualitative data (Barnandi, 2018; Niezgoda, Kowalski, 2020; Orabi, 2019; Pitt, Plangger, Eriksson, 2020).

With new technologies, it has become common to distribute surveys using digital media such as social networks and e-mail, and others. In this case, to get information from experts, an online survey distribution approach was selected. The survey was sent to fifteen experts. The authors got answers from ten experts.

Kendall's rank concordance coefficient, according to the Zavadsk and Turski (2011) methodology, was used to assess the compatibility of the group's experts.

The basic models can be presented in matrix expression as follows:

Political environmental factors:

$$P(P_1, P_2, \ldots, P_n) = A_p \begin{bmatrix} P_1 \\ P_2 \\ P_n \end{bmatrix} \tag{1}$$

there Ap - the matrix of the significance coefficients of the factors determining the political environment $P_1, P_2, \ldots, P_n$ direct and their interaction on the integral quantity P koeficients matrix.

To assess the economic environment:

$$E(E_1, E_2, \dots, E_{n)} = A_e \begin{bmatrix} E_1 \\ E_2 \\ \dots \\ E_n \end{bmatrix} \tag{2}$$

there Ae - factors determining the economic environment $E_1, E_2, \dots, E_n$ direct and their interaction on the integral quantity E koeficients matrix.

Social-cultural environment:

$$S(S_1, S_2, \dots, S_{n)} = A_s \begin{bmatrix} S_1 \\ S_2 \\ \dots \\ S_n \end{bmatrix} \tag{3}$$

then As - factors determining the sociocultural environment $S_1, S_2, \dots, S_n$ direct and their interaction on the integral quantity S koeficients matrix.

To assess the technological environment:

$$T(T_1, T_2, \dots, T_{n)} = A_t \begin{bmatrix} T_1 \\ T_2 \\ \dots \\ T_n \end{bmatrix} \tag{4}$$

then At - factors determining the technological environment $T_1, T_2, \dots, T_n$ direct and their interaction on the integral quantity E koeficients matrix.

To evaluate the environmental-natural environment:

$$E(n)(E(n)_1, E(n)_2, \dots, E(n)_{n)} = E(n) \begin{bmatrix} E(n)_1 \\ E(n)_2 \\ \dots \\ E(n)_n \end{bmatrix} \tag{5}$$

then An - factors determining the environmental-natural environment $N_1, N_2, \dots, N_n$ direct and their interaction on the integral quantity E koeficients matrix.

To assess the legal (legal) environment:

$$L(L_1, L_2, \dots, L_{n)} = A_L \begin{bmatrix} L_1 \\ L_2 \\ \\ L_n \end{bmatrix} \tag{6}$$

then Al - factors determining the legal environment $L_1, L_2, \dots, L_n$ direct and their interaction on the integral quantity L koeficients matrix.

General assessment model of macroenvironmental components as a whole:

$$M(P, E, S, T, E(N), L) = \begin{bmatrix} k_{pp} & ... & k_{pp} \\ k_{ep} & ... & k_{ea} \\ k_{sp} & ... & k_{sa} \\ k_{tp} & ... & k_{ta} \\ k_{e(n)p} & ... & k_{e(n)a} \\ k_{lp} & ... & k_{ln} \end{bmatrix} \tag{7}$$

then $k_{pp}, k_{ll}, k_{ss}, k_{ee}, k_{tt}, k_{nn}$ – the significance parameters of the direct influence of the relevant components P, E, S, T, E, L on the general level of the macroenvironment M.

The complex significance of the components of the macro environment and the significance of the subsections is determined on the basis that the sum of all analyzed elements is equal to 1.
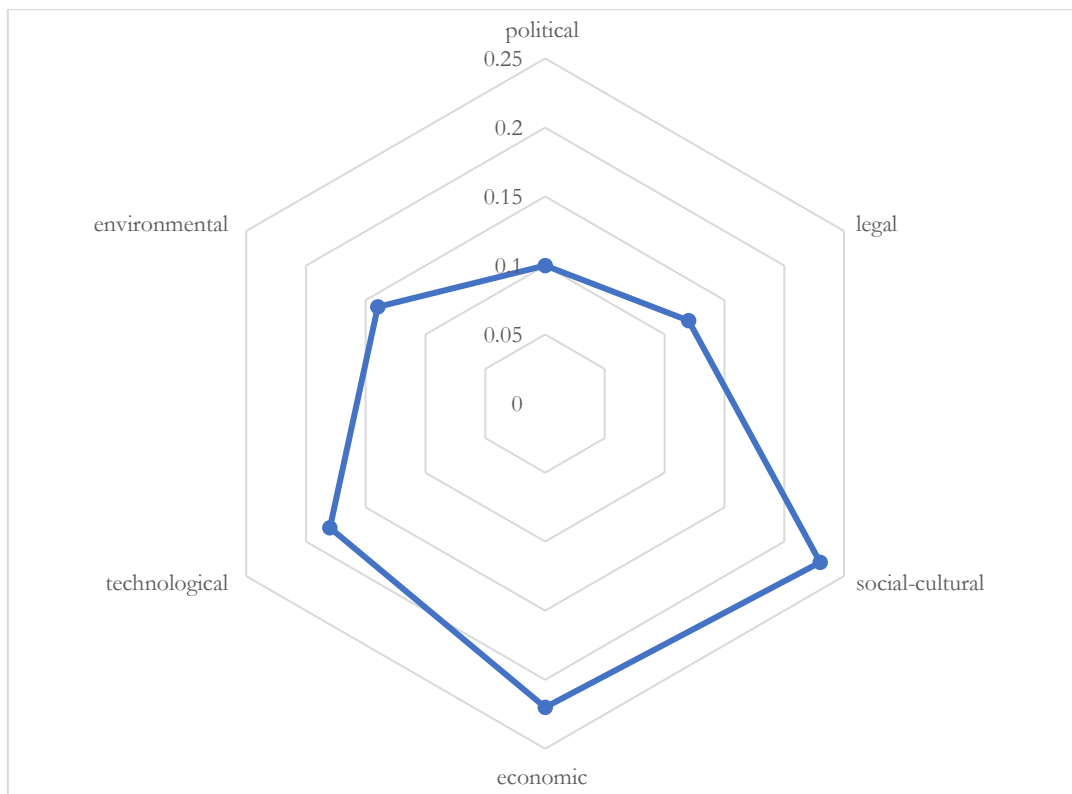
4. RESULTS AND DISCUSSION

Figure 2. **Results of the assessment of the influence of macroenvironmental vectors.**
Source: own research

The first questions of the expert survey reveal the available experience of the experts in the field of tourism, the acquired education, and the size of the company where they work. After conducting the

survey, the majority (37.5%) of experts work in small companies of 10 - 19 employees and very small companies (25 %) of 1 - 9 employees. The majority of experts work in the field of accommodation (55%) In the second part of the expert survey, experts assessed the importance of six components of the macro environment and basic multicomplexes of factors. Also, the experts who participated in the evaluation had an opportunity to include other, not analyzed factors that the experts believe are significant.

The expertly identified values of the significant coefficients of the influence of macroenvironmental vectors:

$$k_p = 0,10; \ k_e = 0,22; \ k_s = 0,23; \ k_t = 0,19 ; \ k_{e(n)} = 0,12; \ k_l = 0,14.$$

Based on the results of the expert assessment, the most important and most influential vector of the macro environment, in terms of the development of the sharing economy tourism sector, is the social, cultural, and economic environment. These are factor complexes, the development of which depends on the possibility of the sharing economy developing in the tourism sector in Lithuania.

Table 7. **The significance coefficients of the components determining the sharing economy in the tourism sector in Lithuania**

Components of the macro environment and the essential factors that determine them	Marking	Influence (favorable/ unfavorable/neutral)	Significance factor
Political environment (P):			
Membership in the EU	P_1	+	0,21
Amount of EU support	P_2	+	0,12
Management of tourism services at the regional level	P_3	+	0,16
Management of tourism services at the national level	P_4	+	0,21
Political Stability Index (WGI)	P_5	+	0,29
Legal environment (L):			
Sharing economy index	L_1	+	0,53
Internet connection support standards	L_2	+	0,46
Social-cultural environment (S):			
21-49 years old population	S_1	+	0,26
Number of persons with tertiary education level (5-8)	S_2	+	0,22
Monthly income > min.	S_3	+	0,3
Number of households with children	S_4	+	0,22
Economic environment (E):			
Oil price	E_1	-	0,14
Interest rate	E_2	-	0,14
Consumer confidence index	E_3	+	0,22

Business confidence index	E_4	+	0,19
Consumer price index	E_5	-	0,15
Exchange rate, (ER)	E_6	-	0,14
Technological environment (T):			
Internet penetration	T_1	+	0,28
The number of people using new or better information technology infrastructure	T_2	+	0,24
Internet connection quality	T_3	+	0,24
Big data	T_4	+	0,05
Environmental (natural) (N)			
Infrastructure of tourist facilities (hotels, restaurants, etc.)	N_1	+	0,21
Natural disasters	N_2	-	0,10
Seasonality	N_3	-	0,15
The number of natural resources allocated in a recreational geographic location: terrain (mountains, gorges, caves, valleys, plains, islands, spits), water bodies, etc.	N_4	+	0,19
Air pollution	N_5	-	0,19
Water pollution	N_6	-	0,15

Source: own research

The development of sharing economy in the tourism sector as a type of service is an integral part of the economy that creates added value and has untapped potential. However, tourism export service providers may face various political barriers to expansion. According to the data of the conducted research (Table 7), one of the most critical factors of the political macro-environment that has a significant influence on the development of sharing economy in the tourism sector is political stability in the country (=*0,29).*

The political stability of the visited country generates higher flows of visitors and additional income for accommodation, catering, transport, and other service providers.

When assessing the aspect of sharing economy's development in the tourism sector, it was determined that the number of required permits and additional documents required for the performance of activities is vital for the development of businesses based on the sharing economy. The experts did not include other significant factors worth analyzing in this macro-environmental vector. When identifying the numerical values of the analyzed sociocultural factors, it was found that the most significant component in this complex is the amount of income and the amount of the population that uses smart devices most intensively.

According to expert assessments, the consumer confidence index and the business confidence index also significantly positively impact the development of the sharing economy in the tourism sector.

Conducted research data, on the development of the sharing economy in the tourism sector, assessing the technological factors of the macro environment depends on the penetration of the Internet

(
$T_1 = 0,28$), the number of people who are using smart devices ($T_2 = 0,24$) and internet connection quality ($T_3 = 0,24$). The innovation and dissemination of information technologies are significant for developing the sharing economy in the tourism sector, as it allows quick and timely access to all tourism-related information. The fall in the price of mobile devices, roaming data in the European Union, and the spread of wireless Internet (wifi) have made it possible to search for information about tourist attractions during trips. Properly used data on the characteristics of tourists can provide a competitive advantage in developing the sharing economy in the tourism sector.

While analyzing the most significant environmental-natural factors influencing the development of the sharing economy in the Lithuanian tourism sector (Table 7), it was found that for the sharing economy to establish itself in the tourism sector, it is necessary to develop infrastructure adapted to tourists =0,21), which would meet the needs of travellers, would not cause inconvenience while traveling, and would contribute to creating a positive experience for travellers. Although some of the users of the sharing economy are fascinated by the opportunity to get to know places less suitable for tourists, adapting the infrastructure for tourists leads to the attractiveness of the tourist object not only among the leading group of users of the sharing economy (households with children) but also for people with special needs.

According to the data of the conducted research, the factors that stand out as having an unfavorable influence are oil price, interest rate, consumer price index, nominal exchange rate, natural disasters in the tourist area, seasonality, and pollution.

CONCLUSION

In summary, this article aimed to identify which macroeconomic environmental factors influence the development of sharing economy-based businesses in the tourism sector in Lithuania. This study is critical because Lithuania's sharing economy and tourism sector are relatively young. The national policy for the tourism sector in the country started only in 1992, after the restoration of independence, and therefore it is particularly relevant to analyze the factors driving the tourism sector. As the sharing economy is becoming an integral part of the tourism sector, research complementing the already identified factors for developing traditional tourism businesses is essential for policymakers to make evidence-based decisions.

Many previous studies analyzing the development of the tourism sector have yet to consider the sharing economy in tourism. Several studies assessing the development of the sharing economy in the tourism sector have only looked at the impact on a specific tourism segment (accommodation, transport, and others).

An analysis of the factors influencing the development of sharing economy business models in the tourism sector reveals that sociocultural and economic factors have the most significant impact in the medium term. The final equation of sharing economy's development from a macro-environmental perspective consists of:

$$M = 0,10P + 0,22E + 0,23S + 0,19T + 0,14E(n) + 0,12L + u \qquad (8)$$

Wage growth linked to increased consumption of tourism services was found to be the main contributor to the development of the sharing economy in the tourism sector. In order to promote the development of the sharing economy in the tourism sector, it is advisable to focus on the needs of potential customers aged between 21 and 49 years old by developing tourism services relevant to this age

group. It was also found that the number of educated people is essential, associated with a greater willingness, financial and social capacity to travel, and technological knowledge.

The authors, who have analyzed the factors influencing the development of the sharing economy in the tourism sector, also point out that expectations related to the economic situation both nationally and internationally also have a significant impact on the development of the sharing economy in Lithuania. It is noted that funding is essential for the development of Lithuania's tourism sector as a European Union country, a large part of which comes from EU funds. Funding for the tourism sector helps create better tourism infrastructure and raise Lithuania's profile as a tourist destination among potential tourists. The impact of the natural environment has also been found to be important in analyzing the development of the sharing economy in the tourism sector. Given the importance of this vector, it is recommended to invest in improving the natural environment and raising the profile of naturally rich places.

Based on the results, recommendations are proposed for policymakers to pay attention to the fiscal measures applied in the tourism sector, focusing more on the identified areas that positively affect the development of the sharing economy in the tourism sector, as expressed by the more influential parameters in this analysis. Such measures could include

VAT tax breaks in the tourism sector,

- subsidies for new business start-ups in the tourism sector,
- more favorable tax schemes for sharing economy businesses,
- increase the national tourism budget by adding more taxes to environmentally not friendly businesses and individuals.

It is also appropriate to consider the characteristics of tourists traveling and to develop child-friendly infrastructure, both at the final destination and at intermediate stops such as the airport or trains, which currently do not have children's areas or children's playgrounds in Lithuania. It is recommended that entrepreneurs in the tourism sector optimize the use of digital technologies to develop new products, services, and new markets, taking into account the needs of potential customers.

Like most studies, this study has limitations. The study uses a broad set of indicators to identify the main factors influencing tourism entrepreneurship. Future research could include interviews and focus groups with key stakeholders. Also, although this study focuses on Lithuania, future research is planned to compare and contrast the sharing economy in the tourism sector with other Baltic countries such as Latvia and Estonia. Another comparison could be with other countries at a similar tourism development stage.

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