

**SUSTAINABLE TOURISM FOR THE GREEN ECONOMY**

*Nataliia Letunovska, Aleksy Kwilinski, Henryk Dzwigol, Oleksii Lyulyov,  
and Tetyana Pimonenko*

**Abstract.** The paper analyses the innovative direction of sustainable tourism in Poland. It is investigated by means of a marketing survey of the respondents from this country and neighbouring regions. The authors' findings deal with the results in the framework of the green economy. The research hypothesis is to check the target group's awareness of post-industrial tourism in the field of region's rehabilitation, readiness to support sustainable development goals in their areas and to determine the most effective marketing tools to promote sustainable tourism. The authors found that local authorities play an essential role in developing territories through implementing healthy regional strategies. Among the insights of the research is the concept of Smart City as a promising tool for promoting healthy types of activity, to the respondents' opinion. Regions are defined as local centres where sustainable tourism principles could be implemented to reduce consequences unwelcome for the environment and economy.

**Keywords:** sustainable development, healthy region, post-industrial tourism, marketing survey, local authorities

**JEL Classification:** L83, Z32, Q01

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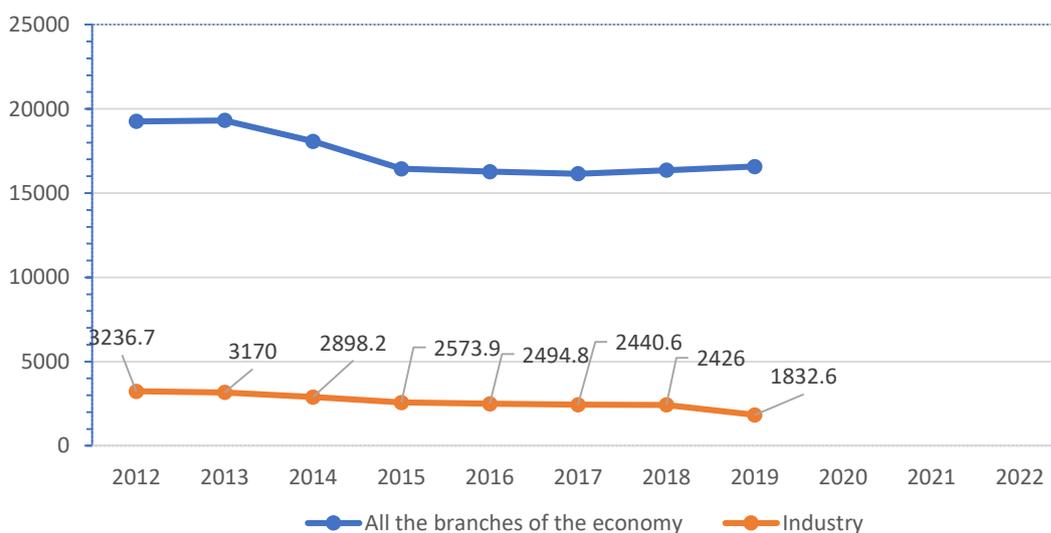
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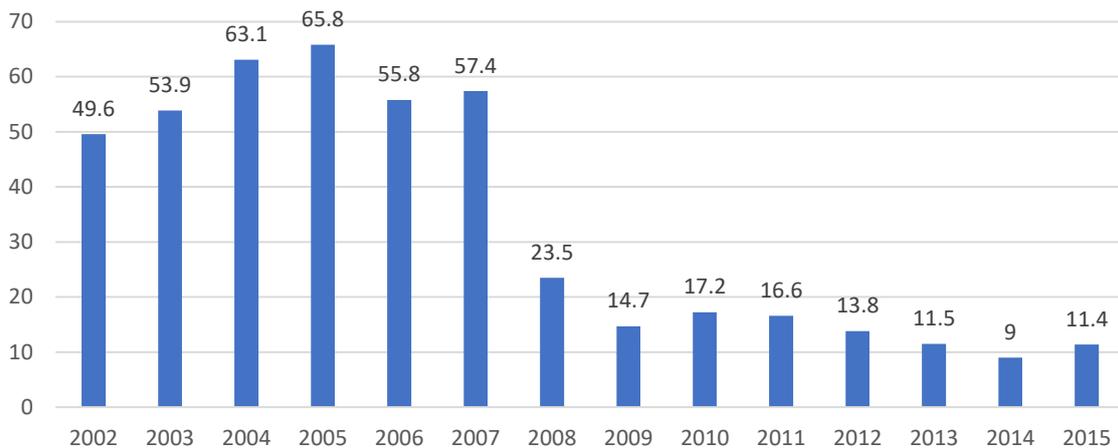
## 1. Introduction

Post-industrial tourism, also called industrial heritage tourism, is associated with post-industrial transformations of the society. It is a type of tourism that involves developing the tourism industry of a particular region based on the use of territories, buildings and other facilities previously used for industrial purposes. Such facilities include material residues of production, industrial landscape, product residues, documentation, and social infrastructure of enterprises. Many sources emphasize that this type of tourism is an effective way to restructure a particular region together with its directions such as health and green or eco-tourism (Karaoulanis & Vasiliki, 2018; Tovmasyan & Tovmasyan, 2020; Letunovska et al., 2020). Significant changes in the structure of production that have taken place in various European countries in recent years create a prerequisite for the emergence and development of industrial tourism. Here is an example of Poland and Ukraine.

In Ukraine, in recent years, with the general decline in labour market indicators, employment in the industry has been declining every year. Since 2012 the total employment has fallen from 19,261 thousand people to 16,578 thousand people in 2019, which is slightly more than 86%. In the industrial sector, this decline is even more apparent. In 2019 the employment accounted for only slightly more than 55% of this indicator in 2012. Figure 1 shows changes in the indicators of workers in industry and all sectors of Ukraine. About 20% of Ukrainians in the total employed population aged 15 to 70 work unofficially (It became known, 2020), while unofficial employment is scarce in the industry. There is also a very negative dynamics of changing the need for workers in the sector (Figure 2). Not only labour market indicators show negative dynamics in the industry of Ukraine. In 2019, industrial production in Ukraine decreased by 1.8%.

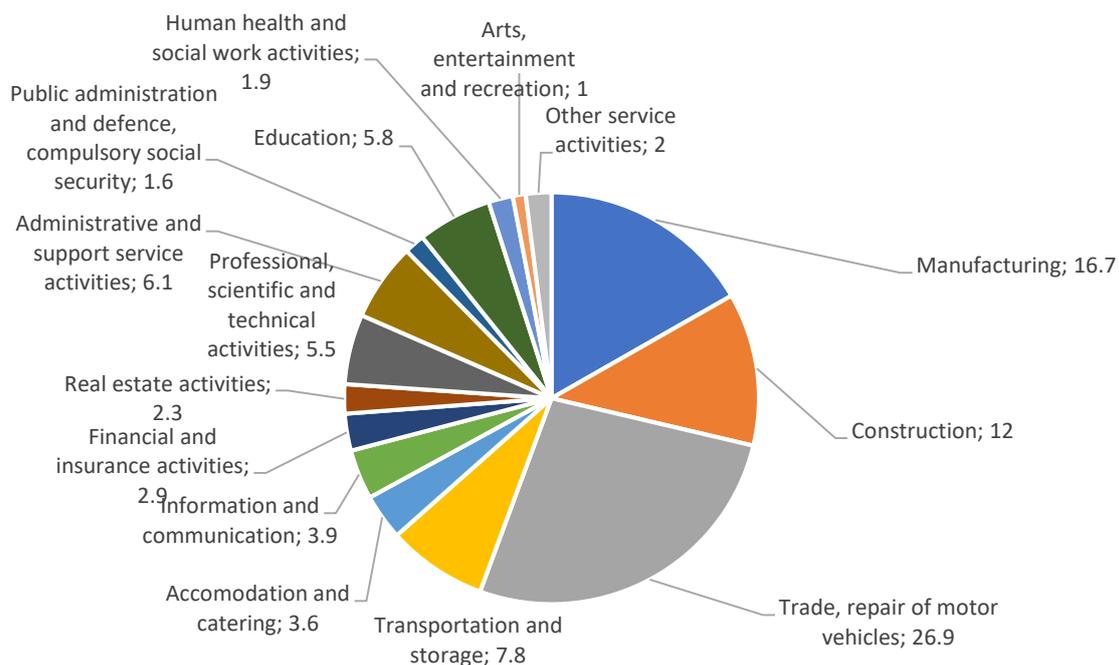


**Figure 1.** The number of people employed in the economy of Ukraine with a forecast for 2022  
Sources: developed by the authors based on the (State Statistics Service of Ukraine, 2020)



**Figure 2.** The dynamics of the need for workers at the industrial enterprises of Ukraine  
Sources: developed by the authors based on the (Collection of business statistics, 2018)

As far as Poland is concerned, the statistical analysis of this country's labour market shows not very positive trends in, for example, the elimination of jobs, among which industry is in the second place (Fig. 3).



**Figure 3.** The share of eliminated jobs in Poland in 2019 by industry, in % of the total number of eliminated jobs

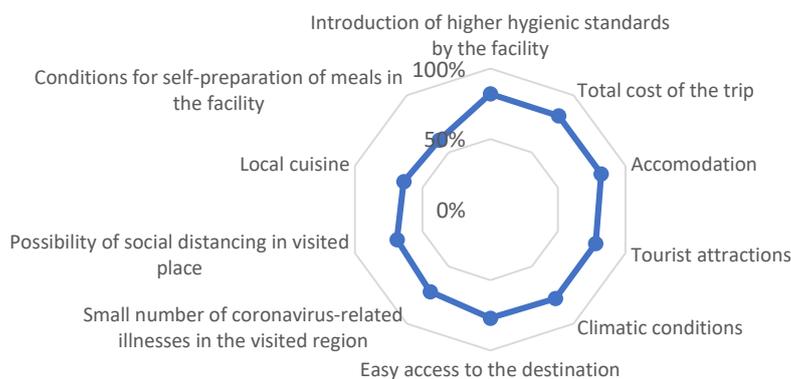
Sources: developed by the authors based on the (The demand for labour, 2019)

Tourism in Poland is developing. Statistically the number of tourists in temporary accommodation facilities showed an increase in 2019 as compared to 2018. During the peak periods in 2019, this figure reached more than 4,000,000 people. The largest share of foreign

tourists is from Germany (more than 20%), Great Britain, and the United States (about 10% per each country), Ukraine (about 8%). From these positions, it is essential to analyse the attitude to the tourism industry on the part of representatives of Ukraine as a country whose population actively visits Poland. Since it is potentially possible to develop many types of tourism in Poland, the authors' research aims to single out one kind of tourism, post-industrial, and analyse the opinion of target respondents about this type of tourism activities in Poland. Since the end of the last century, industrial heritage tourism has developed in many countries. It began to be seen as a tool for regional restructuring and an essential condition for the survival and successful functioning of businesses. A permanent transformation of various areas of activity helped to achieve this.

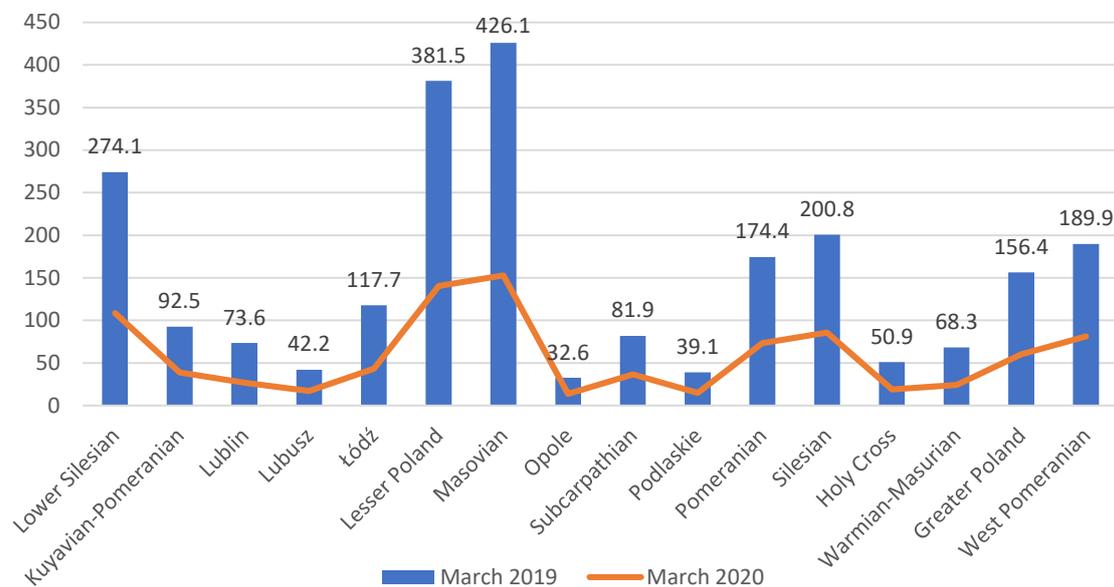
Restructuring is a way to ensure the optimal functioning of regional economic entities following the adopted strategy of their development by implementing a system of measures of organizational, economic, technical, technological, and financial direction (Letunovska et al., 2021). Such actions require constant marketing analysis of the situation in the market to achieve high economic results of restructuring. Post-industrial tourism can preserve the regional identity, stimulate the local service sector, and boost employment in the region. The development of post-industrial tourism is a tool for improving the region's image and counteracting the negative phenomena that may occur in a depressed or peripheral region. There are many kinds of research on the example of specific regions with their unique infrastructural objects. These regions have been improved due to the changing requirements of the market.

Recent research suggests that the COVID-19 pandemic has altered the factors that influence the Poles' choice of destination inside the country (Kuzmenko et al., 2020; George, 2020). In particular, the research presented on the Statista website, along with pre-epidemic factors such as the total cost of travel, easy access to the destination and tourist attractions, has emphasised the importance of such components as, for example, the possibility of social distancing in the place visited or high hygiene standards (Fig. 4).



**Figure 4.** The main factors determining the choice of tourist destination mentioned by the respondents-residents of Poland in 2020 after the start of the COVID-2019 pandemic  
Sources: developed by the authors based on the (Statista, 2020).

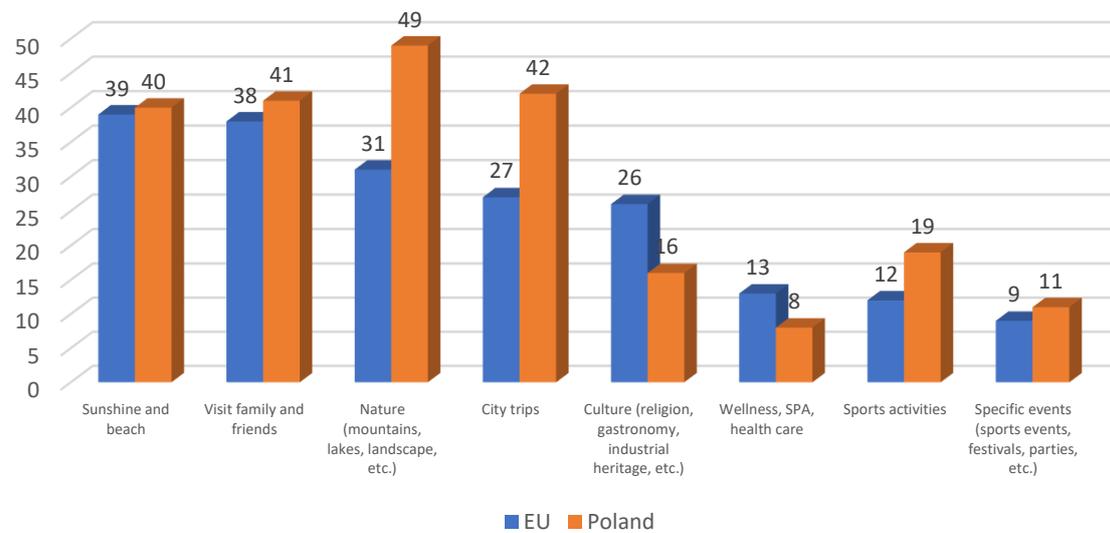
In general, as well as in the rest of the world, the tourism industry in Poland has suffered devastating losses since March 2020. Even domestic tourist flows have decreased significantly. Comparing the number of tourists in Poland in March 2019 and March 2020 draws obvious parallels about the decrease in their number in March this year (Fig. 5).



**Figure 5.** The comparison of tourist flows in Poland by regions, in thousands of people  
Sources: developed by the authors based on the (Statista, 2020).

Figure 6 represents the main motives of travel for respondents from European countries. Cultural tourism, which includes tourism of post-industrial heritage, occupies a prominent place among people's reasons for making a trip, gaining 26% of all responses. The survey results show that Polish people are less interested in visiting cultural heritage sites than Europeans in general.

The leaders of this purpose are the respondents from the Netherlands (39%), Luxembourg (37%), Estonia (36%), Latvia (35%), Belgium (34%), and Denmark (33%). The analysis of socio-demographic characteristics shows that the respondents with a complete higher education are more attracted to cultural tourism (29% vs. 19% without higher education). Self-employed people and employees mentioned cultural tourism among tourists' motives more often than manual workers (26% vs. 19%). This was taken into account during the compilation of the target audience for the survey in the authors' research – primarily self-employed people, employees and students who will have higher education in the future (undergraduates), postgraduate students.



**Figure 6.** The main motives to take a vacation mentioned by the European respondents, percentage of responses

Sources: developed by the authors based on the (Preferences of Europeans towards tourism, 2016; Kmeco et al., 2019).

Significant quantitative declines are observed in almost all regions of Poland, including the fourth-largest number of tourist flows in the Silesian Voivodeship, despite its considerable cultural and historical value, as a region containing a significant number of prominent tourist attractions (Eagle's Nest Way, Trail of monuments of technology, historic castles, museums, one of the largest parks in Europe, deserts and more). In almost every region, the number of tourists in March 2020 did not reach half of their number last year, which is comparable. Due to the negative trends in the tourism industry, Poland needs to develop those tourist destinations that can provide sufficient social distance for visitors, encourage domestic tourist flows, and attract enough tourists to their region through active marketing activities.

## 2. Literature review

Scientists from different countries studied various aspects of tourism and sustainable regional development goals in their works (Chygryn et al., 2021; Kljucnikov et al., 2020; Rosokhata et al., 2021; Vysochyna et al., 2020; Bondarenko et al., 2020). Their focus on analysing different types of tourism depends on tourist destinations recognised as strategically essential and promising within a particular region (Bilan et al., 2018; Bilan et al., 2019; Vasilyeva et al., 2020). Many scientists agree that tourism has a significant economic and social role in a country (Kharazishvili et al., 2020; Dzwigol et al., 2020, Kwilinski et al., 2020). Scientists from the Czech Republic (Plzakova et al., 2018) emphasize that organized tourism brings a significant positive result in socio-economic development. They note that the contribution of tourism can be effectively estimated using the Tourism Satellite Account (TSA). For example, in Poland, out of 50 indicators of this complex parameter, 36 were used to evaluate tourism. In contrast, Ukraine does not use this parameter. This paper considers other approaches to evaluating

tourism's economic and social contribution to the development of a particular country. From the standpoint of theoretical and practical justification of the tourism importance, the authors (Xie et al., 2012) note that despite the economic feasibility of tourism, there are still some negative nuances, such as a growing cost of living in a country where tourism is actively developing, environmental pollution and a loss of the traditional culture of the tourist destination. In general, the authors of this paper study the perceived impact of the tourism industry on different groups of tourists: domestic and foreign.

The authors (Arva et al., 2011) note that new forms of tourism which appear in the XXI century significantly change the tourist demand and approaches to marketing activities in the tourism industry. A differentiated approach to building relationships with a client-tourist becomes essential. A product that may not attract one person's attention at all may be of great interest to another. There is an interesting study conducted by Tovmasyan (2019), who constructed a model to identify several factors that determine the satisfaction of the tourists during their trip, namely the image of the destination, tourist infrastructure, quality marketing tools to promote the destination, available tourist resources, level of security and variety of types of entertainment in recreation areas. Most scientists state that the visitors' level of satisfaction with the destination determines the ease of attracting new tourists and the future number of repeat tourists. Infrastructure is an essential factor in the satisfaction of tourists with travel, in particular, the entertainment infrastructure, an object of interest to tourists, and often serves as a starting point of curiosity that motivates them to travel long distances to see a tourist object. Returning to the age grouping of tourists with the definition of their pattern of motivational behaviour in the tourism industry, the authors (Sidali et al., 2017), on the example of specific individuals, thoroughly trace the relationship between socio-psychological characteristics of a particular person and his/her decision to choose a specific tourist trip. Of course, remnants of post-industrial heritage can be such an object. Concerning industrial heritage tourism (Romanova, 2017), post-industrial tourism is the newest type of tourism that is gaining popularity. Among the global trends that contribute to the development of this type of tourism, the author of this work mentions global trends in consumption and development of the services market, changing socio-demographic characteristics of tourists. After all, today, such a generation as millennials are beginning to dominate the market, for whom everything connected with impressions is essential. That is, tourism should surprise and open something new for them. A quiet rest is not for this category of people. Although when it comes to such a type of cultural and cognitive tourism as post-industrial, the elderly may constitute the broad target group of travellers. (Murphy et al., 2006) propose a conceptual model of tourism development in the post-industrial region, which combines the research of many scientists who identify exceptional features of tourists interested in post-industrial heritage sites, organizations facilitating development, and continual development. In several scientific papers (Garača et al., 2014; Jahić et al., 2014), industrial heritage tourism is considered a specific type of heritage tourism offered by a particular region. It is a product of past industrialization that includes a set of abandoned objects. Based on the literature review and expert discussions on the specific features of post-industrial heritage tourism development, Kua-Hsin et al. (2017) summarized all aspects in six areas of growth and 25 criteria for

evaluating the effectiveness of strategic actions, which allows adjusting the tools used in practice. Scientists use a hybrid MADM model.

Considerable attention in scientific research is paid to the motivational component of tourist travel, which is essential to consider when building a marketing strategy for the development of a tourist destination as an object of post-industrial tourism. Distinguishing diverse groups of backpackers and organized tourists, the authors draw parallels between them and highlight the fundamental differences in the characteristics of the motivational component of their decision-making on the choice of a tour (Doran et al., 2015). In the paper (Parrinello, 1993) motivational factors and premonitions are considered in the specifics of post-industrial tourism. The author analyses different countries with a rich post-industrial heritage, their features and how this impacts the tourism industry.

The paper of (Shu-Yuan et al., 2018) shines a light on the issues of the sustainable tourism importance for society. They encourage researchers from different fields to further investigate inter-relations among community and tourism, environment, and green economy. (Ruhanen, 2013) made an in-depth analysis of the scientific literature on the role of local authorities in achieving the goals of sustainable tourism development. The scholar concludes that many authors have undoubtedly discussed the role of local government in this area. However, very few have studied this aspect on the example of specific regions, analysing in detail the stimulating governance or, conversely, what inhibits sustainable tourism development. In (Nunkoo, 2015), the interdependence between tourism development and public confidence in government is highlighted. Local communities need to feel empowered to develop tourism and understand that government action aims at improving their quality of life in a particular area (Kapera, 2018). Based on a survey in Poland, most local governments in Poland agree that sustainable development should be considered to implement tourism-related programs. Almost every local government answered that local people should also be involved in the planning and implementation of development programs. At the same time, more than 60% of respondents said that their local municipality does not support opportunities to share knowledge and experience of sustainable development.

Despite the significant attention paid to tourism questions in sustainable development, there is a constant lack in the quantity of the research dedicated to applying the implementation of principles of a green economy to the specific directions of tourism. This paper addresses this gap. The authors develop post-industrial tourism and sustainable development theory and reveal the particular context of this type of activity by conducting marketing research.

### **3. Methodology**

This research is informed by the results of the anonymous survey with a pre-designed questionnaire. The results of this survey provide an opportunity to build the right marketing strategy for the development of post-industrial tourism in Zabrze (Poland). The study was conducted by an international team of scientists from the Silesian University of Technology, the University of Silesia, the London Academy of Science and Business, and Sumy State

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University. With the help of a specially designed questionnaire, 700 representatives of the most progressive part of the population (scientists, students, employees) were interviewed. The survey was conducted on February 24-28, 2020. Respondents had to answer 25 questions of different types (open and closed). Questionnaire completion time was 20-25 minutes. Closed questions provided the opportunity to choose several answer options, which allowed the respondents to give a more balanced answer and take full account of their opinion on each of these questions. The questionnaire included general questions about whether the person is familiar with the term of post-industrial tourism and its features, and more specific questions to find out the views on the development and marketing opportunities of the tourist destination "Guido" mine and the tunnel of Queen Louise, located in Zabrze, Poland.

Before conducting the survey, several relevant hypotheses were put forward to be tested, namely:

H1: Most respondents know about post-industrial tourism and fully understand its benefits and features.

H2: About 40% of the target group of respondents would agree to visit a post-industrial tourism facility.

H3: Post-industrial tourism is the most interesting for the generation of 20-30-year-olds.

H4: The most effective marketing tools to encourage potential tourists to post-industrial tourism are online advertising campaigns and celebrity endorsement.

These hypotheses are subject to testing after analysing the answers received from respondents.

#### **4. Results**

The survey of respondents provided an opportunity to draw certain conclusions applicable in designing a marketing strategy for the development of post-industrial tourism. Among all the respondents, it turned out that less than half of the respondents are familiar with the term of post-industrial tourism and its meaning. Only questions that explain the purpose and role of post-industrial tourism in the development of the territory made it possible to frame the research conclusions to refute or confirm the hypotheses before the questionnaire is analysed. As it can be seen, the hypothesis H1 was not confirmed because only 44.4% of respondents knew what the concept of "post-industrial tourism" includes. Further questions which explain what this type of tourism includes allow researchers to analyse respondents' opinion on, for example, the feasibility of using industrial heritage buildings as tourist attractions. Here, most respondents agreed that such facilities might be attractive to tourists and even attract tourists to a particular region (65.7% of respondents). The hypothesis H2 of the study concerned the statement that about 40% of respondents would agree to visit a specific post-industrial tourism facility. Here again, the hypothesis did not prove true, as more

than 70% of respondents expressed interest and willingness to see this post-industrial heritage site. Since this is a specific object (museum-coal mine 320 meters underground), it can be assumed that those respondents who answered "No, because it is scary to go so deep underground" would also give an affirmative answer unless the object is associated with a particular risk according to visitors or their fears. The hypothesis H3 put forward by the authors of the study that the generation of 20-30-year-olds is the most interested in post-industrial tourism coincided with the opinion of respondents – 41% of respondents consider this generation to be the target audience for this type of tourism. This aspect should be considered when planning the content of a marketing advertising campaign for tourist sites of this type. The generation question provided an opportunity to choose several answer options to count all possible generations that the respondent would prefer, but the results showed that most respondents chose only one answer with confidence, bypassing the other options. Thus, only about 2% of respondents included in their response three active groups of people ("Adolescent generation", "Generation of 20-30-year-olds", "Generation of 30-50-year-olds"). For the sake of clarity, Table 1 also presents responses such as "Generation of 50-60 years old", "Generation of 60 years old and older", the share of which is very small among the answers. Summarizing the opinions on the role of post-industrial heritage as an object of tourism for society, the vast majority of respondents (73.7%) agree that there is such a need. It can be concluded that the third hypothesis of the study that post-industrial tourism may be of the most interest to the generation of 20-30-year-olds has proven to be true. The opinion of researchers in this aspect coincided with that of the respondents.

**Table 1.** A fragment of the survey results

Option from the list of questions	A number of respondents' answers, pcs.	Respondents' answers, %
1	2	3
Awareness of the term "post-industrial tourism"		
The term is known	311	44.4
The term is unknown	389	55.6
The expediency of using post-industrial buildings as tourist attractions		
It is advisable	494	70.6
It is inappropriate	78	11.1
I have no idea	128	18.3
The ability of post-industrial tourism to attract tourists to a particular region		
Able	460	65.7
Unable	97	13.9
I have no idea	143	20.4
Willingness to visit the museum-coal mine 320 meters underground		
Yes	500	71.4
No, because it's not interesting	106	15.1
No, because it is scary to go so deep underground	94	13.5
The generation that is most interested in visiting post-industrial objects		
Adolescent generation	134	19.1
20-30 years old	287	41

Continued Table 1

	1	2	3
30-50 years old	147		21
50-60 years old	27		3.9
Over 60 years	29		4.1
Adolescent generation, 20-30 years old	28		4
50-60 years old, over 60 years	3		0.4
Adolescent generation, 20-30 years old, 30-50 years old	13		1.9
Other answers	32		4.6
The need for a modern man to know about the industrial heritage			
There is a need	516		73.7
There is no need	96		13.7
I have no idea	88		12.6

Sources: developed by the authors

The opinion analysis serves as a starting point for devising a marketing program to promote typical post-industrial tourism facilities, such as the "Guido" mine and the tunnel of Queen Louise, located in the Polish city of Zabrze. Among the selected group of respondents, only 110 answered in the affirmative that they knew about this infrastructure facility in Poland. It indicates that an effective advertising campaign is needed to inform the public about the post-industrial tourism offer. The respondents answered the question about the way of how to disseminate information about post-industrial heritage to foreigners.

The analysis of Internet sources showed that Zabrze, with its interesting post-industrial heritage sites, is poorly known among tourists from other countries. The results of the authors' research of online reviews confirmed it. "Guides do not write about this city and there accidentally came across the mention that in Zabrze there was opened for visitors a huge mine, the deepest of all available to tourists in Europe" or "This museum was discovered while searching the Internet. It is difficult to get information about this without being a Polish-language speaker". Among the ways of informing the respondents there were mentioned social networks, the Internet advertising, participation in thematic conferences and exhibitions, placement of videos in streaming services, publications in foreign media, direct marketing, blogs, shooting, and thematic films and series.

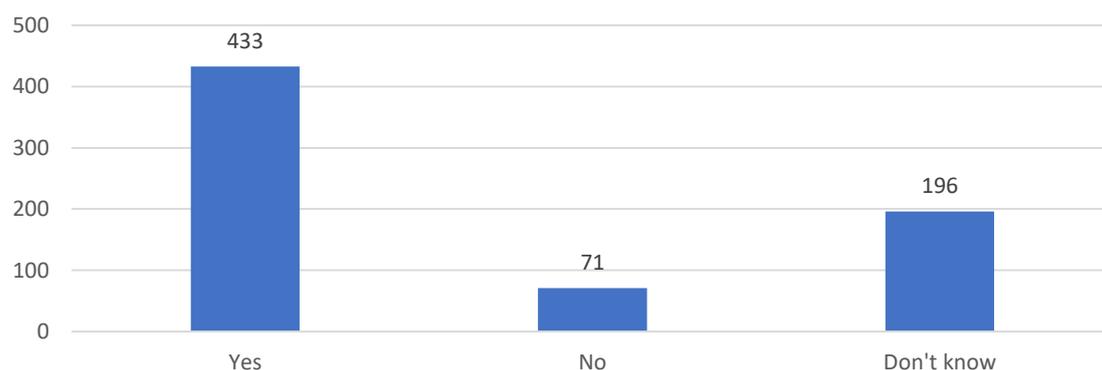
The latter can be exemplified by the TV series about the Ukrainian post-industrial heritage object Chernobyl NPP. Thanks to the phenomenal success of the American series "Chernobyl", tourism in the Chernobyl zone in 2019 broke all records. In just eight months, 75 thousand tourists visited this post-industrial heritage site. For comparison, during the whole 2018, there were 72 thousand tourists. The HBO's television network provided excellent marketing for the Chernobyl Exclusion Zone. People became interested in this object, asked questions. Then they had a desire to visit this place. Below there are several respondents' comments on the ways to encourage tourists to visit post-industrial objects.

**Table 2.** Respondents' comments on the ways to encourage visits to post-industrial heritage sites (fragment)

Free vouchers
Make attractive advertising, get the celebrities' support
With the help of the Internet and TV commercials, as well as virtual museums
Maintenance of facilities in good condition
These objects should look like primary, i.e., without a restoration. There is a need for exciting tours with professional guides
Organize quests on objects
Construction of photo zones
Create a legend that will encourage to visit an object
Holding themed festivals near the post-industrial heritage object
Finding investors to improve the condition of the post-industrial heritage object
Placement of information about the object in thematic publications, guides, maps of the city and country
Attracting like-minded people to promotion
Conducting thematic virtual lectures
Creating thematic tours, both individual and group

Sources: developed by the authors

Even from a fragment of the respondents' comments, it is evident that their proposals can divide into two groups. Recommendations related to maintaining the facility in good condition to ensure its attractiveness to tourists and those that belong to the purely marketing tools to promote the object of post-industrial tourism. The survey and the answers summarized should initially result in framing the researchers' idea of the feasibility of using specific marketing tools to attract tourists to places belonging to the field of post-industrial tourism (Melnik et al, 2016). Figure 7 presents the distribution of respondents' opinions on the effectiveness of the marketing mix strategy in promoting post-industrial tourism.

**Figure 7.** The respondents' answers to the question about the marketing mix effectiveness for promoting post-industrial tourism

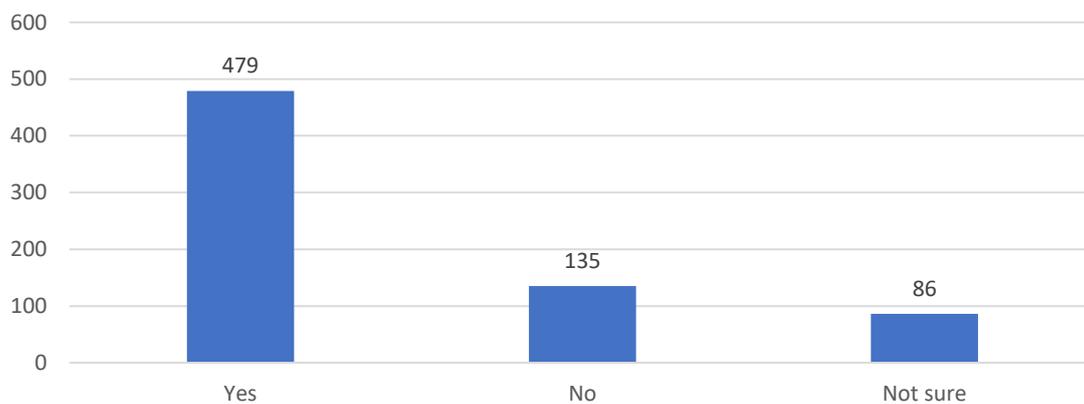
Sources: developed by the authors

From the analysis of the results in Figure 7 it can be assumed that with a significant number of affirmative answers, a substantial proportion of respondents (28%) doubted their answer

and did not consider themselves experts in the field of tourism marketing. They preferred the answer "Don't know".

Specific questions of the questionnaire provided an opportunity to find out the respondents' opinion on the marketing tools effectiveness to encourage potential tourists to post-industrial tourism. Television advertising campaigns, the Internet advertising campaigns, and celebrity endorsement received the most support among respondents, which confirmed the researchers' hypothesis.

Virtual tours around the places that may be of most interest to the target audience are quite popular today to promote various tourist attractions. When asked whether a virtual museum of post-industrial objects and collections can attract people to visit a tourist destination, respondents answered differently, as shown in the diagram in Figure 8. A significant gap is observed between the affirmative answers (almost 70% of respondents) and other options.



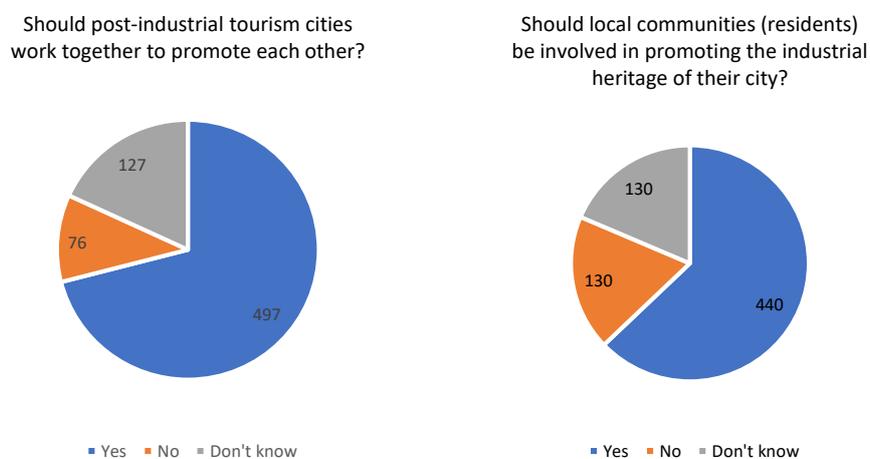
**Figure 8.** Distribution of respondents' answers to the question about the ability of the virtual museum of post-industrial heritage objects to attract real visitors

Sources: developed by the authors

Local communities play an essential role in the development of tourism at the regional level. The role of the public sector is to prepare a local development strategy. Tourism development should be part of it. The state's task is to create such conditions that will be attractive to private market participants and potential tourists. Regional associations can be a kind of a centre where tourist products are born bringing profits to the territories of their location after successful implementation. For example, in the industrialized Silesian Voivodeship of Poland, a "Technical Attractions Route" has been set up, consisting of many facilities, such as the "Guido" coal mine in Zabrze, where visitors are lowered to a depth of 320 m for a three-hour excursion. Tourism is a tool that can be launch the comprehensive development of a city and community. First, unique facilities attract tourists. When demand outstrips supply, there is a need in infrastructure development, which boosts interest in local development, attracts investment, and improves the image of the territory. An example is the small Ukrainian town of Trostianets, the district centre of the Sumy region, which has become a venue for national festivals. It attracts tourists from all over the country, despite the geographical location on the

periphery and the difficulties with the development of tourism in the beginning. During the development of the city's strategy, it was noted that the Kruglyi Dvir fortress was in an abandoned state. After the building was transferred to the balance of the town in 2007, it underwent reconstruction. Today, this object is a business card of the town with excellent acoustics, within the walls of which several large-scale festivals are held every year under the open sky.

The following questions concern finding out the respondents' opinion on the role of local communities in the development of the region's industrial heritage. Figure 9 shows the results of the analysis.



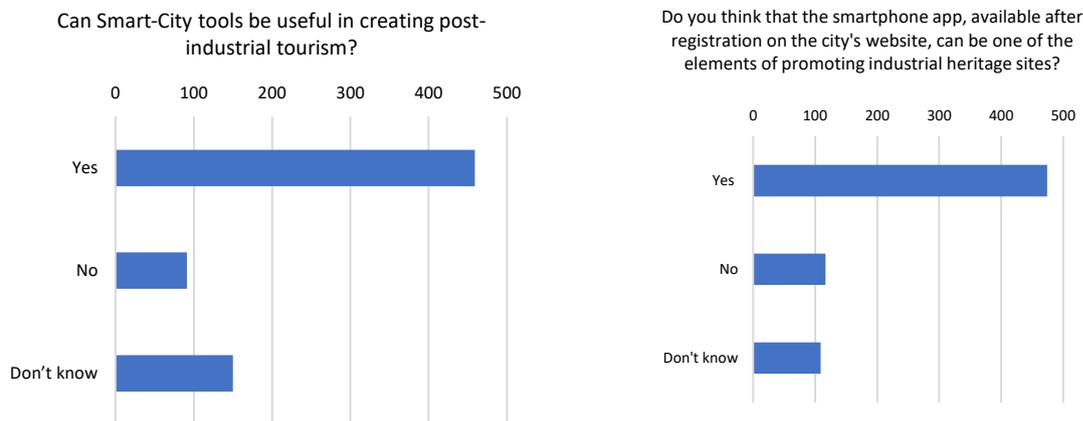
**Figure 9.** The role of local communities and cities in the development of tourism in the region's post-industrial heritage, according to respondents

Sources: developed by the authors

Although the majority of respondents supported the idea to necessarily involve local communities in the development of tourism, a significant percentage of respondents answered negatively and did not give any accurate answer to this question (almost 40%), which indicates that the population misunderstands this process, does not see such participation promising and doubts whether he/she can be helpful in this matter. Considerable attention should be paid to informing locals about their possible role and participation in the process of forming a regional tourism cluster, which can be a set of post-industrial heritage sites.

Today's famous concept of a "Smart City" is spreading in society. Although this concept is interpreted differently, in general, the idea of the development of cities that have restructured their growth strategy according to the principles of a "Smart City" is similar. In various forms, this concept is implemented and is being implemented in more than 2,500 cities around the world when smart cities create "from scratch" or gradually implement intelligent technologies in already established urban systems. It is a more common method that can be put into action for the cities that house post-industrial heritage objects and seek to include them in their

tourism development programs. Respondents supported the opinion on the usefulness of applying Smart City tools in promoting post-industrial heritage tourism. They also agreed with the researchers' proposal on the expediency of using a smartphone application, available after registration on the website of a particular city, which may be one of the components of promoting industrial heritage objects (see Figure10).



**Figure 10.** Respondents' answers to the questions related to the concept of a Smart City in the field of post-industrial tourism development

Sources: developed by the authors

## 5. Conclusion

The conducted research and systematization of data from statistical sources allowed the authors to reach several conclusions. First, sustainable tourism development is a promising area of activity in Poland and, overall, in the regions with a similar background. In particular, a progressive form of such tourism is post-industrial. The marketing research results showed that a significant proportion of respondents in the target group are not informed about this direction of tourism in their or the neighbouring regions. To start an advertising campaign of sustainable tourism, it is advisable to actively use SMM tools, exhibitions, opportunities for streaming services, direct marketing, distribution of thematic videos etc.

Researchers have concluded that local communities play an essential role in developing their territories by devising and implementing local strategies. Regions are a kind of local centres, where the principles of innovative areas of sustainable tourism are implemented to improve environments and lay the foundations of a green economy. After successful implementation, it is possible to disseminate the results using the experience of implementing such projects in other regions and even countries.

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## References

- Andreas Karaoulanis, A., Vasiliki, K. (2018). Tourism In Developing Countries. The Path Towards Sustainable Development and Its Interaction with The Local Communities, The Environment and The Human Factor. *SocioEconomic Challenges*, 4(2), 80-86. [http://doi.org/10.21272/sec.2\(4\).80-86.2018](http://doi.org/10.21272/sec.2(4).80-86.2018)
- Arva, L., & Deli-Gray, Z. (2011). New types of tourism and tourism marketing in the post-industrial world. *Applied Studies in Agribusiness and Commerce*, 5(1033-2016-84153), 33-37.
- Bilan, Y., Lyeonov, S., Stoyanets, N., & Vysochyna, A. (2018). The impact of environmental determinants of sustainable agriculture on country food security. *International Journal of Environmental Technology and Management*, 21(5-6), 289-305. <http://doi.org/10.1504/IJETM.2018.100580>
- Bilan, Y., Vasilyeva, T., Kryklii, O., & Shilimbetova, G. (2019). The creative industry as a factor in the development of the economy: Dissemination of European experience in the countries with economies in transition. [Kūrybinė industrija kaip ekonomikos plėtros veiksnys: Europietiškosios patirties sklaida pereinamojo laikotarpio ekonomikos šalyse] *Creativity Studies*, 12(1), 75-101. <http://doi.org/10.3846/cs.2019.7453>
- Bondarenko, A. F., Zakharkina, L. S., Syhyda, L. O., & Saher, L. Y. (2020). The economic and marketing attractiveness of countries: Measurement and positioning in terms of economic security. *International Journal of Sustainable Development and Planning*, 15(4), 439-449. <http://doi.org/10.18280/ijstdp.150404>
- Chygryn, O., Rosokhata, A., Rybina, O., & Stoyanets, N. (2021). Green competitiveness: The evolution of concept formation. Paper presented at the E3S Web of Conferences, 234. <http://doi.org/10.1051/e3sconf/202123400004>.
- Collection of business statistics in Ukraine: 2018 (2018). Retrieved from <http://www.oecd.org/eurasia/competitiveness-programme/eastern-partners/Compendium-Entreprise-Statistics-Ukraine-2018-Ukrainian.pdf>.
- Doran, R., Larsen S., & Wolff, K. (2015). Different but similar: social comparison of travel motives among tourists. *International Journal of Tourism Research*, 17(6), 555-563. <https://doi.org/10.1002/jtr.2023>.
- Dzwigol, H., Dzwigol-Barosz, M., Miskiewicz, R., & Kwilinski, A. (2020). Manager Competency Assessment Model in the Conditions of Industry 4.0. *Entrepreneurship and Sustainability Issues*, 7(4), 2630-2644. [https://doi.org/10.9770/jesi.2020.7.4\(5\)](https://doi.org/10.9770/jesi.2020.7.4(5))
- Garača, V., Trifković, A., Ćurčić, N., & Vukosav, S. (2014). Aspects of industrial heritage tourism: Case of Novi Sad. *Revista de Cercetare si Interventie Sociala*, 44, 181–198.
- George, B. (2020). Inclusive Sustainable Development in the Caribbean Region: Social Capital and the Creation of Competitive Advantage in Tourism Networks. *Business Ethics and Leadership*, 4(3), 119-126. [https://doi.org/10.21272/bel.4\(3\).119-126.2020](https://doi.org/10.21272/bel.4(3).119-126.2020)
- It became known how many Ukrainians work without a workbook. (2020). Retrieved from <https://www.epravda.com.ua/news/2020/06/30/662420/>.
- Jahić, E., Dragin, A., & Romelić, J. (2014). Industrial heritage in Tuzla Canton tourist offer. *Turizam*, 18(2), 44–58.

- Kapera, I. (2018). Sustainable tourism development efforts by local governments in Poland. *Sustainable Cities and Society*, 40, 581–588. <http://doi.org/10.1016/j.scs.2018.05.001>.
- Kharazishvili, Y., Kwilinski, A., Grishnova, O., & Dzwigol, H. (2020). Social Safety of Society for Developing Countries to Meet Sustainable Development Standards: Indicators, Level, Strategic Benchmarks (with Calculations Based on the Case Study of Ukraine). *Sustainability*, 12(21), 8953. <https://doi.org/10.3390/su12218953>
- Kljucnikov, A., Civelek, M., Krajcik, V., & Kmeco, L. (2020). Innovations in Tourism Marketing: Sharing Economy Platform. *Marketing and Management of Innovations*, 1, 11-25. <http://doi.org/10.21272/mmi.2020.1-01>.
- Kmeco, L., Mezulanik, J., Kascakova, A. & Civelek, M. (2019). Factors of Demand for Cultural Events in Tourism: The Case of the Czech Republic. *Marketing and Management of Innovations*, 4, 118-128. <http://doi.org/10.21272/mmi.2019.4-10>.
- Kua-Hsin, P., & Gwo-Hshiang, Tz. (2017). Exploring heritage tourism performance improvement for making sustainable development strategies using the hybrid-modified MADM model. *Current Issues in Tourism*. <http://doi.org/10.1080/13683500.2017.1306030>.
- Kuzmenko, O., Vasylieva, T., Vojtovič, S., Chygryn, O., & Snieška, V. (2020). Why do regions differ in vulnerability to COVID-19? Spatial nonlinear modelling of social and economic patterns. *Economics and Sociology*, 13(4), 318-340. doi:10.14254/2071-789X.2020/13-4/20
- Kwilinski, A., Vyshnevskiy, O., & Dzwigol, H. (2020). Digitalization of the EU Economies and People at Risk of Poverty or Social Exclusion. *Journal of Risk and Financial Management*, 13(7), 142. <https://doi.org/10.3390/jrfm13070142>
- Letunovska, N., Kwilinski, A., & Kaminska, B. (2020). Scientific research in the health tourism market: a systematic literature review. *Health Economics and Management Review*, 1, 8-19. <https://doi.org/10.21272/hem.2020.1-01>.
- Letunovska, N., Lyuolyov, O., Pimonenko, T., & Aleksandrov, V. (2021). Environmental management and social marketing: a bibliometric analysis. E3S Web of Conferences 234, ICIES 2020. <https://doi.org/10.1051/e3sconf/202123400008>.
- Melnik, Yu.M., Saher, L.Yu., Illiashenko, N.S., & Ryazantseva, Yu.M. (2016). Classification of basic forms and types of marketing on-line communications. *Marketing and Management of Innovations*, 4, 43-55.
- Murphy, C., & Boyle, E. (2006). Testing a Conceptual Model of Cultural Tourism Development in the Post-Industrial City: A Case Study of Glasgow. *Tourism and Hospitality Research*, Vol. 6, Issue 2, 111-128. <https://doi.org/10.1057/palgrave.thr.6040050>.
- Nunkoo, R. (2015). Tourism development and trust in local government. *Tourism Management*, 46, 623–634. <http://doi.org/10.1016/j.tourman.2014.08.016>
- Parrinello, G. L. (1993). Motivation and anticipation in post-industrial tourism. *Annals of Tourism Research*, 20, 233-249.
- Plzáková, L., & Crespo Stupková, L. (2019). Environment as a key factor of health and well-being tourism destinations in five European countries. *IBIMA Business Review*. <http://doi.org/10.5171/2019.611983>.

- Preferences of Europeans towards tourism. Survey requested by the European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and Smes (2016). Retrieved from <https://ec.europa.eu/COMMFrontOffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/FLASH/surveyKy/2065>.
- Romanova, A. (2017). Global trends of tourism development. *Herald of KNUTE*, 6, 32-42.
- Rosokhata, A., Minchenko, M., Khomenko, L., & Chygryn, O. (2021). Renewable Energy: A Bibliometric Analysis. *E3S Web of Conferences* 250. (TRESP 2021). <http://doi.org/10.1051/e3sconf/202125003002>.
- Ruhanen, L. (2013). Local government: facilitator or inhibitor of sustainable tourism development? *Journal of Sustainable Tourism*, 21(1), 80–98. <http://doi.org/10.1080/09669582.2012.680463>
- Shu-Yuan, P., Mengyao, G., Hyunook, K., Kinjal, J.Sh., Si-Lu P., & Pen-Chi, Ch. (2018). Advances and challenges in sustainable tourism toward a green economy. *Science of the Total Environment*, 635, 452-469. <https://doi.org/10.1016/j.scitotenv.2018.04.134>.
- Sidali, K. L., Huber, D., & Schamel, G. (2017). Long-term sustainable development of tourism in South Tyrol: an analysis of tourist's perception. *Sustainability*, 9(10), 1791. <https://doi.org/10.3390/su9101791>.
- State Statistics Service of Ukraine (2020). Retrieved from <http://www.ukrstat.gov.ua/>
- Statista. Number of tourists in accommodation establishments during the coronavirus (COVID-19) epidemic in Poland between March 2019 and March 2020 (2020). Retrieved from <https://www.statista.com/statistics/1113479/poland-tourists-in-accommodation-establishments-by-region/>
- Statista. What is important to you when planning your holiday trip after the coronavirus (COVID-19) pandemic? (2020). Retrieved from <https://www.statista.com/statistics/1114829/poland-important-factors-when-planning-a-holiday-after-covid-19/>
- The demand for labour in 2019 (2020). Retrieved from <https://stat.gov.pl/en/topics/labour-market/demand-for-labor/the-demand-for-labour-in-2019,1,14.html>.
- Tovmasyan, G. (2019). Assessment of Tourist Satisfaction Index: Evidence from Armenia. *Marketing and Management of Innovations*, 3, 22-32. <http://doi.org/10.21272/mmi.2019.3-02>.
- Tovmasyan, G., Tovmasyan, R. (2020). Tourism Safety And Security In The Republic Of Armenia. *SocioEconomic Challenges*, 4(2), 14-22. [https://doi.org/10.21272/sec.4\(2\).14-22.2020](https://doi.org/10.21272/sec.4(2).14-22.2020).
- Vasilyeva, T., Bilan, S., Bagmet, K., & Seliga, R. (2020). Institutional development gap in the social sector: Crosscountry analysis. *Economics and Sociology*, 13(1), 271-294. <http://doi.org/10.14254/2071-789X.2020/13-1/17>
- Vysochyna, A., Kryklii, O., Minchenko, M., Aliyeva, A.A., & Demchuk, K. (2020). Country innovative development: impact of shadow economy. *Marketing and Management of Innovations*, 4, 41-49. <http://doi.org/10.21272/mmi.2020.4-03>.
- Xie, H. J., Bao, J., & Kerstetter, D. L. (2012). Examining the effects of tourism impacts on satisfaction with tourism between native and non-native residents. *International Journal of Tourism Research*, 16(3), 241-249. <https://doi.org/10.1002/jtr.1922>.