



CASE STUDY

## Green tourism business as marketing perspective in environmental management

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### ABSTRACT

**BACKGROUND AND OBJECTIVES:** Environmental guidelines and principles of sustainable development are becoming increasingly popular and are a priority for most business areas. One of the widely developing eco-destinations is green tourism, which is gaining a profitable and priority status, especially for lower middle-income countries. The purpose of the article is to determine the strategic marketing support for the development of green tourism on the example of Ukraine and its regions based on an approach to its assessment in terms of environmental and tourism competitiveness.

**METHODS:** The authors used general scientific and specific methods: comparative, critical and system analysis, synthesis to search and group indicators of ecological and tourism competitiveness. Distance method, ranking, economic and statistical analysis were implemented to analyze the green tourism potential in each region in Ukraine and reveal the leaders and outsiders among them. For the accumulation, processing, visualization of data and forming the matrix of green tourism, based on data for 2015-2019, potential Microsoft Excel, Figma and Canva tools, Harrington scale were applied.

**FINDINGS:** The approach to estimate the green tourism potential based on the ecological and tourism regional competitiveness according to the author's list of 37 indicators were proposed, the matrixes of green tourism potential of Ukrainian regions in 2019 and 2020 were developed, and strategic marketing support according to sustainable development for green tourism business were proposed. Strategic marketing support of green tourism development in Ukrainian regions was defined based on ecological and marketing strategies.

**CONCLUSION:** The author's approach makes it possible to systematically assess the potential of green tourism using up-to-date statistical information. According to the tourism and environmental competitiveness rating, the regions with the most significant and worst potential were found. The positive dynamics of the development of green tourism in 2019-2020 were revealed. The results are the basis for providing comprehensive environmental and marketing support to ensure sustainable development and gain additional competitive advantages in the green tourism business.

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## INTRODUCTION

Environmental guidelines and principles of sustainable development are becoming increasingly popular and are a priority for most business areas. The latest analytical reports from the WTO show a rapid increase in the number of consumers, for whom the level of environmental friendliness is becoming an important factor when choosing a travel service (WTO, 2021). Green offices, green marketing, green tourism, all these areas are promising and widely implemented in many developing and developed countries. Every year, for more and more consumers, the level of environmental friendliness becomes an important factor in choosing a product or service. So green tourism is not the exception and has the status of the profitable and priority area. It combines the ideas of effective tourism and environmental protection. More than twenty years ago, scientists paid attention to the issue of the implementation of green tourism principles in the framework of sustainable development. In particular, Fennell (1999) introduces the key foundations, concepts, and issues related to ecotourism based on international case studies. Subsequently, many attempts were made to formalize the concept of Ecotourism. Wearing et al. (1999) considered ecotourism as a wide range of elements: a form of 'alternative tourism' opposed to mass tourism; a particular philosophical orientation towards nature; a strategy for sustainable development. Cheia (2013) provided a survey on the theoretical notions about ecotourism and compares the most important attempts to define it. Lee et al. (2016) considered green tourism as a term relating to the natural environment and cultural heritage of an area or undertaking good environmental management (or green) practice. Tang et al. (2017) believed it is a kind of tourist activity that pays attention to resources and protects ecology and a mode of tourism economic development that advocates recycling. Obviously, such a popular direction requires market research. In this regard, many researchers focused their attention on the behavioral aspects of international tourists concerning the sustainability of green tourism, using the extended framework of the theory of planned behavior (Ibnou-Laaroussi et al., 2020). Thus, ecotourism explores the natural area's ecological, cultural, historical, and archaeological treasures while preserving its integrity and enhancing economic development opportunities for local communities

(Shah, 2017). Shabbir et al. (2020) analyze "the main green marketing approaches and their impact on consumer behavior towards the environment in the United Arab Emirates". They reviewed "the current consumption patterns of green products using a questionnaire approach". In addition, another important direction of ecotourism is considered in the scientific literature. According to the Low Carbon Green Growth Roadmap, ecotourism is positioned as one of the most important green adjustments on the way to low carbon green growth, which is considered a promising development direction in the tourism industry (LCGGRAP, 2012). Tsung et al. (2019) have provided complex research of low-carbon tourism experience from the perspective of nature-based tourism and, as a result, formed the recommendations to advance tourism management. For example, Povodör et al. (2013) investigate "the demand by office managers on Green Office standard, structured EU Green Office trainings and also for tools to measure office's environmental impact". They determine European Green Office Principles, improve the European Green Office program and Environmental Management System, propose the criteria used for identifying "greener" goods based on a life cycle approach. Aroonsrimorakot (2018) describes "the purpose, principles, features, procedure for setting up, and management of green office standard in Thailand with the main aim of describing the growing importance of green office due to the impact of climate change". The interests of some academic economists gradually focused on issues related to the commercialization and profitability of the direction. Park and Kim (2020) provide "an overview of green banking as an emerging area of creating competitive advantages and new business opportunities for private sector banks and expanding the mandate of central banks and supervisors to protect the financial system and manage risks of individual financial institutions". Every year, for more and more consumers, environmental friendliness becomes an important factor in choosing a product or service. The provisions of sustainable development have been included in the strategic goals of many enterprises. Following the global trends of sustainable development and green initiatives, Ukrainian scientists are also researching eco-responsible tourism, regional potential. Thus, according to the purpose of this study the following

studies were highlighted. [Pidgorny and Mylashko \(2014\)](#) study the areas of statistical research of tourist flows, costs, and consumption, providing methods to analyze the quantified phenomena in tourism. [Danylko \(2014\)](#) explores the role of information resources for the successful implementation of rural green tourism in Ukraine to increase the rural population's employment and reduce labour migration. He emphasizes the need to form a system of statistical monitoring, using the whole set of statistical methods in assessing the state and trends in the services of the tourism market. [Panyuk and Lukomska \(2016\)](#) analyze the current state of the tourism industry in Ukraine and the relationship of rural green tourism development with the tourism industry in the macroeconomic aspect. They prove the importance of developing green tourism, through which it is possible to solve social and economic problems of rural areas. [Babenko et al., \(2020\)](#) study the development of the processes of regional integration of Ukraine to ensure sustainable economic development regarding ecotourism and determine the priority direction of its regional integration. [Bilovodska et al. \(2020\)](#) analyze the eco-trends in packaging and the Ukrainian market of organic products. The authors form the scientific and practical approach to the development of environmental packaging based on evaluating consumers', manufacturers', intermediaries' perspectives, considering the principles of eco-oriented logistic management in trade and innovative entrepreneurship. The COVID-19 pandemic significantly affected the development of tourism. Scientists analyze the impact on the tourism industry and overall economic performance. For example, [Vărzaru et al. \(2021\)](#) listed measures to ensure the tourism sector's resilience during the COVID-19 pandemic. [Orîndaru et al. \(2021\)](#) examine "the fluctuating tourist perceptions on travelling and tourism industry expenditure and understand consumers' expectations and criteria to reconsider purchasing such services as to provide a clear background for appropriate strategies and response measures for the T&T industry recovery". [Yustisia et al. \(2021\)](#) explain the adaptation strategies of tourism industry stakeholders destinations during the COVID-19 pandemic. For many countries, green tourism not only protects the environment but is also a source of significant revenue. In countries such as Costa Rica, Ecuador, Nepal, Kenya, Madagascar,

ecotourism is one of the main areas of economic development and financial stability. An insignificant number of organizations present green tourism in Ukraine, but more and more people choose this type of tourist activity every year. Moreover, there is an increase in the popularity of atypical destinations for travel. The vast majority of ecotourism fans still prefer the Carpathians. Still, the number of visitors to small hotels in picturesque parts of other regions of Ukraine is growing (e.g., in the village of Koropoven (Kharkiv region), the "wild" beaches along the Black Sea in the Kherson region, etc.). The COVID-19 pandemic exacerbates these trends. However, the existing approaches to the formation and assessment of the potential of green tourism for such countries are mostly fragmented. This does not allow for comprehensive, objective calculations for development in the regional context and the creation of applicable marketing recommendations. Consequently, given the above, the purpose of the study is to determine the strategic marketing support for the development of green tourism on the example of Ukraine and its regions based on an approach to its assessment in terms of environmental and tourism competitiveness. The objectives of the current study are: 1) to investigate the indicators of tourism and environmental competitiveness of Ukrainian regions before and during the pandemic COVID-19; 2) to develop a matrix of green tourism potential of Ukrainian regions in 2019 and 2020 based on the ecological and tourism regional competitiveness according to the author's list of 37 indicators; 3) to define ecological and marketing strategies for different types of regions according to the level of green tourism (sufficient, satisfactory and unsatisfactory). This study has been carried out in Ukrainian regions as a case study in 2021.

## MATERIALS AND METHODS

According to "Sustainable Development Goals: Ukraine" national report ([NBR, 2017](#)) provided by the Ministry of Economic Development and Trade of Ukraine, "Monitoring Report" developed by the State Statistics Service of Ukraine ([MR, 2019](#); [MR, 2020](#)) with the support of UNICEF in Ukraine and UN RCO benchmarks for Ukraine to achieve the sustainable development goal up to 2030 are identified. Obviously, tourism is considered a constituent of the Ukrainian sustainable development strategy. However, despite

the considerable interest in ecological initiatives and developments, the issues of the development of the Ukrainian tourism business based on sustainable principles remained insufficiently disclosed. The deliverables of foreign researches without proper adaptation to the conditions of Ukraine will not lead to the desired result. It should also be mentioned that the developments of Ukrainian research are incomplete; they are limited to specific aspects. It is not enough to simply analyze the amount of revenue or expenditure by industry. Thus, to determine the strategic marketing support of green tourism, it was proposed to use statistical indicators grouped to characterize tourism and ecological potentials (WTO, 2018). Many categories can be identified by characterising the Ukrainian regions' potentials, so the analysis will be conducted according to the distance method to estimate competitiveness (WEF, 2021). In this method, the indicator of comprehensive assessment considers the absolute values of the compared indicators and their proximity to the best values (UNRISD, 2021). The following mathematical analogy is used to calculate the value of the integrated assessment. Each region is considered as a point in the  $n$ -dimensional Euclidean space. Coordinates of the point are the values of comparative indicators. The concept of the benchmark is introduced as a region with all the best values of indicators among the regions (Screemoyee, 2021). The closer is the region to the benchmark, the smaller is its distance to it, and the higher is the ranking. The region with the minimum value of a comprehensive assessment has the highest ranking.

The study involves  $N$  regions, and the metric distance between the elements (indicators) of the set is determined by the function  $Int Ind_N(x; y)$ , the objective function of maximum proximity is using Eq. 1.

$$F = Int Ind_N(x; y) \rightarrow min, \quad (1)$$

where;  $(x; y)$  – elements (indicators) of the set or their coordinates.

To study the analytical indicators of the region competitiveness, a matrix of elements was made where the rows determine the number of the corresponding tourism and ecological competitiveness indicators of the region, and the columns - the number of the corresponding regions

of evaluation. That is, the sample consists of objects (regions) characterized by the most detailed indicators of the ranking of the object. Ranking assessment is carried out according to the weight of indicators. The value of its ranking according to the author's list of indicators is determined for each analyzed region. The coordinates of the points of the matrix are standardized indicators of the  $i$ -th region. It is determined by the ratio of the actual values of each indicator with the benchmark. The calculating of an integral indicator (both for tourism competitiveness and ecological competitiveness) the following approach was implemented using Eqs. 2 and 3.

$$Int Ind_N = \sum_{i=1}^n W_i \times (1 - Sub Ind Value_i), \quad (2)$$

$$Sub Ind Value_i = \frac{C_i}{C_{max}} \text{ or}$$

$$Sub Ind Value_i = \frac{C_{min}}{C_i} \quad (3)$$

$W_i$  – the weight of the indicator  $i$ ;  $n$  – a total number of indicators;  $C_i$  – an actual value of the indicator  $i$ ;  $C_{max}$  – a maximum value of the indicator  $i$  among all investigated regions;  $C_{min}$  – a minimum value of the indicator  $i$  among all investigated regions.

It was proposed to include the following indicators of tourist activity: 1) income from the provision of tourist services (excluding VAT, excise duties and similar mandatory payments) - for legal entities and natural persons-entrepreneurs; 2) the amount of costs of tourism entities; 3) cost of realized tourist vouchers - by tour operators and travel agencies within Ukraine; 4) number of tourists served by tour operators; 5) number of collective accommodation facilities (legal entities) - total number of collective accommodation facilities (CAF) in Ukraine, hotels and similar accommodation facilities, tourist bases and mountain shelters, etc., specialized accommodation facilities, recreation facilities, etc.; 6) number of collective accommodation facilities (natural persons-entrepreneurs) - total number of CAF, number of hotels; 7) capacity of hotels and similar accommodation facilities (legal entities / natural persons-entrepreneurs) - total number of places,

number of places in hotels, in tourist bases and mountain shelters, etc. To determine the ecological competition, the main indicators were included: 1) atmospheric emissions from stationary sources of pollution, namely: emissions of pollutants, ammonia, non-methane volatile organic compounds, carbon monoxide, methane, suspended solids, sulfur dioxide, nitrogen dioxide, carbon dioxide; 2) generation and management of waste by region, namely: the amount of formed, disposed of, incinerated, deleted in specially designated places or objects; 3) the total amount of waste accumulated during operation, in specially designated places or facilities (waste disposal sites); 4) land area of reserves and national nature parks; 5) capacity of treatment facilities; 6) capital investments in environmental protection; 7) current costs of environmental protection. The total of indicators in each Ukrainian region was received. All weight indicators are the same. For the accumulation, processing, ranking, visualization of data and forming the matrix of green tourism potential Microsoft Excel, Figma and Canva tools, Harrington scale were applied.

## **RESULTS AND DISCUSSIONS**

### *Research of green tourism development prospects in Ukraine*

Ukrainian tourism has always been divided into summer recreation (by the river or at sea) and winter (in the mountains) at the level of stereotypes. However, the country's tourism potential does not end there, and every year the industry develops more and more and expands its product portfolio. In recent years, the parliament has drawn attention to the need to develop the tourism sector, which in Ukraine is under the jurisdiction of the Ministry of Economic Development and Trade. In early spring 2017, the Cabinet of Ministers approved a strategy for the development of tourism and resorts until 2026. According to this document, conditions must be created for comfortable, safe, and diverse tourism in Ukraine. These include changes to the relevant laws and the creation of additional legislative acts. The financial support for tourism development was planned. Furthermore, the recent global coronavirus crisis will significantly influence those strategic plans. Therefore, the announced growth of indicators for the next ten years can already be questioned. The first is an increasing the number of foreign tourists. The indicators of 2015 were taken as a basis. Then

12.9 million foreigners came to Ukraine. The prognoses for 2026 was about 32.25 million people. The Ministry of Ecology and Natural Resources of Ukraine has been saying that it is necessary to increase the lands of the nature protection fund. This is important for a post-industrial country (TPU, 2020). It should be understood that it is not only about the restoration of forests, many of which were artificially planted in the 1950-60s but also about preserving natural landscapes, including swamps, steppes, estuaries and even the desert in the Khersonska region. People's access to the territory of nature and biosphere reserves is quite limited, which is not the case with national parks, where tourists can enter freely, but to use the resources of areas that belong to the nature reserve is prohibited. In 2017, for the first time in three years, the budget included funds for tourism development - 30 million UAH. But this is ten times less than neighboring countries receive as state support for the tourism sector. These funds are planned to spend on information, marketing support of the tourism sector, and Internet resources creation. A significant effort should also be focused on the emerge from the shadow. Despite the turmoil in the economic sector, green ideas are gaining more and more popularity among both producers and consumers. Concerns in society are growing every day due to many problems related to human health and the environment. Humankind has begun to realize that the greening of any activity is the only right choice of society. Therefore, under the pressure of a socially responsible population, new types of products were created (the so-called "green" products), which cause minor damage to the environment. Creating demand, sales promotion, and business planning considering environmental aspects are urgent problems in the current development of sustainable production and consumption in Ukraine. Ukrainian consumers are mostly aware of today's most important environmental problems, understand the need to overcome them, and are willing to pay a surcharge for environmental goods and services. Today to be a "green" businessperson means you are in trend. Words such as "environmentally friendly", "organic", "natural" are quite clearly engraved in the everyday language of consumers and producers. One of the challenges that green leaders face is closer attention from consumers and contact audiences. Balancing between environmental goals and business

profitability (which is ultimately needed to keep business viable), they must find ways to sustain the company's existence, even if the business is perceived as "not green enough" in some of its decisions. It was decided to build a matrix that would combine environmental and tourism factors to analyze the potential for introducing elements of green tourism. All information for the study was taken from the survey issued by the State Statistics Service of Ukraine in 2017 and 2019. Separately, the tourist and ecological condition of the regions of Ukraine was analyzed by the method of determining competitiveness and by the method of additional analysis of secondary information. The indicators of the green tourism development level are presented in Fig. 1.

Today many players of the tourism market in Ukraine understand the importance of eco-component. However, it should be noted that the share of entrepreneurs aware of the principles of

the concept of "eco-tourism" or "green tourism" is relatively small. It should be noted that it couldn't follow the trend because no data for green tourism was available after 2017. Luckily, the World Economic Forum has released the travel and tourism rankings for countries across the world in 2017 and 2019 (Table 1).

According to The Travel and Tourism Competitiveness Index methodology (TTCR, 2017; TTCR, 2019), the natural resources pillar measures the available natural capital and the development of outdoor tourism activities. Natural capital is defined in terms of landscape, natural parks, and the richness of the fauna. The key feature of Ukrainian green tourism is a unique tourist lifestyle, which is based on implementing the entrepreneurial potential of the rural population to improve their welfare in the future. The overall dynamics of green tourism development in Ukraine is acceptable. Also, considering the global COVID 19 crisis that

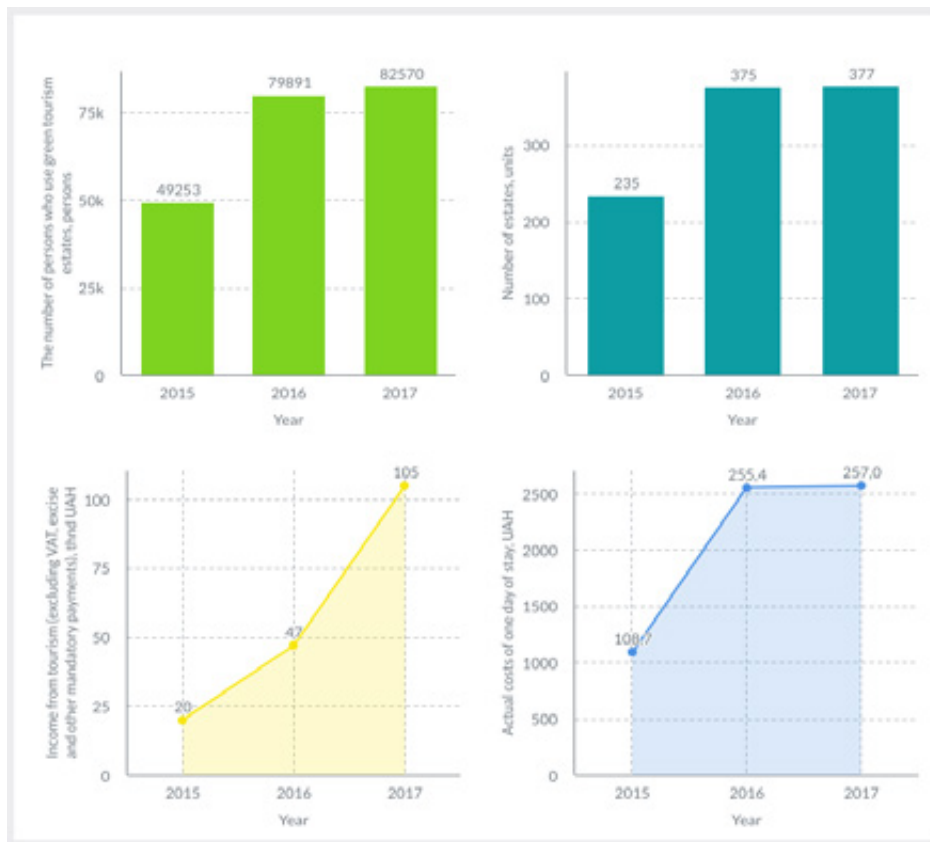


Fig. 1: The indicators of the green tourism development level of Ukraine in 2015-2017 (SSSU, 2020)

Table 1: Ukraine profile in the travel and tourism competitiveness index report (TTCR, 2017; TTCR, 2019)

Component	Value			Rank		Europe average	Global average
	2019	2017	Trend	2019 (out of 140)	2017 (out of 136)	2019	2019
Travel and Tourism Competitiveness Index	3.7	3.5	↑	78	88	4.3	3.8
1. Enabling environment sub-index	5.0	4.6	↑	65	78	5.4	4.8
Business environment	4.1	3.7	↑	103	124	4.7	4.5
Safety and security	4.8	3.5	↑	107	127	5.8	5.3
Health and hygiene	6.5	6.6	↓	11	8	6.2	5.1
Human resources and labor market	4.8	4.9	↓	48	41	5.0	4.5
ICT readiness	4.5	4.2	↑	78	81	5.4	4.6
2. T and T policy and enabling conditions sub-index	4.5	4.1	↑	70	85	4.6	4.4
Prioritization of Travel and Tourism	4.3	4.3	=	92	90	4.9	4.6
International Openness	3.7	2.9	↑	55	78	3.7	3.3
Price competitiveness	5.9	5.2	↑	19	45	5.1	5.3
Environmental sustainability	3.9	3.9	=	114	97	4.7	4.3
3. Infrastructure sub-index	3.4	3.1	↑	73	79	4.2	3.5
Air transport infrastructure	2.7	2.4	↑	71	79	3.6	3.1
Ground and port infrastructure	3.1	3.0	↑	77	81	4.1	3.5
Tourist service infrastructure	4.3	4.0	↑	65	71	4.9	4.0
4. Natural and cultural resources sub-index	2.1	2.2	↓	89	88	2.9	2.7
Natural resources	2.2	2.3	↓	116	115	3.1	3.1
Cultural resources and business travel	1.9	2.1	↓	55	51	2.6	2.2

Table 2: The ecological and tourism competitiveness of Ukrainian regions

Region	An integral indicator of the tourism competitiveness					An integral indicator of the ecological competitiveness				
	2019	Rank 2019	2020	Rank 2020	Trend 2020/2019	2019	Rank 2019	2020	Rank 2020	Trend 2020/2019
Vinnitsia	0.8496	16	0.9074	18	Negative	0.8356	15	0.8868	16	Negative
Volyn	0.8462	14	0.7806	11	Positive	0.8331	14	0.9176	19	Negative
Dnipropetrovsk	0.7876	10	0.6857	9	Positive	0.7084	7	0.7083	8	Positive
Donetsk	0.9877	24	0.9734	24	Positive	0.9942	24	0.9467	24	Positive
Zhytomyr	0.8389	13	0.6589	6	Positive	0.7192	9	0.7526	9	Negative
Zakarpattia	0.4650	1	0.6845	8	Negative	0.6415	5	0.5398	3	Positive
Zaporizhzhya	0.8467	15	0.8466	14	Positive	0.5561	4	0.5496	4	Positive
Ivano-Frankivsk	0.5466	2	0.5565	2	Negative	0.5445	3	0.5257	2	Positive
Kyiv	0.7151	6	0.9181	20	Negative	0.8287	13	0.8245	15	Positive
Kirovohrad	0.7213	7	0.7214	10	Negative	0.8594	17	0.9190	20	Negative
Luhansk	0.9211	19	0.9699	23	Negative	0.6869	6	0.6868	7	Positive
Lviv	0.5783	4	0.5774	3	Positive	0.3114	1	0.2897	1	Positive
Mykolaiv	0.9791	23	0.8769	16	Positive	0.7174	8	0.6485	6	Positive
Odesa	0.7864	9	0.5190	1	Positive	0.4974	2	0.5794	5	Negative
Poltava	0.9548	22	0.8400	13	Positive	0.8724	18	0.8876	17	Negative
Rivne	0.8868	18	0.9512	22	Negative	0.9620	23	0.9203	22	Positive
Sumy	0.8315	11	0.8313	12	Negative	0.9206	22	0.9205	23	Positive
Ternopil	0.7284	8	0.9108	19	Negative	0.8145	12	0.8094	13	Positive
Kharkiv	0.9385	21	0.9383	21	Positive	0.7778	10	0.7618	10	Positive
Kherson	0.6785	5	0.6734	7	Positive	0.7845	11	0.7844	11	Positive
Khmelnitsk	0.8715	17	0.8758	15	Negative	0.9027	21	0.9190	21	Negative
Cherkasy	0.9275	20	0.6039	5	Positive	0.8899	20	0.9166	19	Negative
Zaporizhzhya	0.5664	3	0.5832	4	Negative	0.8877	19	0.8155	14	Positive
Chernihiv	0.8342	12	0.8840	17	Negative	0.8384	16	0.8026	12	Positive

significantly affects the tourism business worldwide, the internal demand for Ukrainian sights might increase. But the demand growth doesn't always mean getting a long-term effect. Once the borders open, tourist flows will be redistributed in traditional pre-pandemic destinations. However, it should be noted that safety issues and standards of tourist services will be significantly tightened.

#### *Matrix approach to estimating the potential of green tourism in Ukraine's regions*

A matrix combines two integral indicators: ecological competitiveness and tourism competitiveness (Table 2).

An example of calculations of the integral indicator of the tourism competitiveness: Dnipropetrovsk region case in 2020 is provided in Table 3. The others calculations for each region were performed similarly.

An example of calculations of the integral indicator of the ecological competitiveness: Cherkasy region case in 2020 is provided in Table 4. The others calculations for each region were performed similarly.

As it comes from Table 2, according to the ranking results of the Ukrainian regions, five Ukrainian regions can be recognized as leaders by the level of ecological competitiveness in 2019: Lviv, Odesa, Ivano-Frankivsk, Zaporizhzhya, Zakarpattya. Donetsk (the part of the region under Ukrainian control), Rivne, Sumy, Khmelnytsk and Cherkasy regions are outsiders in terms of environmental competitiveness. In terms of tourism competitiveness in 2019, the leaders were Zakarpattya, Ivano-Frankivska, Chernivetska, Lvivska and Khersonska regions, and the outsiders were Donetsk (the part of the region that is under Ukrainian control), Mykolaiv, Poltava, Kharkiv and Cherkasy regions. According to the level of ecological competitiveness, Lviv, Ivano-Frankivsk, Zakarpattya, Zaporizhzhya and Odesa regions were leading in 2020. Donetsk (the part of the region under Ukrainian control), Sumy, Rivne, Khmelnytsk, Kirovohradsk regions are the outsiders. As to the tourism competitiveness Odesa, Ivano-Frankivsk, Lviv, Chernivtsi, Cherkasy regions are the leaders, and Donetsk (the part of the region that is under Ukrainian control), Luhanska (the part of the region that is under Ukrainian control), Rivne, Kharkiv and Kyiv regions are the outsiders (Table 2). It should be noted that from 2019 till 2020, the same regions remain the leaders

by the level of ecological competitiveness; Ivano-Frankivsk, Chernivtsi and Lviv regions – according to the level of tourism competitiveness. Only Cherkasy region stopped being in 2020 among outsiders by the ecological competitiveness. Unfortunately, Donetsk (the part of the region under Ukrainian control) and Kharkivska regions were the outsiders in 2019 and 2020 by the tourism competitiveness. Also, Odesa and Cherkasy regions have significantly improved their tourism competitiveness. Vice versa, Rivnenska and Kyivska regions deteriorated and got to outsiders by the tourism competitiveness. It is also worth noting the high density of obtained results for the rest of the Ukrainian regions that can be qualified as lower than the average. Obviously, the COVID-19 pandemic significantly affects the development of tourism. It is also positive for the development of green tourism. According to Table 2, the ecological competitiveness increased in twelve regions (Volyn, Dnipropetrovsk, Donetsk, Zhytomyrska, Zaporizka, Lvivska, Mykolaivska, Odesa, Poltava, Kharkiv, Kherson, Cherkasy regions) and tourism competitiveness – in 16 regions (Dnipropetrovsk, Donetsk (the part of the region under Ukrainian control), Zakarpattya, Zaporizhzhya, Ivano-Frankivsk, Kyiv, Luhansk, Lviv, Mykolaiv, Rivne, Sumy, Ternopil, Kharkiv, Kherson, Chernivtsi, Chernihiv. The matrix was constructed using the ranking results To combine the both components (ecological and tourism competitiveness). The X-axis of a matrix shows an integral indicator of the ecological competitiveness, and the Y-axis shows an integral indicator of the tourism competitiveness (the closer the region's coordinates are to 0, the greater the potential of green tourism it has). Figs. 2 and 3 provide the visualization of the obtained results.

#### *Strategic marketing support of green tourism in Ukraine's regions*

To determine the strategic marketing support of green tourism in Ukraine's regions it was defined ecological and marketing strategies of each region. While the ecological strategy has a close relationship with marketing, and together presents the first as an advantage of the tourism product and enshrines in the minds of consumers. All regions were divided into three types according to the level of green tourism: 1 – sufficient; 2 – satisfactory; 3 – unsatisfactory (Table 5).



Table 3: Calculations of the integral indicator of the tourism competitiveness: Dnipropetrovsk region casein 2020

Component	Value	Weight	Target value		Sub indicator value	Integral indicator	
			Trend to	Best case			
The subjects of tourist activity - legal entities	Income from tourism (excluding VAT, excise tax and similar mandatory payments)	23567.5	0.052631	max	380990.5	0.061858	0.049375
The subjects of tourist activity - individual entrepreneurs	Income from tourism (excluding VAT, excise tax and similar mandatory payments)	42703.5	0.052631	max	167153.7	0.255474	0.039185
The cost of tourist activity in the service of other organizations that are used in the production of the tourist product		5942.3	0.052631	min	126.4	0.021271	0.051511
The cost of travel packages sold to customers	By tour operators	56308.5	0.052631	max	561549.0	0.100274	0.047354
	By travel agents inside Ukraine	14364.3	0.052631	max	119113.9	0.120593	0.046284
Number of tourists served by tour operators and travel agents		29440	0.052631	max	122485.0	0.240356	0.039981
Number of collective accommodation facilities by types of facilities (Legal entities)		159	0.052631	max	228	0.697368	0.015928
	Hotels and similar accommodation facilities	63	0.052631	max	135	0.466667	0.02807
Among them	Among them	8	0.052631	max	25	0.32	0.035789
	Specialized accommodation facilities	96	0.052631	max	148	0.648649	0.018492
Among them	Among them	66	0.052631	max	111	0.594595	0.021337
	Recreation centers, other recreation facilities (except camp sites)						
Number of collective accommodation facilities by types of facilities (Individual entrepreneurs)		69	0.052631	max	301	0.229236	0.040566
Among them	Hotels	42	0.052631	max	109	0.385321	0.032351
Capacity of hotels and similar accommodation points by type of accommodation (Legal entities)		6218	0.052631	max	13933	0.446279	0.029143
	Hotels	4685	0.052631	max	11321	0.413833	0.030851
Among them	Tourist bases, mountain shelters, student summer camps, other places for temporary accommodation	788	0.052631	max	2138	0.368569	0.033233
Capacity of hotels and similar accommodation points by type of accommodation (Individual entrepreneurs)		1540	0.052631	max	6538	0.235546	0.040234
	Hotels	1263	0.052631	max	4007	0.315198	0.036042
Among them	Tourist bases, mountain shelters, student summer camps, other places for temporary accommodation	101	0.052631	max	2065	0.04891	0.050057
In total							0.685782

Table 4: Calculations of the integral indicator of the ecological competitiveness: Cherkaska region casein 2020

Component	Value	Weight	Target value		Sub indicator value	Integral indicator	
			Trend to	Best case			
Atmospheric emissions from stationary sources of pollution	Volumes of pollutant emissions	48.3	0.055555	min	3.2	0.066253	0.051874
	Ammonia emissions	5.5	0.055555	min	0.01	0.001818	0.055454
	Emissions of non-methane volatile organic compounds	1.5	0.055555	min	0.2	0.133333	0.048148
	Carbon monoxide emissions	2.9	0.055555	min	0.9	0.310345	0.038314
	Methane emissions	13.8	0.055555	min	0.3	0.021739	0.054347
	Suspended solids emissions	8.8	0.055555	min	0.4	0.045454	0.053029
	Sulfur dioxide emissions	5.0	0.055555	min	0.01	0.002	0.055444
	Nitrogen dioxide emissions	10.0	0.055555	min	0.3	0.03	0.053888
	Carbon dioxide emissions	2422.1	0.055555	min	147.4	0.060856	0.052174
	Formed	1295.1	0.055555	min	173.4	0.133889	0.048117
Waste generation and management	Disposed of	766.9	0.055555	max	83802.1	0.009151	0.055046
	Incinerated	11.7	0.055555	min	3.3	0.282051	0.039886
	Deleted in specially designated places or objects	267.9	0.055555	min	29.2	0.108996	0.049499
	The total amount of waste accumulated during operation in specially designated places or facilities (waste disposal sites)	6257.8	0.055555	min	522.9	0.08356	0.050913
Land area of reserves and national nature parks	19862.1	0.055555	max	290602.3	0.068348	0.051758	
Capacity of treatment facilities	83	0.055555	max	897	0.092531	0.050414	
Capital investments in environmental protection	22.5	0.055555	max	4088.5	0,005503	0.055249	
Current costs of environmental protection	254.1	0.055555	max	5533.5	0.04592	0.0530034	
In total							0.916560

According to Table 5, there are no regions in the sufficient zone. But the Lviv region may move to this zone in the near future because the integral indicator of ecological competitiveness was 0.2897 in 2020. It demonstrated a positive trend by both components (ecological and tourism competitiveness). Summarizing the above, it is quite appropriate to identify green tourism with sustainable development, as the main task of green tourism is to achieve the maximum level of existence of intact natural and cultural resources. The combination of sustainable development principles implementation and opportunities for green tourism contributes to optimising the economic potential of rural areas and justifies the need to diversify the economy. Green tourism meets the needs of

tourists and host regions, protecting and expanding opportunities for the future generation. Resources are used in such a way that to meet economic, social and aesthetic needs, preserving cultural integrity, necessary ecological processes, biological diversity and life support systems. Since the direction of green tourism has already penetrated the Ukrainian market and improves its performance every year, its positive impact on the ecological condition of the territories has been proven. It is advisable to develop a marketing policy to promote it. Ukraine has great potential in this direction, taking all protected areas, lakes, reserves, and more into account. In addition, the development of this area should increase the level of environmental and socially responsible literacy of the population,

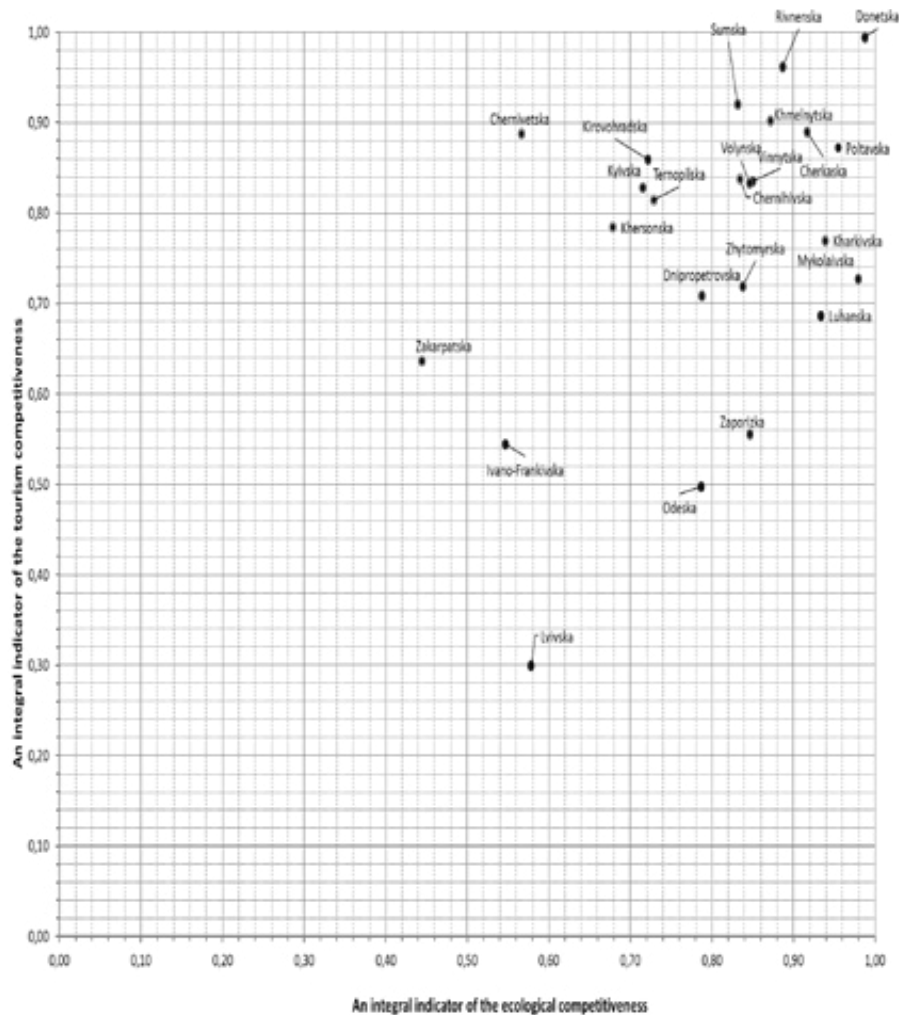


Fig. 2: The matrix of green tourism potential in 2019 (Ukraine's regions)

improve environmental performance and image of the territories reduce the level of urbanization. The key feature of Ukrainian green tourism is a unique tourist lifestyle, which is based on the implementation of the entrepreneurial potential of the rural population regions), such as «Grnivska Sych», «Khortytsia», «Askaniia Nova» and others. The purpose of the study presented here is to determine the strategic marketing support for the development of green tourism on the example of Ukraine and its regions based on an approach to its assessment in terms of environmental and tourism competitiveness. The practical guidance was presented on assessing green tourism potential

using relevant objective statistical information and developing strategic marketing recommendations for supporting the development of different Ukraine's regions on this basis. This approach provides complex environmental and marketing support to ensure sustainable development and gain additional competitive advantages by green tourism entrepreneurs. Previous researches discussed the selection of the most suitable methods for assessment of tourism potential based on cluster model (Boshota *et al.*, 2017; Boiko *et al.*, 2017; Dokai *et al.*, 2018), factorial approach (Yukhnovska, 2019; Lee, 2016), scoring (Gerasymenko *et al.*, 2017; Ramamoorthy *et al.*, 2020). Results of the analysis

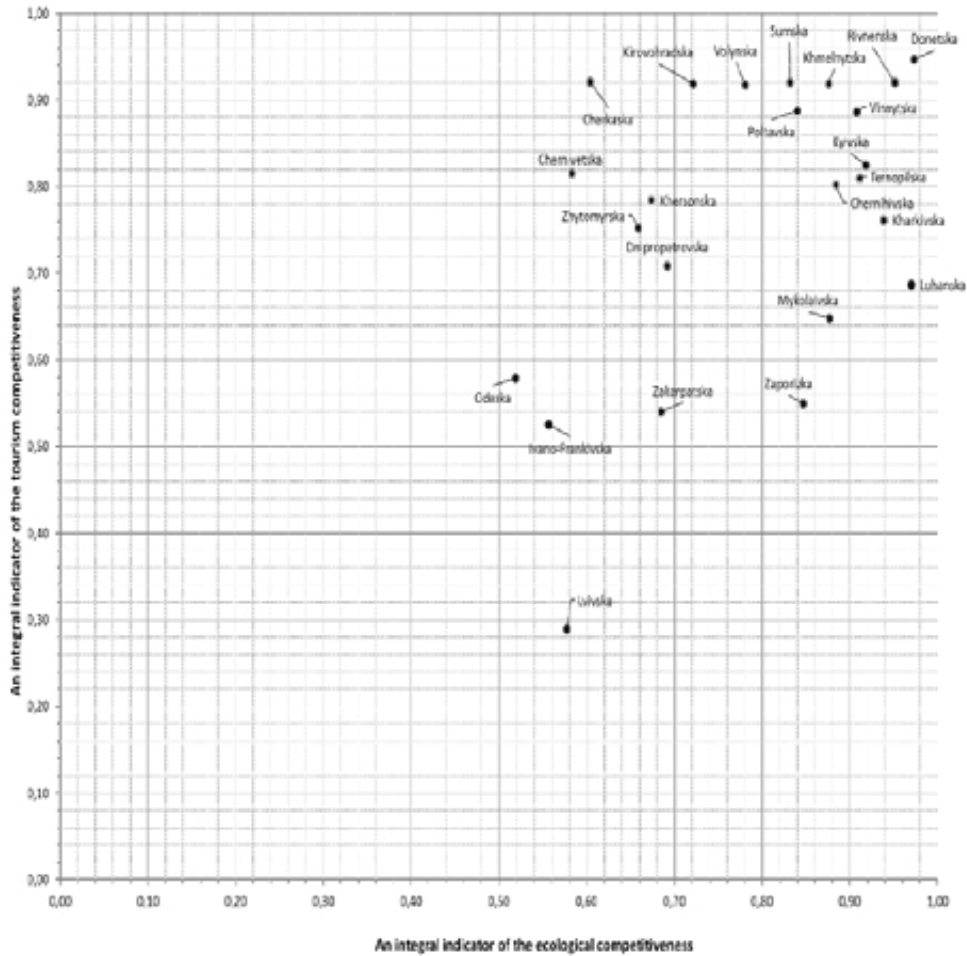


Fig. 3: The matrix of green tourism potential in 2020 (Ukraine's regions)

show that more than half of the analyzed studies used or referred to behavioural theory from either the field of economics, sociology, or marketing. Regarding the formation of marketing support for the development of tourism business revealed that it is not based on objective statistical information and relevant indicators mostly. Furthermore, it was observed that although many studies dedicated the forming of marketing strategy through digital tools and interdisciplinary approaches, typically, one discipline is most developed (Sofronov, 2019; Eshtaev, 2017; Prokopenko et al., 2019; Danylyshyn et al., 2021 and others). For example, Sofronov (2019) studied the “variety of communications strategies and techniques to promote areas and destinations”. Eshtaev (2017) composed “parts

of innovational marketing strategies and possible usage of these strategies at the tourism market”. In addition, it is possible to state the limited research on assessing the potential of green tourism in the regional context. These positions became the basis for determining the purpose of this study. To analyze the level of green tourism development in the regions of Ukraine quantitatively, it was identified the components and key indicators that will most objectively reflect the current state of green tourism development and allow a comprehensive assessment and establish the imbalances of such development. Note that the range of indicators is not exhaustive in our study. Their number may vary and supplement depending on the task of a detailed statistical analysis.

Table 5: Ecological and marketing strategy for the development of green tourism potential (case in 2020)

Level of ecological and tourism competitiveness	Regions	Type of ecological strategy	Type of regional marketing strategy
Sufficient [0-0.37]	-	Proactive sufficiency strategies (voluntary restriction of consumption and, accordingly, lifestyle changes), balanced nature management	Image marketing
Satisfactory (0.37-0.63]	Lviv, Odesa, Ivano-Frankivsk	Compensation strategies, strategies aimed at improving resource efficiency (eco-efficiency strategies), effective environmental management	Attractiveness marketing
Unsatisfactory (0.63-1.0]	Cherkasy, Chernivtsi, Zakarpattia, Zaporizhzhya, Mykolaiv, Vinnytsia, Volyn, Dnipropetrovsk, Donetsk, Luhansk, Zhytomyr, Kyiv, Kirovohrad, Luhansk, Poltava, Rivne, Sumy, Ternopil, Kharkiv, Kherson, Khmelnytskyi, Chernihiv	Protective strategies, strategies aimed at comprehensive solutions to environmental problems (strategy of environmental modernization), regulatory environmental management	Marketing of the population and infrastructure

## CONCLUSION

One of the results of implementing the green marketing provisions in the tourism industry is the development of green tourism. Green tourism involves recreation in ecologically clean natural areas or regions, combined with visits to scientific, educational, cultural, cognitive places and activities. However, this activity contributes to maintaining and increasing the level of ecological potential of the environment and increasing the population's welfare. Based on this study, the following main conclusions can be made: 1) the authors developed an approach based on assessing the tourism and ecological component by determining the competitiveness of regions. It covers the most relevant array of statistics and makes a representative assessment of the current state of green tourism potential; 2) according to the ranking of tourism and ecological competitiveness, the regions with the greatest and the worst potentials were clarified, and positive dynamics of green tourism development in 2019-2020 was found. Thus, Lvivska, Ivano-Frankivska and Odeska regions were the leaders before and during the pandemic COVID-19. The ecological competitiveness increased in twelve regions and tourism competitiveness – in 16 regions of Ukraine in 2020; 3) the authors developed a matrix

that reflects the grouping of Ukrainian regions by the level of green tourism potential in 2019 and 2020. Strategic marketing support of green tourism development in Ukrainian regions was defined based on ecological and marketing strategies. The obtained results confirm that vast majority of regions is in the unsatisfactory area. So, marketing support for the development of the green tourism industry should be based on the improvement of the marketing complex 5P (taking into account the specialization in the field of services, it is advisable to add five components "people" to the complex). It is crucial to increase consumer awareness about the functioning of green tourism institutions, their competitive advantages and make this trend. It is necessary to focus on legal support and developed training facilities (how to be profitable in this area, promote travel company, the importance of certification, etc.). This will help guide existing service providers and attract even more people willing to start a business in this area. To gain additional competitive advantages and increase trust among the population, the green tourism enterprise also has the opportunity to improve the level of recreational facilities by obtaining "green certification"; and building a communication policy on this basis.

## AUTHOR CONTRIBUTIONS

O. Gryshchenko analyzed and interpreted the data, prepared the manuscript text. V. Babenko helped in the literature review, manuscript preparation and edition. O. Bilovodska performed the literature review, compiled the data and manuscript edition. T. Voronkova performed the literature review and some of the remained analyses. I. Ponomarenko helped in manuscript preparation, formed visualization and supervised data, completed the marketing recommendations. Z. Shatskaya performed some of the remained analyses and helped in visualization and data curation.

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## CONFLICT OF INTEREST

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the authors have entirely witnessed ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy.

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## ABBREVIATIONS

%	percent
&	and
<i>e.g.</i>	exempli gratia, for example
<i>et al.</i>	others
<i>etc.</i>	et cetĕra, and so on
<i>Fig.</i>	Figure
<i>GT</i>	green tourism
<i>i.e.</i>	id est, in other words
<i>CAF</i>	collective accommodation facilities
<i>LCGGRAP</i>	Low carbon green growth roadmap for Asia and the Pacific
<i>MR</i>	Monitoring Report
<i>NBR</i>	National baseline report
<i>NGOs</i>	non-governmental organizations
<i>SMEs</i>	small and medium-sized entities
<i>SB</i>	Statistical bulletin
<i>SSSU</i>	State Statistics Service of Ukraine
<i>TPU</i>	Tourism potential of Ukraine
<i>TTCR</i>	The travel and tourism competitiveness report
<i>TTST</i>	Tourism teacher: Sustainable tourism
<i>UNESCO</i>	United Nations Educational, Scientific and Cultural Organization
<i>UNRISD</i>	United Nations Research Institute for Social Development
<i>UNICEF</i>	United Nations International Children’s Emergency Fund
<i>UN RCO</i>	United Nations Resident Coordinator Office
<i>USAID</i>	United States Agency for International Development
<i>WEF</i>	World Economic Forum
<i>WTO</i>	World Trade Organization

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