Tourist destinations in the regions of the Russian Arctic: opportunities and obstacles to development

Destinos turísticos en las regiones del Ártico ruso: oportunidades y obstáculos para el desarrollo

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ABSTRACT:
The purpose of the study: developing of the balanced scorecard (BSC), which allows to assess touristic attractiveness of the subjects of the Arctic zone of the Russian Federation according to the balance of interests of the touristic activity actors. Particular, relevance acquires the improvement of the methodology for assessing the level of attractiveness of regions as a tourist destinations. The authors considered its natural-geographical and climatic characteristics, its cultural and historical heritage sites and the tourist infrastructure. A assessment methodology, based on a Balanced Scorecard (BSC) was used to analyze the touristic attractiveness of the Arctic regions of Russia.

Keywords: Arctic tourism, tourist destination, balanced scorecard, Russia

RESUMEN:
El propósito del estudio: el desarrollo del cuadro de mando integral (BSC), que permite evaluar el atractivo turístico de los sujetos de la zona ártica de la Federación de Rusia de acuerdo con el equilibrio de intereses de los actores de la actividad turística. Particularmente, adquiere relevancia la mejora de la metodología para evaluar el nivel de atractivo de las regiones como destinos turísticos. Los autores consideraron sus características naturales, geográficas y climáticas, sus sitios de patrimonio cultural e histórico y la infraestructura turística. Se utilizó una metodología de evaluación, basada en un Balanced Scorecard (BSC) para analizar el atractivo turístico de las regiones árticas de Rusia.

Palabras clave: turismo ártico, destino turístico, cuadro de mando integral, Rusia

1. Introduction
The development of national tourism market assists the country to address effectively the problems of employment and economic growth. Tourism exerts a multiplicative effect on the economy: transport and communications, construction, agriculture, production of consumer goods and others. Also tourism sector has a positive effect on employment: this is particularly true concerning jobs deficit. Moreover, as a driver of social and economic development for many countries of the world, the tourism industry is considered as political resource for improvement foreign policy image as a soft power tool. Tourism is becoming an increasingly important component of export diversification for both countries with emerging economies and countries with advanced economies. In recent years, the tourism industry has shown a strong capacity to compensate for shortfalls in income for many oil-exporting countries. The development of tourism is especially important for Russia. Remaining under US and EU sanctions since 2014, this provides compensations for losses. If properly managed, the tourism can contribute to economic growth, social inclusion and the protection of cultural and natural heritage.

The Russian Arctic includes 9 subjects of the Arctic zone of the Russian Federation (AZRF). The boundaries of the land territories of the AZRF were defined by a President Decree of the Russian Federation of May, 2 2014. (Editorial: O sukhoputnykh territoriyakh Arkticheskoy zony Rossiyskoy Federatsii, 2019). The AZRF contains all the territories of four entities of the Russian Federation (Murmansk Region, Nenets, Chukotsky and Yamalo-Nenets Autonomous Areas) and partly territories of Arkhangelsk Region, Krasnoyarsk Territory, the Sakha Republic (Yakutia). Since 2017 there are included three municipalities of the Republic of Karelia. (Editorial: O vnesenii izmeneniy v Ukaz Prezidenta Rossiyskoy Federatsii ot 2 maya 2014 goda. O sukhoputnykh territoriyakh Arkticheskoy zony Rossiyskoy Federatsii, 2014). In addition to land territories, the Russian Arctic includes the seas areas of the Arctic Ocean: inland sea territorial waters (12 nautical miles), exclusive economic zones (200 nautical miles), continental shelf (350 nautical miles), defined in accordance with the UN Law of the Sea Convention; water area of the Northern Sea Route. Based on this approach, cruise and other routes in the northern seas to the islands of the Arctic Ocean will be defined solely as a product of the Arctic tourism.
The purpose of the study: developing of the balanced scorecard (BSC), which allows to assess touristic attractiveness of the entities of the Russian Arctic zone according to the balance of interests of the touristic activity actors.

2. Literature review

The definition of “Arctic Tourism” is a part of the broader term “Polar Tourism”, which also includes the Antarctic (Stonehouse and Snyder, 2010, pp.175-176; Grenier and Müller, 2011). Western researchers mean by Arctic tourism any touristic activity which is connected with business, local communities, organizations or other concerned parties in the Arctic region, including territories and regions based on geographical, climatic, geomorphological, latitudinal and geopolitical criteria. (Lee, Weaver and Prebensen, 2017, p.2). Since this article is devoted to the study of the development of Arctic tourism in Russia, the concept of “Arctic Tourism” should be separated from “northern tourism”. Professor Y.F. Lukin expressed the view that the notion of "northern tourism" is considered wider than "Arctic tourism" within tourist resources, the distribution area and the offers of tourist products. (Lukin, 2016, p.62). Northern tourism covers not only the Russian Arctic, but also the northern territories of the European North, Siberia, and the Far East, which constitute 70% of the entire territory of Russia.

The first studies on polar tourism were conducted in the 1980s of the 20th century but there is a large bulk of literature that can be classified for four reasons: tourism patterns, tourism impacts, tourism policy and management, and tourism development (Stewart, Draper and Johnston, 2005, pp. 383–394).

According to the expert opinion, in 35 years the focus of researchers in the field of polar tourism has shifted from the Antarctic to the Arctic (Stewart, Liggett and Dawson, 2017, p. 64). Our work considered important studies on tourism in the European Arctic, defined as the northern mainland part of Scandinavia, Svalbard, Greenland, Iceland, and northern Russia (Bystrowska and Dawson, 2017, pp. 208-226). Today the number of published papers, scientific reports on Arctic Tourism is gradually expanding. Most of the articles are prepared by environmental scientists, cultural experts, lawyers, historians, and sociologists with focus on local aspects of tourism development in the Arctic (Korostelev and Biletcky, 2016, pp. 12-16; Lozovskiy, 2015, pp. 48-56; Orlova, 2017, pp. 40-43; Sevastyanov, 2017, pp.75-88). In 2016, the first collective monograph was published in the Northern (Arctic) Federal University (NAFU), which examines the main concepts, potential and limitations of tourism development in the Arctic. (Lukin, 2016, p. 256). The monograph united scientists from three scientific centres - Moscow, St. Petersburg and Arkhangelsk.

There is a lack of English-language works on the topic of tourism in Russia and the Arctic Regions. (Heldt, Cassel and Pashkevich, 2018, pp. 67-80; Pashkevich, 2013, pp.41-60). Experts rightly criticize Russia's tourism policy for numerous obstacles for its development. These obstacles include the unpredictable nature of the influence of state controls, the lack of coordination between concerned parties at all levels of management, the general low level of knowledge in the field of hospitality and management (Pashkevich and Stjernström, 2014, pp.137-156).

Russian and foreign researchers are united by the interest in the problem of sustainable development of the Arctic tourism, the issues of territorial development, climate change, the tourism industry, opportunities and obstacles for the tourism development. Russian researchers are more focused on the socio-economic effects of tourism development.

Foreign researchers pay more attention to the problem of the impact of tourism on the Arctic ecology, in particular, the increase in tourist flow to the fragile ecosystems of the region.

The concept of destination is debatable, since it can refer to different spatial units: continents, countries, regions, municipalities, touristic resorts, or even individual tourist products (Saarinen and Varnajot, 2019, p.3). The term “destination” in theory and practice is ambiguously interpreted. The destination includes attractiveness, tourist infrastructure and services, accessibility, human potential, brand, price, tourist resources. Demand for tourism products is the key factor in the formation of a destination. Number of researches in the field of destination marketing is devoted to demand creation. (Blain, Levry and Richie, 2005, pp. 328–338; Buhalis, 2000, pp. 97-116). An important feature of the functioning of the destination is the continuity of the process of production and consumption of the tourist products. During the first stage the development of a tourist destination depends on the natural and cultural resources that the destination are endowed with, its history. At the second stage, the country's political and legal system and infrastructure influence the formation of a destination. At the third one, the sustainability of the tourism which depends on the positive / negative word of mouth and intentions to return (Manhas, Manrai and Manrai, 2016, p.21, pp.25–29).

The cluster approach is defined in government documents as a tool to increase the productivity and performance of individual industries and territories. An important tool of state policy in the field of tourism is the formation of regional tourist clusters. The effectiveness of the cluster approach in tourism is proved in the work of M.Porter. Porter defined the cluster as a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities. (Porter, 1998, p.79). This author argues that clusters are local in their nature but must be globally competitive. A tourism cluster is considered as a network within a tourist destination using the set of important features: a group of geographically concentrated enterprises, primarily typical for the tourism sector, united by direct communication and feedback; common culture and social environment; specialization by type of activity; presence among the actors of public and private institutions, owners of tourist resources as economic goods, consumers of tourist products (Danilenko and Rubtsova, 2013, pp. 45-53). The experience of developed countries has shown that clustering processes provide the basis for effective engagement between various actors producing a tourist products - the state, business, the media, public organizations and local communities.

The Balanced Scorecard (BSC) moved from a matrix approach to evaluating the effectiveness of an enterprise to performance management system (Cobbold and Lawrie, 2002). Initially, BSC was presented by the authors D. Norton and R. Kaplan as a "four perspectives" approach (four components) to assessing the productivity (Kaplan and Norton, 1992, pp. 71-79). It was supposed to complement financial indicators to the indicators of training and growth, internal business processes and client component, representing the interests of concerned parties in the business (Moora, Oyon and Hostettler, 1999, pp. 481- 491). Further, BSC evolved from the approach to the selection of indicators within the components to the definition of the interconnection between indicators and strategic goals, presented in the format of balanced scorecards (Cobbold and Lawrie, 2002). In order to identify specific strategic goals, key indicators were identified, and the choice of target indicators was justified. A graphical representation of the main causal relationships between strategic goals allowed to produce a strategic model or a system of strategic maps (Kaplan and Norton, 1992, pp. 71-79; Olve, Roy and Wetter, 1999).
Currently, BSC is widely used in international practice as a performance management system of various organizations. There (Pesyakova and Myakshin, 2008, pp. 80-84) was used as a performance evaluation system in relation to the timber industry in BSC developments. In research (Myakshin, 2013, pp.110-119). The modified BSC model was used at the regional level, in particular, to assess the effectiveness of managing the investment attractiveness of the region.

It is supposed to use a BSC approach based on the developed system of indicators, to assess the level of tourist attractiveness of the Arctic zone of the Russian Federation, which is a new direction of research on the subject. The novelty of the proposed research lies in the configuration of a balanced scorecard, determined on the basis of interrelation with key success factors of key indicators for assessing attractiveness.

3. Methodology

In order to assess the potential of tourist destinations in the regions of the Russian Arctic, we used an integrated approach based on the methodology of the systemic and structural-functional methods model. This model theorises tourism as an open system consisting of five elements: one human element (tourists), one infrastructure (tourist infrastructure) and three geographic elements (a region generating travelers, a transit route, a tourist destination region). As an open system, the organization of the five elements interacts with the external environment: physical, cultural, social, economic, political, technological components. According to Leiper (Leiper, 1990, pp. 367-384), tourist attraction is a system consisting of three elements: the tourist or human element, the purpose of travel and information. Tourist attraction arises when the three elements are interconnected. The tourism industry consists of six functional sectors: marketing, carriers, tourist accommodation, tourist attractions, service and regulation.

The conceptual approach to the formation of a balanced system of indicators for assessing the tourist attractiveness of the Arctic regions of the Russian Federation is the correspondence of the assessment results to the balance of interests of tourists, the population of the region, and state authorities. In accordance with the proposed methodology, regional tourism policy objectives can be represented by a set of target values of BSC indicators, and the BSC values actually achieved in the region provide information on the results of regional policy implementation (on the degree of goal achievement). The structure of the balanced system of indicators of tourist attractiveness of the region, including the economic, infrastructural, cultural and natural components, is presented in Figure 1.

![Figure 1: Balanced Scorecard for Assessing Tourist Attractiveness in the Region](image)

In accordance with the objectives of the study, the components of the BSC are filled with relevant key indicators, that are interrelated with factors that are important for the organization of tourist activities. The developed balanced scorecard includes three components, within the framework of which 12 private indicators are presented, allowing to monitor the dynamics of the region’s tourist attractiveness. The nomenclature of private indicators calculated for the Arctic Regions of the Russian Federation for 2016 is presented in table 1.

<table>
<thead>
<tr>
<th>2016</th>
<th>Targets of the indicators</th>
<th>Karelia Republic</th>
<th>Murmansk region</th>
<th>Arkhangelsk region</th>
<th>Krasnoyarsk region</th>
<th>Komi Republic</th>
<th>Yakutia Republic</th>
<th>Yamal-Nenets Autonomous Area</th>
<th>Chukotsky Autonomous Area</th>
<th>Nenets Autonomous Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural and natural component</td>
<td>0.678</td>
<td>0.081</td>
<td>0.507</td>
<td>0.471</td>
<td>0.155</td>
<td>0.286</td>
<td>0.100</td>
<td>0.033</td>
<td>0.016</td>
<td></td>
</tr>
<tr>
<td>Number of cultural heritage sites, unit.</td>
<td>1500</td>
<td>0,780</td>
<td>0,081</td>
<td>1,227</td>
<td>0,623</td>
<td>0,119</td>
<td>0,360</td>
<td>0,022</td>
<td>0,010</td>
<td>0,023</td>
</tr>
<tr>
<td>Number of archeological heritage sites, unit</td>
<td>2000</td>
<td>0,781</td>
<td>0,007</td>
<td>0,073</td>
<td>0,541</td>
<td>0,052</td>
<td>0,026</td>
<td>0,250</td>
<td>0,033</td>
<td>0,001</td>
</tr>
<tr>
<td>Number of nature reserves, unit</td>
<td>500</td>
<td>0,472</td>
<td>0,156</td>
<td>0,222</td>
<td>0,248</td>
<td>0,296</td>
<td>0,472</td>
<td>0,028</td>
<td>0,056</td>
<td>0,026</td>
</tr>
<tr>
<td>Economic component</td>
<td>0,354</td>
<td>0,494</td>
<td>0,512</td>
<td>0,523</td>
<td>0,384</td>
<td>0,529</td>
<td>0,516</td>
<td>0,322</td>
<td>0,332</td>
<td></td>
</tr>
<tr>
<td>Gross Regional product per capita, RUB.</td>
<td>3346200</td>
<td>0,070</td>
<td>0,127</td>
<td>0,128</td>
<td>0,528</td>
<td>0,163</td>
<td>0,260</td>
<td>0,587</td>
<td>0,020</td>
<td>0,076</td>
</tr>
<tr>
<td>Percentage of the foreign trade activities &quot;Hotels and restaurants&quot;, the total volume of GRP, %</td>
<td>3,007051</td>
<td>0,333</td>
<td>0,599</td>
<td>0,532</td>
<td>0,200</td>
<td>0,233</td>
<td>0,200</td>
<td>0,100</td>
<td>0,067</td>
<td>0,067</td>
</tr>
<tr>
<td>The number of crimes per 100 000 of the population, unit.</td>
<td>1727,606</td>
<td>0,807</td>
<td>0,872</td>
<td>0,973</td>
<td>0,866</td>
<td>0,774</td>
<td>1,342</td>
<td>1,156</td>
<td>1,080</td>
<td>0,993</td>
</tr>
<tr>
<td>Status of entrepreneurship, the share</td>
<td>0,28169</td>
<td>0,206</td>
<td>0,379</td>
<td>0,414</td>
<td>0,499</td>
<td>0,365</td>
<td>0,313</td>
<td>0,221</td>
<td>0,122</td>
<td>0,192</td>
</tr>
<tr>
<td>Infrastructural component</td>
<td>1,973</td>
<td>1,281</td>
<td>0,884</td>
<td>0,471</td>
<td>0,765</td>
<td>0,305</td>
<td>0,281</td>
<td>0,255</td>
<td>0,075</td>
<td></td>
</tr>
<tr>
<td>The area of the region per unit collective accommodation, km2</td>
<td>4080,418</td>
<td>4,476</td>
<td>3,295</td>
<td>1,432</td>
<td>0,560</td>
<td>1,312</td>
<td>0,254</td>
<td>0,361</td>
<td>0,130</td>
<td>0,162</td>
</tr>
<tr>
<td>The area of the region per unit of tourist companies, km2</td>
<td>2443,607</td>
<td>2,315</td>
<td>1,197</td>
<td>0,763</td>
<td>0,354</td>
<td>0,645</td>
<td>0,065</td>
<td>0,064</td>
<td>0,010</td>
<td>0,041</td>
</tr>
<tr>
<td>The number of subscribers of radiotelephone service, having access to broadband Internet, 1 per 100000 of population</td>
<td>90</td>
<td>0,524</td>
<td>0,622</td>
<td>0,659</td>
<td>0,807</td>
<td>0,840</td>
<td>0,943</td>
<td>0,798</td>
<td>1,007</td>
<td>0,036</td>
</tr>
<tr>
<td>Density of the paved roads (km per 1000 km2)</td>
<td>19,07582</td>
<td>2,516</td>
<td>1,206</td>
<td>1,520</td>
<td>0,577</td>
<td>0,839</td>
<td>0,199</td>
<td>0,157</td>
<td>0,052</td>
<td>0,068</td>
</tr>
<tr>
<td>The area of the region per 1 airport, km2</td>
<td>6091,688</td>
<td>0,034</td>
<td>0,084</td>
<td>0,044</td>
<td>0,059</td>
<td>0,190</td>
<td>0,063</td>
<td>0,024</td>
<td>0,076</td>
<td>0,069</td>
</tr>
<tr>
<td>Overall in the region</td>
<td>1,109</td>
<td>0,719</td>
<td>0,666</td>
<td>0,488</td>
<td>0,486</td>
<td>0,375</td>
<td>0,314</td>
<td>0,222</td>
<td>0,146</td>
<td></td>
</tr>
</tbody>
</table>

The cultural and natural component identifies three indicators characterizing the availability of cultural and historical heritage sites: the number of cultural heritage sites, the number of archaeological heritage sites, and the number of nature conservation reserves.

The economic component characterizes the level of service provision, possibly not directly related to the production of a tourist product, but, nevertheless, important for attracting tourists, especially foreign ones. Its structure includes the following indicators: gross regional product per capita, the share of foreign economic activity "Hotels and Restaurants" in the total gross regional product of the region, the number of registered crimes per 100,000 people, the rate of
entrepreneurship development. To characterize the infrastructure of the region, by taking into account its importance, five private indicators were selected: area of the region per unit of collective accommodation facilities, area of the region per unit of tourist firms, number of active mobile radio telephone subscribers, density of public roads with hard surface, area of the region per airport.

In order to assess the tourist attractiveness of the entities of the Russian Arctic zone, the integrated indicators for each of the three components of the BSC are calculated, as well as the final integral indicator using the multidimensional average formula.

\[ X_j = \frac{\sum_{i=1}^{n} x_i \cdot k_i}{\sum_{i=1}^{n} k_i} \]

Where \( X_j \) - integral level of tourist attractiveness for the j-th component; \( x_i \) - an indicator determining the ratio of the numerical value of each particular indicator of the factorial attribute of tourist attractiveness to the target value of the same indicator; \( k_i \) - weighting factor of significance of the i-th indicator; \( i = 1, 2, ..., n \) — number of private indicators of factorial signs of tourist attractiveness within each component of the BSC; \( j = 1, 2, 3, 4 \) — number of BSC components.

In this study, equivalent key indicators are used to assess tourism attractiveness, accordingly the values of weights are taken equal to one. In applying the standardization procedure, the value of each particular indicator correlates with a specific target value, which allows eliminating the influence of average Russian indicators and monitoring the dynamics of the tourist attractiveness of each region. The target value is the best value of the indicator for a certain period of time.

In this study, the corresponding values of the indicators of the state of Alaska, which has a very high level of tourist attractiveness, were selected as target values (in accordance with the Annual Report 2017-2018 of the Alaska Tourism Industry Association, the number of tourists visiting Alaska in 2018 was 2,25 million people) (Alaska Travel Industry Association, 2017-2018). The information base for calculating the indicators of the BSC was the data of the Federal State Statistics Service of the Russian Federation.

4. Results

The conditions for the development of regional tourist clusters includes three components: the presence of potential for tourist flow (natural-geographical and climatic characteristics of the territory), cultural and historical heritage sites and tourist infrastructure.

We consider that the majority of the Arctic regions have the potential to create tourist clusters. Currently, in Russia, with State support, 45 tourist-recreational clusters are being created, which the regional share of the Arctic has remained mininal. Tourist and recreation clusters have only 3 arctic regions: the Sakha Republic (Yakutia) (Tourism and recreation cluster "Severnaya Mosaic"), Murmansk Region (Tourism and recreation cluster "Khibiny") and the Republic of Karelia (Tourism and recreation cluster "South Karelia") (Atlas investitsionnykh proyektov v sfere turizma, realizuyemykh v sub'yecktakh Rossiyskoy Federatsii: informatsionnoye izdaniye, 2017).

As can be seen from table 2, in the majority of the Arctic regions, the number of tourists flows from Russian citizens for the period 2009-2017 has increased (elimination of NAA and Chukotka). The most significant increase in tourist traffic was achieved by the Republic of Karelia (in 3 times), YNAA and Krasnoyarsk Territory.

<table>
<thead>
<tr>
<th>Table 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Russian Citizens in collective accommodation (thous. persons)</strong></td>
</tr>
<tr>
<td>Karelia Republic</td>
</tr>
<tr>
<td>Arkhangelsk region</td>
</tr>
<tr>
<td>Nenets-Autonomous Area</td>
</tr>
<tr>
<td>Komi Republic</td>
</tr>
<tr>
<td>Murmansk Region</td>
</tr>
<tr>
<td>Yamalo-Nenets Autonomous Area</td>
</tr>
<tr>
<td>Krasnoyarsk region</td>
</tr>
<tr>
<td>Saha Republic (Yakutia))</td>
</tr>
<tr>
<td>Chukotsky Autonomous area</td>
</tr>
</tbody>
</table>
The number of foreign tourists is the highest in the Republic of Karelia among the Arctic regions, the second place is reached by Murmansk Region, Krasnoyarsk Territory is the third one. All three leaders, as well as YNAA, had achieved a positive trend in attracting foreign tourists for the period 2009-2017. The rest of the regions either had no increase in tourist traffic of foreign tourists, or showed a negative trend (NAA).

Evaluation of the tourist attractiveness of the Russian Arctic regions

Based on the calculations, a matrix of integral indicators was elaborated. On the basis of empirical research data using the BSC developed by the authors, the current state of tourist attractiveness has been analysed, and possible directions for its improvement have been identified. Evaluation of the tourist attractiveness of the subjects of the Arctic zone of the Russian Federation was carried out in 2010-2016. (Table 4), 2010 is defined as a base period.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Karelia Republic</td>
<td>0.7264</td>
<td>0.7840</td>
<td>0.8627</td>
<td>0.8894</td>
<td>0.9147</td>
<td>1.0000</td>
<td>1.1094</td>
</tr>
<tr>
<td>2</td>
<td>Murmansk Region</td>
<td>0.7164</td>
<td>0.6868</td>
<td>0.7320</td>
<td>0.6991</td>
<td>0.7377</td>
<td>0.7491</td>
<td>0.7186</td>
</tr>
<tr>
<td>3</td>
<td>Arkhangelsk Region</td>
<td>0.5818</td>
<td>0.5916</td>
<td>0.5933</td>
<td>0.6057</td>
<td>0.6501</td>
<td>0.6648</td>
<td>0.6565</td>
</tr>
<tr>
<td>4</td>
<td>Krasnoyarsk Region</td>
<td>0.3921</td>
<td>0.4354</td>
<td>0.4681</td>
<td>0.4884</td>
<td>0.4799</td>
<td>0.4809</td>
<td>0.4885</td>
</tr>
<tr>
<td>5</td>
<td>Komi Republic</td>
<td>0.4019</td>
<td>0.4159</td>
<td>0.4164</td>
<td>0.4247</td>
<td>0.4278</td>
<td>0.4757</td>
<td>0.4856</td>
</tr>
<tr>
<td>6</td>
<td>Yakutiya</td>
<td>0.2932</td>
<td>0.3154</td>
<td>0.3405</td>
<td>0.3735</td>
<td>0.3855</td>
<td>0.3807</td>
<td>0.3748</td>
</tr>
<tr>
<td>7</td>
<td>Yamalo-Nenets Autonomous Area</td>
<td>0.2620</td>
<td>0.2654</td>
<td>0.2914</td>
<td>0.3026</td>
<td>0.3144</td>
<td>0.3121</td>
<td>0.3139</td>
</tr>
<tr>
<td>8</td>
<td>Chukotsky Autonomous Area</td>
<td>0.1672</td>
<td>0.1985</td>
<td>0.2193</td>
<td>0.2137</td>
<td>0.2325</td>
<td>0.2251</td>
<td>0.2219</td>
</tr>
<tr>
<td>9</td>
<td>Nenets-Autonomous Area</td>
<td>0.1358</td>
<td>0.1383</td>
<td>0.1612</td>
<td>0.1807</td>
<td>0.1607</td>
<td>0.1417</td>
<td>0.1461</td>
</tr>
</tbody>
</table>

The data in Table 4 determines both leaders and outsiders of the tourist attraction: the first place took the Republic of Karelia (1.11), Murmansk Region (0.72), Arkhangelsk Region (0.67), the last three places in the ranking took Yamalo-Nenets Autonomous Area (0.31), Chukotsky Autonomous Area (0.22) and Nenets Autonomous Area (0.15).

On the basis of the proposed BSC methodology, an increase in the tourist attractiveness of the studied subjects was determined in comparison with the level of 2010 (with the exception of Murmansk Region). The most significant growth of the integral indicator was determined for the Republic of Karelia (by 1.5 times), mainly due to the growth by 85 percentage points of the integral indicator for the infrastructure component.

It should be noted that the growth of tourist attractiveness of the studied subjects has primarily been driven by the development of the infrastructure component: for example, for the Komi Republic, the growth of the total integral indicator by 20 percentage points was due to an increase by 40 percentage points in the integral indicator of the infrastructure component (by 5 percentage points) of the integral indicator by the economic component.
Despite the fact that the Nenets and Chukotsky Autonomous Areas ranked last, they also have shown an increase in tourist attractiveness of 8 percentage points and 33 percentage points, driven by the growth of the integral indicator for the infrastructure component, respectively, by 44 percentage points and 99 percentage points. The growth of the integral indicator of tourist attractiveness for Arkhangelsk Region, Krasnoyarsk Territory, Yakutia, Yamalo-Nenets Autonomous Area is due to the growth of integral indicators for both infrastructure and economic components: for example, for Arkhangelsk Region with a 14% increase in the total indicator, the integral indicator for infrastructure component has risen by 20 percentage points, on economic - by 15 percentage points. Krasnoyarsk Territory with an increase in the final indicator by 25 percentage points the indicator of the infrastructure component has increased by 45 pp, the economic one - by 25 pp for, Yakutia the increase in the corresponding indicators was 28 pp, 55 pp, 27 pp, for Yamalo-Nenets Autonomous Area - 20 pp, 19 pp, 25 pp.

5. Conclusions

During the research the new method of touristic attractiveness assessment of the subjects of the Arctic zone of the Russian Federation based on BSC, enabling to take into account information needs of the tourists, population, regional authorities, investors in the touristic sphere were proposed. The original BSC (which includes economic, infrastructural, cultural and natural components), permitting to research and to assess quantitatively different aspects of touristic potential of the subjects of the Arctic zone of the Russian Federation were developed. The study showed that areas of the Arctic region have different potential for creating tourist clusters. According to the criterion of the availability of cultural and historical heritage the leader is the Republic of Karelia, Krasnoyarsk Territory is in second place, Arkhangelsk Region is the third one. The least potential on the objects of cultural and historical heritage are NAA and Chukotsky Autonomous Area. Most of the Arctic regions for the period 2009-2017 showed an increase in tourist traffic: the leaders are the Republic of Karelia, YNAA and Krasnoyarsk Territory; outsiders are NAO and Chukotsky Autonomous Area. According to the rating data the leader in terms of the tourist attractiveness in the Russian Arctic zone is Karelia, with the highest rates of tourism growth during the study period (2010-2016). The level of destination attractiveness in Murmansk Region, the second highest, has remained virtually unchanged. Arkhangelsk Region, despite the positive dynamics of tourist attractiveness, since 2013 occupies third place.

Economical problems (infrastructure, logistics, the high cost of the tourist product) create difficulties in the development of Russian Arctic zone. In addition, according to experts, climatic situation: the short duration of a favourable tourist period is the constraint for Arctic tourism development. The main result is the creation of the touristic potential assessment model of the subjects of the Arctic zone of the Russian Federation on the base of BSC according to the informational needs of the tourists, investors in the touristic sphere, population of the region, regional authorities.

The main criteria of reliability of the developed balanced assessment methodology should be the result of analysis of the connection between touristic potential of the subjects of the Arctic zone of the Russian Federation, calculated on the base of developed BSC, and the scope of touristic flows (subject to a time lag). Realized correlation analysis of connection between touristic potential of the subjects of the Arctic zone of the Russian Federation and the scope of touristic flows in it (time lag is 3 years) proves its sufficient stability.

The methodology used confirms the validity of the Balanced Scorecard as a tool for identifying factors of tourist attractiveness and a mechanism for coordinating the main interests of tourist actors, can be considered as the first stage of research into economic relations arising in the tourist business. The use of a balanced approach to assess tourist attractiveness will identify the main problems and determine ways to increase the tourist attractiveness of the Arctic zone’s subjects of the Russian Federation.

Prospective research direction is the development of new ranking methods of touristic potential assessment of the subjects of the Arctic zone of the Russian Federation based on BSC and according to the balance of interest of the touristic activity actors.

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