Innovative potential of the touristic-recreational sphere in the steppe regions of Russia in conditions of the current challenges

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Abstract. An assessment of innovative potential in the touristic-recreational sphere within the steppe regions in Russia is considered. Based on the author methodology (with selected indicators that the most complete reflect innovative potential), we marked out region – leaders, according to a level of innovative potential of the touristic-recreational sphere (the Republic of Crimea, Adygei, Sevastopol city) and outsiders (Volgogradskaya, Saratovskaya, Orenburgskaya oblasts). A final assessment of innovative potential is represented as a schematic map. A perspective plan "Innovative potential of the touristic-recreational sphere development in the steppe regions" was developed to effective progress of the touristic sphere and based on the following principal aspects: use of new recreational resources; regular updating and identification of new market outlets of touristic products; use of new techniques and technologies in the course of the realization of touristic products; construction of the system of scientific and human resources in the tourism; organization of event activities connected with the tourism (touristic exhibition, fairs, etc.). The conducted study will introduce in practice an optimized management strategy of the touristic-recreational sphere development in Russia's steppe regions, taking into account the current challenges.

1. Introduction

The touristic-recreational sphere represents itself as a dynamic and rapidly growing sector of the economy. It contributes to the formation of gross domestic products, promotes employment creation, infrastructure development, enterprising and investment activity, an increase of standard of living of the population, and broadening of inter-regional collaboration.

A presence of unique recreational resources in the steppe regions of Russia and due to the decline of international and inter-regional mobility, rising interests in domestic tourism promotes the touristic-recreational sphere to be considered as one of the prospective sectors of the economy where an assessment of innovative potential is required.

In conditions of the market economy, innovations play a crucial role in increasing the efficiency of enterprises and organizations of the touristic-recreational sphere. Innovations in the touristic-recreational sphere promote new ideas, services, and products for the market that allows the touristic-recreational branch to move at the upper degree of development. Competitiveness in the touristic-recreational sphere depends on innovations' growth. Besides an economic effect, the introduction of innovations in the tourist industry has a social significance. In A-M. Hjalager's opinion [1], the tourist
industry is one of the most innovative sectors in the world, considering its capability to include technological and social achievements.

2. Setting the problem
Different sources represent various interpretations of the notion of "innovation." In the Russian legislation, according to the Federal law of 21.07.2011 № 254-FZ "On addition of changes in the Federal law "On science and state scientific-technical politics" [2], innovations are interpreted as introduced in usage new or considerably updated product (service, goods) or process, the new method of sale or new institutional method in business, workplaces arrangement or in external relations. Definition of J. Schumpeter [3] often is used in the global scientific literature. He defined innovations as "new combinations" of novel or existing knowledge, resources, equipment, and other factors. He pointed that innovations should be distinguished from inventions.

According to A.-M. Hjalager [1,4], innovations can belong to one category or the combinations of the following five categories:

- Product innovations (ultimately new products or services, a novelty of which is visible – programs of loyalty and attraction of new clients, ecological objects of placement, and festivals of domestic culture);
- Process innovations (new technologies increasing the efficiency of all technological process – computerized systems of management and monitoring of the touristic-recreational sphere, robots for cleaning and service, and devices of self-service);
- Administrative innovations (new profiles and positions of the staff, the introduction of a career development system, etc.);
- Logistic innovations (for example, change relations between enterprises of the touristic sphere, restaurant, and food production, updating of the central systems of airports);
- Institutional innovations (for example, change of conditions of financing and change of concepts of different kinds of tourism on the federal level).

A line of publications can be marked out in the English literature. They devoted to systematizing information on the subject "innovations in tourism." The paper of B. Pikkemaat [5] can be considered as such work. The authors selected four principal directions of studies concerning innovations in tourism: the study of process innovations (paying attention to the fact that tourism becomes a branch which more collaborates with other spheres [6], it promotes to create of inter-sectoral and cross-functional teams); a study of organization or network's configurations; a study of science and technologies' influence (based on an analysis of a line of sources, the author concluded that formation and knowledge transfer in tourism, especially in service sphere, heavily depended on workers, their perception and behavior on a working place, but it turned on clients who participated in the creation of service and products); a study of eco-innovations (in the context of tourism, these researches are still in a nascent state [7]).

Despite an increasing bulk of scientific publications devoted to the tourism and recreation sector, few research studies are dedicated to studying the innovative potential of the touristic-recreational sphere of separate regions in Russia. The steppe zone is rich in natural and historical-cultural objects that are attractive for tourists. Diversity, contrast, uniqueness of recreational resources of the steppe regions are connected with land developments, historical-cultural development of its area, its natural, physical-geographical (location in the heart of the united Eurasian space: in two parts of the world and different environmental countries) [8], and socio-economic peculiarities [9], which are the basis for developing various directions of tourism [10]. In accordance with those above, the study's target is to estimate the innovative potential of the touristic-recreational sphere's development in Russia's steppe regions, taking into account the current challenges.

3. Materials and Methods
Innovations in the touristic-recreational sphere promote its adaptation to tourism's changeable character through new technologies of innovative products and processes' emergence. Based on the
existing statistical data, the authors have chosen indicators that the most complete reflect the various innovative potential of the examined region. The principal innovation indicators promoting to characterize creative potential in the steppe regions are:

- Investments in the capital stock directed to develop collective accommodation facilities (per number of collective accommodation facilities) [11];
- number of tour operators who design new touristic product and approval new touristic routes (per the population in the region) [11];
- Staff of the tourist industry in the area, particularly working in touristic agencies (per the people of the area) [11] and amount of students learning the "Tourism" in high educational institutions realizing of the training of specialists for tourist and hospitality industry and (per the population of the region) [11].
- Advertising activities are promoting to define priorities in a choice of a place for rest for a potential vacationer. Touristic information centers can render assistance in that choice [11]. An amount of touristic information centers in the steppe regions is used as an indicator (per the population in the region);
- Number of conducted events, competitions, festivals, exhibition-fair activities, and others directed to represent touristic resources (per the population in the region) [12];
- A state support in the touristic-recreational sphere, particularly a quantity of special economic zones of the touristic-recreational type [13] and a quantity of touristic clusters in the steppe regions (per the population of the region) [14];
- Scientific content, particularly, a number of defenses of a thesis (Ph.D., and doctor of sciences) on the touristic-recreational subject (per the population of the region) [15];
- A number of scientific publications regarding tourism in the region on the Elibrary.ru website (per the region's population) [16].

Besides mentioned indicators, it is reasonable to consider: a number of research projects in the frame of a collaboration between universities, scientific research institutions, and organizations connected with touristic business; a bulk of means attracted due to grants for the study of the touristic sphere in regions; a number of trademarks of registered brands connected with tourism; a number of projects in the frame of scientific research and design and experimental work connected with domestic tourism in the steppe regions; scales of state-private partnership in the touristic sphere; financial investments in the touristic-recreational sphere in regions; a bulk of means in the frame of the program of tourism development (it is often inseparable from sports content); a presence of the innovative infrastructure in the region (technological parks, business-incubator zones in the touristic sphere, technopolises, scientific, educational centers and others); a presence of innovative-informational systems in the touristic-recreational sphere; an amount of information and advertising materials containing information on the touristic potential. Unfortunately, based on these indicators, full-fledged statistics are not collected in the steppe regions; it complicates using this data to calculate an integral indicator.

The complex assessment of the innovative potential of the Russian steppe region's development is conducted according to the above indicators. All indicators were corrected to the normalized scale in a certain way,

\[ x_i^* = \frac{x_i - x_{\text{min}}}{x_{\text{max}} - x_{\text{min}}} \times N, \]

where \( x_i \) – a value of the variable of i-observation, \( x_{\text{min}} \) and \( x_{\text{max}} \) – the least and the largest observed values of the variable, \( N=1 \).

Then, the indicators were summed up, and the total rating was represented as a map. Speaking about the study methods, we should note that the comparative-geographical approach in the aggregate with statistical and geo-information methods promoted to reveal the innovative potential of the touristic-recreational sphere in the steppe regions. As a result of the field research, taking into account a line of factors, we worked out recommendations that authorities can use under the regional strategies realization in the touristic-recreational sphere.
4. Results and Discussion
Let's consider indicators marked by us on the steppe regions.

The dynamics of the indicator of investments in the capital stock to develop collective accommodation facilities in the steppe regions do not have brightly expressed annual trends. Nevertheless, spatial differences between regions on this indicator remain practically invariable, which promotes limiting oneself values for a year under the calculation of the integral indicator. Absolute leaders in the bulk of investments are the Republic of Crimea, Krasnodarskiy krai, Sevastopol, and the Republic of Bashkortostan every year.

The number of tour operators who design new touristic products and approve new touristic routes increased considerably from 2010 in each region. In 2021, the maximum amount of touristic agencies is in Krasnodarskiy krai, the minimal – in Ingushetia and Kalmykia. As of 2010, the maximum number of tour operators has been only two units (by two operators was registered in Saratovskaya, Rostovskaya, and Belgorodskaya oblasts). In 2021, the total amount of tour operators in the steppe zone has been 679 units (figure 1).

The number of employees in touristic agencies is maximal in Krasnodarskiy krai and Novosibirskaya oblast (figure 1). The real tendency in Russia's steppe zone is to reduce the officially employed in tour agencies (except for, Republics of North Caucasus).

An absolute number of students training "Tourism" are maximal in Krasnodarskiy krai and Rostovskaya oblast. Concerning the population number in the region, the maximal indicators are in Omskaya and Voronezhskaya oblasts.

Touristic information centers in the Russian steppe regions have not had a united network yet. Such centers operate only in separate areas. The maximum number of touristic centers located in the region is in the Republic of Crimea, where 21 centers were registered, which correlates with a tourist flow’s total indicators. In the other area, their amount does not exceed 4, and they are absent in the Republic of Adygei, Saratovskaya oblast, and Sevastopol city. Touristic-information centers operate in those places where they have financing.

Centers promote to increase touristic-recreational popularity and attractiveness of the area.

The number of officially registered conducted events directed to represent touristic resources is maximal in Voronezhskaya and Kurganskaya oblasts; they practically are absent in North Ossetia and Stavropolskiy krai.

![Figure 1](image_url)

**Figure 1.** Number of tour operators (2021) and employees of touristic agencies (2017) in the regions of the steppe zone in Russia.

Special economic zones of the touristic-recreational kinds and touristic clusters are absent in a line of the regions. The number of defenses of Ph.D. and doctor theses on the subject of tourism
development in the steppe regions and the number of scientific publications on the touristic-
recreational matter is maximal in the Republic of Crimea and Krasnodarskiy krai.

The indicators were unitized on a scale from 0 to 1, and then the parameters were summed up to
detect the integral indicator. Results of calculations are represented in the table (table 1).

**Table 1.** Uniform values of the indicators and the total integral indicator of innovative potential of
the touristic sphere in the steppe regions.

| Region                      | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | Integral indicator |
|-----------------------------|----|----|----|----|----|----|----|----|----|-------------------|
| Belgorod Oblast             | 0.04| 0.20| 0.32| 0.73| 0.06| 0.10| 0.20| 0.00| 0.26| 1.91              |
| Voronezh Oblast             | 0.01| 0.15| 0.04| 0.90| 0.12| 0.38| 0.07| 0.00| 0.05| 1.71              |
| Republic of Adygea          | 0.05| 0.15| 0.08| 0.66| 0.00| 0.20| 1.00| 0.56| 0.46| 3.16              |
| Republic of Kalmykia        | 0.00| 0.05| 0.03| 0.71| 0.34| 0.11| 0.00| 0.00| 0.55| 1.80              |
| Republic of Crimea          | 0.72| 0.38| 0.50| 0.43| 1.00| 0.17| 0.56| 0.13| 1.00| 4.89              |
| Krasnodar Krai              | 0.14| 0.46| 0.35| 0.41| 0.05| 0.01| 0.19| 0.05| 0.24| 1.90              |
| Volgograd Oblast            | 0.01| 0.26| 0.27| 0.00| 0.04| 0.21| 0.12| 0.00| 0.13| 1.04              |
| Rostov Oblast               | 0.04| 0.32| 0.24| 0.78| 0.09| 0.04| 0.07| 0.00| 0.05| 1.63              |
| Sevastopol Krai             | 1.00| 1.00| 1.00| 0.74| 0.00| 0.10| 0.00| 0.00| 0.45| 4.29              |
| Republic of Ingushetia      | 0.00| 0.10| 0.00| 0.26| 0.18| 0.29| 0.00| 1.00| 0.01| 1.84              |
| Kabardino-Balkar            | 0.02| 0.08| 0.17| 0.32| 0.10| 0.02| 0.71| 0.30| 0.19| 1.92              |
| Republic of North Ossetia-Alania | 0.00| 0.08| 0.07| 0.70| 0.13| 0.00| 0.00| 0.37| 0.10| 1.45              |
| Chechen Republic            | 0.00| 0.00| 0.00| 0.51| 0.06| 0.13| 0.31| 0.17| 0.09| 1.28              |
| Stavropol Krai              | 0.00| 0.28| 0.19| 0.57| 0.03| 0.00| 0.11| 0.00| 0.09| 1.27              |
| Republic of Bashkortostan   | 0.08| 0.27| 0.16| 0.55| 0.02| 0.05| 0.11| 0.06| 0.09| 1.39              |
| Orenburg Oblast             | 0.01| 0.18| 0.05| 0.51| 0.09| 0.03| 0.08| 0.13| 0.09| 1.17              |
| Samara Oblast               | 0.06| 0.43| 0.26| 0.70| 0.03| 0.04| 0.29| 0.00| 0.04| 1.86              |
| Saratov Oblast              | 0.01| 0.22| 0.09| 0.71| 0.00| 0.02| 0.00| 0.00| 0.04| 1.09              |
| Kurgan Oblast               | 0.03| 0.24| 0.07| 0.41| 0.22| 1.00| 0.00| 0.00| 0.00| 1.97              |
| Chelyabinsk Oblast          | 0.06| 0.40| 0.16| 0.60| 0.11| 0.24| 0.13| 0.00| 0.01| 1.70              |
| Altai Krai                  | 0.21| 0.25| 0.39| 0.46| 0.04| 0.10| 0.00| 0.11| 0.27| 1.82              |
| Novosibirsk Oblast         | 0.10| 0.56| 0.23| 0.82| 0.07| 0.02| 0.00| 0.00| 0.02| 1.81              |
| Omsk Oblast                 | 0.02| 0.41| 0.05| 1.00| 0.05| 0.06| 0.16| 0.00| 0.12| 1.85              |

\[ \text{g} \] A bulk of investments in collective accommodation facilities (per number of collective accommodation facilities).

\[ \text{b} \] Number of employees in the touristic agencies (per number of the population in the region).

\[ \text{c} \] Number of tour operators (per number of the population in the region).

\[ \text{d} \] Number of students pursuing "Tourism" (per number of the population in the region).

\[ \text{e} \] Number of touristic information centers (per number of the population in the region).

\[ \text{f} \] Number officially registered conducted events to represent touristic resources (per number of the population in the region).

\[ \text{g} \] Number of defenses of Ph.D. and doctor theses on the subject of tourism development in the steppe zone regions (per number of the population in the area).

\[ \text{h} \] An amount of special economic zones of the touristic-recreational types and touristic clusters (per the region's population).

\[ \text{i} \] A number of scientific publications on the touristic-recreational matter (per number of the region's population).
The integral indicator promoted to detect regions-leaders in a level of innovative potential in the touristic-recreational sphere (figure 2). Such regions in the steppe zone of Russian are the Republic of Crimea, Sevastopol city, and the Republic of Adygei. Scientific and financial interests in the Republic of Crimea arose in the 2010s connected with political events and a considerable inflow of Russian tourists. The three mentioned regions are substantially distinguished among other steppe zone areas by the integral indicator of innovative potential, which is twice as high (given that the diapason of values between other regions is little).

The authors developed a perspective plan, "Innovative potential of the touristic-recreational sphere’s development,” considering the current challenges, based on several scenarios.

A staff scenario is possible, which stipulates retraining of specialists capable of working with vacationers of various cultures, bearers of different languages in conditions of cardinal transformation of the modern touristic service, particularly establishing new in-house standards of service in the touristic and hotel service.

An investment scenario is connected with designing an effective and competent development strategy using new technologies and management decisions in the touristic sphere. Creative directions are: use of recreational resources not exploited before in the region; regular reproduction of the touristic products (output of new types of touristic products, hotel service, the food sphere, and entertainment); detection of new markets to sell touristic products; use of new techniques and new technologies in the course of the realization of the touristic products; innovations in the organization of production (participation of authorities, scientific and educational organizations) and consumption of a touristic product (diversification of a touristic product); the holding of scientific research works, seminars, staff training, organizations of exhibitions, fairs, etc.
5. Conclusion
The innovative potential of the tourism sphere in the steppe regions of Russia, on the whole, can be estimated as a medium; the diapason of values between the most areas is little. Nevertheless, we can notice leaders (Crimea, Sevastopol, Adygei) and outsiders (Volgogradskaya, Saratovskaya, Orenburgskaya oblasts). To develop the touristic-recreational sphere and introduce innovations, it is required: construction of new particular economic touristic-recreational clusters and zones with appropriate federal financing, number of which is insignificant in the steppe regions at present; formation of the system of scientific and staff assistance (from education to retraining) of the touristic-recreational sphere in the area.

The target of innovative development of the touristic-recreational sphere is forming the touristic product of high quality. It is necessary: to qualify staff, invite investments, make updating the taxation system for organizations participating in innovations in the touristic sphere.

The recommendations mentioned by the authors will promote to use in practice an optimized management strategy of the touristic-recreational sphere development in the steppe regions of Russia in conditions of the current challenges.

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