



EVALUATION OF INNOVATION CAPACITY RESOURCE COMPONENTS IN EFFECTIVE MANAGEMENT OF RECREATIONAL CLUSTERS ON THE BASIS OF ECONOMETRIC ANALYSIS

Mirzaev Abdullajon Topilovich

*Senior teacher of the Ferghana Politechnical Institute, PhD 150100, Ferghana street 86,
Ferghana city, Uzbekistan*

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ABSTRACT

The article examines the methodology for assessing the resource component of the innovation potential of clusters in the field of recreational tourism, which in recent years has been able to develop the national economy at a rapid pace. In the process of the research, developed the authorship definition on the basis of a theoretical study of the terms “innovation potential of the tourist recreation subject (TRS)” and “innovation potential of the tourist recreation clusters (TRK)”, which are considered the main link of the tourist recreation cluster. The method of assessing the resource component of the innovation capacity of the clusters in the recreational tourism sector was improved by using a model based on the modified production function of Cobb-Douglas as a research innovation.

Theoretical research is based on the determination of the forecast indicators for the year 2022 in the Republic of Uzbekistan through the econometric model in the linkage of factors affecting the volume of recreation services rendered for 2013-2019 years.

KEYWORDS: *tourism, recreational tourism, recreational clusters, management of recreational clusters, innovation potential, resource component, innovation potential of the recreational subject, innovation potential of the recreational clusters, the resource base indicators.*

INTRODUCTION

In recent years, in the process of economic development of the countries the development of individual sectors on the basis of a cluster approach requires research into the current state of affairs. Taking into account this, the formation of recreational service clusters, which are one of the effective directions of the organization of recreational activities in the regions, and the development of the market of services on the basis of their management is recognized as a promising direction.

Today, the tourism industry is becoming one of the leading sectors of the world economy. In this regard, special attention is paid to modernization of the tourism sector in Uzbekistan, improvement of the base of normative-legal documents for the sustainable development of the sector, provision of services in accordance with international standards. The role of tourism, which is now one of the important sectors of the

economy, is very significant. The development of the tourism industry is associated with the complication of production, the replenishment of the consumer market with goods due to daily and personal demand, the rapid growth of scientific and technological progress that refreshes the life of society. All this can not be done without information, financial, transport, consulting and other types of services.

Today, on account of the development of domestic tourism on a global scale, Uzbekistan is also creating extensive conditions for the restoration of the declining tourist flow in the market of tourism services. This puts the population on the agenda of increasing demand for recreational services and the issue of forming an effective offer of these services. Taking into account the above, improved the theoretical and practical method of formation of the



resource component of innovation capacity in the management of recreational clusters.

LITERATURE ANALYSIS

Even in foreign literature, which reflected the results of various studies, there is no unanimous opinion on recreational system and some concepts related to it. The reason for this – the definition of the concepts of recreation and recreational activity, and boundaries of its activity is a complex process. The absence of a single interpretation of the terms, the existence of different approaches and concepts in different countries, the lack of information in the legislation on the concept of recreation, the possibility of obtaining accurate information on recreation reduce the possibility of carrying out research on a large scale.

On the base of the theoretical research as one of the results developed author's definition of the terms “innovation potential of the recreational subject” and “innovation potential of the recreational clusters”, which are relevant for the fact that it is one of the most important and necessary concepts in the management of tourist-recreational activities.

A.V.Drozdov notes that since these terms do not have a clear definition yet, there are objections and sub-approaches in its meaning [1].

Researches I.V.Zorin, V.S.Kvartalnov, L.G.Lukyanova and N.A.Kamenskih cited that the term innovation capacity can be used in the innovation activities of the recreational subject from natural, anthropogen and regional resources in order to meet the needs of tourists [2, 3].

By A. Mirzaev studied the problems of assessing the processes of organization and management of recreational activities, the analysis of factors affecting the recreational facilities of the regions, the improvement of the integral assessment of recreational facilities [4, 5, 6, 7], and G.Khonkeldieva investigated the organizational and economic dimensions of management of investment activities, improvement of management processes in corporate governance systems based on the mechanism of Public-Private Partnership (PPP) [8, 9, 12]. The researches of A.Asrakulov studied theoretical and practical aspects regression link [10, 11].

As can be seen from the above, factor analysis of the impact of the innovation potential of tourist recreation clusters on the volume of cluster services of the resource component is not sufficiently reflected in the research of foreign and domestic scientists. Taking into account the above, in this research developed recommendations for improving the methodology for assessing the resource component of innovation capacity in the management

of recreational clusters on the basis of a theoretical study.

METHODOLOGY

In the research on the basis of monographic research studied theoretical aspects the evaluation of the resource component of innovation capacity in the management of recreational clusters. Based on official statistics, and by using EViews10 analysis software, determined the volume of recreation services, which are considered the main indicator and the resource component indicators affecting it, evaluated the econometric model, the trends of changes in the main parameter based on the time series, and determined the forecast indicators for the short-term period.

In the process of carrying out the research, used methods of scientific abstraction, correlation-regression analysis, analysis and synthesis.

RESULTS

In the structure of the innovation potential of the recreational subject, support for infrastructure resources occupies a special place. The composition of this resource should include the following:

- information support from organizational point of view;
- economic, financial and legal consulting services;
- communication systems;
- consulting services in marketing and advertising.

It is desirable to group the resource indicators used in recreational activities as follows:

- sources supporting scientific activities;
- material resources;
- institutional resources;
- investment resources.

Complex system development is required to assess the resource component of the innovation potential of the recreational cluster resources:

- formulate strategies and objectives for the innovation policy of the cluster, including the policies and strategies of the region in the field of recreational tourism development;
- build a database for quality management decisions;
- analysis and statistical calculations, as well as an international comparison of the existing results of an interregional or tourist-recreational entity;
- attracting interested parties (potential consumers, suppliers, service providers, the public, etc.) to the activities of the recreational entity.

Comprehensive evaluation of the resource component of the innovation capacity of tourist-recreation clusters should be carried out using



economic evaluation tools and methods that allow to select comparable indicators. The resource component can be determined on the basis of the quantitative value of the innovation potential, the use of the services of the tourist-recreational subject in historical and cultural areas, the environment, the quality of recreation.

In order to develop a system of indicators for the resource component of innovation capacity, it is necessary to take into account, in addition to the information base, statistics of the data service and reports of business entities, as well as existing official data, institutional aspects affecting the innovation potential of the tourist recreation entity.

In our opinion, the resource component tourist-recreation services complex is the maximum value of the innovation potential that can be used to evaluate the current innovation activity, while the cluster service is determined by the maximum number of consumers.

This volume is formed by the number of places of residence of tourists, the volume of food, the number of local entrepreneurs serving tourists, the human resources involved in the cluster, information resources, financial resources, infrastructure resources and transport resources.

Apparently, to the development of the general potential of the tourist-recreation clusters affects its scientific and innovative, investment potential and institutional indicators.

The volume of services provided by the tourist-recreation cluster can be characterized by the modified function of producing one-factor Cobb-Douglas.

$$V = P \cdot Q^a$$

There are:

V - volume of services provided by the tourist-recreation cluster;

P - the cost of services created on a unit resource account;

Q - resource size indicator;

a - depreciation coefficient, the share of the factor of production over a period of time.

The determination of the resource component of innovation capacity using this system of indicators is theoretically a new method in determining and assessing the volume of recreational activities in our country, and the introduction of this method into practice allows effective organization of tourist recreation activities in tourist-recreation clusters.

The planning and modeling of the management of tourist-recreation activities on the basis of the method of determining the resource component of the innovation potential, analyzed theoretically above, determines the strategy of the management at a high level.

Modeling of the dynamics of the main indicators of tourist-recreational activities in the Uzbekistan can be carried out with the help of models in the form of trends, and time series in the field.

Table 2

The main indicators of tourist-recreational activities in Uzbekistan

No	Indicators	2013	2014	2015	2016	2017	2018	2019
1	The volume of recreational services (bln. som)	55872,8	68032,1	78530,4	97050	118811	150889,8	191629,8
2	Accommodation and catering services (bln.som)	590,1	729,1	890,6	3038,7	3649,6	4673,3	5984,1
3	Number of sanatoriums	98	103	111	116	119	128	138
4	Number of profiled sanatoriums	55	59	56	62	63	73	84
5	Number of vacation homes, vacation bases and boarding houses	49	53	53	52	59	84	120
6	Number of tourist bases and other recreational facilities	168	172	172	204	219	199	180

Regression analysis showed that the volume of rendered recreational services in Uzbekistan for the years 2013-2019 has a tendency to grow steadily under the influence of factors (Figure 1).

By using the EViews10 program, also evaluated the changes of the main endogen indicator on the residual, real and fitted trends (Figure 2).

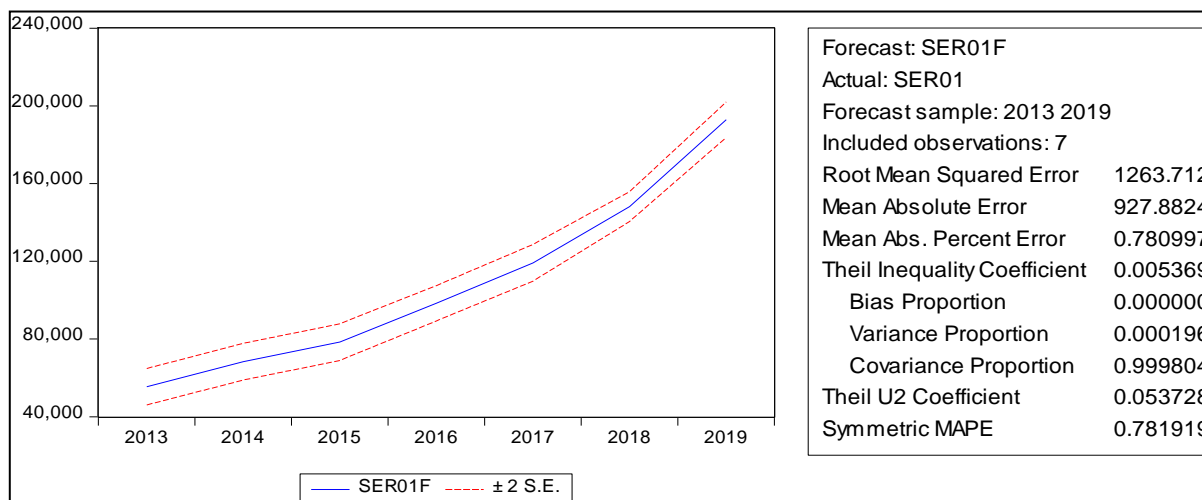


Figure1. The trends of change of the volume of rendered recreational services in Uzbekistan in 2013-2019

Apparently, the discrepancy between the indicators based on the actual and fitted model is very small, and based on this, it can be noted that the management and coordination of the above 5 main

factors affecting the volume of recreational services indicated in the coming period is important in the sustainable development of the recreational services.

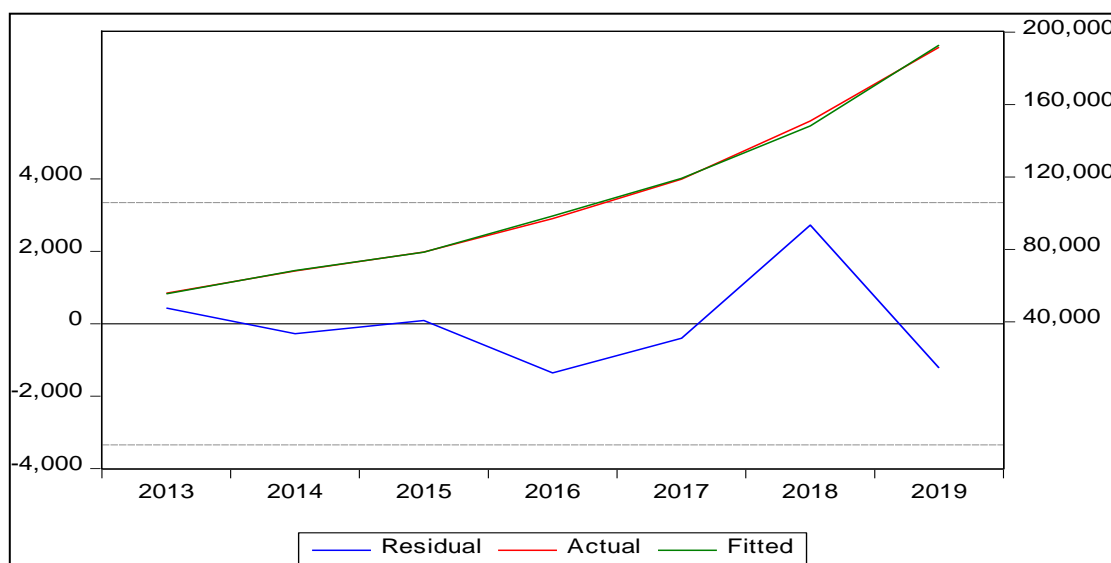


Figure2. Residual, real and fitted model trends in the volume of rendered recreational services in Uzbekistan in 2013-2019

Regression analysis revealed that the change in the volume of recreational services as a result changed based on the following regression model:

$$y = -1,27x_1 + 1225,91x_2 - 177,53x_3 + 1313,93x_4 + 592,26x_5 - 218065,5$$

When considering the adequacy of the model, it seems that the quality indicators of the model are as follows:

- R-squared (R^2)	-	0,9992
- S.E. of regression (SE)	-	3343,47



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- F-statistic ($F_{stat.}$)	-	254,75
- Prob(F-statistic)	-	0,0475
- Schwarz criterion	-	18,79
- Hannan-Quinn criterion	-	18,26
- Durbin-Watson stat	-	2,59

Based on the above model, it is possible to determine the forecast indicators of the volume of recreational services and the factors affecting it for 2020-2022 years, as well as to determine the

directions of factor management, which affect the achievement of these indicators in the next three years (Figure 3).

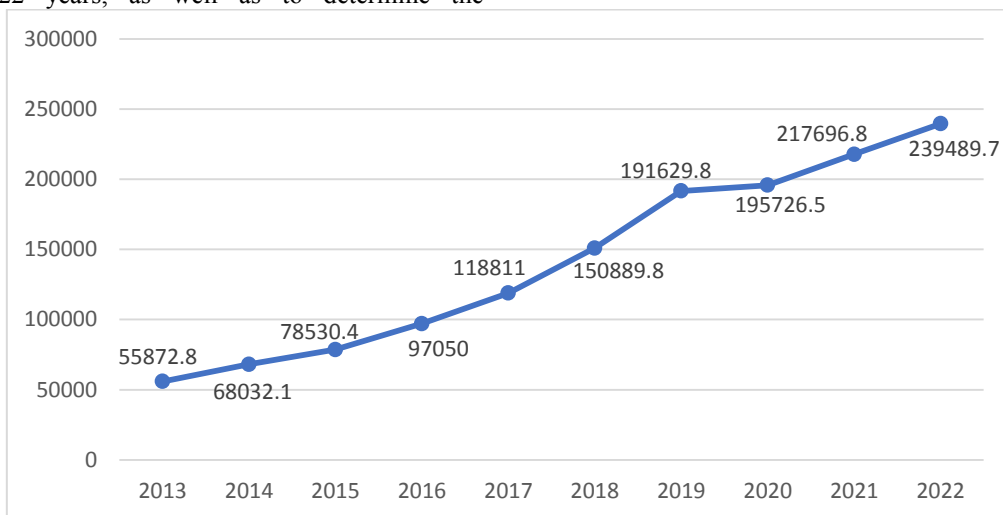
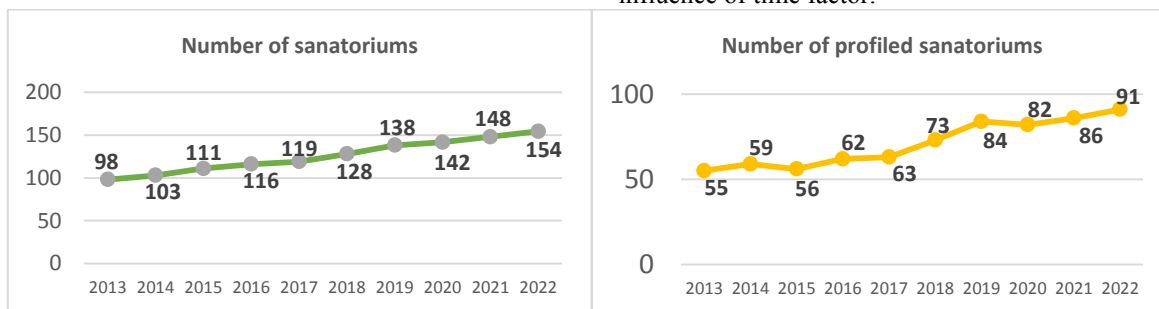
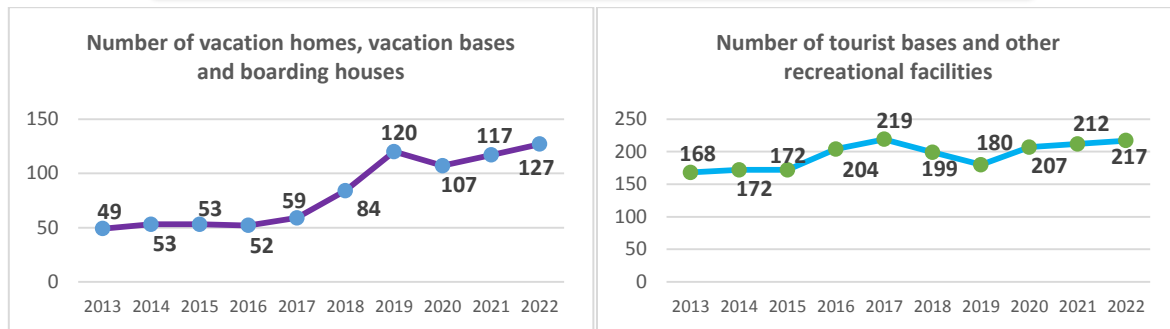


Figure 3. Changes in the volume of rendered recreational services in Uzbekistan in the period 2013-2022

As can be seen from the picture, the volume of recreational services on the basis of the identified model and the factor affecting it the forecast indicators of the indicator (resource component) for the years 2020-2022 have a steady growth trend (Figure 4).

The trend of change from the introduction of 4 influencing factor indicators, which are considered as tourist-recreation resource components, in which the units of measurement are the same, to the forecast indicators developed on the model based on the time series in 2013-2019 years, into the time series shows a steady (close to linear linking) growth in the influence of time factor.



**Figure 4. Change of tourist-recreational resource components in 2013-2022**

Based on the analysis, by modeling the innovation potential of the components of tourist recreation resources, the opportunities for identifying the necessary points and supports for the processes of management activity in recreational tourism clusters and sustainable development of clusters on this basis are high.

RECOMMENDATIONS

Based on the above tasks and practical results, made the following suggestions and recommendations:

- development of a separate structure and long-term strategy of management of the activities of tourist recreation enterprises on the basis of the method of determining the resource component of innovation capacity;

- expansion of the material and technical base of the clusters on the basis of regular and planned attraction of domestic and foreign investments to tourist recreation activities and wide involvement of innovations to the sphere;

- determined trend of change for 2013-2022 years of the main indicators related to tourist recreation activities in Uzbekistan. According to it, the forecast indicators indicate that the volume of services provided by the main types of economic activity can reach a rapid growth trend by 2022 year.

- restoration of tourism clusters in tourist-recreation areas (construction of a complex of tourist facilities covering all areas of tourism in addition to sanatoriums, boarding houses and recreation areas available in all regions of Uzbekistan and through the attraction of domestic and international tourists);

- establish " free tourist zones" in regions, where widely developed tourism clusters;

- increase the attention to recreational tourism by attracting foreign tourists to the recreational areas and resorts.

The development of effective use of the method of application of the resource component of innovation capacity in the recreational clusters in order to maximize the level of use of existing tourist-recreation services on the basis of effective

management and planning of tourist-recreation activities and effective organization of the offer of services further reduces the development period of the sphere. This will be the basis for determining the high saturation point of demand and supply relations in the recreation services market, as well as accelerating the development diffusion of the tourist-recreation services market in the cross-border regions, creating new jobs, ensuring effective employment of the population.

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