ECONOMIC EVALUATION OF MULTIPLICATIVE EFFICIENCY ON THE BASIS OF GENERALIZED INDICATORS OF RESOURCE COMPONENTS IN TOURIST RECREATION ACTIVITIES

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Article history:		Abstract:
		In the article, studied the the basis of theoretical methods of economic evaluation of the multiplicative effect on the basis of generalized indicators of resource components in tourist recreation activities. Carried out multi-factor analysis in the EViews10 software package on the change in the influence of its main factor (resources) by taking the change in the number of users of services in the National tourist-recreation sector as the endogen factor. Based on the identified trend models based on the forecasts of the change in the number of recreants who will use tourist-recreation services in 2021-2025 years. Developed the structural model of evaluation of the effect of the multiplikative effect on the result of tourist-recreational activities and recommended to use in practice.

INTRODUCTION

The reforms carried out in the country in the conditions of modernization of the economy on the formation of a stable and productive economy are showing its positive results today. In particular, as a result of the rapid development of the tourism sector, an opportunity is created to ensure the welfare of the population and solve the issues of employment. In this regard, special attention is paid to the sectors in which tourism can be develop in the future and have a significant impact on the volume of gross domestic product.

Although structural changes are being made in the development of tourism services in our country with wide coverage, it should be noted that the reforms in the development of the tourist recreation services network are still at the starting point. The development of regions with a high tourist-recreational potential on the basis of the existing advantages gives a relatively high efficiency in the rapid and balanced development of regions. The achievement of a significant increase in the volume of services in a short period of time on the basis of improving the processes of management of tourist-recreational activities, on the one hand, leads to an increase in the consumption of domestic tourism in the country, on the other hand, the increase in the volume of exports of tourist-recreational services.

LITERATURE ANALYSIS

Even in foreign literature, which reflected the results of various studies, there is no unanimous opinion on recreation and some concepts related to it. The reason for this – the definition of the concepts of recreation and recreational activity, the definition of the boundaries of its activity is a complex process. The absence of a single interpretation of the terms on this topic, 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 and on the basis in the area under study.

V.A. Kvartalnov pointed that Recreation is the process of an expanded restoration of the physical, mental and emotional strength of a person. According to the definition of the US National Center for Tourism Policy Studies, recreation is the process of the person's free time [1].

In the Z. Usmonova's research, the concept of recreation is interpreted in the form of restoring health and labor through recreation outside the home, for example, on tourist trips to nature, in sanatoriums, health resorts [2].

Resource components in tourist-recreation activities are the sum of the faith of the enterprise operating in the field of effective and new use of the available resources to the tourists visiting due to their need.

In T.V. Zyazina and V.N. Jerdev's theoretical research, it is stated that the study of tourist-recreation resource components can be carried out in three stages [3]

1. Socio-economic.
2. Natural-geographic.
3. Ecological.

ANALYSIS AND RESULTS

In the econometric analysis of socio-economic development processes, taking into account the extensive use of the above-mentioned multi-factor production functions and the functions arising from them, we determine the flow volume change of the recreants that forms the gross volume of services of the National tourist-recreation services sector on the basis of a multi-factor link, the econometric models. The identified models will help the user of tourist-recreation services to determine the target forecast indicators for the medium and long-term period on the basis of determining the factors management trends affecting the number of recreants, as well as to determine the measures necessary to ensure these indicators.

A multi-factor analysis was carried out on the change in the number of users of services in the National Tourism and recreation sector in the impact of its main factor (resources), taking the change as an end factor.

On the basis of expert analysis conducted with the participation of leading experts of the state agency for tourism development of the Republic of Uzbekistan, the following indicators were selected, having determined the high peak of the function, that is, the resultant factor, the number of users of tourist-recreation services (Table 1).

X_1 – the volume of investments included in the main capital;
X_2 – number of seats available in tourist-recreation destinations;
X_3 – the volume of real total revenues per capita;
X_4 – the volume of services per capita.

Table 1
Indicators of the number of recreational users of tourist-recreation services in the Republic of Uzbekistan and the factor affecting its change[1]

Years	Number of recreation users of tourist recreation services, one thousand (Y)	The volume of investments included in the main capitalalga, billion. sum (X_1)	Number of seats available in tourist-recreational destinations, unit (X_2)	The volume of Real total revenues per capita, thousand soums (X_3)	The volume of services per capita, thousand soums (X_4)
2011	255,1	19500	16999	2264,8	1199,6
2012	275,7	24455,3	17228	2831,6	1490,7
2013	265,5	30490,1	18182	3142,1	1847,4
2014	291,6	37646,2	21350	3601,3	2211,9
2015	310,2	44810,4	22098	4805,2	2509
2016	334,8	51232,0	22215	5503,5	3047,3
2017	355,7	72155,2	22625	6227,8	3668,3
2018	426,6	124231,3	27293	7300,2	4578,5
2019	528,3	195927,3	28073	8963,7	5768,2
2020	448,6	202000,1	28109	9264,7	6393,2

If the essence of the indicators of the endogen factor and the exogen factor affecting it are seen, the factors affecting it will have a link close to the model in the form of a production model based on the representative factor indicators, which have a significant influence on the level of use of capital, resources and services. The data in the form of the above time series were analyzed by using the EViews10 software in order to determine the trends of change in the number of users of tourist recreation services based on the correlation of the main endogen and exogen factors separated. On the basis of the trend models identified using the software package, in 2021-2025 the forecasts of the change in the number of users of tourist recreation services, as well as the list of the most favorable models for their calculation, were presented (Table 2).

Using the identified data, a multi-factor econometric model of the change in the amount of recreants using tourist-recreation services and the impact of factors affecting it was drawn up. According to this, representing this process:

$$y = 0.00172 \cdot x_1 + 0.00602 \cdot x_2 + 0.06314 \cdot x_3 - 0.11821 \cdot x_4 + 122,539$$

(1)- the regression equation was drawn up.

When using the software package, it is necessary to check the reliability and adequacy of the configured model and its parameters on the basis of several criteria and make sure that the results are accurate.

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[1] Ўзбекистон Республикаси давлат статистика қўмитаси маълумотлари асосида муаллиф томонидан ишлаб чиқилган.

In the trend identified, autocorrelation was found to be slightly higher than the specified optimal threshold (DW=2.28) and above the requirement for other criteria (1) - the regression equation was found to be reliable and proved to be adequate.

Table 2
Trend models of indicators of the number of users of tourist-recreation services and factors affecting it, as well as forecast indicators for 2021-2025 years [2]

Indicators and their factor models	Forecast indicators				
	021	022	023	024	025
Indicators and their factor models $y = 0.00172 \cdot x_1 + 0.00602 \cdot x_2 + 0.06314 \cdot x_3 - 0.11821 \cdot x_4 + 122,539$	500,0	527,4	554,8	582,2	609,7
The volume of investments included in the main capitalalga, billion. Sum $x_1 = 20736,12 \cdot t - 33803,9$	194293,4	215029,5	235765,7	256501,8	277237,9
Number of seats available in tourist-recreational destinations, unit $x_2 = 1366,07 \cdot t + 14903,8$	29931	31297	32663	34029	35395
The volume of Real total revenues per capita, thousand soums $x_3 = 819,93 \cdot t + 880,83$	9900,1	10720,0	11539,9	12359,9	13179,8
The volume of services per capita, thousand soums $x_4 = 877,26 \cdot t + 96,48$	6446,3	7023,6	7600,9	8178,1	8755,4

Using a multi-factor econometric model, the users of tourist-recreation Services expressed the appearance in the graph of the values of the number of recreations in the medium term, that is, in 2011-2025 years, the change (1-table).
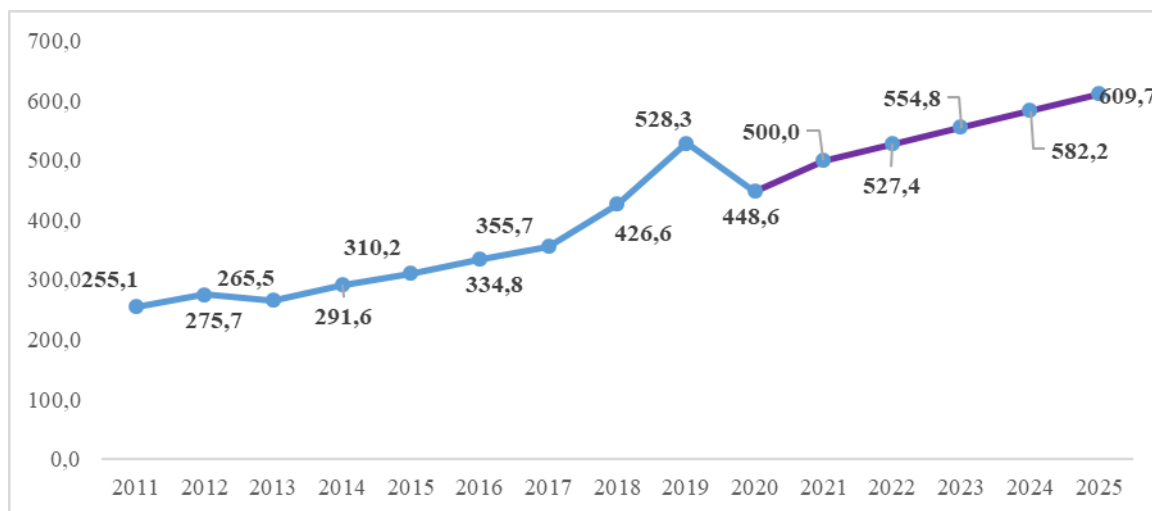
1-picture. Change in the figure of the number of users of tourist-recreation services in 2011-2025 [3] (a thousand)

On the basis of the above factor links, we built a development scenario based on the impact of factors on the number of recreational users of tourist recreation services, which is considered as a result of the indicators most important in the development of the National tourist-recreation sector. The use of identified trends makes it possible to optimize the efficiency obtained from the resource unit with the correct allocation of the volume of resources included in the industry.

In assessing the potential of the resource components used in the tourist recreation activities, attention should be paid to the following quantitative and qualitative characteristics of the resources:

- the total amount of available resources in the tourist-recreational activity, which characterizes the possible amount of available tourist-recreational resources, which can be used for activities at a certain time and in a certain area and expressed in units of uniform measurement;

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[2] Based on the results of the study, it was developed by the author..
[3] Муаллиф тадқиқотлари асосида ишлаб чиқилган.

- capacity value, which is the maximum capacity of recreational services provided by the given quality and quantity of tourist-recreational resources available in the conditions that ensure the timely and complete implementation of the services. This indicator determines the highest return on the use of available capacity;

- parameters of high utilization of the available capacity, that is, to reflect the achieved level of its implementation and to characterize the actual return on the use of recreational resources.

- tourist-recreation potential of the resource components includes the basic elements that have different functional applications, expressed in cost indicators:

- scientific resources are the basis of capacity, determine its base and influence on the volume of activity. They represent possibility of the activity of the research system, which creates scientific ideas and evaluates the possibilities of their implementation;

- material resources – determine the technical and technological base of the potential that affects the scale and intensity of activity;

- information resources (databases, algorithms, models, programs, projects, etc.) –ensures the change of material resources from inactive state to active state;

- financial (investment) resources are part of the capacity as a complex unit of unused capacity. They are characterized by a set of financial resources, financial capacity reserves and can be used to achieve a specific goal;

- human resources are the creative basis of activity, a set of social, human and entrepreneurial abilities and knowledge possessed by man.

Support of infrastructure resources in the potential structure of the tourist-recreation resource components occupies a special place. The composition of this resource should include the following:

- organizational information support:
- economic, financial and legal consulting services;
- communication systems;
- consulting services in marketing and advertising.

Infrastructure resources provide a number of services for the main activity, which are described below:
- for information resources – communication and data transfer services;
- for material resources – logistics, transport, banks, marketing, advertising and other services;
- for institutional resources – organization of state programs, Organization of beaches, creation of recreation areas and other services;
- for investment resources – financial, economic, legal consulting services, banking services and other services.

It is desirable to group the resource indicators used in tourist-recreation activities as follows:
- sources supporting scientific activities;
- material resources;
- institutional resources;
- investment resources.

In order to assess the potential of the tourist-recreational resource components belonging to the region or enterprise under study, the development of an index assessment system is required:

- formulate strategies and objectives for tourist-recreational policy, including policies and strategies for the development of tourist and recreational activities of the regions;
- build a database for quality management decisions;
- analysis and statistical calculation, as well as comparison of the results available in the area of tourist-recreation at the international level;
- attracting interested parties (consumers, suppliers, service providers, the public, etc.) to the tourist-recreation activities.

Comprehensive evaluation of the resource component of tourist-recreation activities should be carried out using economic assessment tools and methods that allow to select comparable indicators. The quantitative value of the potential of the resource component can be determined on the basis of the use of services of historical and cultural sites, the Environment, Recreation quality tourist recreational activities.

Indirect influence of tourist-recreational activities on the overall impact of the sphere on the holistic socio-economic systems, due to its specific socio-economic characteristics, is characterized by a multiplicative effect, which is several times higher than the level of direct influence. And as the main factor in this case, it will be correct to indicate the multiplicative effect. Because tourist-recreational activities support the development of sectors related to the sphere through the chain "costs – revenues".

During the research process, developed a structural model methodology that allows to evaluate the effect of multiplicative efficiency on the result of tourist-recreational activities and recommended for the use of this model in practice (Figure 2).

The tasks performed by the model are carried out in 6 stages, these stages are as follows:
1. Set goals and objectives.
2. Identify key indicators that assess financial activity.
3. Formation of resource supply.
4. To determine the methods of managing financial activities.

5. Formation of the resultant evaluation and forecast indicators.

6. The result is a multiplicative effect.

In order to evaluate and determine the multiplicative effect, it is necessary to determine the signs and essence of the indicators using the data from the table above.
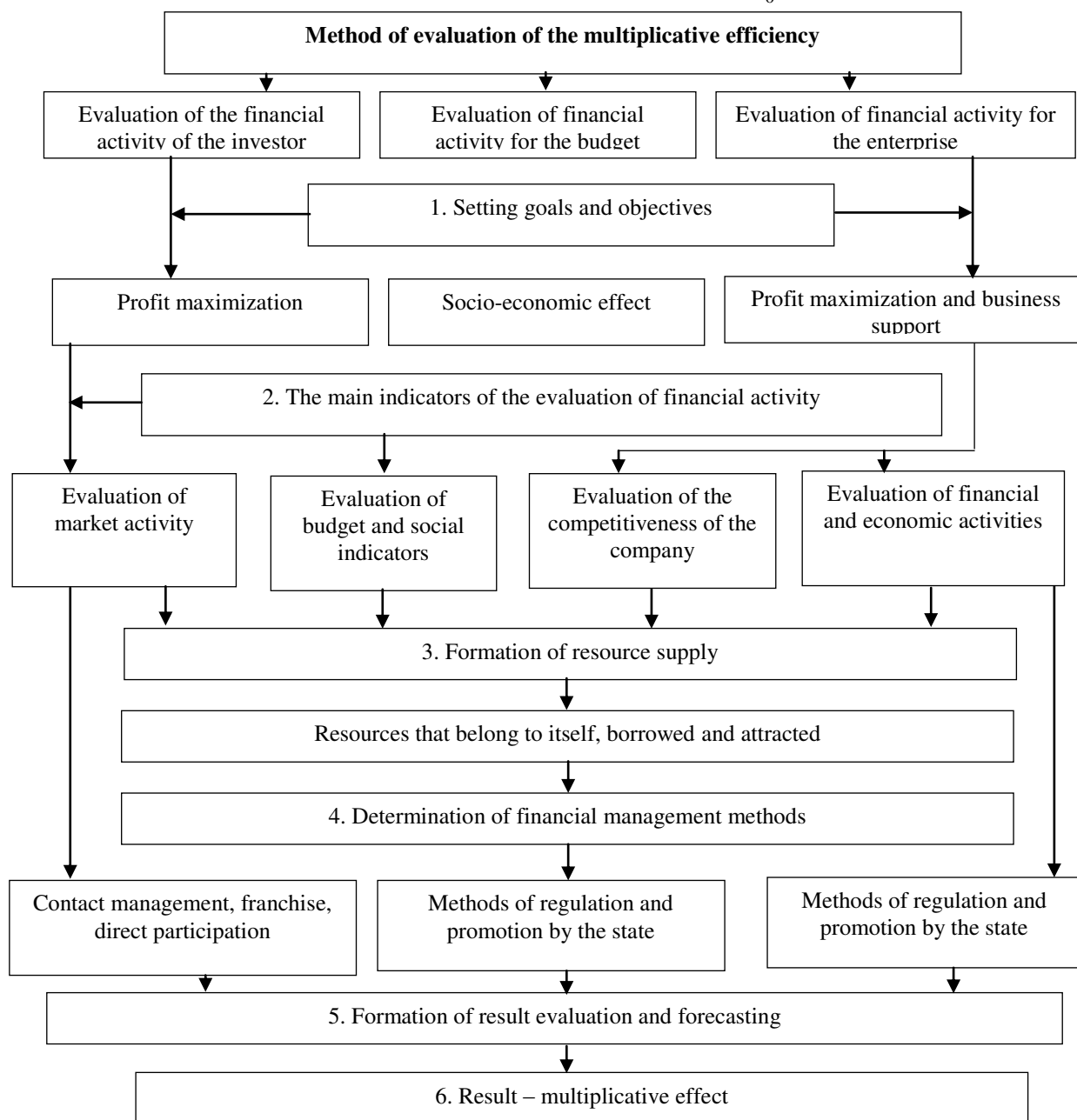
With x we mark the flow of annual recreants passing through tourist-recreational destinations, expresses this indicator in monetary units and correlates with time. In the method under consideration, the tourist-recreational flow is expressed in the cash flow, this flow is formed from the funds paid for recreational services through the location of the recreants to destination, rest. At the same time, the higher the level of tourist-recreation services provided, the higher the level of cash flow received, that is, it is a payment for quality, and, accordingly, it will consist of the number of tourists who are attracted to this high level.

This binding can be expressed as a solution of the equation, which is in the form of the following simplified dynamic model:

$$0 \le t \le \theta,$$

$$x(t) = ax(t) + bx'(t+\tau) + \varphi(t), \qquad x(t) \ge x_0 \ \text{агар} \ \ t \ge 0, \ x(t) = x_0, \ -t \le t \le 0,$$

$$x_0 = cons.$$

Method of evaluation of the multiplicative efficiency

| Evaluation of the financial activity of the investor | Evaluation of financial activity for the budget | Evaluation of financial activity for the enterprise |

1. Setting goals and objectives

| Profit maximization | Socio-economic effect | Profit maximization and business support |

2. The main indicators of the evaluation of financial activity

| Evaluation of market activity | Evaluation of budget and social indicators | Evaluation of the competitiveness of the company | Evaluation of financial and economic activities |

3. Formation of resource supply

Resources that belong to itself, borrowed and attracted

4. Determination of financial management methods

| Contact management, franchise, direct participation | Methods of regulation and promotion by the state | Methods of regulation and promotion by the state |

5. Formation of result evaluation and forecasting

6. Result – multiplicative effect

2-picture. Structural model of evaluation of the effect of multiplikative efficiency on the result of tourist-recreational activities [4]

[4] Муаллиф тадқиқотлари асосида ишлаб чиқилган.

On the basis of the analysis of the simplified dynamic model of the national economy in the form of links, it is possible to determine the coefficients a and b.

At the level of the national economy, $ax(t)dt$ link refers to an intermediate product, and it is spent in an amount equal to a certain part of x as a resource (raw materials, semi-finished products, etc.) at the exact time moment (s) in the dt time interval. And $bdx(t+\tau)$ expresses the money invested in the fixed time frame (t), where the main capitalalga is entered, which provides an additional increase in the time frame x.

In tourist-recreational activities, $ax(t)dt$ represents the flow of recreants (money) equal to a certain part of x in the time period, and $bdx(t+\tau)$ represents the additional growth of x (the flow of recreants) in the time period t represents the investments to main capital in the tourist-recreational activities.

In the national economy, the multiplicative efficiency for t time is taken in the form of $\varphi(t)$ exponential function and is expressed in the form of the following linkages:

$$\varphi(t) = \varphi_0 \exp(mt), \quad \varphi_0 \succ 0, \quad t \geq 0.$$

This is the sum of consumption (public procurement and net exports) for $\varphi(0)$ $-\tau \leq t \leq 0$ having a status in the pairing. and the parameter m is defined as the relative growth rate of φ for the dt period, since it is $m = (1/\varphi)d\varphi/dt$.

For tourist-recreational activities, also, the multiplicative efficiency for t time is taken in the form of $\varphi(t)$ exponential function and is expressed in the form of the following linkage:

$$\varphi(t) = \varphi_0 \exp(mt), \quad \varphi_0 \succ 0, \quad m \succ 0, \quad t \geq 0,$$

However, in this case, $\varphi(0)$ is the sum of the consumption of products of the subsidiary network and sectors, in addition to tourist recreation activities, at the same time is the sum of the volume of services provided by the main tourist-recreation sector to domestic and foreign recreants. And the parameter m is defined as the relative growth rate for the dt period of φ in the tourist recreation sector, since it is a as at the level of the national economy.

The forecast amount of expenditure (θ)made by the side sectors within the framework of additional growth at the level of the national economy can be expressed as follows in the integral form:

$$C_l = \int_0^\theta \varepsilon x(t)dt,$$

There $\varepsilon = \varepsilon(t)$ is a value that depends on the t time and is equal to the amount of average cost per unit product (service)in terms of quantity.

In tourist-recreation activities, however, in order to assess the revenue of peer networks, the flow of recreants provided by the main network for these networks is used. Here $\varepsilon = \varepsilon(t)$ is a value that depends on the time and in terms of quantity is equal to the average payment amount corresponding to a unit recreational product (service). The flow of recreants (x) by the side networks will be provided with additional service (product)s throughout the entire period, provided that it is $de/dt \succ 0$, a common case for the tourist product.

Lag delays arise from financial investments (τ), however, due to the size and characteristics of technological and other factors, so it is convenient to assess the minimum (τ_{min}) and maximum (τ_{max}) limits of lag delays. For cases where $\tau = \tau_{min}$ and $\tau = \tau_{max}$ are $x(t)$ functional fasteners do not change, the t time constant moments of d are different. On the basis of these values, it will be possible to assess the additional growth rates (θ) of earnings of peer networks associated with changes in the flow of recreants.

CONCLUSION

Through the above mentioned and proposed methodology for its application in practice, it is possible to determine the multiplicative effect of tourist-recreation activities on the national economy while taking into account the components of tourist recreation. From this method, it is possible to determine the multiplicative effect of the organization of activities on the level of regional gross development in regions with high tourist-recreational potential. In this regard, it is worthwhile to take into account the multiplicative effect of tourist recreation activities on the overall development of the territory in the process of developing programs for the development of urban development of the regions.

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