Development of a methodology for assessing the integral effectiveness of an investment project for the camping site construction in the coastal zone

N Tsopa, E Akimova*, V Malakhova and S Akimov
V I Vernadsky Crimean Federal University, 181 Kievskaya str., Simferopol, Republic of Crimea, 295493, Russia

E-mail: akimova.e.sh@mail.ru

Abstract. The article analyzes the main factors for the campsites placement, as well as the classification of campsites by type. The analysis of the regulatory framework for the camping operation in the coastal zone on the territory of the Russian Federation. The assessment of the main factors for the auto camping location, as well as the advantages of auto tourism in comparison with the other types of tourism. An economic examination of the investment project effectiveness for the construction of a camping site was conducted on the basis of such indicators as: net present value, profitability index, internal rate of return and payback period. In the process of managerial examination of the investment project for the construction of a camping site with a hotel and entertainment complex, an assessment of the project management effectiveness was carried out. A methodology for assessing the integral effectiveness of an investment project according to the following criteria of functional efficiency is proposed: economic, organizational, social, environmental, legal, energy, technological, psychological, political and ethical.

1. Introduction
The transition of the construction industry to the market conditions of functioning and development necessitates the development of methodological support for the decision-making in the field of economics in general and in the field of investment and construction project management, in particular. The investment and construction project management processes current state analysis shows that over the past decade there has been a significant increase in the volume of the new construction carried out through the various sources of financing, while at the same time, there has been a sharp increase in the rate of aging and retirement of the existing residential and non-residential assets. According to the Forecast of the Long-Term Socio-Economic Development of the Russian Federation for the Period until 2030, it is planned to create a tourist infrastructure for the ecological tourism development, including the creation of auto campsites in all the coastal regions of the state [1]. Thus, the relevance of the study is due to the need to develop an integrated approach to the process of forming an effective mechanism for managing the investment and construction projects for the development of tourism infrastructure. The main goal is the popularization of campsites, as well as increasing the share of domestic and inbound tourism in the coastal areas of the state.

2. The publications’ analysis
The prospect of developing this direction of the tourist infrastructure development is that the camping industry is just beginning to be developed in Russia, which is due to the development of caravanning, the need to provide the specially equipped parking and recreation places, a change in the consumer’s psychology, which is reflected in the change in the consumer’s desires with “passive” consumption of the tourist packages offered by the tour operators for active, independent leisure.

The theoretical and methodological basis of the study is the work of domestic and foreign authors on the development assessment of the campsites and the new opportunities for the development of tourist services: V.L. Martynov, I.E. Sazonova [2], D.A. Chakhova, M.V. Kobyak [3], A.I. Tamov [4], N.S. Martyshenko [5], M. Joppe, E. Brucker [6], R. Reed [7], etc.

At the same time, the obvious advantage of the investment projects’ implementation for the construction of a camping site is its location in close proximity to the sea. Auto camping will be in the green zone. Among the main factors for the placement of auto camping the following can be identified:

- territory factor - sufficient area of the territory, taking into account the complex operation specifics, the developed road infrastructure;
- factor of labor resources - high staffing with construction workers and staff serving the tourist site;
- environmental factor - minimizing the amount of pollutants.

The environmental advantages of camping in contrast to the “wild” tourism include the following: the proper processing and disposal of waste; the use of energy-saving appliances; water saving; proper treatment of waste fluid, in order to reduce the harmful effects on the soil; a ban on the use of materials that may harm the soil, etc.

Camping is a specialized means of tourist infrastructure designed to accommodate caravanners and equipped with the parking lots with electricity supply, places for filling water and draining waste, a stationary sanitary unit, shower cabins. The above-mentioned definition lists the mandatory conditions for the campsites’ operation. In the Federal Law of November 8, 2007 No. 257-FL “On the Roads and Road Activities in the Russian Federation and on Amending the Certain Legislative Acts of the Russian Federation” [8] the campsites are classified as a roadside service, but this is a special case. The experience of the European countries shows that in most cases, it is a multifunctional complex that provides a full range of services for tourists.

The main advantages of auto tourism compared to the other types of tourism are: there is no need to plan the departure date in advance and purchase tickets; independent planning of the route, time spent on the road and stops; flexibility and variability of the planned route during the trip; traveling by car as a family is more economical and cheaper, etc. [5].

The formation and development of camping tourism in the Russian Federation will give tourism a more civilized character and increase the turnover of this industry. At the moment there are about 25 comfortable campsites with amenities and twice as many campsites with an average and very low level of comfort in Russia [3]. Thus, the competition is not great, and subject to a wider range and quality of services, the new camping can take a leading position in the coastal zone. In summer, the project can be implemented mainly for the caravanners with tents, and in the cold season, most tourists will prefer to stay in a hotel. Thus, the most appropriate is the design of a mini-hotel when camping.

The factors that have a positive impact on investing money in the construction of campsites are:

- lack of capital construction, which gives business the opportunity to organize the leisure in natural areas;
- today this market segment is free from the fierce competition and the creation of camping provides high occupancy, subject to the right advertising policies and the appropriate level of service;
- organization on the basis of an existing recreation complex or reconstruction of an abandoned, unused complex is possible.

For this period, there is no general classification system for the campsites and the requirements for them. There are only some methodological recommendations for arranging the campsites in individual regions, in view of this it is proposed to evaluate the campsites for the certain parameters: ecology, service, recreational and recreational activities. With an increase in the camping class, the quantitative
weight of the services’ assessment they provide decreases. The lower the camping class, the more dominant the most important services for a camper.

The environmental friendliness of the service is reflected in the need for a shower, toilet, and laundry. The service level is reflected in the presence of a parking lot with power supply, the sale of products in the store (on site or near the campsite), the thermal insulation of the premises, 24-hour security, and a tent place should be allocated. Recreational activities include sanitary facilities, taking into account the low mobility groups, and entertainment: tent rental, equipped beach, table tennis, basketball court, pool, sailing, bike rental, sightseeing tours, etc.

Camping can be classified according to 4 types:
- tourist parks, which are a combination of various accommodation services (tents, caravans / motorhomes, mobile homes, camping cabins);
- camping resorts providing high quality services are usually located near natural resources, which attracts a significant flow of tourists;
- travel parks, which are the objects of roadside service, are located near highways in high traffic.
- event campsites, which are temporary tent cities, valid for any holidays.

In addition to the low development of campsites on the territory of the Russian Federation, the forest, land and water codes, the law on the protected areas and a number of other regulatory documents of the Russian Federation contain many restrictions that, together, create an insurmountable barrier to the creation of modern comfortable campsites that could meet the international standards. Based on the foregoing, it can be concluded that the list of the regulatory requirements for the accommodation facilities for caravanners and tourists in the Russian Federation, as well as the classification of accommodation facilities should be harmonized with the international standards and requirements. This will increase the quantitative and qualitative parameters, as well as the availability of funds for the tourists’ accommodation.

3. Results

In the course of the investment project’s examination for the construction of a camping site with a hotel and entertainment complex, an assessment of management effectiveness was carried out. Thus, the management decisions’ effectiveness in the process of implementing an investment project is understood as the resource productivity obtained in the process of developing and implementing the management decisions for the project. As a ratio of effect and / or result and cost, it characterizes any activity or phenomenon, forming the main types of the functional efficiency (Table 1) [9-11].

| Project Review Stage | Types of Functional Efficiency | Criteria for evaluation | Evaluation Methods |
|----------------------|--------------------------------|-------------------------|--------------------|
| I. Analysis and monitoring of tourist infrastructure of the coastal zone | Social performance | Compliance with the directions defined by the program of socio-economic development of the region, the level of employment of the local population | The method of evaluating the final results, methods of expert evaluations |
| | Psychological effectiveness | Psychological conditions of activity of persons making management decisions on the project | The method of evaluating the final results, methods of expert evaluations |
| II. Regulatory expertise of the facility | Political efficiency | Object location analysis | General scientific methods, regulatory methods |
| | | Land Use and Development Rules | |
| III. Ecological examination of the facility | Ethical performance | The level of professional ethics of persons making management decisions on the project | The method of evaluating the final results, methods of expert evaluations |
| III. Ecological examination of the facility | Environmental performance | Assessment of the environmental indicators without a project | The method of evaluating the final results, comparative effectiveness, methods of expert evaluations, forecasting methods |
| III. Ecological examination of the facility | Energy efficiency | Assessment of the environmental indicators with the project | |
| IV. Technical expertise of the facility | Organizational effectiveness | Thermodynamic indicators | |
| IV. Technical expertise of the facility | Energy efficiency | Natural indicators | |
| IV. Technical expertise of the facility | Energy efficiency | Economic indicators (cost savings) | |
| IV. Technical expertise of the facility | Technological efficiency | Reduction of the construction time; process compatibility ratio; compactness factor of the construction plan, etc. | The method of evaluating the final results, network methods and management models, current standards for the duration of construction |
| V. Economic examination of the facility | Cost effectiveness | Labor productivity; production; labor intensity, machine intensity | |
| V. Economic examination of the facility | Cost effectiveness | Static Performance Indicators | Feasibility study; business plan |
| V. Economic examination of the facility | Cost effectiveness | Dynamic performance indicators | |
| V. Economic examination of the facility | Cost effectiveness | Estimated cost of the property | |
| V. Economic examination of the facility | Cost effectiveness | Market value of the object | |
| VI. Management Expertise | Managerial effectiveness | Project participants and their interaction | Assessment of material costs for maintenance and repair, calculation of operating costs |
| VI. Management Expertise | Managerial effectiveness | Effectiveness of the participation in the project | |

The considered types of the functional efficiency are characterized at each stage of the project examination (Figure 1) by the certain criteria and evaluation methods [9-11].

The proposed approach to assessing the effectiveness of managing an investment project for the construction of a camping site is an attempt to combine all the components of the investment project’s functional efficiency in one integrated index. At the first stage of the assessment, particular criteria of functional efficiency are evaluated on a five-point scale (1 - low level of efficiency, 5 - high level of efficiency).

The value of the weight coefficient for each functional criterion of the project effectiveness was set by the experts, taking into account the fact that the total value of the coefficients should not exceed 10. The weighted assessment of the project’s functional effectiveness criteria is the weight coefficient product of the effectiveness criterion and its private assessment.
Figure 1. The investment project management stages of assessing the integral effectiveness.

In the process of evaluating the economic efficiency of the investment project for the construction of a camping site, the main criteria for the economic efficiency of the project were calculated as the net present value, profitability index, internal rate of return and payback period (Table 2).

Table 2. The investment project economic efficiency indicators

| Name of indicator                                      | Indicator value |
|--------------------------------------------------------|-----------------|
| Net present value, thousand $                           | NPV 649.25      |
| Project Profitability Index, %                         | PI 63.9         |
| Internal rate of return, %                             | IRR 14.69       |
| Payback period, years                                  | PP 4.19         |
| Number of workplaces                                   | 40              |
| The value of total tax deductions, thousand $           | 133.57          |

The results of evaluating the integral effectiveness of managing an investment project for the construction of a camping site are grouped in a matrix and presented in table 3. As follows from the matrix, prioritizing the criteria in this order, the experts evaluated: construction organization, social significance, environmental safety, legal support and energy efficiency of the project with a high score thanks to the relevant design justifications; the psychological, political and ethical aspects of the project are recognized at a fairly good level, taking into account the communications of the participants and their relations with the population of the surrounding buildings. At a satisfactory level, the results of economic expertise and the expected level of technological processes were evaluated. The weights are taken in the examination in accordance with the priorities and their significance, based on the investment and construction project’s identification. The scores are given based on the validity degree of the decisions’ respective types in the project.

Table 3. Matrix of a summary assessment of the management decisions’ effectiveness on an investment project for the camping site construction

| Performance Criteria | Weight value (C) | Grading scale | Private assessment (B) | Measured Score (C×B) |
|----------------------|------------------|---------------|------------------------|----------------------|
| 1. Economic          | 2.5              | +             | 2                      | 5                    |
| 2. Organizational    | 1.5              | +             | 5                      | 7.5                  |
| 3. Social            | 1.5              | +             | 5                      | 7.5                  |
| 4. Environmental     | 1.0              | +             | 4                      | 4                    |
| 5. Legal             | 1.0              | +             | 5                      | 5                    |
Integral efficiency is defined as the ratio of the generalized assessment of the functional efficiency of all criteria to the maximum allowable value of the generalized assessment (i.e., for an ideal project 50). Thus, the integral indicator of the managing functional effectiveness an investment project for the construction of a camping site will be: \( R = \frac{39}{50} = 0.78 \).

We propose to interpret the investment project management functional effectiveness using the E.S. Harrington’s integral indicator, which is universal in nature and can be used to evaluate various indicators of a qualitative nature in a semantic form that is convenient for perception from “very low” to “very high” [12], which was adapted by the authors taking into account the specifics of the assessment subject at six levels (Table 4).

**Table 4. Functional Efficiency Rating Scale.**

| Integral Efficiency Level | Bottom limit | Upper limit |
|---------------------------|--------------|-------------|
| Very high                 | 0.80         | 1.00        |
| High                      | 0.63         | 0.80        |
| Medium (above average)    | 0.50         | 0.63        |
| Medium (below average)    | 0.37         | 0.50        |
| Low                       | 0.20         | 0.37        |
| Very low                  | 0.00         | 0.20        |

The values of the integral efficiency indicator in the range from 0.00 to 0.2 (“very low”) and in the range from 0.2 to 0.37 (“low”) are inherent in projects with minimal functional efficiency. It is proposed to divide the average value of the integral efficiency indicator, taking into account the specifics of the assessment object, into 2 categories: below the average (from 0.37 to 0.5) and above the average (from 0.5 to 0.63). The average value corresponds to the relative functional effectiveness of the investment project. Thus, certain “problematic” criteria, the values of which go beyond the tolerance limits and indicate a decrease in the overall effectiveness of the project, may be observed. A high level of integrated performance indicator (from 0.63 to 0.8) distinguishes the projects with high functional efficiency in all areas. The highest level of integrated performance indicator (from 0.8 to 1.00) indicates the high efficiency of the project management, the potential for its further development and high competitiveness of the project. The significance level of the investment project for the construction of a camping site is high, therefore this project as a whole can be characterized as effective from the point of view of the management decisions.

4. Summary
As a result of the study, we can conclude that the method of assessing the investment project management’s integral effectiveness will make it possible to compare the data on the various investment projects management functional effectiveness level with a high degree of accuracy. The list of criteria for evaluating the various investment projects management functional efficiency elements can be adapted to a specific type of activity and project. The high and the highest possible level of an integrated indicator of the investment construction project effectiveness is one of the conditions for its implementation. Further research will be aimed at developing a model for managing the investment construction projects based on their functional effectiveness.
References

[1] Forecast of the long-term socio-economic development of the Russian Federation for the period until 2030. Information on https://respectrb.ru/node/4811

[2] Martynov V and Sazonova I 2010 Formation of a network of campsites as a possible basis for the development of the tourism concept in the Pskov region Pskov Regional Journal 2 56–61.

[3] Chakhova D and Kobyak M 2015 Modern campsites - new opportunities for the development of the tourist services market Internet Journal of Science 7. Information on http://naukovedenie.ru/PDF/25EVN515.pdf DOI: 10.15862/25EVN515

[4] Tamov A 2010 Analysis of foreign experience in the formation of infrastructure for the development of caravanning University Herald (State University of Management) 1 350–354.

[5] Martyshenko N 2012 Formation of the Event Strategy for the Development of Inbound Tourism in the Primorsky Territory Event-marketing 3 178–197.

[6] Brooker E and Joppe M 2013 Trends in camping and outdoor hospitality – An international review Journal of Outdoor Recreation and Tourism 3-4 1–6.

[7] Reed R 2004 Caravan parks as a provider in the affordable housing market Property Management 22 (5) 396–409.

[8] Federal Law № 257-FZ “On Roads and Road Activities in the Russian Federation and on Amending Certain Legislative Acts of the Russian Federation” dated 08.11.2007. Information on https://lawlinks.ru/257-fz-obb-avtomobilnyx-dorogax/

[9] Tsopa N S, Akimov V, Malakhova L, Kovalskaya and Akimova E 2019 Evaluation of technical and economic efficiency of the device foundations of high-rise residential buildings ISEES 2019. DOI: 10.2991/ISEES-19.2019.75

[10] Tsopa N, Malakhova V and Kovalskaya L 2019 Formation of the mechanism of risk – oriented management of the regional investment – construction complex on the basis of forecasting ISCFEC 2019 DOI: 10.2991/ISCFEC-18.2019.154

[11] Tsopa N and Sheina S 2019 Formation the construction cost for residential buildings at the design stages EMMFT 2018, Advances in Intelligent Systems and Computing 983

[12] Pichkalev A 2012 Generalized Harrington desirability function for comparative analysis of technical means Science City Research 1 25–28.