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ПИРОТ

PRIORITIZATION OF THE PROJECTS IN ORDER TO ADVANCE TOURISM IN BOR MUNICIPALITY

Dejan Bogdanović PhD, Full Professor *

Sanela Arsić PhD, Assistant Professor *

Abstract: *One of the preconditions for successful marketing management and development of a tourist destination is scanning the environment, ie, factors that directly or indirectly may effect on the direction and performances of the development of a tourist destination. In this paper four tourism projects in the Bor municipality were considered, in order to determine the priority of their application. The prioritization of ranking projects was performed using the AHP (analytical hierarchical process) method of multi-criteria decision making. The obtained results indicate the order of realization of considered tourist projects in order to advance the tourist potential of the Bor municipality.*

Keywords*: projects, tourism, AHP method*

1. Introduction

The Municipality of Bor is located in Eastern Serbia which is, touristically speaking, an important regional part of Serbia. It is situated on diverse geomorphological formations with various degrees of tourism attractiveness. Spas, lakes, archaeological sites and caves represent the special tourist peculiarities of this area. Eastern Serbia has temperate continental climate which is extremely suitable for tourism in this region. In addition, the territory of the Municipality of Bor is covered by tremendous forest resources which have a positive influence on tourism trends due to their expressive landscape-decorative and hygienic functions. There fore it is very important to make continuous investments in the development of tourist attractions. In order to make a tourist destination competitive, it is

* Technical Faculty in Bor, University of Belgrade, Serbia, dbogdanovic@tfbor.bg.ac.rs

* Technical Faculty in Bor, University of Belgrade, Serbia, saarsic@tfbor.bg.ac.rs

necessary to strategically promote its specific characteristics which distinguish it from similar destinations (Crouch, 2011).

Tourism is defined as a set of relationships and phenomena related to movement and consumption outside the place of permanent residence, made to satisfy one's recreational and cultural needs (Sekulovic, 2015). Nowadays tourism is one of the fastest growing industries, which, due to its heterogeneous structure, depends on numerous complementary activities such as: transportation, catering, retail, tourist agencies, crafts and public utilities. There fore it is one of the key factors of socio-economic progress and a significant source of income for developing countries (Mulec & Wise, 2013).

Basic characteristics of tourism are: diversity (heterogeneity), non-productive character, seasonal character of business, both high elasticity of demand and inelasticity of supply (Jovanović et al., 2015).

Regardless of the fact that the Municipality of Bor has significant tourism potential, in practice though there is a gap between potentials and valorization of tourist sites in an adequate way. The aim of this research is to carry out the ranking of the tourism development projects in the Municipality of Bor and to determine the priority of their realization. In this way, the obtained results will significantly make it easier for decision-makers, that is, the representatives of local self-government when defining a strategic plan for allocating funds for tourism development.

2. Prioritization of projects

Project prioritization sets priorities for the implementation of ranking projects in order to achieve organizational goals, i.e. to comply a project with the strategic management plan as well as available resources of the organization (Sanchez et al., 2017).

Introducing and managing projects in many successful countries are accomplished by the introduction of project portfolio management. In Serbia, this concept has not been applied at a significant level yet. On the other hand, organizations that have introduced and successfully implemented this concept have numerous benefits and a better market position, which gives them competitive advantage on the market compared to other organizations that do not operate according to this principle. The project portfolio management concept, besides managing multiple projects simultaneously, involves the proper project selection and project portfolio management as well (Demirkesen & Ozorhon, 2017).

3. Tourist potential of the Bor Municipality

This paper has applied and analyzed several criteria which were compared and ranked by experts from the local self-government using the multi-criteria AHP method.

Bor is a mining and metallurgy center located in the Eastern part of Serbia. It covers an area of 856 km2. The municipality is known for the largest copper sites not only in Serbia but in Europe as well. In addition, the Municipality of Bor has a good and diverse basis for the development of tourism. Natural attractiveness as well as the achieved high level of accommodation and other capacities, suggests that many forms of tourism can be

developed, especially if the spatial diversity of natural resources is taken into account. In other words, the characteristics of the environment, in particular, the transport geography position, hydrography, plant and animal world, climate and other natural features, represent a good basis for the development of the tourist economy (Čertović et al., 2015). The most popular tourist attractions in the Municipality of Bor are: Crni Vrh, Dubašnica, Stol, Brestovačka Banja (Brestovac spa), Borsko jezero (Bor Lake), then Vernjikica and Lazareva Pećina (Lazar's cave) with extraordinary cave ornaments as well as springs of mineral and medical water.

However, one should keep in mind that a significant part of natural attractiveness of this area is yet to be included in modern tourism trends.

3.1 Analysis of current tourism projects in the Bor Municipality

In order to improve the market position as well as tourism in the Municipality of Bor, the following tourist projects have been analyzed: Borsko jezero (Bor Lake), Brestovačka Banja (Brestovac spa), Savača (Savaca) and Zlotske pećine (Zlot caves).

Borsko jezero (Bor Lake) (Alternative A1) - is located at the foot of the mountain Crni Vrh, 17 km from Bor. It was built in 1959 when the watercourses from nearby mountains were limited by a dam. Nature accepted this human decision as its own, thus creating one of the most beautiful tourist pearls of the Bor municipality - Borsko jezero (Bor Lake). At an altitude of 438 m, the smooth surface of the 30-hectare lake water is the mirror for the picturesque and sumptuous beauty of surrounding areas.

Bor Lake has four beaches and a large number of smaller ones. It also has great tourist accommodation offer, but the most attractive one, definitely in all of Eastern Serbia, is hotel "Jezero". All year round the guests in this hotel can use modern bowling alley, billiard hall, karaoke room, sauna, hairdresser and various other services and entertainment facilities. Athletes who are staying at hotel "Jezero" have a sports complex at their disposal during the whole summer season. The complex has basketball, football, handball, volleyball, tennis and beach volleyball fields. For those who like walking or cycling, there are trim trails in the immediate vicinity of the lake. Although the tourist offer of Bor Lake is the most diverse in the summer and winter, interesting facilities for relaxation, recreation and entertainment can be found in the surroundings.

In order to improve tourism of Bor Lake, it is necessary to rehabilitate the access road, reconstruct the sports fields and their stands. In addition, it is of key importance to complete the tourist offer of this site with more water recreational activities.

Brestovačka Banja (Brestovac Spa) (Alternative A2) - is 7 km away from Bor and it is located at an altitude of 385 m. The former volcanic activity and the complex geological composition of the terrain caused the appearance of thermomineral springs in this area. According to the water temperature, this spa belongs to heteotherms (32-38 ° C) and hypertherms (40 ° C). Water is rich in potassium, calcium, sodium, magnesium, chlorine, iodine, sulphates, carbonates and others. Because of their medicinal properties, the natural oligomineral waters of Brestovac Spa are successfully used in several ways: drinking, rinsing, spraying and bathing, while in physical therapy they serve as auxiliary medicinal products

combined with medications. From the tourist accommodation capacities, the following villas are available: Serbian Crown, Lucija, Biljana, Toplica and RTB Bor Club.

The emphasis in the arrangement of the Brestovac Spa should be put both on the arrangement of the riverbed of the Brestovac River and medical water springs which are in a very poor condition. In addition, it is necessary to invest in the development of accommodation and catering capacities, since the resort has only a few of them at the moment. Also, the rehabilitation center should be enlarged and renovated to attract more tourists. Furthermore, emphasis should be put on marketing and popularization of the Brestovac Spa as a tourist destination so that necessary information would be available to a larger number of potential tourists.

Savača (Alternative A3) - is located on the shores of Bor Lake. Savača is known as a children's resort, suitable for youth tourism and the organization of sports camps. It has 250 beds. Savača has: 1 grass football field, 2 handball and 4 basketball courts. For the needs of winter sports, there is a possibility of arranging a slope for recreational skiing and sledding. Savača is one of the most famous athletic camps. Hence, significant investments should be made in the access road, sports fields and lighting. It is also necessary to modernize accommodation capacities and adapt them to the interests of young people.

Zlotske pećine (Zlot caves) (Alternative A4) - are located on the eastern side of the mountain Kučaj, consist of Lazar's cave, Vodena, Mandina, Vernjikica and Hajdučica. In addition to them, the Karst cave of Stojkova ledenica has also been explored. All these objects are known under the common name of the Zlot caves. Lazar's cave and Vernjikica are adapted for tourist visits, while other sites are only available to speleologists.

Zlot caves, as a great potential of the Municipality of Bor, are in a very poor condition as a tourist attraction. The motel, which is located in the immediate vicinity of the Lazar's cave, has not been opened for years. In addition, during the tourist season, caves can be visited only within organized groups because they are not permanently open, which is why the number of visitors is very small.

Potential tourists who want to visit Zlot caves, famous for their unusual beauty, cannot count on a place for rest and refreshment because there is not a single accommodation or catering facility available nearby. Based on this, it can be concluded that significant investments are needed in this tourist destination.

3.2 Analysis of current tourism projects in the Bor Municipality

The criteria according to which it was ranking tourist projects, ie the ranking of alternatives are the following:

The compliance of project with municipal strategy (Criteria 1) - the strategy of the Municipality of Bor is based on raising the level of quality in the provision of tourist services and the continuous development of tourism with an innovative approach. Based on the strategy, the most important goals and a priority of the needs are defined needs to be met, which should be met in a given period. In order to achieve the basically set goals, it is necessary that each project be harmonized

Costs of project implementation (Criteria 2) - given that Bor Municipality is the founder of Tourism Organization Bor, which manages with tourism projects in this municipality, projects should be realized with funds from the municipal budget. Due to the limited financial resources provided for financing local projects, this criteria has a great importance and influence on the order in the realization of projects.

Time of project implementation (Criteria 3) - how each project needs a certain amount of time for realization, this criterion defines the impact of the duration of the realization of proposal projects. With this criterion provides priority for those projects that need to be implemented in the shortest possible time, under condition to provided that there is a need for solving the problem as soon as possible.

The complexity of the project implementation (Criteria 4) – the goal of this criteria that when selecting a project is to divide those projects for which project implementation has available resources in terms of staff, technical and organizational potential in relation to those projects whose complexity in project realization exceeds these possibilities.

4. Methodology

For the needs of ranking four tourist sites in the Municipality of Bor, the methodology of multi-criteria decision making (MCDM) was applied. The methodology based on the multi-criteria decision-making process is a good basis for solving these type of problems because it allows access to the list of priority projects, which are based on ranking the list of projects in relation to several criteria at the same time.

4.1 The AHP method

The Analytic Hierarchy Process (AHP) is one of the most famous multi-criteria methods developed by Thomas Saaty in 1980 (Saaty, 1980). Many studies have confirmed that the AHP method is a very useful, reliable and systematic MCDM tool for solving complex decision-making problems (Kurttila et al., 2000).

Estimating the relative influence of each criterion as well as comparing the alternatives with respect to the criteria are done through a comparison matrix. After that, the weight coefficients, for each element of the hierarchy, are being calculated. In addition, the degree of consistency, for checking the consistency of the entire process, is being assessed.

The determination of the relative priority in pairing within the AHP methodology is achieved by assigning the intensity of importance using Saaty 1-9 scale (see Table 1).

Table 1. Saaty's 1-9 scale for AHP preference

Intensity of importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective
3	Moderate importance	Experience and judgement slightly favor one over another
5	Strong importance	Experience and judgment strongly favor one over another
7	Very strong importance	Activity is strongly favored and its dominance is demonstrated in practice
9	Absolute importance	Importance of one over another affirmed on the highest possible order
2,4,6,8	Intermediate values	Used to represent compromise between the priorities listed above 1, 3, 5, 7 i 9

Source: Saaty, 1980

The procedure of the AHP methodology includes six basic steps (Lee et al., 2008):

1. Defining an unstructured problem;

2. Develop AHP hierarchy;

3. Comparison of pairs of decision elements for the developed AHP hierarchy;

4. Determination of relative weights - unique eigen values;

5. Check the consistency;

6. Determining the overall synthesis of the obtained results.

5. Results of project ranking

After defining the alternatives (projects) and criteria, their rating and ranking were done. The Criterium Decision Plus software was used for obtained results.

First, define the multi-dimensional hierarchical structure of objectives, criteria and alternatives - Figure 1, and then determine the weighting coefficients of the criteria using the scale of comparison shown in Table 1. The results of the comparisons are shown in Tables 2 and 3.

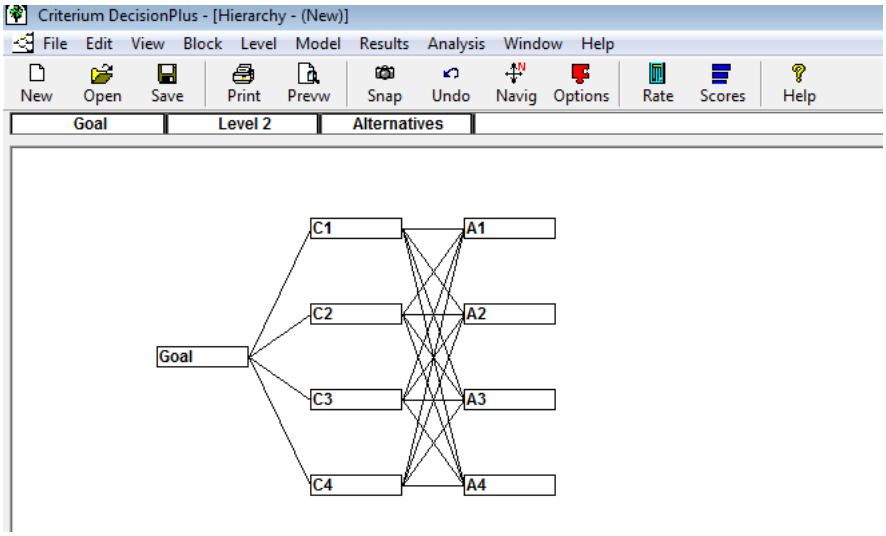
Table 2. Defining the weight of the criteria

Criteria	C1	C2	C3	C4
C1	1	1	3	5
C2		1	3	4
C3			1	1
C4				1

Table 3. Results of weight c of the criteria

Criteria	C1	C2	C3	C4
Weights	0.404	0.380	0.119	0.097
The degree of consistency	0.009<0.1			

Figure 1. The hierarchy of decision-making (Criterium Decision Plus softver)



In the next step is performed a comparison of projects (alternatives) in relation to all four defined criteria in model (Tables 4-7).

Table 4. Comparison of alternatives in relation to criterion C1

Alternatives	A1	A2	A3	A4
A1	1	1	3	3
A2		1	3	2
A3			1	1/2
A4				1
The degree of consistency	0.017<0.1			

Table 5. Comparison of alternatives in relation to criterion C2

Alternatives	A1	A2	A3	A4
A1	1	2	1/2	1
A2		1	1/2	1/2
A3			1	1
A4				1

The degree of consistency	0.022<0.1

Table 6. Comparison of alternatives in relation to criterion C3

Alternatives	A1	A2	A3	A4
A1	1	1/2	1/2	1
A2		1	1	1
A3			1	1
A4				1
The degree of consistency	0.022<0.1			

Table 7. Comparison of alternatives in relation to criterion C4

Alternative	A1	A2	A3	A4
A1	1	1	3	1
A2		1	2	1
A3			1	1
A4				1
The degree of consistency	0.044<0.1			

Finally, we were obtained the results of the ranking - Table 8. The results show that the most promising alternative is A1 (Bor Lake). On the second place is the alternative A2 (Brestovacka spa), third is the alternative A4 (Zlot caves) and in the fourth place is the alternative A3 (Savaca).

Table 8. The final ranking of projects

Model ISM		Results
1.	A1 (Bor Lake)	0.297
2.	A2 (Brestovačka spa)	0.253
3.	A4 (Zlot caves)	0.228
4.	A3 (Savača)	0.222

6. Analysis of the results

The analysis includes the criteria and their influence on the ranking of projects.

In the analysis of the criteria, the accent is put on the values of their weight coefficients. Namely, the weight coefficients of the criteria represent their importance of influence on the result of ranking alternatives, i.e. tourist projects. It can be seen from Table 3 that criterion C1 (project compliance with the municipality strategy) has the greatest influence on the result of the ranking because its weight coefficient is 0.404. This shows that in the ranking of projects the most important is how these projects are complied with the municipality's strategy, intentions and plans for tourism development.

The second place, when it comes to importance, takes C2 (project cost), which influences 38% of the ranking result. This indicates the importance of the costs which are generated by the projects. Costs must be within the planned values, but some projects have different costs and thus differently burden the municipal budget.

Criterion C3 is in third place of importance (project realization time) by influencing 11,90% of project prioritization. This criterion is important since the municipality has the constant tendency to carry out quick projects, in order to get the benefits from them as soon as possible.

Finally, the least influential criterion is C4 (project realization complexity) with a weight coefficient of 0.097. This shows that although project realization complexity is important, it is in the second plan comparing to other criteria.

The analysis of the final ranking of alternatives (projects) begins with the most attractive project. This is alternative A1 (Bor Lake) which has the highest value of 0.297. This project points precisely to what is the most important for the municipality - The realization of strategic goals by strengthening of this site. Bor Lake has the best conditions for further development which can be accomplished by realization of the mentioned project with the shortest period of return of the invested funds.

The second place in the ranking takes alternative A2 (Brestovac Spa). Namely, this site is the most developed in the Municipality of Bor from the aspect of tourism. Thus, it is in second place according to the importance of the project realization, since smaller investments are needed in comparison to Bor Lake.

Alternative A4 (Zlot caves) is in the third place. This site has great potential and significant investments are needed to generate beneficial effects. The locality is seriously lagging behind other sites from the aspect of infrastructural development, but taking its great potential into account, it took third place in ranking.

And finally, the last position in the ranking belongs to alternative A3 (Savača). This site is located near Borsko Lake and Brestovac Spa, with solid infrastructure (road, accommodation, sports grounds, promenade ...). Since it is less attractive, compared to other sites considered, it is in the last ranking position.

7. Conclusions

In this paper a multi-criteria method for ranking tourist projects has been applied. These projects aim to improve the conditions for the development of tourism in the Municipality of Bor. Four projects have been analyzed - Bor Lake (Alternative A1), Brestovac Spa (Alternative A2), Savača (Alternative A3) and Zlot caves (Alternative A4). In addition, four criteria for ranking - project compliance with the municipality strategy (criterion C1), project cost (criterion C2), project realization time (criterion C3) and project realization complexity (criterion C4) have been considered.

The ranking of tourist projects was carried out using the AHP method for multi-criteria decision making. In this method, the determination of the weight of the criteria for

the ranking was done first, and after that, the evaluation of the projects was done and their final ranking.

Based on the obtained results using the AHP method, the most important project was determined and that is the alternative A1 (Bor lake). The most important criteria for complete ranking of projects is Criterion C1 (The compliance of projects with the municipality strategy).

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PRIORITIZACIJA PROJEKATA U CILJU UNAPRAĐENJA TURIZMA U BORSKOJ OPŠTINI

Abstract: *Jedan od preduslova za uspešno upravljanje marketingom i razvojem turističke destinacije jeste skeniranje okruženja, odnosno faktora koji direktno, ili indirektno, mogu uticati na pravac i performanse razvoja neke turističke destinacije. U ovom radu su razmatrana četiri turistička projekta u borskoj Opštini, u cilju određivanja prioriteta njihove primene. Prioritizacija rangiranih projekata izvršena je pomoću AHP (analitički hijejerhijski proces) metode višekriterijumskog odlučivanja. Dobijeni rezultati ukazuju na redosled realizacije turističkih projekata u cilju razvoja turističkog potencijala u borskoj Opštini.*

Keywords: *projekti, turizam, AHP metoda*