THE AIDE MODEL - FOR PRACTICAL MULTICRITERIAL EVALUATION IN THE MANAGEMENT OF TOURISM RESOURCES

Gheorghe Popovici *, Gabriel Dinu, Loredana Dinu

Babes-Bolyai University, Faculty of Economics and Business Administration
Traian Vuia Square, No. 1-4, Resita, Romania
* Corresponding author. E-mail: gheorghe.popovici@ubbcluj.ro

Abstract: The paper presents a new model for the evaluation of tourism resources based on the intrinsic and extrinsic criteria of multicriteria analysis and what are the requirements for a tourist objective to become a tourist attraction. The results of the research were obtained by applying the developed AIDE model to the Banat region in Romania, with a special tourist potential but little known by Romanian and foreign tourists. For a latent (primary) tourist resource to become a tourist objective, it must attract attention (A) and generate interest (I), and the tourist objective becomes a tourist attraction if it stimulates the desire (D) to travel and creates emotion (E) through the experience of visitors. By building a binary logit model we performed an analysis of the attractiveness of a tourist objective.
Keywords: latent (primary) tourist resources, tourist objectives, tourist attractions, multi-criteria evaluation AIDE model.

1. Premises

The inventory of tourist resources is made according to the recommendations of the "Evaluation Tourism Resources" manual of the World Tourism Organization (UNWTO) based on two groups of criteria: intrinsic and extrinsic [5].

As mentioned in the paper [1] the evaluation of tourism resources is carried out in two phases: the development of an inventory of potential resources and the actual evaluation of the inventoried resources.

After the 2000s, a change in approach is revealed through the contributions of several researchers who pursued the multi-criteria analytical evaluation of tourist resources to objectively establish their degree of attraction and the sustainability of the place where they are found, as shown in the works.

Authors such as Vanegas [4] state that an inventory of tourism resources is like a catalogue, and the classification is based on their quality and the degree of interest of visitors.

In the specialized literature [3], it is emphasized that the evaluation process involves bibliographic research and field documentation to create a list of tourism resources of interest. Then, the catalogue will be completed with information such as: the name of the tourist sight, the state of preservation, accessibility, the type of attraction and the activities that can be organized and the facilities offered.

In particular, in Romania, Radu Cocean from Babeș-Bolyai University (FSEGA) of Cluj-Napoca conducted research and published several papers [2] on the methodology of analysis and evaluation of tourist attractions, dividing them into two more categories: primary attractions and secondary attractions. At the same time, the author proposes distinct analysis criteria for each type of tourist attractions.

2. The Proposed Issues

The purpose of this paper is to identify the latent tourist resources in Banat (Romania) based on a multi-criteria analysis and evaluation model AIDE - attention, interest, desire, emotion - through which these latent resources can gradually become tourist objectives and, finally, tourist attractions. Banat is a historical region in the western part of Romania with a rich tourist potential, of great biodiversity and scenic beauty, but little known both by Romanian visitors and foreign tourists.

The results of the secondary research through documentation and classification showed that not all latent (primary) tourist resources in Banat can become tourist objectives and eventually tourist attractions. The application of the existing methodologies in Romania and other countries, according to the recommendations of the World Tourism Organization (UNWTO), only offers the possibility of giving a score of "utility" to tourist resources and not to distinguish between a tourist objective and a tourist attraction.

3. Core of the Issue

In order to talk about Banat-Romania as a touristic destination, it is necessary to promote "A Top 10" tourist objectives that will convince potential tourists that Banat-Romania is "worth visiting".

Of course, every visitor asks: "What can I see in Banat-Romania?". In the year 2023, through the cultural event "Timișoara - the 2023 European cultural capital"

tourists from Europe and the whole world can visit: The Danube Gorges - the most spectacular gorges of the Danube river from its sources in the Black Forest (Germany) to the place it flows into the Black Sea (Romania), the Bigăr Waterfall - considered the most beautiful in the world due to the authenticity of its shape, the Banat Oravița-Anina Semering - the oldest and grandest mountain railway in south-eastern Europe, the Comarnic Cave - a real natural underground museum with the traces of the oldest modern European man who lived 40,000 years ago, the Nera Gorges– the longest gorges in Romania (22 km) where vegetarian Saurian dinosaurs used to live and feed on fern, The Old "Mihai Eminescu" Theater in Oravița - a faithful copy of the Burgtheater in Vienna and the first theatre in Romania,

as a truly original pearl of the Viennese Baroque, the open-air Museum of Steam Locomotives in Reșița -

unique in the world in that the exhibits are manufactured in Reșița, in the same place where the museum lies, the water mills from Rudaria - a millinological reserve unique in Europe, as a testimony of the industrial traditions of the Banat, the Statue of Decebal in the Danube Gorge - the highest rock statue (40 mm) in Europe and the Tourism Monument at Rusca Montană - the only monument dedicated to tourism in the whole world with the most beautiful verses for tourists.

Applying the AIDE model (Figure 1) of analysis and evaluation of tourist potential, in 2021, at the national level, Banat won the "2021 touristic destination of the year" competition after a very close struggle against the Maramureș and Bucovina regions, also in Romania.
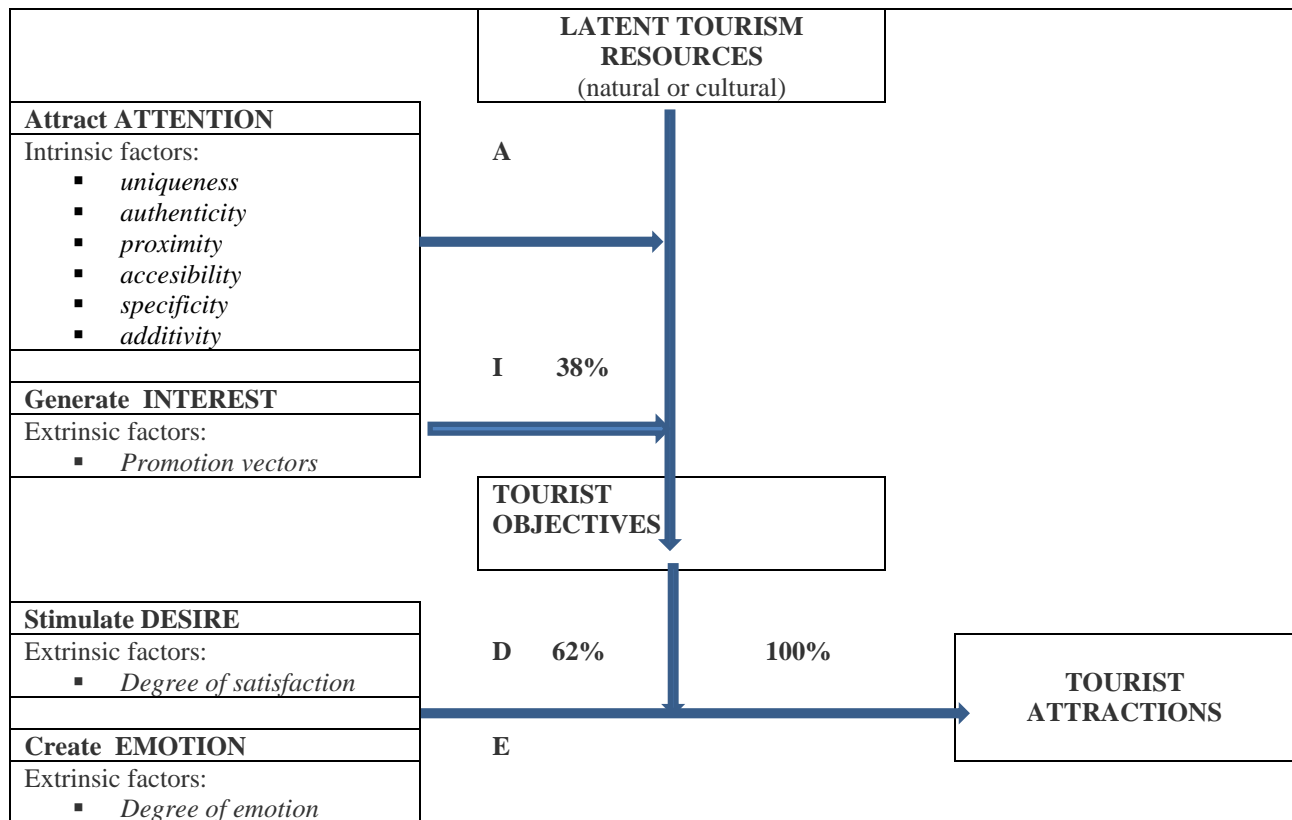

Fig. 1. The multi-criteria evaluation AIDE model

The research hypotheses whose answers contribute to this need identified from the tourism literature study to make a distinct assessment between latent tourism resources, tourist attractions and tourist attractions are:

H1: Intrinsic factors have a direct influence on the attractiveness of a tourist objective.
H2: Not all extrinsic factors have a significant influence on the attractiveness of a tourist objective.

H3: Regardless of the category (natural or cultural) and the type of latent (primary) touris resources (terrestrial or aquatic, cultural places or cultural manifestations), the AIDE model can be applied based on the same criteria and attributes, closely related to intrinsic and extrinsic factors.

In order to apply the AIDE model to the evaluation of the main tourist resources in Banat_Romania, in a first stage, an inventory/catalog was created with the most relevant information about the tourist resources. From the

identified resources, 12 tourist resources in Banat (Romania) were chosen which are considered to be able to become tourist attractions. A presentation sheet was developed for each of the 12 tourist resources.

In the second stage, a set of multicriteria evaluation criteria were established: intrinsic criteria and extrinsic criteria. The intrinsic criteria define the specific attributes of a tourism resource (uniqueness, authenticity, additivity and notoriety) by which it is differentiated from other resources. For the extrinsic criteria, both the degree of proximity (proximity, accessibility) to the visitor and the degree of satisfaction through the experience and emotion experienced by the visitor were taken into account. Then, the evaluation attributes with their weighted values were defined and the multi-criteria evaluation AIDE model was built. The contingency table with points awarded based on intrinsic and extrinsic criteria and on tourist objectives and attractions is as follows:

The application of the AIDE model (Figure 1) in the assessment of latent tourist resources in the Banat (Romania) was carried out in 10 steps:

First stage: Analysis

1. Making an inventory of tourist resources;
2. Establishing the list of tourist resources that will be evaluated;
3. Elaboration of a presentation sheet for each tourist resource;
4. Creation of the catalog with potential tourist resources (minimum 10 proposed objectives);

Second Stage: Evaluation

5. Establishing intrinsic evaluation criteria;
6. Establishing extrinsic evaluation criteria;
7. Defining the set of attributes for evaluation;
8. Creation the multicriteria evaluation model of tourist resources;
9. Building the decision matrix in the evaluation of tourist resources;
10. Interpreting the evaluation results on tourist objectives and tourist attractions.

The multicriteria AIDE model is shown in Tables 1, 2, 3, 4, 5 and 6. The contingency table shows the distribution of the 100 evaluation points in a golden ratio (phi/1-phi, where phi=0.618...) with 62/38 percentages. The influence of intrinsic criteria and extrinsic criteria in the evaluation of tourism resources is considered to be equal, with 50/50 percentages (Table 1).

Contingency Table (Points) Tab. 1

	Tourist objectives	Tourist attractions	TOTAL
Intrinsic criteria	18	32	50
Extrinsic criteria	20	30	50
TOTAL	38	62	**100**

The evaluator will rank tourist resources according to the AIDE model on three levels:
Top level (Hierarchy 3) - Tourist Attractions: between 62 and 100 points;
Middle level (Hierarchy 2) -Tourist Objectives: between 38 and 62 points;
Low level (Hierarchy 1) – Primary Tourism Resources: below 38 points

Primary tourism resources (natural or cultural) are part of the tourism potential of a place but do not yet have sufficient features to be able to attract visitors.

Tourist Objectives are tourism resources (natural or cultural) that can generate a certain interest for potential visitors through their tourism value given uniqueness (grandeur and beauty) and authenticity (tradition, originality and rarity).

Tourist attractions are tourist resources (natural or cultural) that succeed to attract a large number of tourists. Tourism cannot exist without (in the absence of) tourist attractions.

A primary tourism resource becomes a tourist objective IF if they attract attention through uniqueness and authenticity and arouse interest through proximity and accessibility (Tables 2 and 3).

A tourist objective becomes a tourist attraction IF it provokes desire through additivity and notoriety and creates emotion of loyalty through the experience experienced by tourists (Tables 4 and 5).

The attractiveness indices of each tourist attraction are calculated by weighting the values from each intrinsic and extrinsic criterion using the weighted summation method, as a product of the weight of the attribute and the value of the criterion.

The decision matrix in the evaluation of tourist resources is given in table 6.

A= Attention   Tab. 2

Intrinsic criteria			
Resource type	**Criterion**	**Attribute** *(Weights)*	**Values** *(Points)*
Latent Tourist Resources *(Natural resource and cultural resource)*	**A. Uniqueness** *(Grandeur and beauty)*	***A1. Pyramid of Uniqueness:*** *The most ...* 3 *Just so ...* 2 *Unique by ...* 1	**Knowledge Area:** Local/Regional (L): 1 National (N): 2 World (W): 3
	B. Authenticity *(Originality and unaltered value, given by age and rarity)*	***B1. Pyramid of Authenticity:*** *The oldest ...* 3 *Authentic by...* 2 *Original by ...* 1	**Recognition Level:** Local identity (L): 1 National significance (N): 2 International recognition (W): 3 (ex. UNESCO Heritage)

Min 6 - Max 18 points

I=Interest   Tab. 3

Extrinsic criteria				
Resource type	**Criterion**	**Attribute** *(Weights)*		**Values** *(Points)*
Latent Tourist Resources *(Natural resource and cultural resource)*	**C. Proximity** Travel time (by car/bus/train) from a POL - such as the center of a travel generating city - to the parking place closest to the tourist attraction	***C1. Distance / Time:*** *> over 2 hours* *0.5 - 2 hours* *< under 0.5 hours*	3	Away (L): 1 Medium (M): 2 Almost (S): 3
		C2. Signaling indicators:	1	YES (Y): 1 NO (N): 0
	D. Accessibility The walking distance from the starting point (parking place) to the tourist attraction	***D1. Walking:*** *>5 km & (red gradient)* *2-5 km & (green gradient)* *<2 km & (blue gradient)*	3	Difficult (R): 1 Moderate (G): 2 Easy (B): 3
		D2. Markings on routes	1	YES (Y): 1 NO (N): 0

Min 6 - Max 20 points

D= Desire   Tab. 4

Intrinsic criteria			
Resource type	**Criterion**	**Attribute** *(Weights)*	**Values** *(Points)*
Latent Tourist Resources *(Natural resource and cultural resource)*	**E. Additivity** The capacity of the tourism industry to arouse interest through services, facilities and tourist facilities near the tourist destination, at a maximum distance of 20 km. In terms of time, through the **"minute and km"** relationship, conventionally it would be 20 min.	***E1. Tourist facilities:***	
		*Accommodation services (**Ho**):* 4 *(Hotel, tourist guesthouses...)*	Yes, there is (Y): 1 No, there is no (N): 0
		*Food services (**Re**):* 4 *(Restaurant, bar...)*	Yes, there is (Y): 1 No, there is no (N): 0
		*Leisure (**Ca**):* 4 *(Places of leisure)*	Yes, there is (Y): 1 No, there is no (N): 0
		*Souvenirs (**So**):* 4	Yes, there is (Y): 1 No, there is no (N): 0

	F. Notoriety	F1. Promotion vectors:		
	The degree of knowledge of the tourist objective following offline or online promotion	*Travel agencies (A):* **4** *(Catalogue or tourist guide)*	Yes, (Y): No, (N):	1 0
		Mass media (offline) (T): **4** *(Reports or interviews)*	Yes, (Y): No, (N):	1 0
		Internet (online) (I): **4** *(Websites and Social Internet)*	Yes, (Y): No, (N):	1 0
		Recommendations of friends and acquaintances (S): **4**	Yes, (Y): No, (N):	1 0

E=Emotion Tab. 5

Extrinsic criteria			
Resource type	**Criterion**	**Attribute** *(Weights)*	**Values** *(Points)*
Latent Tourist Resources *(Natural resource and cultural resource)*	**G. Experience**	*G1. Degree of satisfaction:* **5**	Below expectations (B): **0** At the expected level (M): **1** Exceeding expectations (G): **3**
	H. Emotion	*H1. Degree of fidelity:* **5**	Negative emotions, I don't come back (N): **0** Positive emotions, I'll be back, alone (O): **1** Positive emotions, I'll be back, accompanied (F): **3**

Min 10 - Max 30 points

The decision matrix Tab. 6

Tourist resource	Evaluation criteria								TOTAL
	A Attention *Intrinsic criteria*		**I Interest** *Extrinsic criteria*		**D Desire** *Intrinsic criteria*		**E Emotion** *Extrinsic criteria*		
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	
Max points:	**9**	**9**	**10**	**10**	**16**	**16**	**15**	**15**	**100**
1 Bigar Waterfall	9	6	4	10	4	12	15	5	65
2 Danube Gorges	9	6	7	7	8	16	15	15	83
3 Nera Gorges	6	4	3	4	4	8	5	5	39
4 Comarnic Cave	4	4	3	4	4	4	15	0	38
5 Thermal Waters of Herculane Baths	6	9	10	10	12	12	5	0	64
6 Oravița-Anina Mountain Railway (1863)	6	6	10	10	8	12	15	5	72
7 Old "Mihai Eminescu" Theater in Oravița (1817)	4	6	10	10	8	8	15	5	66
8 Open-Air Museum of Steam Locomotives in Resita (1972)	3	6	10	10	8	12	5	5	59
9 Water Mills at Rudăria (1880)	3	4	7	7	0	12	15	5	53
10 Tourism Monument at Rusca Montană (1937)	9	3	6	9	0	4	5	0	36
11 Open-Air "Hercules" International Folklore Festival at Herculane Baths	6	3	6	6	12	0	5	0	38
12 Open-Air International Jazz Festival at Gărâna-Semenic	6	3	7	10	12	12	15	15	80

Note! *A-Uniqueness, B-Autenticity, C-proximity, D-Accesibility, E-Additivity, F-Notoriety, G-Experience, H-Emotion*

The evaluation results show that only three of the 12 tourist resources evaluated are really tourist attractions: the Danube Gorges, the Open-Air International Jazz Festival at Gărâna and the Oravița-Anina Mountain Railway (The Banat Semering).

The attractiveness of three other tourist resources has greatly decreased due to unforeseen events that have occurred in recent years: the collapse of the Bigăr Waterfall in June 2021, the destruction of the Austrian Thermal Baths of the Herculane Resort, the closure of the Old "Mihai Eminescu" Theater in Oravița for modernization (2022).

The other tourist resources are not tourist attractions, but only tourist objectives with a certain tourist potential. The lowest score is the Tourism Monument which it is unique in the world, it is not yet a tourist attraction because it does not meet the requirements of the extrinsic criteria.

4. Conclusions:

This paper answers the question "How can the latente (primary) tourism resources of a place become tourist attractions?", starting from the premise that not all natural or cultural tourism resources are tourist attractions.

The data obtained through the online research carried out showed what are the intrinsic and extrinsic factors with a certain influence on the attractiveness of tourist attractions in Banat-Romania.

In order to find which of these identified factors have a significant impact on the attractiveness of a tourist objective, a binary logistic regression model was built with the choice of attractiveness as the dependent variable.

The results obtained based on the binary logistic regression showed that the intrinsic factors (uniqueness, authenticity, proximity, accessibility, specificity and additivity) have a direct influence on the attractiveness of a tourist objective, which confirms the first hypothesis of the study (H1).

Among the extrinsic factors, a significant influence on the attractiveness of a tourist sight has: promotion vectors, the satisfaction and emotion felt by tourists through the experience of traveling to the tourist objective.

The study confirms recent findings and trends in tourism, as shown in the review of Greg Richards' study **[3]** namely that tourist motivation and age generation do not have a significant influence on the attractiveness of a tourist objective. Thus, the second hypothesis (H2) is also confirmed, that not all extrinsic factors have a significant influence on the attractiveness of a tourist objective. However, the tourist motivation has a special importance on the choice of the tourist sight, and the age of the tourists influences the trip both during the peak season and in the off-season. That is why young tourists should be encouraged to visit Banat-Romania regardless of the season, because the natural attractions in the region are of surprising beauty in every season. Also, older tourists must be attracted throughout the calendar year to the cultural sights of Banat-Romania, whose authenticity is unforgettable.

Finally, by proposing the AIDE model for multi-criteria evaluation of tourist resources, the work adds value because, regardless of the typology of the tourist objective: natural (terrestrial or aquatic) or cultural (cultural asset or cultural event), the same criteria and attributes can be applied, closely related to its attractiveness. By confirming the third hypothesis (H3) it was possible to identify the main requirements for a tourist objective to become a tourist attraction. The proposed model paves the way for further research for the harmonization of methodologies for the evaluation of tourism resources.

5. References

[1] Cartuche D., Romero J., Romero Y.: „Evaluation multicriterio de los recursos turisticos en la Parroquia Uzhcurrumi, Canton Pasaje, Provincia de El Oro. RIAT, Revista Interamericana de Ambiente y Turismo 14, 102-113, 2018
http://dx.doi.org/10.4067/S0718-235X2018000200102
[2] Cocean R.: „Metodologie pentru micro-analiza atracțiilor turistice", Geographia Napocensis 8, 87-92, 2014.
[3] Richards G.: „Cultural tourism: A review of recent research and trends.", Journal of Hospitality and Tourism Management 36, 12-21 , 2018
https://doi.org/10.1016/j.jhtm.2018.03.005
[4] Vanegas J., Restrepo J., Arango A., Henao A., Ortiz E.: 2017. Evaluation multictiterio e inventario de atractivos turisticos: Estudio de caso. *Revista ESPACIOS* 38, 25-29, 2017.
[5] *** UWTO: „Evaluation Tourism Resource", *eLibrary* 2, 1-45, 1979.
https://www.e-unwto.org/doi/book/10.18111/9789284407576