Fuzzy model for evaluating destination appeal within cultural tourism

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Abstract

The main goal of the study is to develop a fuzzy model for evaluating the attractiveness of a tourist destination in the context of cultural tourism based on the experience of tourists and forecasting cultural tourism data. For this purpose, the following were developed: an information model for assessing the attractiveness of a tourist destination and a dynamic multi-criteria model for evaluating the attractiveness of a tourist destination in the context of cultural tourism; the study was verified on actual data from 327 respondents collected in the Transcarpathian, Lviv, and Ivano-Frankivsk regions; data fragments illustrate the construction of a ranking series of the attractiveness of a tourist destination. Expert assessment methods, fuzzy set theory and logic, and multi-criteria assessment are used to formalize the model. The configuration of the model was validated using precise empirical data, enabling the inclusion of respondents' subjective perceptions and enhancing the credibility of destination selection results. The study draws upon tourists' knowledge and personal experiences, which ensures practical applicability and reliability of decision-making across diverse cultural tourism contexts.

Keywords

Cultural tourism, fuzzy set, multi-criteria evaluation, expert evaluation, decision-making

1. Introduction

The post-war recovery period in Ukraine demands considerable efforts to revitalize the national economy, with tourism development playing a crucial role in regional regeneration. Cultural tourism, in particular, holds substantial potential as a driver for strengthening national identity, promoting cultural heritage, and stimulating economic growth in war-affected territories.

To achieve these objectives, it is essential for public authorities to establish effective analytical instruments for evaluating the attractiveness of tourist destinations and for designing region-specific development strategies. In this regard, the application of a fuzzy model for assessing destination attractiveness enables the processing of complex and subjective information – a critical advantage under the conditions of uncertainty created by the war.

The integration of such a model facilitates the efficient allocation of limited resources, the identification of the most promising directions for cultural tourism, and the formulation of long-term regional recovery strategies. This approach enhances the effectiveness of infrastructure planning in the tourism sector and supports the revitalization of cultural heritage through its inclusion in the global tourism landscape.

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The study results in a ranking of the examined tourist destinations (regions), enabling an evidence-based selection process within the framework of cultural tourism. The findings carry both scientific and practical significance, contributing to the formulation of effective state policy in the post-war context. The research methodology is grounded in the analysis of tourists' experiences using fuzzy mathematical modeling and predictive analytics methods.

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2. Overview of Domestic and Foreign Research Studies

The formulation of fuzzy models for evaluating the attractiveness of tourist destinations within the framework of cultural tourism represents a complex and interdisciplinary challenge [1–2]. This process requires the synthesis of theoretical and practical insights from multiple domains, including tourism studies, fuzzy set theory, mathematical modeling, and management sciences [3–4]. Such models must account not only for static parameters of destinations but also for the dynamic, perceptual, and context-sensitive dimensions of cultural tourism.

Cultural tourism is increasingly acknowledged as a key driver of sustainable development and regional identity formation. Scholarly research in this field emphasizes the role of cultural tourism in fostering local economic growth, preserving both tangible and intangible heritage, and optimizing tourist flows across urban and rural environments. International bodies such as UNESCO and the World Tourism Organization (UNWTO) underline its strategic importance as a mechanism for enhancing socio-economic resilience, especially in regions undergoing transformation or recovery [5]. Cultural resources — including festivals, art exhibitions, and heritage museums — are viewed as integral components that generate distinctive and meaningful experiences for diverse tourist segments [1, 6].

In this context, fuzzy logic serves as a powerful methodological approach, offering the capacity to manage uncertainty, subjectivity, and linguistic vagueness that characterize human perception and decision-making [7]. Conventional crisp classification methods fail to reflect the nuanced continuum of tourist preferences. Fuzzy inference systems, by contrast, allow the integration of expert evaluations, survey responses, and qualitative judgments into structured quantitative assessments. Prior studies [8–9] have successfully demonstrated the use of fuzzy logic in constructing robust decision-support systems for tourism management under conditions of data incompleteness or ambiguity.

A growing body of contemporary research seeks to create intelligent decision models for assessing tourism potential and guiding strategic regional development. These models are frequently based on multi-criteria decision analysis (MCDA) frameworks, incorporating key factors such as accessibility, infrastructure quality, cultural richness, safety, and environmental sustainability [10–11]. Such approaches not only promote transparency and methodological consistency but also improve the reproducibility of decision-making processes.

The evolution of digital technologies further enhances these modeling capabilities. The integration of geographic information systems (GIS), artificial intelligence (AI), and mobile data acquisition platforms enables real-time data collection, automated evaluation, and predictive analytics. Scholars emphasize the potential of these tools to process extensive datasets, forecast tourist flows, and reveal underutilized cultural assets [4, 12].

In the Ukrainian context, there is a growing academic and institutional interest in revitalizing the tourism sector, which has been significantly affected by war-related disruptions. Current research increasingly focuses on rebuilding regional cultural tourism through integrated development strategies that respect local heritage and community needs. A particular emphasis is placed on employing advanced mathematical modeling techniques, including fuzzy logic, to ensure data-driven policymaking and to support sustainable post-war recovery [13].

In summary, the review of contemporary literature highlights both the scientific importance and practical necessity of developing fuzzy models for assessing the attractiveness of cultural tourism destinations. The integration of fuzzy logic with digital and analytical tools creates a foundation for adaptive, reliable, and efficient decision-support systems. These systems can significantly enhance regional tourism strategies in environments marked by socio-economic instability and the urgent need for cultural revitalization, as exemplified by the Ukrainian post-war context.

3. Materials and Methods

Let $R = \{R_1; R_2; \dots; R_n\}$ – be destinations or regions. It is necessary to assess their level of attractiveness as a tourist destination in the context of cultural tourism for further decision-making to choose them for travel. For such an assessment, we will use the knowledge and experience of tourists (respondents) $E = \{e_1; e_2; \dots; e_m\}$, who have already visited the destinations (regions). Tourists act as experts who form input data, expressing their opinions about the expected and actual experience, impressions, and level of satisfaction from visiting a destination in the context of cultural tourism.

Destinations are evaluated by tourists based on KI – an information model for assessing the attractiveness of a tourist destination, which consists of a set of criteria (K) for evaluating cultural aspects related to tourism. The obtained scores are processed based on a dynamic multi-criteria model for assessing the attractiveness of a tourist destination in the context of cultural tourism – M.

Let the fuzzy model be formally represented as an operator:

$$\Delta(R, E, KI, M) = Y(f). \quad (1)$$

Δ – operator that matches the output estimates$Y(f)$, with the input variables R, E, KI, M. The initial estimate $Y(f) = \{fl;\ L\}$ consists of the following quantities: fl – Quantitative assessment of the level of attractiveness of a tourist destination; L – linguistic level of attractiveness of a tourist destination.

Next, the information model for assessing the attractiveness of a tourist destination is considered. For this purpose, a set of criteria for assessing cultural aspects related to tourism, structured into separate groups, is proposed. After conducting a study of this issue, a theoretical-multiple generalization was carried out, which allowed us to identify the main groups of indicators that most influence tourists' choice of a destination for cultural tourism, namely:

G_1 – culture, local customs and traditions;

G_2 – traditional cuisine and local drinks;

G_3 – image of a tourist destination considering the cultural aspect.

Groups G_1– G_2 include criteria formed in the form of questions about expected and experience. The respondent must choose one of the answers $T_k = \{t_{k1};\ t_{k2};\ t_{k3};\ t_{k4}\}$ that reflect positive or negative cultural aspects of the visited place: What positive (negative) cultural aspects regarding local culture, customs, traditions, cuisine, and drinks did you expect to experience (experience) while visiting the chosen tourist destination? In this case, tourists answering the four questions receive the following answers:

t_{k1} ={Didn't expect; Expected} (positive aspects expected to be experienced);

t_{k2} ={Had no experience; Had experience} (positive aspects felt);

t_{k3} ={Didn't expect; Expected} (negative aspects expected to be experienced);

t_{k4} ={Had no experience; Had experience} (negative aspects felt).

The set of questions for the G_1 criteria group is as follows:

K_{11} – level of intelligibility of the language of residents and staff;

K_{12} – accessibility of art objects and events;

K_{13} – hospitality and friendliness of the local culture.

For the G_2 criteria group:

K_{21} – authentic taste of local cuisine;

K_{22} – variety of traditional dishes;

K_{23} – flexibility in ordering and availability of dishes at different times;

K_{24} – wide selection of traditional local drinks.

The respondent must choose the option that most closely matches reality, given the questions about expected and actual positive and negative cultural aspects of the trip.

To obtain a normalized score for the groups of criteria, a fuzzy logic inference based on the analysis of knowledge and behavioral logic of the respondents is used. Expectations increase motivation and satisfaction from the trip, while their discrepancy with the actual experience reduces the level of satisfaction. Thus, the respondents' ratings have a Boolean nature.

$$[1]\begin{cases} \lambda_{k1} = \begin{cases} 1, & if \quad t_{k1} = \{Expected\}; \\ 0, & if \quad t_{k1} = \{Didn't\ expect\}. \end{cases} \\ \lambda_{k2} = \begin{cases} 1, & if \quad t_{k2} = \{Had\ experience\}; \\ 0, & if \quad t_{k2} = \{Had\ no\ experience\}. \end{cases} \\ \lambda_{k3} = \begin{cases} 1, & if \quad t_{k3} = \{Expected\}; \\ 0, & if \quad t_{k3} = \{Didn't\ expect\}. \end{cases} \\ \lambda_{k4} = \begin{cases} 1, & if \quad t_{k4} = \{Had\ experience\}; \\ 0, & if \quad t_{k4} = \{Had\ no\ experience\}. \end{cases} \end{cases} . \qquad (2)$$

The sum of the points scored by criteria groups is calculated using the following formula:

$$\beta_{kdi} = \sum_{u=1}^{g_k} (\lambda_{kdi})_{ku}, k = \overline{1,2};\ d = \overline{1,4};\ i = \overline{1,m}. \qquad (3)$$

Where g_k – is the number of criteria in the corresponding group G_k. Thus, four scores are obtained: $\beta_{k1i}, \beta_{k2i}, \beta_{k3i}, \beta_{k4i}$.

Levels α_1 and α_2, are introduced, which consider the expected and actual experience, considering the positive and negative cultural aspects of the trip. According to the psychology of tourists, significant discrepancies between the desired and the actual negatively affect the impression. At the same time, discrepancies in positive aspects have a greater impact on the assessment than in negative ones. Based on experiments with 327 respondents in Zakarpattia, Lviv, and Ivano-Frankivsk regions [1], it is possible to formulate logical statements for formalizing the levels.

For positive aspects, the level α_1 will be:

IF $\beta_{k1} = \beta_{k2}$ THEN $\alpha_1 = 1$, ELSE,

IF $\beta_{k1} < \beta_{k2}$ THEN $\alpha_1 = \frac{4}{7}$ ELSE,

IF $\beta_{k1} > \beta_{k2}$ THEN $\alpha_1 = \frac{8}{7}$.

For negative cultural aspects, the level α_2 will be:

IF $\beta_{k3} = \beta_{k4}$ THEN $\alpha_2 = 1$, ELSE,

IF $\beta_{k3} < \beta_{k4}$ THEN $\alpha_2 = \frac{9}{7}$, ELSE,

IF $\beta_{k3} > \beta_{k4}$ THEN $\alpha_2 = \frac{8}{7}$.

A membership function is being introduced that can consider the real experience of tourists:

$$\delta_k(e_i) = \frac{1}{2} \cdot \left(\left(\frac{\beta_{k2i}}{g_k}\right)^{\alpha_1} + \left(1 - \left(\frac{\beta_{k4i}}{g_k}\right)^{\alpha_2}\right) \right), i = \overline{1, m_j}. \qquad (4)$$

m_j – number of tourists who visited a certain region R_j.

To obtain the resulting normalized scores of groups of criteria, considering the experience of all tourists who visited the region R_j, we calculate:

$$F_{kj} = \frac{1}{m_j}\sum_{i=1}^{m_j} \delta_k(e_i),\ k = \overline{1,2};\ j = \overline{1,n}. \quad (5)$$

The next group of criteria G_3 – is the image of the destination considering cultural tourism. The criteria of this group are formulated as an answer to the question: "What is your attitude to the following statements about the image of the destination from the point of view of cultural tourism?". Respondents were asked to evaluate them according to certain aspects: K_{41}– availability of interesting cultural events, such as festivals and concerts; K_{42} – offer of historical monuments, museums, galleries, and art centers; K_{43} – accessibility of cultural tourism in terms of cost. Formalized answers are offered using the following variable $\chi = \{\chi_1;\ \chi_2; \dots ; \chi_5\}$, where:

χ_1 – "I completely disagree".

χ_2 – "I disagree".

χ_3 – "I neither agree nor disagree".

χ_4 – "I agree".

χ_5 – "I completely agree".

The respondent selects an answer to a question from a set of linguistic variables χ.

The sum of quantitative values corresponding to the tourists' linguistic responses is calculated:

$$\vartheta_i = \sum_{u=1}^{3} \varepsilon_u(e_i),\ \varepsilon = \begin{cases} 1 & if \quad \chi_1, \\ 2 & if \quad \chi_2, \\ \dots & \dots \quad \dots, \\ 5 & if \quad \chi_5 . \end{cases} \quad (6)$$

A weighted sum is used for tourists' experiences in the region R_j:

$$\Phi_j = \frac{1}{m_j}\sum_{i=1}^{m_j} \vartheta_i,\ j = \overline{1,n}. \quad (7)$$

To calculate the resulting normalized score of the criteria group G_3 it is proposed that data mining be applied based on membership functions. The higher the total score Φ_4, the more attractive the tourist destination in the field of cultural tourism. Therefore, the membership function is defined as a quadratic S-spline:

$$F_{3j} = \begin{cases} 0, & \Phi_j \le 5; \\ \frac{(\Phi_j - 5)^2}{162}, & 5 < \Phi_j \le 14; \\ 1 - \frac{(23 - \Phi_j)^2}{162}, & 6 < \Phi_j < 23, \\ 1, & \Phi_j \ge 23. \end{cases} \quad (8)$$

Thus, for each destination R_j the resulting normalized scores $F_{1j}, F_{2j}, F_{3j}, j = \overline{1,n}$ are calculated for the groups of criteria G_1, G_2, G_3, which characterize the cultural aspects of tourism, based on the information model KI. After that, the normalized scores are processed using a dynamic multi-criteria model for assessing the attractiveness of a tourist destination in the context of cultural tourism– M.

The dynamic model consists of two stages.

In the first stage, tourism data is forecasted. For each destination, the resulting normalized estimates of groups of criteria for different periods are known and obtained, for example, using the KI, information model or by other methods. Analyzing the dynamics of these estimates, the development of tourism for the future period is forecasted. For this purpose, various methods can be used, such as regression analysis, artificial neural networks, group data processing methods, etc. As a result, the predicted resulting estimates of groups of criteria for the future period are calculated, which we will denote as follows: $\overline{F_{1J}}, \overline{F_{2J}}, \overline{F_{3J}}$.

In the second stage, it is necessary to form a ranking series of destinations based on the predicted cultural tourism data, which will allow for assessing the future behavior of alternative options. Thus, the choice problem can be formulated as determining the best destination from the set R, considering the predicted resulting scores of the criteria groups. The model of this problem can be presented in the form of a decision matrix (9).

$$P = \left(\overline{F_{kj}}\right), k = \overline{1,3}, \qquad j = \overline{1,n}. \tag{9}$$

Each column of the matrix represents a vector of ratings describing the destination, and each row corresponds to a separate group of criteria.

The next step is to construct a ranking series of destinations based on matrix (9). To do this, the wishes of the DM regarding the cultural aspects of tourism in the destination are considered. These wishes form an imaginary ideal place where the ratings for all groups of criteria maximally correspond to the expectations of the DM. Formally, such a place is represented as a three-dimensional "point of satisfaction" $T = (t_1, t_2, t_3)$. Since the decision matrix (9) and the desired values of T are known, the corresponding set of quantities is then determined as follows:

$$s_{kj} = 1 - \frac{\left|t_k - \overline{F_{kj}}\right|}{max\{\, t_k - \min\limits_{j}\overline{F_{kj}};\, \max\limits_{j}\overline{F_{kj}} - t_k\}};\ k = \overline{1,3}, \qquad j = \overline{1,n}. \tag{10}$$

Thus, the resulting matrix S = $\{s_{hj}\}$ reflects the relative estimates of the proximity of each destination to the "satisfaction point" for all groups of criteria for evaluating cultural aspects of tourism. It also eliminates the problem of different evaluation scales.

The next step to determine the level of attractiveness of a tourist destination in the context of cultural tourism is to apply a weighted average convolution:

$$fl\,(R_j) = \sum_{k=1}^{3} v_k \cdot s_{kj}\,, j = \overline{1,n}. \tag{11}$$

Where v_k – normalized weight coefficients for each group of criteria for evaluating cultural aspects related to tourism, which determines the DM. Based on the estimates $fl\ (R_j)$ a ranking series of tourist destinations (regions) is built.

Also, using the estimates of the level $fl\ (R_j)$ the linguistic level of attractiveness of the tourist destination is derived. For example:

$fl(R) \in$ (0,84; 1] – L_1 = "high".

$fl(R) \in$ (0,64; 0,84] – L_2 = "above average".

$fl(R) \in$ (0,44; 0,64] – L_3 = "average".

$fl(R) \in$ (0,24; 0,44] – L_4 = "low".

$fl(R) \in$ [0; 0,24] – L_5 = "very low".

The levels of delimitation of linguistic variables are established based on real data from respondents.

4. Front matter

The fuzzy model for assessing the attractiveness of a tourist destination in the context of cultural tourism was verified and tested on actual data from 327 respondents who filled out questionnaires from October to December 2023 in Zakarpattia, Lviv, and Ivano-Frankivsk regions [14]. The questionnaire included 16 groups of questions; a total of 320 questions related to tourist experience in various areas. Respondents had different demographic characteristics. Experiments were conducted based on all collected data, and the article provides an example of the evaluation of fragments.

Let us have some selected regions:

R_1 – Uzhhorod (Transcarpathian region).

R_2 – Beregiv (Transcarpathian region).

R_3 – Stryi (Lviv region).
R_4 – Khust (Transcarpathian region).
R_5 – Chervonohrad (Lviv region).
R_6 – Kalush (Ivano-Frankivsk region).
R_7 – Tyachiv (Transcarpathian region).

For which it is necessary to construct their ranking series to decide on the choice of the region. All input data are presented in the database [14], and a fragment of the answers to the questions according to the information model, for example, for region R_1 by expert e_1, who visited this region in 2020, is given in the table1.

Table 1
Input expert data by criteria groups $\boldsymbol{G_1 - G_3}$

Groups	Criterions	t_{k1}	t_{k2}	t_{k3}	t_{k4}
G_1	K_{11}	Expected	Experienced	Unexpected	Haven't experienced
	K_{12}	Expected	Experienced	Unexpected	Haven't experienced
	K_{13}	Expected	Experienced	Unexpected	Haven't experienced
G_2	K_{21}	Expected	Experienced	Unexpected	Haven't experienced
	K_{22}	Expected	Experienced	Expected	Haven't experienced
	K_{23}	Expected	Haven't experienced	Expected	Experienced
	K_{24}	Unexpected	Experienced	Unexpected	Haven't experienced
G_3	K_{31}	Disagree			
	K_{32}	Strongly agree			
	K_{33}	Disagree			

First, the calculation for the criteria groups $G_1 - G_2$ is considered. According to formula (3), the sum of the points scored is calculated by the criteria groups: β_{11} =3; β_{12} =3; β_{13} =0; β_{14} =0; β_{21} =3; β_{22} =3; β_{23} =2; β_{24} =1.

Based on logical statements and formalization of levels α_1 and α_2 the real experience of tourists is considered according to formula (4). To obtain the resulting normalized scores of groups of criteria, considering the experience of all tourists who visited the region R_1, it is calculated according to the formula (5): F_{11} =0,88; F_{21} =0,79.

After that, the calculation for the group of criteria G_3. is considered. First of all, the sum of quantitative values corresponding to the linguistic responses of tourists is calculated using formula: $\vartheta_1 = 9$. A weighted sum (formula (7)) is used for the experience of tourists in the region R_1: $\Phi_1 = 20$. Obtaining the resulting normalized score for the group of criteria G_3 is done according to the formula (8): $F_{31} = 0{,}94$. The calculation results for all years for the region R_1 are as follows: 2020 year - F_{11}=0,88; F_{21}=0,79; F_{31}=0,94; 2021 year - F_{11}=0,83; F_{21}=0,86; F_{31}=0,87; 2022 year - F_{11}=0,89; F_{21}=0,78; F_{31}=0,98; 2023 year - F_{11}=0,88; F_{21}=0,89; F_{31}=0,85.

Next, cultural tourism assessments are predicted for all groups of criteria, for example for 2024. For example, using paired linear regression.

Next, a ranking series of destinations is constructed. The DM sets the "satisfaction point" $T = (0{,}8; 0{,}7; 0{,}9)$. Next, the set of values is determined using formula (10). After that, the DM sets the normalized weight coefficients: $v_1 = 0{,}29$; $v_2 = 0{,}24$; $v_3 = 0{,}47$. To determine the level of attractiveness of a tourist destination in the context of cultural tourism, the formula is used (11): $fl\,(R_1)$ =0.68; $fl\,(R_2)$ =0.48; $fl\,(R_3)$ =0.58; $fl\,(R_4)$ =0.67; $fl\,(R_5)$ =0.55; $fl\,(R_6)$ =0.63; $fl\,(R_7)$ =0.62. Based on the assessments, a ranking of regions is built: $R_1, R_4, R_6, R_7, R_3, R_5, R_2$. As a result, using level estimates, the linguistic level of attractiveness of a tourist destination is derived.

The fuzzy model for assessing the attractiveness of tourist destinations in the context of cultural tourism was validated using data from 327 respondents surveyed in late 2023 across Zakarpattia, Lviv, and Ivano-Frankivsk regions. Based on 320 questions covering various aspects of tourist experience, the model enabled the calculation of normalized scores for selected regions (R_1–R_7), with R_1 (Uzhhorod) analyzed in detail. Using fuzzy logic, expert input, and multi-criteria evaluation, the model produced attractiveness scores, which were then used to forecast future trends and construct a regional ranking. The final order – R_1, R_4, R_6, R_7, R_3, R_5, R_2 demonstrates the model's effectiveness in supporting objective, data-driven decision-making in cultural tourism planning.

5. Discussion

The paper developed a fuzzy model for evaluating destination appeal within cultural tourism. For this purpose, the following were developed: an information model for assessing the attractiveness of a tourist destination and a dynamic multi-criteria model for assessing the attractiveness of a tourist destination in the context of cultural tourism; the research was verified using real data from 327 respondents collected in the Transcarpathian, Lviv, and Ivano-Frankivsk regions; fragments of data illustrate the construction of a ranking series of the attractiveness of a tourist destination.

The value of the proposed fuzzy model lies in its ability to take into account expectations, real experience, impressions, and the level of satisfaction of travelers with cultural tourism in a selected location based on key factors that most influence the choice of tourist destinations; forecast data on cultural tourism for future periods, taking into account various cultural aspects related to tourism in different time intervals; solve the problem of multi-criteria selection of the optimal tourist destination (region) based on predicted indicators. As a result, the model provides estimates of the attractiveness of tourist destinations.

Expert evaluation methods, fuzzy set theory and logic, and multi-criteria evaluation are used to formalize the model. The model settings are verified on real data, which allows for considering the subjectivity of respondents and increasing the validity of the choice of tourist destinations. The study is based on the knowledge and experience of tourists, providing practical value and reliability in decision-making for various scenarios of cultural tourism.

The limitation of the study was the sample of respondents to the questionnaire, which influenced the settings of characteristics and membership functions, as well as approaches to forecasting. However, this did not affect the reliability of the results, which is ensured by the justified use of mathematical methods.

6. Conclusions

The main objective of the study was to develop a fuzzy model for assessing the attractiveness of a tourist destination in the context of cultural tourism, with an emphasis on the experience of tourists and forecasting data related to this area. An information model is proposed that assesses the attractiveness of tourist destinations through a set of criteria that reflect the cultural aspects of tourism. The model is based on expert assessment and reveals uncertainty in expert assessments regarding the expected and real experience, impressions, and level of satisfaction from tourist destinations in the context of cultural tourism. It transforms individual opinions into a collective assessment, which is expressed in the form of a quantitative, normalized assessment. A dynamic multi-criteria model for assessing the attractiveness of a tourist destination is also proposed, which includes forecasting data on cultural tourism based on normalized assessments of groups of criteria for different periods. Further, based on these predicted assessments, the problem of multi-criteria selection of a tourist destination (region) is solved, considering the wishes of the DM regarding the cultural aspects of tourism. The research was validated using real data from 327 respondents, illustrating an example of evaluation using data fragments.

Future research is planned to expand the model for evaluating tourist destinations, considering sociocultural trends and changes in tourist behavior for more accurate demand forecasting. An adaptive version of the model will also be developed, capable of considering changes in the tourism market and socio-economic factors. It is planned to test the model in different cultural contexts and on new groups of respondents to assess its universality.

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Declaration on Generative AI

The authors have not employed any Generative AI tools.

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