Using Fuzzy Matter-Element Extension Method to Cultural Tourism Resources Data Mining and Evaluation

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***Abstract*—This study explores the mining and evaluation of cultural and tourism resources based on fuzzy matter-element extension in the context of cultural and tourism integration. Through fieldwork and analysis of cultural and tourism resources, it is found that the fuzzy matter-element extension theory can be effectively applied to the mining and evaluation of cultural and tourism resources in the context of cultural and tourism integration. The application of integration of cultural and tourism resources has a significant driving effect in tourism development, which can effectively enhance the tourist experience and improve the visibility and attractiveness. Meanwhile, through field research and data analysis, this study also puts forward relevant improvement suggestions for the characteristics and actual situation of the research object, aiming at further optimising the development mode, realising the organic integration of culture and tourism resources, and promoting the prosperity and development of the local cultural industry. Overall, this study has certain theoretical and practical significance for promoting the integrated development of culture and tourism and the sustainable development of tourism.**

***Keywords*—Cultural and tourism integration; fuzzy object meta-theory; development; organic integration**

I. INTRODUCTION

Culture and tourism integration is the current hot topic of culture and tourism development. With the development of economic globalisation and cultural diversity, the integration of culture and tourism has become an important means of promoting local economic development and cultural inheritance [1-2]. The integration of culture and tourism is not only a combination of culture and tourism, but also a brandy new mode of development and way of thinking, which organically combines cultural and tourism resources to create unique cultural and tourism products, and to enhance the soft power of local economy and culture of [3].

In the context of the integration of culture and tourism, the excavation and evaluation of cultural and tourism resources have become the focus of attention, and the research on the excavation and evaluation of cultural and tourism resources is becoming a hot topic in both the academic and practical fields [4]. Firstly, with the integration and development of the culture and tourism industry, people have begun to pay attention to how to effectively excavate and utilise cultural resources, which includes examining the cultural characteristics of different regions, historical relics, traditional handicrafts, etc., as well as how to combine these resources with tourism products to enhance the tourism experience and attractiveness [5]. Secondly, much attention has also been paid to the evaluation research of cultural and tourism resources, which includes not only measuring and assessing the actual value of cultural and tourism resources [6], but also understanding tourists' perceptions and experiences of cultural and tourism resources, so as to better improve and enhance the utilisation efficiency and attractiveness of the resources [7]. In addition, the sustainable development of cultural and tourism resources is also a popular direction of current research [8], and many researchers have begun to pay attention to how to achieve sustainable development of resources while exploring and utilising cultural and tourism resources, so as to protect the cultural heritage and ecological environment, and to ensure the long-term and stable utilisation of the resources [9], [10].

It can be seen that in the current context of the integration of culture and tourism, the research on the excavation and evaluation of cultural and tourism resources has important practical and theoretical significance [11]. However, at present, the excavation of cultural and tourism resources mainly relies on the experience of experts, and lacks a systematic and scientific evaluation model [12], a practicable evaluation model can promote the integrated development of the culture and tourism industry, and through the excavation and evaluation of cultural and tourism resources, it can create tourism products with characteristics and attraction, and promote the coordinated development of the culture and tourism industry. As an emerging evaluation method, the fuzzy material element theory can solve this problem well. The fuzzy material element theory is a new type of theory combining fuzzy mathematical theory and material element theory, which can effectively deal with the fuzzy and uncertainty information, and provides new ideas and methods for the evaluation of cultural and tourism resources [13]. Therefore, this paper takes the current development of cultural tourism in a certain place as an example, through the fuzzy matter-element extension theory can quantitatively evaluate the cultural and tourism resources, and creatively solves the uncertainty and fuzziness problems in the evaluation of cultural and tourism resources. Through the fuzzy object element theory, a set of scientific evaluation system of cultural and tourism resources can be established, which can provide powerful support for the integrated development of culture and tourism.

II. System Building in the Context of Cultural and Tourism Integration

A. Concept of Cultural and Tourism Integration

The integration of culture and tourism, as a new trend in the current tourism development, is a product of the in-depth integration of culture and tourism fields [14]. It is not only an organic combination of culture and tourism resources, but also a new development model and concept. The integration of culture and tourism is embodied in practice as the intermingling of culture and tourism patterns, which can not only promote the inheritance and promotion of local culture, but also inject new vitality and elements into the development of tourism [15]. Therefore, the integration of culture and tourism is not only the integration of a single field, but also a new mode of co-operation between industries to complement and promote each other.

B. Indicator System Construction

The system should have a wide coverage and strong applicability, and needs to be able to comprehensively reflect the characteristics and quality of cultural and tourism resources. The system of valuation indicators constructed should comprehensively consider all aspects of cultural and tourism resources, including cultural connotation, historical value, tourism attraction, sustainability and other aspects [16]. Finally, this paper considers that the evaluation indexes should be operable to ensure that relevant data can be collected and processed effectively. Based on this, this paper finally constructs the indicator system as shown in Table I.

It is worth mentioning that in the process of constructing the indicator system, this paper learnt that many scholars have better requirements for the evaluation of cultural resources [19]. For the indicator of cultural relics protection, it is interpreted in the definition as assessing the protection of cultural relics in a specific geographical area, including the number, completeness and degree of protection of cultural heritage resources such as historical monuments, cultural relics and ancient buildings, etc. However, scholars believe that the historical, artistic and scientific values of these cultural relics in the assessment are important factors that should be taken into account comprehensively in the assessment; for the indicator of cultural industry, although scholars believe it is For the indicator of cultural industries, although scholars believe that it is to assess the development of cultural industries in a specific region, including the scale, vitality and innovation capacity of cultural industries such as cultural creative industries, cultural and artistic performances, cultural exhibitions, etc., some other scholars still believe that this indicator should take into account the contribution of the relevant industries to the local economic and social development; for the indicator of cultural traditions, many scholars believe that whether the inheritance of these traditions and culture has been effectively protected and disseminated should also be an important factor in the assessment [20]. For the indicator of cultural traditions, many scholars believe that the effective protection and dissemination of the traditional culture should also be an important part of the assessment; for the indicator of cultural activities, the promotion of these cultural activities to the local cultural industry and tourism should not be neglected in the assessment process; and for the last indicator of cultural resources, the assessment of this indicator needs to include the impact of cultural education on the cultural literacy and cultural identity of the local residents.

TABLE I. Evaluation Index System based on the Concept of Cultural Tourism Integration

Normative layer	***Indicator layer***	***Interpretation of indicators***
Cultures resource (such as manpower or tourism)[17]	Heritage conservation	To assess the status of heritage conservation in a given geographical area, including the number, integrity and degree of protection of cultural heritage resources such as historical monuments, artefacts and ancient buildings.
	Cultural industry	The development of cultural industries in the region, including the scale, vitality and innovation capacity of cultural industries such as cultural and creative industries, cultural and artistic performances, and cultural exhibitions.
	Cultural tradition	To assess the transmission and development of cultural traditions in a given geographical area, including the degree of transmission and contemporary value of traditional cultural resources such as traditional festivals, folk culture and intangible cultural heritage.
	Cultural activity	To assess the richness and impact of cultural activities in a given geographical area, including the number, scale and impact of cultural activities such as cultural exhibitions, performances and cultural exchange activities.
	Cultural education	To assess the level and coverage of cultural education in a given geographical area, including the quantity and quality of cultural and educational resources such as cultural and educational institutions, cultural and educational programmes, and public cultural services.
Journey resource (such as manpower or tourism)[18]	Natural landscape	To assess the richness and attractiveness of the natural landscape of a given territory, including the quantity and quality of natural scenery resources such as mountain scenery, lakes and rivers, forests and grasslands, as well as their attractiveness to tourists.
	Cultural landscape	To assess the richness and attractiveness of the cultural landscape of a given territory, including the quantity and quality of cultural heritage resources such as historical monuments, traditional architecture, religious sites, etc., and their attractiveness to tourists.
	Tourist facility	To assess the degree of sophistication of tourism facilities in a given geographical area, including the quantity and quality of tourism infrastructure such as hotels, restaurants, transport, guide services, etc., as well as the degree of accessibility to tourists.
	Tourism activity	To assess the diversity and attractiveness of tourism activities in a given geographical area, including the richness and characteristics of tourism activities such as mountain hiking, water sports, cultural experiences, festivals and events, as well as their attractiveness to tourists.
	Tourism Services	To assess the quality and level of tourism services in a given geographical area, including the quality of services provided by tour guides, tourism information and counselling, tourism safety and security, as well as the level of satisfaction with tourists.

C. Coefficient of Variation Method

The coefficient of variation method is a statistically based method for the objective calculation of weights and is suitable for assessing situations where there are different degrees of variability between indicators. The coefficient of variation is the ratio of the standard deviation of an indicator to its mean value, which reflects the relative degree of dispersion of the indicator data. The larger the coefficient of variation, the greater the degree of volatility of the indicator, and vice versa [21],[22]. When calculating the weights, the coefficient of variation can be used to measure the importance of each indicator in the overall evaluation. In the evaluation index system of cultural and tourism resources based on fuzzy object elements in the context of cultural and tourism integration, first of all, taking into account that the indicators cover a wide range so that the objective weight assignment method can reduce the variability brought by the collection of data, and the data often involves different degrees of variability between the indicators, so the coefficient of variation method can be a very good solution to this problem. The calculation steps are shown below.

Data standardization:

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{m} x_{ij}^{\ 2}}} \tag{1}$$

Where: r_{ij} - Normalised data matrix elements;

x_{ij} -Data matrix elements;

m -Indicator Data Matrix Calculation Sample.

Calculation of the coefficient of variation

The new data matrix $R = \left(r_{ij}\right)_{m\times n}$ can be formed after the first step of processing.

Calculate the mean value of the indicator:

$$A_j = \frac{1}{n}\sum_{i=1}^{m} r_{ij} \tag{2}$$

Where: A_j - Mean value of the indicator;

n -Number of data samples.

Calculate the standard deviation of the indicator:

$$S_j = \sqrt{\frac{1}{n}\sum_{i=1}^{m}\left(r_{ij} - A\right)^2} \tag{3}$$

Where: S_j Indicator standard deviation.

Calculate the coefficient of variation:

$$V_j = \frac{S_j}{A_j} \tag{4}$$

Where: V_j - Standard deviation of the indicator.

(3) Calculation of weights

$$\omega_{ij} = \frac{V_j}{\sum_{j=1}^{n} V_j} \tag{5}$$

D. Fuzzy Object Element Modelling

Under the background of cultural and tourism integration, cultural and tourism resource evaluation is very important because it can help relevant departments and enterprises better understand and utilise the resources and promote the development of cultural and tourism industries. And the fuzzy object element model is a mathematical model that can deal with uncertainty and ambiguity information, which can effectively deal with all kinds of fuzzy and uncertain information and data involved in the evaluation process of cultural and tourism resources, specifically, the fuzzy object element model transforms the uncertainty information into the affiliation function, so that it can better describe and deal with all kinds of uncertainty [23]. The calculation process is as follows.

1) Constructing fuzzy object elements: Let the given thing be M, v is its feature, C has the measure value, using the ordered triad R= (M, C, v), R is called the crop element, when the measure value v has the fuzzy nature, R is the fuzzy object element, and μ(x) is the degree of affiliation of the thing M to the corresponding measure value x of its feature C is recorded as:

$$R = \begin{bmatrix} & M \\ C & \mu_{(x)} \end{bmatrix} \tag{6}$$

2) Fuzzy object element construction: Constructing fuzzy object elements based on the normalisation in the weighting results of this paper.

$$R_{mn} = \begin{bmatrix} & M_1' & M_2' & \cdots & M_n' \\ C_1 & x_{11}' & x_{12}' & \cdots & x_{1n}' \\ C_2 & x_{21} & x_{22} & \cdots & x_{2n} \\ \vdots & \vdots' & \vdots' & \vdots & \vdots' \\ C_m & x_{m1} & x_{m2} & \vdots & x_{mn} \end{bmatrix} \tag{7}$$

Where: x_{ij}' - Indicator normalised value.

3) Constructing standard objects

$$R_0 = \begin{bmatrix} & M_0 \\ C_1 & x_{10} \\ C_2 & x_{20} \\ \vdots & \\ C_{\mathrm{m}} & x_{m0} \end{bmatrix} \tag{8}$$

Where: x_{i0}' - optimal value of the indicator, normalised to 1.

4) Constructing fuzzy object elements for the difference between the standard object and the evaluation object

Calculate the standard object and evaluation object difference$\Delta_{ij}=\left[x_{i0}-x_{ij}'\right]^2$, based on which the object element matrix is constructed:

$$R_{mn}=\begin{bmatrix} & M_1, & M_2, & \cdots & M_n, \\ C_1 & \Delta x_{11}, & \Delta x_{12}, & \cdots & \Delta x_{1n}, \\ C_2 & \Delta x_{21} & \Delta x_{22} & \cdots & \Delta x_{2n} \\ \vdots & \vdots, & \vdots, & \vdots & \vdots, \\ C_m & \Delta x_{m1} & \Delta x_{m2} & \vdots & \Delta x_{mn} \end{bmatrix} \quad (9)$$

Where: Δ_{ij} - calculated difference

5) Euclid closeness: The larger the value of Euclidean closeness the closer it is to the optimum. The formula for calculating the Euclidean closeness is as follows:

$$\rho H=1-\sqrt{\sum_{i=1}^{m}\omega_i\Delta_{ij}} \quad (10)$$

Where: ρH - Euclid closeness

III. Cultural Tourism Resources

A. Analysis of the Study Area

The study area belongs to the key cultural and tourism project of Jiangsu Province, the national 3A level tourist attraction - Shazhou, Zhangjiagang City. Through the field investigation of the exhibition halls, cultural relics, traditional handicrafts, etc. in the study area, the cultural elements and historical background displayed in the study area were understood, and after in-depth exchanges with the managers and staff, the development history, cultural activities, and future development planning in the study area were understood, based on which the state of the indicators needed to be examined in the study area was quantified by the data. Through the investigation and analysis, it was found that the study area possesses rich cultural resources, including traditional handicrafts, historical relics, folk culture and other elements, among which, many traditional handicrafts skills are preserved, such as ceramics, weaving, etc. which represent the unique local cultural traditions. Many precious historical relics are also displayed, which reflect the important position and cultural heritage of a certain place in history. In addition, local folk culture and traditional festivals, etc. are shown to tourists through various cultural activities and exhibitions, enhancing their understanding and awareness of local culture.

B. Coefficient of Variation Method for Calculating Weights

The relevant values and weights of the coefficient of variation method calculated according to equations (1-5) are shown in Table II.

C. Analysis of Weighting Results

Based on the results of the weight calculation, the weight values are sorted and then plotted in a bar chart as shown below.

According to the results of the chart, cultural resources, cultural relics protection, cultural industry, cultural activities accounted for 13.82%, 16.80%, 11.79%, according to the survey and field consulting analysis of cultural relics protection is an important part of the cultural resources, which carries the history, traditions and cultural memories of a region or a country, and cultural relics protection not only protects the historical heritage, but also passes on the cultural heritage. Tradition, it is of great significance to enhance the cultural soft power of a region or a country. Meanwhile, with the development of culture and tourism integration, cultural industry has become an important force to support the development of tourism, which generally includes cultural creative industry, cultural tourism industry, etc., and they play an important role in the economic development and job creation of a region or a country. Corresponding cultural activities are an important way to enrich cultural life and promote cultural exchanges, and rich and diversified cultural activities can attract tourists, enhance the cultural brand image of the region or country, and then promote the development of cultural tourism. Therefore, the three indicators of heritage protection, cultural industry and cultural activities are in the study, and their weights are relatively high.

TABLE II. Coefficient of Variation Method

Indicator layer	Average value	Variance (statistics)	Coefficient of variation	Weights
Heritage conservation	0.2580	0.0093	0.0361	0.1382
Cultural industry	0.2580	0.0113	0.0439	0.1680
Cultural tradition	0.2582	0.0033	0.0127	0.0486
Cultural activity	0.2581	0.0080	0.0308	0.1179
Cultural education	0.2582	0.0028	0.0110	0.0422
Natural landscape	0.2582	0.0040	0.0154	0.0589
Cultural landscape	0.2582	0.0026	0.0101	0.0386
Tourist facility	0.2580	0.0102	0.0395	0.1509
Tourism activity	0.2579	0.0129	0.0500	0.1914
Tourism services	0.2582	0.0031	0.0118	0.0453

The same analysis shows that for tourism resources, the weight of tourism facilities and tourism activities is relatively large, accounting for 19.14% and 15.09% respectively, while the landscape indicator instead accounts for a moderate proportion, which indicates that the landscape, whether it is a natural landscape or a cultural landscape, is a necessity for any tourism region, which explains why the importance of the proportion of the performance of the general. Under the background of cultural and tourism integration, the reasons for the relatively high weighting of the two criteria of tourism facilities and tourism activities in tourism resources are analysed as follows: in tourism activities, tourism facilities are the infrastructure to support tourists' experience of tourism services, and high-quality tourism facilities can provide comfortable and convenient tourism environments to satisfy tourists' needs for tourism experience. For example, wine, scenic facilities, transport facilities, etc., their quality and service level directly affects the tour's satisfaction and tourism experience. Tourism activities are an important factor in attracting tourists, and colourful tourism activities can enhance the attractiveness and competitiveness of tourist destinations. For example, cultural festivals, experiential activities, theme performances, etc., which can enrich tourists' travel experience, increase their stay time and consumption, and play an important role in promoting the tourism economy of a region or country. In summary, tourism facilities and tourism activities are important indicators for evaluating tourism resources in the context of cultural and tourism integration, and they are directly related to tourists' tourism experience and the attractiveness of the destination, so their weights are relatively high. It is of great significance for excavating and evaluating cultural and tourism resources.

D. Fuzzy Object Element Modelling Analysis

The application of fuzzy object-element model in the study area is carried out according to Equation (6-10), and the data collected from managers, tourists, local residents, and government personnel are now listed in Table III, and the results of single-indicator calculations and overall calculations are listed in Table IV.

TABLE III. DATA FOR THE STUDY AREA

Indicator layer	***Data 1***	***Data 2***	***Data 3***	***.....***	***Data 14***	***Data 15***
Heritage conservation	85	85	84	.....	85	85
Cultural industry	86	85	83	.....	90	91
Cultural tradition	89	90	89	.....	91	90
Cultural activity	60	59	59	.....	56	56
Cultural education	99	98	97	.....	97	96
Natural landscape	98	97	96	.....	96	95
Cultural landscape	99	98	100	.....	97	100
Tourist facility	82	81	79	.....	85	87
Tourism activity	78	77	75	.....	76	85
Tourism Services	98	97	99	.....	96	99

TABLE IV. EVALUATION RESULTS

Basic indicators	***Euclid approximation***
Heritage conservation	0.9178
Cultural industry	0.8950
Cultural tradition	0.8899
Cultural activity	0.8544
Cultural education	0.8915
Natural landscape	0.8831
Cultural landscape	0.9034
Tourist facility	0.8789
Tourism activity	0.9090
Tourism Services	0.8923
Normative level indicators	***Euclid approximation***
Cultural resource	0.8897
Tourism resource	0.8933
Status of development of cultural and tourism resources	0.8915

E. Analysis of the Evaluation Results of the Fuzzy Material Element Model

Among the indicators belonging to the whole cultural resources, the Euclid approximation of cultural relics protection is 0.9178, the Euclid approximation of cultural industry is 0.8950, and the Euclid approximation of cultural activities is only 0.8544, which can be seen that the overall Euclid approximation of the cultural resources is 0.8897. The indicator with the lowest evaluative value is the cultural activities, which is considered to be influenced by the individual's subjective feeling, and this subjectivity and personalisation may cause the evaluative value of the same cultural activity to be relatively low. Considering that the evaluation of cultural activities is often influenced by the subjective feelings of individuals, the evaluation value of the same cultural activity by different people may differ greatly, and this subjectivity and individualisation leads to the relatively low evaluation value of cultural activities. However, analysing the data of the single indicator, it can be seen that although there are differences in the evaluation of this indicator by the collection object, the results show that it is generally not high, thus indicating that the cultural activities in the study area need to be improved in a targeted manner, and that the study area needs to enhance the sustainable development and innovation of cultural activities, and to improve the activities. The study area needs to strengthen the sustainable development and innovation of cultural activities to improve the attractiveness and influence of the activities, so as to enhance the appraisal value of cultural activities; at the same time, government departments should encourage the organisation of diversified cultural activities, including traditional culture, contemporary culture, folk culture, etc. so as to promote the inclusiveness of cultural activities, thus enhancing the appraisal value.

Among the indicators belonging to tourism resources, the evaluation value is relatively close, and the Euclid closeness of natural landscape, cultural landscape, tourism facilities, tourism activities, and tourism services are 0.8831, 0.9034, 0.9090, 0.8789, and 0.8923, respectively, of which the closeness of the tourism facilities in the study area is the lowest at 0.8789, which means that compared to the rest of the indicators, there is more room for improvement. The study area has a long cultural history, so attracting tourists by exploring history and culture, folk customs, traditional crafts and rich cultural elements can increase the evaluation value. At the same time, the tell-tale development of society has prompted tourists to be more and more positive about the demand for facilities and the sense of experience, so the study area can attract tourists by creating richer and more varied tourism experience projects, such as cultural performances, interactive experiences, and themed activities. In addition, consider improving the service level of tourism facilities, including guided tours, scenic area management, convenient facilities, etc., to improve visitor satisfaction, and combining contemporary technological means, such as virtual reality, augmented reality and other technologies, to bring novel experiences to tourists, to attract more tourists, and to promote the development of cultural and tourism integration.

After analysing the indicators belonging to cultural resources and tourism resources respectively, we are now analysing the indicators with relatively high degree of Euclid closeness, which are cultural relics protection, cultural landscape and tourism activities. Tourism activities in the general environment of regionalisation is not obvious, depending on the delicacy of tourism activities around the world, and cultural landscape, heritage protection of the two indicators are closely related, but also the highlight of the research in this paper, in this paper in the subsection of the indicator system of cultural heritage protection of this indicator needs to assess the situation of regional heritage protection, including the number of historical monuments, cultural relics, ancient buildings and other cultural heritage resources, the completeness and the degree of protection, and at the same time, the historical value, artistic value and scientific value of these The historical value, artistic value and scientific value of cultural relics are all important factors for assessment. The local historical monuments, ancient buildings and cultural relics also form the cultural landscape of tourism, which shows that there is a certain difference between heritage conservation and cultural landscape but the connection is close. First of all, heritage protection and cultural landscape are both for the protection and inheritance of historical heritage, promote traditional culture, enhance national cohesion and cultural self-confidence. Secondly, the success of heritage protection determines whether it can become an important part of the cultural landscape, and the formation of the cultural landscape cannot be separated from the protection and use of cultural relics, therefore, heritage protection and cultural landscape are often intertwined and mutually supportive in practice, and jointly promote the sustainable development of the integration of culture and tourism.

IV. Conclusion and Outlook

This paper based on the fuzzy object element theory on the study area for field research and case analysis, we found that the applicability of fuzzy object element method is good, and for the evaluation of the results of the realisation of the clear, through the evaluation results of the model can promote the integration of the development of culture and tourism industry to enhance the effect of the local cultural heritage and promotion, and to achieve the sustainable development of the tourism industry. The results of this paper are now combined with the current stage of China's tourism development for specific elaboration.

A. Development Orientation Analysis

The positioning of efficient development is to organically integrate cultural and tourism resources to create a comprehensive scenic spot integrating cultural heritage, tourism experience, leisure and entertainment. The different attractions then become as an important carrier for the integration of culture and tourism, with the important role of inheriting and displaying local culture, promoting tourism development, and enhancing the image of the city.

Secondly, in the context of the integration of culture and tourism, local tourist attractions and even Netflix attractions need to be committed to tapping and showcasing local traditional cultural resources, promoting local cultural characteristics, attracting tourists to come and experience them, and promoting the development of the local tourism industry. At

the same time, they also need to focus on innovation and provide tourists with colourful cultural experiences through various cultural activities, exhibitions and performances, so that they can feel the charm of local culture while playing.

Cultural landscapes are pivotal in the study of this paper, so cultural attractions can be used as a tourist destination with high cultural value, and constantly explore its development potential. Its status is not only a tourist attraction, but also a comprehensive place with education and cultural inheritance functions. By tapping into its cultural and tourism resources, it can better play its role in attracting more tourists to visit and experience, thus promoting the prosperity of the local tourism industry.

Overall, in future research, field studies and questionnaires can be combined to gain an in-depth understanding of the needs of tourists and the development direction of the cultural park, and to promote the prosperity of the local tourism industry.

B. Analysis of the Development Path of Cultural and Tourism Integration

This paper analyses the relationship between cultural landscape and cultural relics protection in the fuzzy object element result analysis, and it can be found that the development path of cultural and tourism integration needs to be achieved through scientific planning and careful design. Planning is the foundation of culture and tourism integration, and it needs to start from the perspective of overall development, taking into account the differences and complementarities of culture and tourism resources. In the development process, the planning should focus on cultural heritage, tourism experience and industrial development, and through the coordination of all kinds of resources and elements, create cultural and tourism integration products with local characteristics and competitiveness. Design is a key link in the implementation of cultural and tourism integration, and needs to focus on innovation and inclusiveness. Design work should incorporate local cultural elements and take into account the needs and experiences of tourists, so as to make tourist attractions attractive destinations, and at the same time, it should take into account environmental protection and cultural heritage, so as to create an integrated space for cultural and tourism integration.

C. Shared and Sustainable Development

Tourism is dependent on local buildings and residents, so it is necessary to encourage local communities to participate in the organisation of tourism activities and promote the shared development of communities and tourism, such as the development of tourism hospitality in the form of agro-entertainment and B&Bs, so as to increase the sources of income of local residents. Meanwhile, measures to protect the local cultural heritage and natural environment will be amicably bound to the residents of the tourism area, so as to strengthen the protection and inheritance of the cultural heritage, promote eco-friendly tourism activities, and reduce the negative impact on the environment. In addition to focusing on the dissemination and sharing of culture, tourism practitioners are encouraged to provide personalised and customised cultural tourism products and services to meet the needs of different groups of tourists, such as customised cultural and creative handicrafts and customised travel routes with cultural themes.

This paper hopes that through the above suggestions for upgrading and transformation, the attractiveness and competitiveness of cultural and tourism resources can be further enhanced, the integrated development of culture and tourism can be promoted, and the goal of cultural heritage and sustainable tourism development can be realised.

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