The Tourist Satisfaction and Its Influencing Factors of Archaized Ancient Town: A Case Study of Kongtong Ancient Town in Pingliang City, Gansu Province

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ABSTRACT

Tourist satisfaction is a key factor that has an effect on the attractiveness of scenic spots. So the tourist satisfaction determines the complaints and loyalty of tourists. The Kongtong ancient town in Pingliang City, Gansu Province was taken as an example in the present paper, based on questionnaires and in-depth interviews, and combination of factor analysis, fuzzy comprehensive evaluation and Importance-Performance Analysis (IPA), to evaluate the tourist satisfaction of the ancient town. The results are showed as follows: first, tourist satisfaction of the ancient town is reached the "satisfaction" level. The comfortable and convenient tourism services can be left a good impression to tourists. However, not only could the Taoism culture as a cultural connotation of the ancient town not reach a standard which tourists are expected, but also tourists are the least satisfied with lack of attractiveness tourism consumption. Second, there are significant differences in the satisfaction with the ancient town for tourists with different individual characteristics and tourism-generating region attributes, and the perception evaluation of local tourists is better than that of non-native tourists. Third, the results of IPA analysis are showed: improvements are urgently needed in the following aspects: excavating the cultural connotation of ancient towns, promoting folk culture, innovating participatory tourism experience, and establishing multi-level consumption system.

Keywords: archaized tourism, tourist satisfaction, fuzzy comprehensive evaluation method, IPA, Kongtong ancient town

I. INTRODUCTION

Ancient town tourism is the essence of Chinese theme tourism, with rich historical and cultural relics and rich original customs. In recent years, with the rapid heating of ancient town tourism, driven by economic benefits, the development of Chinese archaized tourism has also gradually emerged. As a typical representative of tourism commercialization, the archaized ancient town retains the architectural style and characteristics of the traditional ancient town in its architectural form. It is a cultural tourism scenic spot that integrates eating, living, traveling, touring, shopping, and entertaining, developed and constructed by relying on cultural sites or historical and cultural backgrounds [1], [2]. However, due to the lack of historical identity and memory value in the archaized town, the "authenticity" of the architectural landscape was once controversial. Scholars represented by Ruan Yisan advocated that authenticity is the soul of ancient towns, condensing the vicissitudes of history and the

precipitation of culture. Newly built ancient cities are just imitations of appearance, and cannot reconstruct time and space [3]. Scholars represented by Liu Depeng advocate that simulated landscape tourism that follows cultural connotation can create authenticity. At the same time, this tourism development model breaks through the development dilemma faced by traditional ancient towns due to heritage protection and is more satisfying for tourists' leisure and entertainment needs [4], [5]. However, whether it is a traditional ancient town or an antique ancient town, there are many problems in the process of tourism development. The discriminatory features of the ancient town culture have been gradually smoothed out by economic values [6], [7]. The original historical scenes have been threatened and eliminated by the emerging culture. The phenomenon of "homogeneous" and "homogeneous" is serious [8], [9]. Excessive commercialization continues to impact and nibble at cultural connotations. Therefore, how to extend the life cycle of ancient town tourism, maintain the vitality and charm of ancient

towns, and consolidate and enhance the tourist attraction of ancient towns are major issues facing each ancient town.

Tourist satisfaction is a key factor influencing tourist loyalty and revisit rate [10]. Whether the value contained in the ancient town can be perceived and recognized by tourists and whether tourists are satisfied with tourism consumption are the ultimate factors that determine the attractiveness of tourism. According to Chahal [11], consumption value (including functional value, social value, emotional value, cognitive value and situational value) is a key factor influencing consumer decision-making, that is to say, tourists' perception and satisfaction are actually the process of "displaying" the potential tourism value contained in the ancient town. Pizama defines satisfaction as the psychological process of evaluating tourists' expectation of tourist destinations and the results of travel experience [12]. In the actual research process, in order to scientifically evaluate the tourist satisfaction of tourist attractions, it is first necessary to construct a satisfaction evaluation index system. The selection of evaluation indicators is often multi-dimensional, dynamic and difficult to measure [13], which requires comprehensive analysis of the characteristics of the study area. In previous studies, based on the customer satisfaction index (ACSI) model, Wang Qun and other scholars divided the evaluation indicators of tourist satisfaction into input variables (visitor expectation, tourist perceived quality, and tourist perceived value) and decisions that affect tourist satisfaction output variables of tourist satisfaction results (tourist satisfaction, tourist loyalty, and tourist complaint) [14]. Scholars such as Lian Tonghui and others constructed a tourist satisfaction evaluation index system based on Delphi method and factor analysis method, which consisted of scenic service, tourism resources, tourism experience, service facilities, and tourism consumption [15]. In the evaluation of tourist satisfaction, the main research methods used include fuzzy comprehensive evaluation method [15], [16], IPA analysis method [17], [18] and structural equation modeling method [19].

In summary, the research on tourist satisfaction has achieved relatively rich results, but there is still room for discussion. Existing studies have paid more attention to the construction of tourist satisfaction evaluation index system, the selection of satisfaction evaluation methods, and the prospects of tourism destination development, while neglecting the impact of the evaluator's own individual characteristics and customer source attributes on satisfaction evaluation results. At the same time, it is worth noting that in the study of ancient town tourism, although some scholars have begun to pay attention to the archaized tourist town, a new type of tourism industry that was spawned by the development of commercial tourism, and the research methods are still mainly qualitative analysis and lack of quantitative research. Therefore, how to improve the tourist satisfaction of archaized ancient towns still needs more practitioners to continue to practice and explore, and the research results have theoretical value and practical significance.

Kongtong Ancient Town is an archaized ancient town with Taoist cultural connotation. This article takes Kongtong Ancient Town as a research sample area, uses factor analysis and fuzzy comprehensive evaluation method to build a tourist satisfaction evaluation index system, and provides tourists with satisfaction to Kongtong Ancient Town. This article also conducts scientific evaluation and studies the influence of individual characteristics of tourists and the attributes of the source area on the satisfaction evaluation results, aiming to provide reasonable suggestions for the sustainable development of the archaized ancient town tourism industry.

II. DATA SOURCES AND RESEARCH METHODS

A. Overview of the research area

Kongtong Ancient Town is located in the Kongtong District of Pingliang City, Gansu Province ("Fig. 1"). Based on the historical background of Xuanyuan Huangdi asked Guangchengzi about Tao and the cultural environment of the birthplace of Taoism in Kongtong Mountain, it was planned and constructed in 2006, and its development model belongs to the scenic area-supported ancient town under the leadership of the government. The ancient town is 6km away from the downtown area of Pingliang, and the transportation is convenient. It is the only place for tourists to go to Kongtong Mountain 5A-level tourist area, and it is an extension of Kongtong Mountain tourism industry chain. The construction land area of Kongtong Ancient Town is $20hm^2$, and the landscape area is $11hm^2$. It has a post-modern tourism background of an archaized ancient town. It is designed according to the layout of Taoism eight-diagram-shaped appetizer. The four gates of the ancient city of Pingliang during the period, designed as a building complex with one to two floors imitating the Ming and Qing Dynasties. It also creatively restored the four gates of the ancient city of Pingliang in the Ming and Qing Dynasties. The ancient town is divided into five functional areas: Five-elements Palace, Five-colors Pool, Five-flavors Palace, Five-tones Valley and the central business district. It deeply digs out the local folk cultural connotation and integrates Kongtong martial arts culture, paper-cutting culture and health culture to meet various needs of tourists such as food, living, touring, shopping and entertainment.
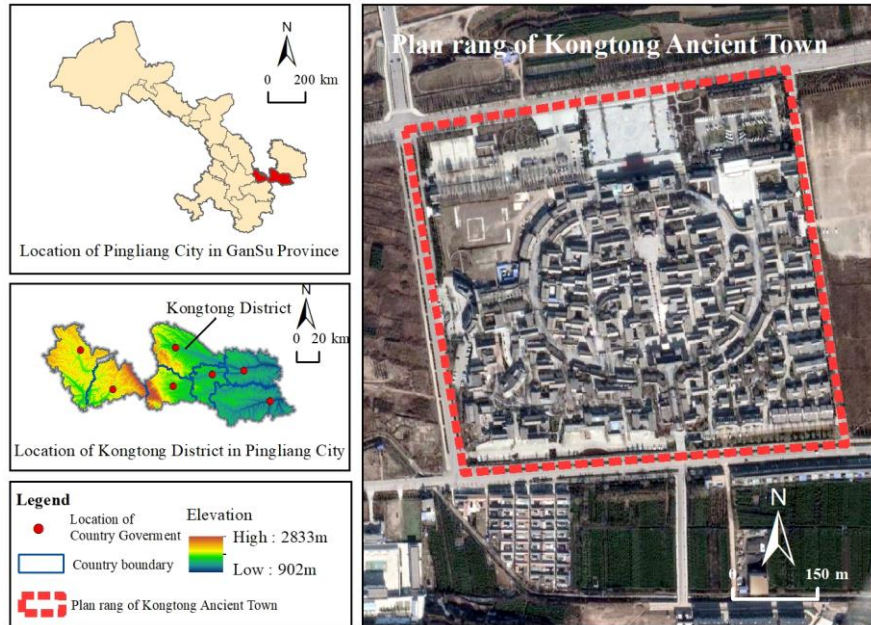
Fig. 1.   Location of the study area.

B. Data sources

Based on the field situation of the study area, this paper designs a questionnaire based on the tourist perception theory [20]. The questionnaire consists of two parts. The first part is a tourist satisfaction evaluation scale, which has designed 19 items:

- Style and characteristics of antique buildings;
- Archaized building decoration;
- Archaized building scale;
- Taoist cultural atmosphere in ancient town;
- Taoism Harmony of culture and surrounding architectural environment;
- Folk culture of ancient town;
- Natural environment;
- Sanitary environment;
- Traffic distance;
- Convenience of transportation;
- Setting of guide maps and road signs;
- Distribution of basic service facilities (toilet, parking lot, etc.);
- Service staff attitude;
- Service staff knowledge and ability;
- Local food features and types;
- Program performance;
- Types of play items;
- Tourist souvenirs;
- Prices of various tourist items for food, shopping and entertainment, etc.

The Rickett scale method was used for evaluation, which was divided into five rating levels (5–very satisfied, 4–satisfied, 3–general, 2–dissatisfied, and 1–very dissatisfied). The second part is the basic situation of tourists (gender, age, education level) and tourism information survey.

In June 2015, the research group conducted a pre-survey on Kongtong Ancient Town. The pre-surveyed objects included scenic spot staff, merchants and tourists. On this basis, the questionnaire was revised and improved. Subsequently, a formal survey was carried out from August to September 2015. During the survey, 250 people were interviewed by random sampling, and 244 valid questionnaires were retrieved. The effective rate of the questionnaire was 97.6%.

C. Sample overview

Through descriptive statistics on the interviewees' basic conditions and tourism information ("Table I"), this article found that 46.3% of the interviewed men and 53.7% of the female visitors, the sample is well-balanced; in terms of age structure, 21 to 35 years old account for the largest number of people, accounting for 38.9%, which is the main reception group in the scenic spot; tourists' education levels are concentrated in junior high school and above, accounting for 88.5%;

from the point of view of the distribution of tourist sources, the main tourists are from the city. At the same time, because Pingliang City is located at the intersection of the three provinces of Shaanxi, Gansu and Ningxia, due to the geographical location, the

number of tourists outside the province should not be underestimated; the travel time of tourists is concentrated within 2 days, accounting for 80.7%, mainly short-distance travel.

TABLE I. DESCRIPTIVE STATISTICAL RESULTS

Indicator	Project	Frequency	Percentage (%)	Indicator	Project	Frequency	Percentage (%)
Age (years old)	Under 20 years old	26	10.7	Gender	Male	113	46.3
	21-35 years old	95	38.9		Female	131	53.7
	36-50 years old	67	27.5	Degree of education	Primary school or below	28	11.5
	51-65 years old	47	19.3		Junior high school	85	34.8
	More than 65 years old	9	3.7		High school / technical secondary school	64	26.2
Travel duration (days)	Half of a day	53	21.7		Junior college degree or above	67	27.5
	One day	64	26.2	Tourism-generating region	In city	119	48.8
	Two days	80	32.8		Outside the city in the province	51	20.9
	Three days	40	16.4		Outside the province	74	30.3
	More than three days	7	2.9	—	—	—	—

D. Research methods

1) Tourists' satisfaction evaluation method: In this study, the exploratory factor analysis method is first used to establish a tourist satisfaction evaluation index system, and the fitting degree of the evaluation index system is tested by the confirmatory factor analysis method [21], [22]. Secondly, the entropy method is used to calculate the index layer weights, and the index layer weights are added and summed up as the restriction layer weights. Then, the tourists' satisfaction with the scenic area is evaluated, the average value of each evaluation index is used as the index layer satisfaction, and the tourists' satisfaction with the restriction layer indicators is calculated by the fuzzy comprehensive evaluation method. Finally, IPA (Importance-Performance Analysis) analysis method is used to draw a four-quadrant map to diagnose the advantages and disadvantages of scenic spot construction.

Fuzzy comprehensive evaluation method is based on the membership theory of fuzzy mathematics, which converts qualitative evaluation into quantitative evaluation [15]. Because tourists' satisfaction evaluation indicators have strong ambiguity and are difficult to describe quantitatively, in order to more objectively analyze the satisfaction of tourists with each

evaluation index, referring to the existing literature [23], it uses the fuzzy comprehensive evaluation method to calculate. The specific steps are as follows:

Step 1: It is to establish the satisfaction evaluation set V, that is, $V=(v_1,v_2,v_3,v_4,v_5)$, and determine the evaluation index set U, that is, $U=(u_1,u_2,u_3,...,u_i)$.

Step 2: It is to construct a fuzzy evaluation matrix R and determine the degree of membership of the evaluation object to the evaluation set V.

$$R = \begin{bmatrix} r_{11} & r_{12} & \cdots & r_{1m} \\ r_{21} & r_{22} & \cdots & r_{2m} \\ \vdots & \vdots & \vdots & \vdots \\ r_{n1} & r_{n2} & \cdots & r_{nm} \end{bmatrix} \quad (1)$$

In the formula: r_{ij} ($i=1,2...,n$; $j=1,2...,m$) is the degree to which the evaluation index u_i belongs to the evaluation level v_j, expressed as the ratio of the statistic number of the evaluation level v_j to the total number of people interviewed .

Step 3: It is to find the fuzzy comprehensive evaluation set B, and calculate the comprehensive evaluation score P of the evaluation index according to the measurement scales H and B.

$$B = W \times R \quad (2)$$

$$P = B \times H \qquad (3)$$

In the formula: W is the normalized value of each evaluation index weight; H = (very satisfied, satisfied, general, dissatisfied, very dissatisfied) = (5, 4, 3, 2, 1)

2) Analysis of factors influencing the difference in satisfaction evaluation: Based on previous research, [24], [25], differences in individual characteristics will have an impact on tourist satisfaction. In this paper, the independent sample T test method is used to compare and analyze the differences in the satisfaction perception of the ancient towns' cultural landscape, service system, tourism consumption, and tourism experience between the two groups of male and female sample tourists; the single factor variance method was used to determine the difference in satisfaction among groups with different levels of education, age, and origin. Before the analysis, the sample data of each level grouping is first tested, and it is found that there is no significant outlier in the data, and it is subject to positive distribution and the variance is homogeneous.

III. RESULTS AND ANALYSIS

A. Establishing a tourist satisfaction evaluation index system

1) Exploratory factor analysis: First, the normality of the research data is tested, and it is found that the absolute values of the skewness Z-score and kurtosis Z-score of each variable are less than 1.96, and it can be considered that the data follow a normal distribution.

122 of the 244 valid questionnaires were taken for exploratory factor analysis in SPSS 20.0 statistical software. Among them, the commonness of the measurement item "traffic distance" is less than 0.4, indicating that the information utilization rate of this item is not high, and it is eliminated. At the same time, the researchers select the factor load intercept point as 0.5, delete any measurement items that have a factor load less than 0.5 or cross load (the load of the same measurement item on both factors is greater than 0.4) and eliminate "Archaized buildings scale" and "Sanitary environment" according to this. The exploratory factor analysis was carried out on the sample data of the revised 16 measurement items again. The results showed that the KMO value was 0.870, and the significance probability of Bartlett's sphericity test was P<0.001, indicating that exploratory factor analysis was suitable. The researchers select the principal component method to extract the factors with eigenvalues greater than 1, and use the maximum variance method to rotate, and finally extract four factors with eigenvalues greater than 1 ("Table II"). The cumulative variance interpretation rate is 68.656%, greater than the minimum standard of variance contribution rate 60%, indicating that tourists' satisfaction has been well explained. According to the content of each factor's question item, it is named and explained, named "humanistic landscape", "service system", "tourism consumption" and "tourism experience".

TABLE II. THE CONTRASTS BETWEEN EXPLORATORY FACTOR ANALYSIS AND CONFIRMATORY FACTOR ANALYSIS

Index level	EFA factor load capacity	CFA factor load capacity	Restriction layer	Variance contribution rate (%)
C_1 natural environment	0.800	0.744	Humanistic landscape (C)	22.925
C_2 the style and character of archaized buildings	0.693	0.676		
C_3 archaized building decoration	0.612	0.593		
C_4 the Taoist cultural atmosphere of the ancient town	0.822	0.695		
C_5 harmony between Taoist culture and surrounding building environment	0.762	0.719		
C_6 folk culture of the ancient town	0.707	0.698		
S_1 navigation map and road sign setting	0.725	0.729	Service system (S)	20.811
S_2 distribution of basic service facilities (toilets, parking lots, etc.)	0.695	0.566		
S_3 service personnel attitude	0.862	0.809		
S_4 knowledge and ability of service personnel	0.708	0.846		
S_5 degree of traffic convenience	0.748	0.601		
E_1 souvenirs	0.775	0.727	Tourism consumption (E)	12.958
E_2 catagories of entertainment	0.553	0.668		
E_3 food, shopping, entertainment of all kinds of tourist items' prices	0.841	0.751		
A_1 local food features and varieties	0.793	0.782	Tourism experience (A)	11.962
A_2 floor show	0.859	0.829		

2) Confirmatory factor analysis: Using AMOS22.0 statistical software, a confirmatory factor analysis was performed on the remaining 122 samples. The results showed that the tourist satisfaction measurement model had a good fit. χ^2/df = 1.485<3, RMSEA=0.063<0.08, IFI=0.944>0.9, TLI=0.929>0.9, CFI=0.942>0.9, which mean that all passed the test. The CFA factor load in "Table 2" can be calculated to conduct that the combined reliability (CR) of the latent variables "humanistic landscape", "service system", "tourism consumption" and "tourism experience" are 0.844, 0.839, 0.759, 0.787, which are all greater than 0.7, showing all of each latent variable The item can explain the latent variable consistently; The average variance extraction values (AVE) of the four latent variables are 0.475, 0.517, 0.513, and 0.649, respectively. Among them, the AVE values of the other three latent variables except for "humanistic landscape" are all greater than 0.5. The small AVE value of "Human Landscape" may be related to the selection of the survey time, the small sample size and the quality of the questionnaire filled by the interviewed tourists, but considering that the value is greater than 0.4 and close to 0.5, referring to existing literature [21], in order to maintain the integrity of the overall model, the latent variable is retained, and the model can be accepted.

3) Reliability analysis: The evaluation results of reliability analysis can be used to reflect the consistency and stability of the questionnaire. In this paper, the Cronbach reliability coefficient method is used. The analysis results show that the α value is 0.895, indicating that the reliability of the questionnaire is good.

B. Comprehensive evaluation of tourist satisfaction

1) Fuzzy comprehensive evaluation of satisfaction: The tourist satisfaction evaluation index set U contains 4 restriction layer indexes, namely $U=(U_i)(i=1,2,3,4)$, where U_i is composed of the second-level evaluation index U_{ij}; meanwhile, the satisfaction evaluation set V is established =(5,4,3,2,1); In addition, the entropy method is used to determine the index layer weights, and the weight set $W=(W_{ij})$ is established after normalization. The fuzzy evaluation matrix R_i is constructed according to the degree of membership of the evaluation index to the evaluation level, that is, the evaluation matrix for the four perception dimensions of humanistic landscape, service system, tourism consumption and tourism experience can be obtained as follows:

$$R_1 = \begin{bmatrix} 0.230 & 0.422 & 0.324 & 0.016 & 0.008 \\ 0.311 & 0.389 & 0.250 & 0.037 & 0.012 \\ 0.193 & 0.348 & 0.402 & 0.053 & 0.004 \\ 0.180 & 0.336 & 0.377 & 0.090 & 0.016 \\ 0.180 & 0.352 & 0.352 & 0.094 & 0.020 \\ 0.197 & 0.369 & 0.357 & 0.066 & 0.012 \end{bmatrix}$$

$$R_2 = \begin{bmatrix} 0.266 & 0.480 & 0.234 & 0.012 & 0.008 \\ 0.238 & 0.529 & 0.164 & 0.057 & 0.012 \\ 0.246 & 0.434 & 0.262 & 0.041 & 0.016 \\ 0.205 & 0.426 & 0.324 & 0.037 & 0.008 \\ 0.283 & 0.377 & 0.262 & 0.061 & 0.016 \end{bmatrix}$$

$$R_3 = \begin{bmatrix} 0.148 & 0.324 & 0.459 & 0.061 & 0.008 \\ 0.107 & 0.307 & 0.455 & 0.111 & 0.020 \\ 0.119 & 0.344 & 0.414 & 0.111 & 0.012 \end{bmatrix}$$

$$R_4 = \begin{bmatrix} 0.156 & 0.303 & 0.426 & 0.090 & 0.025 \\ 0.148 & 0.369 & 0.393 & 0.078 & 0.012 \end{bmatrix}$$

According to formula (2) and index layer weights, the fuzzy comprehensive evaluation set of the second level is calculated as:

$$B_1 = W_1 \times R_1 = \begin{pmatrix} 0.210 & 0.365 & 0.347 & 0.065 & 0.013 \end{pmatrix}$$

$$B_2 = W_2 \times R_2 = \begin{pmatrix} 0.249 & 0.444 & 0.250 & 0.044 & 0.013 \end{pmatrix}$$

$$B_3 = W_3 \times R_3 = \begin{pmatrix} 0.122 & 0.325 & 0.442 & 0.097 & 0.014 \end{pmatrix}$$

$$B_4 = W_4 \times R_4 = \begin{pmatrix} 0.152 & 0.332 & 0.412 & 0.085 & 0.019 \end{pmatrix}$$

According to formula (3), the comprehensive evaluation scores of the four perception dimensions of humanistic landscape, service system, tourism consumption, and tourism experience are calculated:

$$P_1 = 5b_{11} + 4b_{12} + 3b_{13} + 2b_{14} + b_{15} = 3.694$$

$$P_2 = 5b_{21} + 4b_{22} + 3b_{23} + 2b_{24} + b_{25} = 3.872$$

$$P_3 = 5b_{31} + 4b_{32} + 3b_{33} + 2b_{34} + b_{35} = 3.444$$

$$P_4 = 5b_{41} + 4b_{42} + 3b_{43} + 2b_{44} + b_{45} = 3.513$$

According to the index weight of restriction layer in the satisfaction evaluation index system, the final evaluation set of tourist satisfaction in kongtong ancient town is obtained:

$$D = W \times B = \begin{pmatrix} 0.193 & 0.373 & 0.351 & 0.069 & 0.014 \end{pmatrix}$$

The comprehensive evaluation result of tourist satisfaction in Kongtong Ancient Town can be obtained by calculating the final evaluation set de-fuzzy value:

$$P = 5 \times 0.193 + 4 \times 0.373 + 3 \times 0.351 + 2 \times 0.069 + 0.014 = 3.662$$

TABLE III. MEASURED VARIABLE SATISFACTION AND IMPORTANCE EVALUATION RESULTS

Restriction layer	Degree of satisfaction	Weight	Index level	Degree of satisfaction	Weight	Weight Normalization
Humanistic landscape (C)	3.694	0.373	C_1 natural environment	3.848	0.045	0.121
			C_2 the style and character of archaized buildings	3.951	0.055	0.147
			C_3 archaized building decoration	3.672	0.054	0.145
			C_4 the Taoist cultural atmosphere of the ancient town	3.574	0.075	0.201
			C_5 harmony between Taoist culture and surrounding building environment	3.578	0.080	0.214
			C_6 folk culture of the ancient town	3.672	0.064	0.172
Service system (S)	3.872	0.267	S_1 navigation map and road sign setting	3.984	0.040	0.150
			S_2 distribution of basic service facilities (toilets, parking lots, etc.)	3.922	0.052	0.195
			S_3 service personnel attitude	3.852	0.058	0.217
			S_4 knowledge and ability of service personnel	3.783	0.050	0.187
			S_5 degree of traffic convenience	3.848	0.067	0.251
Tourism consumption (E)	3.444	0.211	E_1 souvenirs	3.541	0.059	0.280
			E_2 catagories of entertainment	3.369	0.080	0.379
			E_3 food, shopping, entertainment of all kinds of tourist items' prices	3.447	0.072	0.341
Tourism experience (A)	3.513	0.149	A_1 local food features and varieties	3.475	0.084	0.564
			A_2 floor show	3.561	0.065	0.436

2) Analysis of the evaluation results of tourist satisfaction: This article divides tourist satisfaction into five evaluation levels: "very dissatisfied", "dissatisfied", "general", "satisfied", and "very satisfied", and the corresponding score interval is set to [1, 1.5], (1.5, 2.5], (2.5, 3.5], (3.5, 4.5], (4.5, 5]. The results show that the overall satisfaction of tourists in Kongtong Ancient Town is 3.662, reaching the "satisfied" rating. There are differences in the satisfaction of tourists in scenarios with different perception dimensions ("Table III"), which is expressed as service system (3.872)>humanistic landscape (3.694)>tourism experience (3.513)>tourism consumption (3.444), it can be seen that:

- Tourists have the highest satisfaction with the ancient town service system, reaching the "satisfied" level and higher than the overall satisfaction value of tourists. It shows that the basic service facilities configuration of the scenic spot and the quality of the staff service meet the travel needs of tourists, which plays a key role in enhancing the image of the scenic spot.

- As a core tourist resource of ancient towns, human landscape is highly satisfied with tourists, reaching the level of "satisfaction" and slightly higher than the overall satisfaction value of tourists. Therefore, it can be seen that the comfortable and pleasant natural landscape is highly attractive to tourists, and the architectural style and characteristics of archaized buildings

are also favored by tourists. However, through analysis of secondary evaluation indicators, it is found that Taoism culture as the cultural connotation of ancient towns, tourists' satisfaction with it is low, and at the same time, the harmony between Taoism culture and the built environment is not high in the perception of tourists, that is, landscape design and human intentions are misaligned, which is an important issue facing the scenic spot. Although the Kongtong Ancient Town creates an "ancient" beauty for tourists through external forms such as ancient houses, ancient streets, ancient courtyards, and ancient decorations, the unique local historical culture is the soul of the ancient town. Therefore, further digging out the Taoist cultural connotation, telling the story of the origin of Tao, increasing the Taoist elements of antique buildings, and strengthening the harmony between the Taoist culture and the architectural landscape are the keys to enhancing the tourist attraction of scenic spots, which can allow tourists to obtain spiritual satisfaction beyond the visual experience.

- Tourists' satisfaction with the ancient town's tourism experience is high, reaching the "satisfied" rating, but slightly lower than the overall tourist satisfaction value, so it needs to be improved. In the process of traveling, tourists are eager to integrate into the real life of the tourist destination, not only to feel the cultural charm of the ancient towns and antiques, but

also to participate in the cultural interaction, food and folk art bear the collective memory of a city. It can not only tell the tourists about the development and changes of the city, but also allow tourists to participate in it, taste the taste of the city, and experience the local folk customs, such as the Pingliang folk culture represented by Kongtong martial arts, paper-cut art, and social fire. In the process, it is a must to increase interaction with tourists and stimulate their enthusiasm for participation. Local specialties such as Laozao (fermented glutinous rice), Youquan (scraper rings), Guokui (crusty pancakes), Nuanguo (chafingdish), etc., should strive for excellence, restore the traditional taste, and increase the fireworks atmosphere of the ancient town.

- Tourist satisfaction with tourism consumption in the ancient town is the lowest, and the satisfaction level is "general". This is related to the fact that the types of entertainment items in the ancient town are too few, and it lacks the attractiveness in the consumption prices of food, shopping, entertainment, etc., which cannot stimulate tourists' desire to buy. Tourist satisfaction affects the loyalty of tourists. If tourism products can be developed in combination with the characteristics of ancient towns and regional culture, the types of entertainment items can be broadened to meet the consumer's consumption needs, and the overall satisfaction of the scenic area can be improved.

C. IPA analysis of satisfaction evaluation

The IPA analysis method is a four-quadrant diagram made based on the importance and expressiveness of evaluation indicators, which can be used to diagnose the advantages and disadvantages of scenic spot construction. Taking the weight of each evaluation index of Kongtong Ancient Town as the abscissa and the satisfaction as the ordinate, the average value is respectively taken as the X-Y axis dividing point. According to the principle of IPA analysis, the indicators that fall in the four quadrants are explained ("Fig. 2").

The evaluation index of the first quadrant is of high importance and satisfaction, which is the direction that the scenic spot needs to continue to maintain. The index falling in this quadrant is the degree of traffic convenience. Because Kongtong Ancient Town is relatively close to the urban area, the convenience and efficiency of transportation around the scenic spot are outstanding, which is where the competitive advantage of the scenic spot lies.

The evaluation index of the second quadrant is higher in satisfaction and lower in importance, which is the direction that the scenic spot does not need to spend too much energy. The indicators that fall in this quadrant include the setting of guide maps and road signs, the distribution of basic service facilities (toilet, parking lot, etc.), the attitude of service personnel, the knowledge and ability of service personnel, the natural environment, the style and characteristics of antique buildings. These factors are mainly affiliated with the service system of the scenic spot, not the core attraction of the scenic spot. At the same time, in view of the high satisfaction of tourists, it is necessary for the managers of the scenic spot to continue to maintain in the future development, constantly improve the infrastructure configuration of the scenic spot, and improve the service quality of tour guides and staff.

The importance and satisfaction of the evaluation indicators in the third quadrant are low, which is the secondary optimization direction of the ancient town. The indicators that fall in this quadrant include tourist souvenirs and antique architectural decoration. Although these two indicators have greater room for improvement, at the current stage of development of the scenic area, tourists are not very sensitive to it, so they can be considered to be included in the optimization category of ancient town construction in the later period.

The evaluation index of the fourth quadrant is of high importance, while the satisfaction is low, which is the direction that the scenic spot needs to be improved. The indicators that fall in this quadrant are 7 evaluation indicators of Taoist cultural atmosphere of the ancient town, the harmony of the Taoist culture and the surrounding architectural environment, folk culture, local food features and types, program performances, types of play items and the prices of various tourism items such as eating, shopping and entertainment. In the perception of tourists, the ancient architectural complexes and local folk customs integrated with the Taoist culture are the core attractions of Kongtong Ancient Town. At the same time, reasonable tourism consumption and unique tourism experience are the driving forces of the economic development of the ancient town. Therefore, these evaluation indicators play a vital role in improving tourist satisfaction. However, in the actual experience of tourists, there is an obvious perceived gap, and the satisfaction of tourists is not high. This needs to be highly valued by scenic spot managers and focused on improvement.
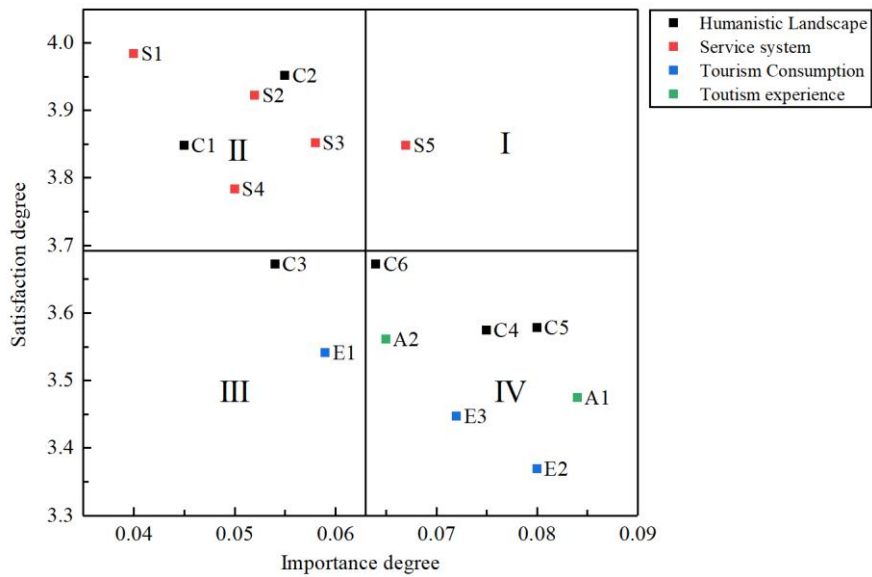
Fig. 2. The four-quadrant diagram of importance-satisfaction analysis.

D. Analysis of influencing factors of differences in tourist satisfaction evaluation

1) Differences in individual characteristics of tourists: Gender-based analysis results show ("Table IV") that there is a significant difference between the satisfaction of men and women in the service system of scenic spots and tourism consumption. It is mainly because women are more sensitive to price, and pay more attention to details during the travel experience, and have higher requirements for comfort than men. Therefore, Kongtong Ancient Town should pay more attention to women's needs in these aspects.

The analysis results based on education level ("Table IV") show that tourists with different education levels have significant differences in the satisfaction of the ancient town's cultural landscape and service system. Among them, the degree of satisfaction of college visitors and above with the ancient town's cultural landscape is significantly lower than other tourists; And the satisfaction of the ancient town service system is also significantly lower than that of high school and junior high school tourists. This is because tourists with high academic qualifications have higher requirements on the cultural connotation and service quality of the scenic area and are more critical. Therefore, Kongtong Ancient Town should enhance the cultural connotation of the scenic spot to meet the needs of tourists from different cultural strata.

Based on the results of age analysis ("Table IV"), there are significant differences in the satisfaction of the ancient town service system and travel experience at different ages. The satisfaction of the 21-35 year old tourist group with the ancient town service system and travel experience is less than 51 years old tourists. This is because young tourists are full of energy and rich in travel experience, and have a strong sense of adventure in the travel experience. Therefore, the ancient town needs to be improved to meet the individual needs of tourists.

TABLE IV.   THE RESULT OF TOURISTS' DIFFERENT BACKGROUNDS

Individual characters	Category	Humanistic landscape		Service system		Tourism consumption		Tourism experience	
		Mean	*Standard deviation*	*Mean*	*Standard deviation*	*Mean*	*Standard deviation*	*Mean*	*Standard deviation*
Gender	Male	3.799	0.741	3.998	0.707	3.563	0.693	3.615	0.729
	Female	3.644	0.621	3.774	0.667	3.356	0.720	3.435	0.887
	F value	3.341		0.438[*]		0.117[*]		2.761	
Degree of education	Primary school or below	3.905	0.623	3.757	0.759	3.417	0.695	3.607	0.762
	Junior high school	3.704	0.636	3.974	0.612	3.518	0.679	3.576	0.807
	High school / technical secondary school	3.888	0.579	3.991	0.591	3.505	0.744	3.641	0.732
	Junior college degree or above	3.488	0.789	3.699	0.814	3.333	0.734	3.291	0.909
	F value	4.797[**]		2.954[*]		0.999		2.483	
	LSD back testing	4<1,2,3		4<2,3					
Age	Under 20 years old	3.878	0.610	3.900	0.734	3.513	0.860	3.423	0.771
	21-35 years old	3.575	0.687	3.699	0.732	3.347	0.723	3.374	0.850
	36-50 years old	3.741	0.659	4.057	0.544	3.582	0.662	3.687	0.820
	51-65 years old	3.826	0.712	3.970	0.721	3.426	0.636	3.681	0.679
	More than 65 years old	-		-		-		-	
	F value	2.300		4.021[**]		1.538		2.765[*]	
	LSD back testing			2<3,4				2<3,4	

[a.]   Note: * represents P<0.05, ** represents P<0.01

2) Differences in tourist origin: By analyzing the differences of tourists' satisfaction with Kongtong Ancient Town from different source regions ("Table V"), the results show that the satisfaction of the city tourists with the cultural landscape and service system of Kongtong Ancient Town is significantly higher than that of tourists outside the city. The main reason is that tourists from outside the city have long travel distances and often have high expectations for tourist destinations. Therefore, when there is a gap with the actual perception, the satisfaction of tourists will be reduced. However, local tourists mainly travel for half a day, often with a single tourist goal orientation, without spending too much time and money, and are more easily satisfied.

TABLE V.   IMPACT OF DIFFERENCES IN TOURIST ORIGIN

Degree of education	Humanistic landscape		Service system		Tourism consumption		Tourism experience	
	Mean	*Standard deviation*	*Mean*	*Standard deviation*	*Mean*	*Standard deviation*	*Mean*	*Standard deviation*
In city	3.874	0.662	4.015	0.635	3.501	0.687	3.576	0.840
Outside the city in the province	3.601	0.681	3.651	0.710	3.340	0.701	3.598	0.742
Outside the province	3.541	0.665	3.814	0.732	3.450	0.763	3.372	0.832
F value	6.651[**]		5.577[**]		0.913		1.723	
LSD back testing	1>2,3		1>2,3					

[a.]   Note: * represents P<0.05, ** represents P<0.01

IV. CONCLUSIONS AND SUGGESTIONS

A. Conclusions

Based on a questionnaire survey, a factor analysis method is used to construct an evaluation index system for tourist satisfaction in ancient towns. Comprehensive satisfaction evaluation results and IPA analysis charts are used to explore the differences in the satisfaction evaluation of tourists on the four perceived dimensions, and to analyze the advantages and disadvantages of tourism development in ancient towns. The main conclusions are as below:

Through the fuzzy comprehensive evaluation method, the overall satisfaction of tourists in Kongtong Ancient Town has reached the "satisfaction" level. For different perception dimensions, the satisfaction of tourists is different. The specific performance is: service system (3.872)> humanistic landscape (3.694) > tourism experience (3.513)> tourism consumption (3.444), in which comfortable and convenient travel services have left a good impression on tourists. However, as the cultural connotation of the ancient town, Taoism culture has a low level of harmony with the built environment, which affects tourists' perception of the human landscape. At the same time, unattractive tourism consumption has become the most unsatisfied aspect of tourists, with a satisfaction rating of "general".

According to IPA analysis results, in the perception of tourists, the competitive advantage of Kongtong Ancient Town is reflected in the convenience of transportation; the areas that need to be improved are concentrated in Taoist culture, folk culture, tourism experience, types of play items and consumer prices; The secondary optimization direction needs to focus on tourist souvenirs and ancient building decoration.

Analyzing the impact of individual characteristics on tourist satisfaction, it is found that men's satisfaction with the ancient town's service system and tourism consumption is significantly higher than that of women; college and higher education tourists are significantly less satisfied with the ancient town's humanistic landscape and service system than high school and junior high school tourists; The satisfaction of the 21-35 year-old tourist group with the ancient town service system and travel experience is significantly lower than that of the over-51-year-old tourists. Overall, the construction of the ancient town's service system needs to meet the individual needs of different groups.

The analysis of the impact of tourist origin on tourist satisfaction shows that the satisfaction of tourists in the city with the humanistic landscape and service system of Kongtong Ancient Town is significantly higher than that of tourists outside the city. This is because the psychological expectations of tourists and the cost of tourism cause differences in the perception of tourists.

B. Suggestions

Based on the above research results, the following suggestions are proposed for the tourism development of the archaized ancient town:

The humanistic landscape of the archaized ancient town has the characteristics of a mixture of ancient and present times, in which the cultural site is "ancient", the archaized landscape is "present"; the architectural form is "ancient", and the architectural function is "present" [2]. Therefore, it is necessary to pay attention to the harmony and unity with the traditional historical culture in the classical artistic expression of the garden landscape, and dig deep into the cultural connotation, so that the tourism experience of tourists no longer stays in sensory enjoyment, but rises to cultural cognition, thereby arousing the tourists' awe and resonance to the historical and cultural heritage, meeting the spiritual and cultural needs of tourists, and promoting the development of the tourism industry.

Indigenous residents are absent in the development process of the archaized ancient town, so lack of endogenous power and lack of vitality lead to cultural experience being in the model of stage and fast food [4]. In view of this, it is necessary to improve the subjective participation and interactivity of the tourism experience, so that tourists can obtain spiritual pleasure and spiritual satisfaction during the participation process. It is proposed to develop traditional handicraft experience projects to satisfy the tourists' psychology and add interest to the tourism experience. At the same time, local specialties can be displayed and processed to tourists in the form of storytelling, attracting tourists from taste buds and enhancing the tourism experience of tourists.

In terms of tourism services, it is a must to improve the professional quality and ability of service personnel, improve the service information of tourism websites, create an intelligent service platform, master the real-time dynamics of scenic spots, and meet the personalized needs of people of different ages, genders, and education levels.

Tourism consumption price is a key link that affects tourist satisfaction. It is necessary to reasonably price tourism products, build a multi-level and diversified consumption system, and allow tourists to obtain the psychological experience of "long knowledge" and "value for money" in the process of tourism experience.

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