

A Survey Study on the Satisfaction of Rural Tourists in Nanchong City, Sichuan Province

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Abstract: This study employs field survey methods to investigate the satisfaction of tourists visiting rural areas in Nanchong City. After conducting reliability and validity tests on the collected data, the results showed that the questionnaire data met the standards for reliability and structural fit. The hypotheses set earlier were then verified, finding that individual differences among tourists have a certain impact on tourist satisfaction. Furthermore, the positive effect of perceived value on tourist satisfaction was also validated. Therefore, the factors affecting tourist satisfaction mainly stem from the inadequacies in the tourism development of Nanchong City, including the need for optimization of infrastructure and environment, relatively small development scale, single development mode, and the need for improvement in service levels.

Keywords: Rural tourism; Nanchong City; Satisfaction.

1. Introduction

Rural tourism is a form of tourism with villages as the backdrop, rich in natural and cultural resources, and is an important way for urban residents to experience rural life and culture. Since the development of rural tourism in Nanchong City, it has been promoting the development of related industries and cultural industries. Some industries have gradually expanded their scale, forming an orderly industry structure. In the tourism industry of Nanchong City, the catering industry features farm stays, the accommodation industry has dabbled in homestay construction, though with not significant effects, and leisure and entertainment construction has been the main focus, during which a series of facilities and places for play were established, combining rural style and modern trends, making many rural tourism spots popular destinations for Nanchong City and surrounding areas during holidays. Meanwhile, the scale of the construction of industries supporting tourism in Nanchong City is balanced, which is conducive to improving the overall satisfaction of tourists.

Since the development of rural tourism in Nanchong City began, it has been promoting the development of related industries and cultural industries. Some industries gradually expanded in scale, forming an orderly industry structure. In Nanchong City's tourism industry, the catering business features farm stays, the accommodation sector has ventured into the construction of homestays, though with not very notable effects, but leisure and entertainment construction has been the main focus. During this process, a series of facilities and places for play that combine rural style with modern trends were established, many rural tourism spots have become popular choices for Nanchong City and surrounding citizens for holiday outings. At the same time, the balanced construction scale of Nanchong City's tourism supporting industries helps to improve the overall satisfaction of tourists.

This paper, based on the actual situation of rural tourism in Nanchong City, China, studies the satisfaction model proposed by previous researchers (TDTS model), and proposes hypotheses to investigate the satisfaction of tourists

in rural tourism in Nanchong City. According to the tourist loyalty model, the destination's scenery affects tourist satisfaction, and the tourist experience affects tourist satisfaction. Therefore, this paper proposes the following research hypotheses:

H1a: The natural scenery of the destination directly and significantly affects tourist satisfaction

H1b: The cultural connotation of the destination directly and significantly affects tourist satisfaction

H1c: The uniqueness of the destination directly and significantly affects tourist satisfaction

H1d: The richness of the destination directly and significantly affects tourist satisfaction

H2a: Infrastructure construction directly and significantly affects tourist satisfaction

H2b: The connotation of service quality directly and significantly affects tourist satisfaction

H2c: The quality of supporting facilities directly and significantly affects tourist satisfaction

2. Theoretical Foundation

American scholar Pizam (1978) proposed the tourist expectation-perception difference theory, which became the main theoretical basis for tourist satisfaction. Gronroos (1984) was among the first scholars to propose a quantitative method to build a satisfaction evaluation model, dividing dimensions into the level of attraction use, its role in display, and its impression in the public eye. The American Customer Satisfaction Model (ACSI), the Swedish Customer Satisfaction Barometer (SCCB), and the European Customer Satisfaction Index (ECSI), along with the fuzzy comprehensive evaluation analysis and grey relational theory, are the mainstream international customer satisfaction models today. Lian Yi et al. (2004), based on the six elements of the tourism industry (food, accommodation, transportation, travel, shopping, entertainment), built a causal model for the tourist destination customer satisfaction index (TDCSI) and a set of indicators for evaluating tourist destination customer satisfaction. Wang Xia et al. (2006), based on improvements to mainstream customer satisfaction models and combining

the characteristics of the tourism industry, constructed the Tourist Destination Satisfaction Index (TDSI) model, and validated the model using LISREL statistical software with tourists in Guilin as a case study. They divided the factors affecting satisfaction into tourist loyalty, tourist expectations, perceived quality, perceived value, verified the hypothesis of the reverse effect of tourist expectations on satisfaction, and demonstrated the model's high target reliability.

The tourist loyalty model usually is based on the customer loyalty model proposed by Chi and Qu (2008), adjusted and improved in combination with the consumption characteristics of tourism products, including motivation, satisfaction-driven model; image-satisfaction driven model; and a tourist loyalty model based on tourist satisfaction and

place attachment. Yoon and Uysal (2005) divided tourism motivation into push and pull factors, incorporating the intention to revisit and the tendency to recommend into the measurement of loyalty, and introduced the destination image into the model of scenic area tourist loyalty, dividing tourist satisfaction into attribute satisfaction and overall satisfaction. In 2012, Girish and Chris used the intention to revisit and recommend as two dimensions to construct and perfect a customer loyalty model based on place attachment. Jo et al. (2014), based on existing research, believed that service quality and perceived value would affect tourist satisfaction and on this basis, constructed a tourist loyalty model (see Figure 1).

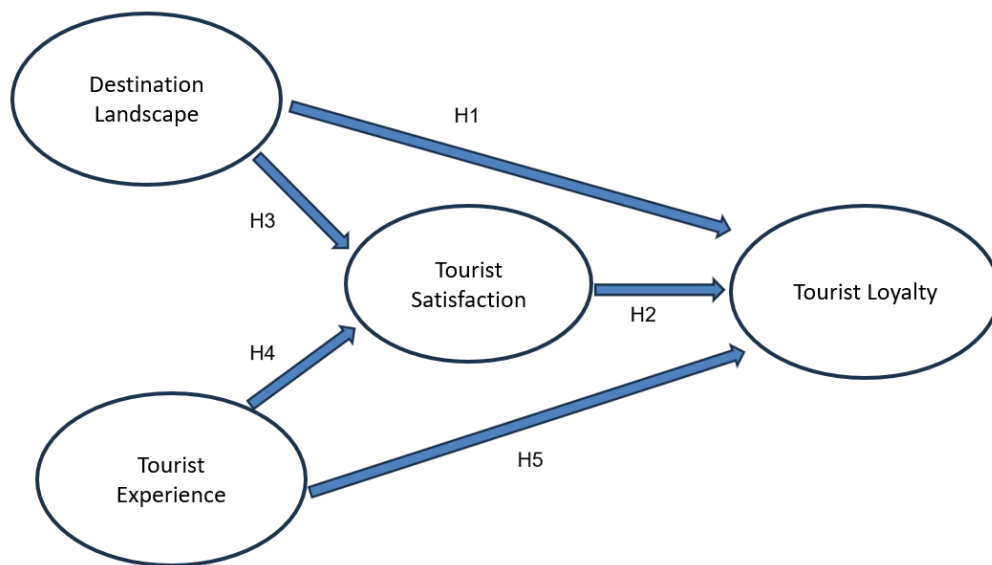


Figure 1. Tourist Loyalty Model

This paper summarizes the achievements and related theories of domestic and foreign scholars in the field of rural tourism tourist satisfaction research, finding that although there is a large amount of research on tourist satisfaction in the field of tourism, discussions on tourist satisfaction in the development of rural tourism are relatively scarce.

Therefore, this paper chooses the tourist loyalty model to analyze in-depth the development status of rural tourism in Nanchong City, to explore the factors affecting tourist satisfaction in Nanchong City, and thereby to find the crux of the issues affecting the development of rural tourism in Nanchong City.

3. Research Methods

3.1. Research Design

This paper refers to the research indicator system of Jiang Bo and Zheng Honghua, dividing the research indicators into six aspects: "food, accommodation, transportation, travel, shopping, entertainment". According to related literature and the actual situation in Nanchong City, it was found that there were no relevant tourist characteristic souvenirs in shopping, thus the "shopping" factor was eliminated. Combined with the previously mentioned tourist loyalty model, this paper will construct the measurement indicators needed for the study from four aspects: destination scenery, tourist experience, tourist satisfaction, and tourist loyalty, as shown in Table 1.

3.2. Research Subjects

The subjects of this survey are tourists visiting rural areas in Nanchong City, covering all age groups. The survey aimed to balance the sample selection ratio across different age groups. The questionnaire was distributed online, through on-site distribution in scenic areas, and by sending links via WeChat, QQ, and SMS. Respondents could complete the questionnaire using a computer, mobile phone, or orally on-site. The survey was conducted from July 7, 2023, to September 20, 2023. A total of 479 questionnaires were distributed, with 442 collected. After excluding incomplete and patterned responses, 408 valid responses remained, yielding a valid recovery rate of 92.3%.

3.3. Research Tools

The study employed a questionnaire survey method, with the questionnaire being self-compiled. The reliability of the questionnaire was tested using Cronbach's α , which showed that most observed variables had a Cronbach's α above 0.7, with some reaching 0.802, indicating high reliability. The validity of the questionnaire was tested using the KMO and Bartlett's test of sphericity, which resulted in a KMO value of 0.807. The significance level of Bartlett's test was Sig=0.000 (less than 0.01), indicating good validity.

Table 1. Measurement Indicators in the Tourist Loyalty Model

	Level 1 Variables	Level 2 Variables	Evaluation Criteria
Tourist Loyalty Model	Destination Landscape	Destination Natural Scenery (D1)	Destination's Natural Scenery and Landscape
		Destination Cultural Connotation (D2)	Destination's Cultural and Historical Architecture
		Destination Uniqueness (D3)	Unique Products and Services of the Destination
		Destination Richness (D4)	Activities Conducted at the Destination
	Tourist Experience	Quality of Infrastructure Construction (D5)	Destination's Environmental Protection, Public Facilities, and Signage
		Service Quality (D6)	Transportation, Dining, and Accommodation
		Quality of Supporting Facilities (D7)	Conditions of Homestays, Dining, and Entertainment Venues
	Tourist Satisfaction	Satisfaction with Destination Landscape (D8)	Satisfaction with the Destination's Landscape
		Satisfaction with Service (D9)	Services Enjoyed in Dining, Accommodation, and Entertainment Activities
		Satisfaction with Price (D10)	Satisfaction with Prices of Dining, Accommodation, and Entertainment Activities
	Tourist Loyalty	Tourist Retention Rate (E1)	- Tourist Revisit Intentions
		Tourist Recommendation Level (E2)	- Tourist Recommendations to Friends and Family
		Tourist Advocacy Level (E3)	- Tourist Promotion through Media

3.4. Data Collection and Analysis

The collected data were analyzed and processed. Initially, the data were entered into Excel 2023, then transferred to SPSS 25.0 for organization and analysis. The survey data included categorical and continuous variables. For categorical data, based on research needs, they were divided into two categories: 0 and 1. For continuous data, dimensionless methods were applied. The methods of data analysis included descriptive analysis, which described the basic situation of tourist satisfaction; variance analysis, which explored the differences among various variables within satisfaction; and regression analysis, which analyzed the factors affecting tourist satisfaction and unearthed relevant influencing factors.

4. Results and Discussion

The selection ratio of various age groups in the sample was balanced, indicating that Nanchong City's scenic spots are popular among tourists of different ages. To explore the factors affecting rural tourist satisfaction, this paper conducted a regression analysis of rural tourist satisfaction. Since the measurement variables related to rural tourist satisfaction are numerous and not of the same dimension, statistical analysis methods were used to reduce the dimensions of rural tourist satisfaction to meet the research requirements.

4.1. Variable Processing in Rural Tourist Satisfaction

The index weights of various variables in rural tourist satisfaction were calculated using principal component analysis. This method transforms multiple correlated variables into a set of uncorrelated variables through coordinate transformation and calculates eigenvalues, variance contribution rates, and cumulative contribution rates to determine the number of common factors and their representation of the original data information. Based on the component matrix and eigenvalues, the linear combination of

common factors was calculated, and the weights of each indicator were calculated using normalization methods. The weights of each indicator in rural tourist satisfaction were determined to be 0.246, 0.352, and 0.402, respectively.

The measurement model of rural tourist satisfaction is established, and the measurement model of rural tourist satisfaction is assumed as follows.

$$Y_p = \alpha_1 x_1 + \alpha_2 x_2 + \dots + \alpha_k x_k + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_m x_m + \gamma_1 x_1 + \gamma_2 x_2 + \dots + \gamma_n x_n$$

Where $\alpha_1, \alpha_2, \dots, \beta_1, \beta_2, \dots$ and $\gamma_1, \gamma_2, \dots$ are the weights of different indicators, $x_1, x_2, \dots, x_k, x_1, x_2, \dots, x_n$ and x_1, x_2, \dots, x_m are the variables on the weights of the corresponding indicators.

Based on the weights of rural tourist satisfaction indicators, such as destination landscape satisfaction (0.246), service satisfaction (0.352), and price satisfaction (0.402), the rural tourist satisfaction measurement model was calculated:

$$Y_p = 0.246x_1 + 0.352x_2 + 0.402x_3$$

Using the rural tourist satisfaction measurement model, the total index of rural tourist satisfaction was calculated, and a regression analysis was conducted to explore the factors affecting rural tourist satisfaction.

4.2. Regression Analysis of Tourist Satisfaction

4.2.1. Variable Selection

Considering the many factors affecting rural tourist satisfaction, this study selected destination natural scenery, destination uniqueness, destination cultural connotation, destination richness, infrastructure quality, service quality, and supporting facility quality as independent variables. The study focused on the impact of these factors on rural tourist satisfaction, with destination landscape satisfaction, service satisfaction, and price satisfaction as dependent variables. To enhance the objectivity and accuracy of the study and reduce research errors, demographic variables such as gender and household registration were treated as control variables affecting rural satisfaction.

4.2.2. Model Selection

Rural tourist satisfaction, composed of destination landscape satisfaction, service satisfaction, and price satisfaction, was used as the dependent variable. Changes in independent variables such as destination natural scenery, destination uniqueness, destination cultural connotation, destination richness, and infrastructure quality would result in changes in the dependent variable of rural tourist satisfaction. A linear relationship exists between independent variables like destination natural scenery, destination uniqueness, destination cultural connotation, destination richness, infrastructure quality, and the dependent variable of rural tourist satisfaction. Therefore, a multiple linear regression model was chosen:

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_nx_n + \varepsilon$$

Where $\beta_1, \beta_2, \dots, \beta_n$ represents regression coefficients, β_0 is the constant term, and ε is the error term. Additionally, given multiple influencing factors considered in this study, a stepwise regression analysis method was used. This method systematically excludes insignificant independent variables to ensure the best fitting results.

4.2.3. Regression of the Model

Based on survey data, a stepwise hierarchical regression

was used to statistically analyze each hypothesized independent variable (Tables 3-6). To ensure the accuracy of the regression results, collinearity diagnostics were performed on Models 1, 2, 3, and 4, calculating the Variance Inflation Factor (VIF). A VIF greater than 10 suggests potential collinearity issues. However, the VIF values in each regression equation were found to be less than 4, indicating no severe multicollinearity issues among independent variables in this study.

Control variables (gender and household registration) were then entered into Regression Model 1, finding no significant correlation between tourist gender, household registration, and rural tourist satisfaction. When variables from the destination landscape, such as destination natural scenery, destination uniqueness, destination cultural connotation, and destination richness, were entered into Regression Model 2, it was found that, except for destination uniqueness significantly affecting rural tourist satisfaction, other factors did not significantly affect rural tourist satisfaction. Further, when variables related to tourist experience, such as infrastructure quality, service quality, and supporting facility quality, were entered into Regression Model 3, it was found that infrastructure quality and service quality in the tourist experience significantly affected rural tourist satisfaction, while other variables did not significantly affect rural tourist satisfaction (Table 2).

Table 2. Regression Analysis of Rural Tourist Satisfaction

Variables	Model 1	Model 2	Model 3
Constant	0.0126***	0.089***	0.078***
Gender	0.024	0.025	0.031
Household Registration Distribution	0.043	0.031	0.024
Destination Natural Scenery	0	0.101**	0.051
Destination Uniqueness	0	0.066	0.152**
Destination Cultural Connotation	0	0.072	0.073
Destination Richness	0	0.053	0.067
Quality of Infrastructure Construction	0	0	0.137*
Service Quality	0	0	0.097*
Quality of Supporting Facilities	0	0	0.068
N	408		

Note: *sig<0.05, **sig<0.01, ***sig<0.001

The regression analysis reveals that within the aspects of destination landscape, the uniqueness of the destination has a direct and significant impact on tourist satisfaction, confirming hypothesis H1c, while other variables do not have a direct significant impact on tourist satisfaction, indicating that hypotheses H1a, H1b and H1d are not supported. In terms of tourist experience, both the quality of infrastructure construction and service quality have a significant impact on tourist satisfaction, supporting hypotheses H2a and H2b, whereas the quality of supporting facilities does not have a significant impact, indicating that hypothesis H2c is not supported.

5. Conclusion and Future Directions

This paper, based on the actual situation in Nanchong City,

modifies the existing theoretical framework and establishes an evaluation index system for assessing tourist satisfaction. By adjusting the model for rationality through structural equation modeling and conducting hypothesis testing, the data collected were subjected to reliability and validity tests, showing that the questionnaire data's credibility and structural fit meet the standards. The verification of previously established hypotheses partially confirmed that individual differences among tourists have an impact on tourist satisfaction, and perceived value has a direct positive effect on tourist satisfaction. Therefore, factors affecting tourist satisfaction mainly include the inadequacies in the tourism development of Nanchong City, such as the need for optimization of infrastructure and environment, relatively small development scale, single development mode, service level in need of improvement, and the need for better handling

methods under the pandemic situation. However, this study only conducted a questionnaire survey on tourist satisfaction without employing other auxiliary research methods, such as interviews with related enterprises, villagers, and village committees, to understand the evaluations and suggestions of individuals and groups related to tourism on the development of rural tourism in the area. Such research methods could greatly assist in enhancing tourist satisfaction. Future research should explore from other perspectives and incorporate additional hypothetical factors when studying the elements that influence tourist satisfaction to enrich the content of the research.

References

- [1] Ruan Lixin. Design of Rural Smart Tourism Framework - Based on the Perspective of Stakeholders [J]. *Commercial Economy*, 2022(01): 140-142. DOI: 10.19905/j.cnki.syjj1982.2022.01.043.
- [2] Ji Fengyi, Xue Tao, Wu Bihu. Urban-Rural Social Exchange: A Theoretical Perspective on the Development of Rural Tourism [J]. *Journal of Northeast Agricultural University (Social Science Edition)*, 2021, 19(04): 92-100.
- [3] Zhang Zhuping. Promoting High-Quality Development of Rural Tourism with the Concept of Cultural and Tourism Integration: Formation Logic and Path Selection [J]. *Nanjing Social Sciences*, 2021(07): 157-164. DOI: 10.15937/j.cnki.issn1001-8263.2021.07.018.
- [4] Wang Xia, Mei Hu. Tourist Satisfaction in Tourist Destinations: Model and Empirical Study [J]. *Journal of Beijing International Studies University (Tourism Edition)*, 2006, 137(7): 1-6.
- [5] Ma Huiqiang, Liu Yuxin, Yan Mingqi, Xi Jianchao. Research on Tourist Satisfaction with Public Services in Tourism Based on SEM and IPA Models [J]. *Arid Zone Resources and Environment*, 2021, 35(06): 192-199.
- [6] Yang Fang, Fan Tiantian, Chen Zhengyi, Fan Xingxin, Liu Junyi, Kuang Yanghanyu. Research on Tourist Willingness in Hunan Provincial Botanical Garden Scenic Area Based on Online Reviews [J]. *Modern Commerce and Trade Industry*, 2022, 43(13): 177-179.
- [7] Gu Yaqing, Cui Fengjun. The Impact of World Cultural Heritage Site Cognition on Tourist Satisfaction and Loyalty - Taking Hangzhou as an Example [J/OL]. *World Geography Research*, 1-12[2022-06-13]. <http://kns.cnki.net/kcms/detail/31.1626.p.20220511.1305.002.html>
- [8] Yang Wenfeng, Song Lianjiu. Study on the Factors Influencing Tourist Satisfaction at Ecotourism Destinations in Tibet [J]. *Highland Agriculture*, 2022, 6(01): 92-100.
- [9] Chen Liqun. Research on the Current Situation and Optimization Strategies of Rural Tourism Development in Hainan Province [J]. *China Agricultural Resources and Zoning*, 2016, 37(10): 206-211.
- [10] Wang Xia, Zhen Feng, Wu Xiaogen. Evaluation System and Empirical Analysis of Smart Scenic Areas from the Perspective of Tourists - Taking Nanjing Confucius Temple Qinhuai Scenic Belt as an Example [J]. *Progress in Geography*, 2015, 34(04): 448-456.
- [11] Wang Hui. Research on the Development Model of Rural Tourism under the Background of Tourism Poverty Alleviation [J]. *China Agricultural Resources and Zoning*, 2017, 38(03): 198-201.
- [12] Wei Yanping, Han Junying, You Gang, Xue Zhengxu. Evaluation and Analysis of the Development of Leisure Agriculture in Lanzhou City Based on AHP and Fuzzy Comprehensive Evaluation [J]. *Jiangsu Agricultural Sciences*, 2020, 36(01): 227-233.
- [13] Kline C, Milburn LA. Factors influencing social capital in rural tourism in communities in South Korea [J]. *Tourism Management*, 2000(6).
- [14] Abraham Pizam, Yoram Neumann, Arie Reichel. Dimensions of tourism satisfaction with a destination area [J]. *Annals of Tourism Research*, 1978(9): 314-322.
- [15] Bowen D. Antecedents of consumer satisfaction and dissatisfaction (CS/D) on long-haul inclusive tours - a reality check on theoretical considerations [J]. *Tourism Management*, 2001(22): 49-61.
- [16] Gronroos, C. A Service Quality Model and Its Marketing Implications [J]. *European Journal of Marketing*, 1984, 18(4): 36-44.
- [17] Shafer E L, Choi Y. Forging nature-based tourism policy issues: A case study in Pennsylvania [J]. *Tourism Management*, 2006, 27(4): 615-628.
- [18] Rasoolimanesh S M, Dahalan N, Jaafar M. Tourists' perceived value and satisfaction in a community-based homestay in the Lenggong Valley World Heritage Site. [J]. *Journal of Hospitality & Tourism Management*, 2016, 26: 72-81.
- [19] Hair J F, Black W C, Babin B J, et al. Multivariate Data Analysis [J]. *Technometrics*, 2005, 49(1): 103-104.
- [20] Eisinga R, Te Grotenhuis M, Pelzer B. The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown [J]. *International Journal of Public Health*, 2013, 58(4): 637-642.