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Relationship between Smart Tourism Experience and Tourist Satisfaction: A Case Study of Guiyang, China†

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Abstract

The tourist business has changed and evolved in recent years due to advancements in science and technology, and one tourism model that has emerged is intelligence-based. With an emphasis on visitor happiness, smart tourism makes use of cutting-edge digital platforms and technologies to offer customized interactive services that significantly improve the entire traveler experience. This study, which used Guiyang City as its research subject, examined and explored the relationship between visitors' satisfaction and smart tourism experiences using a large number of online questionnaires. Using statistical and quantitative analysis, the study came to the conclusion that smart tourism experiences are the main factors influencing visitors' satisfaction. In order to improve the smart tourism experience and satisfy the changing demands of smart visitors, these findings will be helpful to all parties involved in Guiyang's tourism business. Generally speaking, clever travel.

Keywords: Smart tourism, Smart tourism experience, Tourist satisfaction, Guiyang, China

Introduction

Tourism plays a pivotal role in the economic growth and development of many regions worldwide. It serves as a catalyst for job creation, foreign exchange earnings, infrastructure development, and cultural exchange. With the rapid advancement of technology, the tourism industry has witnessed a transformative shift towards smart tourism.

Smart tourism, also known as technology-enabled tourism, leverages advanced technologies and digital platforms to enhance the overall tourist experience, providing them with personalized and interactive services. This paradigm shift has brought forth a multitude of opportunities for destinations to improve visitor satisfaction, create a competitive edge, and drive sustainable tourism growth. The most important core of smart tourism is the user experience to meet the needs of users. "Smart tourism" is based on scientific and technological progress and information network, and its center and focus lies in tourists' subjective feelings and experiences, which runs through all aspects of the whole process of tourism (Guo, 2017).

The essence of "smart tourism" is to take the feeling and satisfaction of tourists as the starting point and destination, take tourists as the center of gravity, through the use of new technologies, with the help of information system platform, to provide intelligent services, to achieve true information sharing and full symmetry of information, to bring convenience to tourists but also bring intimate experience (Guo, 2017).

Guiyang has a long natural history, complex natural environment, diverse types, superior hydrothermal conditions and a wide variety of biological species. It is located in the east of the Yunnan-Guizhou Plateau, the second largest ladder in China. The city is a subtropical area, is a higher altitude, lower latitude, winter without cold, cool summer inland mountain capital city. It is a modern city with plateau characteristics of "a city in a mountain, a mountain in a city, surrounded by green belts, surrounded by forests, the city in the forest, and the forest in the city", enjoying the reputation of "Forest city, summer capital". It is the top 10 most popular tourist cities, the first national forest city, and the first summer tourist city in China. (China Guiyang website editorial department, 2023) Guiyang's overall service level and economic development level of tourism still have a big gap. In this context, the adoption of intelligent tourism has greatly improved

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the tourism economy of Guiyang and attracted more attention from the outside world. However, while the adoption of smart tourism in Guiyang holds great potential, it is essential to examine the relationship between smart tourism experience and tourist satisfaction specifically in the context of Guiyang. Specifically, the research questions are as follows:

Is there relationship between smart tourism experience and satisfaction of tourist in Guiyang, China?

Terminology

Smart tourism

Intelligent tourism is a new type of tourism that ADAPTS to the "Internet +" era. Smart tourism relies on big data, cloud computing, Internet of Things and other technologies, integrates new information technology into traditional tourism, integrates tourists, tourism organizers, tourism activities, tourism platforms and other resources into one, meets tourists' catering, accommodation, transportation, play, shopping, after-sales service and other diversified needs, and provides tourists with comprehensive and convenient tourism services. Enhance visitor experience and satisfaction (Liu & Hu, 2018).

Smart tourism experience

Smart tourism experience is that tourists in the 6 elements of food, housing, transportation, tourism, shopping, entertainment, compared with traditional tourism experience, with the help of terminal internet to increase the Internet of things, virtual VR and other new technologies, so as to experience smart and informationized tourism experience (Wang, 2020).

Tourist satisfaction

Tourist satisfaction is a kind of psychological state produced by comparing the expectation of tourists to the tourist destination with the experience result after visiting the tourist destination (Wang et al., 2016).

Prior research and hypothesis development

Many scholars have studied the relationship between smart tourism experience and tourists' satisfaction in the early stage. Mathwick, in addition, according to the expectation difference theory, tourists compare their experience to previous expectations, which can lead to positive or negative uncertainty (Kao et al., 2008). The emotional response caused by this uncertainty is the basis of tourists' satisfaction or dissatisfaction. In short, experience satisfaction belongs to the content from the perspective of experience, which can be regarded as the result of tourists' overall evaluation of the content provided by service providers (Wu et al., 2018). It is worth noting that service quality is a prerequisite for experience satisfaction, and good tourism service quality is often conducive to the formation of experience satisfaction, which in turn generates positive behavior and attitude intention (Anderson et al., 1994).

However, in actual tourism, there are still many deficiencies in the research of facilities construction, public service quality and experience. The factors affecting tourist satisfaction are mainly analyzed around tourist expectation, expectation difference, perceived quality, tourist motivation and so on. As a major factor affecting tourist satisfaction, tourist expectation has been widely mentioned in various research literatures. Therefore, tourist expectation can be regarded as the standard of tourist satisfaction evaluation. Expectation difference theory dominates tourist satisfaction. When the tourism activity ends, tourists will compare the final tourism perception result with the expectation before the tour. When there is a difference, tourists' satisfaction will also be affected. Perceived quality, as a kind of tourists' subjective evaluation of tourism products, also affects tourists' satisfaction. The higher the perceived quality, the higher the tourists' satisfaction will be. Tourism motivation directly promotes tourists' travel behavior. When tourists' travel motivation is strong enough, their expectations for tourist destinations will continue to rise, thus affecting tourists' satisfaction (Wang et al., 2016).

Malhotra and Rigdon (2001) define experience value as a customer's perception of a product or service. Holbrook (2006) defines experience value as "interactive, relative and preferred experience", emphasizing "experience gained in the process of product and customer transaction". Tourists get experience value from various specific travel experience, which is mainly embodied in psychological

experience and emotional experience. In different studies, there are also different value dimensions and emphases. Sanchez et al. (2006) found that the value of tourism experience includes functional value, emotional value and social value through the study of group tourists in travel agencies. Radder and Han (2015) believe that the value of museum tourism experience includes 4 dimensions: Entertainment, learning, escape and aesthetics. Sheth et al. (1991) argue that experience value includes 5 dimensions: Functional value, emotional value, cognitive value, social value and emotional value. However, according to Yuan and Wu (2008), most scholars believe that emotional and functional characteristics are the main components of customer value (Wang et al., 2016).

Tourist satisfaction refers to the comprehensive psychological evaluation of tourists to the products and services provided by scenic spots to meet the needs of their tourism activities. Pizam was one of the first scholars to study tourist satisfaction. According to him, tourist satisfaction is the contrast between pre-travel expectation and post-travel experience (Pizam et al., 1978).

Previous literatures focused on product or service satisfaction, that is, the comparison between customers' satisfaction with actual products or services and expectations, while tourists' satisfaction was related to the general demand for tourism and their satisfaction with specific conditions (Dmitrovi et al., 2009). Storbacka et al. (1994) pointed out that individuals recognize and effectively evaluate service relationships through self-experience, thus forming satisfaction. According to Anderson et al. (1994), satisfaction is an overall evaluation of the purchased product or service based on experience. Mano and Oliver (1993) also point out that the impact of service delivery is highly correlated with post-consumer experience satisfaction. (Zhang et al., 2012). Therefore, it can be seen that all aspects of tourists' sense of experience play a decisive role in the impact of satisfaction.

The measurement research in this paper mainly consists of 2 aspects: Smart tourism experience and tourist satisfaction. Therefore, it is assumed that:

H1: There is a positive relationship between smart tourism experience and tourist satisfaction.
H1a: There is a positive relationship between aesthetics and tourist satisfaction.
H1b: There is a positive relationship between virtual effects and tourist satisfaction.
H1c: There is a positive relationship between practicality and tourist satisfaction.
H1d: There is a positive relationship between convenience and tourist satisfaction.
H1e: There is a positive relationship between hedonic experience and tourist satisfaction.
H1f: There is a positive relationship between safety and tourist satisfaction.

Conceptual framework

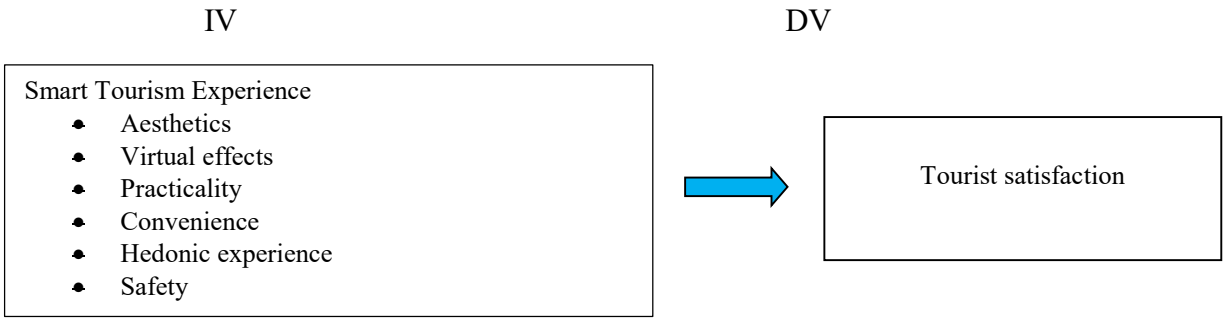

Figure 1 Conceptual framework.

Methodology

The research content of this paper is based on the introduction of the relevant content of smart tourism, the different levels of experience brought by smart tourism to tourists, and the guiding role and influence of smart tourism experience on tourist satisfaction and tourist return intention.

American customer satisfaction index (ACSI) is a macro index to measure the quality of economic output. It is a comprehensive evaluation index of customer satisfaction based on the process of product and service consumption. It consists of 4 levels: National overall satisfaction index, department satisfaction

index, industry satisfaction index and enterprise satisfaction index. It is a national customer satisfaction theoretical model with the most complete system and the best application effect. ACSI is a customer satisfaction index model created by (Fornell et al., 1996). on the basis of the Swedish Customer Satisfaction Index Model (SCSB) (Xi & Bing, 2013). To this end, this study takes non-local tourists to Guizhou as the research object, and deeply analyzes the development degree of smart tourism, the manifestation of different content forms, and the relationship between smart tourism experience and tourists' satisfaction. This study mainly draws on the American Customer Satisfaction Model (ACSI) and makes adjustments on this basis. When establishing the model, the experience is divided into aesthetics, virtual effect, practicality, convenience, hedonic experience and safety, and the influencing factors of these variables on tourists' satisfaction are studied.

In order to effectively obtain relevant data on tourist entry, application of smart tourism technology and tourist satisfaction in Guiyang, Guizhou Province, this study designed a questionnaire survey according to previous literature content and relevant theories, combined with research needs. This study primarily uses visitors to Guiyang as its research subject and does a sampling survey in terms of population sampling. Guiyang's distinct natural environment has made it a popular summer destination this year, and with the growth of summer travel comes "Cool Guiyang" has welcomed tourists from all over the world, and the passenger flow reached 1.2 million in July, with an average of 40,000 people per day. According to the number of tourists in July as a reference, in order to ensure the reliability of sampling, this paper adopts Taro Yamane's formula to calculate the sample size (Yamane, 1967).

Combined with the number of tourists in Guiyang, the sample size can be calculated according to the formula:

$$n = N/(1 + Ne^2)$$

Take n = 1200000, e = 0.05, and bring the numbers into the formula for calculation: $n = 1200000/(1 + 1200000\times(0.05)^2)$. Finally, according to the calculation, $n \approx 399.533$ is obtained. Therefore, the number of surveys in this questionnaire is set at 400.

Following the completion of the questionnaire design, the survey was primarily conducted online. After entering the questionnaire's content on the "Questionnaire Star" website, the questionnaire link is generated. Travelers receive a link to an online survey on Guiyang smart tourism and visitor satisfaction. The purpose of the survey is to gather completed forms and organize the collected data. Between October 15, 2023, and November 7, 2023, 409 valid questionnaires were received for the survey.

Results and discussion

Descriptive analysis

Through the analysis of the questionnaire survey of tourists who have been to Guiyang, the following basic information of tourists is obtained.

Table 1 Frequency analysis of demographic data participating in the questionnaire (n = 409).

Name	Option	Frequency	Percentage %
1.Have you traveled to Guiyang in the past 5 years	Yes	409	100
	no	0	0
2.What is your gender	Female	228	55.746
	Man	181	44.254
3.How old are you	25 - 40 years old	157	38.386
	Over 55 years old	115	28.117
	40 to 55 years old	107	26.161

Name	Option	Frequency	Percentage %
	Under 25 years old	30	7.335
4.What is your highest degree	Bachelor	201	49.144
	College	144	35.208
	Master	40	9.78
	Doctor	24	5.868
5.What is your occupation	Office clerk	295	72.127
	Freelance	54	13.203
	Company	41	10.024
	Manager	19	4.645
6.Your annual income	RMB 50,000 - 100,000	111	27.139
	RMB 20,000 - 50,000	101	24.694
	RMB 100,000 - 200,000	94	22.983
	RMB more than 200,000	76	18.582
	RMB 20,000 or less	27	6.601

Frequency analysis is used to study the distribution of categorical data and to select the frequency and percentage respectively.

As can be seen from **Table 1**, the result of frequency analysis by "1.Have you traveled to Guiyang in the past 5 years" shows: Yes frequency is 409, the percentage is 100 %. No frequency is 0, the percentage is 0 %. Yes (100 %) is the highest and no (0 %) is the lowest.

The result of frequency analysis by "2.What is your gender" shows: Female frequency is 228, the percentage is 55.746 %. Man frequency is 181, the percentage is 44.254 %. Female (55.746 %) is the highest and Man (44.254 %) is the lowest.

The result of frequency analysis by "3. How old are you" shows: 25 - 40 years old frequency is 157, the percentage is 38.386 %. Over 55 years old frequency is 115, the percentage is 28.117 %. The 40 to 55 years old frequency is 107, the percentage is 26.161 %. Under 25 years old frequency is 30, the percentage is 7.335 %. The 25 - 40 years old (38.386 %) is the highest and under 25 years old (7.335 %) is the lowest.

The result of frequency analysis by "5. What is your highest degree" shows: Bachelor frequency is 201, the percentage is 49.144 %. College frequency is 144, the percentage is 35.208 %. Master frequency is 40, the percentage is 9.78 %. Doctor frequency is 24, the percentage is 5.868 %. Bachelor (49.144 %) is the highest and doctor (5.868 %) is the lowest.

The result of frequency analysis by "6.What is your occupation" shows: Office clerk frequency is 295, the percentage is 72.127 %. Freelance frequency is 54, the percentage is 13.203 %. Company frequency is 41, the percentage is 10.024 %. Manager frequency is 19, the percentage is 4.645 %. office clerk (72.127 %) is the highest and manager (4.645 %) is the lowest.

The result of frequency analysis by "7 Your annual income" shows: RMB 50,000 - 100,000 frequency is 111, the percentage is 27.139 %. RMB 20,000 - 50,000 frequency is 101, the percentage is 24.694 %. RMB 100,000 - 200,000 frequency is 94, the percentage is 22.983 %. RMB More than 200,000 frequency is 76, the percentage is 18.582 %. RMB 20,000 or less frequency is 27, the percentage is 6.601 %. RMB 50,000 -100,000 (27.139 %) is the highest and RMB 20,000 or less (6.601 %) is the lowest.

Descriptive analysis

The research content of this paper is based on the introduction of the relevant content of smart tourism, the different levels of experience brought by smart tourism to tourists, and the guiding role and influence of smart tourism experience on tourist satisfaction and tourist return intention.

The main content of this paper is how to make use of intelligent technology in smart tourism environment, improve tourists' understanding and use of intelligent technology, and improve user experience such as aesthetics, virtual technology, convenience, practicality, hedonic experience and safety of intelligent technology. Therefore, the following data analysis can be concluded that the satisfaction and authenticity of tourists have a guiding role.

Table 2 Descriptive statistics of smart tourism experience (n = 409).

Variable name	Minimum	Maximum	Mean	STD	Skewness	Kurtosis
Guiyang smart tourism platform has beautiful design	1	5	3.905	1.047	−0.838	0.185
With this intelligent technology, the landscape resources of Guiyang are full of charm	1	5	3.636	1.079	−0.601	−0.139
This kind of smart tourism experience has aroused my curiosity about Guiyang's natural landscape	1	5	3.768	1.056	−0.730	0.108
This experience of smart tourism has inspired my overall imagination of Guiyang tourism	1	5	3.998	0.989	−0.958	0.596
I felt like I was in a VR environment	1	5	3.736	1.084	−0.678	−0.178
I feel as if I actually exist in a VR environment	1	5	3.479	1.122	−0.554	−0.359
It was as if I was actually participating in the action of the VR thing, I was doing	1	5	3.606	1.131	−0.644	−0.303
I feel like I'm part of a virtual environment	1	5	3.853	1.070	−0.935	0.390
sing smart platforms allows me to find information faster	1	5	3.831	1.031	−0.697	−0.047
Use smart platforms to improve my travel efficiency	1	5	3.565	1.110	−0.451	−0.539
Using smart platforms makes my journey smoother	1	5	3.699	1.076	−0.626	−0.210
Smart platforms are useful on the road	1	5	3.966	0.967	−0.863	0.425

Variable name	Minimum	Maximum	Mean	STD	Skewness	Kurtosis
Guiyang's smart platform is easy to use	1	5	4.024	0.970	−0.989	0.853
Guiyang smart platform easy to learn how to use	1	5	3.853	1.059	−0.863	0.319
It's easy to get the smart platform to do what I want	1	5	4.198	0.943	−1.250	1.373
The smart travel experience in Guiyang is very good	1	5	3.623	1.184	−0.662	−0.482
Guiyang's smart tourism experience is fun	1	5	3.526	1.172	−0.600	−0.539
The smart tourism experience in Guiyang is very pleasant	1	5	3.575	1.192	−0.710	−0.324
The smart tourism experience in Guiyang makes me very happy	1	5	3.716	1.147	−0.720	−0.302
I really like the smart tourism experience in Guiyang	1	5	3.482	1.199	−0.592	−0.559
The smart tourism experience in Guiyang is exciting	1	5	3.670	1.142	−0.765	−0.240
Guiyang's smart tourism experience is immersive	1	5	3.765	1.148	−0.812	−0.102
Guiyang's intelligent platform deserves my trust	1	5	3.939	1.026	−0.917	0.451
I can use this smart platform to control the quality of my trip	1	5	3.741	1.083	−0.808	0.123
I believe in the reliability of the information on this intelligent platform	1	5	4.098	0.968	−1.029	0.778
Visiting Guiyang destination is exactly what I expected	1	5	3.998	1.001	−0.937	0.416
I really enjoyed my most recent trip to Guiyang destination	1	5	4.132	0.951	−1.161	1.138
I am satisfied with my decision to visit Guiyang destination	1	5	4.198	0.943	−1.303	1.606
Visiting Guiyang destination is exactly what I needed	1	5	4.066	0.964	−1.122	1.190
Visiting Guiyang destination is a wise decision	1	5	3.932	1.003	−0.845	0.360

As can be seen from **Table 2**, absolute values of kurtosis are all less than 3, indicating that the current data distribution is flat and approximately normal. At the same time, the skewness is around 0, which also indicates that the current data distribution is approximately normal. This shows that the distribution of data is relatively balanced, and there is no obvious skew phenomenon. This also validates the results of descriptive analysis, that is, Guiyang's smart tourism platform is beautifully designed, the use of smart platforms to improve travel efficiency and other advantages have been widely recognized. In addition, these descriptive analysis results also show that Guiyang's smart tourism experience and the use of smart platforms have been highly evaluated by tourists.

Therefore, based on the above analysis, we can see in the process of tourist tourism research that smart tourism and tourist satisfaction are 2 very important contents. After analysis and research, it can be seen that: First, intelligent technology is widely used in the contemporary tourism industry. Second, travelers are increasingly relying on and willing to use smart technology in the process of travel. Third, the efficiency and convenience of intelligent technology play an increasingly important role in the satisfaction of tourists, which will greatly improve the tourists' sense of travel experience, and will also have a great impression on tourists' tourist destination, so as to increase the willingness to return to the tourist destination.

Therefore, in order to improve the satisfaction of smart tourism, the platform should focus on the user experience, provide reliable information, meet user expectations, and actively collect and respond to user feedback. In addition, the platform can also collect user feedback through questionnaires, online reviews and other means to better understand users' needs and expectations, so as to provide better services.

Regression analysis

In this study, it is assumed that X variable is smart tourism experience, which is divided into 6 dimensions including aesthetics, virtual effect, practicality, convenience, pleasure experience and safety, and Y variable is tourist satisfaction. Through data analysis, the influence factors of these variables on tourist satisfaction are studied, and the following variable results are obtained:

Table 3 The regression analysis results (n = 409).

	Non-standardized coefficients		Standardized coefficients	t	*p*	VIF	Rsquared	Adj-Rsquared	F
	B	Standard error	Beta						
Constant	0.568	0.197		2.881	0.004		0.456	0.448	F(6,409) = 56.150, *p* = 0.000
Aesthetics	0.160	0.036	0.183	4.467	0.000	1.234	0.456	0.448	F(6,409) = 56.150, *p* = 0.000
Virtual effects	0.173	0.034	0.210	5.119	0.000	1.248	0.456	0.448	F(6,409) = 56.150, *p* = 0.000
Practicality	0.132	0.038	0.142	3.454	0.001	1.252	0.456	0.448	F(6,409) = 56.150, *p* = 0.000
Convenience	0.194	0.038	0.211	5.169	0.000	1.231	0.456	0.448	F(6,409) = 56.150, *p* = 0.000
Hedonic experience	0.133	0.033	0.170	4.051	0.000	1.304	0.456	0.448	F(6,409) = 56.150, *p* = 0.000
Safety	0.125	0.035	0.143	3.523	0.000	1.224	0.456	0.448	F(6,409) = 56.150, *p* = 0.000

D-W: 1.981

As you can see from **Table 3**, the model formula is (Non-significant coefficients are not included): Smart Tourism Experiencet Satisfaction = 0.568 + 0.160*Aesthetics + 0.173*Virtual effects + 0.132*Practicality + 0.194*Convenience + 0.133*Hedonic experience + 0.125*Safety, adjust after r-square 0.448, this means that Aesthetics, Virtual effects, Practicality, Convenience, Hedonic experience, Safety can explain why Smart Tourism Experiencet Satisfaction of 44.8 % changed. Check the Multicollinearity of the model, all VIF values are less than 5, which means there is no collinearity problem in the model, and the D-W value is near the number 2, which indicates that there is no autocorrelation in the model, and

f-check the model and find that the model passes F-test (F = 56.150, $p = 0.000 < 0.01$),which means that Aesthetics, Virtual effects, Practicality, Convenience, Hedonic experience, Safety in at least one item has an impact on Smart Tourism Experiencet Satisfaction, model better. The final analysis is as follows:

The regression coefficient of Aesthetics is 0.160(t = 4.467, $p = 0.000 < 0.01$), which means that Aesthetics has a significant positive direction effect on Smart Tourism Experiencet Satisfaction. The regression coefficient of Virtual effects is 0.173(t = 5.119, $p = 0.000 < 0.01$), which means that Virtual effects has a significant positive direction effect on Smart Tourism Experiencet Satisfaction. The regression coefficient of Practicality is 0.132(t = 3.454, $p = 0.001 < 0.01$), which means that Practicality has a significant positive direction effect on Smart Tourism Experiencet Satisfaction. the regression coefficient of Convenience is 0.194 (t = 5.169, $p = 0.000 < 0.01$), which means that Convenience has a significant positive direction effect on Smart Tourism Experiencet Satisfaction. the regression coefficient of Hedonic experience is 0.133(t = 4.051, $p = 0.000 < 0.01$), which means that Hedonic experience has a significant positive direction effect on Smart Tourism Experiencet Satisfaction. the regression coefficient of Safety is 0.125(t = 3.523, $p = 0.000 < 0.01$), which means that Safety has a significant positive direction effect on Smart Tourism Experiencet Satisfaction.

This text describes the results of the regression analysis, including the formula of the model, the degree of fit, multicollinearity, autocorrelation, and the results of hypothesis testing. Based on this information, the following conclusions can be drawn:

1) The regression coefficients of aesthetics, virtual effect, practicality, convenience, hedonic experience and security are all significant, indicating that these factors have a significant impact on the satisfaction of smart tourism experience.

2) The regression coefficients of aesthetics, virtual effect, practicality and convenience are positive, indicating that they have a positive impact on the satisfaction of smart tourism experience, that is, the improvement of these factors will lead to the improvement of satisfaction.

3) The regression coefficient of safety and pleasure experience is positive, but the absolute value is small, which may indicate that their positive influence on the satisfaction of smart tourism experience is relatively weak.

4) All VIF values are less than 5, indicating that there is no multicollinearity problem in the model.

5) The D-W value is close to 2, indicating that there is no autocorrelation in the model.

6) The F test passed, indicating that the model is significant on the whole, and at least one or more items have an impact on the satisfaction of smart tourism experience.

Therefore, it can be concluded that aesthetics, virtual effect, practicality, convenience, hedonic experience and security have a significant impact on the satisfaction of smart tourism experience, among which practicality, convenience and security have a relatively large impact on satisfaction, while aesthetics, virtual effect and hedonic experience have a relatively small impact. This model can be used to predict changes in satisfaction with smart travel experiences and improve smart travel experiences based on these factors.

Conclusions

Guiyang is an important tourist attraction in Guizhou Province. Its history, culture, natural environment and ethnic characteristics all have good tourism advantages and are very attractive to foreign tourists. By designing a questionnaire, we investigated the relationship between Guiyang's smart tourism and tourists' satisfaction.

Through descriptive analysis and correlation analysis of the use experience of Guiyang smart tourism platform and tourists' satisfaction, this study found that several dimensions of smart tourism experience, including aesthetics, virtual effect, practicality, convenience, hedonic experience and safety, have significant correlation with tourists' satisfaction. According to the regression analysis, the regression coefficients of smart tourism and tourist satisfaction are 0.160 for aesthetics, 0.173 for virtual effect, 0.132 for practicality, 0.194 for convenience, 0.133 for pleasure experience and 0.125 for safety. Therefore, the following conclusions can be drawn:

1) Smart tourism experience has a significant impact on tourists' satisfaction: Aesthetics, virtual effect, practicality, convenience, hedonic experience and security play a key role in smart tourism experience, which directly affect tourists' satisfaction.

2) The optimization of smart tourism experience can improve tourists' satisfaction: Through enhancing aesthetic appeal, optimizing virtual effect, enhancing practicality, enhancing convenience, emphasizing hedonic experience and paying attention to safety and other measures, the smart tourism experience can be improved to improve tourists' satisfaction.

3) Tourist satisfaction is the key to the development of smart tourism: Tourist satisfaction is an important indicator of the development of smart tourism, which reflects the recognition and loyalty of tourists to tourism products and services. Improving tourist satisfaction can promote the sustainable development of smart tourism.

Therefore, in order to improve the tourist satisfaction of smart tourism, we should continuously optimize the smart tourism experience, pay attention to the needs and expectations of tourists, and provide high-quality, safe and convenient tourism services.

Limitations of the study and Suggestions for Future Research

In this study, as long as the literature, questionnaire and empirical analysis method are adopted, the relationship between smart tourism and tourist satisfaction is studied. Based on the limited research level of the author, there are several shortcomings in this study:

1) Sample size and geographical restrictions: The sample size of this study is relatively small, mainly concentrated in a specific region or tourist hotspot, which may affect the universality and representativeness of the study. At the same time, due to geographical and data access limitations, the results of the study may not fully cover all tourist groups.

2) Data collection methods: This study mainly relies on questionnaire survey and online evaluation data, which may have certain subjectivity and bias, which may affect the accurate evaluation of tourist satisfaction. In addition, for some complex travel experience and satisfaction indicators, there may be factors that are difficult to quantify.

3) Rapid development of smart tourism applications: Smart tourism technology is developing rapidly, and this study may not cover the latest technologies and applications. As technology evolves, the impact of smart tourism on visitor experience and satisfaction is likely to change.

4) Complexity of tourist psychology and behavior: Tourist satisfaction is a multi-dimensional concept, which is affected by many factors, including tourist psychology, tourism behavior, tourism environment, etc. This study may not be able to fully consider these factors, resulting in certain limitations in the findings.

To overcome these limitations, future studies can expand the sample size, employ multiple data collection methods, focus on the latest smart tourism technologies and applications, and explore the impact of tourist psychology and behavior on satisfaction.

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