

Original Paper

A Survey on Digital Tourism Experience and Satisfaction from the College Students' Perspective: A Case Study of Students of SISU

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Abstract

With the rapid development of information technology, digital transformation is reshaping the tourism industry through digital tools, the internet, and big data, enhancing the overall travel experience with more personalized and high-quality services. As key participants in digital tourism, college students' experience feedback is crucial for the future development and optimization of digital tourism.

This study utilizes the questionnaire survey method to investigate the digital tourism situation of the students of Sichuan International Studies University, which finds that the digital tourism experience of college students presents diversified characteristics, including not only limited to digital tourism platform activities, virtual tourism experience, and social media interaction and sharing. College students are basically satisfied with digital tourism. Through the interview method, we can know the reasons why college students are dissatisfied with or moderately satisfied with digital tourism experiences. Through these interviews, we can find the challenges and difficulties of digital tourism.

Finally, this study puts forward some suggestions. For example, optimizing functions of digital tourism platforms and online booking systems, strengthening research and development of digital technology, adding some classifications of digital tourism content, and promoting the intelligent revolution of customer service.

Keywords

Digital tourism, university student tourism, satisfaction, conclusions, recommendations

1. Introduction

Digital technology is an important engine to promote the high-quality development of tourism in the era of the digital economy. The application of digital technology can also optimize the tourist experience, so that tourists can understand the destination in advance through the online platform, booking and planning, and enjoy convenient digital services during the travel process, such as intelligent tours, virtual tours, electronic payments, etc.

As the main participants and beneficiaries of the information age, college students are very receptive to new technologies and use them frequently. College students are more receptive to digital travel and also account for a large percentage of digital tourism. The college student tourism market is an important component of China's tourism market and has huge development space.

Currently, the research mainly focuses on the development of the digital tourism industry and the college student tourism market. There are fewer studies on digital tourism segments, and digital tourism from the perspective of college students. And college students are one of the main consumer groups of digital tourism and are important consumers of digital tourism products and services. College students are eager to explore new places and try new technologies, which makes them an important user group of digital tourism platforms. Since college students are highly receptive to new things and are good at expressing their opinions, their experience and feedback are crucial to improving the user experience of digital tourism products. Starting with this important group is important to enhance the overall development of digital tourism.

2. Literature Review

2.1 Digital Tourism Related Research

Digital tourism refers to a new type of tourism mode and service model that utilizes digital technology and internet platforms to enhance and transform the traditional tourism industry. It provides tourists with a richer, more convenient and personalized tourism experience through advanced technologies such as virtual reality (VR), augmented reality (AR), 3d modelling, cloud computing and so on.

Current research focuses on the connotation and extension of digital tourism, the development status and development trend of digital tourism, digital technology to enhance the tourism experience, and digital tourism to promote the high-quality development of the tourism economy. Wei (2022) stated that digital tourism mainly consists of hardware devices, digital services and digital tourism products. The 14th five-year plan for the development of the digital economy explicitly proposes the use of digital technology, the promotion of intelligent guides, and virtual and real interactive experiences to promote the upgrading of the tourism consumer experience. Zhou et al. (2022) stated that digital tourism is moving towards a fully integrated, technologically advanced, and sustainably high-quality future. Zheng et al. (2023) systematically analyzed the knowledge structure of digital cultural tourism research through a multidisciplinary perspective. Dewantara et al. (2022) presented a review of travel blogs as an important component of contemporary digital tourism marketing. Ying et al. (2024) stated that with the deep integration and flexible application of digital technology in the tourism industry, it will positively empower the rapid development of the tourism industry.

2.2 College Students Tourism Related Research

Current research mainly focuses on the characteristics of university students' tourism behavior, tourism experience, factors affecting their tourism consumption, and countermeasures for the development of the tourism market. Yang (2023) said that young people should be taken as one of the driving forces for

the high-quality development of tourism, and that they should be further brought into play in the innovation of the industry and the expansion of consumption. Yang (2019) said that college students, as a large consumer group in today's market, are becoming a new economic bright spot and contains a consumption capacity that cannot be ignored, and put forward the development of college students' tourism consumption market proposals. Shen and Dong (2024) suggested that emerging forms of communication in a digital media environment, such as online tourism UGC platforms, increase tourists' travel intention. Wu et al. (2022) indicated that travel APP user experience has a significant positive impact on college students' travel satisfaction. Feng (2011) said that college students' tourism consumption shows that they pay attention to the price, pay more attention to the tourism experience, and are willing to accept new things and so on.

3. Design of the Survey

The research object of this survey was Sichuan International Studies University students and 156 questionnaires were collected, of which 148 were valid questionnaires, with a recovery rate of 94.8%.

3.1 Participants

College students are more positive in accepting new things, and they are one of the main consumer groups of digital tourism. The digital tourism survey of college students has a good explanation for the overall experience and satisfaction of digital tourism, and the research value is high. The target population of this study is undergraduate to doctoral students, and the respondents are students of Sichuan International Studies University. Due to the large group of college students, it is difficult to collect questionnaires, so the scope of respondents was narrowed down to the students of Sichuan International Studies University, so as to reflect the digital tourism experience of the college student group.

In the questionnaire survey method, the participants were students of Sichuan International Studies University, and the questionnaires were mainly distributed through the Internet, recruiting the surveyors through various WeChat groups, QQ groups, rednote and other social media in the university. The number of participants was 148, with a male-to-female ratio of approximately 2:8, and the respondents were categorized into undergraduate students and graduate students and above, of which the proportion of undergraduate students was about 88%, and the proportion of graduate students and above was 12%. In the semi-structured interviews, the participants were juniors, and three juniors were interviewed in detail about the reasons for dissatisfaction with the digital tourism experience by distributing the recruitment information in the school group.

3.2 Research Instruments

This study mainly uses questionnaires and semi-structured interviews as research tools. During the whole process, using reliability analysis and validity analysis to guarantee authenticity and accuracy. It means whether these interviewees answer questions seriously.

3.2.1 Questionnaire Design

This study used the questionnaire survey method, which was conducted by distributing self-administered questionnaires on WeChat, QQ, rednote and other online platforms. The questionnaire is divided into three main parts. The first part is the basic personal information, the second part is mainly to investigate the situation related to the experience of digital tourism among college students, and the third part is mainly to investigate the satisfaction of college students with digital tourism.

The first part includes questions 1 and 2, such as gender and grade level, and the second part includes questions 3 through 8, such as what specific digital tourism experience they have had, what digital tourism platform activities they have experienced, and how they feel about the performance of virtual tours and smart guides. The third part includes questions 9 to 16, which are mainly related to digital tourism satisfaction, such as factors affecting satisfaction, satisfaction with the digital tourism platform, satisfaction with smart guides and virtual tours, and satisfaction with customer service staff, etc.

The questionnaire consists of four main categories of questions. The first category is single-choice. The second category was multiple choice questions, with 4 of the 16 questions falling into this category, such as multiple-choice digital tourism experience activities. The third category is scale questions, for a variety of satisfaction on a five-point Likert scale. The fourth category is ranking questions, which rank various factors affecting your digital tourism choices to understand respondents' priorities and provide a scientific basis for subsequent recommendations on digital tourism.

3.2.2 Semi-structured Interview

In order to make up for the lack of depth in the questionnaire survey, analyze in depth the factors affecting college students' experience and satisfaction with digital tourism, and give appropriate suggestions, the team conducted semi-structured interviews with some interviewees. The outline of the semi-structured interviews is the result of summarizing, generalizing and refining the content of the questionnaire, aiming at presenting the optimal perspective of the interviews, so as to facilitate the interviewees to dig out their own true views on the problems and phenomena in the layer-by-layer in-depth questions.

The form of the interview is a one-on-one web interview. Each interview process lasts for half an hour. The questions are mainly divided into core and follow-up questions, allowing us to gain a deeper understanding of the reasons affecting satisfaction. The core questions are the feelings of the overall experience of digital tourism, and the factors leading to the average satisfaction or dissatisfaction. If you wish to enhance the experience of digital tourism, what aspects do you think can be improved? etc. Follow-up questions include will you continue to use digital tourism in the future? Why? Throughout the interview, neutrality was maintained, leading questions were avoided, and interviewees were allowed to express their true thoughts freely. Through the interview, we summarize the main reasons why college students are generally or relatively dissatisfied with the digital tourism experience and put forward optimization suggestions.

3.3 Data Connection and Analysis

3.3.1 Data Connection

The data collection for this survey was divided into three stages, the first of which, at the questionnaire design stage, was to avoid questions that might lead respondents to answer in a particular way. The questions ought to be neutral and objective, so ensure these do not contain any suggestive language. The questionnaire also includes different forms of questions. For instance, the multi-pulse choice, single-choice, open-ended and rating questions. At the same time, some multiple and complex choices have clear instructions so that interviewees can understand the meaning fully. The second stage is the questionnaire distribution phase. The process mainly distributes it to students of SISU online. The survey promises that their responses will be confidential. These measures will alleviate the worries of the respondents in order to ensure the truth of the questionnaire. The last stage is the interview phase. We recruited three college students who are highly interested in digital tourism activities but have

average satisfaction or dissatisfaction. Through the process, we can explore the reasons why the satisfaction scores are not very high.

3.3.2 Data Analysis

Descriptive statistics, the basis of inferential statistics, refers to the collation, aggregation and computation of a large amount of data contained in a survey sample. The descriptive analysis of this study mainly adopts frequency analysis, using tables, pie charts, bar charts and other methods to analyze the demographic variables of the respondents, digital tourism experience activities and other variables.

4. Result Analysis

The male-to-female ratio in this study was approximately 2:8, which is in line with the male-to-female ratio at Sichuan International Studies University. At the same time the proportion of undergraduate students filling out the study was close to 90 per cent.

Table 1. Gender

	frequency	percent
male	34	22.97%
female	114	77.03%
aggregate	148	100.00%

Table 2. Grade

	frequency	percent
freshman	13	8.78%
sophomore	24	16.22%
junior	34	22.97%
senior	59	39.86%
Postgraduate and above	18	12.16%
aggregate	148	100.00%

4.1 Digital Tourism Experience Situation

Sichuan International Studies University (SISU) students' digital tourism experience activities are showing a diversified trend. Among them, online information acquisition and booking, virtual tours, short video platforms and social media accounted for a relatively large proportion of experiential activities, all of which were around 50 per cent. Digital tourism experience has a comparative average percentage. To a certain extent, it also reflects that the digital tourism experience plays a big role in tourism and is widely recognized and used.

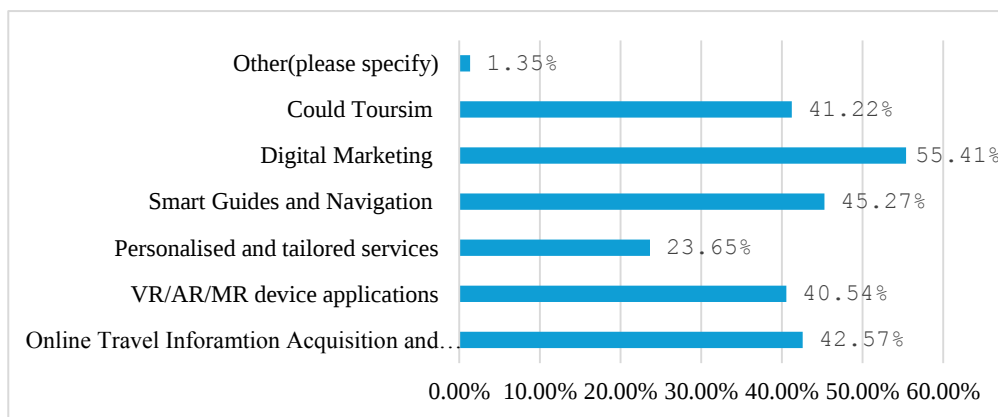


Figure 1. Digital Tourism Experience

Digital marketing has the highest participation, accounting for 55.41%, indicating that college students pay more attention to tourism-related digital marketing activities (e.g., social media promotions, online advertisements, etc.), which may be one of the important channels for them to obtain tourism information. College students' digital tourism experience is more diversified, with higher acceptance of new technologies and convenient services, and they tend to enrich their tourism experience through a variety of digital means. Participation in personalized customized services is relatively low, at 23.65%, probably because the promotion of personalized customized services is insufficient, or the convenience and attractiveness of their practical application needs to be improved.

4.1.1 Information Access and Booking

Among the university student population, online information access and booking services account for a large proportion of the digital tourism experience, and frequency analysis reveals that their share is about 43%. In the past three years, up to 90 per cent of university students have used online booking systems, of which about 42 per cent have used them more than three times.

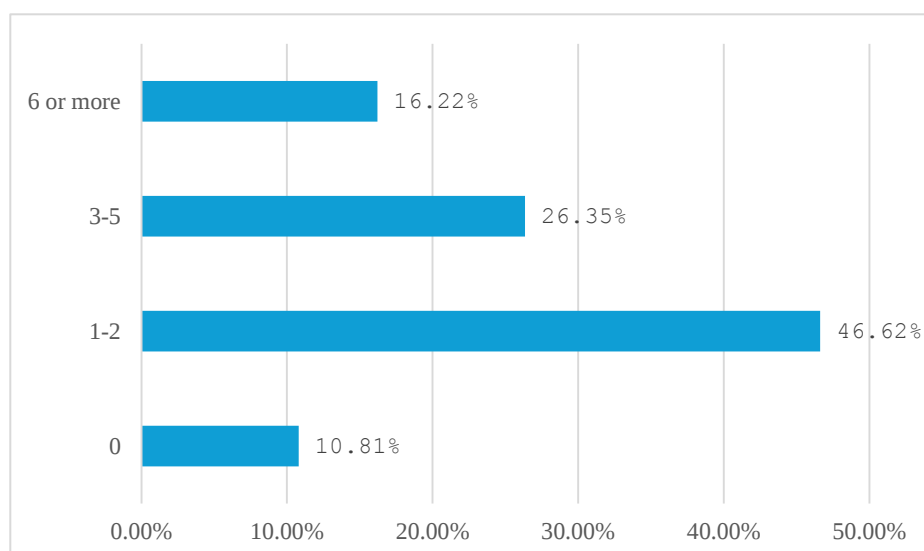


Figure 2. Online Booking

This indicates that college students are highly receptive to online booking systems and that online travel services have a large market potential among the college student population, but only 42% use them more than three times, which means that nearly half of the college students may only use online booking services occasionally. This may be due to the fact that the user experience of online travel services is not satisfactory enough, and there are some problems. The user experience of online travel services needs to be improved. From the interviews, we can also understand that the online booking system has some problems, such as complicated page operation, privacy security and so on.

4.1.2 Virtual Experience

Virtual tourism experience is very important in digital tourism and accounts for more than 40%. Virtual tourism experience includes immersive experiences, such as AR, VR, etc., but also includes intelligent tour guides, using 3d panoramic technology, all-around, multi-angle previews of the scene of the tourist destination, and real-time travel route display. Figure 3 shows the proportion of various experiences of virtual tourism, and the proportion of various experiences is around 40%. This shows that the college student group has a high degree of acceptance for various virtual tours.

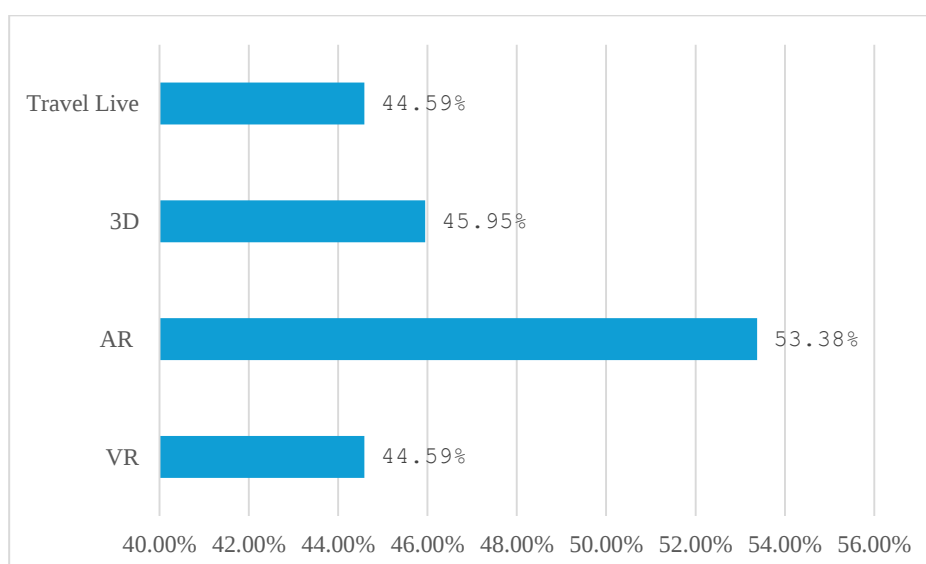


Figure 3. Virtual Tourism

Based on the analysis of the statistical results of the virtual travel methods experienced by the respondents, the digital travel experiences of college students are highly online. This trend mirrors that college students become more and more reliable with mobile internet because it makes travel experiences more convenient. College students have a higher acceptance of new technologies, such as VR, AR, and 3d. The higher acceptance also promotes the popularity of digital tourism experience activities. From the popularity of travel live streaming and new technology, we can conclude that college students are more likely to experience travel through interaction and entertainment.

4.1.3 Personalized and Customized Services

As Figure 1 demonstrates, personalized services account for about 23% of the digital travel experience. This percentage also reflects the fact that the university student population usually has a strong sense of

individuality and self-consciousness, and is adept at using a variety of digital platforms and apps to achieve personalized and customized services.

4.1.4 Intelligent Guiding and Navigation

Figure 4 summarizes that for university students, more than 85% believe that smart guides have advantageous properties, such as providing accurate information and enhancing the digital travel experience. From Figure 5, it can be concluded that more than 80% of respondents would like to continue to choose to use smart guides, VR, and AR as travel assistants in their travels.

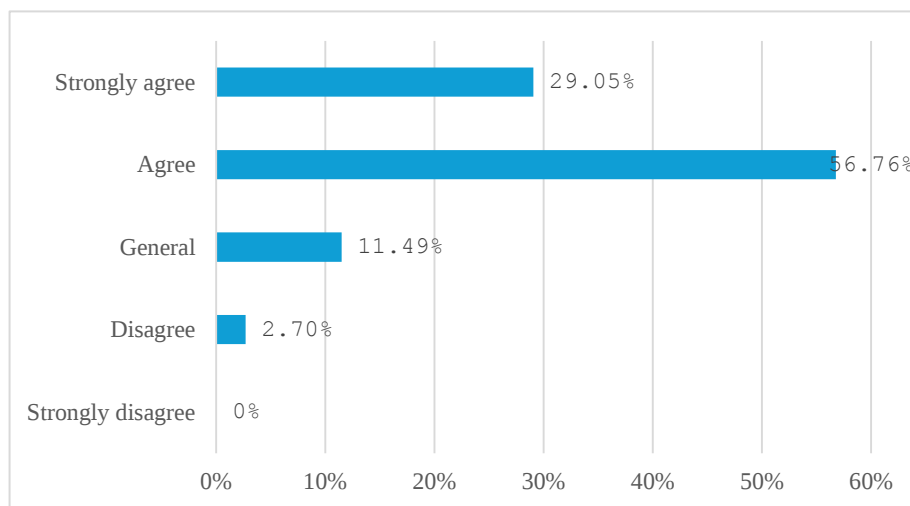


Figure 4. Intelligent Guiding

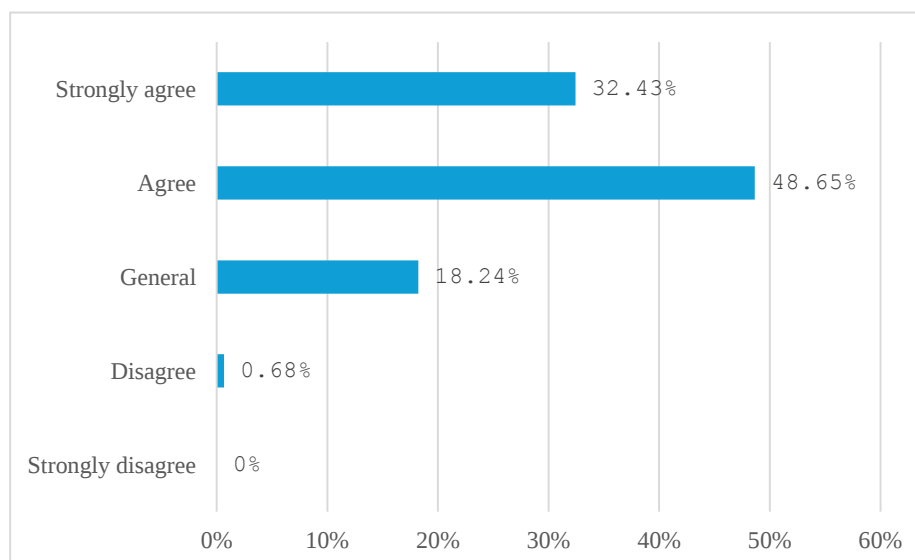


Figure 5. Intelligent Guiding

This indicates that college students highly recognize and continue to use digital tourism technologies such as smart tour guides, VR, AR, etc., showing that these technologies have significant advantages in enhancing the travel experience and have a broad development prospect in the future digital tourism market. This data also reflects that universities are more likely to use intelligent guiding and navigation during the whole process. But about 20% of participants indicated that they did not choose the smart guides, VR, and AR as travel assistants in their travels. It also reflects that these intelligent guides have some problems.

4.1.5 Interaction and Socialization

From Figure 6, it can be found that about 62% of university students interact and socialize online through digital travel platforms, mainly by commenting, liking and sharing travel experiences.

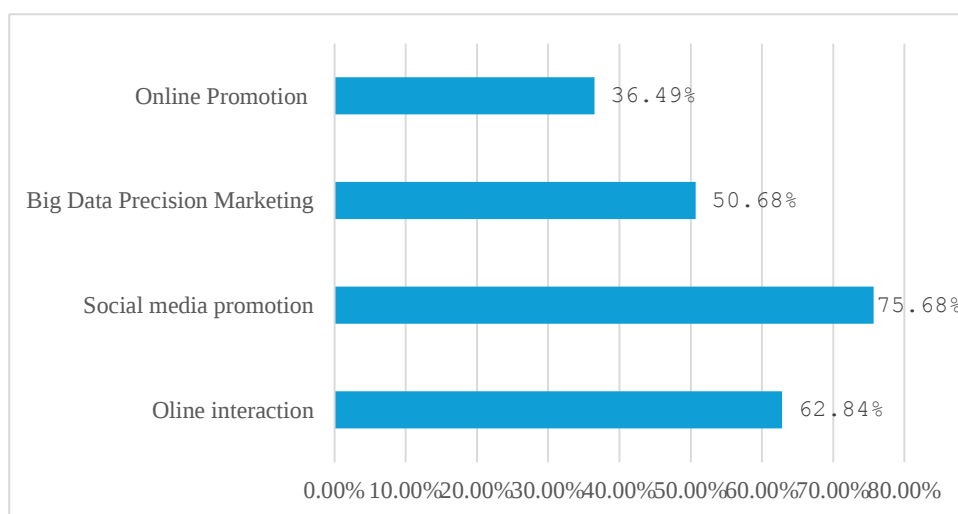


Figure 6. Digital Tourism Activities

According to the data analysis of respondents' digital tourism experience activities, it can draw a conclusion that college students prefer to use different social media to interact with others. During the process, college students are likely to share and comment on tourism experiences. In addition to that, college students' behavior also reflects their reliance on social media and enthusiasm for showcasing their travel experiences.

4.1.6 Digital Marketing and Promotion

Figure 6 shows that more than 50% of the respondents said they had experienced activities where digital tourism platforms had precisely marketed to tourists and pushed information on tourism products and offers that matched their interests and needs, and about 40% of the respondents claimed that they had experienced activities where digital tourism platforms had attracted more attention and visits by means of Search Engine Optimization (SEO) and social media advertisements.

There was less participation in the activities of precision marketing and online promotion, which indicates that college students have some acceptance of precision marketing, but the proportion of experience is low. This may be due to the fact that university students are not as interested in personalized recommendations as they are in social media interactions or live travel streaming. It also reflects that college students have some understanding of the platform's promotion methods, but the proportion of experience is low. This may be because college students are more likely to experience

digital tourism through social media and interactive events rather than directly accessing the platform. Precision marketing (50%) reaches a wider audience than SEO/social media advertising (40%), reflecting that proactive pushing gets the attention of college students more than passive exposure.

4.2 Digital Tourism Experience Satisfaction

In this study, reliability and validity analyses were used to analyze the satisfaction with the digital tourism experience. As can be seen in Table 3, the value of the reliability coefficient is 0.853, which is greater than 0.8, thus indicating a high quality of reliability of the research data. From Table 4, validity was verified using KMO and Bartlett's test, and from the table above, it can be seen that: the KMO value is 0.865, the KMO value is greater than 0.8, and the research data is very suitable for extracting information (which is a good reflection of validity from this side).

Table 3. Cronbach Reliability Analysis

Name	(CITC)	Deleted alpha coefficients for items	Cronbach α ratio
Satisfaction with the ease of use of information provided by digital tourism platforms or apps	0.643	0.830	0.853
Satisfaction with the smoothness of the online booking system, the user-friendliness of the interface, the security of payment and the timeliness of booking confirmation	0.637	0.830	
Satisfaction with intelligent guided tours and interpretation, VR, AR experiences	0.638	0.829	
Satisfaction with services such as personalized recommendations and real-time information on digital tourism platforms	0.713	0.815	
Self-media platforms to share travel experiences, network interactions, satisfaction with online sharing	0.610	0.835	
Satisfaction with the professionalism, service attitude and problem-solving efficiency of digital travel customer service agents	0.608	0.835	

Note. Standardized Cronbach's alpha coefficient = 0.855.

Table 4. Validity Analysis

KMO and Bartlett's test		
KMO value		0.865
approximate chi-square		336.175
Bartlett Sphericity Inspection	df	15
	p value	0.000

Through the survey of the respondents, it was found that there are various factors affecting the satisfaction of digital tourism of the students of Sichuan International Studies University, such as the integration of information from big data platforms, the provision of personalized tourism solutions and customized services to meet the unique needs of tourists, the high-tech applications providing tourists with a safer and more comfortable tourism environment, the effectiveness of the professional digital technology service personnel, the multi-language tourism information services, intelligent guided tours and explanations, VR and AR experiences, and the ability of the students to enjoy the digital tourism services in their own language. Tour guide and explanation, VR and AR experience, tourists'

interactive experience, the emotional value of tourists' interaction with the context of the body and mind, etc.

Among them, personalized services provided by big data platforms, and high-tech applications to bring a safer and more comfortable environment accounted for more than 50%, while the impact of satisfaction factors in the effectiveness of the service, digital services such as intelligent guides and the value of emotional interaction also accounted for a relatively large proportion of the value of both about 40%.

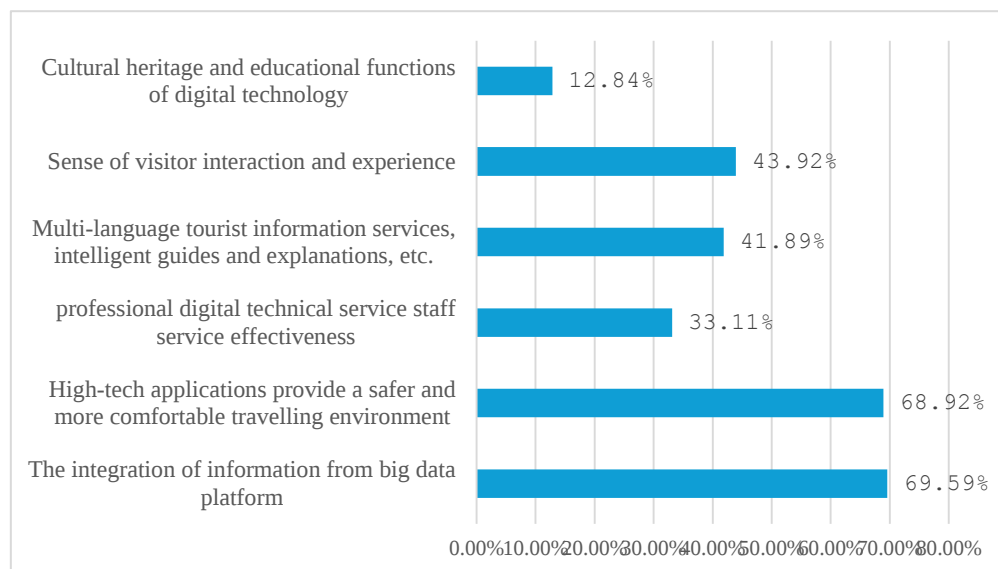


Figure 7. Factors of Satisfaction

4.2.1 Convenience of Information Access

From Figure 8, it can be seen that more than 80% of Students of Sichuan International Studies University were satisfied with the ease of use of the information provided by digital tourism platforms or apps, but still, about 20% of respondents indicated that the information provided was not very helpful or unsatisfactory.

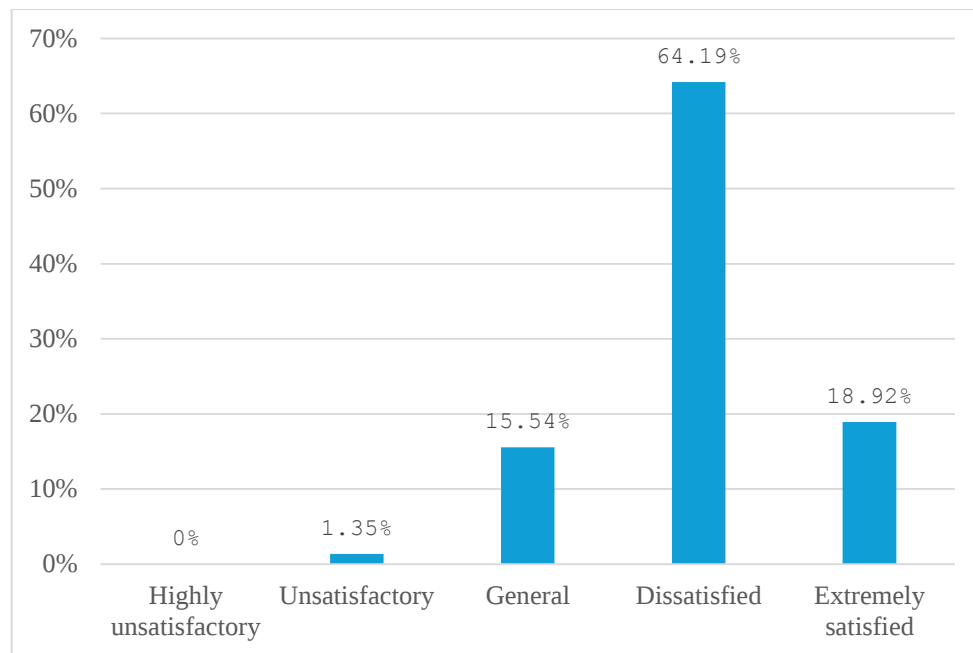


Figure 8. The Ease of Use of Information

From the results of the interview, these interviewees expressed that there is a lot of information, so they cannot find the useful information very rapidly. We can conclude that the information supplied by digital tourism platforms has some space for improvement. For instance, information access should become more effective and convenient.

4.2.2 Online Booking Experience Satisfaction

According to Figure 9, indicates that students of Sichuan International Studies University rated the smoothness of the online booking system, the user-friendliness of the interface, the security of the payment and the timeliness of the booking confirmation with an average score of 3.96, and about 70% of the respondents were satisfied with it, but still, about 30% indicated that they felt average or dissatisfied.

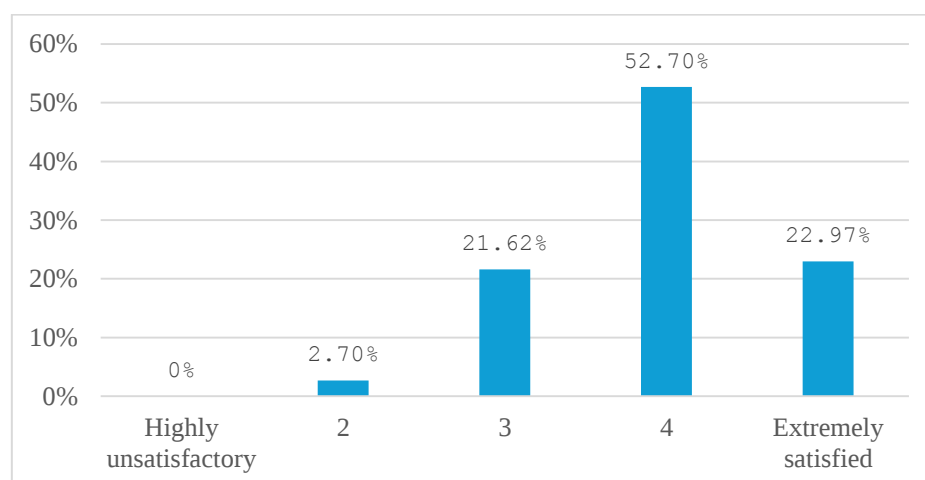


Figure 9. The Smoothness of the Online Booking System

University students were generally satisfied with the online booking system, mainly in terms of smoothness, user-friendliness of the interface, security of payment and timeliness of booking confirmation. Although many students were satisfied with it, some students felt discontent with some aspects. Firstly, as for the smoothness, interviewees raised some problems that certain booking systems were complicated to operate, and the functions were not sufficient to satisfy different needs. Some interviewees also put forward that the design of the interface is not intuitive and clear. Most importantly, they worried about security prompts. Sometimes, the prompts were not very obvious so that they worried about security problems. During the payment process, there were some limited choices. In terms of the timeliness of booking confirmation, the system response speed was not rapid at times.

4.2.3 Virtual Travel experience, Intelligent Tour Guide Service Satisfaction

As can be seen from the statistics shown in Figure 10, the implementation of the intelligent guide system and the immersive VR/AR virtual tour technology was positively evaluated by the students of Sichuan International Studies University (SISU). Satisfaction indicators show a clear polarization, with about 70% of respondents indicating a favorable view of the system, while 30% of respondents indicated a neutral level of satisfaction, and only a very small number of respondents indicated that they were dissatisfied (which is statistically negligible). These data indicate that students of Sichuan International Studies University are relatively satisfied with the experience brought by the application of high technology in digital tourism. However, there are still a small number of people who expressed moderate or less satisfaction. This also means that in the future, the services of guide and explanation can be further optimized, as well as the promotion of more diversified VR and AR experiences, in order to enhance the satisfaction of university students with digital tourism.

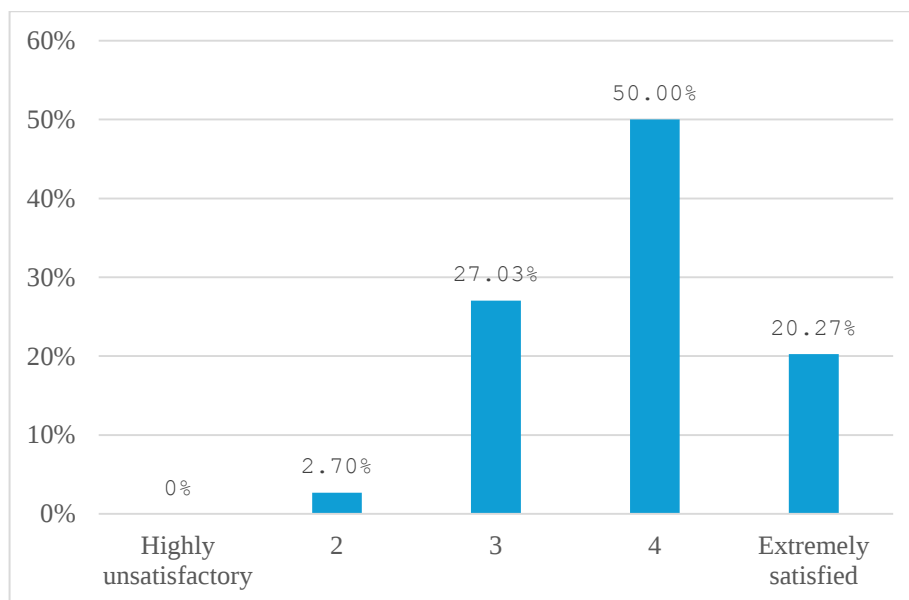


Figure 10. Intelligent Guided Tours and Interpretation, VR, AR Experiences

Through the interview, interviewees represented that these intelligent technology devices have a higher level of complexity. They thought that the complexity leads to a poor user experience. The higher cost of technology and equipment for VR and AR devices has led to some virtual experiences being charged at a higher rate as well, which has limited their popularity and experience to some extent.

4.2.4 Personalized Service Satisfaction

The results of the survey conducted by Sichuan International Studies University (Figure 11) indicate that respondents generally have a positive attitude towards the personalized services of digital tourism platforms. Specifically, 52 per cent of respondents were satisfied ($M=3.86$, 5-point Likert scale) and 20 per cent were very satisfied. However, 26% of respondents were neutral about the quality of the service, and 3% were clearly dissatisfied. These results suggest that while the majority of student respondents (72% overall satisfaction) acknowledge the relative sophistication of personalized services in current digital travel platforms, the persistent neutral ratings (26%) and explicit dissatisfaction (3%) suggest that there is still measurable potential for service optimization. The average Likert score of 3.86, although close to the positive range, further reinforces the need for targeted improvements to enhance the user experience on the satisfaction dimension.

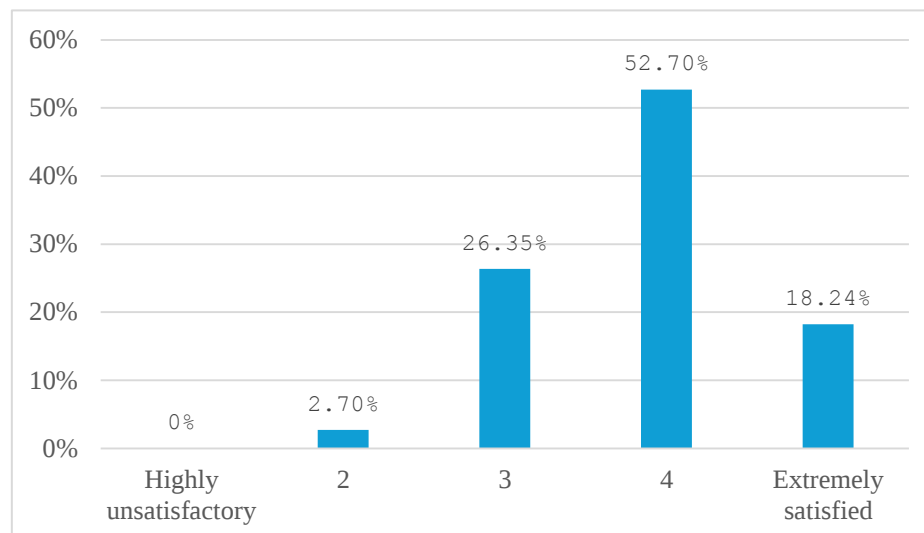


Figure 11. Personalized Recommendations and Real-Time Information on Digital Tourism Platforms

According to the interview process, interviewees expressed that relevant platforms have less personalized push to meet the needs of personalized customization. It can be concluded that the personalized recommendation is sometimes not accurate enough, and the real-time information is sometimes not timely enough, the system may not accurately capture these needs. We hope that the relevant platforms can optimize their services to enhance the user experience.

4.2.5 Interactive Experience Satisfaction

The results of the survey shown in Figure 12 indicate the satisfaction level of the respondents of Sichuan International Studies University (SISU) with the use of the self-media platform. Quantitative analysis showed that 78% of the respondents were satisfied with the online sharing and interactive features, 20% were neutral about the experience of interactive communication, and only 2% were

dissatisfied. A composite rating of 4.07 was obtained from the 5-point Likert scale measurements. It indicates that students at Sichuan International Studies University are satisfied with the use of self-media to interact and add to the digital tourism experience.

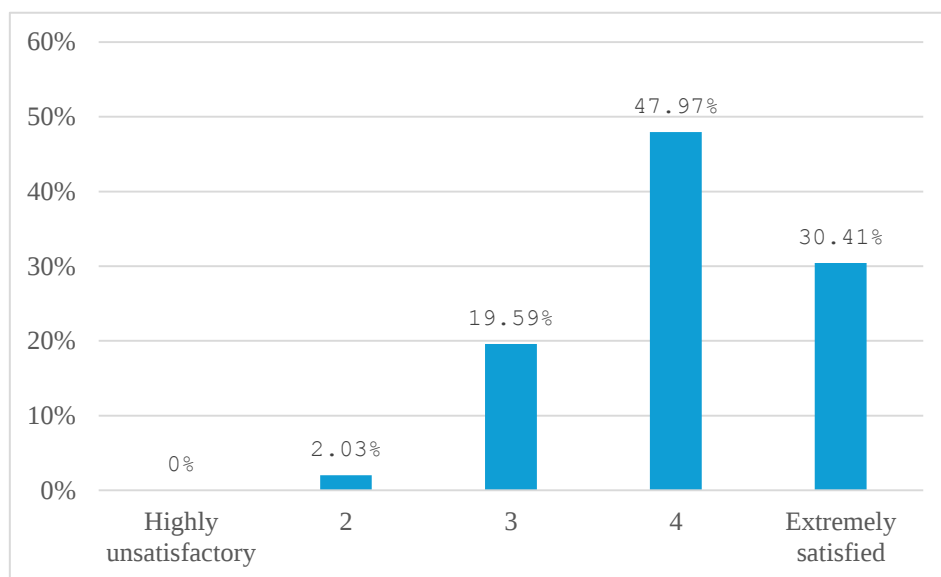


Figure 12. Online Sharing

This indicates that the interactive sharing function is favored by college students. Meanwhile, interviewees represented that social media platforms with interactive sharing features are not enough. Sometimes, the related platforms lack feedback mechanisms. It can also be concluded during the interview that college students hope that the functions of sharing, network interaction and online sharing of the self-media platform can be further optimized to enhance the user experience. The interactivity between platforms can also be increased, such as cooperating with other tourism platforms to provide more interactive functions.

4.2.6 Digital Travel Customer Service Agent Satisfaction

From Figure 13, we can get a clear look at nearly 70% of participants who were satisfied with the core service dimensions: professional capacity service attitude and problem-solving efficiency. 26% of the participants gave a neutral evaluation, while only 3% of participants expressed dissatisfaction. These data and findings indicated that most of the participants recognized the service quality of travel customer service. The satisfaction levels far exceed the negative evaluations. But in fact, participants also came up with some wishes that customer service would be more practical.

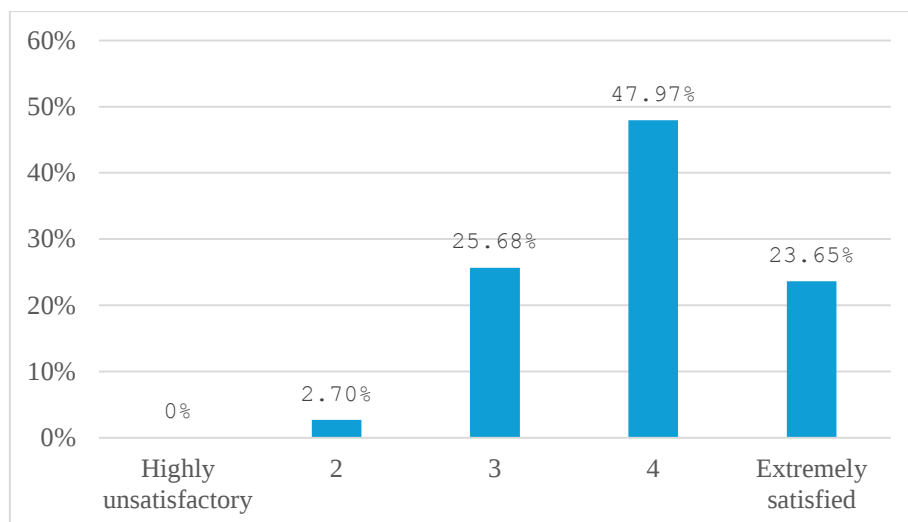


Figure 13. Digital Travel Customer Service Agents

Through the interview, interviewees also indicated that intelligent customer service has problems such as miscommunication, non-answers, and difficulty in transferring to human customer service. Customer service agents are sometimes unable to resolve personalized questions, give hard and mechanical answers, and do not accurately understand the questions asked.

5. Conclusions and Recommendations

5.1 Conclusion

For college students' digital tourism experience, their experience is characterized by diversity and individuation. At the same time, college students are highly dependent on online services and digital marketing, are keen to use VR, AR and other technologies for immersive experiences, and have a high demand for personalized and customized services. Intelligent tour guides and navigation services are widely used, and cloud tourism and cloud entertainment have become a trend. College students have strong social needs, pursue individuation, and convey emotional experiences in travel through short videos and various social media, triggering resonance and emotional connection, and are more receptive to new technologies, promoting the popularity of digital tourism experiences.

College students' satisfaction with the digital tourism experience is generally high, but there are still some areas for improvement. In terms of digital tourism platforms or apps, satisfaction with information ease of use is high, but there is room for improvement, and information comprehensiveness, navigation and functional design, and information updating need to be optimized. Satisfaction with the online booking system is high, but some students are still dissatisfied with the complexity of the operation, the interface is not intuitive, the payment security prompts are not obvious, the payment methods are limited, and the booking confirmation is not timely. College students are highly satisfied with virtual tourism experiences such as intelligent tour guides, VR and AR, but a few are still less satisfied, and need to further optimize services such as tour guides and explanations, and promote more diversified experiences. Satisfaction with personalized recommendations and real-time information services on digital tourism platforms is high, but precision and accuracy need to be improved. Satisfaction with the self-media platform's travel experience sharing, online interaction and other functions is high, but it is hoped that further optimization will be made to increase the interactivity

between platforms. Overall satisfaction with the professionalism, service attitude and problem-solving efficiency of digital tourism customer service personnel is high, but customer service training, service awareness and practical ability still need to be improved.

At present, digital tourism also has certain challenges, mainly focusing on the following aspects: digital tourism platform or application information presentation is complicated and not intuitive, accuracy and reliability are insufficient, the booking system has poor fluency and cumbersome steps, there are security and convenience problems in payment, and there are too many pop-up windows interfering with the operation; the virtual tour lacks real tactile feedback and environment, and the quality of the content is limited; there are problems of self-help tour interactive sharing such as problems such as false and homogenized content and untimely response to comments; digital tourism customer service personnel with insufficient professionalism and service skills, uneven service attitudes, low work efficiency and poor multitasking ability. Intelligent customer service services in technology, accurate understanding and answering questions also have certain problems.

5.2 Recommendations

Improving the usability of the information provided by the digital tourism platform can further increase user satisfaction and engagement. In order to achieve these goals, the relative platforms should take some measures: optimizing the search function, simplifying the navigation and interface design, and improving search functions from multiple dimensions such as keywords, ratings and locations. These measures can help users quickly find the content they need. At the same time, the platform should strengthen the user feedback mechanism and encourage users to evaluate and provide feedback on the platform's content, services or travel destinations to help the platform continuously optimize its content. Regularly update the platform functions to ensure that the information display and user experience are always in the best condition.

In terms of the online booking system, the design should be simpler by reducing the unnecessary and hierarchical menu so that it improves the user experience. In addition, the design should ensure good compatibility with different devices to improve the operating speed. Especially on mobile devices, most people frequently use them to complete the booking. At the same time, the system should adopt double or multiple authentication mechanisms to strengthen account security. Platforms should use data encryption to ensure the security of the transmission and storage process. On top of that, online booking systems must pay attention to personal privacy protection. For instance, when systems collect and use personal information, the platform must get users' permission. Let users know the privacy policy and how data is collected and used.

At the present time, the virtual tourism experience has some limits because of the technology. In this field, we may encounter some immersive experience problems. There are some methods to improve the performance of the experience. The performance of hardware equipment should be improved to ensure the basis of virtual tourism. Related departments should increase the investment, research and development in technology. At the same time, introducing and applying advanced 3d and VR appliances to produce more realistic virtual scenes that enhance users' immersive experiences. During the process, it can combine some technologies to optimize content production and attract more users to experience. These technologies can guide users into the virtual scene by sensory stimulation. To a certain extent, these measures also promote the popularity of digital tourism.

In the digital age, people are willing to use social media platforms to interact, gain information, and share experiences. In fact, there exist some problems. Related platforms should strengthen the auditing mechanism to ensure the reliability of the content shared by users. They can also make use of technical measures to identify false and fake information. Actually, platforms should enrich the classifications of content. They can encourage users to share different types of tourism experiences through videos, graphics and live broadcasts. These measures can avoid a single form of content and attract more users to enhance interactive experiences.

With the rapid development of digital tourism, customer service work also needs to gradually transform in the direction of digitization and intelligence. Customer service personnel need to have a certain degree of awareness of digital transformation and be able to adapt to the use of new technologies and tools, such as the use of big data to analyze user behavior and optimize the service process; in addition, customer service must improve the quality of service. The platforms must strengthen the training to improve communication skills. They must set up a series of standardized customer service reception processes that reduce repetition and improve efficiency. In terms of intelligent customer service, it is necessary to strengthen the research and development of its technology and the comprehensiveness, accuracy and professionalism of its corpus.

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Appendix A: The Questionnaire

A Survey on Digital Tourism Experience and Satisfaction from College Students' Perspective

1. Gender: male _____ female _____

2. Grade

A. Freshman year

B. Sophomore year

C. Junior year

D. Senior year

E. Postgraduate and above

3. Digital Tourism Experience

(You can choose more than one answer.)

A. Online Travel Information Acquisition and Booking Service

B. VR\AR\MR device applications

C. Personalized and tailored services

D. Smart Guides and Navigation

E. Digital Marketing

F. Cloud Tourism

G. Other (please specify)

4. Virtual tour

(You can choose more than one answer.)

A. VR

B. AR

C. 3D

D. Travel Live

5. Digital Tourism Platform activities

(You can choose more than one answer.)

A. Online interactions

B. Social media promotion

C. Big Data Precision Marketing

D. Online Promotion

6. Frequency of use of online booking system

A. 0

- B. 1-2
C. 3-5
D. 6 or more
7. Advantageous Performance of Intelligent Guiding, VR, AR
- accurate information
 - personalized travel planning and itineraries
 - Enhance immersive experience and interactivity
 - superimpose virtual information
 - Real-time guided tours and commentary
 - Use AR technology to show complex scientific principles, or historical events
- A. Strongly disagree
B. disagree
C. general
D. agree
E. Strongly agree
8. You will continue to choose to use smart guides, VR, AR as your travel assistants on tours
- A. Strongly disagree
B. disagree
C. general
D. agree
E. Strongly agree
9. Factors of Satisfaction with the Digital Tourism Experience

(You can choose more than one answer.)

- A. The integration of information from big data platforms provides personalized travel plans and customized services that meet the unique needs of tourists.
- B. High-tech applications such as 3D technology, crowd heat maps and intelligent digital ticketing systems provide a safer and more comfortable travelling environment for visitors.
- C. Professional digital technical service staff service effectiveness
- D. Multi-language tourist information services, intelligent guides and explanations, VR and AR experiences, etc.
- E. Sense of visitor interaction and experience, the emotional value of the visitor's physical and mental interaction with the situation
- F. Cultural Heritage and Educational Functions of Digital Technology
10. Satisfaction with the ease of use of information provided by digital tourism platforms or apps
- A. Highly unsatisfactory
B. unsatisfactory

- C. general
 - D. dissatisfied
 - E. extremely satisfied
11. Satisfaction with the smoothness of the online booking system, the user-friendliness of the interface, the security of payment and the timeliness of booking confirmation
- A. Highly unsatisfactory
 - B. unsatisfactory
 - C. general
 - D. dissatisfied
 - E. extremely satisfied
12. Satisfaction with intelligent guided tours and interpretation, VR, AR experiences
- A. Highly unsatisfactory
 - B. unsatisfactory
 - C. general
 - D. dissatisfied
 - E. extremely satisfied
13. Satisfaction with services such as personalized recommendations and real-time information on digital tourism platforms
- A. Highly unsatisfactory
 - B. unsatisfactory
 - C. general
 - D. dissatisfied
 - E. extremely satisfied
14. Self-media platforms to share travel experiences, network interactions, satisfaction with online sharing
- A. Highly unsatisfactory
 - B. unsatisfactory
 - C. general
 - D. dissatisfied
 - E. extremely satisfied
15. Satisfaction with the professionalism, service attitude and problem-solving efficiency of digital travel customer service agents
- A. Highly unsatisfactory
 - B. unsatisfactory
 - C. general
 - D. dissatisfied

- E. extremely satisfied
- 16. Ranking of factors influencing your choice of digital travel
 - A. Convenience
 - B. Cost savings
 - C. Open and transparent information to enhance the travelling experience
 - D. Electronic and environmentally friendly
 - E. Promotion of education and cultural dissemination
 - F. Provide multi-language support

Appendix B: Interview design

(i) Interview framework

interviewees	Students of Sichuan International Studies University
Targeting	Selection of students with low level of satisfaction with digital tourism
Interview format	Web-based one-to-one format
Interview content	What do you think of the overall experience of digital tourism? Why do you think it is average? If you would like to improve the digital tourism experience, what do you think could be improved?
Purpose of the interviews	Understanding the main reasons for college students' general or relative dissatisfaction with the digital tourism experience

(ii) Outline of the interview

Hello. I am conducting a survey on “Digital Tourism Experience and Satisfaction from the Perspective of University Students”, and I need you to tell me your opinion on some issues according to the actual situation. The information you provide is important to our research, and I sincerely thank you for your participation!

(1) What do think of the overall experience of digital tourism?

(2) Why do you think it is average?

- (3) What factors do you think affect the digital tourism experience?
- (4) If you would like to enhance your digital tourism experience, what do you think could be improved?
- (5) Will you continue to use digital tourism in the future? Why?

(iii) Interview findings

The interviews centered on exploring the reasons for college students' low satisfaction with digital tourism, and conducted in-depth exchanges on how to improve satisfaction. The interviews revealed that college students are dissatisfied to a certain extent with digital tourism in terms of security and privacy in the online booking system, access to information, technical problems of virtual tours, and customer service.

Through the interviews, we gained a deeper understanding of the reasons behind their dissatisfaction, and then made suggestions on how to improve their experience satisfaction, which strengthened our understanding of the survey theme, and made the setting of relevant questions in the questionnaire clearer.