

Article

An Examination of Revisit Intention Based on Perceived Smart Tourism Technology Experience

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Abstract: With the development of sustainable technology and the continuous innovation of people's travel styles, smart tourism technology (STT) is widely used in various tourism fields. STT has changed the traditional travel experience while enhancing destination competitiveness. This study examines the relationships between perceived STT experience, travel experience, and revisit intention. A total of 312 valid questionnaires were collected from tourists who had the experience of using local STT in Macau. A structural equation modeling (SEM) was used to test the proposed model, and the results showed that perceived STT experience had a significant influence on the travel experience, and travel experience had a significant influence on revisit intention. The results of the research have provided valuable information for managers who are concerned about the development of STT. In addition, when designing and developing STT websites or programs, it provides effective references and suggestions for merchants or related developers of tourism destinations to formulate scientific strategies to deal with market competition, thereby enhancing the destination's own competitiveness.



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Keywords: smart tourism technology; perceived smart tourism technology experience; travel confidence benefit; travel enjoyment; travel satisfaction; revisit intention

1. Introduction

With the rapid development of smart technology, the 21st century has entered the era of the internet, which has given birth to smart tourism technology (STT). Smart tourism refers to the use of information and communication technology (ICT) which provides real-time support for all stakeholders in the tourism destination [1,2]. Many tourism destinations are attempting to become more competitive and improve their destination image by using STT [3,4]. In recent years, STT has been widely used to collect large amounts of data and provide real-time support to all stakeholders in the destination [1]. From the perspective of tourist destinations or companies, STT can ease the pressure of labor costs, improve work efficiency, and promote management precision. On the other hand, tourists can easily access travel information in tourist destinations anytime and anywhere by using STT [3,5]. Despite STT being an inevitable trend and showing its importance in the tourism field, it has not found sufficient focus in the academic field to date.

In early studies, several researchers addressed the impacts of STT on the tourism industry. For example, Lee et al. [2] attempted to link STT with tourists' happiness. Huang et al. [6] examined how STT was applied in tourism planning. Although those studies included tourism experiences in this study, they overlooked the complexity of tourism experiences. For example, satisfaction and enjoyment are two kinds of travel experiences that should be differentiated. Given that the mechanism between STT, tourists' experiences, and behavioral intentions is still unclear, there is a research gap that needs to be filled.

Macau is one of the most popular tourist destinations in Asia and internationally. According to data published on the website of the Macau Government Tourism Office, the number of visitors to Macau (excluding labor and students) reached 9,203,275 in the fourth quarter of 2019, with an increase of 10.9% year-on-year. The tourism industry has provided many opportunities for the sustainable development of Macau's economy. In addition, the Statistics and Census Service (2020) from the Government of Macau Special Administrative Region shows that more than 50% of Macau residents are engaged in tourism-related industries. This shows that the tourism industry is an important economic pillar for Macau and determines the level of economic development in Macau. Although the data is objective, compared with other tourist destinations in Asia, Macau's tourist growth is relatively slow, which may lead to a decline in Macau's tourism competitiveness. In order to attract more tourists to visit Macau and have a better experience, Macau's tourism industry is committed to developing STT [7].

This research addresses Macau tourists' perception and experience of STT to improve the level of STT in Macau and thereby enhance Macau's tourism competitiveness. In addition, since many tourist destinations rely on repeated visits as a source of income [8], it is important to understand tourists' revisit intentions and investigate their causes and mechanisms. There has been some research on STT, but few researchers have clearly explained the mechanism from STT and various perceived travel experiences to revisit intentions. This study aims to develop a comprehensive model of STT by understanding tourists' perception experiences based on STT and the impact of their tourism experiences on their revisit intentions. The potential contributions are twofold. First, this study enriches our understanding of STT on how perceived STT influences diverse types of travel experience and ultimately tourists' revisit intentions; this study is one of the pioneers in linking the theory of STT and travel experiences. Second, the results of this study will help destination managers to develop their own strategic plan of STT in order to achieve a certain type of tourist experience.

2. Literature Review

2.1. *Smart Tourism Technology (STT)*

2.1.1. The Concept of STT

STT is a mobile information system that uses a physical information infrastructure in the tourism environment to create various experiences for tourists [9]. Huang et al. (2017) defined STT as all forms of online travel applications and information sources. Tourists can easily understand the depth and scope of their travel activities by using STT during their travel. Tourists are motivated and stimulated by accessing rich information to enhance their travel experience in tourist destinations [10]. In other words, it is a basic infrastructure that integrates hardware, software, and network technologies, the use of travel services, and information and communications technology to provide real-time data, so as to provide smarter decision-making for all stakeholders [1,6,11].

2.1.2. Perceived STT Experience

Tourists can share and exchange tourism activity information with others in real-time through the technology platform [1,4]. By embedding advanced ICT into smart tourism destinations, the literature on STT can be divided into three main topics: the role of STT in tourism, the characteristics of STT, and the adoption of STT in the tourism industry [12]. The motivation of tourists who participate in the travel service experience is based on the implementation degree and practicality of the attributes of STT, and the tourist obtains satisfaction or happiness through perceived experience [1,10,11]. A high-quality STT experience leads to greater satisfaction with service experience, which makes tourists feel positive about their overall travel experience and may lead to potential consequences [2,13,14]. Most previous studies have focused on describing STT, so research on smart tourism destinations is still limited, and few studies have investigated the impact of STT on the overall tourist experience and whether it causes other subsequent impacts.

This study attempts to test whether STT use by tourists has a positive impact on the overall travel experience, resulting in the intention of revisiting the tourist destination. One of the key research questions is whether a tourism experience with STT embedded can enhance the overall tourism experience and revisit intention, because some studies have found that travel experience is a key prerequisite for behavioral intention [15,16].

2.1.3. The Attributes of Perceived STT Experience

STT is divided into four attributes: informativeness, accessibility, interactivity, and personalization. These four attributes are classified, which can enhance the usability and perceived usefulness of smart tourism and can be embedded into the smart technology in the destination [1,6,17]. First, the environment of technology implantation allows all participating users to share cross-sectional information; second, smart technology depends on real-time communication systems, which can achieve greater interactivity among all users; third, the revolution in smart devices contributes to the high accessibility of information; fourth, from the diverse information resources, users are more likely to browse their most important needs [1,4]. Some studies have also examined the role of security in technology-mediated tourism destinations, and some findings suggest that decisions on whether to use intelligent tourism technology in tourism destinations depend entirely on tourists' views on digital privacy protection and security [10,17].

1. Informativeness

Informativeness refers to the integration of the quality and credibility of information provided by STT in tourism destinations. Informativeness includes the quantity and frequency of information and the sincerity and accuracy of information received by all participating users from advanced information and communication technology systems [2].

2. Accessibility

Accessibility refers to the degree to which online travel information sources and services can be easily obtained and used [1,17,18]. Tourists can easily access and use the information provided by destinations by using different types of STT. Jeong and Shin (2019) [10] defined accessibility as the information provided at a destination that individuals can easily access and use by using different types of STT. The high accessibility of STT helps make it feel easy to use; as a result, tourists may use more information and hence enhance their travel experience and satisfaction with their destinations, thus promoting the co-creation experience and becoming one of the important predictors of an unforgettable travel experience [6].

3. Interactivity

Interactivity is defined as a dimension that is characterized by continuous bilateral communication between buyers and sellers—that is, mutual communication between stakeholders [10,19]. No and Kim (2015) [17] defined interactivity as attributes that help to take immediate action, such as real-time feedback and active communication. When individuals use STT, interaction promotes bilateral interaction among stakeholders, and the active participation of users enables STT to provide more applicable and relevant information, which can help effectively search travel information and collect dynamic tourism data, thus helping destination marketers design and provide more tailor-made services. In this regard, the interactivity of STT can promote the discovery and purchase of travel products [2,10].

4. Personalization

Personalization refers to the ability of users to obtain specific or perfect information to meet their needs [17]. Park and Gretzel (2007) [14] defined personalization as personal attention to any product or information, or customization of the product and information. Personalization allows services to be tailor-made to meet travelers' needs, thus improving their perceived service quality. For instance, travel route customization—that is, travel agencies or online smart travel systems responsive to users' personal preferences—can

recommend relevant hotels, restaurants, etc., and guests can choose specific flights, cabins, and hotel rooms and book special car transfers [1,2,10]. Providing personalized service in smart tourism destinations is an effective way to meet tourists' needs and maximize the tourism experience because personalized service allows destinations to customize the information to be provided [10].

5. Security

Security refers to the necessary privacy features for online transactions [1,2,6]. According to Mills and Morrison (2003) [20], security refers to the security of personal information during transactions on travel websites. No and Kim (2015) [17] defined security as an attribute representing the degree to which websites can prove themselves trustworthy in protecting users' personal information. Park and Gretzel (2007) [14] summarized and compared the key evaluation factors used in tourism-related and non-tourism-related network evaluation studies, and described security in the following three ways: information protection during transmission and subsequent storage, security of online purchase or reservation, and privacy confidentiality statements [6]. Security is used to describe website attributes in many fields, such as commercial markets, financial departments, and public institutions, because users are sensitive to the potential use or abuse of personal information provided [2,17]. Protecting personal and private information is an essential function in the technology-mediated environment. If a tourist destination cannot meet its safety and privacy needs, this will seriously affect tourists' willingness to visit the destination [10]. Previous studies have discussed the potential risks of data leakage and imminent issues related to security and privacy, which are key factors that may affect the use of intelligent tourism technology [6,21].

2.2. Travel Experience

The phenomenology of the travel experience by Cohen (1979) [22] marks a turning point in recognizing the diversity in experience, and subsequent research has deepened our understanding of tourist motivations, attitudes, and behaviors [23,24]. This series of studies has consolidated the sociological foundation of tourists and their experiences; tourists have become "producers" and now have technical tools to construct and reconstruct their experiences [25]. This forces companies and destinations to adapt to the new era of travel experience. STT has a variety of functions, such as augmented reality applications and mobile applications, that enable tourists to better connect, learn about information, and have more fun while obtaining higher value, which can greatly improve their experience. It can also improve visitor experience [26,27]. Femenia and Neuhofer (2018) [28] found two important aspects in the research of the tourist experience and network communication technology: the technical intermediary of the experience and the co-creation of the experience through technology. The fusion of the two technologies has produced a "technology-enhanced experience", which is a novel theoretical method that has been combined with cutting-edge smart technology. The previous research laid the foundation for STT and tourism experience in this study. In this study, the research mainly focuses on the three aspects of travel confidence benefit, travel enjoyment, and travel satisfaction in the concept of the tourism experience.

2.2.1. Travel Confidence Benefits

Confidence benefits refer to the psychological comfort brought by the increase of customers' trust in enterprises and the decrease of anxiety after the establishment of a long-term and stable cooperative relationship, which is a type of relationship benefit [29–31]. In addition, confidence benefits represent a feeling of knowing what will happen and solving the problems that will happen [32–34]. The concept can be extended to the tourism industry, and tourism confidence benefits refer to the psychological comfort brought by tourists' increased trust in destinations and their reduced anxiety due to the reduction of uncertainty and strangeness to destinations and the improvement of expectations for service encounters [24–32]. Confidence benefits are highly important to travelers and affect travel-

ers' comfort, security, and certainty of expectation of service results [32]. Bogicevic et al. (2017) [32] found that people's perception of trust in online transactions is expected to have a positive impact on maintaining confidence benefits.

2.2.2. Travel Enjoyment

Travel enjoyment is tourists' emotional evaluation of tourist destinations, and tourists have a positive emotional response when enjoying services or visiting destinations [32,35]. In the context of smart technology, travel enjoyment plays an important role in users' technology acceptance, and tourism enjoyment is considered one of the key prerequisites for technology adoption [32,36,37]. Perceived enjoyment affects people's attitudes toward online shopping, and the quality of online services can change emotional beliefs, such as tourism enjoyment [38,39]. Lai (2013) [40] found that the informativeness and entertainment of mobile tour guides based on applications created a travel enjoyment experience for travelers. Travelers can not only "relieve boredom" while waiting at the airport, but can also increase the pleasure and enjoyment of traveling while interacting with the applications [27,41].

2.2.3. Travel Satisfaction

Satisfaction means tourists' positive evaluation of the psychological state produced by a travel experience [10,32,42]. Tourism satisfaction is defined as the overall emotional evaluation of tourists' experience of a tourism destination, and overall travel satisfaction is the experience result evaluated by function value (i.e., interest sacrifice) and emotion (i.e., feelings of destination experience) [43,44]. Tourist satisfaction is a multi-faceted factor. To measure satisfaction, destination attractiveness and destination image must be considered, and tourists' satisfaction, as an emotional perception, is more suitable to measurement after the visit [32,45–47]. Previous studies on the relationship between a customer's emotional response and satisfaction show that an improvement in satisfaction is the result of expressing a positive emotional response, while a decline in satisfaction is the result of negative emotion [33,48,49]. In addition, many studies have found that satisfaction has a direct impact on behavioral intention [50–53].

2.3. Revisit Intention

Revisit intention refers to an individual's willingness to revisit the same environment or place and recommend the place to others [54]. When an individual has a positive willingness to perform a certain behavior, (s)he often engages in that behavior [8,55,56]. Tourist destinations can be regarded as a tourism product [57]. Tourists who are satisfied with the destination are willing to buy again or recommend the product to others [8,54,58]. Therefore, when tourists are satisfied with the experience of the destination, they may have the intention of revisiting the destination or may actively recommend the destination to relatives and friends, thereby participating in active word-of-mouth exchanges [8,51,59]. In this study, revisit intention refers to the intention or commitment of tourists to revisit the tourist destination and actively recommend it to others.

3. Methodology

3.1. Research Design

This study focuses on exploring tourists' perceived experience with STT in Macau. Specifically, this study addresses the relationship between tourists' travel confidence benefits, travel enjoyment, tourism satisfaction, and revisit intention through the evaluation of their perceived experience. This study combines tourists' perception of intelligent tourism technology experience with tourism experience to explore whether the experience perception of Macau's intelligent tourism technology affects tourists' experience when they travel in Macau. In addition, tourists' travel experiences may have a certain impact on their revisit intentions. Therefore, this study combines the experience of perceived STT with the

tourism experience of Macau tourists (travel confidence benefits, travel enjoyment, and tourism satisfaction) and then explores their intention of revisiting Macau.

3.2. Instrument Development and Research Hypotheses

Based on the perceived STT experience, inspired by No and Kim (2015) [17] and Lee et al. (2018) [2], this paper adds “security” to the four dimensions of perceived STT experience (informativeness, accessibility, interactivity, and personalization) and explores whether security has an impact on the perceived STT experience. This study designed the perceived STT experience variable as a second-order factor from its five attributes (i.e., informativeness) to explore whether the perceived STT experience with second-order factors affects the travel experience (travel confidence benefit, travel enjoyment, and tourism satisfaction). In addition, this study examines whether travel experience affects revisit intention. Therefore, the research conceptual model is established between perceived STT experience, travel experience (travel confidence benefits, travel enjoyment, tourism satisfaction), and revisit intention, which is shown in Figure 1. The following six hypotheses are proposed:

Hypotheses 1 (H1). *Perceived STT experience has a positive impact on tourists’ travel confidence benefits.*

Hypotheses 2 (H2). *Perceived STT experience has a positive impact on tourists’ travel enjoyment.*

Hypotheses 3 (H3). *Perceived STT experience has a positive impact on tourists’ travel satisfaction.*

Hypotheses 4 (H4). *Tourists’ travel confidence benefits have a positive impact on revisit intention.*

Hypotheses 5 (H5). *Tourists’ travel enjoyment has a positive impact on revisit intention.*

Hypotheses 6 (H6). *Tourists’ travel satisfaction has a positive impact on intention to revisit.*

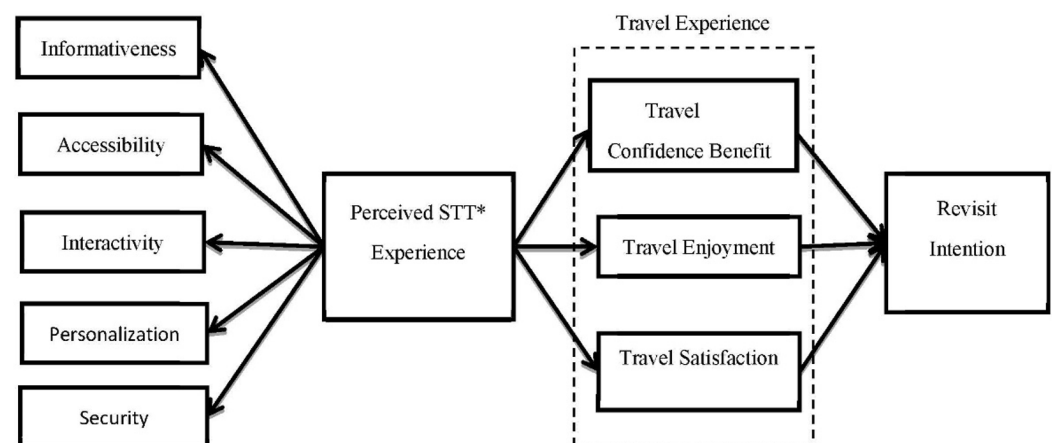


Figure 1. Theoretical model of perceived STT experience (*STT: smart tourism technology).

3.3. Questionnaire Design and Sample Collection

The research data was collected by distributing paper questionnaires to the respondents. As the survey object of this study is tourists who have used Macau’s tourism websites and applications, the respondents were asked whether they have used Macau’s local tourism websites or applications before distributing the questionnaire. The questionnaire is divided into two parts: influencing factors of respondents’ perceptions of STT on revisit intention and demographic characteristics. The first part adopts a seven-point Likert scale, and the demographic data in the second part includes the following points: gender,

age, education level, average monthly income, residence area, average annual travel times, the experience of using electronic mobile devices, the experience of using social software, and occupation. The literature and questionnaire data referenced by the scale of this study are all in the English language, and the main respondents of this questionnaire are Chinese tourists. Therefore, in order to facilitate the respondents to fill in the forms and to collect the data, the final English questionnaire was translated into Chinese under the guidance of professionals, and the measured items and sources after translation are as follows. Before the questionnaire was distributed, respondents were asked orally the question “Have you ever used Macau smart tourism technology application software and webpage?”, and those who meet the requirements were given the questionnaire. A total of 350 questionnaires were distributed, and 312 questionnaires were valid for data analysis since 38 answers were incomplete responses.

4. Results

4.1. Descriptive Analysis

Through the descriptive analysis of the demographic statistics of the research samples, the proportion of male and female respondents is relatively balanced. Most of the respondents were young people, and their ages ranged from 21 to 30 years old (73.4%). The majority of respondents have received a college education, of which 46.2% are undergraduate and 33% are postgraduate. The average monthly income ratio of respondents is relatively average, which indicates that respondents with a range of income levels are the research objects of this study. Most respondents have used electronic mobile devices (73.4%) and online social software (65.7%) for more than six years, indicating that the popularity of mobile devices and social networks is high and that most people use mobile devices in their daily lives. In addition, the interviewees’ occupations involve many fields, indicating that the interviewees cover a wide range of occupations. The results of the demographic data of this study are shown in Table 1.

Table 1. Demographic information (N = 312).

	N (%)		N (%)
Gender		Occupation	
Male	147 (47.1)	Student	109 (34.9)
Female	165 (52.9)	Business	41 (13.1)
Age		Faculty	25 (8)
Under 20	14 (4.5)	Service/manufacture industry	71 (22.7)
21–30	229 (73.4)	Self employed	34 (10.9)
31–40	43 (13.8)	Civil servants	9 (2.9)
41–50	20 (6.4)	Others	23 (7.4)
Over 50	6 (1.9)	Travel frequency	
Education		None	31 (9.9)
High school	16 (5.1)	1–3 times	185 (59.3)
College	49 (15.7)	4–6 times	59 (18.9)
Bachelor	144 (46.2)	More than 6 times	37 (11.9)
Master’s or above	103 (33)	Experience in using smart technology	
Average Monthly Income		1–3 years	9 (2.9)
4000 RMB or below	68 (21.8)	4–6 years	74 (23.7)
4001 RMB–8000 RMB	85 (27.2)	More than 6 years	229 (73.4)
8001 RMB–12,000 RMB	53 (17)	Experience in using online social media	
12,001 RMB–16,000 RMB	58 (18.6)	Less than 1 year	1 (0.3)
16,001 RMB or above	48 (15.4)	1–3 years	12 (3.8)
		4–6 years	94 (30.1)
		More than 6 years	205 (65.7)

4.2. Measurement Model Analysis

Confirmatory factor analysis was examined to assess the measurement model [60]. The measurement model was identified and included reliability, confirmation values of convergent validity, and discriminant validity. First, a reliability test using Cronbach's α was conducted, and the results show that the α coefficients of all factors are greater than 0.8, so the data collected in this study have relatively high reliability [61]. Second, convergent validity was identified using standardized factor loadings, composite reliability, and average variance extracted (AVE). As shown in Table 2, all standardized factor loadings were over the recommended level of 0.60 [62]. The composite reliability values for all the constructs exceeded the 0.80 threshold level of acceptability [63]. In addition, the AVE estimates of all constructs were higher than the recommended value of 0.5 [64].

Table 2. Results of the confirmatory factor analysis.

Items	Cronbach's α	SFL	AVE	CR
<i>Informativeness</i>				
During my Macau travel, tourism websites and apps provide me with useful information about the travel destination and the trip.		0.870		
During my Macau travel, tourism websites and apps are helpful for evaluating the destination and the trip.	0.897	0.866	0.765	0.925
During my Macau travel, I think that local travel websites and apps allow me to complete the trip with the detailed information provided.		0.896		
During my Macau travel, I think that local travel websites and applications can provide all the information I need.		0.845		
<i>Accessibility</i>				
During my Macau travel, I can use tourism websites and apps anytime and anywhere.		0.846		
During my Macau travel, I find tourism websites and apps easy to use.	0.868	0.873	0.717	0.910
During my Macau travel, I can easily find tourism websites and apps.		0.846		
During my Macau travel, I can search without a complicated sign-up process at tourism websites and apps.		0.821		
<i>Interactivity</i>				
During my Macau travel, tourism websites and apps that I use are highly responsive to me.		0.849		
During my Macau travel, tourism websites and apps that I use are interactive.	0.895	0.857	0.704	0.922
During my Macau travel, it is easy to share content on tourism websites and apps.		0.818		
During my Macau travel, tourism websites and apps that I use are interactive.		0.864		
During my Macau travel, tourism websites and apps actively accept my proposals and opinions.		0.807		
<i>Personalization</i>				
During my Macau travel, tourism websites and apps allow me to receive tailored information.		0.885		
During my Macau travel, tourism websites and apps provide me with easy-to-follow paths and links.	0.872	0.923	0.797	0.922
During my Macau travel, the tourism information provided by tourism websites and apps meets my needs.		0.869		
<i>Security</i>				
During my Macau travel, local travel websites and applications will not provide customer information to other sites.		0.911		
During my Macau travel, local travel websites and apps provide adequate security to protect my personal information.	0.934	0.932	0.834	0.953
During my Macau travel, I would feel totally safe providing sensitive information about myself to tourism websites and apps.		0.913		
During my Macau travel, I am confident in the security offered on tourism websites and apps.		0.896		

Table 2. Cont.

Items	Cronbach's α	SFL	AVE	CR
Travel Confidence Benefit				
When traveling in Macau, I believe that the risk of problems in the local travel website and application software is relatively less.	0.756	0.821	0.672	0.860
When traveling in Macau, I can trust local websites and applications.		0.852		
When traveling in Macau, I think that using local travel websites and apps can save me from worrying about safety.		0.785		
Travel Enjoyment				
During my Macau travel, I really enjoy using local travel websites and apps this trip.	0.703	0.808	0.627	0.834
During my Macau travel, the actual process of using the local travel website and application software is very pleasant.		0.838		
During my Macau travel, I think the local travel websites and apps are very interesting.		0.726		
Travel Satisfaction				
During my Macau travel, I feel that this trip has enriched my life. I am really glad I had this trip.	0.907	0.858	0.728	0.930
During my Macau travel, I accomplished the purpose of the vacation. This experience has enriched me in some ways.		0.837		
During my Macau travel, it was rewarding to me in many ways. I feel much better about things and myself after this trip.		0.829		
During my Macau travel, I was satisfied with the travel experience. It is a wise choice for me to travel to Macau.		0.873 0.867		
Revisit Intention				
I will revisit Macau.	0.830	0.860	0.665	0.887
Revisiting Macau would be worthwhile.		0.831		
I would positively recommend this city to other people.		0.863		
I would like to stay more often in Macau.		0.695		

Table 3 shows the results of discriminant validity. When the square root scores of all the constructs' AVEs are higher than the correlated constructs, the results indicate adequate discriminant validity [64]. From Table 3, this study shows adequate discriminant validity.

Table 3. The results of discriminant validity.

	ACC	INF	INT	PER	RI	SEC	TCB	TE	TS
ACC	0.847								
INF	0.585	0.874							
INT	0.613	0.549	0.839						
PER	0.547	0.479	0.599	0.893					
RI	0.286	0.267	0.182	0.222	0.815				
SEC	0.251	0.288	0.364	0.393	0.277	0.913			
TCB	0.307	0.269	0.239	0.327	0.625	0.428	0.820		
TE	0.290	0.229	0.226	0.303	0.481	0.315	0.528	0.792	
TS	0.391	0.441	0.347	0.438	0.586	0.364	0.502	0.422	0.853

ACC: Accessibility, INF: Informativeness, INT: Interactivity, PER: Personalization, RI: Revisit Intention, SEC: Security, TCB: Travel Confidence Benefit, TE: Travel Enjoyment, TS: Travel Satisfaction.

4.3. Structural Model and Hypotheses Testing

This study is a second-order model hypothesis, in which the perceived STT experience is the second-order variable. This part analyzes the first-order variables in the perceived STT experience first and tests whether all the first-order variables are relevant to the second-order variables and whether they conform to the dimensions that constitute the STT experience. Path coefficient, *t*-value, and *p*-value of first-order variables are obtained by

the bootstrapping calculation method of SmartPLS 3.0, which can be used to measure the support degree of first-order variables for a second-order model hypothesis. Among them is the method to judge the importance of the path: if the path coefficient of the variable is greater than 0.2, it shows that the path is of certain importance; when the t -value of the path is greater than 1.96 and the p -value is less than 0.05; when the t -value of the path is greater than 2.58 and the p -value is less than 0.01, or the t -value of the path is greater than 3.29 and the p -value is less than 0.001, the research model indicates that the path coefficient is relatively significant [65]. Detailed results of the first-order variable path coefficient analysis in this study are shown in Table 4.

Table 4. The first-order path test results.

Relationship	Path Coefficients	t -Value	p -Values
INF → PSTTE	0.269	23.938	0.000
ACC → PSTTE	0.262	23.514	0.000
INT → PSTTE	0.326	25.188	0.000
PER → PSTTE	0.221	23.84	0.000
SEC → PSTTE	0.230	12.859	0.000

INF: Informativeness, ACC: Accessibility, INT: Interactivity, PER: Personalization, SEC: Security, PSTTE: Perceived STT experience. Recommend value: $t > 1.96$, $p < 0.05$, $t > 2.58$, $p < 0.01$, $t > 3.29$, $p < 0.001$.

All the first-order variables reached the standard coefficient values. The results show that the five first-order variables are meaningful to the second-order model hypothesis, and all five first-order variables can be substituted into the second-order variable-aware intelligent tourism technology experience to further test the model hypothesis of this study. Among them, the interaction among the first-order variables has the most significant influence on the perceived experience of intelligent tourism technology (path coefficient = 0.326, t -value = 25.188, p -value = 0.00), which indicates that the respondents have a high recognition of the interaction of the perceived STT experience; compared to other first-order variables, personalization has a relatively weak influence on the perceived STT experience (path coefficient = 0.221, t -value = 23.84, p -value = 0.00), which indicates that the respondents have a relatively low degree of personalized recognition for the perceived STT experience. After the path analysis of the data samples, the results show that the six model assumptions of this study are all supported, with the significant path of H3 being highest while H5 is relatively weak. The results are shown in Table 5 and Figure 2 below.

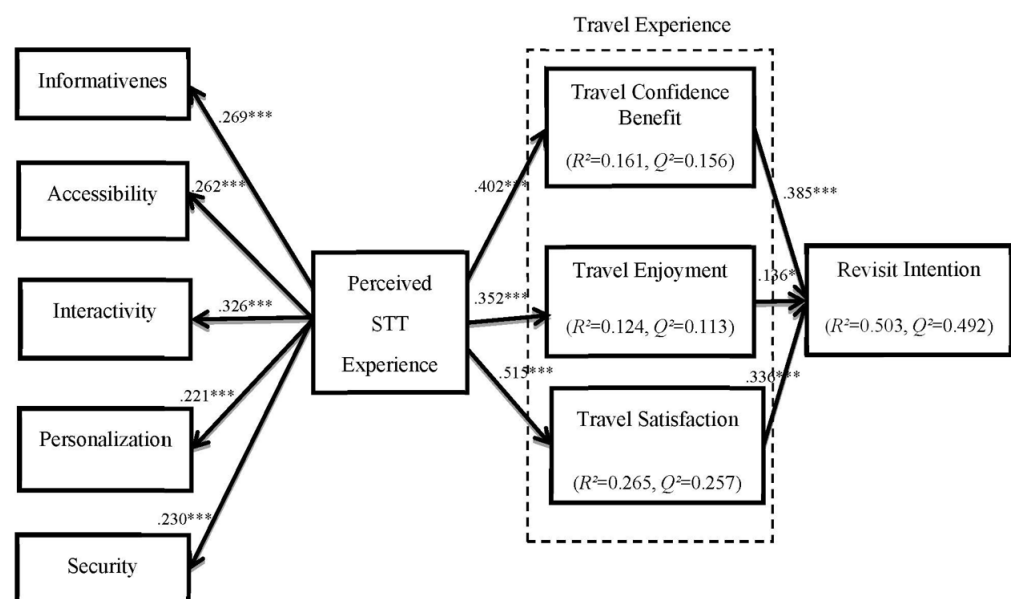


Figure 2. Structure model analysis of the sample. * $p < 0.05$; *** $p < 0.001$.

Table 5. Path analysis results.

Hypothesis	Path Coefficient	t-Value	p-Values	Result
H1: PSTTE → TCB	0.402	8.439	0.000	Supported
H2: PSTTE → TE	0.352	6.908	0.000	Supported
H3: PSTTE → TS	0.515	11.063	0.000	Supported
H4: TCB → RI	0.385	7.600	0.000	Supported
H5: TE → RI	0.136	3.094	0.002	Supported
H6: TS → RI	0.336	6.276	0.000	Supported

PSTTE: Perceived STT experience, TCB: Travel Confidence Benefit, TE: Travel Enjoyment, TS: Travel Satisfaction, RI: Revisit Intention. Recommend value: $t > 1.96, p < 0.05$; $t > 2.58, p < 0.01$; $t > 3.29, p < 0.001$.

5. Conclusions and Suggestions

5.1. Conclusions

The primary purpose of this research is to understand the attributes of perceived STT experience and examine the relationships between tourists' perceived STT experience, tourism experience (i.e., travel confidence benefit, tourism enjoyment, and travel satisfaction), and revisit intention. First, the perceived STT attributes can be used to measure the experience of STT, and the degree of significance in descending order is as follows: interactivity, informativeness, accessibility, security, and personalization. In detail, according to the comparison of analysis results on the dimensions of perceived STT, travelers have the highest degree of recognition for interactivity when using STT. Based on the results, the following practical suggestions are given to developers of STT programs or websites: When designing and developing related software programs or websites, it is important to pay more attention to the customized service performance and design more diversified services and experiences to meet travelers' needs. In addition, technology managers should also carefully consider the user's privacy and security protection at this point and design a smart travel program or website that better meets the expectations of tourists. Second, according to the research results between perceived STT experience and travel experience (H1, H2, and H3), perceived STT experience has a positive impact on travel experience (travel confidence benefit, travel enjoyment, and tourism satisfaction). First, in the relationship between STT experience and travel confidence benefits (H1), as perceived STT experience has an influence on travel confidence benefits, travelers with perceived STT experience can elevate the confidence benefits of travelers when they travel to unfamiliar tourist destinations. Second, as perceived STT experience has a positive influence on travel enjoyment (H2), travelers might have a more enjoyable travel when they possess a higher STT experience. Among three travel experiences, tourism satisfaction (H3) showed the highest impact, and this result shows that perceived STT experience can lead travelers with higher satisfaction. According to the research results of H1, H2, and H3, the following suggestions are given: The promotion of STT can improve the tourism experience of Macau. For example, the promotion of local smart tourism websites or application software could be increased. Tourists obtain the services they need through travel apps or websites to replace traditional manual services, which not only enhances the sense of participation of tourists but also saves labor costs and reduces travel costs. Previous studies have found that a high-quality intelligent tourism technology experience shows greater satisfaction with service experience, which makes tourists feel positive or satisfied in their overall travel evaluation [6,14,15]. According to the research results between travel experience and revisit intention (H4, H5, and H6), travel enjoyment, travel confidence benefit, and tourism satisfaction have a positive impact on revisit intention. Interestingly, the results revealed that travel confidence benefit is the most powerful factor that impacts on travelers' revisit intention (H4) followed by travel satisfaction (H6) and travel enjoyment (H5). As travel confidence benefit represents the psychological relief by increasing travelers' knowledge, more prepared travel might be important for more travel intention. Although travel enjoyment showed the least impact on travel intention, travel enjoyment through higher technology adoption can enhance more travel intention. Inspired by this, the following suggestions are

given: Macau's travel agencies can launch appropriate smart tourism activities according to the needs and ideas of tourists and local conditions. For example, when consuming at tourist sites such as scenic spots or restaurants, if travelers immediately make online photographic reviews of that place, they can enjoy discounts or get small gifts. As we all know, electronic word-of-mouth spreads rapidly, and people can read relevant reviews of these tourist destinations on the internet anytime and anywhere. Tourists who intend to travel to Macau or have been to Macau may be inspired by these attractive photographic reviews and want to go to or revisit Macau.

5.2. Study Limitations and Future Directions

The location of the survey was in Macau. The majority of tourists in Macau come from mainland China, resulting in a relatively homogeneous sample in this study. It is recommended that future studies prepare questionnaires in multiple languages and enrich the sample types, covering different regions such as other Asian countries, North America, Europe, and the Middle East so as to increase the research sample variety. Second, there has been no further analysis or comparison of different types of demographic characteristics. Respondents of different genders, age groups, regions, lengths of experience in using smart technology, and occupations may have different attitudes to the STT experience. Future research can analyze the demographic characteristics of the interviewees and compare them horizontally and vertically to further understand any differences between different types of tourists with the STT experience. Lastly, this research only involves three aspects of the tourism experience: travel confidence benefit, travel enjoyment, and tourism satisfaction. Although there are certain limitations to the representativeness of this tourism experience research results, future research should continue to investigate other aspects of the tourism experience.

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