

The Influence of Smart Tourism Technologies (STTs) Attributes on Domestic Tourists' Travel Satisfaction and Revisit Intention: Evidence from Bali

Wang Qian, Ismail Halidin and Faiz Izwan Anuar

Faculty of Hotel and Tourism Management, Universiti Teknologi MARA, 42300 Puncak Alam, Selangor, Malaysia

Corresponding Author Email: faizwanuar@uitm.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v13-i5/17053> DOI:10.6007/IJARBSS/v13-i5/17053

Published Date: 03 May 2023

Abstract

Rapid advancement of Smart Tourism Technologies (STTs) creates new potential for tourism development. STTs are being used by more tourism destinations to attract more tourists and enhance their trip experience. Even though STTs are gaining popularity, little study has been done to assess tourists' travel satisfaction and experiences, especially on tourist' engagement, interaction and experience with using STTs applications, and websites available and offered at the destination. This study aims to examine Indonesian tourists' travel satisfaction and their intention to revisit the destination affected by STTs attributes namely informativeness, accessibility, interactivity, and personalization. Furthermore, this study attempts to measure the mediating effect of travel satisfaction towards the relationship of STTs attributes and revisit intention to Bali, Indonesia. Convenience sampling was used in this study and the analysis relied on data from 250 tourists who visited Bali between 2017 and 2021. Findings suggest that personalization is the main factor that affected tourists' travel experience and intention to revisit while informativeness, accessibility, and interactivity did not have a direct link with the intention to revisit. Interestingly, the STTs attributes have a positive significant relationship with tourists' travel satisfaction. Additionally, tourists' travel satisfaction positively mediates the relationship between STTs attributes and tourists' intention to revisit. The finding of this research provides an understanding and knowledge that the attribute of personalization in STTs application is vital to influence tourists' satisfaction and intention to revisit. The findings of the study suggested that tourism destinations could improve tourists' experiences by designing better tourism products and services that incorporate the key dimensions of personalization in their smart technologies applications to improve their competitiveness.

Keywords: Smart Tourism Technologies, Travel Satisfaction, Revisit Intention, Personalization

Introduction

The tourism industry has seen rapid growth in Indonesia. According to Statistics Indonesia (BPS), the number of tourist arrivals in Indonesia from January to June 2022 reached 743,210, an increase of nearly 930% compared to the same period in 2021 (Indonesia Window, 2022). It is expected that the number of tourist arrivals will continue to increase, and Indonesia's Minister of Tourism and Creative Economy has said that the Ministry is targeting to draw about 3.5 to 7.4 million tourists to Indonesia in 2023 (Antara, 2022), especially to its 'smart cities' like Jakarta, Bandung in West Java province, and Surabaya in East Java province.

By 2045, the government aims to create 100 truly smart cities in Indonesia which have been touted as the solution for various urban problems, including connectivity, pollution, housing, traffic, water quality, etc. The smart city initiative includes Indonesia's new capital, Nusantara – a US\$35 billion investment to build a smart city from scratch. The relocation of the new capital from Jakarta to East Kalimantan province is expected to embody the idea of a smart city. The capital is said to be four times larger than its predecessor, a low-carbon and greener superhub that supports healthcare and is technologically more connected while providing its citizens with a better way of life. In addition, this initiative is regarded as an alternative strategy to grow urban tourism (Aprinawati & Prayogo, 2022), elevates tourism resources, enhance the quality of life and improves communication (Um & Chung, 2021), support marketing and delivery of tourist product and services at destinations (Lee et al., 2021) and emphasized as a holistic approach that is effective and efficient in the new normal era (Gelter et al., 2022).

At present, there are about 75 cities in Indonesia that are actively involved in the development of smart cities, and it is expected that 70% of the country's population will live in smart cities by 2025 (Azis et al., 2020). In addition, Mahesa et al (2019) elaborated that although the importance of information technology in the tourism industry has caused many smart cities to upgrade their infrastructure to enhance tourists' experiences, a holistic model that understands tourists' decision-making process in the Indonesia context is still lacking in tourism literature. Nevertheless, the Ministry of Tourism and Creatives Economy Indonesia is planning on developing more tourism destinations in Indonesia that are based on the concept of Smart Tourism aiming to adapt to the characteristics of domestic and foreign tourists who use technology extensively while travelling.

Literature Review**Smart Tourism**

Smart tourism is an illustration of the increasing dependence of tourism destinations and tourists on the types of Information, Communication and Technology (ICT) that is currently available at the destination. which allows large amounts of data to be transformed into a value proposition (Gretzel et al., 2016). In addition, Gretzel et al (2015) suggested that smart tourism can improve the tourism sector with different strategies, namely by involving product innovation, tourism services, and tourism destination management. As a concept, smart tourism is described in terms of the collection and aggregation of information from tourist operators, infrastructures and individuals relevant to a particular destination through technological tools and smart devices. This information is then digitized, creating a commercial and human value for tourists who visit a destination with a focus on sustainability, experiences and efficiency (Chen et al., 2021; Gretzel et al., 2015; Um & Chung, 2021; Ye et al., 2021).

Smart Tourism Technologies (STTs)

Smart Tourism Technologies (STTs) are specialized tools, products, and services that can add value by building higher levels of connectivity, interaction, personalization, and co-creation between tourists and destinations (Azis et al., 2020). In addition, STTs can also be referred to as certain travel applications that can enhance the tourist experience and create added value for its users, tourists, tourism locations, and service providers. Social media platforms, travel websites, cloud computing, big data, Internet of Things (IoT), artificial intelligence (AI), virtual reality (VR), augmented reality (AR), mixed reality, near-field communication (NFC), radio frequency identification (RFID) are examples of STTs that is used extensively in tourism (Kim et al., 2021). Ultimately, STTs are used and adopted to improve the visitor experience, which has an impact on the tourism industry's growth (Huang et al., 2017).

An increasing number of tourist attractions have adopted smart technologies to enrich the tourism experience. By adopting these technologies, tourist attractions become 'smart' by implementing smart technology to increase competitiveness (Shen et al., 2020). Also, tourists use available STTs to assist their decision-making, such as organizing travel itineraries and plans on their smartphones, interacting with other tourists on mobile travel applications, and sharing their tourism experiences on social media platforms.

Smart Tourism Technologies (STTs) Attributes

Most studies have defined STTs and agreed that STTs are multidimensional structures. A study conducted by Huang et al (2017) summarized four key attributes of STTs namely informativeness, accessibility, interactivity, and personalization. Similarly, Yoo et al. (2017) found that characteristics of STTs such as information quality, source credibility, interactivity, and personalization have a positive influence on travel decisions. Their findings suggested that information quality, interactivity, and accessibility influence the travel decision-making process and lead to tourists' travel decisions and satisfaction.

In the same view, Jeong and Shin (2020) asserts that there are three attributes of STTs which are key factors that can affect tourist experience, satisfaction, and revisit intention. The attributes are informativeness, interactivity, and personalization. Informativeness is a combination of, quality, credibility, and accuracy of information provided by STTs related to tourism information. Furthermore, when STTs provide relevant, adequate, and accurate information about a tourism activity, lodging, and transportation, for example, informativeness can stimulate tourists' rational judgments and can help them make more efficient decisions. Interactivity is a reciprocal communication between stakeholders and tourists related to tourism or others. With the availability of STTs, almost everyone is allowed to provide a review, feedback, and opinion related to their experience at the destination. The reviews help other tourists to make comparisons between a product and the available services.

Similarly, Pai et al (2020) also indicated that accessibility is an important factor in influencing the experience of STTs. Accessibility is the ease with which a person can access and obtain information available in a tourist destination by using STTs (Jeong & Shin, 2020). Furthermore, with the availability of STTs infrastructure, it can determine the behaviour of tourists when they are at a destination because most of today's tourists prefer to seek information about a destination, lodging, transportation, and other needs due to the ease of access (Pai et al., 2020). Moreover, the availability of personalized services between stakeholders and tourists will provide a two-way communication process. Personalization can provide detailed information according to the needs of tourists so that they can improve and maximize the

tourist experience while travelling (Jeong & Shin, 2020). Realizing the important attributes of STTs, it is important to identify key attributes of STTs that truly affected tourists' travel satisfaction and experience regarding the future smart tourism destination development in Indonesia. Despite these promising results and findings from various scholars, questions remain in terms of which STTs attributes can influence tourists' travel satisfaction and experience the most and how their travel experience and satisfaction can influence future behavioural intention to revisit.

Tourists' Travel Satisfaction

Travel satisfaction could be the experience result judged by function value (i.e., interest sacrifice) and emotion. Pai et al (2021) define travel satisfaction as the overall emotional appraisal of tourists' experience of a tourist destination. Tourists' satisfaction with travel and services is emphasized because a good service can provide satisfaction to tourists when they need constant service. If tourists are satisfied and get a good experience in terms of quality, comfort, and relevance has been provided by stakeholders, tourists will have positive attitudes and feelings not only towards the whole trip but also the image of a destination (Lee et al., 2018).

The tourism industry's experiential character allows each traveller to have a unique experience based on his or her experiences with and sentiments about STTs. Even if each tourist may participate in similar activities at the same location, the memorability of his or her experiences differs, resulting in a distinct assessment of his or her trip. Considering the importance of creating a tourist experience and the demand for information technology, hotels, and tourism entities in smart tourist destinations, it is very important to build STTs to facilitate tourists so that they can produce more meaningful trips (Jeong & Shin, 2020).

Shin et al (2021) examined the influence of STTs and travellers' technology readiness on satisfaction and future behavioural intention. Their study found that individuals' positive evaluation of their experience is characterised as satisfaction, which represents an individual's perceived quality of the product or service in the context of consumer behaviour. In the technology adoption literature, satisfaction or an individual's favourable appraisal or reaction to the technology has been a key concept. In addition, Abubakar et al (2017); Jeong and Shin (2020) also found that satisfaction mediates the association between an individual's positive future actions, such as revisiting and spreading the word, through mediating the relationship between experience and favourable future behaviours, such as revisit intention and electronic word-of-mouth. Even under identical conditions (e.g., the same STTs at the same destination at the same time), travellers' levels of pleasure would vary depending on their characteristics. Travellers who are not ready to use STTs at their destination, for example, may not value the STTs that are offered, so STTs cannot be used to anticipate their contentment (Shin et al., 2021).

Intention to Revisit

The concept of behavioural intentions can be captured by a tourist's willingness to revisit and engage in word-of-mouth (WOM) communications (Wang & Hsu, 2010). When tourists are pleased with their experience at a destination, they may plan to return or actively recommend the destination to relatives and friends, so participating in active WOM exchanges (Williams & Soutar, 2009). A person's intention is understood as a position in considering something such as the intention to revisit a place. The intention is also understood as a cognitive state that can reflect a person's plan to buy a certain product, service, or service within a certain

period. The notion of a revisit or post-visit activity is included in behavioural intentions (Rini et al., 2021). As a result, tourist intention to revisit might be viewed as a person's anticipated future travel behaviour.

With the above as the background, the present study intends to achieve the following research objectives. The study aims to examine the causal relationship between the STTs attributes and tourists' revisit intention to the island of Bali, Indonesia through the mediating effect of tourists' travel satisfaction. Importantly, the significant contribution of this study is to better understand the relationship between STTs attributes, tourist satisfaction, and behavioural intention which may contribute to developing a constructive theory on STTs. Furthermore, the findings of the study may assist destination marketers and managers in further improving their destination competitiveness through STTs.

Hypothesis Development

Impact of STTs and Tourists' Intention to Revisit

Johnson and Samakovlis (2019) emphasize that a smart city tourism destination must build advanced technologies to create tourist experiences and interconnected tourist experiences. Most of the scholars have formed a consensus and similar conclusion that tourists' use of STTs can affect revisit intention and intention to recommend. Chen and Rahman (2018) conducted a study of American tourists who had visited several cultural centres and concluded that tourists' use and experience with STTs affect their revisit intention and intention to recommend. Further, Jeong and Shin (2020) also showed that gaining memorable experiences through using STTs enhances tourists' satisfaction and revisit intention. Also, another study conducted by Kim (2018) on tourists in Taiwan who had come from China, Hong Kong, Macao, Japan, South Korea, and the United States, concluded that memorable experiences with STTs have a positive impact on tourists' satisfaction and revisit intention. Based on the classification of STTs attributes (Huang et al., 2017; No & Kim, 2018), this research explores the value resulting from and generated by four features—i.e., information, accessibility, interactivity, and personalization as perceived by tourists. Based on this argument, this study proposed the following hypotheses:

- H1. STTs Attributes have a significant impact on tourists' intention to revisit.
- H1a. Informativeness has a significant impact on tourists' intention to revisit.
- H1b. Accessibility has a significant impact on tourists' intention to revisit.
- H1c. Interactivity has a significant impact on tourists' intention to revisit.
- H1d. Personalization has a significant impact on tourists' intention to revisit.

Tourists' Travel Satisfaction and Intention to Revisit

Jeong and Shin (2020) suggested that good tourism activities and services provided to tourists will make them tend to feel satisfied and have a positive experience. In a smart tourism environment, STTs will supply tourists and travel service providers with relevant travel information, allowing for smarter decision-making, increased mobility, and ultimately more entertaining travel experiences (Cuong & Duy, 2020). Based on the theory of "cognition–emotion–intention," Sun et al (2020) demonstrated that tourist travel satisfaction directly affects behavioural intention. Based on this discussion, this study postulates the next hypotheses:

- H2. Travel Satisfaction significantly impacts tourists' intention to revisit.

H3. Travel Satisfaction mediates the relationship between STTs attributes and tourists' intention to revisit.

Research Methodology

Due to the situation of the COVID-19 pandemic, where international tourism has been suspended in many parts of Indonesia, the study focuses on domestic tourists visiting Bali as the population of the study. The study abandoned the initial idea of face-to-face interviews and opted for a combination of both online and offline questionnaire data collection. The method of quantitative survey was adopted for data collection to achieve better generalizability and representativeness of domestic tourists visiting Bali.

To expedite the data collection process, a web-based online questionnaire was developed, which consisted of eight demographic items, six screening questions and twenty-four (24) questions with a seven-point Likert scale. The questionnaire was adapted from previous research based on the variables constructed and modified to suit the setting of this study. The questionnaire was disseminated through online social media platforms such as Facebook, WhatsApp, LinkedIn, Travel Agents' Facebook/WhatsApp group, and travellers' group. Domestic tourists who visited Bali at least once within the last five years (2017-2021) were selected as respondents through convenience sampling. The data were collected in June 2021. The first section of the questionnaire consisted of an informed consent form and several screening questions such as type of trip, how long is the trip duration, and what type of STTs application and website they used throughout their trip. Before answering the questionnaire, the respondents were asked to read the definition of STTs to make a better understanding of what STTs were. The questionnaire listed nine different STTs applications or websites such as travel applications, lodging applications, mobile payment, city guides, online travel agent websites, and charging stations from which the respondents could check the ones they used at the destination.

Descriptive Findings

Following the screening, a total of 250 valid questionnaires were obtained. Table 1 below presents the tourists' demographic profile which depicts the information about gender, marital status, age, occupation, education level, income, year of visit and type of smart devices used when travelling. The sample consisted mainly of males (152 or 61%) from the age group of 20-30 (148 or 59%). Most respondents were single, employed, and educated, with a monthly income of Rp 1.500.000 – Rp 5.000.000 (134 or 57%). The type of STTs that the respondents mostly used while travelling in Bali were Muslim travel applications (*Halal Trip, Muslim Pro, Umma*), lodging applications (*Airbnb, Traveloka, Pegi-Pegi*), online payment applications (*Ovo, Dana, Gopay*). Interestingly, only several respondents used city guide apps (*Bali Bible*), online travel agent websites (*Nusatrip, via.com*), charging stations, food ordering applications and travel route applications.

Table 1
Tourists' Profile

Respondents Profile	Item	n.	%
Gender	Male	152	61%
	Female	98	39%
Marital Status	Married	108	43%
	Single	142	57%

Age	Under 20	6	2%
	20-30 years old	148	59%
	31-40 years old	69	28%
	41-50 years old	27	11%
Occupation	Student	52	21%
	Lecturer	32	13%
	Employee	107	43%
	Self-employed	39	17%
	Civil Servant	20	8%
Education Level	Hight School	21	8%
	Diploma	2	1%
	Bachelor's degree	147	59%
	Post Graduate Degree	64	26%
	Doctorate/Professional	16	6%
Monthly Income	< Rp 1.500.000	38	15%
	Rp 1.500.000 – Rp 5.000.000	134	57%
	Rp 5.000.000 – Rp 10.00.000	66	26%
	>Rp 10.000.000 or more	12	5%
Year of Visit	2017	34	14%
	2018	44	18%
	2019	83	33%
	2020	27	11%
	2021	62	25%
Types of Smart Devices	Smartphone	163	65%
	Tablet	45	18%
	Camera	33	13%
	Smartwatch	9	4%

Analysis and Results

Partial Least Squares-Structural Equation Modelling (PLS-SEM) analysis was employed to test the research models. PLS-SEM was chosen due to the nature of the predictive explanatory which fits the context of the models in this study (Henseler et al., 2018) as well as the small sample size ($n = 250$). PLS-SEM can analyse both direct and indirect relationships to predict dependent latent variables (Cepeda-Carrion et al., 2019). Since the models in the study incorporate first-order latent variables and second-order (multidimensional) variables, estimating these multidimensional constructs requires the implementation of a two-stage approach that PLS can deliver effectively.

PLS-SEM Results

This study performed PLS-SEM analysis for two models. Model 1 examined the influence of STTs attributes as individual latent constructs (i.e., informativeness, accessibility, interactivity, and personalization) on the intention to revisit while Model 2 evaluated the link between STTs attribute as a higher-order construct with tourists' intention to revisit. Both models tested the mediating effect of travel satisfaction between the STTs attributes and intention to revisit.

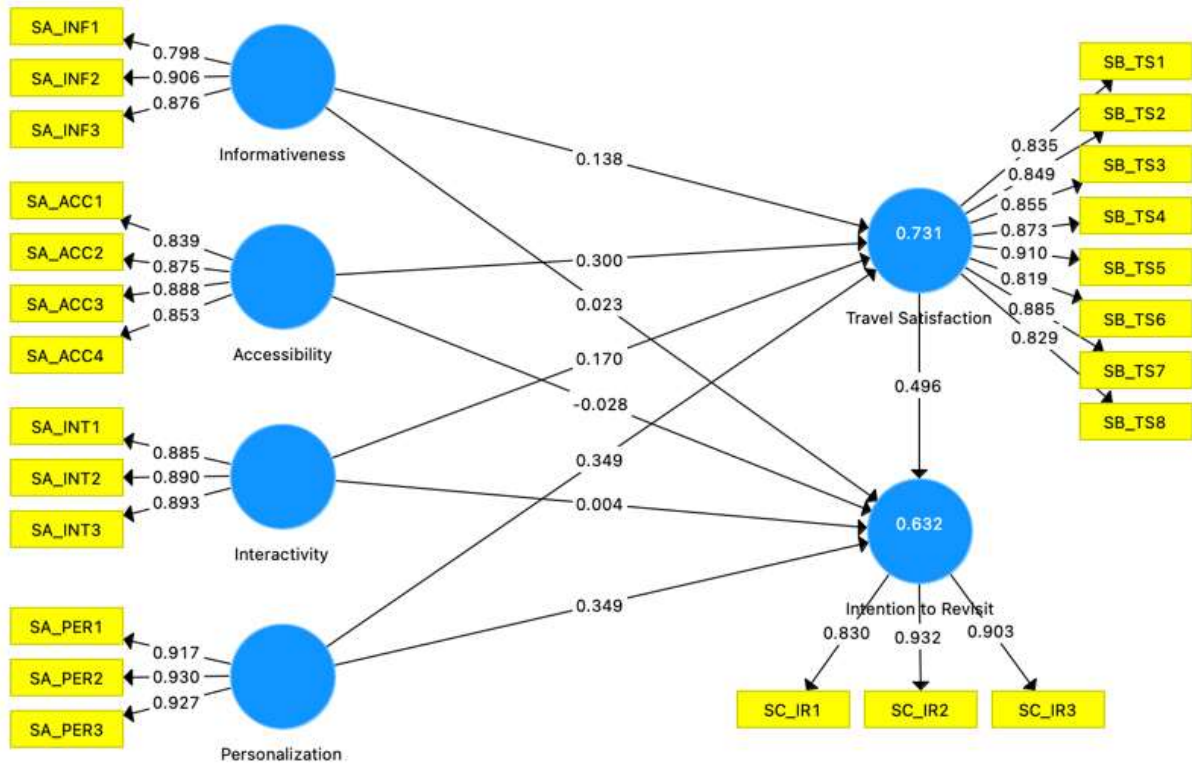


Figure 1: Model 1

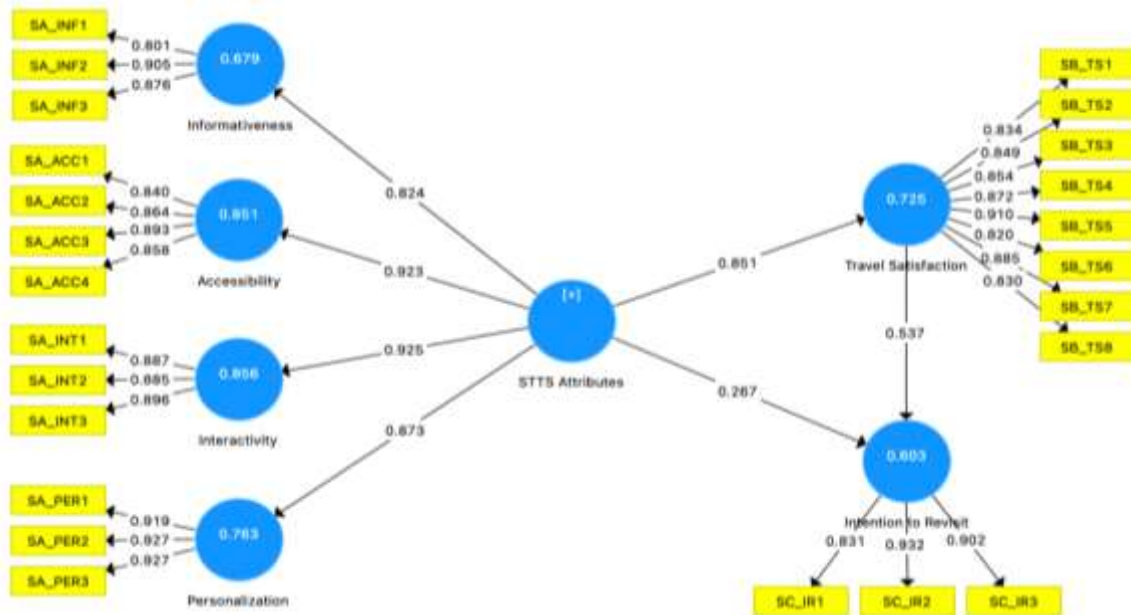


Figure 2: Model 2

Measurement Model Results

Model 1 measurement results are presented in Table 2. Examining the convergence validity, this study reported the outer loadings and average variance extracted (AVE) values. Table 2 and Figure 1 depict the statistical values and model illustrations, respectively. As illustrated in Figure 1, all outer loadings in Model 1 are larger than .708, a benchmark indicator for a good outer loading. The AVE values for all six constructs were larger than .500. The values of internal consistency reliability coefficients (i.e., composite reliability, rho A, and Cronbach's alpha values) were all within the threshold suggested by Hair et al (2019), indicating that Model 1 has a good fit. See Table 2 for more details about the measurement results of Model 1.

Table 2

Reflective Measurement Model Results of Model 1

Latent Constructs	Indicators	Convergence Validity		Internal Consistency Reliability		
		Outer Loadings	AVE	Composite Reliability	ρ_A	Cronbach's Alpha
Informativeness	INF1	.798	.742	.896	.843	.826
	INF2	.906				
	INF3	.876				
Accessibility	ACC1	.839	.746	.922	.889	.887
	ACC2	.875				
	ACC3	.888				
	ACC4	.853				
Interactivity	INT1	.881	.791	.919	.868	.868
	INT2	.891				
	INT3	.896				
Personalization	PER1	.917	.855	.946	.918	.915
	PER2	.930				
	PER3	.927				
Travel Satisfaction	TS1	.835	.735	.957	.949	.948
	TS2	.849				
	TS3	.855				
	TS4	.873				
	TS5	.910				
	TS6	.819				
	TS7	.885				
	TS8	.829				
Intention to Revisit	IR1	.830	.791	.919	.890	.868
	IR2	.932				
	IR3	.903				

Assessing the goodness of fit in Model 2 (see Figure 2), we examined the measurement model results tabulated in Table 3. The outer loadings for indicators reflective of STTs attributes were larger than .600. AVE values for the three constructs (i.e., STTs attributes, travel satisfaction, and intention to revisit) in Model 2 were also larger than .500, indicating that the model has satisfied the requirements for convergence validity. Evaluating the reliability, we examined the composite reliability, rho A, and Cronbach's alpha values. All values are larger than .700,

suggesting that the model has achieved the reliability threshold. See Table 3 for more details about the measurement results of Model 2.

Table 3
Reflective Measurement Model Results of Model 2

Latent Constructs	Indicators	Convergence Validity		Internal Consistency Reliability		
		Factor Loading	AVE	Composite Reliability	ρ_A	Cronbach's Alpha
STTs Attributes	INF1	.600	.618	.954	.950	.948
	INF2	.738				
	INF3	.774				
	ACC1	.798				
	ACC2	.783				
	ACC3	.808				
	ACC4	.798				
	INT1	.849				
	INT2	.797				
	INT3	.821				
	PER1	.795				
	PER2	.822				
	PER3	.806				
Travel Satisfaction	TS1	.835	.735	.957	.949	.948
	TS2	.849				
	TS3	.855				
	TS4	.873				
	TS5	.910				
	TS6	.819				
	TS7	.885				
	TS8	.829				
Intention to Revisit	IR1	.830	.791	.919	.890	.868
	IR2	.932				
	IR3	.903				

Achieving satisfactory results for the measurement models, the study then compared the structural model results for Model 1 and Model 2 (see Table 3 for the result summary). Both models show a strong explanatory power which was indicated by a large R-square ($R^2 > .60$) and large $Q^2 (> .40)$.

Table 4

Model 1 and Model 2 Comparison for Direct Effects

	Model 1*				Model 2*			
	β	<i>t</i>	<i>p</i>	f^2	β	<i>t</i>	<i>p</i>	f^2
STTS Attributes					.267***	3.616	.000	.049
Informativeness	.023	.337	.736	.001				
Accessibility	-.028	.218	.828	.001				
Interactivity	.004	.050	.960	.000				
Personalization	.349**	3.118	.002	.102				
Travel Satisfaction	.496***	5.879	.000	.180	.537***	7.045	.000	.200
R^2	.632				.603			
Q^2	.483				.467			

*Effects examined on Intention to Revisit; ** $p < .01$; *** $p < .001$

Furthermore, Table 4 also highlights the significant path coefficients. In Model 1, the four latent constructs were individually linked with tourists' intention to revisit—without the presence of the second-order construct. The study found only one direct significant link between personalization on intention to revisit ($\beta = .349$, $t = 3.118$, $p < .01$). However, informativeness, accessibility, and interactivity did not have a direct significant effect on the intention to revisit. Interestingly, in Model 2, the higher order construct STTs attributes had a significant link with the intention to revisit ($\beta = .267$, $t = 3.616$, $p < .001$). The significant path coefficient in Model 2 indicates the presence of indirect effects in Model 1.

Table 5

Model 1 and Model 2 Comparison for Indirect Effects

	Model 1*			Model 2*		
	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>
STTS Attributes				.457***	6.755	.000
Informativeness	.068*	2.182	.029			
Accessibility	.149**	3.001	.003			
Interactivity	.084*	2.074	.038			
Personalization	.173***	4.785	.000			

*Travel Satisfaction was the mediating construct; * $p < .05$; ** $p < .01$; *** $p < .001$

Table 5 tabulates the results of indirect effects for both models. The path coefficients clearly show significant indirect effects between the four latent constructs and the intention to revisit. Specifically, travel satisfaction significantly mediated the linkages of accessibility ($\beta = .149$, $t = 3.001$, $p < .01$) and personalisation ($\beta = .173$, $t = 4.785$, $p < .001$) with tourists' intention to revisit. The mediating effects of travel satisfaction towards the relationships between informativeness ($\beta = .068$, $t = 2.182$, $p < .05$) and interactivity ($\beta = .084$, $t = 2.074$, $p < .05$) were also significant; however, the path coefficients were rather small. These results confirmed the role of travel satisfaction as a mediating construct in both Model 1 and Model 2.

Hypothesis Testing

Table 6 demonstrates the results of the study. Importantly, STTs attributes have a significant positive effect on tourists' intention to revisit ($\beta = .267, p < .001$). Out of the four STTs attributes, only personalization has a significant positive impact on tourists' intention to revisit ($\beta = .349, p = .002$). Similar relations are also observed regarding tourists' travel satisfaction on intention to revisit ($\beta = .496, p < .001$). Importantly from both models, we further found that tourists' travel satisfaction mediates the relationship between STTs attributes and tourists' intention to revisit.

Table 6

Hypothesis Testing

	β	t	p	Results
H1: STTS Attributes → Intention to Revisit	.267***	3.616	.000	Supported
H1a: Informativeness → Intention to Revisit	.023	.337	.736	Not Supported
H1b: Accessibility → Intention to Revisit	-.028	.218	.828	Not Supported
H1c: Interactivity → Intention to Revisit	.004	.050	.960	Not Supported
H1d: Personalization → Intention to Revisit	.349**	3.118	.002	Supported
H2: Travel Satisfaction → Intention to Revisit	.496***	5.879	.000	Supported
H3: Mediation of Travel Satisfaction	.457***	6.755	.000	Supported

Discussion and Conclusion

The main purpose of the study was to investigate the influence of the STTs attributes on tourists' intention to revisit and their travel satisfaction enhanced by the use STTs. This research elaborates on a comprehensive model of the STTs attributes, tourists' travel satisfaction, and tourists' intention to revisit. The STTs attributes theory developed by Huang et al (2017) was adopted and tested the mediating effect of tourists' travel satisfaction towards the relationship between STTs attributes and tourists' intention to revisit. From the two models computed in this study, STTs attributes had a strong explanatory power towards tourists' intention to revisit. This finding corroborates with prior research that has well-established the important role of STTs in influencing tourists' decision to revisit a destination (cf. Chen & Rahman, 2018; Kim, 2018).

Looking at each attribute, this study revealed that only personalization has a direct significant effect on tourists' intention to revisit. Out of the four STTs attributes, personalization was found to be the strongest predictor. The personalized interaction between tourists and stakeholders and the availability of personalized information and services in STTs applications and websites allows tourists to improve and maximize their experience while on the go (Jeong & Shin, 2020). The findings of the study also indicated that Indonesian tourists want their STTs applications to be highly personalised, easy to use, reliable, interactive in sharing local information, and customizable according to tourists' preferences. Applications like *Muslim Pro*, and *Umma* allows tourist to get daily notifications about local prayer times, find nearby mosques and nearest halal restaurants, get directions, know the distance of the attractions from their location, and reliable reviews about local restaurants, and so on. Interestingly, the

result of the study contradicts the study by Pai et al (2020), where they found that personalization is the least important dimension in influencing the smart tourism technology experience.

Further, this study found that the other three latent constructs (informativeness, accessibility and interactivity) did not have a direct link with tourists' intention to revisit. The non-significant results could be due to the location of the study, i.e., Bali. Popular travel destination such as Bali has made their tourism information available and accessible worldwide. In other words, the tourists may no longer need to be dependent on STTs to get information about and accessibility to attractions in Bali because they already have prior knowledge about Bali. It is also important to note that this study was conducted on domestic tourists; therefore, there is a possibility that most domestic tourists have done extensive research about the destination's information before travelling.

Importantly, the findings confirmed the mediating role of travel satisfaction towards the relationships between STTs attributes and intention to revisit. This result extends the findings of Sun et al (2020) who found a direct linkage between travel satisfaction and behavioural intention. Specifically, travel satisfaction enhances the influence of personalisation and accessibility towards the intention to revisit, in line with the study by Shafiee and Es-Haghi (2017) suggesting that accessibility is an important factor in influencing tourists' intentions and behaviours. To conclude, the results documented in this study confirm the role of STTs in shaping tourists' intention to revisit a destination. Of the STTs attributes, this study highlights the important role of personalisation. Importantly, the findings extend the role of travel satisfaction as a mediating factor in the relationships between STTs and tourists' intention to revisit, whereby previous research has only traced travel satisfaction to have only a direct effect towards behavioural intention.

Limitations and Future Research

The current study contains several limitations. The first limitation is the data collection and survey technique. Since the study was conducted in Bali during the COVID-19 pandemic, the data collected resulted in less on-site data collection, and most of the respondents were mainly local domestic tourists. This study only included Bali as the destination and Indonesian tourists visiting Bali between 2017 and 2021. Tourists who visited Bali in 2017 had a different experience than those who travelled from 2019 to 2021 due to the numerous technological applications, services and features that were currently available. The second limitation is the sampling method, since the study relies entirely on convenience sampling, the result of this study may have an extremely high degree of bias. Third, the study only focused on four dimensions of the attribute theory of STTs proposed by Huang et al (2017) to evaluate tourists' satisfaction with the STTs-enhanced tourism experience.

This study provides several implications. This study provides a theoretical contribution to the body of literature by providing a comprehensive concept of STTs in a developing country such as Indonesia. Additionally, the results and findings of this study contribute to managerial implications whereby it informs destination managers and marketers should upgrade and prioritise essential STTs attributes such as personalization. Tourists want their STTs applications and websites to be highly personalised, easy to use, and highly customisable to their preferences.

Future research may also look at whether any other dimensions could be included in the attribute theory of STTs to gain better knowledge and literature on the influence of the use of STTs on tourists' experience and satisfaction. Furthermore, additional diverse samples from

other cities or countries are required to generalise the research, as this study only concentrated and conducted on domestic tourists who visited Bali. Although this study did not specifically target young people, the majority of participants were under the age of 50. Furthermore, because many elderly people have difficulty using smart technologies, future research should be concentrating on this demographic group. Future research can sample multiple scales of smart tourism attractions and destinations with varying levels of STTs availability and functions to expand the generalizability of the findings and investigate whether the proposed models apply to other tourism destinations in different countries.

References

- Abubakar, A. M., Ilkan, M., Meshall Al-Tal, R., & Eluwole, K. K. (2017). eWOM, Revisit Intention, Destination Trust and Gender. *Journal of Hospitality and Tourism Management*, 31, 220–227. <https://doi.org/10.1016/j.jhtm.2016.12.005>
- Antara News. (2022). The number of foreign tourist visits increase in June 2022: BPS. Retrieved from <https://en.antaranews.com/news/242177/number-of-foreign-tourist-visits-increase-in-june-2022-bps>
- Aprinawati & Prayogo, R. R. (2022). Smart Tourism Destination Model Development in Danau Toba, Indonesia. *International Journal of Research in Business & Social Science* 11(6) (2022), 430-437.
- Azis, N., Amin, M., Chan, S., & Aprilia, C. (2020). How smart tourism technologies affect tourist destination loyalty. *Journal of Hospitality and Tourism Technology*, 11(4), 603–625. <https://doi.org/10.1108/JHTT-01-2020-0005>
- Cepeda-Carrion, G., Cegarra-Navarro, J. G., & Cillo, V. (2019). Tips to Use Partial Least Squares Structural Equation Modelling (PLS-SEM) in Knowledge Management. *Journal of Knowledge Management*, 23(1), 67–89
- Chen, H., & Rahman, I. (2018). Cultural tourism: An analysis of engagement, cultural contact, memorable tourism experience and destination loyalty. *Tourism Management Perspective*, 26, 153–163.
- Chen, S., Tian, D., Law, R., & Zhang, M. (2022). Bibliometric and Visualized Review of Smart Tourism Research. *International Journal of Tourism Research*, 24(2), 298-307. <https://doi.org/10.1002/jtr.2501>
- Chen, Z., Chan, I., Mehraliyev, F., Law, R., & Choi, Y. (2021). Typology of People–Process–Technology Framework in Refining Smart Tourism from the Perspective of Tourism Academic Experts. *Tourism Recreation Research*. <https://doi.org/10.1080/02508281.2021.1969114>
- Cuong, N. H. H., & Duy, T. C. (2020). Information Technology Infrastructure for Smart Tourism in Da Nang City. *International Journal of Hyperconnectivity and the Internet of Things*, 5(1), 98–108. <https://doi.org/10.4018/ijhiot.2021010106>
- Gelter, J., Fuchs, M., & Lexhagen, M. (2022). Making Sense of Smart Tourism Destinations: A Qualitative Text Analysis from Sweden. *Journal of Destination Marketing & Management*, 23 (January), <https://doi.org/10.1016/j.jdmm.2022.100690>
- Gretzel, U., Reino, S., Kopera, S., & Koo, C. (2016). Smart Tourism Challenges. *Journal of Tourism*, 16(1), 41-47.
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and developments. *Electronic Markets*, 25(3), 179–188. <https://doi.org/10.1007/s12525-015-0196-8>

- Henseler, J., Muller, T., & Schuberth, F. (2018), New Guidelines for the Use of PLS Path Modelling in Hospitality, Travel, and Tourism Research in Ali, F., Rasoolimanesh, S.M. & Cobanoglu, C. (Ed.) *Applying Partial Least Squares in Tourism and Hospitality Research*, pp. 17-33. <https://doi.org/10.1108/978-1-78756-699-620181002>
- Huang, C. D., Goo, J., Nam, K., & Yoo, C. W. (2017). Smart tourism technologies in travel planning: The role of exploration and exploitation. *Information Management*, 54, 757–770.
- Indonesia Window. (2022). Foreign tourist visits to Indonesia soar to 345,440 in June. Retrieved from <https://indonesiawindow.com/en/foreign-tourist-visits-to-indonesia-soar-to-345440-in-june/>
- Jeong, M., & Shin, H. H. (2020). Tourists' Experiences with Smart Tourism Technology at Smart Destinations and Their Behaviour Intentions. *Journal of Travel Research*, 59, 1464–1477.
- Johnson, A. G., & Samakovlis, I. (2019). A Bibliometric Analysis of Knowledge Development in Smart Tourism Research. *Journal of Hospitality and Tourism Technology*, Vol. 10 No.4, pp. 600-623.
- Kim, J. H. (2018). The Impact of Memorable Tourism Experiences on Loyalty Behaviors: The Mediating Effects of Destination Image and Satisfaction. *Journal of Travel Research*, 57, 856–870.
- Kim, T. B., Bruce Ho, C. T., & Gebsumbut, N. (2021) Role of Social Media in Smart Tourism. *Journal of Tourism Hospitality*, 10, 466.
- Lee, H., Lee, J., Chung, N., & Koo, C. (2018). Tourists' happiness: Are there Smart Tourism Technology Effects? *Asia Pacific Journal of Tourism Research*, 5, 486–501.
- Lee, P., Zach, F. J., & Chung, N. (2021). Progress in Smart Tourism 2010-2017: A Systematic Literature Review. *Journal of Smart Tourism*, 1(1), <https://doi.org/10.52255/smarttourism.2021.1.1.4>
- Mahesa, R., Yudoko, G., & Anggoro, Y. (2019), "Dataset on the sustainable smart city development in Indonesia", *Data in Brief*, Vol. 25, p. 104098.
- No, E., & Kim, J. K. (2015). Comparing the Attributes of Online Tourism Information Sources. *Computers in Human Behaviour*, 50, 564–575.
- Pai, C., Kang, S., Liu, Y., & Zheng, Y. (2021). An Examination of Revisit Intention based on Perceived Smart Tourism Technology Experience. *Sustainability (Switzerland)*, 13(2), 1–14. <https://doi.org/10.3390/su13021007>
- Rini, E. S., Absah, Y., Sembiring, B. K. F., & Putra, M. D. T. (2021). Intention to Revisit Tourist Destinations in Indonesia. *Innovative Marketing*, 17(4), 37–48. [https://doi.org/10.21511/im.17\(4\).2021.04](https://doi.org/10.21511/im.17(4).2021.04)
- Shafiee, M. M., & Es-Haghi, S. M. S. (2017). Mall image, shopping well-being and mall loyalty. *International Journal of Retail and Distribution Management*, 45(10), 1114-1134.
- Shen, S., Sotiriadis, M., & Zhang, Y., (2020). The Influence of Smart Technologies on Customer Journey in Tourist Attractions within the Smart Tourism Management Framework. *Sustainability*, 12(10), 4157. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su12104157>
- Sun, F., Liu, R., Yang, C., & Jia, Y. (2020). A Study on the Relationship between Tourists' Perceived Value and Behavioural Intention—Based on the Perspective of Homestay Tourists. *Shandong Social Sciences*. 2020, 1, 126–133.

- Um, T., & Chung, N. (2021). Does Smart Tourism Technology Matter? Lessons from Three Smart Tourism Cities in South Korea. *Asia Pacific Journal of Tourism Research*, 26(4), 396–414. <https://doi.org/10.1080/10941665.2019.1595691>
- Wang, C. Y., & Hsu, M. K. (2010). The Relationships of Destination Image, Satisfaction, and Behavioural Intentions: An integrated model. *Journal of Travel and Tourism Marketing*, 27(8), 829–843. <https://doi.org/10.1080/10548408.2010.527249>
- Williams, P., & Soutar, G. N. (2009). Value, Satisfaction and Behavioural Intentions in an Adventure Tourism Context. *Annals of Tourism Research*, 36(3), 413–438. <https://doi.org/10.1016/j.annals.2009.02.002>
- Yang, S. -B, Hlee, S., Lee, J. & Koo, C. (2017), "An Empirical Examination of Online Restaurant Reviews On Yelp.Com: A Dual Coding Theory Perspective", *International Journal of Contemporary Hospitality Management*, Vol. 29 No. 2, pp. 817-839. <https://doi.org/10.1108/IJCHM-11-2015-0643>
- Ye, H., Sun, S., & Law, R. (2021). An Investigation of Developing Smart Tourism from the Perspective of Stakeholders. *Asia Pacific Journal of Tourism Research*, 26(10), 1156–1170. <https://doi.org/10.1080/10941665.2021.1953086>
- Yoo, C. W., Goo, J., Huang, C. D., Nam, K., & Woo, M. (2017). Improving Travel Decision Support Satisfaction with Smart Tourism Technologies: A Framework of Tourist Elaboration Likelihood and Self-Efficacy. *Technological Forecasting and Social Change*, 123, 330–341. <https://doi.org/10.1016/j.techfore.2016.10.071>
- Zhang, Y., Sotiriadis, M., & Shen, S. (2022). Investigating the Impact of Smart Tourism Technologies on Tourists' Experiences. *Sustainability*, 14(5), 3048. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su14053048>