

## Let's Go for a Tour.... The Smart Way

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### Abstract

Pandemics are not new, and like other crises and disasters, they can have long-term consequences for individuals, businesses, communities, and countries. This Covid-19 pandemic has also affected tourism industry all over the world, having to face challenges to sustain in the international market. Hence, to address limitations to travel, smart tourism technology is seen as rapidly advancing and opening new potential for tourism growth. With the pandemic highly impacting the tourism industry globally, tourist managers and operators have to resort to the use of smart technology to ensure the sustenance of the tourist industry. As such, smart tourism technology is now being practiced by many tour operators to attract visitors and enhance their trip experience. Many tourism-related firms have implemented a variety of smart technologies to promote and market their locations, where Malaysia is of no exception. In order to explore innovative ways to create memorable experiences for visitors, Malaysia has also taken steps to embrace this technology. The site on "Animal Park" reflected as a zoo is one of the examples that has implemented live virtual tour in order to attract visitors to at least experience "visiting" the zoo by seeing the view of the zoo through virtual technology. Differences in visitor experiences need to be captured to create impact on smart tourism experiences. Thus, this study is to measure the visitor's satisfaction to the smart tourism technology experiences (informativeness, accessibility, interactivity, personalization, and security) that have been practiced in Malaysia's virtual animal park. The anticipated study will assist destination managers and local authorities in gaining information on smart tourism technology and understand the visitor's satisfaction and their experience in live virtual tours implemented via smart tourism technology. This is in line with the National Tourism Policy (NTP) launched in December 2020 to ensure the continuity of the country's tourism industry and make Malaysia a preferred tourist destination globally.

**Keywords:** Smart Tourism, Virtual Tour, Visitor's Satisfaction, Sustainability

**Introduction**

Coronavirus 2019 (COVID-19) has had a tremendous impact on the world's economic progress (Goodell, 2020). Large-scale quarantines, travel restrictions, and social-discrimination policies have resulted in a dramatic drop in consumer and company spending. This predicament arose as a result of the worldwide economic downturn. The supply and demand curves throughout the world have been affected by China's lockdown, which has had a significant impact on Malaysia's economy (Lee et al., 2020). The tourism industry was the first to be impacted. With over 10 million visitors from China and Singapore visiting Malaysia in the first three quarters of 2019, the number of tourists coming into Malaysia has dwindled tremendously (Azman, 2020). To prevent the sickness from spreading, numerous countries have imposed travel restrictions on its residents and have shut down their businesses and significant events, such as education (Toda, 2020). Furthermore, the COVID-19 pandemic has harmed the worldwide supply chain and thrown the global economy into disarray (OECD, 2020).

This situation has created economic recession globally. The Covid-19 pandemic has affected almost all industries including the tourism industry all over the world, having to face challenges to sustain in the international market. Also, COVID-19 is affecting many aspects of our lives and tourism is being greatly impacted (UNWTO, 2020; Pahlevi et al., 2021). It has also affected employment at the workplace. No one can tell when the pandemic will end. The tourism industry, on the other hand, must continue and enter a new normal period. In the tourism industry, the new normal period introduces Smart Tourism whereby new positions, new roads, and new demands arise (Alraouf, 2021). Smart Tourism is accelerating at an unprecedented rate (Dong, 2021). Smart tourism is a rapidly growing phenomena in which tourism destinations, practitioners, and travellers are increasingly reliant on emerging ICTs that allow massive data to be transformed into value propositions (Ye et al., 2020). They saw smart tourism as an all-encompassing technology and a tour information service support system. By adjusting technology changes, the tourism industry must adapt to new conditions and restructure its business model plan in order to exist in the new normal period. Smart Tourism is related to technology. Governments advises using technology that can be accessible remotely via the internet network for a new promotional activation (Pahlevi et al., 2021). In this regard, current smart tourism relies heavily on the widespread use of emerging technologies such as social media and mobile technology to create new value propositions by gathering and analysing massive amounts of big data (Gretzel et al., 2015). This is in line with this study as this study focuses on the Live Virtual Tour by using social media platform such as Facebook, YouTube and Instagram.

Virtual tours use immersive technology that immerses people in an image, enhancing situational awareness and delivering the most advanced tools for viewing, recording, and evaluating virtual data (Osman et al., 2009). A virtual tour is a recreation of an existing area that usually comprises of a series of films or still photographs, but can also include sound effects, music, narration, and text (Zheng et al., 2017). A virtual tour can alternatively be defined as a video representation of an existing location made up of a series of photographs (Osman, Wahab & Ismail, 2009). In order to have a good virtual tour, the visual imagery should be powerful thus can attract visitors to watch it. Visual imagery has been employed extensively in the marketing and promotion areas of the tourism industry (Aziz & Zainol, 2011). The intangible features of tourism as a service remind marketers that new types of visual imagery must be developed on a regular basis in order to build a favourable destination image (Griffin et al., 2017). Smart Tourism refers to the use of digital virtual tools to promote and provide travel experiences (Pahlevi et al., 2021). Through the notion of tourism, Smart

Tourism marketing can be built by showing movies directed by tourist guides. In Malaysia, Smart Tourism is considered as future of Malaysia's tourism. According to the official website of Malaysian Investment Development Authority (MIDA), after manufacturing and commodities, tourism is the third-largest contributor to Malaysia's GDP. In 2019, the sector accounted for around 15.9% of total GDP. In December 23, 2020, the government announced the National Tourism Policy (NTP) 2020-2030, which aims to ensure the country's tourism industry's long-term viability and to make Malaysia a preferred tourist destination worldwide. Effective recovery of the tourism industry based on new norms, enhancing competitiveness, sustainable and equitable tourism development, and disaster risk management are all key methods to fulfilling the NTP's agenda.

Embracing 'Smart Tourism' is one of the Transformation Strategies identified in the NTP. Digital advancements have changed how people travel, forcing tourism-related enterprises to modify their business models. Tourism Malaysia's Smart Tourism 4.0 programme, which was announced in April 5, 2018, intends to take the industry to the next level by leveraging digital potential. In line with the NTP and the United Nations Sustainable Development Goals, these activities will pave the path for new innovative sub-sectors and job possibilities (SDG) (Ramli, 2018). According to Malaysian Investment Development Authority (MIDA), 'Smart Tourism' has the potential to more than quadruple Malaysia's tourism-based revenues from USD25 billion to USD110 billion by 2030. Through technology innovation and practises, smart tourism aims to improve resource management efficiency, enhance tourism experiences, increase competitiveness, and increase sustainability.

The site on "Animal Park" reflected as a zoo is one of the examples that has implemented Smart Tourism Technology via live virtual tour in order to attract visitors to at least experience "visiting" the zoo by seeing the view of the zoo through virtual technology. Many animal parks are suffering, and it is due to COVID-19 pandemic. During the pandemic, there are Movement Control Order (MCO) in Malaysia that was imposed in March 2020 in order to overcome the spread of COVID-19 (Yusof, 2021). Many tourism-related firms facing difficulty to sustain. Animal parks also facing challenges. Without visitors regularly visiting the animal parks, they are unable to generate income (Sheila, 2021). One of the animal parks that implemented Live Virtual Tour is Zoo Taping. According to Tourism Perak, Zoo Taiping is located in Perak and was opened in 1961 with 1300 animals from 180 species. The programme was initiated by the zoo after tourism activities were halted due to COVID-19, despite the fact it had previously attracted visitors every weekend and during public holidays (Mahalingam, 2021). Therefore, the aim of the study is to measure the visitor's satisfaction to the smart tourism technology experiences (informativeness, accessibility, interactivity, personalization, and security) that have been practiced in Malaysia's virtual animal park.

## **Literature Review**

### **Smart Tourism**

Smart tourism refers to the fusion of information communication technologies (ICT), as well as the technological revolution of tourism (Lee et al., 2020). It denotes a new tourism characterised by integrated efforts at a location to collect and analyse data from a variety of sources, as well as the use of advanced information technologies to enhance, streamline, and sustain travel experiences (Gretzel et al., 2015). Smart tourism, in this context, is a social phenomenon resulting from the integration of ICT into the tourism experience (Hunter et al., 2015). Technologies have always been an enabler, a driver for innovation and development and a tool for bolstering tourism resilience during times of crisis (Hall et al., 2017). The COVID-

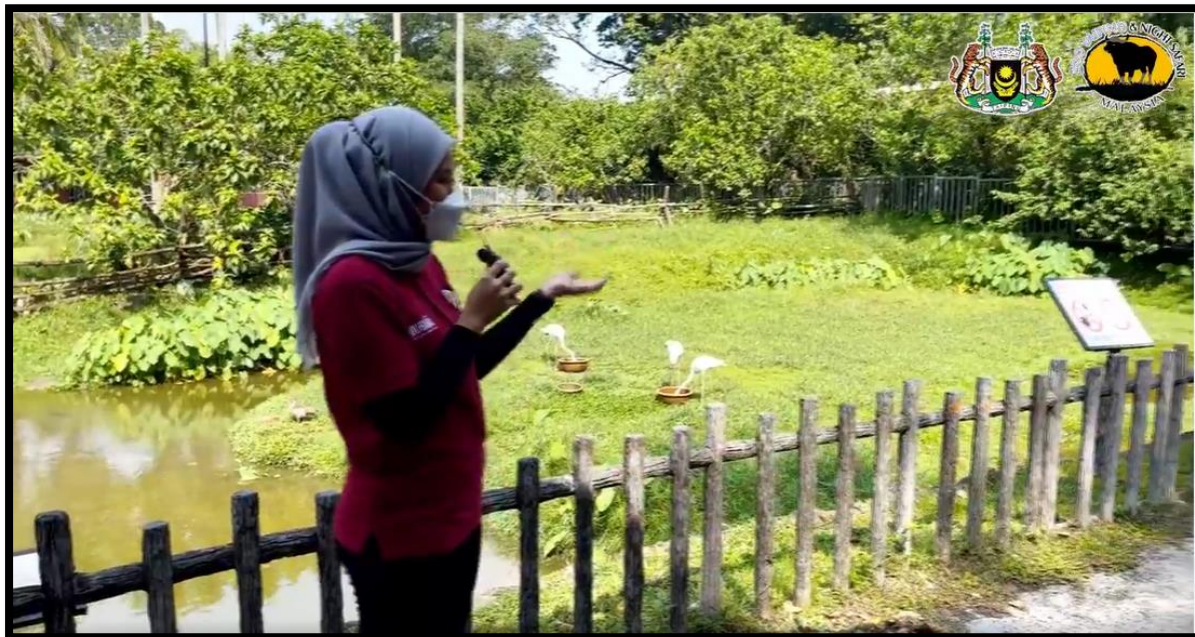
19 has emphasised the importance of technology in the rehabilitation and reimagination of tourism, while reinforcing existing e-tourism paradigms (Sigala, 2020). This is the reason why Smart Tourism is starting to be well-known today as it is related to the up-to-date technology. Live Virtual Tour is one of the examples that has implemented Smart Tourism Technology. According to Pahlevi et al (2021), there are studies that focus on the virtual tour via virtual reality in order to increase tourist visit to the tourism destination. This is similar to the study conducted by Jeong and Shin (2020) which indicates that Smart Tourism Technology will create memorable experiences thus affect the visitors' satisfaction. Other than that, Amir et al (2020) explained on the challenges of the Smart Tourism in eco-tourism destinations by focusing on the awareness, security and privacy. Furthermore, smart technology has a big impact on how travellers make various travel selections, such as transportation, lodging, and activities offered at a desired tourism site (Lee et al., 2020). Smart tourism classifies three travel stages which are pre-travel, travel and post-travel where tourists' expectations and behaviour may change (Buhalis & Foerste, 2015). During the pre-travel (planning) phase, tourists decide where to go, how to get there, and where to stay. During the travel (onsite) phase, tourists decide where and what to eat or what activities to engage in. During the post-travel (evaluation) phase, tourists express varying degrees of satisfaction which they share in travel reviews. Tourists can now get real-time travel information through advanced smart gadgets, which improves visitors' ability to get information (Chung et al., 2013). Accordingly, tourists and visitors take more ingenuity in creating customized travel experiences. As for this study, the researcher focuses on the post-travel as the aim of the study is to measure the satisfaction towards five elements in Smart Tourism Technology.

### **Smart Tourism Technology**

Smart Tourism Technology, in general, refers to both general and specialised applications that might improve visitor experiences and provide more value. Ubiquitous computing and the Internet of Things (IoT), cloud computing, ubiquitous connectivity via Wi-Fi, near field communication (NFC) and radio-frequency identification (RFID), sensors, smartphones, mobile connected devices, beacons, virtual reality (VR), augmented reality (AR), mobile apps, integrated payment methods, smart cards, and social networking are all examples of Smart Tourism Technology (Gretzel et al., 2015). In this study, the researcher has categorized Smart Tourism Technology into five elements which are accessibility, informativeness, interactivity, personalization and security in order to measure the level of satisfaction towards visitors specifically in animal parks which is Zoo Taiping, Perak. This is in line with previous studies that have been conducted by using four elements in Smart Tourism Technology which are accessibility, informativeness, interactivity and personalization that study on the effectiveness of the elements (No & Kim, 2015).

Adopting these key Smart Tourism Technology elements, this study recognizes the most influential Smart Tourism Technology attributes that affect visitors' satisfaction experience in animal park. Table 1 shows animal parks that have conducted Live Virtual Tour using social media platform such as by Taiping Zoo, Perak. Taiping Zoo started the Live Virtual Tour with the slogan "Online Now, Onsite Later" on 4<sup>th</sup> July 2021. They used social media platform such as live streaming on YouTube, Instagram and Facebook. Furthermore, they conducted the virtual tours during weekends as they expected to receive more viewers or visitors to watch and experience the tour. The first show was a virtual tour of estuarine crocodiles. In the show, visitors were attracted to estuarine crocodiles as there were 310,000 viewers or visitors have watched it. Visitors can easily comment or ask anything in the live

chat if they want to ask something about the animals or the tour. Visitors' comments are stated in Table 1. The link to the tour is given in Picture 1.



Picture 1: Virtual tour of Taiping Zoo, Perak

[https://www.facebook.com/zootaipingnightsafari/videos/?ref=page\\_internal](https://www.facebook.com/zootaipingnightsafari/videos/?ref=page_internal)

Table 1: Animal Parks conducted Live Virtual Tour at Taiping Zoo, Perak

Location and Programme	Number of Viewers/Visitors	Social Media	Visitors' comment that can be seen during Live Stream
<b>Taiping Zoo, Perak: Online Now, Onsite Later</b>			
Estuarine Crocodiles – 4 <sup>th</sup> July	310,000	Live streaming on YouTube	“Well done zoo Taiping! Keep it up! Enjoyed it live and clear on IG. Learnt a lot too bout crocodiles today. Please keep it coming. Thank you for your effort” Hmy HM (2021).
Malaysian Tiger – 11 <sup>th</sup> July	307,000	Instagram Live	“Thank you very much Zoo Taiping. Great effort and well done to all of you. Next time can be improved” Suhana Ahmad (2021).
Malayan Elephant – 17 <sup>th</sup> July	59,000	Facebook Live	“Good effort. Thank you to all staff of Zoo Taiping” Ninafarhana Darnisy (2021).
Chimpanzee & Bornean Orangutan – 31 <sup>st</sup> July	32,000		
African Lion & Clouded Leopard – 7 <sup>th</sup> August	57,200		

Source: <https://www.facebook.com/zootaipingnightsafari>

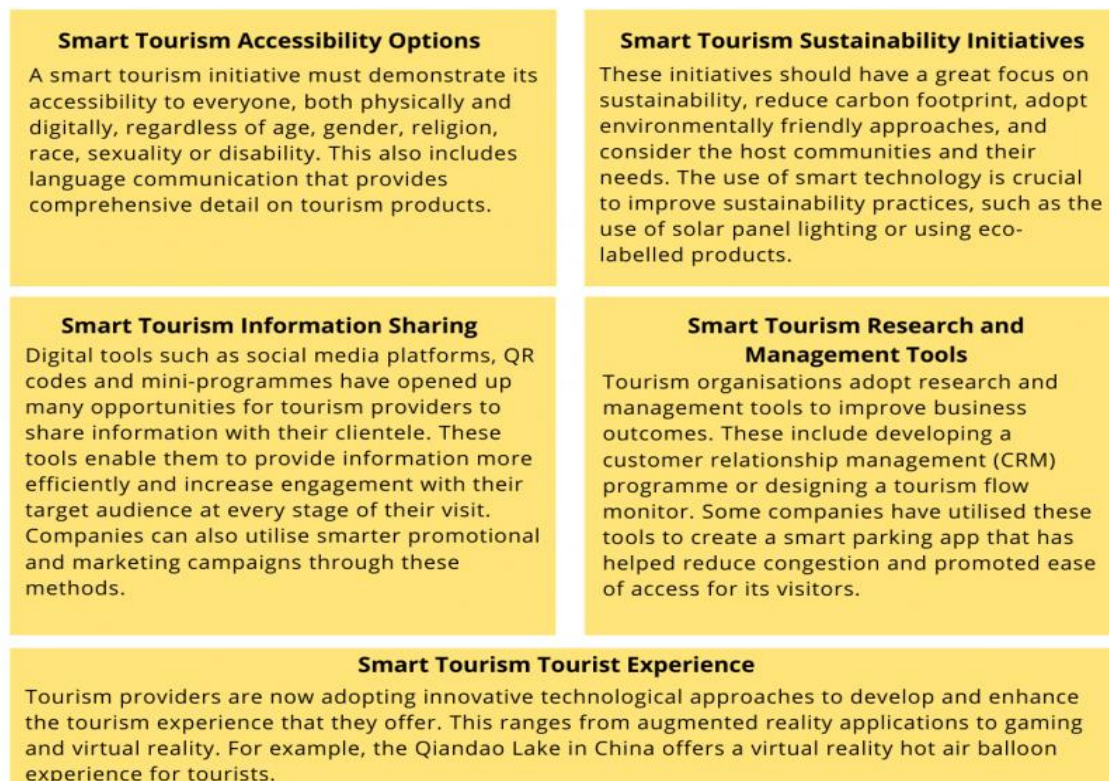
Malacca Zoo also is one of the animal parks that has conducted Live Virtual Tour with the slogan “Zoo to You”. Their virtual tour was conducted via YouTube, Instagram and Facebook. The first virtual tour was on White Rhino, which was conducted on 10<sup>th</sup> July 2021. According to the number of viewers or visitors, virtual tour of macaw giraffe and zebra has the highest viewers or visitors with 346,000. Most of the comments in the live chat were positive comments. Some of these comments is mentioned in Table 2.

**Table 2: Animal Parks conducted Live Virtual Tour at Malacca Zoo, Malacca**

Location and Programme	Number of Viewers/Visitors	Social Media	Visitors' comment that can be seen during Live Stream
<b>Malacca Zoo: Zoo to You</b>			
White Rhino – 10 <sup>th</sup> July	11,000	Live streaming on YouTube	“Good effort Zoo Melaka!” Sabera Shareef (2021). “Power and amazing” Norhaida Hashim (2021).
Macaw Giraffe and Zebra – 11 <sup>th</sup> July	346,000	Instagram Live	“Thanks for bringing the animals to our home! Will support, hope to see the zoo continue this effort. Good job to the Zoo Staffs” Sf Tsean (2021).
Dinosaur Encounter – 17 <sup>th</sup> July	266,000	Facebook Live	
Elephant Pool Party – 18 <sup>th</sup> July	83,000		“Well done Zoo Melaka! Good effort. Good in quality video, informative and lively” Nadia Mohammad (2021).
Capuchin, Ankole, Waterbuck, Banteng, Nilgai and Flightless Bird – 24 <sup>th</sup> July	45,000		
Gibbon, Tuntung Sungai, Python, Orang Utan and Sunbear – 25 <sup>th</sup> July	19,000		

Source: <https://www.facebook.com/zoomelakaofficial>

In Malaysia, according to The Organisation for Economic Co-operation and Development (OECD) (2020), while the tourism industry has been hit severely by the epidemic, measures to establish a more resilient and sustainable future include a focus on digitalisation and the development of smart products and infrastructure. Taking a positive spin, a crisis is often an opportunity to rethink and reinvent old processes, particularly to adopt more sustainable tourism practices. According to UNWTO (UN World Tourism Organisation), sustainable tourism “has the ability to improve urban infrastructure and universal accessibility, support the rehabilitation of damaged areas, and protect cultural and natural heritage, all of which are tourist-dependent assets”. Figure 1 shows there are five most common methods of implementing smart tourism.



**Figure 1: Common Methods of Implementing Smart Tourism**

Source: <https://www.mida.gov.my/smart-tourism-future-of-tourism-in-malaysia>

There are five important elements in Smart Tourism Technology. The first element, accessibility, refers to how easy it is for a person to access and use the information available at a location by utilising various types of Smart Tourism Technology (Jeong & Shin, 2020). High levels of accessibility of Smart Tourism Technology contribute to perceived ease of use, because visitors can use more information and enhance their experience as well as satisfaction with the destination or location (No & Kim, 2015). Accessibility can facilitate the co-creation of experiences, making it a key predictor of a travel experience. Informativeness can be defined as merged of the quality and dependability of information provided by Smart Tourism Technology at tourism destinations or location (No & Kim, 2015). Tourism is intangible and because of that, information quality and legitimacy are important that might influence tourists' overall experience at a destination or location. There was previous study which focused on the tourists' perception and the result has shown that there is significant relationship between informativeness and tourists' perception of the destination (Kim et al., 2004). This is in line with the study that has been conducted by Chung and Koo (2015), the information reliability is a crucial determinant of the utility of social media in tourists' information search. This shows that tourists and visitors can easily grasp the richness and extent of the information for their tourism activities by using Smart Tourism Technology. By having access to such detailed and cleared information, this will motivate them to enhance their trip experience at the destination specifically in the animal parks that have implemented Smart Tourism Technology.

### **Informativeness**

The quality, credibility, and correctness of information obtained from Smart Tourism Technology at tourism locations are measured by informativeness (Chung & Koo, 2015). This

is an important element in Smart Tourism Technology and can directly give impact to tourists' attitudes. Having reliable information such as in activities, lodging, and transportation, tourists save time and effort in searching for information, and this can lead to a positive tour experience (Pai et al., 2020). As for this study, the researcher focused on the Live Virtual Tour via mobile apps such as YouTube, Facebook and Instagram which has been implemented by several animal parks in Malaysia. For the context of informativeness, probably it is related with accurate information and explanation about the tour in animal parks. Tourists' logical judgement about the destination is stimulated by informativeness, which aids them in making effective judgments (Pai et al., 2020). Therefore, this means that when visitors are well informed all the tour about, it relates to an increase in visitors' satisfaction. This is in line with the study that has been conducted by Pai et al (2020) which they discovered that informativeness influences satisfaction in experiencing the Smart Tourism Technology.

**Accessibility**

Accessibility represents the extent to which tourists can easily access and use the information offered at the destination by using different types of Smart Tourism Technology (Chung & Koo, 2015). The usability of Smart Tourism Technology at the destination is determined by their accessibility. When Smart Tourism Technology is easily available, people are more likely to easily explore about the place (Nam et al., 2021). As for this study which uses Live Virtual Tour in animal parks, the accessibility towards the social media will influence the level of satisfaction. Thus, this shows that when visitors are able to easily access the Live Virtual Tour, it will influence the satisfaction of the visitors. This can be seen in the study where the researcher focusses on the accessibility that will influence the memorable experience and probably will affect the visitors' satisfaction (Jeong & Shin, 2020).

**Interactivity**

Interactivity is well-defined as an organizer that promotes tourists' real-time feedback and active communication when using Smart Tourism Technology (Pai et al., 2020). This can be seen in social media where if the host or organizer communicates well with their viewers or audience, this will give impact to the level of satisfaction (Du et al., 2020). This is in line with the previous study that has been conducted by Tan et al (2018), which states that when tourists perceive a high level of engagement in social media platforms, they are more likely to use the service and communicate with tourism suppliers through purchasing, commenting, and feedback. By referring to the hypothesis, this could be said that the more interactive the Live Virtual Tour is, the more it will influence the visitors' satisfaction. This can be seen in the study by Pai et al (2020) which indicates that interactivity gives positive relationship to the visitors' satisfaction.

**Personalization**

The ability of a tourists and visitors to receive specialised information to fit his or her personal trip planning needs by using various forms of Smart Tourism Technology is referred to as personalization (No & Kim, 2015; Jeong & Shin, 2020). According to their previous purchasing behaviour, personality, and preference, tourists can receive suitable recommendations through big data or cloud computing (Pai et al., 2020). To be related with this study, as mentioned earlier, for example animal park such as Zoo Taiping is doing Live Virtual Tour on weekends. Thus, the visitors can personalize themselves to choose when they want to watch it according to their time and situation. Therefore, this means that when visitors can



personalize about the tour, it relates to an increase in visitors' satisfaction. According to Jeong and Shin (2020), the result of the study shows that there is relationship between personalization and memorable experience that will give impact to the visitors' satisfaction.

### **Security**

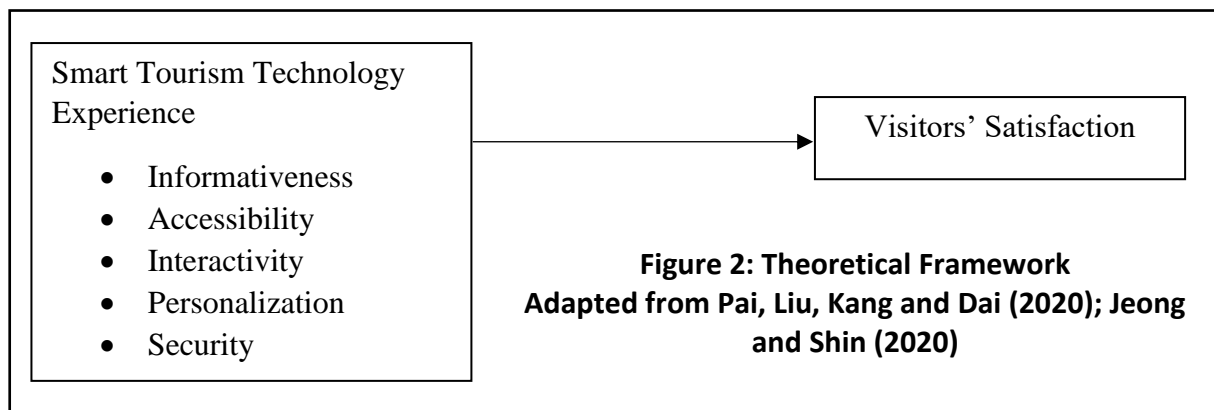
The safety of personal information while utilising various forms of Smart Tourism Technology is characterised as security. Tourists and visitors have a tendency to use Smart Tourism Technology at the destination when they feel their personal information is safe. Many previous studies reflect security as a core attribute of Smart Tourism Technology (No & Kim, 2015). Thus, this shows that when visitors are secured towards the process of the Live Virtual Tour, it will influence the satisfaction of the visitors. This can be seen in the results of previous studies which show that security influences travel experience satisfaction that probably gives impact to their level of happiness and revisit intention (Pai et al., 2020).

### **Visitors' Satisfaction**

In the tourism context, satisfaction refers to a tourist's positive evaluation of his or her psychological state as a result of a trip (Chang et al., 2020). There is balance theory by Heider (1946) stating that individuals' attitudes alter when they observe contradiction. In other words, individuals have a tendency to maintain their attitude in accordance with their perceptions. Tourists are more likely to be satisfied when they have a positive experience participating in activities at tourism attractions (Jeong & Shin, 2020). This indicates that tourists are more likely to be satisfied when they have a memorable and valuable experience at a destination. Otherwise, a sense of dissatisfaction is appropriate.

Previous studies have shown that they have looked at the impact of technology on consumers' memorable experiences, satisfaction, and behavioural intentions (Carbonell & Escudero, 2015; Ozturk & Hancer, 2015). For example, the studies that has been conducted by Carbonell and Escudero (2015), customers' unfavourable technical experiences, for example, have a considerable negative impact on their satisfaction and intends to use the technology again. In contrast, there are studies which mention that customers' previous experiences show to have a high positive correlation with their pleasure with technology use as well as their future behaviour intentions (Ozturk & Hancer, 2015).

There are numerous studies that look into how technology influences an individual's experience, satisfaction, and intention. In the hospitality industry, Ozturk and Hancer (2015) discovers a substantial link between previous technology experience and the intention to embrace radio-frequency identification (RFID) technology. The use of mobile technology has a beneficial influence on the desire to use technology while travelling (Rivera, Gregory & Cobos 2015). Individuals' intentions to use mobile hotel reservation services are significantly influenced by their technological competence. The complexity of the mobile application, on the other hand, has a negative impact on the adoption of mobile hotel reservation systems (Wang et al., 2016). Technological turbulence has a negative impact on the use of information and experiences generated, in part, by technologies (Carbonell & Escudero, 2015). These studies show that technology can have a substantial impact on people's behavioural intentions, both positively and negatively. The tourism sector has been pushed to embed technologies in smart tourist sites in order to improve the travel experience due to the considerable impact of technology on individual behavioural outcomes.



In conclusion, several academics have attempted to develop creations that can improve the satisfaction of tourists. As mentioned earlier, this study focuses on the post-travel which means evaluation after the tour and it is about emotion and feelings and this is in line with the aim of the study; to investigate the relationship between Smart Tourism Technology experience and visitors' satisfaction. Figure 2 shows the theoretical framework that has been adapted from the study by Pai et al (2020). There are still limited studies on the satisfactions towards Smart Tourism Technology specifically on the Live Virtual Tour. Therefore, this study will close the gap and will contribute new knowledge to other researchers. As known, Live Virtual Tour have been implemented in many industries including tourism industry in order to sustain due to COVID-19 pandemic.

### Methodology

According to Williams (2007), a good research outcome is obtained using a variety of research methods. A self-administered survey questionnaire was the main approach used to collect the data for the study. The study's objective was answered utilizing structured questionnaires with closed-ended multiple-choice questions. A quantitative method was used to divide the five elements in Smart Tourism Technology which are informativeness, accessibility, interactivity, personalization and security that influence to visitors' satisfaction with 29 questions.

All of the questions in this survey were derived from earlier research. Because most of the items in this study were meant to test respondents' opinions and attitudes, a 4-point Likert scale ranging from "4 = Strongly Agree" to "1 = Strongly Disagree" was used (Lin, 2021). 30 respondents participated in this pilot study. For most studies, however, a sample size of more than 30 is appropriate. Therefore, 30 sample sizes were chosen in this investigation to acquire data for analysis. Before they answered the survey, they were given a link to Live Virtual Tour in animal park for them to watch and experienced the tour. The duration of the tour is one hour After completing the tour, the respondents were asked to complete the survey.

### Findings and Discussion

#### Demographic Information

According to the demographic data, 66.7% of the subjects were females and 33.33% were male. As for age, the age between 21 to 30 years has the highest percentage (33.3%) and the lowest is the age between 31 to 40 years with 10.0%. Next, for education level, undergraduate and postgraduate have the same percentage with 40.0% respectively while respondents with high school level has 20%. Among all the respondents, 11 respondents were full time

employed (36.7%) followed by 10 respondents were students (33.3%). The demographic information of the sample is presented in Table 3.

**Table 3: Demographic Information**

Items	Frequency N=30	Percentage (%) N=30
Gender		
• Male	10	33.3
• Female	20	66.7
Age		
• Below 20	8	26.7
• 21-30	10	33.3
• 31-40	3	10.0
• 41-50	4	13.3
• Above 51	5	16.7
Education		
• High school	6	20
• Undergraduate	12	40
• Postgraduate	12	40
Employment		
• Full time	11	36.7
• Part time	2	6.7
• Unemployed	7	23.3
• Student	10	33.3

### Descriptive Analysis

The most important aspect of statistical analysis is to perform a descriptive analysis to determine the mean and standard deviation of each variable utilised in the study. In other words, descriptive statistics can be used to organise data and represent it in a table. To acquire the suitable number for representing the study's circumstance, the measurement was generated using the mean score.

**Table 4: Mean Score and Standard Deviation**

Variables	Mean Score	Standard Deviation
Smart Tourism Technology Experience		
• Informativeness	3.61	0.51
• Accessibility	3.54	0.44
• Interactivity	3.56	0.49
• Personalization	3.52	0.51
• Security	3.17	0.56
Visitors' Satisfaction	3.63	0.44

The result of mean score and standard deviation is shown in Table 4. The results show that the mean score and standard deviation for Informativeness (M = 3.61, SD = 0.51), Accessibility (M = 3.54, SD = 0.44), Interactivity (M = 3.56, SD = 0.49), Personalization (M = 3.52, SD = 0.51), Security (M = 3.17, SD = 0.56) and Visitors' Satisfaction (M = 3.63, SD = 0.44)

had an average mean score between 3.17 to 3.61. The results indicates that the respondents involved in this study agreed with all the variables used as the mean score showed a high-level value close to the maximum average score of 4.0. Although, Security (M = 3.17, SD = 0.56) had the lowest mean value by compared to the other variables, but its value was still considered to be higher than 3.0. Hence, it can be seen that all the variables used in this study showed a mean value greater than 3.0, thus qualifying all items and variables used in this study for the future research.

### The Relationship between Smart Tourism Technology experience and Visitors' Satisfaction

The linear regression analysis has been conducted in order to answer the hypothesis. The Smart Tourism Technology experience as the predictor variable towards the creation, which is visitors' satisfaction. The result of the analysis presented in the Table 5.

The result shows the Smart Tourism Technology experience as the predictor variable shows that 79.4 % ( $R^2 = .794$ ) of the total variance in visitors' satisfaction (F-change 107.907,  $p < 0.001$ ). This shows that 79.4% out of 100% satisfied with the tour. The p-value is .000 which means it is significant. Thus, hypothesis is supported. Smart Tourism Technology has a positive relationship towards the visitors' satisfaction experiencing the tour. This is in line with Jeong and Shin (2020) study which claims that tourists are more likely to be satisfied when they have a positive experience participating in activities at tourism attractions.

**Table 5: Result of Hypothesis**

Predictors	
Step 1: Model Variables Smart Tourism Technology	
R <sup>2</sup>	0.794
Adj. R <sup>2</sup>	0.787
R <sup>2</sup> Change	0.794
F-Change	107.907***

Note: \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

### Conclusion

As the globe transitions to a digital ecology, smart tourism is becoming increasingly researched and examined. Smart tourism is widely regarded as a game-changer in the tourism sector. It is a crucial foundation for sustainable tourism services and enterprises. It employs digital technology in order to provide and improve visitors' travel experiences while also earning cash for the national and local economies. The anticipated study will assist destination managers and local authorities in gaining information on smart tourism technology and understand the visitor's satisfaction and their experience in live virtual tours implemented via Smart Tourism Technology. This is in line with the National Tourism Policy (NTP) launched in December 2020 to ensure the continuity of the country's tourism industry and make Malaysia a preferred tourist destination globally. Therefore, this study calls for further investigation to expand new knowledge about the Live Virtual Tours that utilise Smart Tourism Technology.

**Reference**

- Alraouf, A. A. (2021). The new normal or the forgotten normal: contesting COVID-19 impact on contemporary architecture and urbanism. *Archnet-IJAR: International Journal of Architectural Research*.
- Amir, S., Dura, N., Yusof, M., Nakamura, H., & Nong, R. (2020). Challenges of smart tourism in malaysia eco-tourism destinations. *Journal of the Malaysia Institute of Planners 2020*, 18(14).
- Aziz, A., & Zainol, N. A. (2011). Destination image: an overview and summary of selected research (1974? 2008). *International Journal of Leisure and Tourism Marketing*, 2(1), 39-55.
- Azman, N. H. (2020). Covid-19 could cost Malaysia's economy RM5.9b this year. The Malaysian Reserve. <https://themalaysianreserve.com/2020/02/24/covid-19-could-cost-malysias-economy-rm5-9b-this-year/>
- Buhalis, D., & Foerste, M. (2015). SoCoMo marketing for travel and tourism: Empowering co-creation of value. *Journal of destination marketing & management*, 4(3), 151-161.
- Carbonell, P., & Escudero, A. I. R. (2015). The negative effect of team's prior experience and technological turbulence on new service development projects with customer involvement. *European Journal of Marketing*.
- Chang, S. Y., Tsaur, S. H., Yen, C. H., & Lai, H. R. (2020). Tour member fit and tour member-leader fit on group package tours: Influences on tourists' positive emotions, rapport, and satisfaction. *Journal of Hospitality and Tourism Management*, 42, 235-243.
- Chung, N., & Koo, C. (2015). The use of social media in travel information search. *Telematics and Informatics*, 32(2), 215-229.
- Chung, N., Han, H., & Koo, C. (2013). A Comparative Analysis of Usage Motivation and Tourism Information Search Behavior in Online Travel Community Using Elaboration Likelihood Model. *J. Tour. Sci*, 37, 219-240.
- Dong, H. (2021). Design and Management of Control System for Rural Tourism Network Information Based on MVC Model. *Mobile Information Systems*, 2021.
- Du, J., Chen, M. Y., & Wu, Y. F. (2020). The effects of social media on sporting event satisfaction and word of mouth communication: An empirical study of a mega sports event. *Information*, 11(10), 482.
- Goodell, J. W. (2020). COVID-19 and finance: Agendas for future research. *Finance Research Letters*, 35, 101512.
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: foundations and developments. *Electronic markets*, 25(3), 179-188.
- Gretzel, U., Werthner, H., Koo, C., & Lamsfus, C. (2015). Conceptual foundations for understanding smart tourism ecosystems. *Computers in Human Behavior*, 50, 558-563.
- Griffin, T., Giberson, J., Lee, S. H. M., Guttentag, D., Kandaurova, M., Sergueeva, K., & Dimanche, F. (2017). Virtual reality and implications for destination marketing.
- Hall, C. M., Prayag, G., & Amore, A. (2017). *Tourism and resilience: Individual, organisational and destination perspectives*. Channel View Publications.
- Heider, F. (1946). Attitudes and cognitive organization. *The Journal of psychology*, 21(1), 107-112.
- Hunter, W. C., Chung, N., Gretzel, U., & Koo, C. (2015). Constructivist research in smart tourism. *Asia Pacific Journal of Information Systems*, 25(1), 103-118.

- Jeong, M., & Shin, H. H. (2020). Tourists' experiences with smart tourism technology at smart destinations and their behavior intentions. *Journal of Travel Research*, 59(8), 1464-1477.
- Kim, W. G., Lee, C., & Hiemstra, S. J. (2004). Effects of an online virtual community on customer loyalty and travel product purchases. *Tourism management*, 25(3), 343-355.
- Lai, C. C., Shih, T. P., Ko, W. C., Tang, H. J., & Hsueh, P. R. (2020). Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. *International journal of antimicrobial agents*, 55(3), 105924.
- Lee, K. Y. M., Jais, M., & Chan, C. W. (2020). Impact of covid-19: evidence from Malaysian stock market. *International Journal of Business and Society*, 21(2), 607-628.
- Lee, P., Hunter, W. C., & Chung, N. (2020). Smart tourism city: Developments and transformations. *Sustainability*, 12(10), 3958.
- Lin, S. D. (2021). A Virtual Point-of-care Ultrasound Course During the COVID-19 Pandemic. *AEM Education and Training*, 5(1), 102-104.
- Mahalingam, S. A. (2021, July 4). Good response to Taiping Zoo and Night Safari virtual visit. *The Star*. <https://www.thestar.com.my/news/nation/2021/07/04/good-response-to-taiping-zoo-and-night-safari-virtual-visit>
- Malaysian Investment Development Authority. (2021, June 14). Smart Tourism: Future of Tourism in Malaysia. MIDA | Malaysian Investment Development Authority. <https://www.mida.gov.my/smart-tourism-future-of-tourism-in-malaysia/>
- Nam, K., Dutt, C. S., Chathoth, P., & Khan, M. S. (2021). Blockchain technology for smart city and smart tourism: latest trends and challenges. *Asia Pacific Journal of Tourism Research*, 26(4), 454-468.
- No, E., & Kim, J. K. (2015). Comparing the attributes of online tourism information sources. *Computers in human behavior*, 50, 564-575.
- OECD (2020). Coronavirus: The world economy as risk. Retrieved from <https://www.oecd.org/berlin/publikationen/Interim-Economic-Assessment-2-March-2020.pdf>
- Osman, A., Wahab, N., & Ismail, M. (2009). Development and evaluation of an interactive 360 virtual tour for tourist destinations. *Journal of Information Technology Impact*, 9(3), pp.173-182.
- Ozturk, A. B., & Hancer, M. (2015). The effects of demographics and past experience on RFID technology acceptance in the hospitality industry. *International Journal of Hospitality & Tourism Administration*, 16(3), 275-289.
- Pahlevi, A. S., Sayono, J., & Hermanto, Y. A. L. (2021). Design of a Virtual Tour as a Solution for Promoting the Tourism Sector in the Pandemic Period. *KnE Social Sciences*, 368-374.
- Pai, C. K., Liu, Y., Kang, S., & Dai, A. (2020). The role of perceived smart tourism technology experience for tourist satisfaction, happiness and revisit intention. *Sustainability*, 12(16), 6592.
- Ramli, A. R. (2018, August 5). Smart Tourism 4.0 To Be Tourism Game-Changer for Malaysia - Tourism Malaysia Corporate Site. Tourism Malaysia. <https://www.tourism.gov.my/media/view/smart-tourism-4-0-to-be-tourism-game-changer-for-malaysia>
- Rivera, M., Gregory, A., & Cobos, L. (2015). Mobile application for the timeshare industry: The influence of technology experience, usefulness, and attitude on behavioral intentions. *Journal of Hospitality and Tourism Technology*.

- Sheila, R. (2021). Help Malaysia's Zoos: Virtual Tours Worth Taking. Yahoo News. <https://malaysia.news.yahoo.com/help-malaysia-zoos-virtual-tours-030009293.html>
- Sigala, M. (2020). Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. *Journal of business research*, 117, 312-321.
- Singh, J., Goolsby, J. R., & Rhoads, G. K. (1994). Behavioral and psychological consequences of boundary spanning burnout for customer service representatives. *Journal of Marketing Research*, 31(4), 558-569.
- Tan, G. W. H., Lee, V. H., Hew, J. J., Ooi, K. B., & Wong, L. W. (2018). The interactive mobile social media advertising: an imminent approach to advertise tourism products and services?. *Telematics and Informatics*, 35(8), 2270-2288.
- The Organisation for Economic Co-operation and Development (OECD). (2020). Tourism Policy Responses to the coronavirus (COVID-19). OECD 2020. [https://read.oecd-ilibrary.org/view/?ref=124\\_124984-7uf8nm95se&title=Covid\\_19\\_Tourism\\_Policy\\_Responses&\\_ga=2.172879974.473427611.1628407706-1076097445.1628407706](https://read.oecd-ilibrary.org/view/?ref=124_124984-7uf8nm95se&title=Covid_19_Tourism_Policy_Responses&_ga=2.172879974.473427611.1628407706-1076097445.1628407706)
- Toda, A. A. (2020). Susceptible-infected-recovered (sir) dynamics of covid-19 and economic impact. *arXiv preprint arXiv:2003.11221*.
- Wang, Y. S., Li, H. T., Li, C. R., & Zhang, D. Z. (2016). Factors affecting hotels' adoption of mobile reservation systems: A technology-organization-environment framework. *Tourism Management*, 53, 163-172.
- Williams, C. (2007). Research methods. *Journal of Business & Economics Research (JBER)*, 5(3).
- World Tourism Organization (UNWTO). (n.d.). Tourism in the 2030 Agenda | UNWTO. UNWTO. Retrieved August 8, 2021, from <https://www.unwto.org/tourism-in-2030-agenda>
- Ye, B. H., Ye, H., & Law, R. (2020). Systematic review of smart tourism research. *Sustainability*, 12(8), 3401.
- Yusof, A. (2021). Timeline: How the COVID-19 pandemic has unfolded in Malaysia since January 2020. CNA. <https://www.channelnewsasia.com/asia/timeline-how-covid-19-pandemic-has-unfolded-malaysia-january-2020-2082081>
- Zheng, W., Feng, L., Liu, B., Fu, P., & Qiao, J. (2017). Development of virtual laboratory application structure in Android cellphone for distance learning. In *2017 First International Conference on Electronics Instrumentation & Information Systems (EIIS)* (pp. 1-5). IEEE.