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CHALLENGES OF SMART TOURISM IN MALAYSIA ECO-TOURISM DESTINATIONS

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Abstract

Smartness helps in transferring and sharing information to facilitate tourism industry optimizing performance and competitiveness, generating solution for asset evaluation and shaping tourism products and services in a real-time. In Malaysia, tourism industry is moving forwards to acknowledge smart tourism concept as Malaysia Smart Tourism 4.0 initiatives is launched recently. Therefore, this study aims to identify challenges of smart tourism application in Malaysia. 400 respondents among domestic and international tourists were recruited for the study, using questionnaire survey in two eco-tourism destination, Pulau Langkawi and Cameron Highland. Chi-square test was used to assess the challenges. Awareness, security and privacy, and implementation mechanism of smart tourism are among the highest challenges were observed. This study extends for a new establishment of proper and comprehensive framework of smart tourism in Malaysia.

Keyword: Smart Tourism; Challenges, Domestic and International Tourists

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RESEARCH BACKGROUND

In recent years, the word ‘smart’ has become a new buzzword in reflecting technologies in social (Deepti & Tooran, 2020) and economic developments (Caragliu et al., 2011), as well as exchanging knowledge and information (Vanolo, 2013; Vasavada & Padhiyar, 2016). The emergence of smart devices is highly favourable as it connects infrastructures with network available. This idea is conceptualised by Harrison et al. (2010), where smart was exploiting functional real-world data and near-real time to improve functional commitments through adopting analytical modelling, visualization and optimization. As cities become increasingly competitive, the smart technologies have leading and connecting everything together, including activities and services to be more connected, better informed and engaged with consumers (Bakici et al., 2013; Buhalis & Amaranggana, 2013; Lee et al., 2014), practically for tourism industries as a whole. On that count, tourism become more accessible and enjoyable for all while having interconnect services and better coordination provided by local organizations. However, Malaysia showing fewer studies on application of smart tourism as it still at early stage which tourism destinations are still looking for their own rhythm to survive. there are several issues have arisen for more further consideration, which are no specific framework, numeral global scale crises inclining negative impacts towards tourist arrivals and environment, as well as poor digitalisation urged drop-off tourist experiences and tourism development in Malaysia. As moving forward to application of smart tourism, Tourism Malaysia has launched Malaysia Smart Tourism 4.0 in boosting the usage trend of digital technology that giving impact towards travel demand and tourism-related businesses, specifically among the tourists. This study aims to analyze the interrelationship of smart tourism challenges among domestic and international tourists.

TOURISM

The United Nations World Tourism Organization (UNWTO) gives specific definition of tourism as “the activities of a person travelling to and staying in place outside their usual environment for not more than one consecutive year for leisure and not less than 24 hours for business and other purposes” (UNWTO Technical Manual, 1995, p.10). To simplify, tourism is a physical travel movement for many purposes such as leisure and practice the theory of business if attracting, accommodating, operating tours and entertaining tourists. It can be inbound tourism and outbound tourism, which involving inbound tourists and outbound tourists. Significantly, tourism contributes to economy (World Tourism Organization, 1980), which impacted directly and indirectly (Lee & Chang, 2008) which become an important economic generator for many regions and even for the entire countries around the globe. As for Malaysia, tourism industry has experienced rapid growth towards governmental endeavours and intensive

campaigns (Ng et al., 2016). It is proved from Tourism Satellite Account 2018 that recorded literally the tourism industry continued its contribution significantly towards Malaysia's economy, about 15.2% in 2018 compared to 14.6% in 2017 (Department of Statistics Malaysia, 2019). Hence, the Eleventh Malaysia Plan focused on targeting high yield tourists in order to stimulate the economic contribution and one of key drivers in the service sector.

SMART TOURISM

Recently, Information and Communication Technologies (ICT) has opened up a new tool for tourism industry (Buhalis & Amaranggana, 2014). It is a new innovation of approach and business model for tourism (Korkmaz et al., 2018) as Liu (2005) believes that tourism is one of leading industries to support both communication with customers (business-to-customer) as well as with other businesses (business-to-business), which commonly known as e-business. Although the physical characteristics of a place may attract the tourist, however, services and technological offering also have a strong impact towards tourists' psychological perception of a destination. For example, tourists could simply use their digital devices to explore much information about the destination and event of interest. Nowadays, tourism destination is facing a set of new challenges arising from both consumers and the environment itself as it influenced by the emerging of technologies that involved tourist's demand goods and services to improve their quality of life and enhance their experiences (Lamsfus & Alzua-Sorzabal, 2013). Therefore, ICT plays an important key role in shaping future of tourism. On that count, tourism destination can recognize the kind of changes that occurred as well as proactively respond to deal with issues and challenges (Soteriades & Aygeli, 2007).

Previously, ICT never been binding with travel experience and tourism management (Ollerenshaw et al., 1999). Before the commercialization of internet, it is used for travel and tourism (Sheldon, 1997). It transforms the tourism experience by bringing together related information, social networking and mobility-related functionalities with the widespread use of mobile technology, just onto the fingertips of the tourists (Tussyadiah & Zach, 2012). Potentially, tourism has transformed into a smart tourism by taking advantages from intelligent system into the demands of industry due to present application of advance technology (Gretzel, 2011). On that count, recent smart tourism relies on extensive adoption of emerging technologies, such as social media and mobile technology in creating new value propositions by collecting and exploiting the huge amount of big data (Gretzel et al., 2015). It will provide a result of interconnecting tourism activities with multiple community stakeholders through dynamic platforms, acknowledging intensive communication flows and enhancing decision support system.

METHODOLOGY

Questionnaire survey was chosen as the data collection method. The sample consisted of 400 respondents using simple random sampling approach. The questionnaire survey was distributed in two tourism destinations, namely Pulau Langkawi and Cameron Highlands. Two categories of tourists were participated, namely domestic and international tourists. The data that consists of perspectives results of ten smart tourism challenges as items were plotted and analysed with chi-square analysis. The ten challenges are based on the literature reviews. (1) tourists have difficulties with application systems (Ritchie et al., 2011; Fanselow, 2018), (2) Low proficiency in digital technology (Wang et al., 2020), (3) Limited and slow internet network (Chatterjee & Kar, 2018), (4) Tourists not afford for digital devices (Gupta & Hall, 2017), (5) Unclear definition and concept (Odendaal, 2011; Datta, 2015), (6) Less and limited digital technology applications (Fanselow, 2018), (7) Applications in all tourism sectors and businesses (Neuhofer et al., 2013), (8) Declining of locals involvement and benefits (Caber et al., 2016; Syahriah Bachok et al., 2018), (9) Less privacy and security of personal information (Boes et al., 2016), (10) Less awareness and understanding (Kang et al., 2006).

ANALYSIS AND FINDINGS

Table 1: Chi-square test: Tourist types and smart tourism challenges

Chi-Square Test :					
Tourist Types (Domestic & International) and Smart Tourism Challenges					
Smart Tourism Challenges	df	P-value	Decision	Cramer's V	Strength
Difficulties with application systems	1	.017	Significant	.23	Small
Low proficiency in digital technology	1	.062	Not significant	-	-
Limited and slow internet network	1	.029	Significant	.31	Medium
Do not afford for digital devices	1	.038	Significant	.44	Medium
Unclear definition and concept	1	.107	Not significant	-	-
Less and limited digital technology	1	.014	Significant	.75	Large

Application in all tourism businesses	1	.042	Significant	.18	Small
Declining of locals involvement and benefits	1	.056	Not significant	-	-
Less privacy and security of personal information	1	.082	Not significant	-	-
Less awareness and understanding	1	.033	Significant	.39	Medium

Source: Questionnaire survey, 2020

Table 1 above presents the chi-square test of independence to examine the relationship between types of tourists and smart tourism challenges. The result findings are as follows:

Application System

“Difficulties with application systems”, the relationship between these variables was statistically significant, $X^2(1, N = 400)$, p value = .017, with the effect size V of .23 signified a small effect. It illustrates that both types of tourists had difficulties with the applications in tourism services.

Digital Technology Proficiency

“Low proficiency in digital technology”, the relationship between the challenge and tourists types was statistically not significant, $X^2(1, N = 400)$, p value = .062.

Internet Network

“Limited and slow internet network”, the relationship between the challenge and tourists was statistically significant, $X^2(1, N = 400)$, p value = .029, with the effect size V of .31 signified a medium effect. It shows that the domestic and international tourists had the limitation access of internet network in the tourism destinations.

Digital Devices

“Do not afford for digital devices”, the relationship between the challenge and tourists was statistically significant, $X^2(1, N = 400)$, p value = .038, with the effect size V of .44 signified a medium effect. It shows that both tourists believe that the digital devices are costly for a budget trip.

Smart Tourism Concept

“Unclear definition and concept”, the relationship between the challenge and tourists types was statistically not significant, $X^2(1, N = 400)$, p value = .107.

Digital Technology Availability

“Less and limited digital technology”, the relationship between these variables was statistically significant, $X^2(1, N = 400)$, p value = .014, with the effect size V of .75 signified a large effect. It shows that the challenge of limited access to the digital technologies and devices is highly encountered by most the tourists.

Tourism Business

“Application in all tourism businesses”, the relationship between tourist types and the challenge was statistically significant, $X^2(1, N = 400)$, p value = .042, with the effect size V of .18 signified a medium effect. It illustrates that tourists believed that not all tourism businesses and operators are providing smart tourism services and applications.

Community Involvement

“Declining of local community involvement”, the relationship between the challenge and tourists types was statistically not significant, $X^2(1, N = 400)$, p value = .056.

Personal Information

“Less privacy and less security of personal information”, the relationship between the challenge and tourists types was statistically not significant, $X^2(1, N = 400)$, p value = .082.

Awareness

“less awareness”, the relationship between the challenge and tourists was statistically significant, $X^2(1, N = 400)$, p value = .033, with the effect size V of .39 signified a medium effect. It illustrates that most of the tourists and tourism businesses operators have less awareness on smart tourism implementations.

DISCUSSION AND RECOMMENDATIONS

The results observed that both domestic and international tourists equally considered the implementation of smart digital applications in tourism destinations are complicated and difficult, limited internet network, high cost for the devices, less implementation of all tourism activities and businesses, and less awareness among tourists and community. Moreover, both categories of tourists strongly agreed that the digital technology and facilities are limited and difficult to access. It illustrates here that this new culture of tourism seems complicated that required a digital intelligence whereas other countries have proven success. Principally, time needs to be given for Malaysians, to incorporate the new capabilities to face the digital challenges in the new ecosystem of tourism, particularly adapting the unstable pandemic of Covid-19.

Despite of its importance and characteristics, smart tourism indeed outlined several challenges that are facing by domestic and inbound tourists that need for an improvement. Therefore, several specific recommendations are outlined to improve smart tourism in Malaysia tourism destinations, not forgotten for including other components such as smart economic, smart environment, smart people, smart government and mobility in the implementation. Firstly, the tourist experience can be improved in particular destinations with the implementation of virtual reality (VR) and augmented reality (AR). With Industrial Revolution 4.0 applications in the tourism industry, sophisticated directory products that all processes and procedures of holiday package are displayed on the market can come into being by virtual reality. Such applications would be able to remove the intangibility, inseparability, variability, and uncertainty characteristics of the tourist product. At the same time, the graphical in digital applications should be designed to accommodate all millennials categories – age, physical capability, and races. They have played a major role in this paradigm shift. They enjoy travelling and also passionate about brand new technology. This mutual interested has given way to a new perspective where social media, apps, blogs, and etc. have an essential part for travel.

Not only that, the smart digital infrastructures which divided into two categories plays a role as connectivity mediums, which are virtual (e.g. internet coverage) and physical (e.g. facilities, amenities) that should be installed and applied in all main and supporting sectors especially within the core destinations, such as, ticketing counter, *warong*, and house-stays. It becomes progressively suited by adapting into business model and product offering to attract tourism demand. In addition, the specific control center acted as the main data reception hub to capture, manage and analyze the real time data. Many cities around the world are already using big data technologies to help them manage their tourism. Tourism boards and companies in the tourism sector can benefit from the data in many ways. That includes pinpointing marketing campaigns, offering packages tailored to visitors' likely interests and deciding which countries to focus on winning customers in. These can be a great help in the decision-making process, and improve the operation of tourism industry. Players in the tourism industry can now make informative decisions on the basis of analytics and number-driven data. They can identify targeted groups of potential customers at every stage in the trip planning process, and also increase efficiency and the quality of services as well. Not only that, the basic real time data and information should be properly and legally shared to government agencies and tourism operators. This may predict the tourist behaviors and preferences, as well as the tourism businesses may take actions to improve services, quality and tourist experiences. It is an important factor of the achievement and competitiveness of a tourism destination and lead to the exchange of data, objectives, and resources. This has facilitated information and communication technologies to become an integral part of

tourism operation. This is because information and communication technologies which covers all technologies that enable the use of information and facilitate different forms of communication among human actors and electronic systems.

CONCLUSION

Smart tourism is highly explored and studied nowadays as the world moving to a digital ecosystem particularly the tourism industry. As an important foundation for sustainable tourism services and businesses, smart tourism is strongly believed to be a game-changer to the industry. It is utilizing digital in offering and improving tourists' travel experiences, generating revenue to national and local economic. The study reveals the existing challenges and gaps in implementing smart tourism application in Malaysia. Tourists as the main users understood the importance of this new tourism approach, with the consideration of uncertain future of pandemic Covid-19. However, a complete study and concrete framework of smart tourism in Malaysia need to be established.

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