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Factors Affecting Continuance Intention in E-Tourism Technologies Amidst Covid-19 Pandemic

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Abstract

The recent eruption of COVID-19 has led to the adverse effect to the people and the economy across the world where it has brought life, companies, and the tourism industry to a halt. Consequently, it has been said that this impact will depend not only on the length of the pandemic but also potential long-term changes in travel behaviour as a result of the crisis. Nonetheless, as trips become safer during post pandemic, people may need extra encouragement to travel again, and one promising way to do this is through continuous use of novel immersive technologies that are able to provide timely information and protect them from the pandemic. Hence, grounded by the Expectation-Confirmation Model (ECM), the purpose of this study is to examine tourists' continuance intention to use e-tourism technologies such as social media, mobile apps, augmented reality, and smart technologies, as well as websites and reservation systems, in the Malaysian context during post pandemic period. Data were collected from 200 respondents using purposive sampling method. Subsequently, the data were analysed using SPSS. The multiple regression analysis result of the main model shows that satisfaction in using e-tourism technologies was found to be the most important factor in determining the continuance intention in those technologies, explaining 76.3% of the variance. On the other hand, confirmation highly influences satisfaction in using e-tourism technologies, explaining 60.6% of the variance. Finally, the similar findings to the present study are discussed. Undoubtedly, this study provides good insights for tourism application developers and service providers in understanding tourist behaviour in terms of continuance intention to use e-tourism technologies during the post pandemic era.

Keywords: Confirmation, Continuance Intention, COVID-19, e-Tourism Technologies, Satisfaction

Introduction

The broad adoption of information and communication technology (ICT) has had a significant impact on the tourism industry. Indeed, e-tourism technologies such as hotel reservation systems and online flight tickets have played a critical role in tourism since the early days of computers (Yoo et al., 2017). Pourfakhimi et al (2020) recently agreed that e-tourism

technologies go beyond hotel reservation systems and online flight ticketing. They include mobile technologies, self-service technologies, social media, mobile applications, augmented reality, and smart technologies in their classification. All of these information system (IS) technologies let tourists get more relevant information, move about more easily, and make better decisions.

Nonetheless, the coronavirus (COVID-19) pandemic has produced an unprecedented crisis in the tourism industry, with a massive and immediate impact. According to Euromonitor International, global visitor numbers had plummeted up to 80% or 800 million people in 2020 (Euromonitor International, 2020). The Covid-19 outbreak had cost Malaysia's tourism and culture industry around RM45 billion in the first half of 2020 (Bernama, 2020).

Pololikashvili (2020) claims that the impact is determined not only by the pandemic's duration, which definitely has ramifications for business survival, but also by probable long-term changes in travel behaviour as a result of the crisis. In addition, the crisis is projected to have a long-term impact on consumer behaviour by hastening the shift to online shopping, placing a greater emphasis on hygiene and healthy living, and increasing the adoption of cashless and contactless payment systems (Pololikashvili, 2020).

The tourism industry in Malaysia is working hard to recover from the effects of the present pandemic in order to avoid bankruptcy and protect jobs, as well as to recover from the downturn and prepare for the return to normalcy. In light of globalisation and the relative importance of tourism to Malaysia's economic growth, tourism marketers are responsible for adopting the appropriate marketing strategy to keep their destination competitive. Furthermore, according to Moorhouse (2020), establishing destination appeal in new and existing markets is critical in determining a city's worldwide competitive position as well as its overall economic and developmental success. People may need extra encouragement to travel again as trips get safer, and one possible method to do so is through unique immersive technological experiences. However, one point remains unanswered: Will tourists continue to use this technology in the post-pandemic era in order to acquire timely information and protect themselves from the pandemic?

The purpose of this study, which is based on the Expectation-Confirmation Model (ECM), is to investigate tourists' continued intention to use e-tourism technologies such as social media, mobile apps, websites, and reservation systems, mobile technologies, self-service technologies, mobile applications, augmented reality, and smart technologies in the Malaysian context following the pandemic. This was accomplished by looking at the aspects that influence tourists' satisfaction with e-tourism technologies, which in turn influence their desire to utilise the technologies in the future. This study included and examined ECM variables which are confirmation, perceived usefulness, satisfaction, and continuance intention.

Literature Review

E-tourism Technologies

E-tourism technologies, according to Pourfakhimi et al (2020), include more than hotel reservation systems and online airfare ticketing. Mobile technologies, self-service technologies, social media, mobile applications, augmented reality, and smart technologies are all included in their classification. All of these information system (IS) technologies help tourists find more relevant information, move about more easily, and make better decisions.

Expectation-Confirmation Model (ECM)

Bhattacharjee (2001) hypothesised and empirically tested ECM in a survey of American online banking customers. ECM has been extensively employed by a variety of researchers in a variety of technical contexts to better understand consumer satisfaction and post-adoption behaviour. Unlike other technology adoption models, ECM allows users to compare their perceptions before and after adoption, as well as their satisfaction with their current information system (IS) usage (Chong, 2013). According to Bhattacharjee, consumers' intent to continue using an information system is determined by three factors - the users' satisfaction with the system, their level of confirmation, and their post-adoption behaviour, which is measured by perceived usefulness (Chong, 2013). ECM is appropriate and proper to be utilised in this investigation of continuing intention because e-tourism is a form of IS.

Continuance Intention

The major dependent variable in any IS continuing intention study is the intention to continue. Continuance intention, according to Bhattacharjee (2001), is defined as the consumers' desire to use the IS indefinitely. Bhattacharjee's ECM construct of continuation intention is a post-acceptance construct. As it is a construct measured after actual usage, some studies operationalized continuation usage intention as the act of loyalty intention. Many previous researches in a variety of technologies have discovered substantial links between perceived usefulness and intention to continue, as well as satisfaction and intention to continue (Hsiao & Chang, 2013; Chong, 2013).

Satisfaction

The users' feelings about prior IS use are defined as satisfaction (Bhattacharjee, 2001). In their study, Hsiao and Chang (2013) define satisfaction as the positive emotional state that a consumer experiences as a result of using mobile advertising. User satisfaction, according to ECM, is determined by two constructs - information system expectation and confirmation of expectation after actual use. Users evaluate their evaluative response or satisfaction by comparing it to their expectations (Bhattacharjee, 2001). Many previous studies have confirmed the beneficial direct correlations between satisfaction and continuance intention (Hsiao & Chang, 2013; Chong, 2013; Thominathan & Ramayah, 2014). As a result, the following hypothesis is proposed in this study:

H1: Satisfaction has a positive relationship with continuance intention.

Confirmation

Bhattacharjee (2001) defines confirmation as the users' sense of the congruence between their expectations and the actual performance of an information system. According to Bhattacharjee (2001), confirmation is positively related to satisfaction with IS use because it indicates that the expected benefits of IS use have been realised, whereas disconfirmation (perceived performance falling short of expectation) indicates that the expectation has not been met. Thus, the extent to which users' expectations are realised and confirmed determines happiness with e-tourism technology, with continuing intention emerging only later in the post-adoption period. Bhattacharjee (2001) concludes that, after using internet banking, consumer confirmation shows a favourable association with satisfaction and perceived usefulness. On top of that, Chong (2013) concurs that the degree of confirmation will strengthen and favourably improve user pleasure and perceived utility of mobile commerce services. Therefore, in this investigation, the following hypotheses are proposed:

H2: Confirmation has a positive relationship with satisfaction.

H3: Confirmation has a positive relationship with usefulness

Perceived Usefulness

Bhattacharjee defines perceived usefulness as the users' view of the expected benefits of IS. In the original ECM, perceived usefulness represents the post-expectation aspect. In the context of IS continuance, perceived usefulness, according to Bhattacharjee (2001), is a sufficient expectation since it is the only belief that has been demonstrated to consistently influence user intention throughout time periods of IS use. Previous research has found a link between perceived usefulness and satisfaction (Hsiao, Chang, Libaque-Saenz, Wong, & Chang, 2016; Oghuma, Chang, Libaque-Saenz, Park, & Rho, 2015; Mouakket, 2015; Thominathan & Ramayah, 2014; Chong, 2013; Hsiao & Chang, 2013), as well as a link between perceived usefulness and continuance intention (Oghuma et al., 2016; Oghuma et al., 2015; Lu, 2014; Thominathan & Ramayah, 2014; Chong, 2013; Hsiao & Chang, 2013). Hence, the following hypotheses are proposed in this study:

H4: Perceived usefulness has a positive relationship with satisfaction

H5: Perceived usefulness has a positive relationship with continuance intention

Figure 1 illustrates the research framework of this study.

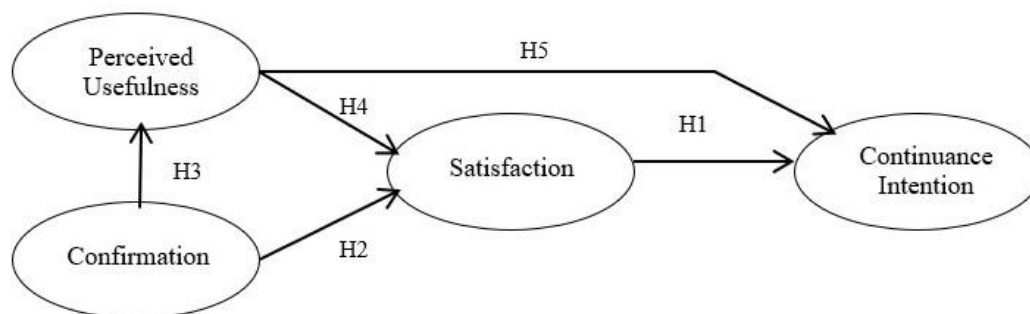


Figure 1: Research Framework

Methodology

The 5-point Likert scale measurement in questionnaire design was used to evaluate factors impacting continuance intention in e-tourism technologies among Malaysian tourists using three independent variables: perceived usefulness, confirmation, and satisfaction. The researcher used Google Forms to distribute a total of 230 questionnaires online. Respondents in Malaysia received the online questionnaires via their e-mail addresses, which were selected earlier, using a purposive sampling procedure. This study has previously identified the target population of tourists aged 18 and over, as well as those who have used at least one of the e-tourism technologies mentioned in the Literature Review section, such as hotel reservation systems, online flight ticketing, mobile technologies, self-service technologies, social media, mobile applications, augmented reality, and smart technologies. 200 responses were judged full and valid for data analysis using the Statistical Program for Social Science (SPSS) software after they were screened for usability and reliability.

Perceived usefulness, confirmation, satisfaction, and continuance intention were all examined in this study. To meet the study objective, measurement items were adapted from a variety of sources. Bhattacharjee (2001); Chong (2013) provided the items for confirmation,

satisfaction, and continuance intention, whereas Chong (2013) included the items for perceived usefulness. All items were rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Results

Demographic Analysis

The sample was made up of 46 men (23%) and 154 women (77%). 18.5% of the respondents in the sample were between the ages of 18 and 20, 58.5% were between the ages of 21 and 30, and 33 % were over the age of 30. The majority of the respondents (97%) were of Malay ethnicity. The educational level of the respondents revealed that 50.5% had a bachelor's degree, 32% had a diploma, and the rest had a postgraduate degree. Students made up 71% of the sample, which explains why the majority of the respondents had a monthly salary of less than RM2000. Those who worked in the government sector, on the other hand, made up 17.5% of the respondents, with monthly incomes ranging from RM5000 to RM11,000.

Reliability Test

Table 1: Cronbach's Alpha Values

Variables	Cronbach's Alpha	Number of Items
Perceived Usefulness	0.920	6
Confirmation	0.894	4
Satisfaction	0.939	5
Continuance Intention	0.902	5

Table 1 shows that all the Cronbach's alpha values are greater than 0.70 (Sekaran & Bougie, 2013) which verify the reliability of this study.

Collinearity Test

Table 2: Collinearity Assessment

Variables	Variance Inflation Factor (VIF)			
	Dimension			
	1	2	3	4
Perceived Usefulness	0.00	0.00	0.58	0.41
Confirmation	0.00	0.10	0.02	0.88
Satisfaction	0.00	0.07	0.60	0.33

In order to reduce any bias in the path coefficients, problems of collinearity among the predictor variables must be addressed in advance (Hair et al., 2014). The variance inflation factor (VIF) is one example of a collinearity metric. A collinearity problem is indicated by a VIF value of 5 or above (Hair et al., 2011). The VIF values from the analyses are listed in Table 2. All VIF readings are obviously below the 5 threshold, as can be observed. As a result, the variables are not collinear. Therefore, there is no collinearity issue among the variables.

Multiple Regression

This study's research approach includes three dependant variables - continuance intention (Model 1), satisfaction (Model 2), and perceived usefulness (Model 3). The findings of the main model's multiple regression analysis (Model 1) are summarised in Table 3. The results demonstrate that perceived usefulness and satisfaction are significant, with a $p < 0.05$ significance value. With a beta value of 0.589, satisfaction has the greatest influence on the desire to continue using e-tourism technologies, followed by perceived usefulness (beta value

= 0.290). Furthermore, the study's research model may explain 76.3% of the continuance intention to utilise e-tourism technology, based on the multiple regression analysis.

Table 3: Results of Multiple Regression Analysis for Model 1

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	B		
(Constant)	.196	.172		1.143	.254
Perceived Usefulness	.308	.056	.290	5.501	.000
Satisfaction	.580	.054	.589	10.657	.000

Note: $R^2 = 0.763$

Table 4: Results of Multiple Regression Analysis for Model 2

Model 2	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	B		
(Constant)	.772	.218		3.541	.000
Perceived Usefulness	.216	.072	.200	3.021	.003
Confirmation	.612	.065	.621	9.359	.000

Note: $R^2 = 0.606$

Table 4 displays the results of Model 2's multiple regression analysis. Perceived usefulness and confirmation are significant, with a significant value of less than 0.05 ($p < 0.05$). With a beta value of 0.621, confirmation has the greatest influence on satisfaction while utilising e-tourism technology, followed by perceived usefulness (beta value = 0.200). Moreover, the study's research model may explain 60.6% of the satisfaction with e-tourism technology, based on the multiple regression analysis.

Table 5: Results of Multiple Regression Analysis for Model 3

Model 3	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	B		
(Constant)	1.572	.185		8.493	.000
Confirmation	.676	.043	.742	15.553	.000

Note: $R^2 = 0.548$

Table 5 illustrates the results of Model 3's multiple regression analysis. With a beta value of 0.742, the results suggest that confirmation has a significant impact on perceived usefulness in e-tourism technology. Furthermore, the study's research model can explain 54.8% of the perceived usefulness of e-tourism technologies, based on the multiple regression analysis.

Table 6 recaps the study's hypothesis findings. All of the alternative hypotheses are supported, as stated previously.

Table 6: Hypothesis Results

Hypothesis Statement	Significance	Results
H1: Satisfaction has a positive relationship with continuance intention	0.000	Supported
H2: Confirmation has a positive relationship with satisfaction	0.000	Supported
H3: Confirmation has a positive relationship with perceived usefulness	0.000	Supported
H4: Perceived usefulness has a positive relationship with satisfaction	0.003	Supported
H5: Perceived usefulness has a positive relationship with continuance intention	0.000	Supported

Discussion

The goal of this study, as stated in the introduction, is to analyse tourists' continuance intention to use e-tourism technologies in the Malaysian setting following the epidemic. According to the findings, satisfaction has a strong influence on the intention to continue using e-tourism technologies, with a beta value of 0.589, followed by perceived usefulness (beta value = 0.290). These findings support the rationale and conclusions of numerous previous studies that show a favourable association between satisfaction and continuance intention (Hsiao & Chang, 2013; Chong, 2013; Thominathan & Ramayah, 2014). Meanwhile, the results of previous studies on continuance intention by Oghuma et al (2016); Oghuma et al (2015); Lu (2014); Thominathan and Ramayah (2014); Chong (2013); Hsiao and Chang (2013) corroborate well with the findings of this study on the positive influence of perceived usefulness on continuance intention. This suggests that tourists value the satisfaction they get from utilising e-tourism technologies more than the technology's usefulness.

This study, on the other hand, looks at the elements that influence tourists' satisfaction with e-tourism technologies, which in turn influences their intention to utilise the technologies in the future. The results of earlier continuance intention research by Oghuma et al. (2016), Oghuma et al (2015); Lu (2014); Thominathan and Ramayah (2014); Chong (2013); Hsiao and Chang (2013) show that confirmation has a greater impact on satisfaction while utilising e-tourism technology than perceived usefulness. As a result, the findings of this study suggest that satisfaction with e-tourism technology is mostly determined by the amount to which tourists' expectations are met and co-ordinated.

Last but not least, this research looks into the relationship between confirmation of using e-tourism technologies and their perceived usefulness. This study appears to demonstrate that tourists' perceived usefulness is boosted by confirmation. This is consistent with Thong et al. (2006)'s findings, which state that if a technology's performance surpasses expectations, it will be confirmed, and if it falls short of expectations, it will be disconfirmed. As a result, if the tourists' expectations are confirmed, the technologies will be seen as extremely beneficial to them.

Conclusion

In conclusion, this study demonstrates that satisfaction with e-tourism technologies has a significant impact on the desire to use the services in the future. Apart from that, user satisfaction with e-tourism technologies is clearly linked to the fulfilling of tourists' expectations. Overall, the findings show that this study was successful in verifying

Bhattacharjee's (2001) ECM in determining tourists' intentions to continue using e-tourism technology. To put it another way, every tourism application developer and service provider must focus on developing and supplying apps and services that meet the expectations of tourists in order to ensure that tourists have great experiences when using e-tourism technology. The utility of e-tourism technology is an illustration of prospective visitor expectations. Apart from that, tourism sector players must focus on increasing tourist satisfaction, which can be accomplished by maintaining connectivity, connection speed, privacy, security, and confidentiality of wirelessly transmitted data, to mention a few.

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