Performance Expectancy, Effort Expectancy and Social Influence towards Continuance in Adoption of Mobile Application Use

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Abstract

This study aims to investigate factors influences that may affect tourist continuance in the adoption of mobile application use. This study was conducted in Peninsular Malaysia. This study proposes three factors that influence continuance in the adoption of mobile application use consist of performance expectancy, effort expectancy and social influence. There are 384 respondents selected for online surveys and researchers manage to get back 250 responses. The data analysis used in this study is descriptive statistics and Pearson Correlation. The study revealed that there is a positive relationship between performance expectancy, effort expectancy and social influence towards continuance in the adoption of mobile applications use among tourists in Malaysia.

Keywords*: Performance Expectancy, Effort Expectancy, Social Influence, Mobile Application.*

1. INTRODUCTION

Mobile applications (apps) in tourism have increased incredibly and have been used widely by tourists, either local or foreigner inside and outside Malaysia. Tourism mobile apps help tourists to plan the tour, accommodation booking, ticket booking, transportation booking, route mapping and more (Rishabh Software, 2017). By using mobile apps, tourists have options for navigation services such as Global Positioning System (GPS) services, route scheduling and maps. While the social updates on social media as travel updates, reviews and picture galleries to help tourists to have smooth traveling. In 2017, 81% of Malaysians agreed that mobile apps like Facebook, Instagram and travel apps such as Trip Advisor, Airbnb and AirAsiaGo play an essential role in inspiring Malaysians to travel. Using the apps is one of the significant sources of aspects that affect the continuance intention of mobile app use among tourists (Yeap, 2018).

The tourism industry brings a large number of profits to Malaysia, but the low adoption rate on tourism technology among Malaysians slows down the development of the sector (Ariffin & Hashmi, 2018). Malaysian are still low involved in local tourism due to pandemic Novel Corona Virus (COVID-19) (Som, 2020). There were few challenges to mobile service in Malaysia that will cause the failure to implement mobile apps in the tourism industry. For example, Malaysia's average internet speed is 8.9 megabits per second (Mbit/s) and shows only a 40% year-on-year increase in broadband speed. Malaysia is ranked 62nd place worldwide and one of the fastest and most expensive data internets in the world (Akamai State of the Internet Report, 2017).

The Star Online (2014) stated that 94% of Malaysian smartphone users search for information via phones, including travelers. Morrissey (2018) from Travelport Digital said that mobile devices and apps had become a mainstream channel for engaging with users and travelers, and with 60% of all searches now on a mobile device. In addition, only 54% of Malaysian domestic travelers and 18% traveling outbound use mobile applications (apps) while traveling (Aditya, 2017). Therefore, this study intended to examine the factors that affect the continuance in the adoption of mobile applications among tourists in Malaysia. The first objective of this study is to identify the relationship between the performance expectation and the continuance in adoption of mobile applications used among tourists; the second objective is to measure the relationship between the effort expectancy and the continuance in adoption of mobile applications used among tourists; and the third objective is to examine the relationship between the social influence and the continuance in adoption of mobile applications used among tourists. The continuation in the adoption of mobile apps uses among tourists who travel in Malaysia is affected by performance expectancy, effort expectancy, and social influence.

2. LITERATURE REVIEW

Continuance in Adoption of Mobile Application Use

Continuance is the level of the strength of someone's intention to accomplish a specific consumption preference continuously (Han et al., 2018). It is an intermediary of the actual continuous practice of information technology or system (Silva, Howells & Meyer, 2018). Limayem et al. (2007) characterized continuance as a form of post-adoption behavior. For mobile applications, it has alluded to programming for general profitability and data recovery purposes. However, a tremendous flood in the client request and the full accessibility of designer apparatuses have driven a quick extension to incorporate different classifications of versatile applications. The applications classified including games, long-range informal communication stages, and others giving access to data on business, fund, way of life, and excitement (Hsu & Lin 2015). The examination of the widespread adoption of the latest mobile applications has facilitated because of the fane and tremendous development of smartphone usage (Hsiao et al. 2016).

In recent years, the development of the mobile application has explosively developed in conjunction with the extensive use of smartphones. The expanding number of smartphone endorsers has driven the use of mobile application software for mobile devices (Hsu & Lin 2015). Our everyday lives have relied mainly on the different functions of smartphones since the development of it (Cho, 2016). As per Gartner (2015) mobile applications development services for the market demand of it will develop at least five times quicker than internal information technology (IT) organizations' ability to deliver them

Performance Expectancy

Performance expectancy is largely examined by indicators such as perceived usefulness, inherent and extrinsic motivation, job-fit, relative advantage, and outcome expectations of the Information Technology (Wu, Yu, & Weng, 2012). Performance expectancy is when an individual perceives that using a system will help him or her to achieve an improvement in job performance (Venkatesh et al., 2003). It can also be defined as the tourist who was using smartphones will enable them to achieve improved performance on their travel. Performance expectancy is of direct relevance to the use of smartphones for booking by tourists in Malaysia and this is because tourists nowadays rely on the use of smartphones to access adequate information pertinent to their travel place. To improved search capabilities, smartphones enable tourists to retrieve a vast amount of information in different disciplines. Pynoo et al. (2011) examined the factors that affect teachers to accept digital learning software. The results proved that performance expectancy was particularly predictive of digital learning acceptance because of the maximization of educational effect. The increasing of performance expectancy will encourage users to use the mobile apps continuously. Thus, tourists who are using the smartphone will directly be enhancing his or her travel performance.

Effort Expectancy

Effort expectancy is based on the idea that there are relationships between the effort put at work, the performance achieved from that effort, and the rewards received from the effort (Ghalandari, 2012). Effort expectancy is directly related to the mobile applications' (apps) use in the tourism industry. The complexity of the smart devices' use to retrieve information within a short period is the main aspect that influenced the use of mobile apps among tourists. Hence, if tourists realize that it is easy to access for flight booking, hotel searching and many more, they might not refrain from using them. According to previous research for effort expectancy, users tend to have adoption intention of technology when the effort on learning and understanding a new technology is low. For instance, simplicity and the self- efficacy of the medium was giving an effect to PR practitioners' intention of social media adoption (Curtis et al., 2010). In both private and public sectors, effort expectancy was a positive predictor of the adoption of information communication technologies (ICTs).

Social Influence

Social influence can be defined as 'the degree to which an individual perceives that important others believe he or she should use the new system' (Venkatesh, 2003). It shows an individual preference important to make others believe he or she should use mobile applications. Social influence plays a

severe role in explaining the intention to use mobile technology in the mobile commerce setting (Merhi, Hone & Tarhini, 2019). A current study assumes that social influence on users significantly affects their decision to accept the use of mobile internet services (Zendehdel & Paim, 2015). Researchers often investigated the hypothesis that social influence has a positive effect on the behavioral intention to use, and the actual use of a technique or technology (Arman & Hartati, 2015; Chang et al., 2007; Phichitchaisopa & Naenna, 2013).
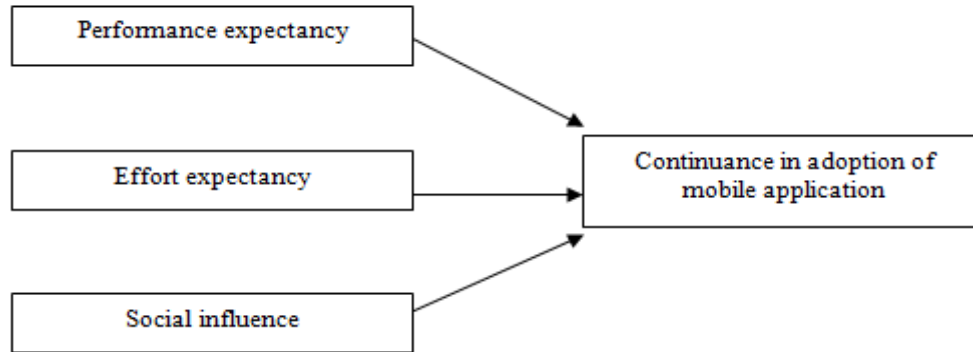
3. CONCEPTUAL FRAMEWORK

Figure 1. A conceptual framework

4. METHODOLOGY

This study used a quantitative research design. The target population set for this research includes the number of tourists who travel in Malaysia, which is 25.83 million tourists who arrive in 2018 (Tourism Malaysia, 2018). According to the arrivals of tourists, the number of tourists exceeds 1 million. Therefore, researchers had selected 384 respondents as the sample size for this study using the determining sample size table (Krejcie & Morgan, 1970). The target respondents were asked to complete an online questionnaire on which factors are influencing the continuance intention of mobile applications among tourists in Malaysia. The online questionnaires were distributed to individuals through Google form and expected to be filled by the respondents. However, only 250 out of 384 respondents thoroughly answer the questions and it represents 65 percent. The data has been analyzed using IBM SPSS Statistics version 25.

Instrumentation

For section A of the questionnaire, the tourist demographic is concerned. The questionnaire is based on the author Chandrashekhar (2009). In Section B, there is a question about the dependent variable that is the continuation intention of the mobile application. This study overviews current mobile apps users, so continuance intention instead of adoption intention, was asked. Respondents were approached to indicate whether they considered proceeding the use of mobile applications. In this way, continuance intention was estimated regarding how much a mobile application user continues using the mobile app in the next 12 months (Venkatesh et al., 2003).

For section C, there is the performance expectancy. Respondents answered five items about the degree to which the mobile applications help encourage task execution (Venkatesh et al., 2003). Section D is the effort expectancy. Respondents were approached to show whether they considered the use of mobile applications simple or not. Effort expectancy was estimated with five items about ease in mobile applications (Agarwal & Prasad, 1999; David et al., 1989). Section E is social influence. Important other's influence on mobile application use was assessed with the degree to which important other influence the appropriation decision of the mobile application in five items (Moore and Benbasat, 1991; Venkatesh and Davis, 2000).

5. RESULTS AND DISCUSSION

Profile of Respondents

There were 250 respondents who participated in this research and out of the respondents, 51.2% is male and 48.8% is female. The highest percentage of respondents by age is 21 – 30 years old (67.2%), followed by 31 – 40 years old (22.4%), below 20 years old (6.4%) and 41 and above (4.0%). The

percentage of respondents by marital status is 30.4% for married and 69.6% for single respondents. The highest percentage was 38% represented students, followed by 32.8% (employee), 24.8% (self-employed) and 4.4% (unemployed). There were 53.2% international tourists and 46.8% domestic tourists. The percentage of respondents by the purpose of visit was 40.8% for leisure,13.2% for study, 34.4% for recreation and 11.6% for research. The highest percentage is more than 1, which is 46%, followed by more than 3, which is 33.2%, more than 5, which is 12.4% and 0 is 8.4%. There were 94.8% of respondents used mobile apps while traveling and 5.2% of respondents do not use mobile apps while traveling. The highest percentage of the devices using when traveling is 96.4% (smartphone), followed by 11.2% (tablet) and 10.8% (iPad). The largest percentage of mobile apps types utilized is 62.0% (travel guide), follow by 61.6% (social media), 46.0% (offline map), 45.6% (tour booking) and 50.4% (public transport).

Table-1: Demographics of respondents (n=250)

Variable	Frequency	Percent
Gender		
Male	128	51.2
Female	122	48.8
Age		
20 years old and below	16	6.4
21 - 30 years old	168	67.2
31 - 40 years old	56	22.4
41 years old and above	10	4.0
Marital Status		
Single	76	30.4
Married	174	69.6
Occupation		
Student	95	38.0
Employee	82	32.8
Self-employed	62	24.8
Unemployed	11	4.4
Tourist Type		
International	133	53.2
Domestic	117	46.8
Purpose of Visit		
Leisure	102	40.8
Study	33	13.2
Recreation	86	34.4
Research	29	11.6
Number of Travel Apps Own		
0	21	8.4
1-2	115	46.0
3-4	83	33.2
More than 4	31	12.4
Usage of Mobile Apps while Travelling		
Yes	237	94.8
No	13	5.2
Devices using When Travelling		
Smartphone	241	96.4
Tablet	28	11.2
iPad	27	10.8
Types of Travel Apps Used		
Travel guide	155	62.0
Social media	154	61.6
Offline map	115	46.0
Tour booking	114	45.6

| Public transportation | 126 | 50.4 |

Relationship between performance expectancy and continuance in adoption of mobile apps.

Table 2 illustrates Pearson Correlation Coefficient, significant value and the number of cases which is 250. The p-value is 0.000, which is less than the significant level of 0.01. Thus, this study is supported as the first objective. The correlation coefficient of 0.801 suggested a high positive correlation between performance expectancy and continuance in adoption of mobile apps.

Table 2. Correlation Coefficient for Performance Expectancy in Determine Continuance in Adoption of Mobile Apps

		Continuance in Adoption of Mobile Apps	Effort Expectancy
Continuance in Adoption of Mobile Apps	Pearson correlation Sig. (2-tailed) N	1 250	0.801** 0.000 250
Performance Expectancy	Pearson correlation Sig. (2-tailed) N	0.801** 0.000 250	1 250

Relationship between effort expectancy and continuance in adoption of mobile apps.

Table 3 demonstrates Pearson Correlation Coefficient, significant value and the number of cases which is 250. The p-value is 0.000, which is less than the significant level of 0.01. Thus, this study is supported as the second objective. The correlation coefficient of 0.770 suggested a high positive correlation between effort expectancy and continuance in adoption of mobile apps.

Table 3. Correlation Coefficient for Effort Expectancy in Determine Continuance in Adoption of Mobile Apps

		Continuance in Adoption of Mobile Apps	Effort Expectancy
Continuance in Adoption of Mobile Apps	Pearson correlation Sig. (2-tailed) N	1 250	0.770** 0.000 250
Effort Expectancy	Pearson correlation Sig. (2-tailed) N	0.770** 0.000 250	1 250

Relationship between effort expectancy and continuance in adoption of mobile apps.

Table 4 shows Pearson Correlation Coefficient, significant value and the number of cases, which is 250. The p-value is 0.000, which is less than the significant level of 0.01. Thus, this study is supported as the third objective. The correlation coefficient of 0.732 suggested a high positive correlation between effort expectancy and continuance in adoption of mobile apps.

Table 4. Correlation Coefficient for Effort Expectancy in Determine Continuance in Adoption of Mobile Apps

		Continuance in Adoption of Mobile Apps	Social Influence
Continuance in Adoption of Mobile Apps	Pearson correlation Sig. (2-tailed) N	1 250	0.770** 0.000 250

Social Influence	Pearson correlation	0.770**	1
	Sig. (2-tailed)	0.000	
	N	250	250

The independent variables that are performance expectancy, effort expectancy and social influence have a significant value with the dependent variable, which is continuance in adoption of mobile applications use among tourists in Malaysia. The highest correlation value is 0.801, which is between performance expectancy and continuance in adoption of mobile application use among tourists in Malaysia. The second-high correlation value is 0.770, which is between effort expectancy and continuance in adoption of mobile applications. The

lowest correlation value is 0.732, which is between social influence and continuance in adoption of mobile applications. Thus, the significant relationship between performance expectancy, effort expectancy, social influence and continuance in adoption of mobile app among tourists in Malaysia is revealed.

6. CONCLUSION

The impact of factors affect continuance in adoption of mobile applications (apps) among tourists in Malaysia has been increasing due to technology uprising in our daily life. This is in line with the results of the study that revealed there was a significant relationship between performance expectancy, effort expectancy, social influence and continuance in adoption of mobile applications among tourists in Malaysia. Mobile apps are essential, especially in the travel and tourism industry that comes with much functionality that overcomes the use of paper maps, guidebooks and other physical stuff. The travel information can be easily accessed through smartphones has a unique effect on travelers from all walks of life.

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