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Continuous Usage Intention of E-Wallet during the Covid-19 Pandemic: A Malaysian Case

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Abstract
Purpose: The goal of this research is to discover characteristics that influence Malaysians' continued usage intention to use e-wallets as a payment mechanism during the Covid-19 pandemic.
Design/methodology/approach: Purposive sampling was utilized to obtain data from 417 Malaysians via a self-administered online questionnaire. SPSS version 26 and SmartPLS 3.3.3 were used to analyse the data.
Findings: Enjoyment, incentive, convenience, and habit contribute positively towards users' continuous usage intention on e-wallets. On the other hand, incentive and convenience have a high influence on users' continuing usage of e-wallets, but pleasure and habit have a modest effect. However, the analysis results demonstrate that subjective norm was not significant in determining users' continuous usage intention.
Research limitations: The data was collected in Malaysia during the Covid-19 Pandemic. Therefore, the results of this research cannot be generalised to other counties.
Practical implications: E-wallet services providers should pay attention particularly users enjoyment, incentive, convenience and habit because these factor will contribute to users' continuous usage intention on e-wallets.
Originality/value: This research provides understanding on what are the essential elements of users' continuous usage intention on e-wallet among the Malaysian during the Covid-19 pandemic. Although past researchers had studied about enjoyment, subjective norms, and habit as the essential elements of users' continuous usage intention on e-wallet, however health risk, incentive and convenience are other essential elements that are being added into the study. Certainly, these essentials elements needed attention particularly during the Covid-19 pandemic.

Keywords: e-wallet, Covid-19 pandemic, continuous usage intention, Malaysia

Introduction

Malaysian Prime Minister Muhyiddin Yassin made an announcement on March,16, 2020 stating that Malaysia will implement Movement Control Order (MCO) as a precautionary mechanism in response to the country's COVID-19 outbreak. Malaysians had no choice but to

remain at home during MCO. In order to prevent and reduce the COVID-19 virus from spreading, social distance and the avoidance of physical contact have been the most important preventative measures. Since then, the World Health Organisation (WHO) has encouraged the use of digital transactions and electronic cash transfers to prevent physical interaction. In addition, this is intended to foster a favourable public attitude toward the introduction of a cashless economy (Revathy & Balaji, 2020).

Literature Review

Malaysians are avid mobile phone users. The majority of Malaysians own at least a smartphone. According to 2019 research by J.P. Morgan, the Malaysian e-commerce business has expanded fast in recent years, thanks in part to the rise in smartphone usage. With the addition of online banking and other mobile payment methods, the reliance of the payments system on physical transactions decreases. (Wirecard Editorial Team, 2019). According to Joseph et al (2018), e-wallet is a mobile application that facilitates online payment transactions using digital technology such as laptops and digital phones. This enables customers to make payments using quick-response code which also known as a QR Code. There are numerous e-wallet options are available in Malaysia. This includes Grabpay, Boost, Touch n Go e-wallet, Alipay, Favepay, and many more. If a user wishes to pay with the e-wallet application, they must install the mobile applications on their smartphone. the user could make their payment for their purchases by scanning the QR code. However, users must ensure that they have sufficient funds in their e-wallet (Kasthuri, Raenu, Abd. Jalil, & Indraah, 2020). The use of e-wallets has expanded in Malaysia, particularly during the Covid-19 pandemic. As Malaysians need to acquire their daily necessities while also suffering health hazards. Such situations have prompted them to use e-wallets to make payments. Furthermore, the Malaysia government promotes a push for a cashless society by offers RM50 in their e-wallet if their earnings is less than RM100,000 a year. Consequently, the e-wallet service providers fought to win the support of Malaysians (Haroon, 2020). However, to what extent e-wallet users will keep using them remains under research (Lee & Khaw, 2018). Therefore, this research aims to uncover the elements that will impact Malaysians' decision to continue using e-wallets as a payment mechanism among Malaysians, especially during Covid-19 pandemic outbreak.

Hypothesis Development

Enjoyment

From e-wallet perspectives, "enjoyment" means that the person using the e-wallet has fun. If users do not have enough cash, they do not have to worry because they can top up the money to an e-wallet as long as they have money in their bank account and are connected to the internet. Several studies have shown that users are more likely to keep using something if they enjoy it (Omotayo & Omotope, 2018). For example, Al-maghrabi, Dennis, and Vaux (2011) state that enjoyment was one of the reasons why people in Malaysia keep using e-wallets. At the same time, Li (2016) found that enjoyment had the biggest effect on people's plans to use something again and again. Therefore, it can be hypothesis that:

H1: There is a significant and positive relationship between enjoyment and continuance usage intention of e-wallets.

Subjective Norms

Subjective norm is individual's insight of the important persons such as their family and friends believe an action should be taken. Significant is the felt pressure to take action that results from hearing what others say or do. Some studies (Mathieson, 1991)30 have determined

that subjective norms have little significance on intentions, but others (Taylor & Todd, 1995)31 have shown otherwise. Researcher discovered that subjective norms greatly influenced e-wallet intentions. (Omotayo & Omotope, 2018) while Al-maghrabi et al. (2011)32 and Priyanka & Ramya (2016)33, have discovered that subjective norms influence e-wallet usage continuation intentions. Therefore, it can be hypothesis that:
H2: There is a significant and positive relationship between subjective norms and continuance usage intention of e-wallets.

Incentives
Incentive is an event or object given by organization to consumer to promote and reinforce further action or behavior (Yaman, Joseph, & Yazan, 2015)34. Incentive can be seen as a potential solution under these design principles and guidelines. In addition, it is most likely to be successful if incentives are seen to be part of the overall solution for redesigning behavioral approaches to programs. On of the method of incentive is reward. Program rewards can be seen as tools that encourage participation by meeting the needs of the participants (Pavetti, & Stanley, 2016). Not to mention, with incentive given by the organization to their customer, consumer will have more reason to buy or uses a service/product. From e-wallet perspective, incentive of e-wallets will encourage and give more reason for the consumer continue using e-wallets. Therefore, it can be hypothesis that:
H3: There is a significant and positive relationship between incentives and continuance usage intention of e-wallets.

Convenience
Convenience is one of the most compelling reasons why individuals use e-wallets. When compared with using cash, the best thing about e-wallets is that they are very convenience to use and this is also one of the reason why consumer prefer to purchase things online. According to Li, Kuo and Rusell (2006), consumers who liked buying using e-wallet apps were more convenience-oriented, and convenience is the most important factor in purchasing decisions. Omotayo and Omotope (2018) found that convenience influences consumers' continued use of e-wallets. Therefore, it can be hypothesis that:
H4: There is a significant and positive relationship between convenience and continuance usage intention of e-wallets.

Health Risk
The probability of individuals suffering from infectious diseases is a health risk. Using an e-wallet is one way to avoid Covid-19 transmission. Studies found that, the impact of health risk is negative particularly when it comes to internet banking and online application (Hendy, Izra, & Maizaitulaidawati, 2020). Meaning, perceived health risk of e-wallets will encourage consumer to continue to use e-wallets especially to reduce the infection of covid-19. Therefore, it can be hypothesis that:
H5: There is a significant and positive relationship between health risk and continuance usage intention of e-wallets.

Habit
Habit is where consumers perform learned activities unconsciously. When consumer repeats an activity regularly, this indicate that they are satisfied with the outcome, and the action gradually becomes repetitive (Mouakket, 2015). The outcome demonstrated that consumer habits, external and instinctual motivators had a substantial impact on e-wallet behavior. For example, Omotayo and Omotope (2018) discovered that e-wallet usage affected repurchase

intentions, particularly in Malaysia. As a result, if consumers are happy with the usage of e-wallets, they will repeat the usage regularly and this action will slowly become repetitive. Therefore, the following hypotheses that:

H6: There is a significant and positive relationship between habit and continuance usage intention of e-wallets.

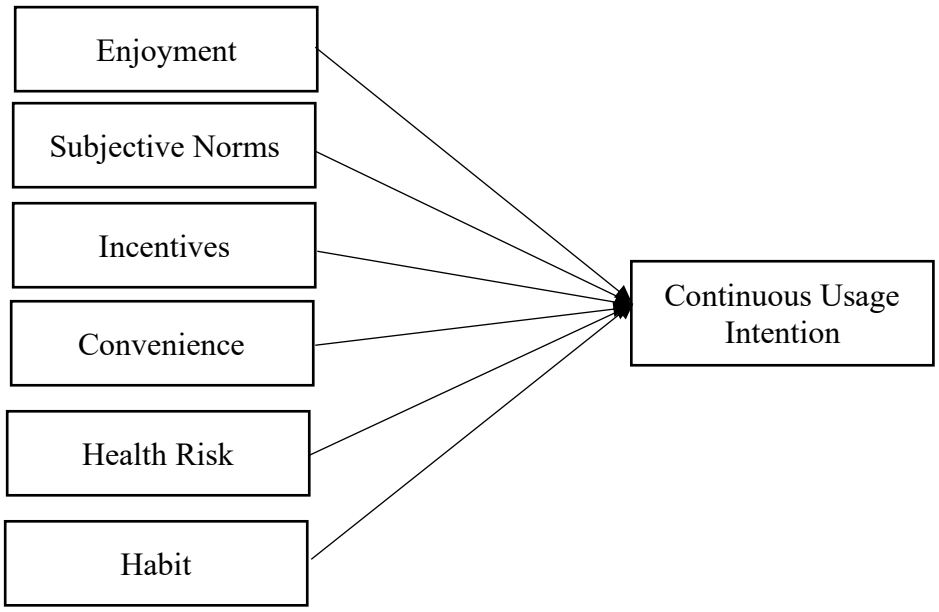

Figure 1. Research model

Methods

Population and Sample

Generally, the target population is the citizens of Malaysia who reside in Malaysia. The questionnaires are distributed through social media. This study applied non-probability purposive sampling where customers must have e-wallet apps on their smartphone and have experience in using them. SPSS was used to analysis demographic profile and SmartPLS 3.3.3 (Ringle, Wende & Becker, 2015) was to use for the partial least square analysis.

Findings

Respondents' Profile

In total there are 417 respondent who have answered the questionnaire. Majority of respondents are female (55.2%), while 44.8% are males. Most of the respondents are Malay (69.3%), follow by Chinese (15.1%), Indian (12.9%), and others (2.6%) ethnics in Malaysia. More than half (51.1%) of the respondents are degree holder follow by 26.6% are STPM holder, 11.5% of SPM holder, 6% of Master holder and 3.1% of PhD holders). Majority of the respondents are from the East Coast Region which consist of 154 respondents, follow by a total of 90 and 58 respondents (21.6% and 13.9%) come from Central Region and Southern Region. While East Malaysia and Northern Region consist of the number of respondents is 60 (14.4%) and 55 (13.2%) respectively. The occupation of the respondents are mostly student (46.5%), followed by government servant (24.5%), private sector (17.7%), self- employed (7.0%), housewife (3.4%) and others (1.0%).

Measurement Model

Referring to Table 1, the loading for all the items was significantly higher than the cut-off points of 0.70. This indicates high individual item reliability. The scales ranged from 0.925 to 0.955 for the composite reliability (CR) and this suggested that the constructs were internally consistent. Average variance extracted values varied from 0.765 to 0.843 and this is above the cut-off value of 0.50. This demonstrating convergent validity for all constructs.

Table 1 Measurement Model

Construct and Items	**Outer Loadings**	**CR**	**AVE**
Continuance Intention (CI)	0.906	0.955	0.843
I intend to continue using e-wallet rather than discontinue its use.	0.94		
I will keep using e-wallet as regularly as I do now.	0.92		
My intention is to continue using e-wallet than use any alternative means.	0.906		
I intend to increase my use of e-wallet in the future.			
Convenience (CON)	0.909	0.926	0.807
I can pay at any time via my e-wallet.	0.896		
I can pay at any place via my e-wallet.	0.889		
I feel that paying with e-wallet is convenience			
Enjoyment (ENJ)	0.891	0.931	0.817
Using e-Wallet provides me with a lot of enjoyment.	0.916		
Using e-Wallet is fun.	0.904		
Using e-Wallet gives me pleasure.			
Habit (HB)	0.866	0.945	0.773
I use e-wallet as a matter of habit.	0.911		
Using an e-wallet has become automatic to me.	0.881		
Using an e-wallet is natural to me.	0.836		
I use e-wallet without thinking.	0.901		
Using an e-wallet has become a routine for me.			
Health Risk (HR)	0.902	0.939	0.836
During the outbreak of Coronavirus pandemic, I am not worried about my health if I uses e-wallet to do my payment.	0.924		
During the outbreak of Coronavirus pandemic, I am not worried about my health if I pay using e-wallet.	0.918		
Overall, during the outbreak of Coronavirus pandemic, I'm not worried about my health when I do my payment using e-wallet.			
Incentive (INC)	0.912	0.925	0.804
I use e-wallet app as it provides me various discounts.	0.874		
I use e-wallet app as I get cash back.	0.904		
I prefer e-wallet app than other payment method as I get more promotional offers on this app.			
Subjective Norms (SN)	0.845	0.929	0.765
People important to me support my use of e-wallet.	0.866		
People who influence my behavior think I should continue to use an e-wallet.	0.89		
People who influence my behavior want me to continue to use e-wallet instead of any alternative means.	0.897		

The Heterotrait-Monotrait Ratio of Correlations (HTMT) was used to test the measurement model's discriminant validity. Table 2 reveals that all inter-construct correlations were below

0.90. (Henseler et al., 2015) except for incentive towards usage intention which is 0.903. However, through the bootstrapping analysis, this relationship does not exceed one. Because none of the HTMT confidence intervals straddled the value of zero, all of the constructs in the measurement model were conceptually distinct from one another.

Table 2 Heterotrait Monotrait Ratio of Correlations (HTMT)

	1	2	3	4	5	6	7
1. Continuance usage intention							
2. Convenience	0.846						
3. Enjoyment	0.731	0.632					
4. Habit	0.758	0.577	0.652				
5. Health risk	0.635	0.779	0.505	0.440			
6. Incentives	0.903	0.837	0.690	0.745	0.641		
7. Subjective norms	0.684	0.534	0.725	0.859	0.406	0.691	

Structural Model

The analysis continues with the structural model assessment. The path coefficients and corresponding of t-value were derived using bootstrapping procedure of 5000 samples. Table 3 indicate that all of the variables variance inflation factors (VIFs) fell less that 5 (Hair, Hult, Ringle, & Sarstedt, 2017).

Table 3 Lateral Collinearity Assessment (VIF)

	Continuance Usage Intention
Enjoyment	2.071
Subjective Norms	3.029
Incentives	3.117
Convenience	2.967
Health Risk	1.973
Habit	3.085

Falk and Miller (1992) recommended that the R^2 value requirement for variance explained by an endogenous construct must be at least 0.10. This study's model explained 78.5 percent of usage intention variance (R^2=0.785).

Enjoyment (β=0.273; t=3.772); incentives (β=0.270; t=3.883); convenience (β=0.472; t=7.940) and habit (β=0.205; t=3.612) are variables that are significant and positively effect on Continuance usage intention except for subjective norms (β=0.147; t=1.546) and health risk (β=0.015; t=0.195). For the lower and upper confidence levels, enjoyment, incentive, convenience, and habit were not straddle a '0' rendering the abovementioned paths but not for subjective norms and health risk.

According to Cohen (1988) the exogenous construct must likewise have a significant impact on the endogenous constructs where effect sizes (f2) were used, with 0.02 being a minor effect, 0.15 medium effect and 0.35 large effect. In this study, incentive (f^2=0.195) and convenience (f^2=0.135) have a medium effect on continuous usage intention while enjoyment (f^2=0.049)

and habit (f^2=0.076) have a minor effect on continuous usage intention. Besides that, the Q^2 for continuous usage intention were 0.652.

Table 4 Result of the Structural Model

	Std. Beta	Std. Error	t-value	p-Values	Decision	LL	UL	f^2	R^2	Q^2
H1:ENJ->CI	0.147	0.047	3.131	0.002	Supported	0.046	0.231	0.049	0.785	0.652
H2: SN->CI	-0.011	0.043	0.248	0.804	Not supported	-0.099	0.083	0		
H3: INC->CI	0.361	0.056	6.462	0	Supported	0.243	0.459	0.195		
H4:CON->CI	0.293	0.063	4.64	0	Supported	0.181	0.414	0.135		
H5:HR->CI	0.022	0.043	0.508	0.612	Not supported	-0.062	0.115	0.001		
H6:HAB->CI	0.224	0.049	4.591	0	Supported	0.133	0.324	0.076		

Note: Enjoyment (ENJ); Continuance Usage Intention (CI); Subjective Norms (SN); Incentives (INC); Convenience (CON); Health Risk (HR); Habit (HAB).

Discussion

The result from the analysis indicates that user's enjoyment, incentive, convenience and habit will contribute toward users continuous usage intention. In this study, respondents enjoyed using e-wallet and will continue using it. This result is consistent with Omotaya and Omotope (2018); Li (2016); and Al-Maghrabi et al. (2011). Not to mention, incentive was also significant in determining users' continuous usage intention of e-wallet. For the respondents, incentive from e-wallet organisations could encourage their continuance usage intention and this result was found to be consistent with previous studies (example Pavetti & Stanley, 2016). As for convenience, the result of the study indicated that users will continue to use e-wallet because it is convenient. This result is similar with the previous study done by Omotaya and Omotope (2018). Not to mention, habit was also significant in determining users continuous usage intention. This result is consistent with previous finding by Abdul-Halim et al. (2022). This indicate that users who uses e-wallet consistently will automatically continue to use e-wallet in their payment transactions. However, the analysis results demonstrate that subjective norm was not significant in determining users' continuous usage intention. This study is inconsistent with the previous finding by Omotaya and Omotope (2018). One possible reason for this is the respondents' family and friends have already used e-wallet application for their payment transaction especially during the Covid-19 pandemic. As a result, they do not need to seek approval from others to continue using e-wallet. It is interesting to find that health risk was not significant in determining users' continuance usage intention of e-wallet. The finding was inconsistent with the study of Hendy, Izra and Maizaitulaidawati (2020). The reason might be due to the perception that Covid-19 pandemic will end sooner during that period of time. During the data collection, respondents did not expect that the virus will prolong until today.

Practical and Social Implications

Based on the findings of this study, e-wallet service providers should pay attention particularly to users' enjoyment, incentive, convenience and habit because these factors will contribute to users' continuous usage intention on e-wallets. They need to identify what other elements or strategy that could be introduced and contribute to users' enjoyment. They also need to make

sure that they will continue giving users incentives. Not to mention, e-wallet service providers also need to ensure that their e-wallet applications are always available and functioning well for the users. This is important because if the e-wallet application is interrupted, e-wallet service providers need to inform their customers as soon as possible to avoid inconvenience among the users. Lastly is habit. To create habit among users to continue using e-wallet, e-wallet service providers should continuously have campaigns or events to encourage further usage among e-wallet users.

Limitations and Suggestions for Future Research

The findings of this research can only be applied in Malaysia particularly during the Covid-19 pandemic and cannot be generalised to other countries. Therefore, it is recommended that future research apply similar research framework to their study especially enjoyment, incentive, convenience, and habit. A comparative study on gender, age group and income group can may also be conducted to see if there are any differences between the user's continuous usage intention on e-wallet.

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