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Impact of Perceived Severity and Susceptibility of Covid-19 Pandemic on m-Payment Continuance Intention: Using Technology Continuance Theory

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ABSTRACT

The purpose of this study is to look at the effect of customers' perceptions of COVID-19 susceptibility and severity on their m-payment confirmation, which leads to satisfaction and hence a continuance intention to use m-payment. An online questionnaire was used to conduct a survey on m-payment users to investigate the variables impacting their intention to continue using m-payment. Only experienced m-payment users were qualified to participate in this survey, and thus a purposive sampling technique was used. The data was collected between September and October 2021, and the sample includes 184 valid responses for empirical data analysis. The results show that all hypotheses are found to be significant. Perceived susceptibility and severity have a positive impact on confirmation and, in turn, user satisfaction. It is also found that attitude and satisfaction have an association with continuance intention. From the theoretical perspective, it provides a better understanding of the impact of perceived susceptibility and perceived severity on continuance intention of m-payment. At the practical level, the findings give a deeper insight into the influence of antecedent factors on m-payment continuance intention and its ability to retain users. This study regards perceived susceptibility and perceived severity as critical factors in user confirmation of the benefit of m-payment as the financial technology alternative to maintain social distance and to prevent the spread of the SARS-COV-2 virus during the pandemic. Perceived susceptibility and perceived severity were incorporated into the Technology Continuance Theory (TCT) to expand the knowledge of the impact of COVID-19 pandemic on m-payment continuance intention.

Keywords*: m-payment, continuance intention, perceived susceptibility, perceived severity, satisfaction*

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1. INTRODUCTION

Dahlberg et al. (2015) argue that the execution of electronic payment can occur in a variety of scenarios, such as peer-to-peer payment, proximity payment, mobile e-wallet at point of sales in shops or through e-commerce app stores and mobile banking payment services. Mobile payment (m-payment) refers to payments made using a mobile device via wireless and other communication technologies for products, services and bills (Dahlberg et al., 2015). Therefore, m-payment differs from other forms of electronic payment such as smart cards, debit/credit card payWave services, customer-to-vendor payment (electronic fund transfer) and automated bank-to-vendor payment (e.g., online payment of bills). Users must register an account with m-payment service providers to enjoy the services of m-payment. Non-bank m-payment services in Malaysia are delivered via an e-money account (*Types of payment systems*, n.d.). In Malaysia, major non-bank m-payment players include GrabPay, Touch 'n Go and Boost.

Before the COVID-19 pandemic, m-payment usage in Malaysia was low in comparison to the country's mobile penetration rate (Tang et al., 2021). Bank transfers remain the most common means of payment in Malaysia, followed by prepaid cards, which are expected to grow at a CAGR of 14.4% from 2022 to 2026 (from US$6.06 billion to US$10.4 billion by 2026) (PR Newswire, 2022). Due to the pandemic, two major m-payment service providers, GrabPay and Touch 'n Go are expected to double their registered users between 2020 and 2025 (Statista, 2021). Besides, cash usage had declined to 64% at the beginning of the pandemic (Tan, 2020).

In Malaysia, the government enforced movement control orders (MCO) in its attempt to bring down the high number of COVID-19 infections. As a result, the public were not allowed to leave their homes subject to limited circumstances. The public is also required to practice social distancing which is a non-pharmaceutical approach to prevent the spread of COVID-19. At this juncture, the public begin to appreciate the benefits brought by m-payment as it allows payments to be transacted to purchase goods, services and to pay bills

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without the need to leave their homes and can avoid any possible breach of social distancing if the transactions were to take place at physical shops. This would assist the government to stop the spread and severity of the pandemic (Alghamdi & Basahel, 2021; Sreelakshmi & Prathap, 2020). As such, the use of m-payment naturally increases and results in a behavioural change in m-payment usage. According to Azman (2021), the surge of m-payment usage in 2020 was also driven by a 30% increase in retailers shifting their businesses online as a response to the restrictions imposed during the MCOs.

Previous m-payment studies concentrated mostly on usage intention and adoption (Alghamdi & Basahel, 2021; Cao et al., 2018; Zhao & Bacao, 2020). The m-payment continuance intention has received little attention (Franque et al., 2021), particularly in the context of Malaysian users. In addition, previous studies have mainly focused on the usefulness, trust, price saving and referent network size as antecedent factors influencing Malaysian youths' m-payment satisfaction, which in turn affects their continuance intention (Alghamdi & Basahel, 2021; Cao et al., 2018).

Satisfaction and attitude are vital factors influencing users' continuance intention (Alghamdi & Basahel, 2021). Satisfaction has a significant impact on users' post-adoption decisions, particularly continuance intention and loyalty (Alghamdi & Basahel, 2021). According to Alghamdi and Basahel (2021) and Cao et al. (2018), satisfaction and continuance intention of use of technology are important factors for a business to develop long term relationships with customers. Therefore, it is vital to investigate the relationship between satisfaction and continuance intention, as well as their roles in relation to m-payment, for academic and industry practitioners. Meanwhile, not many researchers' studies on the impact of perceived susceptibility and perceived severity of the COVID-19 pandemic on m-payment. We believe that during the pandemic, users' perceived susceptibility and perceived severity of the pandemic lead to their confirmation of the importance of m-payment to avoid close human contact when making payment. Once such positive confirmation is achieved, it would lead to satisfaction, which in turn influences their m-payment continuance intention.

Based on the discussion above, a person's future usage behaviour may change as a result of their confirmation and satisfaction with the product, service or technology. Currently, Malaysia has around 40 licensed e-wallet operators serving a population of 32 million people (DigitalEdge, 2022). At the same time, the pandemic has accelerated the change to m-payment. The new challenge for m-payment service providers is whether a similar growth of usage of m-payment would continue after the pandemic is over and whether they will be able to retain their users. Given such uncertainties post-pandemic, as well as the possibility of return of old behaviours (traditional method of payment by cash), it is vital to investigate the factors influencing consumers' continuance intention to use m-payment in the future. Therefore, the primary objective of this study is to investigate the impact of consumers' perceptions of the susceptibility and severity of the COVID-19 pandemic on their continuance intention to use m-payment.

2. LITERATURE REVIEW

Continuance Intention

Intention refers to a person's intention to perform a specific behaviour regularly (Amoroso et al., 2017). It is a plan of future action. Amoroso et al. (2017) argue that continuance intention is a post-adoption behaviour that accurately predicts actual technology usage. Thus, the chance of completing a certain action determines an individual's behavioural intention. Han et al. (2018) and Humbani and Wiese (2019) refer to continuous intention as a user's intentional decision to continue using a previously used product, service or technology. In the context of m-payment, it is about the extent to which one may make payment transactions frequently using a m-payment system.

As a result of the effect of the COVID-19 health hazard, people have adopted a "new normal" way of life, and this has influenced their continuance intentions for products, services or technology. It appears to be worthwhile to explore this area further to develop deeper insights on the factors which impact a user's continuance intention of m-payment. Continuance intention in the context of m-payment during the COVID-19 pandemic has been validated in India (Sreelakshmi & Prathap, 2020) and Africa (Franque et al., 2021). However, the continuance intention behaviour of Malaysian users during the COVID-19 pandemic has received little attention.

Technology Continuance Theory (TCT)

The Technology Continuance Theory (TCT) was developed by integrating the Technology Acceptance Model (TAM), the expectation-confirmation model and the cognitive model to predict a technology user's continuance intention (Khayer & Bao, 2019). According to TCT, after several stages of usage, users will establish and compare their expectations of the services provided by the technology with their actual experience and performance of the technology (Tamara et al., 2021). If the outcome of the initial assessment meets or exceeds their expectations, it will yield confirmation. Otherwise, disconfirmation will occur if the technology is merely passable. Confirmation exerts itself as a strong predictor of satisfaction (Humbani & Wiese, 2019). It influences the level of user satisfaction with the technology. TCT combined attitude and satisfaction into the model, which improved its ability to explain a user's continuous behavioural intention (Khayer & Bao, 2019). Attitude captures emotional value, whereas satisfaction is the affective feeling that reinforces behavioural intention.

Hypothesis Development

Relationship Between Attitude and Continuance Intention

The degree to which an individual feels good or negative about engaging in the desired behaviour is referred to as attitude (Daragmeh et al., 2021; Khayer & Bao, 2019). In other words, people determine how they want to behave based on their attitude towards the particular behaviour. In the context of information systems, attitude is the consequence of one's evaluation of a product, system, service or technology. Thus, after using a product, service or technology, one develops an attitude (Khayer & Bao, 2019). Cao et al. (2018) and Raman and Aashish (2021) argue that when people have a positive

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attitude towards a product, service or technology, they are more likely to exhibit frequent usage behaviour in their everyday lives. Attitude may also refer to a user's preference for a product, service, or technology, as well as a dimension of customer loyalty (Amoroso et al., 2017). Users' continuance intentions are strongly influenced by their attitude, which has been empirically validated by Hepola et al. (2020) in mobile parking apps, Ifinedo (2018) in using blogs to learn, and (Weng et al., 2017) in mobile taxi booking apps. In the context of m-payment continuance intention, Khayer and Bao (2019), Raman and Aashish (2021), and Daragmeh et al. (2021) have confirmed the effect of attitude on the continuance intention to use m-payment. Thus, the following hypotheses is developed:
H1: Attitude has a significant association with continuance intention

Relationship Between Satisfaction and Continuance Intention

Satisfaction is the outcome of expectations and disappointment after using a product, service or technology (Franque et al., 2021). It is the result of past user experience and performance. Meanwhile, Cao et al. (2018) refer to satisfaction as a post-choice evaluation. It is an affective response developed by a user of a product, service or technology experience. User satisfaction tends to reinforce the user's determination to keep using the product, service, or technology (Khayer & Bao, 2019). Cao et al. (2018) exert that satisfaction can reinforce the intention to maintain long term relationships.

According to Alghamdi and Basahel (2021), satisfaction is the vital antecedent for intention behaviour. In their study on the impact of satisfaction, they find that satisfaction has a positive and significant influence on the m-payment continuance intention of Saudi Arabia users. When users are satisfied with their experience in a particular product, service or technology, they are more likely to continue using it. A similar study conducted in China (Chen & Li, 2017) discover that satisfaction is associated with continuance intention to m-payment. Franque et al. (2021), Humbani and Wiese (2019), Khayer and Bao (2019) and Cao et al. (2018) have also achieve similar findings. Users will continue to use any m-payment system only if they are satisfied with its services. From the above studies, it is hypothesized that:
H2: Satisfaction has a significant association with continuance intention

Relationship Between Confirmation and Satisfaction

Confirmation is the outcome of a user's assessment of a product or service (Franque et al., 2021). Thus, it is the comparison of initial expectations with the actual performance of a product, service, or technology, to determine if it meets expectations of the user. Confirmation is achieved when the initial expectations of a product or service are met. Otherwise, disconfirmation is achieved (Franque et al., 2021). In this study, confirmation happens when users' expectations and experiences of using a m-payment app exceed their initial anticipation of the app.

Franque et al. (2021) argue that positive confirmation increases user satisfaction with the service. Their study finds that confirmation significantly influences Africans' m-payment satisfaction. Meanwhile, Khayer and Bao (2019) investigated 336 Alipay users from Wuhan, China and discover that confirmation have an association with the level of satisfaction with Alipay. They explain that the benefits obtained from the variety of functional features of Alipay meet the users' initial expectations, thus shaping high levels of satisfaction. As such, the following hypotheses is formulated:
H3: Confirmation has a significant association with satisfaction

Relationship Between Perceived Susceptibility and Confirmation

Perceived susceptibility is the belief that one is likely to contract a disease (Luo et al., 2021). Daragmeh et al. (2021) refer to susceptibility as the perceived vulnerability which relates to an individual's belief that he may suffer a negative health outcome as a result of a particular behaviour. This indicates that one's perception of susceptibility is strongly related to the amount of risk and sensitivity towards a particular disease.

COVID-19 is a highly infectious virus that spreads rapidly through direct contact (Luo et al., 2021). In this study, perceived susceptibility is the belief of the likelihood of contracting and developing COVID-19-related health problems if physical contact or cash payment are used. Thus, perceived susceptibility is posited to have an association with confirmation of m-payment. When a person has a high degree of perceived susceptibility, he is likely to achieve a positive confirmation of m-payment because m-payment can be used to reduce physical contact and maintain social distancing, thereby protecting his life. Due to the above discussion, the following hypotheses is posited:
H4: Perceived susceptibility has a significant association with confirmation

Relationship Between Perceived Severity and Confirmation

Perceived severity relates to a person's evaluation of the seriousness of the disease and the consequences of that assessment (Luo et al., 2021; Zhao et al., 2018). Thus, in the context of COVID-19 pandemic, perceived severity refers to the extent to which a person's behaviour changes according to the severity of the illness (Daragmeh et al., 2021). During the pandemic, people have a high degree of perceived severity of the Covid-19 virus and exhibit health protection behaviours such as complying strictly with the movement control orders, wearing masks, frequently sanitising hands and maintaining social distancing. In brief, health-protective behaviours are influenced by a high degree of perceived severity of a COVID-19 infection (Deng et al., 2020). Users' expectations are met by m-payment since they comprehend the full ramifications of infection following a close contact with a COVID-19 patient. M-payment helps to avoid intimate contact with people and is a crucial measure to avoid infection. Past studies have investigated the impact of perceived severity on continuance intention (Hong et al., 2021; Warkentin et al., 2016). However, little attention was paid to the effect of perceived severity on the confirmation, and their relationship is not fully developed and requires further examination. Due to the aforementioned studies, the following hypotheses is formulated:

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H5: Perceived severity has a significant association with confirmation

Conceptual Model of The Study

This study's conceptual model is based on Technology Continuance Theory (TCT). TCT is a robust theoretical framework that has been widely employed in empirical studies in technology and m-payment continuance intention (Khayer & Bao, 2019). This study examines how the COVID-19 epidemic-related factors, namely perceived susceptibility and perceived severity, as well as the impact of satisfaction and attitude affect Malaysian m-payment continuance intention throughout the pandemic.

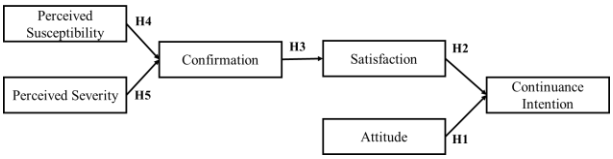

Figure 1: Research Model

3. METHODOLOGY

This study employs positivism philosophy and deductive approach because it establishes hypotheses and research models based on the foundation of existing empirical research and theories. To obtain significant results, quantitative techniques, which are often associated with positivism, are used. We used a cross-sectional survey design to collect data on the continuance intention to make m-payments during the COVID-19 pandemic

Measurement Development

This study includes a total of six factors. All the measurements used in this study were taken from previous research. All items were measured on a five-point Likert scale. The measurements and original source of the construct are shown in Table 1.

Table 1: Constructs and adapted source of survey measurement

Constructs	Sources
Continuance intention	Puriwat and Tripopsakul (2021)
Attitude	Daragmeh et al. (2021)
Satisfaction	Puriwat and Tripopsakul (2021)
Confirmation	Puriwat and Tripopsakul (2021)
Perceived susceptibility	Daragmeh et al. (2021)
Perceived severity	Puriwat and Tripopsakul (2021)

Before data collection, a pre-test and pilot test were carried out. During pre-testing, a content validity test was performed by distributing questionnaires to two academics and three respondents. Their feedback was used to improve the representativeness and clarity of the questions. Amendments were made accordingly as per their comments. In the meantime, a pilot test on a small set of respondents was carried out to confirm the effectiveness of the measurements. This pilot research enlisted the participation of 35 people. In all scale reliability tests conducted during the pilot test, Cronbach alpha values greater than 0.70 were found for all constructs.

A survey was conducted online using a Google Form to investigate the proposed hypotheses in this study. A brief introduction of the survey, data protection and privacy, permission for data usage and instructions on how to complete the questions were all included in the survey. There were questions in the survey as to whether the respondents had any prior m-payment experience or if they have any m-payment app. Only those who have prior m-payment experience or own an m-payment app were invited to continue participating in this survey.

Sampling and Data Collection

Due to the fact that the sampling frame is not available and that the survey subjects are required to be m-payment users or have prior experience with m-payment apps, this study adopted a non-probabilistic purposive sampling technique. The data was collected in Klang Valley, Malaysia. Since Kuala Lumpur is a metropolitan, the sample includes both city residents and those from the suburbs; hence, the sample is representative of the entire population. The questionnaire was distributed online via social media platforms between September and October 2021, during the COVID-19 pandemic. Mobile phone users who have used m-payment applications such as Touch 'n Go, Boost, and GrabPay or have experience with m-payment are the target respondents.

The 10-times rule technique for finding the minimum sample size has been criticised for its ease of use and tend to provide incorrect answers (Kock & Hadaya, 2018). Meanwhile, the most frequent way of estimating sample size is to use the statistical power analysis software program G*Power. Using G*Power, a sample size of 68 is required, with the effect size set to 0.15 (medium effect), alpha set to 0.05, power set to 0.8 and two predictors pointing to continuous intention (according to the conceptual model, see Figure 1) (Memon et al., 2020). However, Kock and Hadaya (2018) suggested the inverse square root technique as an alternative to the 10-times rule and effect size since it would result in a very slight overestimation of the actual minimum sample size required. Applying the inverse square root approach with a power of 80% and a significance level of 0.05, 155 samples was required. Therefore, this study considered 155 as the minimum acceptable sample size for data analysis to produce a fairly exact and safe estimate.

Data Analysis

The SEMinR R software package was used in this study to analyse and conclude the results using the Partial Least Squares Structural Equation Modelling (PLS-SEM) technique. SEMinR is a free and open-source statistical analysis tool that estimates structural equation models using its own PLS-PM estimation engine. The advantage of SEMinR is that it can produce results that are almost identical to those proprietary software such as Smart-PLS and IBM-AMOS (CFA and CB-SEM) despite the fact that it is freely available to the public. Following data cleaning and treatment, including the removal of response bias and outliers, 184 valid responses were available for data analysis. Therefore, it surpassed the minimum sample size required. We took a two-step approach, first assessing the measurement model assessment, followed by the structural model assessment. Section 4 shows the findings of the measurement model and the structural model.

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4. RESULTS

Descriptive Statistical Analysis

This study included 94 males and 90 females from a total of 184 samples collected. However, there is a considerable age group bias. The majority of responders are under the age of 24, and are students, accounting for 83.7% and 70.11%, respectively. Notably, these respondents are from the generation Z cohort. The generation Y cohort ranges in age from 25 to 40, whereas the generation X cohort ranges in age from 41 to 56. In this sample, they made up 11.41% and 4.89% respectively of the total respondents. In terms of education background, 77.72% of respondents have an undergraduate degree or more. When asked how frequently they use m-payment, 54.89% replied at least once per week, while 30.98% said at least five times each week. As a result, we may infer that cash payments continue to dominate the current market. They may use m-payment at convenience stores if there is any incentive or a price reduction offered by the m-payment service provider. This is a typical tendency, especially among students. Table 2 displays the sociodemographic features of the respondents.

Table 2: Demographic profile (N=184)

Attribute	Value	Frequency	Percentage (%)
Gender	Male	94	51.09
	Female	90	48.91
Age	Below 24 years old	154	83.70
	25 – 40 years	21	11.41
	41 – 56 years old	9	4.89
Education level	STPM, UEC, A-Level, SPM or lower	20	10.87
	Undergraduate or college	143	77.72
	Postgraduate	21	11.41
Employment status	Students	129	70.11
	Employed	41	22.28
	Self-employed	10	5.43
	Unemployed	4	2.17
Frequency	At least 1 time per week	101	54.89
	At least 5 times per week	57	30.98
	At least 10 times per weeks	13	7.07
	More than 10 times per week	13	7.07

Common Method Bias (CMB)

A common method bias (CMB) happens when an instrument introduces a bias, particularly in a survey where a single method is used to collect all the data. To overcome CMB in this study, procedural and statistical methods were used. First, the purpose of the study and instructions for completing the survey were included in the survey's introductory section. Second, during pre-testing, the importance of the measurement items' representativeness and clarity was emphasised. Questions were amended in response to comments to improve comprehension and interpretation. Harman's single factor, marker variable and full collinearity approach can be used to determine CMB statically (Jordan & Troth, 2020). However, Harman's single factor and marker variable have their limitations. Harman's single factor is criticised for its lack of sensitivity, whereas the marker variable needs a larger sample size (Tehseen et al., 2017). Owing to this, we adopted the Kock (2015) full collinearity approach to examine the model's multicollinearity by examining the variance inflation factor (VIF). All VIF values are greater than 1 but are less than 2 suggesting that predictors are not predicting each other and are free of multicollinearity issues.

Measurement Model Assessment

Tables 3, 4 and 5 summarise the outcomes of the measurement model assessment. Except for ATT3, all of the measurement items' factor loading was above the threshold value of 0.7. As a result, ATT3 was deleted. The results show that Cronbach's alpha, rhoA, and composite reliability of the constructs were all above 0.7. This suggests that these constructs have a high level of internal consistency. Notably, the Cronbach alpha and rhoA of attitude are somewhat lower than the desired value but remain within an acceptable range. The AVE of all the constructs is more than 0.5, indicating that good convergent validity has been established.

Table 3: Construct measurements items, factor loading, Cronbach alpha, rhoA, composite reliability (CR), and Average Variance Extracted (AVE) of the measurement model

Construct	Item	Factor Loading	alpha	rhoA	rhoC	AVE
CUI	CUI1	0.868	0.778	0.799	0.871	0.693
	CUI2	0.877				
	CUI3	0.746				
ATT	ATT1	0.868	0.672	0.672	0.859	0.753
	ATT2	0.868				
PSEV	PSEV1	0.763	0.808	0.810	0.867	0.566
	PSEV2	0.813				
	PSEV3	0.714				
	PSEV4	0.759				
	PSEV5	0.709				
PSUS	PSUS1	0.776	0.738	0.797	0.849	0.652
	PSUS2	0.886				
	PSUS3	0.755				
SAT	SAT1	0.811	0.798	0.810	0.881	0.711
	SAT2	0.867				
	SAT3	0.851				
CONF	CONF 1	0.872	0.835	0.837	0.901	0.751
	CONF 2	0.871				
	CONF 3	0.857				

Note: ATT3 was deleted due to low factor loading.

To examine the model's discriminant validity, we used the Fornell and Larker criterion and HTMT. Referring to Table 4, the diagonal elements show that the square root of AVE is greater than the construct correlation coefficient among constructs, indicating that discriminant validity has been established. However, the Fornell and Larkers criterion has been criticised for its limitations, which tend to overestimate indicator loadings in variance-based SEM and the absence of a procedure for statistically assessing discriminant validity (Henseler et al., 2015). As a result, Heterotrait-Monotrait ratio of correlations (HTMT) criteria was used to complement this shortcoming and demonstrate discriminant validity. In this study, $HTMT_{.90}$ was used as the approach, and our results

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indicate that discriminant validity has been established (Henseler et al., 2015) (see Table 5).

Table 4: Discriminant validity via Fornell and Larcker Criterion and correlation

	SAT	ATT	CONF	PSEV	PSUS	CUI
SAT	**0.843**					
ATT	0.479	**0.868**				
CONF	0.733	0.606	**0.867**			
PSEV	0.403	0.334	0.368	**0.752**		
PSUS	0.467	0.234	0.380	0.597	**0.808**	
CUI	0.476	0.460	0.510	0.146	0.277	**0.832**

Table 5: Discriminant validity via HTMT

	SAT	ATT	CONF	PSEV	PSUS	CUI
SAT						
ATT	0.653					
CONF	0.882	0.804				
PSEV	0.501	0.450	0.446			
PSUS	0.597	0.326	0.465	0.774		
CUI	0.590	0.639	0.630	0.186	0.350	

Note: $HTMT_{.90}$

Structural Model Assessment

The SEMinR package PLS estimation engine was used to investigate the structural model of this study with bootstrapping and 5000 iterations. This study's model fit was assessed using standard root mean- square residual (SRMR) and normed fit index (NFI). The threshold value of fit indices for SRMR is less than 0.08, while NFI should be greater than 0.8. The results show that the SRMR and NFI values are 0.054 and 0.843, respectively. Thus, it is considered a good fit. The R^2 value depicts the model's predictive capability of endogenous variables. The R^2 values for confirmation, satisfaction and continuance intention are 0.175, 0.537 and 0.296, respectively. Meanwhile, the effect size can be used to determine the predictive capacity of an exogenous variable. Table 6 depicts the effect size (f^2). According to Cohen (1992), the f^2 values of 0.02, 0.10 and 0.35 indicate a low, medium and high effect size, respectively. Notably, perceived susceptibility and perceived severity have a low effect size on confirmation, whereas confirmation has a medium effect size on satisfaction. Lastly, satisfaction has a medium effect size on continuance intention, but attitude has a low effect size.

Table 6: Effect size

	SAT	ATT	CONF	PSEV	PSUS	CUI
SAT						0.118
ATT						0.091
CONF	1.161					
PSEV			0.038			
PSUS			0.048			

The structural model analysis findings show that all the posited hypotheses in this study are significant (see Table 7 and Figure 2). First and foremost, H1 and H2 measure the impact of attitude and satisfaction on m-payment continuance intention. The results show that attitude (β = 0.301, p-value < 0.001) and satisfaction (β = 0.331, p-value < 0.001), both have a positive and significant effect on continuance intention. Satisfaction has a somewhat greater influence on continuance intention than attitude. H3 looks at the relationship between confirmation and satisfaction. It was found that conformation (β = 0.733, p-value < 0.001) has a positive and significant effect on satisfaction. Notably, confirmation has the highest estimated value compared to other constructs. Lastly, this study looks at the influence of perceived susceptibility and perceived severity of COVID-19 on m-payment continuance intention during the pandemic. It shows that both perceived susceptibility (β = 0.249, p-value < 0.01) and perceived severity (β = 0.219, p-value < 0.01) are associated with m-payment confirmation. Thus, H4 and H5 are supported.

Table 7: Result of structural model analysis

Hypotheses		β	Std. Error	T-values	P-value	LLCI	ULCI
H1:	ATT → CUI	0.301	0.085	3.553	0.000	0.133	0.467
H2:	SAT → CUI	0.331	0.087	3.793	0.000	0.168	0.505
H3:	CONF → SAT	0.733	0.033	22.251	0.000	0.669	0.798
H4:	PSUS → CONF	0.249	0.091	2.738	0.003	0.066	0.424
H5:	PSEV → CONF	0.219	0.088	2.487	0.007	0.061	0.405

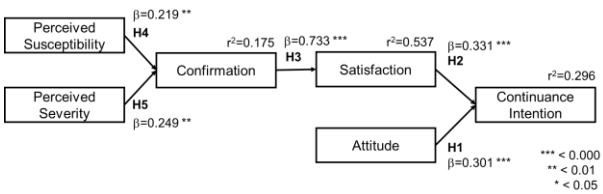

Figure 2: The results of structural model analysis

Discussion and Conclusions

Perceived susceptibility and perceived severity have a positive and significant relationship with confirmation. This implies that the use of m-payment has met the initial expectation and objective of avoiding close contact and exposure to virus when making payment transactions. This is because paying by cash requires physical contact with banknotes and humans. Our findings are consistent with Sreelakshmi and Prathap (2020), who showed that during the COVID-19 pandemic, Indian consumers' perception of susceptibility and severity increased significantly due to the massive spread of COVID-19 infections and deaths, having a direct impact on m-payment confirmation. This also applied to Malaysia, where there were more than 20,000 COVID-19 positive cases daily from mid-August to mid-September 2021, (Ministry of Health Malaysia, 2022). This study involved cross-sessional data analysis on data collected between September 2021 to October 2021. The main objective of this study is to examine how the perceived severity and susceptibility of the COVID-19 pandemic on continuance intention to use m-payment. This data was collected during the peak of COVID-19 infections in Malaysia. As such, the main objective of this study is met. However, the findings of this study remain relevant despite the fact that the number of COVID-19 infections has declined sharply in recent months due to the following reasons. First, the emergence of new variants of the coronavirus which are much more contagious could lead to a new wave of infections (*Omicron BA.5 variant likely to cause spike in cases, Khairy says*, 2022).

For instance, cases were on the rise in England in September 2022 (*Coronavirus (COVID-19) latest insights*, 2022) and Japan in August 2022 (*Japan Coronavirus map and case Ccount*, 2022). As such, despite the decline of COVID-19 infections in Malaysia, the perceived severity and susceptibility of the coronavirus still remain among the public. The findings of this study would remain relevant in the near future. Secondly, many members of the public in Malaysia are also concerned with the loosening of the standard operating procedures to control the outbreak of the COVID-19 infections and would therefore take extra precautions to avoid the risk of infection. For instance, they would continue to choose m-payment for their transactions to protect themselves whenever possible. Thirdly, the findings of this study may be used to conduct a comparative study by researchers in the future to determine whether there are any changes to the results for a study conducted in an environment free from the risk of COVID-19 infection.

In the field of information systems and technology, confirmation is an important factor in determining users' satisfaction. Our findings are consistent with previous studies on m-payment from India (Jaiswal & Thaichon, 2022), Portugal (Tam et al., 2020), and China (Chen et al., 2018). It explains that once the users' initial expectations and benefits of m-payment as an effective measure to maintain social distance and prevent the spread of the COVID virus are confirmed, their actual use experience leads to satisfaction.

Our findings are also consistent the results of previous studies (Cao et al., 2018; Humbani & Wiese, 2019; Puriwat & Tripopsakul, 2021) where high levels of satisfaction will reduce the perceived benefits of switching behaviour, thereby promoting high continuance intention. In a similar vein, our finding shows that attitude has a significant impact on continuance intention on m-payment, which is in line with Raman and Aashish (2021) and Khayer and Bao (2019). The continuance intention to use m-payment is significantly influenced by both attitude and satisfaction. Although it is slightly lower standardised beta than satisfaction ($\beta = 0.331$), attitude ($\beta = 0.301$) has similar influences on continuance intention as satisfaction. In short, satisfaction and attitude were widely tested and their impact on continuance intention were confirmed in this study. In addition, this study also revealed that attitude ($f^2 = 0.091$) had a small effect on the continuance intention, while satisfaction ($f^2 = 0.118$) had a moderate effect on the continuance intention. The fact that satisfaction is more important than attitude in influencing continuance intention in this study may be due to the severity of the COVID-19 pandemic where the respondents were more concerned about the m-payment system's ability to fulfil its intended function and goal of avoiding intimate contact when making payments. In addition, it is also possible to contend that perhaps, in general, users attribute more importance toward satisfaction that they obtain from the process of engaging in a m-payment system to determine their continuance intention to use m-payment in the future compared to other factors such as attitude. As such, the findings of this study would remain relevant in the near future.

Theoretical Contribution

Perceived susceptibility and perceived severity of the COVID-19 pandemic were incorporated in this study to investigate their effect on m-payment continuance intention. To the best of our knowledge, there have only been a few studies on the impact of perceived susceptibility and severity, as well as the continuance intention of m-payment during the COVID-19 pandemic, particularly in the context of Malaysians. It has been empirically shown that these factors have a significant influence on user confirmation since it is expected to avoid close contact and thus, lower the probability of a COVID-19 infection. Thus, this study fills gaps in the present body of knowledge on the subject of consumer behaviour in relation to m-payment during the Covid-19 pandemic.

Managerial Implications

Our findings provide a strategic direction to m-payment service providers to boost customers' attitudes and satisfaction levels, as well as their continuance intention after the COVID-19 pandemic. In this study, confirmation exerts a strong impact on satisfaction. When a service meets or exceeds the expectations of m-payment users, it leads to a high degree of satisfaction, which influences their decision to continue using the service. Similarly, if the m-payment app has satisfied or exceeded the users' expectations, they will continue to make payments using m-payment. It is important to provide a consistent and good user experience through ongoing system features and security upgrades, performance enhancement and connectivity could strengthen users' satisfaction. As such, m-payment service providers must regularly review and obtain feedback, particularly online sentiments and complaints, to rectify their shortcomings and enhance user experience.

According to the findings, attitude and satisfaction lead to continuance intention. Thus, m-payment service providers should look for ways to instill a positive attitude towards technology and encourage people to use m-payment systems in their regular transactions. Incentives, promotion, a good ecosystem and business alliance, as well as trialability are approaches to promoting a positive attitude towards m-payment system and increasing satisfaction, which leads to continuance intention.

Limitations and Future Directions

First, due to the fact that the data were only collected in Klang Valley, Malaysia, the generalisability of findings may be limited. In addition, the proportion of the respondents was shown to be unequal. The majority of the respondents are between the age of 18 and 24 (generation Z cohort) and students. Besides, social media distributions of the questionnaire were assumed to have generated responses from similar demographic groups resulting in selection bias. Future research should be mindful of this possible weakness and strive for a more equal distribution by age.

Second, this study focuses on how users' confirmation of m-payment is influenced by their perceived susceptibility and perceived severity of COVID-19 infections. Furthermore, it is designed to look into the impact of satisfaction and attitude on users' m-payment continuance intentions. Other potential drivers, such as service quality, trialability and incentive may influence m-payment continuance intention. Further study can

integrate these factors into their research model. According to Thach et al. (2021), generational cohort theory provides that generations who are exposed to the same political, economic and social events early in life have a comparable set of views, values, and behaviours. Thus, this study can be replicated to further investigate the impact of perceived susceptibility and perceived severity of the Covid-19 pandemic on other generations and a comparative study between different generations.

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