Driving E-wallet Continuance Usage Intention: A Survey Among Generation Alpha in Malaysia during COVID-19 Pandemic

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ABSTRACT

The COVID-19 outbreak has affected almost every aspect of human life particularly vulnerable group such as Generation Alpha. E-wallet has become increasingly essential to avoid the virus transmission. The pandemic has led to a remarkable increase in e-wallet transactions in Malaysia. However, the reason behind the rapid rise in e-wallet usage is not widely agreed upon. Due to a lack of study on this topic, this paper contributes to the knowledge gap by studying and examining the significant factors that influence private university students' continued usage intention to use e-wallet as a payment mechanism during the pandemic by incorporating constructs from Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), Technology Continuance Theory (TCT), and Health Belief Model (HBM) into an integrated model. The study employed a quantitative design using Pearson correlation analysis and multiple linear regression analysis to assess the relationship between the variables through SPSS application. The convenience sampling method was used to select about 378 respondents from private universities in Kuala Lumpur and Selangor, including UCSI University, Management & Science University, Asia Pacific University, HELP University, Taylor's University, Sunway University, and SEGi University. The results revealed that facilitating conditions, social influence, perceived usefulness, perceived COVID-19 risk, and price benefit has a significant and positive contribution towards e-wallet continuance usage intention among Generation Alpha in Malaysia during the pandemic. The practical implications for the government and the service providers from the present findings can be used to develop strategies to promote the continuous intention of e-wallet usage during the COVID-19 pandemic.

Keywords: *COVID-19, e-wallet usage, e-wallet intention, generation alpha, private university*

INTRODUCTION

Generation Alpha is a newly coined term that is considered to be the next generation after Generation Z and is generally defined as individuals born between 2010 and 2025. However, different researchers may have different opinions on the exact years that define this generation, and there may be some overlap between generations. This definition is constantly evolving and the age range for this generation may change over time as more information becomes available. In fact, Generation Alpha is the first to be born entirely in the 21st century; hence, the oldest member of this generation will be 22 years old in 2023 (Mohan, 2021). This generation is often referred to as digital natives due to their early exposure to technology and the internet. Hence, Generation Alpha, in this study, refers to those whose age range falls between 18 and 22. In other words, this study mainly focuses on studying private university students' e-wallet continuance usage intention since they fall into the above-mentioned age range.

Electronic wallet or also known as E-wallet is a mobile application that allows users to make payments for goods and services using digital currencies rather than banknotes without destination or time constraints. E-wallet is also known as a concept where storage of funds and execution of transactions are made digitally via mobile devices (Chawla & Joshi, 2019). Halim, Zadeh, Hanifah, Teoh, and Nawaser (2021) define e-wallet as a method to change the way people carry out their financial transactions. Online payment is growing rapidly in Malaysia especially during this pandemic era due to social distancing as well as rapid growth of smartphone users and mobile applications in all age groups as all Malaysians including private university students are mandatory to download a mobile application called MySejahtera, an app that facilitates Malaysian government to track COVID-19 cases and for vaccination purpose, and scan the QR code provided by premises owners before they can enter any place otherwise fines up to RM10,000 will be issued. According to Handphone Users Survey 2021 by Malaysian Communications and Multimedia Commission [MCMC] (2021), the overall mobile phone penetration rate in the country hit a record-high 94.8%, the highest rate compared to previous years. Coronavirus disease is driving the adoption of e-wallet. Bank Negara Malaysia (BNM) has taken initiatives to transit into cashless society by decreasing the use of cash and cheques. According to Bank Negara Malaysia (BNM, 2022b), Malaysia has achieved RM2.877 billions of e-wallet transaction volume with a total value of RM62.512 billions for the period from January to November 2022. This pandemic era forms the basis for enabling e-wallet application becoming a substitute for traditional payment method among university students.

PROBLEM STATEMENT

In April 2020, it was reported that internet speed had slowed down during the Movement Control Order (MCO) period as more users demand for internet to conduct various range of online activities (New Straits Times, 2020a). During this period, some users have experienced internet problems while conducting digital financial transactions. This could lead them switching to alternative payment methods, such as cash or traditional banking methods, that are perceived to be more stable and reliable. An increase in discontinuance usage intention for e-wallet would be there because of poor internet infrastructure offered by telecommunication companies, which delayed the speed of transaction. Additionally, cellular network coverage in Malaysia has generally been considered good overall but there are some areas where the network coverage and internet speed are weaker and slower especially in rural and crowded areas (New Straits Times, 2022a). A stable and fast internet connection can ensure smooth, fast, and seamless transactions and vice versa. It can either boost or interrupt students' willingness to use e-wallet continuously.

In September 2022, it was reported that cash remained the most preferred payment method among Malaysian consumers although e-wallet is on the rise during pandemic (Shen, 2022). This could discourage students to continue using e-wallet as most students often followed their peers and the trends in society. If this phenomenon persisted, using cash could become a social norm in which students might be reluctant to deviate from it for fear of being perceived as different or outside the norm. Thus,

e-wallet companies should formulate and implement effective advertising strategies targeted to specific group, such as students, to increase social influence for their products and encourage more people to adopt and continue using it. Furthermore, on 11 November 2019, Touch 'n Go (TNG) made an official Facebook post regarding to the disruptions with card reload systems and one-time password (OTP) coming in late for payment due to a high payment traffic. This sparked many negative responses among the users. Many users complained about the quality of customer service and the balance had not yet been credited to their e-wallet accounts even after a successful transaction shown by the system. This caused frustration, inconvenience, dissatisfaction, and bad shopping experiences among the users (Touch 'n Go eWallet, 2019). If users encounter such problems, they may perceive the e-wallet as less useful and be less likely to continue using it.

On the 20th of July 2020, the New Straits Times (2020b) reported that there was a growing tendency of certain individuals to return to their pre-COVID-19 epidemic lifestyle due to the fact that the number of cases had been dropping and an increasing number of people were getting vaccinated. This might lead some students, who are less concerned about the virus risk, returning to in-person transactions and use cash or cards instead of e-wallets. Besides that, on 1 July 2022, Grab adjusted its GrabRewards points system, users gained fewer points and vouchers cost more points to redeem (Yau, 2022). This could lead some users to switch to other e-wallet platforms such as FavePay and Boost that offer more attractive rewards in terms of cashback, loyalty points, and discounts because they might perceive that they were not getting enough value from the current platform.

RESEARCH OBJECTIVES

1. To investigate the relationship between facilitating conditions and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia.
2. To investigate the relationship between social influence and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia.
3. To investigate the relationship between perceived usefulness and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia.
4. To investigate the relationship between perceived COVID-19 risk and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia.
5. To investigate the relationship between price benefit and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia.

RESEARCH QUESTIONS

1. Is there any significant positive relationship between facilitating conditions and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia?
2. Is there any significant positive relationship between social influence and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia?
3. Is there any significant positive relationship between perceived usefulness and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia?
4. Is there any significant positive relationship between perceived COVID-19 risk and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia?
5. Is there any significant positive relationship between price benefit and e-wallet continuance usage intention during COVID-19 pandemic among Generation Alpha in Malaysia?

LITERATURE REVIEW

The fintech industry is an integral part of a nation's economy and long-term viability, and this sector thrived significantly during the COVID-19 pandemic and MCO. In Malaysia, the Malaysian government launched its endeavour to develop fintech in 2001. This concept was a part of the 10-year

Blueprint Financial Sector Master Plan 2001-2010 and 2011-2020, which included a plan to increase the adoption of electronic payments in the country with the objective of improving the effectiveness of the domestic financial institutions and contributing to the growth of the economy as well as assisting Malaysia in becoming a highly developed nation by 2020 (BNM, 2001). Later on the 28th of October 2004, Bank Negara Malaysia (BNM) launched the Financial Process Exchange (FPX) system, which enables online payments between bank accounts (Aziz, 2004). Grab, a ride-hailing service, launched GrabPay, the first mobile wallet in Malaysia that can be used to pay for transport and other services, in 2016 (Grab, 2019). TNG eWallet and Boost were subsequently introduced in 2017. In 2017, CIMB Group Holdings Bhd's subsidiary Touch 'n Go, formed a joint venture with Ant Financial Services Group, the company behind the popular Alipay e-wallet in China, to make TNG eWallet as a local version of Alipay in Malaysia (Eusoff, 2017). On 20th March 2018, the BNM introduced the Interoperable Credit Transfer Framework (ICTF), which allows for instant fund transfers between banks and e-wallets (Fong, 2018). In 2020, the COVID-19 pandemic accelerates the adoption of e-wallets in Malaysia. To meet the e-wallet demands during the pandemic, BNM introduced digital banking framework allows for creation of fully digital banks that do not have physical branches (The Edge Markets, 2022). Therefore, the increasing demand for the e-wallet framework is aiding the Malaysian government's efforts to promote this kind of digital currency. According to Zulhusni (2022), there are currently 53 approved e-wallets licenses in Malaysia, and e-wallet sector accounts for 19% of the country's fintech landscape. The sector also introduces a new dimension to the payment systems of huge markets and generates additional or improved business opportunities (Alam, Awawdeh, & Muhamad, 2021). Scholars studied that the introduction of mobile phone payment has profoundly altered the finance industry in terms of cost effectiveness and superior quality (Kerényi & Molnár, 2017; Gomber, Kauffman, Parker, & Weber, 2018).

According to a survey by Lebow (2023), the percentage of internet and smartphone users from Generation Alpha in 2023 is over 73%. In Malaysia, MCMC (2021) found that Generation Alpha's use of smartphones and the internet increased during the COVID-19 pandemic. 96% of Generation Alpha used a smartphone to connect to the internet, especially those with higher education levels. There is a substantial frequency of cell phone use among Malaysians, particularly teens, and even most students in primary schools hold these socially interactive technology gadgets. This trend is especially prevalent among younger age groups (Lean, Fernandez, & Mun, 2011). Generation Z and Generation Alpha are sometimes grouped together and share similar traits, most notably technological competence, and familiarity with the global community. In contrast, Generation Alpha is even more technologically immersed than their previous generations, and they mostly prefer online shopping to shopping at brick-and-mortar stores. With the capacity to buy and sell items and services from any location and at any time, the internet has become a platform for transactions between consumers and new businesses in local and global markets throughout the world (Remie, 2019). This technology has enabled the creation and use of digital wallets. As a result, Generation Alpha has been identified as a new market segment that will alter the internet platform in a globally interconnected economy, and marketers should design and tailor the strategy to meet their unique set of needs and values (Mandeville, 2022).

In the Far East and China's digital wallet market, both popular e-wallet solutions, such as Alipay and WeChat, serve a total of 1.8 million users, and this number is expected to rise even after the COVID-19 pandemic, and the market size of mobile transactions is projected to reach approximately RM68 trillion by 2025 (Worldpay, 2021). Today, China has become the leader of mobile wallet. The market for digital wallets in Europe is projected to reach around RM3 trillion by 2025, including PayPal, Apple Pay, and Google Pay (Worldpay, 2021). All of these e-wallet platforms have expanded into Malaysia's market, probably because of Malaysia's strategic location in Southeast Asia and this can potentially bring more income into the country's economy. The acceptance of Alipay by Malaysia's merchants has been appealing to the Chinese travellers' needs (Alam et al., 2021). Digital wallets and e-wallets are the fastest-growing payment options in Malaysia, with Malaysia leading Southeast Asia with a 40% penetration rate for digital wallets (Sticpay, 2021). However, in 2025, e-wallet payment revenues in Indonesia, Thailand, Malaysia, and Singapore are anticipated to reach approximately RM4.03 billion by 2025, which is relatively low compared to developed countries such as Japan and South Korea (The Star Online, 2022).

E-wallet Continuance Usage Intention (ECUI)

Benbasat & Barki (2007) defined continuance usage intention as the intention of users to continue using the new technology. Continuing intention also refers to the likelihood that an individual will perform a specified behaviour over time (Daragmeh et al., 2021). Wen, Liao, Hong, Pan, and Wu (2018) stated behavioural intention to use is a behavioural inclination to persist in applying technology. In this study, continuance usage intention refers to the willingness of users to continue using an e-wallet as a payment method for future transactions during the COVID-19 pandemic. The development of continuous usage intention depends on one's belief (Pertiwi et al., 2022). It is important to examine continuous intention so that present service providers can design interventions that are more effective at promoting long-term behaviour change (Burnham, Frels, & Mahajan, 2003). Understanding the motivational factors that influence students' continuing usage of e-wallets has become an important research topic due to the increasing number of COVID-19 instances and the aggressive promotion of distant learning (Ing et al., 2021). Previous studies confirmed that a person's real behaviour in using information technology is explained explicitly by their continuous intention (Zhang, Fan, Zhang, & Zhang, 2019; Al-Emran, Arpaci, & Salloum, 2020; Lee & Lee, 2020). Nevertheless, Armitage and Conner (2001) argued that this behavioural intention does not always translate to actual behaviour. The concept has been examined in various sectors, including healthcare (Alsyouf & Ishak, 2018), banking (Rahi, Khan, & Alghizzawi, 2020), education (Chen et al., 2021), e-commerce (Lim et al., 2021), and e-wallets (Daragmeh et al., 2021; Halim et al., 2021; Johan et al., 2022; Tay et al., 2022). However, the literature reviews have indicated that there is presently no study on the e-wallet continuance usage intention (ECUI) among Generation Alpha in Malaysia. It is widely expected that e-wallet companies would not only focus on appealing to older generations, who often have a solid financial base, but also on attracting and satisfying the growing younger generation.

Facilitating Conditions (FC)

Facilitating conditions (FC) refers to an individual's perception of the resources and support available to perform or use a particular technology (Mustafa et al., 2022). It refers to the extent to which an individual believes that the organisational and technical infrastructure exist to help them enhance the use of systems (Venkatesh et al., 2003). In specific to e-wallet services, FC describes the technological infrastructure supporting the use of e-wallet (Oliveira, Thomas, Baptista, & Campos, 2016; Bakar et al., 2022). This can entail the access to the internet and device to use e-wallet, availability of e-wallet merchants in a specific area, technical support and customer service from e-wallet provider, training and education about how to use e-wallet, and availability of supporting systems such as QR codes (Mahardika, Thomas, Ewing, & Japutra, 2019). A study by Patel (2016) found that young consumers are believed to use e-wallets more frequently when all these enabling conditions exist to ease their intention to use. In other words, students will continue using e-wallet services if the services facilitate purchases and transactions. Herget and Krey (2021) also found that user's knowledge and skills to operate mobile devices strongly contribute to the continuous usage of mobile payment. According to Hossain, Hasan, Chan, and Ahmed (2017), consumers' intention to repeat buying a product or service is significantly enhanced by FC. Yang, Mamun, Mohiuddin, Nawi, and Zainol (2021) discovered that FC can improve consumer's willingness to use an e-wallet when shopping online. Numerous studies have validated that FC is a significant determinant on usage intention of e-wallets (Moorthy, Xsin, Salleh, Ling, & Ting, 2022; Ojo et al., 2022; Bakar et al., 2022; Nawi, Mamun, Hayat, & Seduram, 2022). However, the effects of FC on the usage intention of new technology vary across studies (Alalwan, Dwivedi, & Rana, 2017; Slade, Dwivedi, Piercy, & Williams, 2015).

Social Influence (SI)

Social Influence (SI) is described as the extent to which an individual perceives that important person, such as peers, friends, family, colleagues, partners, experts, and neighbours, believe he or she should use a certain technology (Venkatesh et al., 2003; Yang et al., 2021). Venkatesh et al. (2003) pointed out those important persons can influence individual's beliefs and attitudes toward using a technology and ultimately affect their behavioural intention and actual usage of technology. Also, SI

explains individual's social conduct with their identities and consists of a process whereby individual's beliefs, opinions, thoughts, and attitudes are modified by some form of social communication (Mastor, 2021; Friedkin & Johnsen, 2011). Hence, the concept of SI in this context refers to the impact of environmental factors on students' intention to continue using e-wallet to make transactions. Zhao and Bacao (2021) discovered that people tend to alter their intention to use mobile payments in response to the expectations of relevant others as well as social pressure during the COVID-19 pandemic. Furthermore, user's intention to use mobile payments is significantly influenced by the opinion and advice of government, society, and peers during the pandemic (Herget & Krey, 2021). The number of e-wallet uses will rise in the future as more people get used to utilising the payment instruments (Soegoto & Tampubolon, 2020). Bakar et al. (2022) found that incorporation of e-wallet has a social impact on the users as they feel more connected with contemporary society. According to Janteng and Dino (2022), SI has become an even more significant predictor of e-wallet usage intention during the pandemic as more people are using and recommending them. However, Venkatesh et al. (2003) believed that SI appears to be significant only in pre-adoption behaviours but play a less significant role in sustained usage. A study by Mathieson (1991) determined that SI has no significant relationship with intentions. Yapp, Husna, and Yeap (2022) examined that SI is not a significant predictor in determining e-wallet continuance usage intention. On the contrary, several studies found that SI positively influence continuance intention (Indrawati & Putri, 2018; Moorthy et al., 2022).

Perceived Usefulness (PU)

Perceived usefulness (PU) can be understood as the level of confidence that an individual has that using a particular system can enhance his or her performance and productivity (Davis, 1989). PU of e-wallet can vary depending on user's preferences and needs. Users perceive e-wallets as a very effective payment method during periods of self-quarantine or physical distancing because they believe e-wallets can help them to avoid or reduce the risk of getting infected with the virus (Aji et al., 2020). Several studies revealed that the characteristics which are essential in shaping users' perceptions of the usefulness of e-wallet are perceived COVID-19 risk, speed of transaction, perceived convenience, and perceived ease of use (Aji et al., 2020; Mastor, 2021; Moreno et al., 2022; Khayer & Bao, 2019). In these studies, PU was positively related to continuance intention towards e-wallet. Hence, users are more likely to consistently use digital payment to mitigate COVID-19 transmission if it is easy and convenience for them to do so (Chaveesuk, Khalid, & Chaiyasoonthorn, 2022). Also, customers in Malaysia are more inclined to make purchases using an e-wallet if they perceive it to be user-friendly and expedite transactions (Tay et al., 2022). Technology Acceptance Model (TAM) found that PU influenced attitudes (Davis, 1989). The Technology Continuance Theory (TCT) developed by Liao et al. (2009) showed that PU was a significant predictor of users' attitudes and satisfaction regarding their intention to continue using a specific technology. Furthermore, recent literatures have found that users who believe that e-wallet is useful in everyday life will be more motivated to continue using it (Nawi et al., 2022; Effendy, Hurriyati, & Hendrayati, 2021). However, PU was found to have no significant effect on intention to continue to use of e-wallet (Halim et al., 2021; Karim, Aftharnorhan, Ghani, Ismail, & Muhammad, 2022). In this research context, it is believed that when students perceive an e-wallet to be useful, they are more likely to continually use the service during the pandemic.

Perceived COVID-19 Risk (PCR)

Perceived risk is a multi-dimensional construct. Perceived risk is associated with online transactions has several dimensions including privacy risks, quality risks, financial risks, performance risks, delivery risks, psychological risks, and functional risks (Forsythe & Shi, 2003). In human behaviour literature, perceived risk is primarily concerned with negative outcomes (Tanadi, Samadi, & Gharleghi, 2015). Another dimension added by Daragmeh et al. (2021) which is health risk is more relevant in this study context. According to Daragmeh et al. (2021), the risk refers to the possibility that a person will contract an infectious disease such as SARS-CoV-2. Perceived COVID-19 risk (PCR) is derived from the concept of perceived threat in Health Belief Model (HBM) (Ojo et al., 2022). Perceived threat is a combination of two basic constructs namely perceived susceptibility and perceived severity and they are significant determinants of protective behaviour related to health (Black, Bonnar, Black,

& Coster, 2018). Perceived susceptibility represents an individual's belief about their likelihood of getting an adverse health outcome due to a particular behaviour, also known as perceived likelihood or perceived vulnerability. While perceived severity, also known as perceived seriousness, refers to an individual's belief about the degree of harm caused by a health condition resulting from the negative outcome of a particular behaviour (Gaube, Lermer, & Fischer, 2019). Hence, in this research context, PCR is defined as an individual's perception of the likelihood and severity of contracting the novel coronavirus through exchange of physical money. Using an e-wallet is one way to avoid COVID-19 transmission, as the World Health Organization (WHO) has warned that banknotes used for contact-based payments may spread the virus. Pal and Bhadada (2020) confirmed that the SARS-CoV-2 could survive on surfaces such as cash and plastic card for two to four days. Therefore, individuals may avoid physical exchange and use e-wallets instead due to the fear and anxiety of dealing with cash that could be potentially contaminated.

Nawayseh (2020) found that consumers are more willing to use digital payments during the pandemic mainly because of the health risk of COVID-19 rather than technology-related risk. Most studies also found that perceived risk was negatively related to the intention to use e-wallets (Ing et al., 2021; Chelvarayan, Yeo, Yi, & Hashim, 2022; Karim et al., 2022; Dhia & Kholid, 2021). However, it was determined that PCR had a negative correlation with the intention to use physical cash and this might translate to increased intention to use e-wallets (Aji et al., 2020; Puriwat & Tripopsakul, 2021; Daragmeh et al., 2021; Ojo et al., 2022; Moorthy et al., 2022). In other words, PCR has positive influence on students' continuing intention to use e-wallet. According to Ibrahim et al. (2022), students in Malaysia tend to use various types of electronic payment because of the direct results of coronavirus concerns.

Price Benefit (PB)

Many consumers have been trying to minimize costs and seeking ways to save money due to the higher cost of living during the COVID-19 pandemic, in which they have been more price sensitive than ever before (Richards et al., 2022). This has made the price benefit (PB) a significant predictor for continuing to use e-wallets (Halim et al., 2021). PB is the same concept as price value proposed in Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) because price is usually conceptualized with the benefits of technology products or services (Venkatesh, Thong, & Xu, 2012). Customers will always expect to receive some kind of benefit whenever they pay for a product. Thus, PB refers to the extent to which an individual perceives that the benefits of using a technology outweigh the cost of using it. According to Venkatesh et al. (2012), PB is positive when the users perceive the benefits of using a technology to be greater than the cost they incur in using it and such PB has a positive impact on intention. It is expected that when students believe that an e-wallet offers financial advantages and cost savings, they are likely to continue using it. In this study context, the benefits of e-wallets are known as rewards and discounts or incentives, which can be in the form of cashback, loyalty points, and promotion.
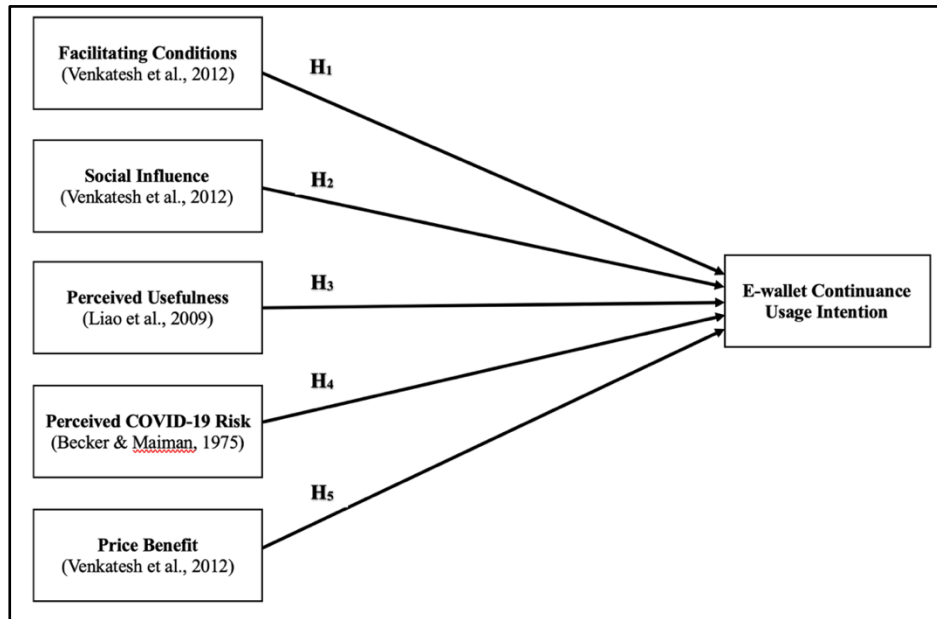
Figure 1: Conceptual Framework

METHODOLOGY

Quantitative research is conducted to investigate the factors such as FC, SI, PU, PCR, and PB that influence the continuous intention of using an e-wallet among the private university students in Kuala Lumpur and Selangor during the COVID-19 pandemic. Private university students, particularly those born in or after 2001, in Kuala Lumpur and Selangor are selected to be this study's target population because they are an important demographic for the e-wallet industry since they are usually more digital natives and have greater access to technology compared to others. To test the hypotheses, a structured online survey using Google Forms will be conducted among those students who are still using e-wallet in their daily application. The online survey, Google Forms was distributed through QR code to gather primary data to test the hypothesized model, the researcher provided the QR code to the respondents to scan it through a smartphone and filled in the Google form. After the respondents scanned it, the researcher expressed gratitude to the respondents and left them alone to fill in the questionnaire. The questionnaire distribution started in May 2023 and were ended in mid-June 2023. Reliability test such as Cronbach's alpha was applied to determine the internal consistency reliability of the six constructs in a pilot study. The sample size of pilot study that is suitable for every situation is often thirty (Machin, Campbell, Tan, & Tan, 2018). Hence, in this study, pilot test was carried out with a sample size of 30.

According to Department of Statistics Malaysia (DOSM, 2021), the total number of private university students in Kuala Lumpur and Selangor is 214,738. Sample size is determined using Krejcie and Morgan (1970) table of sample size determination. Hence, the representative sample size is 383 at a confidence level of 95% with a 5% margin of error. However, the researcher planned to collect 60 responses equally from the selected seven universities, which will add up to total of 420 responses, to reduce sampling error or potential impact of outlier error. Cluster sampling is used to divide the population into groups based on the universities that the students attend (e.g., UCSI, Management & Science University, Asia Pacific University, HELP University, Taylor's University, Sunway University, SEGi University). These private universities are selected due to their high population of university students and strong mobile internet usage rates. The sample frame that contains the list of all the private universities in Kuala Lumpur and Selangor used to conduct cluster sampling is obtained from the internet. In short, to participate in this research, students must be studying in the selected private institutions of higher learning in Kuala Lumpur and Selangor, be born in 2001 or later, and be using any e-wallet platform. Furthermore, as the researcher has no readily sample frame that contains the list of student's names and contact numbers in the chosen universities, the technique of non-

probability sampling employing convenience sampling is more appropriate in this study to gather primary data from target respondents who are easily accessible and willing to participate. This method is usually considered affordable and efficient (Sekaran & Bougie, 2016). There are great number of past studies of e-wallet usage using convenience sampling, which further prove its applicability in the context of e-wallet research (Ing et al., 2021; Moorthy et al., 2022; Chelvarayan et al., 2022).

The questionnaire is written in English and divided into eight sections. They are section A, B and C to H. Section A will be asking questions related to the criteria of being participating in the study. Section B is constructed to include respondents' demographic profile, such as gender, ethnicity, education level, family gross monthly income, mostly used e-wallet platform, number of installed e-wallet application, e-wallet by occasion, e-wallet usage frequency, and duration of e-wallet usage. Section C to H questions are related to the dependent variable and independent variables. There are 36 of closed-ended questions in total. Dependent variable has 4 questions while each independent variable has at least 3 to 5 questions at most. Before these sections, there is a cover letter consisting of the purpose of the study, the identity of the researcher, researcher's area of study, the need for voluntary participation, and the promise to maintain anonymity. To motivate respondents, privacy and confidentiality of information provided by respondents will be assured. The cover letter also ends with an appreciation note to participants. The participants who proceeded to answer the questionnaire gave their implicit consent to serve as research subjects.

The questionnaire uses the five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree) to measure the attitudes of respondents directly and it is constituted by 22 item statements that represent 6 variables which is e-wallet continuance usage intention (ECUI), facilitating conditions (FC), social influence (SI), perceived usefulness (PU), perceived COVID-19 risk (PCR), and price benefit (PB). Likert scale is typically treated as ordinal rather than interval scale but it can be an interval scale depends on how the researchers use it (Sekaran & Bougie, 2016). This scale is useful in capturing respondents' attitudes and opinions as it allows them to express how much they agree or disagree with a particular statement on a continuum (Saunders, Lewis, & Thornhill, 2019). Nominal scale is used for section B, which is useful in calculating frequency of each item. Hence, there are few types of measurement scales being used in this research study which is nominal, ordinal, and interval scale. In addition, explanation of each scientific terms such as Generation Alpha, dependent variable, and independent variables is included in the survey instrument to ensure respondents understand the questions. The questionnaire begins with simple items and then move to the more complex. This is expected to encourage commitment of the respondents in finishing the questionnaire (Cooper & Schindler, 2014).

The proposed model was tested using Statistical Package for Social Sciences (SPSS). Data collected from the online questionnaire was coded, edited, and imported into SPSS system to analyse the data and draw insights for the hypotheses. SPSS is a software program that is widely used in social science research to explore relationships and patterns within the data (Gogoi, 2020). Statistical tools, such as frequency distribution, Pearson correlation analysis, and multiple linear regression analysis, have been applied to investigate the unidentified research phenomenon in present study.

RESULTS AND DISCUSSIONS

A total of 432 questionnaires were distributed and completed, but 39 and 15 cases were excluded from data analysis because they did not meet the minimum criteria of the study and they are outliers respectively. Thus, only 378 questionnaires will be used in the data analysis.

Table 1 presented the results of Cronbach's Alpha and concluded that the internal consistency of items used to measure the independent variables and dependent variable is strong (Cronbach, 1970; Bujang et al., 2018). As shown in the table, Cronbach's alpha value for all variables is above 0.700, indicating good reliability. The dependent variable (ECUI) is with an alpha value of 0.876, which is more than 0.7 and thus falls into the very reliable range. Furthermore, independent variables (FC and PU) are excellently reliable as well because their alpha values are 0.872 and 0.812 respectively. The other

independent variables of SI, PCR, and ECUI are reliable because all of their alpha values are above 0.700. Therefore, all the items used to measure the proposed variables were found to be reliable in this study, and they are likely to produce consistent results over time since they measure the same constructs consistently.

Table 1: Reliability Statistics

Variables	N of Items	Cronbach's Alpha	Level of Reliability
Facilitating Conditions (FC)	3	0.872	Very Reliable
Social Influence (SI)	3	0.720	Reliable
Perceived Usefulness (PU)	5	0.812	Very Reliable
Perceived COVID-19 Risk (PCR)	4	0.727	Reliable
Price Benefit (PB)	3	0.765	Reliable
E-wallet Continuance Usage Intention (ECUI)	4	0.876	Very Reliable

Table 2 summarised the demographic information from the respondent collected for this research, with a total of 378 respondents who are Generation Alpha from private universities in Kuala Lumpur and Selangor. The respondents consist of 50.3% male and 49.7% female. In addition, 17.5% are Malays, 61.4% are Chinese, 18.5% are Indians, and 2.6% are from other ethnicity, including Iban, Chinese Indonesian, Indonesian, Japanese, Kadazan, Sikh, Nepal and Punjabi. Therefore, the majority of the respondents in this research are Chinese males from Generation Alpha. Moreover, most of the respondents' education level are bachelor's degree (53.2%), followed by foundation (25.1%). In terms of family gross monthly income, a total of 17.5% are B40 household income group, 48.9% are M40 group, and 33.6% are from T20 group. This shows that most of the respondents are earning monthly family income between RM4,850 and RM10,959.

Besides that, Table 2 showed a detailed respondents' profile as the survey specifically asked respondents in terms of their mostly used e-wallet platform, number e-wallet applications currently in their mobile phone, usage occasion for e-wallet, e-wallet weekly frequency of usage, and duration of e-wallet service usage. The preferred e-wallet platform among the respondents are Touch 'n Go (TNG) with a percentage of 70.4% compared to GrabPay (11.6%) and Boost (8.7%) and others (9.3%), including Maybank E-wallet (MAE), Alipay, Amonline, Public Bank Engage (PBE), ShopeePay, and WeChat Pay. The data also showed that more than 60% of the respondents are having excess of 1 e-wallet applications in their mobile phones. The preferred e-wallet platform is mainly used several purposes such as food and beverage (84.9%), online shopping (69.6%), food delivery (55.8%), as well as peer-to-peer transfer (54.5%). Moreover, most of the respondents use e-wallet 4 to 10 times a week (32.3%), 11 to 20 times weekly (28.6%), more than 20 times weekly (24.1%), and the remaining respondents use e-wallet 1 to 3 times a week (15.1%). Meanwhile, most of the respondents have been using e-wallet service for more than 3 years (41.8%).

Table 2: Demographic Information of the Respondents

Variables	Frequency (n)	Percentage (%)
Gender		
Male	190	50.3
Female	188	49.7
Ethnicity		
Malay	66	17.5
Chinese	232	61.4
Indian	70	18.5
Others	10	2.6
Education Level		
Foundation	95	25.1

Diploma	75	19.8
Bachelor's degree	201	53.2
Master	6	1.6
Doctorate	1	0.3
Family Gross Monthly Income		
B40 (Less than RM4,850)	66	17.5
M40 (RM4,850 – RM10,959)	185	48.9
T20 (RM10,960 or above)	127	33.6
Which E-wallet platform do you use the most?		
Touch 'n Go (TNG)	266	70.4
GrabPay	44	11.6
Boost	33	8.7
Others	35	9.3
Number of E-wallet application(s) you have in your mobile phone currently?		
1	122	32.3
More than 1	256	67.7
In what occasion will you mainly use E-wallet for? (Please select multiple options if application)		
Online shopping	263	69.6
Food Delivery	211	55.8
Food & Beverage	321	84.9
Groceries	138	36.5
Claim Government Money	138	36.5
Transportation	187	49.5
Bill Payment	165	43.7
Peer-to-peer Transfer	206	54.5
How often do you use E-wallet weekly?		
1 – 3 times	57	15.1
4 – 10 times	122	32.3
11 – 20 times	108	28.6
More than 20 times	91	24.1
How long have you been using E-wallet service?		
Less than 1 year	27	7.1
1 – 2 years	93	24.6
2 – 3 years	100	26.5
More than 3 years	158	41.8

The values shown in the Table 3 indicates that the Pearson Correlation Coefficient (r) is 0.344, and there is a significant relationship between facilitating conditions and e-wallet continuance usage intention at 0.000 level, which is less than the p-value of 0.05. In addition, the relationship strength between facilitating conditions and e-wallet continuance usage intention is positive and the level of relationship strength is moderate since r=0.344 falls under correlation range between 0.30 and 0.69. The result portrays the higher facilitating conditions, the higher e-wallet continuance usage intention during COVID-19 pandemic. Therefore, H_1 is accepted (p=0.000, r=0.344).

Table 3: Pearson Correlation between FC and ECUI

Correlations

		Facilitating Conditions – All Three (3) Items Combined	E-wallet Continuance Usage Intention – All Four (4) Items Combined
Facilitating Conditions – All Three (3) Items Combined	Pearson Correlation	1	.344**
	Sig. (2–tailed)		.000
	N	378	378
E-wallet Continuance Usage Intention – All Four (4) Items Combined	Pearson Correlation	.344**	1
	Sig. (2–tailed)	.000	
	N	378	378

**. Correlation is significant at the 0.01 level (2–tailed).

H_1: There is a significant positive relationship between facilitating conditions and e-wallet continuance usage intention.

The values shown in the Table 4 indicates that the Pearson Correlation Coefficient (r) is 0.398, and there is a significant relationship between social influence and e-wallet continuance usage intention at 0.000 level, which is less than the p-value of 0.05. In addition, the relationship strength between social influence and e-wallet continuance usage intention is positive and the level of relationship strength is moderate since r=0.398 falls under correlation range between 0.30 and 0.69. This result portrays the higher social influence, the higher e-wallet continuance usage intention during COVID-19 pandemic. Therefore, H_2 is accepted (p=0.000, r=0.398).

Table 4: Pearson Correlation between SI and ECUI

Correlations

		Social Influence – All Three (3) Items Combined	E-wallet Continuance Usage Intention – All Four (4) Items Combined
Social Influence – All Three (3) Items Combined	Pearson Correlation	1	.398**
	Sig. (2–tailed)		.000
	N	378	378
E-wallet Continuance Usage Intention – All Four (4) Items Combined	Pearson Correlation	.398**	1
	Sig. (2–tailed)	.000	
	N	378	378

**. Correlation is significant at the 0.01 level (2–tailed).

H_2: There is a significant positive relationship between social influence and e-wallet continuance usage intention.

The values shown in the Table 5 indicates that the Pearson Correlation Coefficient (r) is 0.500, and there is a significant relationship between perceived usefulness and e-wallet continuance usage intention at 0.000 level, which is less than the p-value of 0.05. In addition, the relationship strength between perceived usefulness and e-wallet continuance usage intention is positive and the level of relationship strength is moderate since r=0.500 falls under correlation range between 0.30 and 0.69. This result portrays the higher perceived usefulness, the higher e-wallet continuance usage intention during COVID-19 pandemic. Therefore, H_3 is accepted (p=0.000, r=0.500).

Table 5: Pearson Correlation between PU and ECUI

Correlations

		Perceived Usefulness – All Five (5) Items Combined	E-wallet Continuance Usage Intention – All Four (4) Items Combined
Perceived Usefulness – All Five (5) Items Combined	Pearson Correlation	1	.500**
	Sig. (2–tailed)		.000
	N	378	378
E-wallet Continuance Usage Intention – All Four (4) Items Combined	Pearson Correlation	.500**	1
	Sig. (2–tailed)	.000	
	N	378	378

**. Correlation is significant at the 0.01 level (2–tailed).

H_3: There is a significant positive relationship between perceived usefulness and e-wallet continuance usage intention.

The values shown in the Table 6 indicates that the Pearson Correlation Coefficient (r) is 0.222, and there is a significant relationship between perceived COVID-19 risk and e-wallet continuance usage intention at 0.000 level, which is less than the p-value of 0.05. In addition, the relationship strength between perceived COVID-19 risk and e-wallet continuance usage intention is positive and the level of relationship strength is weak since r=0.222 falls under correlation range between 0 and 0.29. However, this result portrays the higher perceived COVID-19 risk, the higher e-wallet continuance usage intention during COVID-19 pandemic. Therefore, H_4 is accepted (p=0.000, r=0.222).

Table 6: Pearson Correlation between PCR and ECUI

Correlations

		Perceived COVID–19 Risk – All Four (4) Items Combined	E-wallet Continuance Usage Intention – All Four (4) Items Combined
Perceived COVID–19 Risk – All Four (4) Items Combined	Pearson Correlation	1	.222**
	Sig. (2–tailed)		.000
	N	378	378
E-wallet Continuance Usage Intention – All Four (4) Items Combined	Pearson Correlation	.222**	1
	Sig. (2–tailed)	.000	
	N	378	378

**. Correlation is significant at the 0.01 level (2–tailed).

H_4: There is a significant positive relationship between perceived COVID-19 risk and e-wallet continuance usage intention.

The values shown in the Table 7 indicates that the Pearson Correlation Coefficient (r) is 0.397, and there is a significant relationship between price benefit and e-wallet continuance usage intention at 0.000 level, which is less than the p-value of 0.05. In addition, the relationship strength between price benefit and e-wallet continuance usage intention is positive and the level of relationship strength is moderate since r=0.397 falls under correlation range between 0.30 and 0.69. This result portrays the higher price benefit, the higher e-wallet continuance usage intention during COVID-19 pandemic. Therefore, H_5 is accepted (p=0.000, r=0.397).

Table 7: Pearson Correlation between PB and ECUI

Correlations

		Price Benefit – All Three (3) Items Combined	E-wallet Continuance Usage Intention – All Four (4) Items Combined
Price Benefit – All Three (3) Items Combined	Pearson Correlation	1	.397**
	Sig. (2–tailed)		.000
	N	378	378
E-wallet Continuance Usage Intention – All Four (4) Items Combined	Pearson Correlation	.397**	1
	Sig. (2–tailed)	.000	
	N	378	378

**. Correlation is significant at the 0.01 level (2–tailed).

H_5: There is a significant positive relationship between price benefit and e-wallet continuance usage intention.

Based on Table 8, the adjusted R square value is 0.409 which indicates that only 40.9% of the variance in the dependent variable (e-wallet continuance usage intention) can be explained by the independent variables (facilitating conditions, social influence, perceived COVID-19 risk, perceived usefulness, price benefit). The remaining 59.1% of the variance is not accounted for by the included independent variables and could be due to other factors excluded in this research. Therefore, the hypothesized model has acceptable predictive power with an adjusted R^2 value of 0.409, which is above the required level of 40% as proposed by Alalwan, Dwivedi, and Rana (2017).

Table 8: Multiple Linear Regression between Independent Variables and Dependent Variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.645[a]	.416	.409	1.88153

a. Predictors: (Constant), Price Benefit – All Three (3) Items Combined, Perceived Usefulness – All Five (5) Items Combined, Perceived COVID–19 Risk – All Four (4) Items Combined, Social Influence – All Three (3) Items Combined, Facilitating Conditions – All Three (3) Items Combined

CONCLUSION

Private university students' intention to continue using e-wallets during the COVID-19 pandemic has been found to be positively correlated with all the independent variables. It suggests that good facilitating conditions in terms of technology infrastructure and access to technology advancement, including internet connectivity, mobile network coverage, and technical support from e-wallet providers, does positively influence private university students' willingness to use e-wallet continuously. Also, social influence is also significant in determining students' continuance intention in using e-wallet. This is because, particularly during the epidemic, the respondents' family and friends use e-wallet application for most of their payment activities. The study found that Malaysian private university students perceive that using an e-wallet helps them reduce the risk of contracting coronavirus, save time, and save effort. COVID-19 pandemic has made students worried about getting infected by SARS-CoV-2 that can be possibly transmitted through physical money. This increased perception of risk motivates them to continue using e-wallets as a preventive health behaviour to reduce their exposure to the life-threatening COVID-19 virus. Private university students found that the benefits of using an e-wallet outweighed the cost of using it.

This study makes noteworthy contributions to current literature. First, based on the existing literature, this study is one of the initial attempts to group the important variables, which have shown inconsistent results across studies, from UTAUT2, TCT, and HBM into an integrated model to examine their impact on Malaysian private university students' e-wallet continuous usage intention during COVID-19 pandemic. Second, the inclusion of variables in this study such as perceived COVID-19 risk, which has not been extensively studied in previous research, provides valuable insights into the impact of external factors such as global pandemics. Third, the integrated model in this study has contributed to better comprehension of the motivational factors that affect the intention of Generation Alpha to continue using e-wallet during the pandemic times. In addition, the findings of this study are useful for e-wallet service providers, merchants, government, banks, universities, and policymakers. This study can help the above-mentioned parties identify the causes behind the unexpected decrease in e-wallet usage so they can formulate and implement effective strategies to motivate new users to increase their e-wallet usage rates and retain existing e-wallet payment users. Besides that, the findings from this research could contribute to the development of fintech industry, especially for student market.

This study has a few limitations, which creates opportunities for future research. First, this cross-sectional study has been conducted within a specific timeframe, limiting the ability to observe long-term changes among private university students' continuous intention of using e-wallets. Therefore, future research could focus on longitudinal studies that track respondents over an extended period to gain a deeper insight into changes in e-wallet continuous usage intention. Second, the non-probability convenience sampling is adopted to select respondents, which is more prone to sample bias compared to probability sampling, and this study only collects responses from the seven selected private universities in Kuala Lumpur and Selangor. Thus, future study could employ probability sampling technique and include broader range of universities in the sample. Third, this study has not considered relevant moderating variables affecting the correlation between research variables. Hence, future study might shift facilitating conditions from independent variable to moderating variable and assess how it modifies the original relationship between the independent variables (SI, PU, PCR, PB) and e-wallet continuance usage intention. Lastly, this study only addresses five factors, namely FC, SI, PU, PCR, and PB, influencing e-wallet continuance usage intention, which many overlook potential influence of other factors. Therefore, future research might include other factors that can play a significant role in assessing the e-wallet continuance usage intention among the private university students during the pandemic, such as perceived security, enjoyment, lifestyle compatibility, and personal innovativeness.

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AUTHORS' CONTRIBUTION

Ho Hong Ren conceived and planned the study and carried out the data collection and analysis, as well as provided final comments and revision guidelines. Mohd Remie provided the guidelines throughout the writing process, as well as helping with post-article refinements. All authors provided critical feedback and helped shape the research, analysis, and manuscript.

CONFLICT OF INTEREST DECLARATION

We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to Jurnal Intelek.

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