

Go Cashless: A Proposed Conceptual Framework for e-Wallet Acceptance

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Abstract

Developments in digital finance help vulnerable communities access financial services, particularly in developing countries. Financial technology offers advancements to the financial industry and consumers that make their transactions less complex and more convenient. E-wallet is a great platform that will positively impact the economy and social fabric of the nation in pursuit of the government's aspirations of transforming into a cashless society, contactless payment, and digital economy. It was proven that Malaysia's emergence of financial technology has contributed to increasing improvement in Malaysia's technology productivity. In the context of the study, the level of consumer acceptance of e-wallets especially among the lower-income group in Malaysia is still low in contrast with the potential benefit of technology. If this issue persists, the country's aspiration to become a cashless nation by 2050 and to be a regional leader in the digital economy by 2025 is hard to be achieved. Since the literature examining the determinants of e-wallet acceptance among Malaysians is relatively scarce, therefore, this study aims to fill the gap without omitting the community. Thus, this study seeks to subsidize the pertinent past literature and establish a conceptual framework that determines e-wallet acceptance and further amplifies the methodology that will be used in this study. This framework is based on Technology Acceptance Model as underpinning theory and the past studies using systematic literature review with the timeline between 2017 and 2021. Findings of these activities reveal that various variables have been compiled as a component in the proposed framework which are perceived usefulness, perceived ease of use, security, trust, attitude as a mediator, and e-wallet acceptance. This framework can serve as a theoretical basis for future research and practice.

Keywords: Behavioral Finance, Cashless, Fintech, E-Wallet, Acceptance, TAM Theory

Introduction

The study of e-wallet acceptance is a study in the field of behavioral finance. Behavioral finance is an emerging field that mixes the understanding of behavioral and cognitive psychology with the financial decision-making process (Chaturvedi, 2022). Behavioral finance

is the study of the effects of psychology on investors and financial markets. It focuses on explaining why investors often appear to lack self-control, act in their own best interest, and make decisions based on personal biases instead of facts (Corner, 2021). Besides, e-wallet is one of the most dominant categories under Financial Technology (Fintech). Fintech is a combination of the word's "finance" and "technology" which refers to software, mobile applications, and other technologies created to improve and automate traditional forms of finance for businesses and consumers alike. Conjointly, it has come to be dubbed, is generating significant attention along with its unprecedented potential to shape societies and economies. In conjunction with its capabilities, it has brought tremendous growth in the digital economy, and cashless society, particularly in China, India, and the United Kingdom (Al Nawayseh, 2020). In Malaysia, the emergence of fintech, such as electronic payments and online banking, has contributed to expanding improvement in a technology capacity. Fintech was at the forefront of this disruption, introducing new concepts in financial services and raising global awareness of the business. Furthermore, it prompted customers to seek out services that were simple, easy to use, real-time, and available (Abu Daqar et al., 2020). Along with this development, fintech in Malaysia has 13 categories, one of which and the most dominant is e-wallet. The e-wallet was chosen since it was among the most used payment forms of fintech in the country (Alwi et al., 2021). As of August 2021, there were 47 official non-bank e-money issuers regulated by Bank Negara Malaysia, and this is a good sign in enlivening digital financial technology as compared to the early inception year of e-wallet in 2017 (Bank Negara Malaysia, 2021). Particularly, an e-wallet refers to a payment system technology that transforms the capabilities of the physical wallet into a digital world and an easy means of transacting money with no physical exchange of hard cash but in virtual mode. Along with the continued development of e-wallet providers in Malaysia, particularly in the payment sector, it is important to examine the determinant factors that contribute to Malaysians' acceptance of electronic wallets as their means of payment. However, although e-wallet has a relevant capacity as a catalyst for financial technology and facilitates financial transactions, the level of e-wallet acceptance among Malaysians are still relatively low (Balakrishnan & Shuib, 2021) where most largely favors cash (64 percent), credit cards at 21 percent, and only the balance of 15 percent through e-wallet (Worldpay Global Payments Report, 2021). The scenario that transpires leads to the question of what the determining factors for e-wallet acceptance in Malaysia are. In a nutshell, this study will pay attention to the relationship between the determining factors of e-wallet acceptance in Malaysia. Therefore, the objectives of this study are: -

- to identify the determining factor for e-wallet acceptance among Malaysian and
- to propose a conceptual framework that determines Malaysian's e-wallet acceptance.

Based on the integration of previous studies and the literature review encompassing various aspects, this study assumes that the conceptual framework proposed can demonstrate the different gaps and the factor of consistency that determine e-wallet acceptance among Malaysians.

Literature Review

Theoretical Foundation

In determining the theoretical framework, the study used the Technology Acceptance Model (TAM) as the underpinning theory. TAM was introduced by Fred Davis in 1986 for his doctorate proposal as shown in Figure 2.1. TAM is specifically tailored for modeling users' acceptance of information systems or technologies. The technology acceptance model

(TAM) is the most used model for studying the adoption of technology by individuals. The TAM is influenced by the theory of reasoned action that is initially introduced by and further developed in (Ajzen & Fishbein, 1975). The theory of reasoned action (TRA) argues that the way people act is influenced by their attitude toward the action and subjective norms that have an impact on behavioral intention (Ajzen & Fishbein, 1975). Subjective norm is the degree that an individual perceived that they should or should not perform an action or use a system according to people around them (Ajzen & Fishbein, 1975; Venkatesh & Davis, 2000). The TAM uses psychological factors in computer adoption. The development of the Technology Acceptance Model (TAM), an information system theory that contains the decision-making process of whether a technology can be accepted or not by users, and also as consideration for applying new technology, can also be used to measure the successful acceptance of technology by the community in terms of the use of non-cash transactions (Subawa et al., 2021). Aside, it also has proven to be a promising model with a high explanatory power of the variance in users' acceptance across a wide variety of contexts (Ha & Stoel, 2009) and it is one of the most recommended models for modeling acceptance of technology and information systems by individuals (Lai, 2017). Further, TAM (Davis, 1989), included and tested two specific beliefs: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude (ATT), and Behavioral Intention (BI) in the framework. According to the model, the respondents tend to consider the usefulness of a new system before deciding to use and an attitude to develop a behavior is required for the intention to use technology. The theory has widened possibilities for future research into the addition of external elements that can influence an individual's belief in a system.

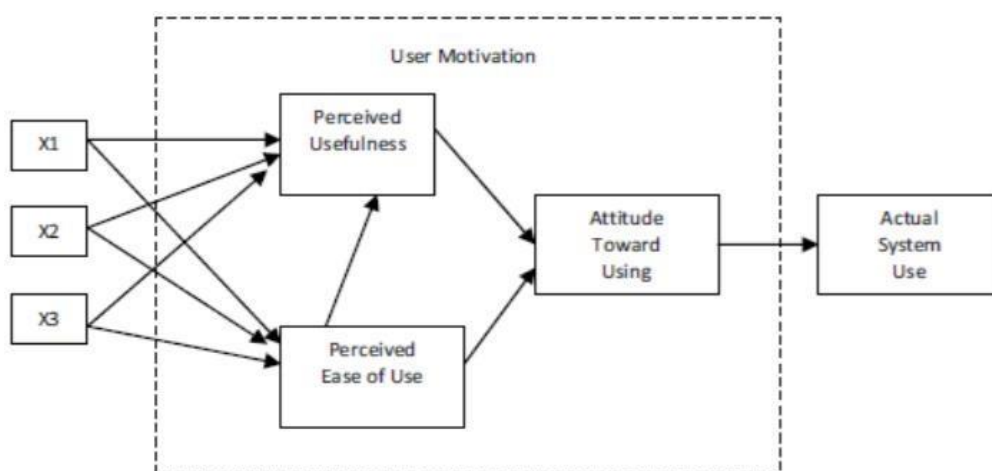


Figure 1. Original TAM (Davis, 1989)

e-wallet Acceptance

e-Wallets are a type of fintech that employ digital resources and can be used as an alternative to conventional payment methods. Besides, it can be used to replace cash in some circumstances, such as facilitating transactions without holding a significant amount of cash, reducing the time needed to calculate transactions and accelerate payments, increasing security and lowering the risk of loss, and reducing the time required to calculate transactions. Subsequently, it is also one of the most popular cutting-edge services launched starting in 2017, allowing secure storing of bank card information on a mobile device, which may then be used to execute numerous operations including paying bills, transferring payments, and shopping (AlKubaisi & Naser, 2020). Relevant to this study, acceptance is crucial in

determining payment instruments and is still a major factor in the development of new technologies (Ariffin et al., 2020). Unlike cash, payment instruments operate in a two-sided networked market where consumers and merchants must be willing to participate. Ultimately, increased retailer or merchant acceptance encourages the adoption of alternative payment methods and could result in the replacement of cash (Simatele & Mbedzi, 2021). Expanding the number of e-wallet users essentially generates economies of scale, which lowers the average cost of delivering the payment platform and increases the attractiveness of the payment instrument to both consumers and enterprises. It is interesting to consider that one of the difficulties in implementing all advancements in digital technology is the level of public acceptance, which is extremely important (Tran Le Na & Hien, 2021). Due to the significance and increasing use of e-wallets globally, examining how consumers react to accepting and using them is an important research issue for many researchers (AlKubaisi & Naser, 2020; Li et al., 2019; Tran Le Na & Hien, 2021).

Factors Affecting e-Wallet Acceptance

Perceived Usefulness (PU)

Perceived usefulness, or PU, is the idea that using technology will increase the number of jobs and job performance (Chandra & Kumar, 2018; Yang et al., 2021). Prior studies have shown that perceived usefulness is a powerful predictor of customer behavior intention and acceptability (Aji et al., 2020; Ardiansah et al., 2020; Tun-Pin et al., 2019; Vincent & Sengupta, 2019). In the digital world, infrastructure supports the information distribution system, increasing the acceptability of technology (He et al., 2018), especially in e-wallet acceptance (Lim et al., 2022; Yang et al., 2021). Briefly, it is a user's cognitive expectation of how well the system will function. As a result, consumers think that adopting such a system will speed up their transactional processes while also assisting them in achieving their financial and lifestyle objectives (Kumari & Devi, 2022; Shaikh et al., 2020). Additionally, it has been demonstrated that PU has a positive effect on the intention to use e-payment in ambiguous situations.

Perceived Ease of Use (PEOU)

Perceived ease of use refers to "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). The TAM model suggested that the two most significant factors in deciding whether to embrace a technology are perceived usefulness and perceived ease of use. This model examined the connection between belief—attitude—intention—behavior, which is in control of consumer technology adoption and the most common information system acceptance model in the context of online shopping, cashless transactions, online banking, and online payments (AlKubaisi & Naser, 2020; Alshurideh et al., 2021; Balakrishnan & Shuib, 2021; Hariguna et al., 2020; Kumari & Devi, 2022; Lisana, 2021). According to third-party mobile payment, PEOU can be assessed by leveraging consumer interactions with third-party mobile payment, such as clear functions, a simple interface, and convenient payment stages. PEOU is currently being explored in technology adoption research (Balakrishnan & Shuib, 2021; Kumari & Devi, 2022; Pal et al., 2020). Aside, (Lisana, 2021; Yang et al., 2021) proved that PEOU has a significant positive effect on the consumers' intention to use electronic payment technology and PEOU was proved to be a good predictor of intention to adopt m-wallet (Wamba et al., 2021) and mobile phone payment (Kennedy et al., 2020).

Security (SC)

Customers now have access to a good amount of convenience due to the expansion of the e-wallet, hence security is essential for the expansion of the e-wallet. Security is the degree to which consumers believe that using an e-wallet is secure. Security components include data integrity, non-repudiation, secrecy, and authentication (AlKubaisi & Naser, 2020). Issues with identification and secrecy, as well as concerns about unauthorized use and illegal access to payments and consumer data, are all intimately associated with users' concerns about the safety and security of electronic payment transactions (Al-Dmour et al., 2021). Contrary to cash transactions with stringent security controls, the usage of digital transactions can reduce crime rates and cyber fraud. When customers make e-payments, the security assertion must be clear and understandable to the average customer, and the instructions must also inform them of the transaction procedure (Chellapalli & Kumar, 2020; Hassan & Shukur, 2022). Security issues, the immaturity of e-wallet-related technologies, issues with initial deployment and investment, compatibility issues, cost issues, and an increase in hacking and fraud instances are some challenges to the sustainable use of e-wallets (Ojo et al., 2022; Wamba et al., 2021).

Trust (TR)

Trust is vital for the adoption of new technologies (Kumari & Devi, 2022; Vinitha & Vasantha, 2017), including e-wallets (Do & Do, 2020; Latupeirissa et al., 2020; Senali et al., 2022; Yang et al., 2021), mobile payment systems (Lisana, 2021), mobile money applications (Hariguna et al., 2020), blockchain technology (Kumari & Devi, 2022), and mobile money systems (Al-Saedi et al., 2020; Lisana, 2021; Mew & Millan, 2021). As consumers will not use a payment system unless they can trust it, suppliers must take proactive measures to reduce consumer mistrust of electronic transactions. Stakeholders in mobile payment systems include banks, retailers, service providers, and other users. Trust also refers to one's confidence that all these parties would act responsibly to improve security (Lisana, 2021). Pal et al (2020) show TR has been found to have a significant impact on mobile payment usage, while Yang et al (2021) demonstrated a positive impact on both intentions to use and adoption of e-wallets.

Attitude (ATT) – Mediator

ATT is expected to be a mediator between PU, PEOU, SC, TR, and acceptance. According to a study by Ajzen & Fishbein (1975), attitude is a general evaluation of a behavior outcome gauged by one's beliefs and assessments of the implications of that behavior. People's attitudes toward action, are more likely to result in a willingness to engage in a specific behavior because they take the implications of doing so into account (Hill et al., 1977). Davis (1989) evaluated how to enhance user acceptance in the workplace through system design, and the findings demonstrate that although attitude toward using and actual user behavior are indirectly influenced, PU and PEOU are directly affected by external variables (such as system design features). In addition, the TAM asserts that PEOU is a major element of attitude (Venkatesh & Davis, 2000) as people will accept new technology as useful if they think it is easy to use. Further, ATT is expected to be a mediator between SC and acceptance. The study by (Lim et al., 2022) proved that SC has a positive impact on ATT because the more secure the users feel about the technology, the higher the satisfaction will be due to the positive attitude to accept the e-wallet. Persistent with this view, Yang et al (2021); Latupeirissa et al (2020) disclosed a positive effect of TR on ATT to use the e-wallet. Latupeirissa et al (2020) used ATT as mediating factor for PU, PEOU, and TR towards the intention to use e-wallets in Indonesia,

and all hypotheses were accepted as statistically significant. Aside, ATT had a significant positive influence on BI to adopt a mobile payment (Lu & Lu, 2020; Patil et al., 2020), mobile wallet (Singh & Sinha, 2020), and e-wallet (Latupeirissa et al., 2020).

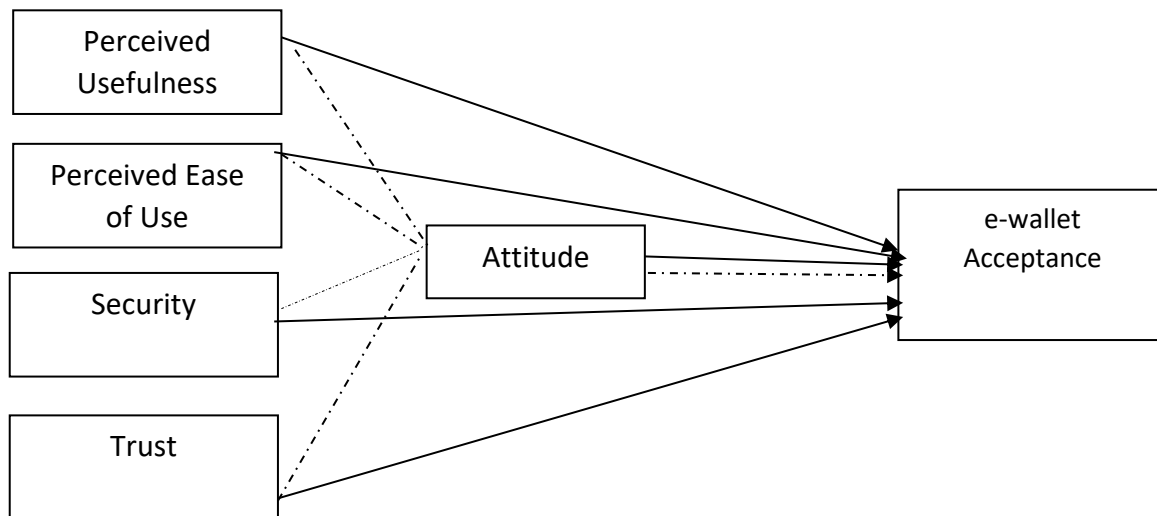
Methodology

The proposed conceptual framework for e-wallet acceptance among Malaysians is based on the underpinning theory of TAM and past literature reviews. The past literature was reviewed based on systematic searching strategies. This strategy was adopted based on three sub-processes namely identification, screening, and eligibility to ensure rigorous and systematic searching. This strategy can be reported correctly in the review and to the extent that all the searches of all the databases are reproducible. The first step is *identification* which is the process of searching for synonyms, related terms, and variations of the study's main keywords. All databases were searched from January 2017 to April 2021 using advanced searching techniques such as the Boolean operator, phrase searching, truncation, wild card, and field code functions separately or by combining these searching techniques into a full searching string based on the main and enriched keywords: ("ACCEPTANCE*" OR "ACCEPT*" OR "ACCEPTING*" OR "ACCEPTED" OR "ADOPTION*" OR "ADOPT" OR "ADOPTED") AND ("CASHLESS" OR "E-PAYMENT*" OR "ELECTRONIC PAYMENT*" OR "ONLINE PAYMENT*" OR "ON-LINE PAYMENT*" OR "E-WALLET*" OR "ELECTRONIC WALLET*" OR "ELECTRONIC MONEY"). Two databases, Scopus and Web of Science were chosen as the leading databases for searching related articles and documents for the review, by (Gusenbauer & Haddaway, 2020) who affirmed the searching capacity of these two searching sources. Supporting databases were retrieved from a total of six (6) sources. Google Scholar, DOAJ, MY Jurnal, Research Gate, Mendeley, and university libraries were chosen as sources. The identification process in the leading and supporting databases has resulted in a total of 320 articles. The *screening* process excluded 233 articles because they did not meet the inclusion criteria, leaving 87 articles for the eligibility process. The third process is *eligibility*, in which the study manually monitors the retrieved articles to ensure that all the remaining articles (after the screening process) meet the criteria. This process had chosen only 60 articles for review and excluded the balance of 27 articles that have duplicated records between databases.

The Proposed Conceptual Framework

This study develops a conceptual framework based on the TAM theory and previous works of literature. The TAM served as the study's guiding theory in developing the conceptual framework. TAM (Davis, 1989) included and tested two beliefs in the framework: PU, PEOU, ATT, and BI. The model advocates that before deciding whether to use a new system, respondents tend to weigh its utility, and that intention to use technology requires an attitude that will lead to the development of behavior. Further, the proposed conceptual framework could add two new factors which are security and trust to enhance its explanatory power based on the specific context proven through previous literature. This is based on the justifications given by some authors suggested that security (Ariffin et al., 2020; Phan et al., 2020) and customer trust (Abdullah et al., 2020; Al-Saedi et al., 2020) have a considerable impact on customer acceptance because they are principal reasons for low adoption of e-wallet payment service. Similarly, Soodan & Rana (2020) used SC in modeling customers' intention to use e-wallets for a developing nation. Nonetheless, both data transmission and user information security are the most concerning issue for electronic payment users (Li et al., 2019). TR also served as the main influence on mobile payment usage research (Pal et al.,

2020) and the significant predictor of technology adoption (Mew & Millan, 2021; Ooi & Tan, 2016). As such, based on the above justifications, the proposed conceptual framework model is demonstrated in Figure 2.



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Figure 2. Conceptual Framework

Conclusion

In conclusion, considering the variables that have been discussed, this study proposes perceived usefulness, perceived ease of use, security, trust, and attitude (mediator) as determinants for e-wallet acceptance among Malaysians. As a result, these findings suggest a conceptual framework, as shown in Figure 2, to act as director for this study and progress it.

This study is expected to contribute theoretically to the current literature on different levels. Based on an extensive review of the literature, perceived usefulness, perceived ease of use, and attitude from the Technology Acceptance Model (TAM) will be examined and included in the framework. Hence, it extends the TAM theory by incorporating other independent variables from current literature such as security and trust. Therefore, the study is being initiated at the right time in promoting the accountability, transparency, and effectiveness of the financial technology system in Malaysia, especially on the e-wallet. Thus, by developing e-wallet technology according to the consumers' acceptance determinants, the e-wallet providers will be able to escalate the profit rate for each transaction and optimize the cost rate efficiently. The conceptual framework provides a foundation for developing e-wallet acceptance measures and the basis for a new measure to evaluate the determinants of e-wallet acceptance among Malaysians. There are also opportunities to further investigate the determinants of e-wallet acceptance among the low-income group as the proposed respondent is among the largest income threshold groups in Malaysia. The study hopes that the proposed framework provides a clear picture for future research and will inspire scholars to continue investigating this important construct.

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