The Acceptance of E-Wallet Among Higher Education Students: A Case Study of Uitm Kelantan Students

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ABSTRACT

The rise of digital payment methods has changed the way people make financial transactions. The young generation, particularly the university students, increasingly utilize electronic wallets (e-wallets) in their daily lives due to its quickness, convenience, and contactless payments and transactions. There are several factors that influence the level of e-wallet acceptance among students. These include demographic traits like age and educational background, the ease of use, their degree of trust in the platform's security, and the service's usefulness. Here, the acceptance of e-wallets among higher education students, focusing on a case study of Universiti Teknologi MARA (UiTM) Kelantan is studied and explored. The study will provide insights into how social influence, perceived usefulness, and ease of use influence students' intention to use this technology. Using a quantitative research approach, data were gathered by distributing a Google Form to 105 students from UiTM Kelantan. The findings imply that the acceptance of e-wallet highly influenced by the social influence and perceived usefulness of the technology. Since the factors influencing the acceptance of e-wallets may vary in various countries, the continuous study of this technology will give insights on their implications on the economic and social of a particular region.

Keywords: e-wallet, student acceptance, social influence, perceived usefulness, ease of use, higher education

INTRODUCTION

The financial technologies like electronic wallets (e-wallets) have emerged and are altering the way payment and transactions are being made, particularly among the well organized and technologically inclined population. Such mobile payment systems have changed peer-to-peer and retail transactions across the globe. Their accessibility and speed have made them expand overnight in most of the developed nations. A number of studies have indicated causes of acceptance of e-wallet and the overall consequences of using this technology in financial systems [1-4].

The variables that facilitated the adoption of e-wallet are numerous. Yang et al. [5] indicate that perceived utility, perceive ease of use, trust or security, social influence, and enabling conditions are the major elements that affect the motivations of people to use e-wallets. The Technology Continuance Theory was applied by Amron et al. [6] to highlight the role of user satisfaction and relative utility in maintaining the acceptance of e-wallets by young customers. Moreover, it is important to note that Ch'ng [7] stated that the factors that influenced the acceptance of e-wallet among university students were the importance of security, service quality, technological factors, and compatibility with lifestyle.

E-wallets in Malaysia have gained popularity due to various reasons including its convenience, cashless incentives, and the government efforts in developing e-Wallet such as e-Tunai and Belia e-cash [8]. According to academic research, national and international survey, Malaysian customers are highly aware of e-wallets and the Gen Z, as well as student population, are especially significant users and potential customers of the fintech companies. As it has been determined by Leong et al. [9] and Abdul-Halim et al. [10], Malaysia is among the regional leaders of fast uptake in both government-based and private-sector fintech projects throughout and after the COVID-19 pandemic. A hybrid machine learning methodology is used in Ch'ng [7] to explore the variables that influence e-wallet acceptance among students in a Malaysian university, and students are categorized in

terms of demographics and characteristics. Yet, in a study done by Yang et al. [5] and Chelvarayan et al. [11], the students of higher education reveal a tendency. They discovered that, in spite of the fastness and convenience offered by e-wallets, the privacy concerns, security perception, and the absence of specific conducive factors like the campus support system and acceptance among merchants may limit adoption and use of this technology in the lives of students.

However, most research only assesses the desire to use e-wallets rather than its actual use, most of the studies consider the impact of demographic or external variables, such as the COVID-19 pandemic on the use of ewallet acceptance. This implies that the issue of sustainability of e-wallet in students needs a comprehensive and well-rounded research to be well understood. Students in the institutions of higher learning form one of the most vital groups that can be used to gauge the use of e-wallets as they are the first users of any technology. It should be an ongoing research, with the adoption of e-wallets among students because the regulation, market dynamics, user behavior and technological progress within each or every country may differ and may have a strong effect related to the patterns of usage in the long run. The sustainability of this technology in future can be influenced by factors such as new features, security concerns and change in customer habits. With frequent studies, it will be able to follow the progress made on the very apps and or in the gaming community, emerging trends, and therefore, catalyze further refinements of the technology. This paper examines the issues that determine the uptake of e-wallets by the higher education students, in this case, UiTM Kelantan students. With consideration of the social influence, perceived usefulness, and ease of use as variables that affect the adoption of the technology, the result of this study will offer useful information on the implications of using e-wallets in the Malaysian society to inform fintech initiatives, promote the expansion of online payments, and promote future regulations.

LITERATURE REVIEW

Acceptance of E-wallet

E-wallets are important in the digital economy today as they enable small and medium business owners to carry out safer, cashless, and efficient transaction in their businesses. This digital payment revolutionizing financial transactions formerly carried by traditional banking has evolved and is presenting quicker and easy transactions with the incorporation of computers, smartphones, and smart watches [12]. The invention has also enhanced the increase in the adoption of E-wallet and it has played a positive role in economic growth since users can shop without physical presence and, without physical currency by simply clicking the mouse of a mobile device [13].

The acceptance of e- wallet denotes the intention and the actual usage behaviours of users of the system. Two most common theoretical models that were debated by numerous researchers to comprehend the e-wallet acceptance are the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) [14-16]. The study by Dzakiyyah and Nugraha [17] on the association between behavioural intention and actual use behaviour gave out mixed results, but the performance expectancy and social influence produced a significant effect on the behavioural intention. The two important determinants of ewallet acceptance that have a significant positive effect on the intention to continue using e-wallet are perceived usefulness and perceived ease of use, and perceived usefulness is the mediating variable that plays the role of the perceived ease of use [18-19].

All e-wallet users, the students of higher learning are the most vital to study of the e-wallet acceptance on its usage since they are the pioneer of the technology and their critical positions as the future employees. Perception on the perceived usefulness of e-wallet, perception of ease of use [20-21], perception of security [22-23], social norms [21,24], the availability of physical and digital infrastructure [21], and the rewards provided [25] have an influence on acceptance of e-wallet.

Provided that E-wallet can ensure that transactions are faster and convenient, the latter will help in the adoption and intention to use the e-wallet among students of University Putra Malaysia (UPM) as indicated by Osman and Yi [26]. The perceived ease with which the e-wallet tools can handle transactions like buying food, top-up, transportation ticket, books, stationery and any other financial transactions will affect the intention and acceptance of the use of the e-wallet among students [27]. The adoption of E-wallet was hastened during the COVID-19 pandemic whereby a majority of Malaysians prefer to use contactless payment method because of the limited movement as well as health concerns. Consequently, peer pressure, family pressure, or collegiate

pressure is also a factor of significant importance in e-wallet acceptance provided the access to payment systems, supported by digital infrastructure and skills is not hindered [28-29]. In their study, Arsyi Juned and Ishak [30] indicated that peer advices and communal tendency significantly influence the decisions that students make to adopt e-wallets particularly when the associated technology is a relatively new one.

Nevertheless, regardless of the utility of e-wallet, security aspects are the decisive factor taken into consideration by younger generations in the case of digital natives as well. The risk, specifically the safety and security, will be perceived to influence the e-wallet acceptance among Malaysian young people [31]. There should be trusted medium because it challenges perceived ease of use and behavioural intention to use e-wallet among the Zgeneration users [4]. This is in contrast to the finding by Sharif [32] who determined that the perceived security is not a major determinant of e-wallet acceptance. These inconsistent results indicate that although exposure to security breach is presented, other variables including experience in using the tools and readiness taken by students to embrace the tools too can also predict acceptance of e-wallet among students.

Social Influence

According to Abdullah et al. [33], Janteng and Dino [34], social influence is one of the primary factors in adaptive e-wallets among the Malaysian university students. The pressure is mostly exerted via peer pressure, social norms, word of mouth and conformity to be accepted in his or her social circle. This tendency is especially important in the case of students of universities, who heavily depend on the digital connectivity and social influence in their decision making. The most effective influencing factor of the intention to use e-wallets is the social influence, which is significant among Malaysian students compared to the perceived ease of use and perceived security [30]. Sharif [32] revealed that, usage and social influence of e-wallet among students of Universiti Utara Malaysia (UUM) have positive and significant relations.

The students will be more persuaded to adopt the e-wallet technologies since their fellow students and peers are already adopting them. Ambient motivation is a factor that was strongly exhibited by the state university students in the Klang Valley as they embraced the use of e-wallets, despite being able to account other motivators like trust and expectancy of performance [33]. It has also been reported by Toh et al., [35] that social influence played a key role in determining whether millennials in Sarawak, which is a rural region, would adopt e-wallets or not. It also affected their perceptions regarding their usefulness and safety.

Other than that, social influence does not only result in adoption but also creates trust that will enable individuals to use e-wallets comfortably. In online finance there is the element of trust and knowing that friends support would ease the fears. It is stated that in the COVID-19 pandemic, observational peer adoption and word-ofmouth increased the adoption rate of mobile wallets by providing safety and legitimacy-related cues [36]. Adiani et al. [37] established that individuals who had posted promo codes and observable promo code adoption in networks convinced students leading to multi-brand adoption. Students at the university are said to be susceptible to both normative and informational influences (as elaborated by Mohd Salleh [38]) like social and institutional support, visibility of usage on campus respectively.

The importance of social influence is secondary and marginally lower than trust and security, which means that it is rather an enabler factor than an enabler driver [39]. Social influence was another popular factor in the usage of their e-wallet as corroborated by Che Hussin [40], a UiTM Kelantan accounting student. This result confirms the fact that social influence is significant in the situation of UiTM Kelantan. Although this study is another addition, the scope of the study was limited, with a majority of the studies revolving around other Malaysian universities or even the regional aspect. The adoption of e-wallets among the UiTM Kelantan students was not investigated in detail in the research transpiring far, particularly in regard to the students of varying faculties and backgrounds.

Perceived Usefulness

Perceived usefulness about e-wallet studies is the extent to which an individual considers the application of the system to improve his or her performance and productivity in life. Within the context of e-wallet founded on the TAM model, perceived usefulness is a key factor to determine user intention to adopt e-wallet as it can execute more efficient and convenient transactions and can execute the task more effectively and efficiently [41]. Nevertheless, it does not affect the intention to persist in using e-wallet despite perceived usefulness having a

positive effect on customer satisfaction [42]. These conflicting results suggest that e-wallet medium must seek to enhance the existing system to have good functional value and emotional user experience, including userfriendliness, great accessibility, great customer support, great security, and reward incentive to attract usage and maintenance of the use of e-wallet.

Various studies which have been carried out indicate the correlation between the perceived usefulness and ewallet acceptance. In UTAUT studies that examined 501 respondents established that the perceived usefulness has a positive influence on intentions to use as well as adoption of e-wallet [5]. Nawi et al., [43] also found the same on a sample of 1,156 Malaysian working adults as intention is the mediator in relation to perceived usefulness and it has a positive influence to the acceptance of e-wallet. The results of the research design revealed by Osman and Yi [26] indicated that there was a positive relationship between perceived usefulness and intention and adoption of e-wallet. This outcome was echoed in the research article by Toh et al., [35] that found that perceived usefulness also affected intention of adoption of an e-wallet in addition to the ease of use and factor of security.

Generation Z in Malaysia embraced E-wallet in case it is considered useful and reliable among the students. The practical advantage of e- wallets like an excellent method of fast payment and the ease of carrying cash also motivates Malaysian young people to adopt e-wallets [44]. Other external factors, which include the reward provided by e-wallet, is also the most important factor that contributes to the perceived value of e-wallet and these are the factors that cause the users to value and use the system [45]. Finally, in the greater part of the research results, the majority of the researchers found that perceived value has a positive effect on user acceptance of e-wallet system.

Perceived Ease of Use

A perceived ease of use (PEOU) has been a validated e-wallet adopter amongst the students of a university. It is widely known that the use of a technology does not require many efforts, which is a characteristic feature of it. The attitude that the e-wallets websites by a student are easy to understand, navigate and use automatically augments his/her likeliness of adopting them. It was also established by Nawang et al. [4] that perceived ease of use played a significant role, as perceived usefulness and the intention to use e-wallet technology were significantly affected by perceived ease of use among the Malaysian Generation Z customers. Equally, Sharif [32] established that students in UUM were more inclined to embrace the use of the e-wallet technology whenever they were at ease with its use hence ascertaining the usability aspect to technology acceptance.

Seng et al. [1] established that the most predictive factors that contributed to the likelihood of adopting e-wallet technology were perceived ease of use, perceived usefulness, and compatibility with my lifestyle by the undergraduate students. The problem of security and trust was relatively weaker because most of the students still felt afraid of the safety of mobile payment. Chuah et al. [45] revealed that another aspect that had a powerful association with the total adoption of mobile payments was perceived ease of use among technologically advanced categories of students. The results indicate that there is need to have simple interfaces with limited levels of complications as a way of facilitating the adoption of e-wallets in a university setting.

Abd Malik et al. [44] reported that the adoption intentions of students were increased by the ease of use of ewallet. The finding offers the psychological meaning of usability particularly to those individuals who are not highly exposed to digital money services. In their work, Toh et al. [35] claimed that the acceptance of e-wallets by Sarawak millennials was based on usability, security, and social influence because they perceived ease of use as a significant factor in less urbanized regions. The same as found by the authors was observed in the study of UPM students where the perceived ease of use had a significant positive influence on the acceptance of students [26].

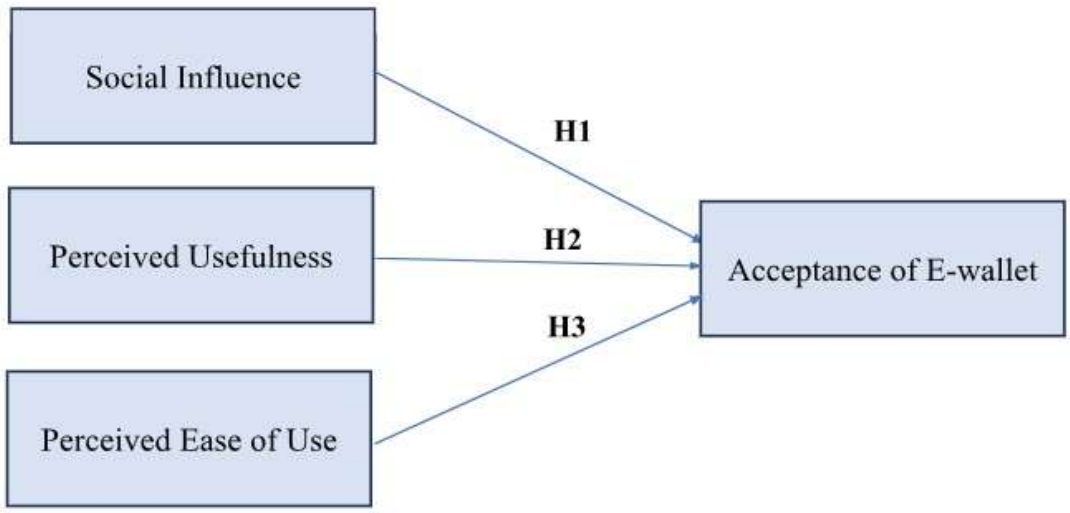
The past reports have indicated that the undergraduates were more likely to continue using the e-wallet technology due to the ease of use. In the same manner, Underdown [46] noted that the more users were likely to be satisfied with the interface and the continuance intention was donned as a result of using the e-wallet interfaces that were easy to understand and use. It was also demonstrated that the perceived ease of use indirectly positively influenced the adoption by facilitating the trust and perceived usefulness by Kapoor et al. [36]. As depicted by Al-Maroof et al. [47], convenience of use reduced the perceived risk since students perceived that they had more control in doing transactions with no mistakes.

Students still need to have a trade-off between security and usability. Most appreciated were easy registration, one-click payment and login with student ID credentials. One of the features like two-factor authentication was also needed in the development of trust in financial security [47]. Belmonte et al. [39] believed that the challenge was to determine the balance between usability and perceived security as the way forward into improving the perceived ease of use and adoption in a university setting. Conclusively, perceived ease of use is not just a direct and indirect driver to the adopting of e-wallet by the students. It also affects intention to behave, builds trust, breeds perceived usefulness, perceived risk and facilitates continuance intention. In the case of developers and the universities, user-centred, accessible design with added open security measures is the best approach to improving uptake of e-wallets in universities.

METHODOLOGY

This section discusses the research methodology applied in this study. The quantitative research designs are used to answer all the research questions. An online survey using closed-ended questions was designed using Google Forms to collect the data from selected respondents. The convenience sampling technique was used to select samples from the population since this technique is easy to use and low-cost. This technique is a nonprobability sampling in which participants are selected based on their accessibility, availability, and proximity to the researcher. This method does not involve random selection; instead, respondents are chosen because they are easy to reach within a limited time frame or resource constraint. This research used the Raosoft sample size calculator that had 5 percent of margin of error and 95 percent confidence level to calculate the sample size. Hence, this study was used 105 respondents to examine the acceptance towards the use of e-wallets amongst higher education students; a case study of Universiti Teknologi MARA (UiTM) Kelantan will be used. The questionnaire was entirely developed based on the past literature by Mat Napis and Daud [48]. All the variables in this study were assessed using a 5-point scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The number of variables considered in this study that were acceptance of e-wallet (dependent variable) and independent variables were limited to four (4) which included social influence, perceived usefulness, and perceived ease of use. To make sure the items used in this study are reliable to used, the reliability analysis was conducted using a cut-off value of Cronbach's alpha greater than or equal to 0.6 (Hair, et. al., 2010). All the factors in this study were measured using correlation analysis and multiple linear regression analysis in order to identify the influence of selected independent variables on the acceptance of e-wallet. Based on the theoretical premise and the article review, the hypotheses are as indicated in Figure 1 below.

Figure 1: Conceptual Framework for Acceptance of E-wallet



RESULTS AND FINDINGS

Reliability testing

Table 1 shows the Cronbach's alpha values for the variables included in this study. According to Hair, et. al. [49], a minimum of 0.6 is considered reliable and acceptable. Table 1 reveals that all the Cronbach's alpha values for all variables range from 0.838 to 0.890. This indicated that the measurement items used in this study are reliable

and acceptable. Since all the items in the variables are reliable, the next process was to proceed with the data analysis to examine the hypothesised relationships among the study constructs.

Table 1. Reliability Test

Variables	No. of items	Reliability (Cronbach's alpha)
Acceptance of E-wallet	8	0.888
Social Influence	7	0.838
Perceived Usefulness	10	0.890
Perceived Ease of Use	5	0.841

Normality Assessment

Normality test in terms of skewness and kurtosis is conducted to check the normality of the data for this study. The data are assumed to be normal if the value of skewness and kurtosis is between ± 2 (Hair, et. al., 2010). Table 4 indicates that all the variables have skewness values between -0.270 and 0.220, while for the kurtosis values between -0.555 and -0.324, which are within the acceptable range. This result proved that the data in this study are normally distributed for all variables.

Table 2. Normality Test

Variables	Skewness	Kurtosis
Acceptance of E-wallet	-0.878	0.930
Social Influence	-0.847	1.019
Perceived Usefulness	-0.858	0.955
Perceived Ease of Use	-1.034	1.176

Descriptive Statistics

The descriptive statistics for respondents' demographic profiles were presented in Table 3. The majority of respondents were female (55.2%) and only 44.8% were male respondents. Besides that, 70.5% of the respondents were Diploma in Statistics students, followed by 14.3% were students from Diploma in Computer Science, 12.4% were Diploma in Mathematical Sciences students and only 2.9% students from Diploma in Information Management. While 53.3% respondents come from the group of 20 to years old, 41.9% from group 18 to 19 years old, 2.9% from 22 to 23 years old, and 1.9% who were from the group 24 to 25 years old.

Table 3. Demographic Profile of Respondents

Item	Frequency (N = 105)	Percentage (%)
Gender Male Female	47 58	44.8 55.2
Program Science Computer Statistics Science Mathematics Information Management	15 74 13 3	14.3 70.5 12.4 2.9

Age 18 – 19 years 20 – 21 years 22 -23 years 24 – 25 years	44 56 3 2	41.9 53.3 2.9 1.9

Inferential Statistics

The inferential statistics for all variables in this study were analysed using correlation and multiple regression analysis, and are presented in Tables 4 and 5. According to the correlation results between social influence, perceived usefulness, perceived ease of use and acceptance of e-wallet in Table 4, all the independent variables have a significant relationship with the dependent variable. The relationship between social influence and acceptance of e-wallet is 0.677 ($p < 0.00$), which indicates a positive relationship between these two variables. While the relationship between perceived usefulness and acceptance of e-wallet is 0.794 ($p < 0.00$), it indicates that there is a positive relationship between these variables. Similarly, the relationship between perceived ease of use and acceptance of e-wallet among students is also a positive relationship, which is 0.638 ($p < 0.00$). Therefore, university students with positive social influence, perceived usefulness and perceived ease of use have a positive relationship with the acceptance of e-wallet.

Table 4. Correlation Analysis

Variables	**AoE**	**SI**	**PU**	**PEU**
Acceptance of E-wallet	1	0.677**	0.794**	0.638**
Social Influence		1	0.700**	0.651**
Perceived Usefulness			1	0.755**
Perceived Ease of Use				1

The results of multiple regression analysis were presented in Table 5. The R-square of 0.660 indicates that 66.0% of the total variation in the acceptance of e-wallet was explained by social influence, perceived usefulness, and perceived ease of use. The model is statistically significant as the F-test is 65.295 with a p-value (0.000) less than 0.05. This finding reveals that acceptance of e-wallet can be predicted by at least using one of the independent variables in this study. At the significance level of 5%, the results showed that only two independent variables were significantly associated with the acceptance of e-wallet, which is social influence ($t = 2.757$, $p = 0.007 < \alpha = 0.05$) and perceived usefulness ($t = 6.309$, $p = 0.000 < \alpha = 0.05$). While perceived ease of use is not statistically significant for the acceptance of e-wallet among students. Therefore, the final model revealed that only social influence and perceived usefulness were significantly assessed on the acceptance of e-wallet among students.

Table 5. Regression Analysis

Variables	**B**	**t**	**Sig**
(Constant)	0.643	2.365	0.020
Social Influence	0.217	2.757	0.007
Perceived Usefulness	0.624	6.309	0.000
Perceived Ease of Use	0.021	0.241	0.810
F	65.295	**Sig.**	0.000
R	0.812	**R- Square**	0.660

DISCUSSION AND CONCLUSION

This paper hopes to discuss the adoption of e-wallets by students in a university. The survey was carried out on 105 students of UiTM Kelantan and analysed on the basis of regression analysis. The findings revealed that only social influence and perceived usefulness are statistically significant to the acceptance of e-wallets among university students. This finding is similar to the previous study that found that social influence significantly influenced the acceptance of e-wallet among Sarawakians [35]. There are a lot of previous studies that proved that perceived usefulness significantly impacts the acceptance of e-wallets. Perceived usefulness significantly influences users' intention to adopt e-wallet since it can carry out more efficient and convenient transactions and is able to complete the task better and faster [2,41]. The same findings were obtained by Nawi et al., [43] among 1,156 Malaysian working adults, where intention is the mediator of perceived usefulness and positively affects the acceptance of e-wallets.

In conclusion, this study offers a comprehensive exploration of the acceptance of e-wallets among university students. The study emphasises the key roles of social influence and perceived usefulness in exploring the acceptance of e-wallets among students. These findings are significant for theoretical advancement, practical interventions, and policy formulation.

Limitations And Future Research Directions

Although this study has achieved its objectives, several limitations should be acknowledged. Firstly, the research was conducted using a limited sample size and focused on a specific group of respondents. Therefore, the findings may not fully represent the behaviour and perceptions of the entire population of e-wallet users in Malaysia. Secondly, the study employed a cross-sectional survey design, in which data were collected at a single point in time. As a result, the analysis could not capture changes in users' acceptance behaviour over time, especially as technological features and digital payment policies continue to evolve. Thirdly, this study relied solely on quantitative methods, which may not fully uncover deeper motivations, personal experiences, or psychological factors influencing users' attitudes towards e-wallets. Lastly, the model used in this research was limited to only three independent variables—Social Influence, Perceived Usefulness, and Perceived Ease of Use. Other potential predictors, such as trust, perceived security, perceived risk, or financial literacy, were not examined and may provide additional insights into users' acceptance of e-wallet technology. These limitations provide direction for future research to further strengthen understanding in this area.

To further improve and expand the findings of this study, several directions are suggested for future research. Future studies may include additional factors such as trust, perceived security, perceived risk, user satisfaction, or technology anxiety, which may provide a more comprehensive understanding of users' acceptance behaviours. Future research could also involve diverse populations such as rural communities, elderly users, or business owners to examine whether the significant factors differ across demographic groups. Researchers may also apply mixed-method approaches by incorporating interviews or focus group discussions to gain deeper insights into users' perceptions, motivations, and concerns. Extending the research to post-adoption behaviour, such as continuous usage intention, user satisfaction, and loyalty, would also be valuable in assessing the longterm sustainability of e-wallet adoption.

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