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THE EFFECT OF E-WALLET ADOPTION TOWARDS THE SMES PRODUCTIVITY: A CONCEPTUAL VIEW

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ABSTRACT
Norm living during pandemic has completely change the way consumers perceive e-wallet. Businesses including SMEs has continued to offer using e-wallet as transaction method. This study aims to: (i) to determine the factors influenced e-wallet adoption among SMEs and (ii) to determine the impact of e-wallet adoption towards the organization's productivity of SMEs. The past literature related with e-wallet adoption mostly focusing on the e-wallet user - the buyer in economic cycle. However, literatures on e-wallet adoption from the seller perception are limited. Hence, the theoretical frameworks build based on four variables from UTAUT with two additional variables for technology adoption. The potential outcome from this paper is performance expectancy, effort expectancy, social influence and facilitating condition have a positive relationship with the adoption while perceived risk and perceived cost shows a negative relationship. Meanwhile, the exogenous variable of organisation productivity has positively affected by e-wallet adoption. The results presented in this study will be used to discuss both the current and upcoming research trends. This work will, in the end, aid researchers in better understanding the development of e-wallet use, particularly as it relates to sellers' perspectives.

1. INTRODUCTION
E-wallet is no longer an unknown term among Malaysian especially among business owners. Although the adoption of e-wallet was mainly due to the announcement of Movement Control Order (MCO), Malaysian seems to be comfortable using e-wallet and has been continuing to use it even after the pandemic.

The popularity of e-wallets has only increased in 2020 (RM 27.7 billion for value of electronic money transaction), during the coronavirus outbreak, despite the government's numerous initiatives and encouragements. The pandemic has left the

society felt safer and more convenient using e-wallet instead of banknote to exercise contactless transaction and social distancing while making the payment.

Although we are moving to the endemic and MCO is not as strict as before, Malaysian seems comfortable to continue using e-wallet as a payment method. The broad prospect and the current interest of e-wallet among Malaysians will greatly affect the mode of business, financial market and also the payment system in Malaysia (Teoh et al., 2020). Many companies adopt new technology including e-wallet to remain productive and maintain their competitiveness (Reynold et al., 2020). Moreover, various factors such as competitive pressure, cost considerations, industry trends, and purchasing dynamics can affect e-wallet usage. This adoption has impacted the business not only at the macro level but also within micro, small, and medium enterprises (MSMEs).

2. BACKGROUND OF THE STUDY

SMEs has plays significant role in in economic development in Malaysia. According to the Department of Statistics Malaysia, SMEs in Malaysia made a significant contribution to the country's Gross Domestic Product (GDP) 38.6% in 2022 and increased to 39.1% in 2023 (SME Corp, 2024). However, despite being the backbone of economy, the technology adoption among SMEs, especially e-wallet is far behind other country such as China. China has fully taken and living in the benefits from adoption of e-wallet since the launch of Alipay back in 2003 while Malaysia was not even in early stage of e-wallet yet (Lu, 2018). Government has shown full support encouraging the use of e-wallet among SMEs through plenty of initiatives.

According to Abdullah et al. (2020), as early in 2017, the government has launched the Digital Free Trade Zone (DFTZ). DFTZ help SMEs to operate their trading by exporting their goods to global marketplace through cross-border trade. Next, Budget 2020 also has mentioned to activate and boost the digital economy by improving digital content, enhancing digitization, and encouraging e-commerce. The budget gave capitals and capabilities to the SMEs to develop their workforce skills such as training and educations for their workers. Lastly, the commenced of Pusat Ekonomi Digital Keluarga Malaysia (PEDi) operation in Malaysia. The main purpose of PEDi is to enhance skill in e-commerce as well as activities that promote digital creation. PEDi is meant to help the entrepreneur, especially SMEs to digitalize their business by providing technology and digital in workforce (Ministry of Finance, 2023).

However, even with plenty initiative and encouragement, the adoption of e-wallet especially among SMEs in Malaysia is still slow. In fact, e-wallet adoption has only started to increase significantly during covid-19. In short, the circumstanced during pandemic, such as social distancing has force SMEs to adopt e-wallet as the most convenient payment method to exercise contactless transaction.

3. OBJECTIVE

This paper aims to study the adoption behaviour of e-wallet and its effect towards productivity. Hence, the two main objectives for this paper are:

    i.   To determine the factors that influenced e-wallet adoption among SMEs.
   ii.   To determine the impact of e-wallet adoption towards the organization's productivity of SMEs.

4. PROBLEM STATEMENT

Based on this paper, there are three problem statements which are: 1) gap in e-wallet adoption from seller's perspective, 2) slow e-wallet adoption in Malaysia and 3) slow technology development among SMEs in Malaysia.

According to past study, there is gap in e-wallet adoption from seller's perspective. Past study shows that most of paper related with e-wallet adoption is studying the adoption from e-wallet users who is the buyer in economic cycle. For instance, e-wallet study in Malaysia only involving e-wallet user as general based on age group such as the youth (Malik & Annuar,, 2021; Yaakop et al., 2021), Gen Y and Gen Z (Lee et al., 2023), Gen Z (Rosli et al., 2023), and millennial (Bakria et al., 2023). Not only that, but a few papers also study e-wallet adoption based on experience of using e-wallet such as new e-wallet user (Ming & Jais, 2022) and non-e-wallet user (Senali et al., 2023; Soe, 2022). Meanwhile, a limited number of studies focus on e-wallet users as their primary respondents (Aji, H. M. et al., 2020; Abbasi, G. A et al., 2022; Abdul-Halim, N.A, 2022; Ariffin, S. K et al., 2021; Adedapo Oluwaseyi et al., 2022; Leong, M. Y, 2021). Therefore, this paper aims to investigate e-wallet acceptance among SMEs business owner due to the insufficient research from the seller's perspective.

Next, despite a rising trend in e-wallet use in Malaysia, the pace is considered slow (Sabli N et al., 2021. According to Bank Negara Malaysia (BNM), there is an increase trend in per capita transaction value of electronic money in Malaysia for 2017-2022. 2018 shows a slight increase of 16.21% than the previous year. In 2021, the per capita transaction value of electronic money recorded an increase of 40.92%, a significantly increased is shown after the Covid-19 - more than double than the increase before Covid-19. In summary, we can conclude that the pandemic has compelled Malaysia to adopt e-wallets. This position contrasts significantly with other countries, such as China, which adopted e-wallets as early as 2003 with the launch of Alipay. Hence, the slow adoption of e-wallets in Malaysia motivated this paper to investigate the subject.

Lastly, the technology development among SMEs in Malaysia is slow comparing with SMEs in other countries. The SME Masterplan, designed by the government to promote the growth and development of SMEs in Malaysia, promotes innovation and technology adoption as its primary purpose (Krishnan et al., 2024). In support of the policy, government has provided financial assistance for SMEs through commercial banks and government institutions such as GIAT MARA and Malaysia Development Bank (Razak et al., 2018). However, SMEs, especially microbusinesses, continue to have difficulty securing funding because of factors including low creditworthiness, inadequate financial account documentation, or a lack of economic viability. According to data from Department of Statistic, in 2016, only 73.1% of SMEs used computer but somehow only 20.1% of them have their own company website and worse is only 4.8% of them involve in e-commerce transaction.

5. VARIABLES

The theoretical framework from this study is built by combining four variables from UTAUT, performance expectancy; effort expectancy; social influence; facilitating condition and two additional variables for technology adoption, perceived risk; perceived cost as six exogenous variables. Meanwhile, organization productivity as endogenous variable.

5.1 Performance expectancy

Venkatesh et al. (2003) state that performance expectations in UTAUT are typically utilized to determine how much consumers believe a new mobile device, for example, will improve their daily life. They discovered that the best predictor for predicting the intention to utilize in the original model is performance expectancy. According to past studies, performance expectation affects behavioral intention in the setting of mobile payments (Thakur, 2013; Wang & Yi, 2012). Since all payments may be made using a smartphone without any additional constraints, smartphone is an alternate means for convenient transactions and therefore become more common in recent years. Performance expectancyhas a greater chance of being a crucial component for e-wallet adoption because it offers users numerous benefits such as efficiency and convinience (Slade et al., 2015). Furthermore, Morosan & DeFranco's (2016) study found a substantial correlation between behavioral intention to adopt an e-wallet and performance expectancy. These lead to the following hypothesis:

> H1: There is significant positive relationship between performance expectancy and e-wallet adoption

5.2 Effort expectancy

According to Venkatesh et al. (2003), effort expectation is a measure of how easy a person finds it to use technology. According to Sena Abrahão et al. (2016), this idea is inspired by and adapted from three current models: perceived ease of use in (Technology Acceptance Model) TAM, complexity in The Model of Personal Computer Utilization (MPCU) , and ease of use in Innovation Diffusion Theory (IDT). Effort expectation measures how much a user believes a technology, like an e-wallet system, is simple to use and can be learned quickly. Users that have this perception are more likely to stick with the e-wallet over time. Wang & Yi (2012) state that one of the key factors in determining a person's intention to use new technology is their level of effort anticipation. These lead to the following hypothesis:

> H2: There is significant positive relationship between effort expectancy and e-wallet adoption

5.3 Social influence

According to Venkatesh et al. (2003), the definition of social influence is the degree to which a person's viewpoint will affect the uptake of new technology. Social influence is also recognized as one of the key indicators influencing the uptake of new technologies. Because mobile phones are so widely used, people in the current world generally rely largely on social mediafor people to see how others behave and ask them for feedback. Therefore, there's a greater chance that customers will be persuaded to use a new technology like an e-wallet by friends or other close friends. Social influence is one of the most important elements, according to Yang et al. (2012), who also looked into other aspects influencing potential users' adoption of mobile payments. The previoua study from Venkatesh et al. (2003) and Yang et al. (2012) demonstrates that social impact and consumers' intentions to adopt new behaviors are positively correlated. These lead to the following hypothesis:

> H3: There is significant positive relationship between social influence and e-wallet adoption

5.4 Facilitating condition

Yang et al. (2021) assert that facilitating conditions significantly enhance consumers' inclination to purchase a product. Upon recognizing the simplicity of employing the instruments offered by service providers to facilitate payments and transactions, users are inclined to continue in using these services. Peñarroja et al. (2019) established that conducive settings influenced individuals' usage of technology for information sharing in the digital era. These findings indicate that consumers consistently engage in virtual communities when favorable conditions are available. These findings show that consumers regularly participate in virtual communities when favorable conditions are met. These lead to the following hypothesis:

> *H4: There is significant positive relationship between facilitating condition and e-wallet adoption*

5.5 Perceived risk

The risk barrier, which results from adopting a new product or service and has the potential to have negative repercussions, is the resistance to innovation (Hashim et al., 2019). Because of this, customers who are aware of the risk may object to the technology and hold off on using the new product or service until they have more information about the changes. This demonstrates that perceived risk has a negative relationship with adoption. Risk barrier is found to be strongly connected with the adoption of e-wallet payment systems, regardless of the negative relationship (Cheng et al., 2018). According to Muhammad Anuar et al. (2020), adoption of e-wallets is significantly correlated with perceived risk. These lead to the following hypothesis:

> *H5: There is negative relationship with significant affect between perceiced risk and e-wallet adoption*

5.6 Perceived cost

According to Lu et al. (2011), consumers' perceptions of cost are used to quantify additional financial charges associated with utilizing technology. Therefore, the resistance to innovation caused by customer assumptions about the expense of adopting an invention is known as the perceived cost barrier. While Chan et al. (2015) discovered no correlation between perceived cost and e-wallet payment system adoption, Muhammad Anuar et al. (2020) identified a substantial negative relationship between perceived cost and e-wallet adoption. These lead to the following hypothesis:

> *H6: There is negative relationship with significant affect between perceiced cost and e-wallet adoption*

5.7 Organization productivity

Organization's productivity is put in as additional variable to study how the adoption of e-wallet would effect on the productivity of SMEs. Although based on theory, adaption of new technology would give a great impact on the productivity (Van, 2015), there is still no clear evidence regarding how e-wallet adoption will give an impact towards the productivity of SMEs. UTAUT suggests that behavioral intention influences system utilization, a characteristic relevant to the productivity construct in this study. The model is robust, having been augmented to incorporate structures that clarify technology adoption. These lead to the following hypothesis:

> *H7: E-wallet adoption has a positive impact to the SMEs productivity*

6. METHODOLOGY

This study will using a quantitative method for collecting the data and hence set of questionnaires was created which is consisted of two parts (Part A and Part B). Part A is containing two sub parts 1. profile respondent (such as gender, age, education background and etc) and 2. Smartphone and e-wallet (such as e-wallet, e-commerce and etc). Part B consisting of question regarding e-wallet usage value and the questions is build based on four variables from UTAUT (Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Condition) as well as three additional variables (Perceived Risk, Perceived Cost and Organization's Productivity).
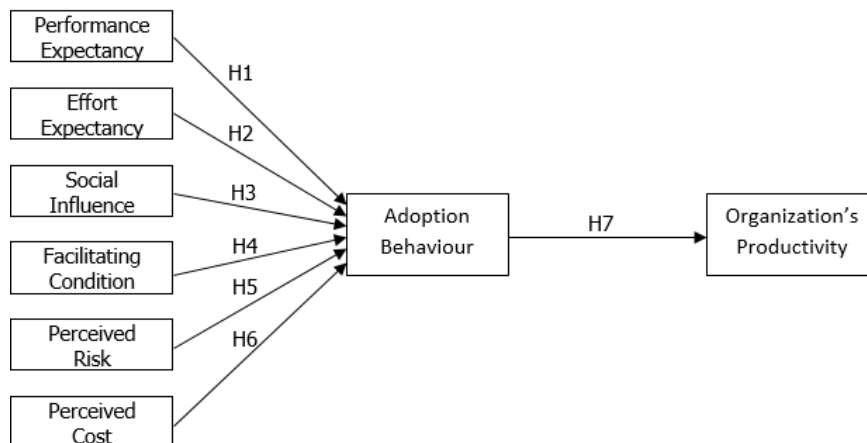

Figure 1: Theoretical framework of the study

Based on Figure 1, performance expectancy, effort expectancy, social influence, facilitating condition, perceived risk and perceived cost are the exogenous variables while the organization's productivity is the endogenous variable. The measures will be using a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree". The questionnaire will be distributed by hand to SMEs owner in Labuan.

7. POTENTIAL OUTCOME

According to past study, only few papers studying e-wallet adoption among sellers as most of paper studying e-wallet adoption from general user who is buyer in economic cycle. However, the finding and the justification from study of both buyer and seller is similar. Hence, it is safe to assume that the result from this study will be similar with past study although the respondents is not SMEs owner. To get a bright view on how the expected findings for this paper, 43 past studies are collected for finding analysis. These papers have been selected through four inclusion criteria:
1. The paper must be related to e-wallet
2. The paper must apply at least one variable from this study
3. Study findings must be finished and distributed.
4. The study methodology should be clearly described

Table 1: The summary of finding

Hypothesis	Finding and justification
H1: Performance expectancy (PE) **has a significant positive** impact to the adoption of e-wallet among SMEs.	Based on selected papers, 53.846% shows that PE has a significant positive impact to the adoption because individual is familiar with e-wallet and belief that adopting e-wallet would improve their work performance, useful and smart choice, effective, saving more time. -Aji et al. (2020); Daragmeh et al. (2021); Yang et al. (2021); Abbasi et al. (2022); Widodo et al. (2019); Chauhan et al. (2022); Malik et al. (2021); Ariffin et al. (2021); Dewi et al. (2021); Menon & Ramakrishnan (2019); Osman et al. (2021); Hidayat et al. (2021); Rahmayanti et al. (2021); Yaakop et al. (2021); Rosli et al. (2020); Sikdar et al. (2019); Mohd Thas Thaker (2023); Daragmeh et al. (2022); Tang et al. (2022); Hammouri et al. (2023); Latupeirissa et al. (2020)
H2: Effort expectancy (EE) **has a significant positive** impact to the adoption of e-wallet among SMEs.	Based on selected papers, 38.889% shows EE has a significant positive impact on the adoption because the feature is relatively familiar, easy to use, less time and effort consuming, easy in conducting payment, controllable, clear and flexible - Yang et al. (2021); Abbasi et al. (2022); Abdul-Halim et al. (2022); Chauhan et al. (2022); Malik et al. (2021); Ariffin et al. (2021); Dewi et al. (2021); Osman et al. (2021); Rahmayanti et al. (2021); Rosli et al. (2020); Sikdar et al. (2019); Hamzah et al. (2023); Tang et al. (2022); Latupeirissa et al. (2020)
H3: Social influence (SI) **has a significant positive** impact to the adoption of e-wallet among SMEs	Based on selected papers, 50% shows SI has a significant positive impact to the adoption because emotional and logical perspectives among relatives is important in developing countries. Hence, recommendation, encouragement and opinion from family, friend, leader or colleagues will definitely affect consumers' mindset - Yang et al. (2021); Chauhan et al. (2022); Osman et al. (2021); Ming & Jais (2022); Sikdar et al. (2019); Mohd Thas Thaker (2023); Hamzah et al., (2023); Hammouri et al. (2023)
H4: Facilitating condition (FC) **has a significant positive** impact to the adoption of e-wallet among SMEs	Based on selected papers, 40% shows FC has a significant positive impact on the adoption because favorable condition will encourage individual to adopt wallet since e-wallet services highly depend on networks and device capabilities - Soodan V & Rana A (2020); Widodo et al. (2019); Chauhan et al. (2022); Ojo et al. (2022); Sikdar et al. (2019); Mohd Thas Thaker (2023)
H5: Perceived risk (PR) **has a negative relationship significant impact** to the adoption of e-wallet among SMEs	Based on selected papers, 57.143% shows PR has a significant positive impact to the adoption - Aji et al. (2020); Daragmeh et al. (2021); Chauhan et al. (2022); Ojo et al. (2022); Ming & Jais (2022); Muhamad Anuar et al. (2020); Tang et al. (2022): Riska et al. (2022). Although most past studies refer PR to Covid-19 risk such as afraid of virus transmission through physical money, a study by Muhamad Anuar et al. (2020) stated that PR has a significant associate with the adoption.
H6: Perceived cost (PC) **has a negative relationship significant impact** to the adoption of e-wallet among SMEs	Based on selected papers only one paper applies PC in their paper - Muhamad Anuar et al. (2020). This trend has supported the study from Teng &Khong (2021) which stated that perceived cost is the top factor in consumer adoption only during 1998-2006 hence current study no longer applies this variable. Based on Muhammad Anuar et al. (2020), perceived cost has a significant associate with the adoption.
H7: E-wallet adoption **has a positive** impact to the SMEs productivity	Similarly with PC, only one paper has applied productivity in their study - Ifeyinwa Umeokeke et al. (2017). The study is focusing on farmers and the findings show that the use of e-wallet system has shown an important pathway for small land holder farmers to increase their agricultural income and to escape poverty

8. CONCLUSION

Based on the 43 selected papers, only two papers are studying e-wallet adoption from the SMEs perspective (Muhamad Anuar et al. ,2020 and Riska et al. ,2022) while the remaining 41 papers are studying the e-wallet adoption from e-wallet user who is the buyer in business cycle. However, the justification and finding from both buyer and

seller are the same. Hence, the finding from this paper has successfully answered all two of our objectives (i) to determine the factors that influenced e-wallet adoption among SMEs and (ii) to determine the relationship between e-wallet adoption and the organization's productivity of SMEs. The first objective is answered as our finding suggested that all our six exogenous variables namely performance expectancy; effort expectancy; social influence; facilitating condition; perceived risk and perceived cost show significant positive result with the support of 30-60% from selected papers, except of one variable (perceived cost) which only with one supported paper. The second objective is also answered as our finding suggested that e-wallet adoption has a positive impact to our endogenous variable of organization's productivity. Next, the findings from this paper will help us to verify the impact of six exogenous variables in e-wallet adoption especially from the seller's view. To fill the gap of study related e-wallet adoption among seller, this paper will make further observation and come up with the definite finding related with SMEs e-wallet adoption and it effect towards productivity.

REFERENCES

Abbasi, G. A., Sandran, T., Ganesan, Y., & Iranmanesh, M. (2022). Go cashless! determinants of continuance intention to use e-wallet apps: a hybrid approach using pls-sem and fsqca. *Technology in Society, 68*. https://doi.org/10.1016/j.techsoc.2022.101937

Abdullah, N., Redzuan, F., & Daud, N. A. (2020). E-wallet: Factors influencing user acceptance towards cashless society in Malaysia among public universities. *Indonesian Journal of Electrical Engineering and Computer Science*, *20*(1), 67-74

Abdul-Halim, N. A., Vafaei-Zadeh, A., Hanifah, H., Teoh, A. P., & Nawaser, K. (2022). Understanding the determinants of e-wallet continuance usage intention in Malaysia. *Quality & quantity, 56*(5), 3413-3439.

Agbarevo, M. N., & Ukagha, O. (2018). Determinants of participation of farmers in the E-wallet agricultural input delivery system in Abia State Nigeria. *Journal of Agricultural Extension*, *22*(3), 109-116.

Aji, H. M., Berakon, I., & Md Husin, M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business & Management, 7*(1), 1804181.

Alam, M. M., Awawdeh, A. E., & Muhamad, A. I. B. (2021). Using e-wallet for business process development: challenges and prospects in Malaysia. *Business Process Management Journal, 27*(4), 1142-1162.

Ariffin, S. K., Abd Rahman, M. F. R., Muhammad, A. M., & Zhang, Q. (2021). Understanding the consumer's intention to use the e-wallet services. *Spanish Journal of Marketing-ESIC, 25*(3), 446-461.

Astari, A., Yasa, N., Sukaatmadja, I., & Giantari, I. G. A. K. (2022). Integration of technology acceptance model (TAM) and theory of planned behavior (TPB): An e-wallet behavior with fear of COVID-19 as a moderator variable. *International Journal of Data and Network Science, 6*(4), 1427-1436.

Bakria, M. H., Almansoori, K. K. S. M., & Azlan, N. S. M. (2023). Determinants intention usage of Islamic E-Wallet Among Millennials. *Global Business & Finance Review, 28*(1), 11.

Chauhan, V., Yadav, R., & Choudhary, V. (2022). Adoption of electronic banking services in India: An extension of UTAUT2 model. *Journal of Financial Services Marketing,* 1-14

Cheng, S. W., Cheong, M., Lee, J. L., Lim, J. T., & Mok, W. K. (2018). *Curbs on modern technology: barriers of resistance towards e-wallet in Malaysia* (Doctoral dissertation, UTAR).

Chern, Y. X., Kong, S. Y., Lee, V. A., Lim, S. Y., & Ong, C. P. (2018). *Moving into cashless society: factors affecting adoption of e-wallet* (Doctoral dissertation, UTAR).

Daragmeh, A., Sági, J., & Zéman, Z. (2021). Continuous intention to use e-wallet in the context of the covid-19 pandemic: Integrating the health belief model (hbm) and technology continuous theory (tct). *Journal of Open Innovation: Technology, Market, and Complexity, 7*(2), 132.

Daragmeh, A., Saleem, A., Bárczi, J., & Sági, J. (2022). Drivers of post-adoption of e-wallet among academics in Palestine: An extension of the expectation confirmation model. *Frontiers in Psychology, 13*, 984931.

Dewi, G. M. M., Joshua, L., Ikhsan, R. B., Yuniarty, Y., Sari, R. K., & Susilo, A. (2021, August). Perceived risk and trust in adoption E-wallet: the role of perceived usefulness and ease of use. *In 2021 International Conference on Information Management and Technology (ICIMTech)* (Vol. 1, pp. 120-124). *IEEE.*

Do, N. B., & Do, H. N. T. (2020). An investigation of generation Z's intention to use electronic wallet in Vietnam. *Journal of Distribution Science, 18(10), 89-99.*

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research, 133*, 285-296.

de Sena Abrahão, R., Moriguchi, S. N., & Andrade, D. F. (2016). Intention of adoption of mobile payment: An analysis in the light of the Unified Theory of Acceptance and Use of Technology (UTAUT). *RAI Revista de administracao e Inovacao*, *13*(3), 221-230.

Emich, K. J., Kumar, S., Lu, L., Norder, K., & Pandey, N. (2020). Mapping 50 years of small group research through small group research. *Small Group Research, 51*(6), 659-699

Esawe, A. T. (2022). Understanding mobile e-wallet consumers' intentions and user behavior. *Spanish Journal of Marketing-ESIC, 26*(3), 363-384.

Ghani, E. K., & Khalil, N. A. (2021). Factors influencing adoption intention of e-wallet services among small medium enterprises in retail industry: an application of the diffusion of innovation theory. *Universidad y Sociedad*, *13*(5), 53-64.

Hammouri, Q., Aloqool, A., Saleh, B., Aldossary, H., Frejat, S., Halim, M., ... & Darawsheh, S. (2023). An empirical investigation on acceptance of e-wallets in the fintech era in Jordan: Extending UTAUT2 model with perceived trust. *International Journal of Data and Network Science, 7*(3), 1249-1258.

Hamzah, M. I., Ramli, F. A. A., & Shaw, N. (2023). The moderating influence of brand image on consumers' adoption of QR-code e-wallets. *Journal of Retailing and Consumer Services, 73*, 103326.

Hashim, N. A. A. N., Safri, F. H. M., Yusoff, A. M., Omar, R. N. R., Velayuthan, S. K., Hashim, H., Aziz, R. C., Awang, Z., Ahmad, G., & Fatt, B. S. (2019). Disintermediation Threat: How and What Strategies are Used by Traditional

Travel Agency to Survive?. *TEST Engineering & Management*, *59*(6S), 1022-1031.

Hidayat, D., Pangaribuan, C. H., Putra, O. P. B., & Taufiq, F. J. (2021, April). Expanding the technology acceptance model with the inclusion of trust and mobility to assess e-wallet user behavior: Evidence from OVO consumers in Indonesia. *In IOP Conference Series: Earth and Environmental Science* (Vol. 729, No. 1, p. 012050). IOP Publishing.

Ifeyinwa Umeokeke, N., Olusegun Okoruwa, V., & Adenike Adeyemo, T. (2017). Impact of electronic-wallet system on farmer's welfare in Oyo State, Nigeria. *International Journal of Social Economics*, *44*(4), 474-490.

Khoa, B. T. (2020, October). The role of mobile skillfulness and user innovation toward electronic wallet acceptance in the digital transformation era. *In 2020 international conference on information technology systems and innovation* (ICITSI) (pp. 30-37). IEEE.

Krishnan, G., Rani, A. O., & Shinozaki, S. (2024). Market-based Financing for SMEs in Malaysia.

Latupeirissa, J. J. P., Gorda, A. A. N. O. S., & Subanda, I. N. (2020). Antecedents of intention to use e-wallet: The development of acceptance model with pls-sem approach. *Journal of Advanced Research in Dynamical and Control Systems*, 1416-1429.

Lee, Y. Y., Gan, C. L., & Liew, T. W. (2023). Do E-wallets trigger impulse purchases? An analysis of Malaysian Gen-Y and Gen-Z consumers. *Journal of Marketing Analytics, 11*(2), 244-261.

Leong, M. Y., Kwan, J. H., & Ming, L. M. (2021). Technology readiness and UTAUT2 in e-wallet adoption in a developing country. F1000Research, 10.

Leu, J. F., & Masri, R. (2019). Dilemma of SMEs in Business Digitization: A Conceptual Analysis of Retail SMEs in Malaysia. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, *10*(7), 925-936.

Lim, F. W., Ahmad, F., & Talib, A. N. B. A. (2019). Behavioural intention towards using electronic wallet: a conceptual framework in the light of the unified theory of acceptance and use of technology (UTAUT). *Imperial Journal of Interdisciplinary Research, 5*(1), 79-86.

Loh, Y. X., Hamid, N. A. A., Seah, C. S., Yo, J. J., Law, Y. C., Tan, S. Y., ... & Chong, C. (2021, April). The Factors and Challenges affecting Digital Economy in Malaysia. In *CoMBInES-Conference on Management, Business, Innovation, Education and Social Sciences* (Vol. 1, No. 1, pp. 1843-1849).

Lu, L. (2018). Decoding Alipay: mobile payments, a cashless society and regulatory challenges. *Butterworths Journal of International Banking and Financial Law*, 40-43.

Mahmood, A., Naveed, R. T., Ahmad, N., Scholz, M., Khalique, M., & Adnan, M. (2021). Unleashing the barriers to CSR implementation in the sme sector of a developing economy: A thematic analysis approach. *Sustainability*, *13*(22), 12710.

Malik, A. N. A., & Annuar, S. N. S. (2021). The effect of perceived usefulness, perceived ease of use, reward, and perceived risk toward e-wallet usage intention. In Eurasian Business and Economics Perspectives: *Proceedings of the 30th Eurasia Business and Economics Society Conference* (pp. 115-130). Springer International Publishing.

Menon, M. M., & Ramakrishnan, H. S. (2019). Revolution of E-wallets usage among Indian millennial. *Int. J. Recent Technol. Eng*, *8*(3), 8306-8312.

Ming, K. L. Y., & Jais, M. (2022). Factors affecting the intention to use e-wallets during the COVID-19 pandemic. *Gadjah Mada International Journal of Business, 24*(1), 82-100.

Mohamad Anuar, N. I., Nik Mahdi, N. M., Nik Hashim, N. A. A., Mohamad, S. R., Zainuddin, S. A., Azmi, N. F., & Wan Zulkiffli, W. F. (2020). The barriers towards the adoption of e-wallet payment system. *International Journal of Engineering Research and Technology*, 3772-3777.

Mohd Thas Thaker, H., Subramaniam, N. R., Qoyum, A., & Iqbal Hussain, H. (2023). Cashless society, e-wallets and continuous adoption. *International Journal of Finance & Economics, 28*(3), 3349-3369.

Morosan, C., & DeFranco, A. (2016). It's about time: Revisiting UTAUT2 to examine consumers' intentions to use NFC mobile payments in hotels. *International Journal of Hospitality Management*, *53*, 17-29.

Nugroho, A., Siagian, H., Oktavio, A., & Tarigan, Z. J. H. (2022). The effect of e-WOM on customer satisfaction through ease of use, perceived usefulness and ewallet payment. *International Journal of Data and Network Science, 7*(1), 153-162 ,

Nur, T., & Joviando, J. (2021, October). Determination of E-wallet usage intention: extending the TAM model with self efficacy. *In 2021 3rd International Conference on Cybernetics and Intelligent System (ICORIS)* (pp. 1-7). IEEE.

Ojo, A. O., Fawehinmi, O., Ojo, O. T., Arasanmi, C., & Tan, C. N. L. (2022). Consumer usage intention of electronic wallets during the COVID-19 pandemic in Malaysia. *Cogent Business & Management*, *9*(1), 2056964.

Osman, S., Jabaruddin, N., Zon, A. S., Jifridin, A. A., & Zolkepli, A. K. (2021). Factors influencing the use of E-wallet among millennium tourist. *Journal of Information Technology Management, 13*. 10.22059/jitm.2021.83114.

Peñarroja, V., Sánchez, J., Gamero, N., Orengo, V., & Zornoza, A. M. (2019). The influence of organisational facilitating conditions and technology acceptance factors on the effectiveness of virtual communities of practice. *Behaviour & Information Technology*, *38*(8), 845-857.

Phan, T. N., Ho, T. V., & Le-Hoang, P. V. (2020). Factors Affecting the Behavioral Intention and Behavior of Using E–Wallets of Youth in Vietnam. *The Journal of Asian Finance, Economics and Business (JAFEB), 7*(10), 295-302.

Phuong, N. N. D., Luan, L. T., Van Dong, V., & Khanh, N. L. N. (2020). Examining customers' continuance intentions towards e-wallet usage: The emergence of mobile payment acceptance in Vietnam. *The Journal of Asian Finance, Economics and Business (JAFEB), 7*(9), 505-516.

Podsakoff, P. M., MacKenzie, S. B., Bachrach, D. G., & Podsakoff, N. P. (2005). The influence of management journals in the 1980s and 1990s. *Strategic management journal*, *26*(5), 473-488.

Rahmayanti, P., Widagda, I. G. N. J. A., Yasa, N., Giantari, I. G. A. K., Martaleni, M., Sakti, D., ... & Anggreni, P. (2021). Integration of technology acceptance model and theory of reasoned action in pre-dicting e-wallet continuous usage intentions. *International Journal of Data and Network Science*, *5*(4), 649-658.

Ramli, F. A. A., & Hamzah, M. I. (2021). Mobile payment and e-wallet adoption in emerging economies: A systematic literature review. *Journal of Emerging Economies and Islamic Research*, *9*(2), 1-39.

Reynolds, S., Cotrino, F., Ifedi, C., & Donthu, N. (2020). An exploratory study of executive factors that lead to technology adoption in small businesses. *Journal of Small Business Strategy*, *30*(2), 1-16.

Riska, L. M., Kholid, M. N., & Salsabilla, S. (2022). Perceived Covid-19 Risk and E-Wallet Adoption: An Empirical Evidence MSEs of Indonesia. *In The Implementation of Smart Technologies for Business Success and Sustainability: During COVID-19 Crises in Developing Countries* (pp. 961-971). Cham: Springer International Publishing.

Rosli, M. S., Saleh, N. S., Md. Ali, A., & Abu Bakar, S. (2023). Factors determining the acceptance of E-wallet among gen Z from the lens of the extended technology acceptance model. *Sustainability*, 15(7), 5752.

Rustine, M., Ratnapuri, C. I., Karim, N. A., & Alamsyah, D. P. (2022, January). The Antecedent of Relative Advantage in Mobile Payment E-Wallet. *In 2021 International Seminar on Machine Learning, Optimization, and Data Science (ISMODE)* (pp. 278-282). IEEE.

Sabli, N., Pforditen, N. E., Supian, K., Azmi, F. N., & Solihin, N. A. I. M. (2021). The acceptance of E-Wallet in Malaysia. *Selangor Business Review*, 1-14.

Salloum, S. A., Alhamad, A. Q. M., Al-Emran, M., Monem, A. A., & Shaalan, K. (2019). Exploring students' acceptance of e-learning through the development of a comprehensive technology acceptance model. *IEEE access*, *7*, 128445-128462.

Senali, M. G., Iranmanesh, M., Ismail, F. N., Rahim, N. F. A., Khoshkam, M., & Mirzaei, M. (2023). Determinants of intention to use e-Wallet: Personal innovativeness and propensity to trust as moderators. *International Journal of Human–Computer Interaction, 39*(12), 2361-2373.

Shafinah, K., Sahari, N., Sulaiman, R., Yusoff, M. S. M., & Ikram, M. M. (2013). Determinants of user behavior intention (BI) on mobile services: A preliminary view. *Procedia technology*, *11*, 127-133.

Sikdar, P., Kumar, A., & Alam, M. M. (2019). Antecedents of electronic wallet adoption: a unified adoption based perspective on a demonetised economy. *International Journal of Business and Emerging Markets*, *11*(2), 168-196.

Slade, E., Williams, M., Dwivedi, Y., & Piercy, N. (2015). Exploring consumer adoption of proximity mobile payments. *Journal of Strategic Marketing*, *23*(3), 209-223.

Soe, M. H. (2022). Do they really intend to adopt e-wallet? Prevalence estimates for government support and perceived susceptibility. *Asian J. Bus. Res*, *12*, 77-98.

Soodan, V., & Rana, A. (2020). Modeling Customers' Intention to Use E-Wallet in a Developing Nation: Extending UTAUT2 With Security. *Journal of Electronic Commerce in Organizations, 18*(1).

Syifa, N., & Tohang, V. (2020, August). The use of e-wallet system. *In 2020 International Conference on Information Management and Technology (ICIMTech)* (pp. 342-347). IEEE.

Tang, M. B., Dieo, B. A., Suhaimi, M. K. A. M., & Andam, J. L. A. (2022). The emergence of e-wallet in Sarawak: Factors influencing the adoption of Sarawak Pay. *International Journal of Business and Society*, *23*(3), 1423-1442.

Teng, S., & Khong, K. W. (2021). Examining actual consumer usage of E-wallet: A case study of big data analytics. *Computers in Human Behavior*, *121*, 106778.

Teoh Teng Tenk, M., Yew, H. C., & Heang, L. T. (2020). E-wallet Adoption: A case in Malaysia. *International Journal of Research In Commerce and Management Studies* (ISSN: 2582-2292), *2*(2), 216-233.

Thakur, R. (2013). Customer adoption of mobile payment services by professionals across two cities in India: An empirical study using modified technology acceptance model. *Business Perspectives and Research*, *1*(2), 17-30.

Tjandra, R., Alamsyah, D. P., & Susanti, L. (2022, January). Perceived Mobility of Mobile Payments: Mediation Model of User Usefulness. *In 2021 International Seminar on Machine Learning, Optimization, and Data Science (ISMODE)* (pp. 228-232). IEEE.

Van Ark, B. (2015). Productivity and digitilization in Europe: Paving the road to faster growth. *Digiworld Economic Journal*, (100), 107.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.

Wang, L., & Yi, Y. (2012). The impact of use context on mobile payment acceptance: An empirical study in China. In *Advances in computer science and education* (pp. 293-299). Springer Berlin Heidelberg.

Widodo, M., Irawan, M. I., & Sukmono, R. A. (2019, July). Extending UTAUT2 to explore digital wallet adoption in Indonesia. *In 2019 International Conference on Information and Communications Technology (ICOIACT)* (pp. 878-883). IEEE.

Yaakop, A., Shi, Y., Foster, B., & Saputr, J. (2021). Investigating e-wallet adoption of COVID19 intra-period among Malaysian youths': Integrated task-technology fit and technology acceptance model framework. *International Journal of Data and Network Science, 5*(3), 295-302.

Yang, M., Mamun, A. A., Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability*, *13*(2), 831.