



Consumers' Behavioral Intentions to Use E-Wallet: Applying the Unified Theory of Acceptance and Use of Technology (UTAUT)

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Abstract. This study aimed at measuring and determining the extent of intentional sustained behavioral when using an e-wallet application. This research was conducted using a data collection method with a questionnaire of 100 active consumer respondents using the application e-wallet. Samples were taken using the contour formula. Testing the quality of the data in this study was conducted through the validity of the data, namely the validity test and the reliability test. In addition, the data were analyzed using multiple regression analysis tools. The results of this study showed that performance expectancy variables, effort expectancy, social influences, and facilitating conditions simultaneously influenced behavioral intentions.

Keywords: Application E-Wallet · Behavioral Intentions · UTAUT

1 Introduction

The growth rate of internet usage in Indonesia continues to increase from year to year. This is because the population using the internet is increasing day by day. According to World Internet Stats (2021), internet usage in Indonesia reached 76.8% as of June 2021. The internet also facilitates access to bank accounts, making it easy to send money and transact electronically. The ongoing technological transformation indirectly changes people's habits and lifestyles according to the needs of life.

Based on the 2021 mobile wallet report, 73% of Indonesians use a digital wallet (e-wallet) because they need to pay or transact online. This rate is the highest when compared to other reasons Indonesians use e-wallets. A total of 69% of respondents said the reason for using e-wallets was because e-wallet providers offered cashback/discounts. The role of consumers in society is vital because it defines and measures the adoption and use of applications. Understanding personal acceptance and use of information technology is one of the mature areas of information systems research. Various theoretical models are used to explain the adoption and use of technology, most of which have evolved from psychological and sociological theories.

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The unified theory of acceptance and use of technology (UTAUT) addresses the important and potential factors in predicting technology use and intention-to-use behavior, especially in the organizational context. The UTAUT model is widely extended to digital adoption and transactions. Variables in the UTAUT model, such as performance expectancy, effort expectancy, social influence and facilitating conditions, behavioral intention, and whether there is an effect on use (behavioral intentions), found that conceptual modeling could be more efficient. It is efficient and effective with significant results when using digital wallet services or online transactions [1].

For some of these auxiliary variables, it remains to be seen what the behavioral intentions are. According to Kotler [2], behavioral intention is when a customer has an intention or attitude to be loyal to a brand, product, or company and is willing to share their superiority with other parties. There are some consumer differences in the use of application e-wallets. However, some studies indicated that measuring consumer adoption of the technology could be seen as continued commitment and interest in using application e-wallets [3]. So even if the supporting variable UTAUT does not always affect the interest of the application to use an e-wallet, adopting new technology and consumer transactions for sustainable use is acceptable with a cashless payment system.

Digital wallet transactions can simplify financial transactions and benefit the cashless economy, including convenience, easiness, and spending records [4]. Furthermore, even e-wallets offer innovative benefits in communication and customization of the transaction [5] and flexibility and protection [6]. In addition, the use of e-wallets among merchants is increasing due to the efficiency in cash management, fast transaction process, and reduced labor costs [7]. Subsequently, e-wallet begins to demonstrate their presence to internet users in terms of mobile payment [8].

Intention refers to the aim of an individual to accomplish something [9]. In other words, intention refers to how often an individual is willing to try and the effort a person puts into adopting towards performing the behavior [10]. Specifically focused on behavioral intention, Venkatesh and Davis [11] characterized behavioral intention as an individual's desire to perform or not to perform certain specified future behaviors. Behavioral intention is generally viewed as a guide to the practical application of technology. Behavioral intention is viewed through the level of consumer desire to use the existing system continuously, assuming the consumer has access to knowledge on an ongoing basis.

The UTAUT model combines several overarching models of technology acceptance theory. The UTAUT model is not only used to predict intentions to adopt a technology, but it also allows researchers to analyze conditions and accommodation among variables [12]. Unified theory of acceptance and use of technology (UTAUT) is a comprehensive model that explains the determinants of user intention to use technology to assess the possibility of technology success [13]. UTAUT assumes four (4) essential antecedences that directly affect user acceptance and usage behavior of Information Technology (IT) including performance expectancy, effort expectancy, social influence, and facilitating conditions [14].

Performance expectancy is the degree to which an individual believes that using the system makes them more productive and is the strongest predictor of intentions. Expectancy outcomes relate to the perceived usefulness of TAM to the extent that people believe the system will help them do their jobs better [15]. Performance expectation is the extent to which an individual believes using the technology system can help achieve job performance [14]. The willingness of consumers to use technology relies on how they perceive the technology's utility [14]. The previous research presented empirical evidence of perceived performance impact on behavioral intention to use mobile banking [16]. In addition, researchers in various locations identified that performance expectancy was the primary factor shaping users' behavioral intention to use technology.

Effort expectation is defined as the ease with which the system is used to facilitate someone with the help of the system [17]. Effort expectancy is defined as the relative ease of use of the system. Effort expectations are related to how one makes a person's life using the system easier (TAM is easily perceived) Oye et al. [15]. Effort expectancy refers to the easiness level associated with payment adoption [14]. Technology adoption model experts emphasized that the perception of the user's ease of use determines the technology's acceptance. Many previous studies have explored the concept of effort expectancy as the ease to use and requires less effort to adopt new technology.

Venkatesh et al. [14] mentioned that social influence is the degree to which an individual perceives benefits that others believe affect their use of the new system. Social influence is a determinant of behavioral goals in the use of information technology. According to Al-Qeisi [18], social influence is the degree to which an individual feels that others are important to believe in using a new system. The same construct related to social influence is the subjective norm (TRA, TAM2, TPB/DTPB, and combined TAM-TPB), social factors (MPCU), and image (DOI).

According to Venkatesh et al. [14], the research identified that guidance availability and support employees could serve users in addressing technical challenges. In addition, previous studies have reported the factors facilitating technology adoption, including prior technology experience, prior computer experience, and attitude toward online banking influenced experience [19]. Facilitating conditions can make adoption behavior easier by removing barriers to acceptance and ensuring continued use [20]. This is because it cannot occur if the environment prevents it or the facilitating conditions make the behavior difficult. In the context of cellular services, facilitating conditions can be classified into external and internal resources, where the former is embodied in the service network provided by the service operator, and the latter corresponds to the mobile device connected to the service network and accessed by the individual [21].

2 Methods

The quantitative research method with data validation analysis, classical pre-test, and multiple regression analysis with SPSS was employed in this study. The population was active users of the application e-wallet in Indonesia at least three times in 3 months by random sampling using a targeted sampling method. Primary data were obtained directly from online surveys (Google Forms) distributed across WhatsApp, stream groups, Instagram and Facebook. Secondary data were obtained from journals, books, and articles found on the internet (Fig. 1).

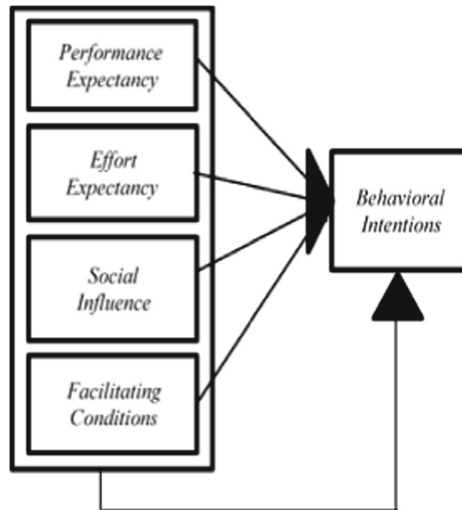


Fig. 1. Research Framework

Research Hypothesis

- Ha₁: There is a significant influence between Performance Expectancy (X1), Effort Expectancy (X2), Social Influence (X3), and Facilitating Conditions (X4) on the Behavioural Intentions (Y) of e-wallet users.
- Ha₂: There is a significant influence of performance expectancy (X1) on the Behavioural Intentions (Y) of e-wallet users.
- Ha₃: There is a significant influence of Effort Expectancy (X2) on the Behavioural Intentions (Y) of e-wallet users.
- Ha₄: There is a significant influence of Social Influence (X3) on Behavioural Intentions (Y) of e-wallet users.
- Ha₅: There is a significant influence of Facilitating Conditions (X4) on Behavioural Intentions (Y) of e-wallet users.

3 Result and Discussion

Table 1 shows that the equation has the value $F_{\text{count}} > F_{\text{Table}}$ ($85.813 > 2.47$), so the F test is applied simultaneously to this regression test, where H_0 is rejected, and H_a is accepted. These results suggest a significant concurrent (simultaneous) effect between the independent and dependent variables.

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The following are the results of the partial test on multiple linear regression based on the partial t-test in Table 2:

Table 1. ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1061,581	4	265,395	85,813	,000 ^b
	Residual	293,809	95	3,093		
	Total	1355,390	99			

- a. Dependent Variable: Behavioral Intentions (Y)
- b. Predictors: (Constant), Facilitating Conditions (X4), Social Influence (X3), Effort Expectancy (X2), Performance Expectancy (X1)

Table 2. T-Test Result

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,413	1,291		1,869	,065
	(X1)	,100	,040	,242	2,528	,013
	(X2)	,121	,060	,184	2,021	,046
	(X3)	,161	,044	,294	3,611	,000
	(X4)	,159	,063	,250	2,537	,013

- a. Dependent Variable: Behavioral Intentions (Y)
- Source: Data Processed, 2022

Table 3. Multiple Regression Analysis Result

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,413	1,291		1,869	,065
	Performance Expectancy (X1)	,100	,040	,242	2,528	,013
	Effort Expectancy (X2)	,121	,060	,184	2,021	,046
	Social Influence (X3)	,161	,044	,294	3,611	,000
	Facilitating Conditions (X4)	,159	,063	,250	2,537	,013

- a. Dependent Variable: Behavioral Intentions (Y)
- Source: Data Processed, 2022

Table 4. Summary of Hypothesis Results

	Hypothesis	Result
Ha1	Performance expectancy, effort expectancy, social influence, and facilitating conditions had an impact on behavioral intention to use the application e-wallet.	Ha was accepted
Ha2	Performance expectancy had an impact on behavioral intention to use the application e-wallet.	Ha was accepted
Ha3	Effort expectancy had an impact on behavioral intention to use application e-wallet.	Ha was accepted
Ha4	Social influence had an impact on behavioral intention to use the application e-wallet.	Ha was accepted
Ha5	Facilitating conditions had an impact on behavioral intention to use application e-wallet.	Ha was accepted

Source: Data Processed, 2022

1. The results of the performance expectancy partial test for behavioral intention (X1) averaged $0.013 < 0.05$ with a t-test score of 2.528, while the panel t was 1.985 of $2.528 > 1.985$, significant, and Ha has been accepted. Therefore, it can be concluded that with the application of e-wallet, performance expectancy (X1) partly has a significant impact on behavioral intentions (Y), so increasing or decreasing expectations on performance will affect the scale of behavioral intention.
2. The results of the partial effort expectancy (X2) on behavioral intentions (Y) show that the t-test value in 2.021, and the t-table in 1.985 obtained a significance value of $0.046 < 0.05$, meaning $2.021 > 1.985$. Thus, it can be concluded that effort expectancy (X2) partly has a significant impact on behavioral intentions (Y), so increasing or decreasing performance expectancy will affect the behavioral intentions of employees.
3. The results of the partial test of the influence of society (X3) on behavioral intention (Y) take the significance value of $0.000 < 0.05$ with the t-test results in 3.611 while the t table 1.985 has means of $3.611 > 1.985$, so Ha is accepted. Thus, it can be concluded that social influence (X3) with the application of e-wallets partly has a significant impact on behavioral intention (Y), so increasing or decreasing the expectation of performance will affect the scale of behavioral intention.
4. The results of the partial facilitating conditions test (X4) on behavioral intention (Y) showed that it has a significant value of $0.013 < 0.05$ with the t-test results obtained at 2.021, while table t is 1.985, which means $2.537 > 1.985$, then it means that Ha is accepted. Therefore, it can be concluded that the relaxed state (X4) significantly affects behavioral intention (Y).

3.1 Multiple Regression Analysis Result

Table 3 above shows that the (constant) value in column B is 2.413, and the performance expectancy value (X1) is 0.100. Whereas, the Effort Expectancy (X2) value is 0.121,

the Social Influence (X3) value is 0.161, the Facilitating Conditions (X4) value is 0.159. Then the regression equation is as follows:

$$Y = 2.413 + 0.100X1 + 0.121X2 + 0.161X3 + 0.159X4 \quad (1)$$

- A constant value (a) of 2.413 indicates a positive effect on the explanatory variables (performance expectancy, effort expectancy, social influence, and facilitating conditions). If the independent variable increases as a unit or has an effect, the behavioral intention variable will increase or decrease.
- X1 (performance expectancy) has a positive value of 0.100. It has been suggested that as performance expectancy increases, so does behavioral intention (Y).
- X2 (effort expectancy) has a positive value of 0.121. It suggests that as effort expectancy increases, so does behavioral intention (Y).
- X3 (social influence) has a positive value of 0.161. It is said that as social influence increases, behavioral intention (Y) will also increase.
- X4 (facilitating conditions) has a positive value of 0.159. This is shown when the facilitating conditions increase, so does the behavioral intent (Y) (Table 4).

Relationship Between Performance Expectancy (X1), Effort Expectancy (X2), Social Influence (X3), and Facilitating Conditions (X4) on Behavioral Intentions.

The variables performance expectancy (X1), effort expectancy (X2), social influence (X3), and facilitating conditions (X4) that influence behavioral intention derived from the SPSS R squared result by 78.3%. The rest depends on other variables not studied in this research. At the same time F-test shows that $F_{\text{count}} > F_{\text{table}}$ ($85.813 > 2.47$), which can be interpreted as the effect of an independent variable on performance expectancy (X1), effort expectancy (X2), social influence (X3), and facilitating conditions (X4) on behavioral intention (Y) of application e-wallet users. From the four variables, the equation is as follows:

$$Y = 2.413 + 0.100X1 + 0.121X2 + 0.161X3 + 0.159X4 \quad (2)$$

From the equation, it is known that the value of the independent variable performance expectancy is positive effort expectancy are positive, social influence also has a positive value and facilitating conditions which also have a positive value. This means that the better the behavioral intentions of use, the higher the positive value for behavioral intentions.

The Relationship Between Performance Expectancy Variables and Behavioral Expectancy.

H1: Performance Expectancy positively influences the behavioral intention of application e-wallet users.

H1 was accepted because the value $t_{\text{count}} > t_{\text{table}}$ ($2.528 > 1.985$). This means that performance expectancy positively impacted the behavioral intention of application e-wallet users. Therefore, it can be concluded that part of the performance expectancy variable affected the dependent variable of behavioral intention. This shows that the better the performance expectancy level of the application, the higher the behavioral

intention when using the e-wallet. The greater the perceived benefits of using the system, the greater the behavioral intent of sustainable use of the application e-wallet.

Relationship Between Effort Expectancy and Behavioral Intentions.

H2: Effort expectancy positively influences behavioral intentions to use the application e-wallet.

Due to the value of $t_{\text{count}} > t_{\text{table}}$ ($2.021 > 1.985$) then, H2 was accepted. Partially, it can be interpreted that effort expectancy had a positive influence on behavioral intentions. Due to the level of convenience and comfort when using the e-wallet application, users can experience it through a variety of easy-to-understand functions and a large number of operating instructions that make using the e-wallet application easy.

Relationship Between Social Influence and Behavioral Intentions.

H3: Social influence positively influences behavioral intentions to use the application e-wallet.

H3 was accepted because the value $t_{\text{count}} > t_{\text{table}}$ ($3.611 > 1.985$). It shows that that social influence positively had a partial influence on behavioral intention. This shows that the greater the social influence, the higher the intention to continue using the application e-wallet. These results agree with [30] who argued that social influence had a positive result, and that smart applications for service authorization significantly impacted the study subjects.

Relationship Between Facilitating Conditions and Behavioral Intentions.

H4: Facilitating conditions have a positive influence on behavioral intentions.

H4 was accepted because the value $t_{\text{count}} > t_{\text{table}}$ ($2.537 > 1.985$). This can be explained from the hypothesis test results that respondents indicated that assistive conditions were achieved through the availability of other devices, such as smartphones and the internet, and other devices that can be used for the trading tutorial. An e-wallet application provides convenience for intents and facilitates sustainable behavior (Behavioral Intent). Previous research by [31] showed that terms of support in the Shopee case study market had a positive and significant effect on behavioral intentions towards the topic.

4 Conclusion and Recommendation

Based on the research conducted on active consumers of application e-wallet users, it can be concluded that performance expectancy variables, effort expectancy, social influences, and facilitating conditions overall/simultaneously influenced behavioral intentions. This means the direction of the influence was positive or unidirectional. The better the value of the multiple regression coefficients, the better the addition of the behavioral intentions level. Performance expectancy (X1) partially influenced behavioral intentions; effort expectancy (X2) partially influenced behavioral intentions; social influence (X3) partially influenced behavioral intentions; facilitating conditions (X4) partially influenced behavioral intentions.

Based on the above data processing, there are some recommendations for the application e-wallet. The application e-wallet can increase convenience and comfort to increase performance expectancy further. To further increase effort expectancy, the application e-wallet provider does not burden consumers with top-up fees (admin fees) and bank transfers. To further increase social influence, application e-wallet providers can create unique programs for specific communities to increase application e-wallet users. To further improve the facilitating conditions, the application e-wallet provider can increase cooperation with e-commerce or merchants and improve network quality. It is recommended that the application e-wallet must be able to maintain consumers at the level of behavioral intentions, so they must pay attention to improving system services that are aimed at consumers in order to continue to increase loyalty in use.

References

1. Al-Saedi, K., Al-Emran, M., Ramayah, T. & Abusham, E. Developing a general extended UTAUT model for M-payment adoption. *Technol. Soc.* **62**, 101293 (2020).
2. Purwianti, L. & Tio, K. Faktor-Faktor Yang Mempengaruhi Behavioural Intention. *J. Manaj. Maranatha* **17**, 15 (2017).
3. Suhendry, W. Minat Penggunaan Ovo Di Kota Pontianak Menggunakan Model Unified Theory of Acceptance and Use Technology. *J. Ekon. Manaj.* **6**, 1–12 (2020).
4. Nguyen, T. N., Cao, T. K., Dang, P. L. & Nguyen, H. A. Predicting Consumer Intention to Use Mobile Payment Services: Empirical Evidence from Vietnam. *Int. J. Mark. Stud.* **8**, 117 (2016).
5. Osakwe, C. N. & Okeke, T. C. Facilitating mCommerce growth in Nigeria through mMoney usage: A preliminary analysis. *Interdiscip. J. Information, Knowledge, Manag.* **11**, 115–139 (2016).
6. Uddin, M. S. & Akhi, A. Y. E-Wallet System for Bangladesh an Electronic Payment System. *Int. J. Model. Optim.* **4**, 216–219 (2014).
7. Hayashi, F. & Bradford, T. Mobile payments: merchants' perspectives i. paymentenvironment and mobile payment technologies. *J. Financ. Plan. Manag.* 33–58 (2014).
8. Falk, T., Kunz, W. H., Schepers, J. J. L. & Mrozek, A. J. How mobile payment influences the overall store price image. *J. Bus. Res.* **69**, 2417–2423 (2016).
9. Zhao, W. & Othman, M. N. *Predicting and explaining complaint intention and behaviour of Malaysian consumers: An application of the planned behaviour theory. Advances in International Marketing* vol. 21 (Emerald, 2011).
10. Mamman, M., Ogunbado, A. F. & Abu-bakr, A. S. Factors Influencing Customer's Behavioral Intention to Adopt Islamic Banking in Northern Nigeria: a Proposed Framework. *J. Econ. Financ.* **7**, 51–55 (2016).
11. Venkatesh, V. & Davis, F. D. Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Manage. Sci.* **46**, 186–204 (2000).
12. Arenas-Gaitán, J., Peral-Peral, B. & Ramón-Jerónimo, M. A. Elderly and internet banking: An application of UTAUT2. *J. Internet Bank. Commer.* **20**, 1–23 (2015).
13. Lu, J., Yao, J. E. & Yu, C. S. Personal innovativeness, social influences and adoption of wireless Internet services via mobile technology. *J. Strateg. Inf. Syst.* **14**, 245–268 (2005).
14. Venkatesh, V., Morris, M. G., Davis, G. B. & Davis, F. D. User Acceptance of Information Technology: Toward a Unified View. *Inorg. Chem. Commun.* **27**, 425–478 (2003).
15. Oye, N. D., A.Iahad, N. & Ab.Rahim, N. The history of UTAUT model and its impact on ICT acceptance and usage by academicians. *Educ. Inf. Technol.* **19**, 251–270 (2014).

16. Brown, I., Cajee, Z., Davies, D. & Stroebel, S. Cell phone banking: Predictors of adoption in South Africa - An exploratory study. *Int. J. Inf. Manage.* **23**, 381–394 (2003).
17. Venkatesh, V., Thong, J. Y. L. & Xu, X. Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Q. Manag. Inf. Syst.* **36**, 157–178 (2012).
18. Al-Qeisi, K. I. Analyzing the Use of UTAUT Model in Explaining an Online Behaviour: Internet Banking Adoption. (2009).
19. Karjaluoto, H., Mattila, M. & Pentto, T. Factors underlying attitude formation towards online banking in Finland. *Int. J. Bank Mark.* **20**, 261–272 (2002).
20. Rao, S. & Troshani, I. A conceptual framework and propositions for the acceptance of mobile services. *J. Theor. Appl. Electron. Commer. Res.* **2**, 61–73 (2007).
21. George, A. & Sunny, P. Developing a Research Model for Mobile Wallet Adoption and Usage. *IIM Kozhikode Soc. Manag. Rev.* **10**, 82–98 (2021).

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