

# Behavioral Intention Of E-Wallet Adoption In Jakarta, Indonesia

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## **ABSTRACT**

The purpose of the research is to study the factors affecting the behavioral intention to use e-wallet in Jakarta, Indonesia. An integrated model of Innovation Diffusion Technology (IDT) and Technology Acceptance Model (TAM) was developed to understand the factors affecting the behavioral intention towards an innovation, in this case e-wallet. In this study, four variables of IDT (relative advantage, compatibility, observability, and trialability) and additional variable of perceived trust are the predictor variables, along with the TAM variables (perceived ease of use and perceived usefulness) as the mediating variables, and behavioral intention as the outcome variable. This study was conducted by using the quantitative approaches of 350 respondents in Jakarta and the duration of this research is 6 months. The structural equation modelling through partial least square (PLS) method results were acceptable in terms of reliability and validity. The empirical results revealed that, some of the IDT variables and perceived trust have significant effects on perceived usefulness. The obtained results also showed that perceived usefulness is the most significant factors that can encourage the behavioral intention to adopt e-wallet. The results, managerial implications, discussion, and suggestions for future research are discussed in detail.

**Key Words:** twalle-IDT, TAM, Behavioral Intention, Adoption, and E

## Background and Significance of Research

Rapid changes in the development of mobile phone have a significant impact on the world's economy. Time and location barriers were reduced allowing executives to be able to expand their business even further. In 2019, Indonesia has reached more than 76 million smartphone users and 171.17 million of internet users or approximately 64.8% of the total population of Indonesia (Statista Research Department, 2019) (Indonesia-Investments, 2019). Along with these numbers, companies tried to capture the emerging market, which is e-commerce. "Unicorn" in South East Asia dominated by Indonesian startups. According to Aileen Lee, "Unicorn" is a venture capitalist, as a startup company with a value of over than US\$ 1 billion (Chen J. , 2019). In Indonesia, four startups dominating the "unicorn" in South East Asia and two of them are e-commerce, one ride hailing service, and one travelling service. In 2017, 41% of Indonesian bought goods and services online in a month, which is an increase compared to 26% in 2016 and the value of online shopping transactions, reached US\$ 5.3 billion (Rastogi, 2019). With the significant development of e-commerce in Indonesia, pushes the adoption of e-wallet to the customer because those players develop their own payment services (KPMG Siddharta Advisory, 2017).

Financial technology (fintech) is an industry that embody technology in financial services. Fintech is a term that describes an activity of financial services that uses the mobile devices, the cloud services or software technologies, and the internet

(Sraders, 2019). Mobile payments apps such as e-wallet, crowdfunding platforms to cryptocurrency are consider as financial technology and it have change the way customer access their finances. This alteration urge the users to demand more functionality in the system to the fintech players especially e-wallet players. Fintech has evolved and the attitudes towards them begin to change.

According to Investopedia, e-wallet or digital payment can be defined as a system that securely stores users' payment information and can be used to complete purchases easily and quickly (Kagan, 2018). The purpose of E-wallet is to eliminate users to carry a physical wallet and to speed up the process of doing online transactions without making the customers input their personal detail information every time they wish to make a payment (Starting Business, n.d.). Not only customers who got the benefit from e-wallet but also the company, since they will have the collection of consumer data that can be useful to know customer's purchasing habit and can effectively market to them (Kagan, 2018). Globally, the total users of mobile wallet in 2019 is 2.1 billion users, which is an increase of 30% at the end of 2017, while in Indonesia there are up to 140 million of e-wallet users (Rofle, 2018) (Timones, 2019). There are 38 e-wallet players that are registered in Bank of Indonesia but there are five main players that capture the big market such as, Gopay, Dana, OVO, LinkAja, and ShopeePay (Bank Indonesia, 2019) (Putera I. , 2019). Despite the fact that e-wallet is thriving in Indonesia, the country's economy is still very much cash-based (Putera I. , 2019). There are 66%

of 260 million of populations who do not own a bank account or “underbanked” while all of them have adopted the internet access, less than 40% of Indonesian smartphone users have used financial service application before (Nugroho & Samudera, 2018). From the data, there is a big potential of market to capture for companies especially startups in mobile payment system like e-wallet. This event occurs because Indonesians still need assurance related to the e-wallet as they do not see the benefit in using the e-wallet and still not many merchants are connected both online and offline (Nugroho & Samudera, 2018). In fact, by developing and strengthening the financial technology in Indonesia like e-wallet, it can encourage and improve the Indonesian living standards including small medium business entrepreneurs, and improve the people’s purchasing power (Winenda & Karina, 2016).

E-commerce and other online platform in Indonesia plays a big role in SMEs expansion because it functions as the supporting tools for SMEs to be found easily by users which means accelerating inclusive economy and advancement of SME. Users are able to purchase them by using their it will be delivered to them after the purchase efficiently. This also improves the seller’s performance to serve the customer efficiently. Cashless payment methods can help SMEs keep better track of their revenues and expenses, as each transaction automatically recorded and requires no additional steps, eliminating the need for a paper trail. They also reduce the obvious risks associated with holding too much cash – an endemic problem in Indonesia, where

access to banking services remains limited in rural areas and for lower-income populations (Putera P. A., 2019).

Along with the growing users of smartphones and development of e-wallet in Indonesia, still the growth of e-wallet users is not as expected and e-wallet players still need to catch up to reach the number and the cashless society. There is some research about e-wallet adoption that has been done such as what are the determinant factors that can encourage user acceptance of e-wallet adoption. This study will be beneficial for e-wallet players in Indonesia especially Jakarta as the number of users of e-wallet can be higher along with the development of e-wallet and for the future research about e-wallet adoption. For that reason, this research will propose an integrated model of TAM and IDT to determine the behavioral intention of e-wallet adoption in Jakarta, Indonesia. This research will explain on do relative advantage, compatibility, observability, trialability, perceived trust, perceived usefulness, and perceived ease of use affect the behavioral intention of e-wallet adoption in Indonesia.

## **Objectives**

The main objective of this research is to study the factors affecting the behavioral intention to use e-wallet with factors of relative advantage, compatibility, observability, trialability, perceived trust, perceived usefulness, and perceived ease of use. By having a clear findings on do the factors mentioned affect the behavioral intention to use e-wallet, it will be beneficial for the e-wallet players as guidance who

look for a bigger demand and usage of e-wallet to encourage the future cashless society in Indonesia and for the reference for future research on the e-wallet adoption.

## **Literature Reviews and Hypotheses**

### **Innovation Diffusion Technology (IDT Model)**

The innovation-decision process defined as the process when an individual or other decision-making unit reach the first knowledge of an innovation, then form an attitude towards it, to decide whether to adopt or reject the innovation, implement the new idea and to confirm the decision (Rogers, Diffusion of Innovation Third Edition, 1983). A user will decide to use an innovation or not depends on their knowledge and experience towards the innovation, which involved the performance of the innovation. In order to adopt an innovation, a person must perceive the idea, behavior, or product as innovative. IDT have five attributes in order to eliminate uncertainty of innovation such as relative advantage, compatibility, complexity, trialability, and observability. Amid the five attributes of innovation model, this research has more concentration on relative advantage, compatibility, observability, and trialability, which indicates the behavior of e-wallet users. Some research had shown the IDT model in their research and validated that the IDT model is a strong model in reflecting the behavioral intentions of mobile wallet users (Kafsh, 2015) (Chen & Adams, User Acceptance of Mobile Payments: A Theoretical Model for Mobile Payments, n.d.) (Jongchul & Sung-Joon, 2014).

### **Relative Advantage**

Relative advantage defined as the degree to which an innovation perceived as better than the existing product (Rogers, Diffusion of innovations (5th ed.), 2003). Motivation aspects of an innovation such as social status and cost are consider as the elements of relative advantage (Sahin, 2006). In this case, e-wallet is a reformation of conventional payment that is use by the consumer because of the low cost and fulfilling the social status. The change of the payment system in Jakarta had started and moved towards the cashless society. This assumption lead to the following hypothesis:

**H<sub>1</sub>**: Relative advantage has a positive effect on perceived usefulness of e-wallet.

### **Compatibility**

Compatibility is the degree where an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters (Rogers, Diffusion of innovations (5th ed.), 2003). The rate of adoption will increase and decrease the uncertainty rate when an innovation is suitable with an individual's needs. Based on the purpose of e-wallet, compatibility is one of the variable that will influence the usefulness of an innovation. This assumption lead to the following hypothesis:

**H<sub>2</sub>**: Compatibility has a positive effect on perceived usefulness of e-wallet.

### **Observability**

Observability is the degree to which the outcomes of an innovation are visible to

others (Rogers, Diffusion of innovations (5th ed.), 2003). Innovation should draw the attention of the targeted user group to make them aware to the service. E-wallet is in a good position when the users use the service in public because it helps the service provider circulate the service (Chen & Adams, User Acceptance of Mobile Payments: A Theoretical Model for Mobile Payments, n.d.). When users able to observe and describe a system, they tend to see the system as more useful (Kafsh, 2015). This assumption lead to the following hypothesis:

**H<sub>3</sub>:** Observability has a positive effect on perceived usefulness of e-wallet.

### **Trialability**

Trialability is the degree to which an innovation may be experimented with on a limited basis (Rogers, Diffusion of innovations (5th ed.), 2003). An innovation has to be tested first in order to introduce it to the users. Because, faster adoption of an innovation might happen when the potential users test out the innovation. In the implementation stage of the innovation-decision process, reinvention of the innovation might happen amid the trial of the innovation (Sahin, 2006). This assumption lead to the following hypothesis:

**H<sub>4</sub>:** Trialability has a positive effect on perceived usefulness of e-wallet.

### **Perceived Trust**

Trust is an important element that affect consumer intention to adopt innovation. A user has to fill personal information regarding to the registration of e-wallet, which require trust into the system, as they are vulnerable. While the widespread enthusiasm and hope about mobile wallet service may occur, but the fear of identity theft and security breaches cannot be unseen. Perceived trust is considered to show the level of trust that the consumer believe that they can invest in the parties involved in the payment process (banks, merchants, and other third parties) to perform expected activities without taking advantage of the consumers (Phonthanukitithaworn, Sellitto, & Fong, 2015). Perceived trust is an additional variable that will have a positive effect on perceived usefulness of e-wallet as it is consider to be useful in using the e-wallet system. This assumption lead to the following hypothesis:

**H<sub>5</sub>:** Perceived trust has a positive effect on perceived usefulness of e-wallet.

## **Technology Acceptance Model (TAM)**

TAM model was constructed to gather the small number of fundamental variables suggested by previous research with the cognitive and affective determinants of computer acceptance, by using TRA as a theoretical background to construct the theoretical relationship among these variables (Davis, Bagozzi, & Warshaw, 1989). TAM model consists of two major variables such as perceived ease of use (PEOU) and perceived of usefulness (PU). Perceived ease of use (PEOU) refers to the degree to which the prospective user expects the target system to be free of effort. Perceived usefulness (PU) refers to the prospective user's subjective probability that uses a specific application system will increase his or her job performance within an organizational context (Davis, Bagozzi, & Warshaw, 1989).

### **Perceived Ease of Use (PEOU)**

PEOU refers to the degree to which the prospective user expects the target system to be free of effort (Davis, Bagozzi, & Warshaw, 1989). PEOU will positively influences intention to use e-wallet if the users developed the good trust in the system. In order to gain the good trusts, system providers have to ensure that they provide

users to use the system effortlessly. As the amount of attention a user use mobile application, user's priorities change unpredictably, and the device that the users use may differ (Chen & Adams, User Acceptance of Mobile Payments: A Theoretical Model for Mobile Payments, n.d.) (Tarasewich, 2003). Considering these and other circumstances, e-wallet system provider has to provide a compatible system no matter what the device is so that they will not give a bad influence towards the e-wallet system. These assumptions lead to the following hypotheses:

***H<sub>6(a)</sub>***: Perceived ease of use has a positive effect on intention to use e-wallet.

***H<sub>6(b)</sub>***: Perceived ease of use has a positive effect on perceived usefulness of e-wallet.

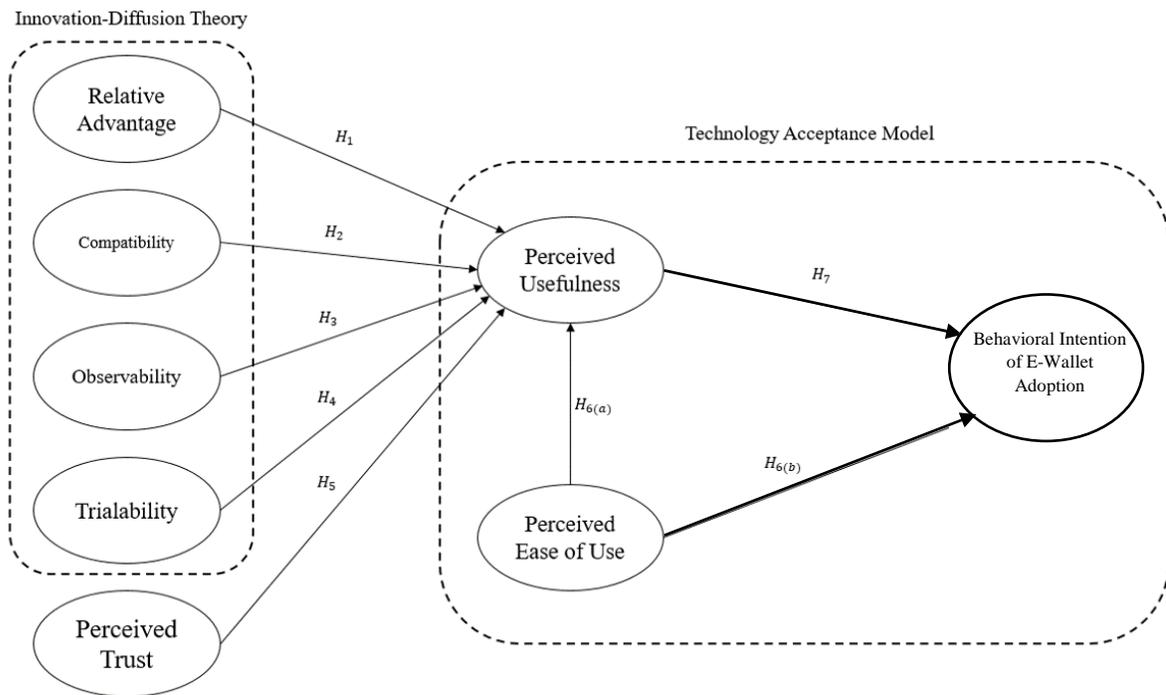
### **Perceived Usefulness (PU)**

PU refers to the prospective user's subjective probability that uses a specific application system will increase his or her job performance within an organizational context (Davis, Bagozzi, & Warshaw, 1989). Since the era of digitalization, consumers always demand for something that is fast, convenient, and other rewards in using a system. These criteria aligned with the purpose of e-wallet, which is to eliminate

users to carry a physical wallet, and to speed up the process of doing online transactions without making the customers input their personal detail information every time they wish to make a payment (Starting Business, n.d.). These assumptions lead to the following hypothesis:

**H<sub>7</sub>:** Perceived usefulness has a positive effect on intention to use e-wallet.

In this research, the researcher will use the integration of the IDT model and the TAM model by cooperating one more variable such as perceived trust. Adapting from the IDT model, this study has more focus on relative advantage, compatibility, observability, and trialability, which reflects the behavior of mobile wallet users.



**Figure 1** Proposed Conceptual Framework

Adapted from *Technology Acceptance Model and Innovation Diffusion Technology*, by Davis, Bagozzi, Warshaw, and Rogers, 1992 and 2015, Retrieved from Author. Copyright 1992 and 2003 by the Davis, Bagozzi, Warshaw, and Rogers.

## Research Methodology and Sampling Design

The main objective of this research is to analyze the relationships between the integrated model of the Innovation-Diffusion Theory (IDT) model and the Technology Acceptance Model (TAM) by cooperating three one more variable such as Perceived Trust. Adapting from the IDT model, this study has more focus on relative advantage, compatibility, observability, and trialability, which reflects the behavior of mobile wallet users. An online survey was developed and distributed through a shared link to 350 respondents who are 18 years and older, live in Jakarta, and have had experience with e-wallet. According to the formula of Samuel B. Green in 1991,

$$N \geq 50+8m$$

Where:

N = the minimum number of samples,

m = the number of variables

For this research, with 8 variables,

$$N \geq 50 + 8 (8)$$

$N \geq 114$  (min sample size of respondents)

With the minimum sample size of 114 respondents, the researcher will be collecting approximately 350 respondents in Jakarta to develop this survey. The researcher used convenience sampling quantitatively to the targeted population of 350 respondents of e-wallet users in Jakarta. The questionnaire in this research consists of three main sections, which are screening questions, demographic questions, and research framework with eight variables of five-point Likert scale. There is a total of 350 questionnaires distributed to the targeted population and all of the responses could be

accepted in the final data analysis. The data collection occurred in 2019 and obtained in approximately 3 weeks.

## Data Analysis

This research adopts the descriptive statistical analysis to explore the effects of the factors leading to the behavioral intention to adopt the e-wallet. To assess the measurement model and the structural model, the researcher applied the Partial Least Square (PLS) structural analysis. PLS is capable to evaluate both formative and reflective measurement models (Codita, 2011). To evaluate reliability and validity of the inner model or the structural model estimates, the latent variable scores have to be calculated (Cavusgil, Sinkovics, & Ghauri, 2009). After the PLS assessment, Bootstrapping of 499 resamples will be applied to produce standard errors and t-statistics.

## Research Results

### Descriptive Statistics and Partial Least Square Results

After data were collected, the measurement uses the descriptive analysis, reliability analysis, and partial least square. . From the 350 respondents, majority of them were Female (55.7%) by the age of 18-25 (62.86%). Nearly 57.4% of the total respondents have their bachelor's degree. Approximately 49.71% of the total respondents were working full time with 38.86% of the total respondents have an income range of 3.000.001 IDR – 10.000.000 IDR per month. The majority of the respondents used the e-wallet for a few times in a week. The Cronbach's alpha

values of each variable exceeds 0.70 as it range from 0.742 to 0.858, which means they are reliable and acceptable.

Partial Least Square (PLS) makes no distributional assumptions in its parameter estimation procedure. Traditional parameter-based techniques for significance testing and model evaluation are considered to be inappropriate (Chin, 1998). Smart PLS provides the  $R^2$  for each endogenous construct in the model and the path coefficients. The coefficient of determination ( $R^2$ ) explained how much influence the independent variable has on the dependent variable. The results of  $R^2$  in Table 1 shows that 57.4% of the variance in the perceived usefulness construct and 61.3% of the variance in the behavioral intention construct. Based on the results in Table 1, six hypotheses  $H_1$  and  $H_3$  are not supported but on the other hand, the rest of the variables are supported.

In the present context, relative advantage had not shown significant and positive effect on perceived usefulness ( $\beta = 0.065$ ,  $t = 1.103$ ). On the other hand, compatibility shows significant and positive effect on perceived usefulness ( $\beta = 0.192$ ,  $t = 3.523$ ). Same as perceived usefulness, observability did not show any significant and positive effect on perceived usefulness ( $\beta = 0.040$ ,  $t = 0.867$ ). In addition, trialability and perceived trust had shown significant and positive effect on perceived usefulness ( $\beta = 0.245$ ,  $t = 3.685$ ;  $\beta = 0.176$ ,  $t = 3.538$ ). Thus, perceived ease of use shows significant and positive effect on both perceived usefulness and behavioral intention ( $\beta = 0.213$ ,  $t = 3.791$ ;  $\beta = 0.442$ ,  $t = 8.271$ ). Furthermore, perceived usefulness had shown significant and positive effect on behavioral intention ( $\beta = 0.427$ ,  $t = 7.647$ ).

**Table 1** Summary of Structural Model

	Hypothesis Path		Std.Error	Beta	t-value	P-value (2 sided)	Result
H1	RA	PU	0.059	0.065	1.103	P<0.271	Not Supported
H2	COMP	PU	0.054	0.192	3.523	P<0.000	Supported
H3	OBSV	PU	0.046	0.040	0.867	P<0.386	Not Supported
H4	TRIAL	PU	0.067	0.245	3.685	P<0.000	Supported
H5	PT	PU	0.050	0.176	3.538	P<0.000	Supported
H6(a)	PEOU	PU	0.056	0.213	3.791	P<0.000	Supported
H6(b)	PEOU	BI	0.053	0.442	8.271	P<0.000	Supported
H7	PU	BI	0.057	0.427	7.647	P<0.000	Supported

Source. Author's calculation  
 $R^2$  for PU = 57.4% and  $R^2$  for BI = 61.3%,  $p < 0.1$ , 0.05, and 0.001

## Discussion, Conclusions, and Suggestions

### Discussion

The proposed structural model aims to study the factors affecting the behavioral intention to use e-wallet in Jakarta, Indonesia with the sample of Jakarta citizens, who were asked to complete a questionnaire based on the relevant previous research and theories.

According to the outcomes, the variables such as  $H_2$  compatibility,  $H_4$  trialability,  $H_5$  perceived trust,  $H_{6(a)}$  &  $H_{6(b)}$  perceived ease of use, and  $H_7$  perceived usefulness are significant that leads to greater willingness to adopt the innovation. The results of  $H_2$  compatibility and  $H_4$  trialability of the IDT are significant to  $H_7$  perceived usefulness and aligned with the findings in other studies (Kafsh, 2015) (Jongchul & Sung-Joon, 2014) (Limthongchai & Speece, 2003).  $H_4$  Trialability has a positive influence on perceived usefulness since users able to have a clear image on how e-wallet helps to manage the financial and daily activities (Kafsh, 2015).  $H_2$  Compatibility also has a positive effect on perceived usefulness and it can be said that an innovation, like e-wallet system, is compatible with each of the user's needs and by trying out the system, not only introduced to the users, but also gives them the knowledge of the efficiency and get the feedback from the users to keep on improving the system. With that, the uncertainty rate will decrease and the rate of adoption of the innovation will increase.

$H_5$  Perceived Trust is significant to  $H_7$  perceived usefulness that leads to intention to adopt an e-wallet. The outcome aligned to the finding in other studies when users are generally concerned about the security and privacy offered by the e-wallet players because the lack of physical contact and intangible form of security (Chong, Chan, & Ooi, 2012) (Dlodlo, 2015) (Mahwadha, 2019). Trust has a positive influence on perceived usefulness since users need to fill out personal and sensitive information that required the assurance of security and reliability in order to use the e-wallet system and it also shows the level of trust towards the system.

$H_{6(a)}$  Perceived ease of use from the TAM is significant to  $H_7$  perceived usefulness. The outcome aligned with the previous study (Kafsh, 2015) (Tarasewich, 2003) (Chen & Adams, User Acceptance of Mobile Payments: A Theoretical Model for Mobile Payments, n.d.) (Shaw & Kesharwani, 2019). An innovation is likely to adopted by users when the system are effortless or user friendly for users who will use and adopt it. However, perceived ease of use is insignificant to intention to adopt e-wallet because an innovation is likely to be adopted by users if it derives some relative advantage (Shaw & Kesharwani, 2019). It can be said that  $H_{6(b)}$  perceived ease of use shown an indirect effect on behavioral intention through perceived usefulness. The higher perceived ease of use the higher behavioral intention will be.

$H_7$  Perceived usefulness from the TAM is significant to intention to adopt e-wallet and the result shows that perceived

usefulness emerged as the most important factor affecting e-wallet adoption. This outcome is consistent with the past study outcomes (Shaw & Kesharwani, 2019) (Kafsh, 2015) (Tarasewich, 2003). E-wallet provides many benefits to the users especially in this digital era especially in doing transactions. With the least effort, users are able to do transactions efficiently on the palm of the hand anywhere and anytime. With these features along with the promotions given by the e-wallet service providers, users find the system to be useful which, influence the adoption rate of e-wallet. The higher users perceived the usefulness of an innovation, the higher their intention to adopt e-wallet and vice versa.

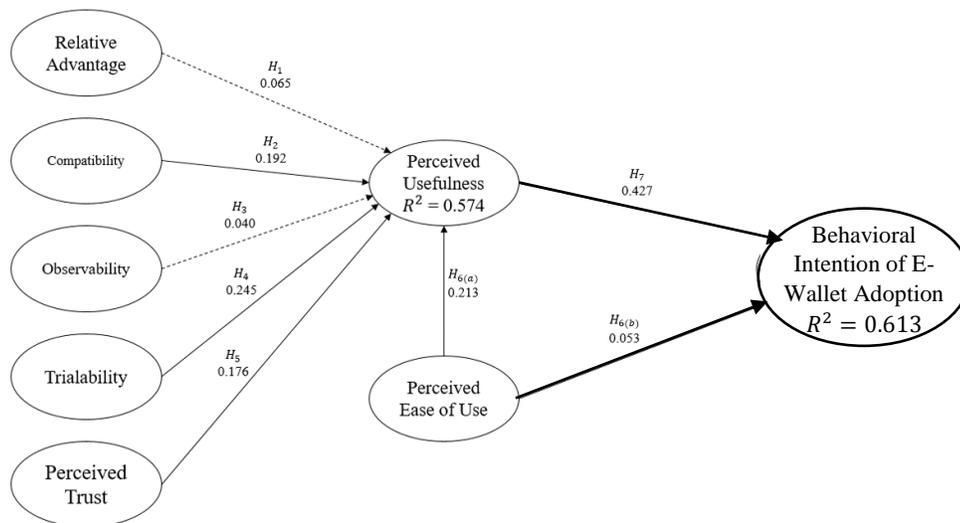
The opposite of the variables mentioned above, the variables of  $H_1$  relative advantage and  $H_3$  observability from the Innovation-Diffusion Theory (IDT) are not supported and do not have a positive on perceived usefulness. It derived from the existing theory of the IDT model. It differs from the results reported by other researchers that applied the integration of IDT and TAM towards the Haptic Enabling Technology (HET) (Jongchul & Sung-Joon, 2014). In their research, the relative advantage had relatively greater influences among the other four antecedents, in which the users of HET products experience high enjoyment based on the intrinsic hedonic motives that give greater support to the perceived enjoyment of HET products and lead them to a greater chance to adoption intention. However, the relative advantage variable is insignificant aligned with (Melka, 2017) study about diffusion of online payment system in Addis Ababa and

conclude that the possibility of the potential buyers focuses on acceptance by others, associated show-off, and trial options. As reported by Taylor and Silver, there are 42% of the Indonesian users owned smartphones, which most of them are young generations and well-educated (Taylor & Silver, 2019). This means that Indonesian users are familiar with smartphones and their functions. Besides, there are up to 140 million e-wallet users, which means that they have a good knowledge of what the e-wallet can offer (Timones, 2019). However, the users are not influenced by the innovation based on the relative advantage aspect where e-wallet perceived better than the existing product for instance money, debit, and/or credit cards. Likewise with the observability aspect. The outcome for  $H_3$  observability in this study is not significant to perceived usefulness which, consistent with the previous study (Kafsh, 2015). E-wallet is different than other applications, for instance game, where they can deliver usefulness by observing (Kafsh, 2015). However, the outcome contradicts from the past research about tourist satisfaction enhancement using mobile QR Code payment where observability attribute is significantly positive that leads to greater willingness to use the innovation (Lou, Tian, & Koh, 2017). The users are not influenced to adopt the e-wallet system by observing it as they do not see the system as more useful.

The overall outcomes of this study show that IDT and TAM have a significant impact on users' behavioral intention to adopt e-wallet. There is a slightly high variance of 57.4% on perceived usefulness variable that can be explained by the impact

changes in the variables of compatibility, observability, perceived ease of use, perceived trust, relative advantage, and trialability, while the other 43.6% is caused by other factors outside the model. This indicates that many significant and positive effect factors involved in order to get high-perceived usefulness that can lead to a higher rate of adoption of an innovation and vice versa. E-wallet players have to take these variables into more account and optimal usage of the system so the users will have more positive effect towards those variables and not the other way round. While, high variance of 61.3% in behavioral intention can be explained by the changes in the variable perceived ease of use and perceived usefulness, while the other 38.7% is caused by other factors outside the model. This indicates that users are willing to adopt e-wallet as part of their transaction routine because of its practical use and efficiency to manage their money and transaction. This

study suggests that e-wallet players should enhance the overall experience for the users with modified strategies on different market segmentation in order to deliver the value proposition so that there is a higher chance of users who will adopt e-wallet into their daily life. The value proposition helps the business understand what their primary focus and goals are within the business and help to understand the consumer's needs. By analyzing and identifying the needs and problems, an e-wallet player can have an opportunity to capture the market by adapting to the change. This strategy is an opportunity for an e-wallet player to stand out from the competitors and achieve a higher rate of adoption. The integration model of IDT and TAM also applies to another innovation as it had been done on the past studies (Jongchul & Sung-Joon, 2014) (Lou, Tian, & Koh, 2017) (Limthongchai & Speece, 2003).



**Figure 2** Conceptual Framework

Adapted from *Technology Acceptance Model and Innovation Diffusion Technology*, by Davis, Bagozzi, Warshaw, and Rogers, 1992 and 2015, Retrieved from Author. Copyright 1992 and 2003 by the Davis, Bagozzi, Warshaw, and Rogers.

### **Theoretical Contribution**

These study outcomes partially support the innovation-distribution theory (IDT) and support technology acceptance model (TAM) that leads to the behavioral intention to adopt e-wallet. The results of the study have empirically validated the integration of two models (IDT and TAM) in the adoption literature. Despite the fact that similar studies and researches had been conducted to understand the behavioral intention of e-wallet, very few have explored the integrated model in the Jakarta context.

This study pursues to validate an integrated model and cast off some theoretical insights towards the research of adoption and diffusion of an innovative product, like an e-wallet. This study also incorporated one more approach to the adoption of e-wallet, such as perceived trust, which may be a useful extension to the current literature and reflects the level of trust towards the e-wallet that can be considered as an addition in contributing to this study. This study also shows that trialability could significantly increase the perceived usefulness when connects with e-wallet. A higher chance to adopt an e-wallet can be obtained when potential users are able to try and explore the system. Accordingly, this study might act as the reference for further studies regarding behavioral intention to adopt an e-wallet or an innovation.

### **Managerial Implications**

From the outcomes of the study, perceived ease of use and perceived usefulness are the main mediators to generate positive behavioral intention. Accordingly, the outcomes are mainly relevant to the management of the e-wallet service providers. They can enhance the overall experience by highlighting the practical and the efficiency of the e-wallet system where it can help the users to control their spending on the palm of their hands anytime and anywhere. The outcomes appear to show that majority of the users are young users from 18-25 years of age. The management can focus more on defining the strategies modified to the factors affecting the intention on every age sector and apply it to different market segmentation and value proposition, in order to achieve the company's goals, how the company wants to be perceived satisfy the users, and improve their loyalty to the system (Liébana-Cabanillas, Sánchez-Fernández, & Muñoz-Leiva, 2014).

In an indirect manner, the adoption of e-wallet is affected by the user's perceived usefulness generated from trialability. Thus, developing a trial of the e-wallet system in a period of time allows the potential adopters to have a clear image of what benefit they can have by using the system such as, no hassle in doing transactions, controlling their financial

management, promotions held by the e-wallet players, etc.

The perceived trust also indirectly affects the adoption of e-wallet, so in that manner, management can gain the potential user's and reassure the existing user's trust by informing about the security and reliability of the system where they should not worry about their personal and sensitive information to be leaked or hacked.

### **Limitations and Future Research**

There are some limitations in this study that may pinpoint the future improvements and directions.

First, the proposed study conducted the convenience sampling method by distributing it to groups of participants through shared link and only trusted that results. In this manner, by conducting different data collection such as personal interviews, focus groups, etc. might enhance the understanding into the intentions and perceptions of e-wallet users.

Second, the proposed study focused on only the Jakarta region and would not cover the whole part of the country. Thus, by conducting comparison research of the e-wallet adoption, for instance comparison research between Jakarta and/or all other regions in Indonesia, comparison research between ASEAN countries, and if possible between ASEAN countries and Western countries.

Third, the proposed study conducted an integrated theory model of Innovation-Diffusion Theory, Technology

Acceptance Model, and addition of perceived trust variable. Only several variables of Innovation-Diffusion Theory used and for the further research, researchers can apply all of the variables in the Innovation-Diffusion Theory to have a broader understanding of the factors affecting an innovation especially e-wallet and develop more specific guidelines for managers.

Last, the limitation in the proposed study of consumer adoption remain measured only the behavioral intention instead of the actual behavior. According to Fishbein and Ajzen (1980), there is an incorporated evidence between intention and behavior with some researchers account for an adjacent correlation (Ajzen & Fishbein, 1980) (Venkatesh & Davis, 2000). "Behavioral intentions are only partially useful as their correlation with actual behavior is low and mediated by many other variables" (Wang, Lin, & Luarn, 2006).

### **Conclusion**

The structural model in the study was proposed to foresee the factors influencing behavioral intention towards e-wallet adoption in Jakarta, Indonesia. The model is used to discuss the positive behavioral intention of e-wallet adoption. The overall outcomes of the measurement were acceptable in terms of reliability and validity. Partial least square (PLS) structural analysis was operated to assess the measurement model and the structural model. PLS is capable to evaluate both formative and reflective measurement models (Codita, 2011). Based on the

outcomes, six out of eight hypotheses are supported. Hypotheses **H<sub>2</sub>**, **H<sub>4</sub>**, **H<sub>5</sub>**, **H<sub>6(a)</sub>**, **H<sub>6(b)</sub>**, and **H<sub>7</sub>** are the supported hypotheses. The analyzed outcomes reveal that the perceived usefulness and perceived ease of use of e-wallet system has the greatest impact on user's intention to use e-wallet and trialability has the indirect impact on user's intention to use e-wallet. A higher chance to adopt an e-wallet can be obtained when potential users are able to try out the

system and explore the system. The outcomes are mainly relevant to the management of the e-wallet service providers. They can enhance the overall experience by highlighting the practical and the efficiency of the e-wallet system where it can help the users to control their spending on the palm of their hands anytime and anywhere.

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