
**ASSESSING CONSUMER ADOPTION MODEL ON E-WALLET: AN
EXTENDED UTAUT2 APPROACH**

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Abstract

One of the potential business sectors which is currently developing rapidly in Indonesia is the digital technology industry. As the internet becomes a tool to access digital technology, people can do their business via a platform called e-commerce. According to a research by iPrice, one of the leading e-commerce companies which dominates Indonesian market is Tokopedia. As a leading e-commerce, Tokopedia must be able to provide a payment system such as e-wallet because of its greater convenience and efficiency. It is a great opportunity for Tokopedia to provide an e-wallet for the consumers to gain long-term advantages. This research has an aim to identify the factors that influence consumers' adoption of OVO as a payment system in Tokopedia, specifically for people who are in the productive age with a domicile in Bandung. This research uses UTAUT2 by Venkatesh et al. (2012) and extends it with a new variable called trust. A statistical tool called SEM-PLS will be used to test the framework model. Based on the result, performance expectancy, effort expectancy, price value, habit, and trust significantly influence behavioral intention. The variable which has the largest influence toward behavioral intention is price value. Meanwhile, behavioral intention also significantly influences actual use. Hence, the researcher recommends OVO to maintain its application system by considering the benefits, easiness, security, and performance for the consumers. Tokopedia must maintain the partnership with OVO to increase the number of consumers and improve the business.

Keywords: e-commerce, e-wallet, consumer adoption, extended utaut2

1. Introduction

1.1 Background

E-commerce is defined as business transactional process and activities using internet which has been simplified through a website (Chen et al., 2003). Due to its existence, consumers are provided with convenience as they can choose what they want to buy and pay whenever and wherever they want with only some clicks. In 2018, Indonesia becomes a country with the fastest e-commerce growth of 78% in the world (Merchant Machine, 2019). Along with that, according to the research done by iPrice (2019), Tokopedia is one of the e-commerce that dominates the Indonesian market. As e-commerce such as Tokopedia becomes a marketplace where consumers can purchase goods and services, there must be a different payment system unlike the payment system in the offline store. The emergence to complete a transaction efficiently in an e-commerce makes consumer need modern payment systems.

All e-commerce that are now scrambling to collect users ultimately will create payments for their own ecosystem. Therefore, companies that are e-commerce site owners are also interested in the development of this kind of payment causing many to release e-wallets. E-wallet provides users

to store and transfer money via mobile phones as the digitalization of conventional wallet and allows them to purchase goods and services (Patel, 2016). According to a research about e-wallet usage in e-commerce by Jayani (2019), payments using e-wallet in e-commerce are projected to grow rapidly until 2023.

Since e-wallet is considered as a new electronic payment option in e-commerce, consumer adoption behavior toward it becomes a crucial issue why it is used by the consumers. Tokopedia had a partnership with OVO which has become the most used e-wallet in Indonesia (SWA, 2019) to provide the e-wallet payment in the application. The successfulness of Tokopedia gives rise to the competitive environment between e-commerce. Due to the competitiveness, an e-commerce is required to maximize their effort in attracting the consumers. For this reason, this research aims to identify the factors behind the e-wallet (OVO) adoption in e-commerce (Tokopedia) and the most significant factor that influence the adoption so that e-commerce can take advantage by maintaining the payment systems which has been developing very well to attract them. This research focuses on OVO users in Tokopedia who are in productive age and live in Bandung.

1.2 Literature Review

E-wallet

E-wallet is a replacement of a conventional wallet in a form of application by eliminating the necessity to carry money and cards (Phyu, 2018). To be able to use it, consumers must store a certain amount of money in their own account created in the e-wallet service provider. After doing so, consumers can spend the money at online and offline merchants which have a partnership with e-wallet providers to make a transaction using the perspective e-wallet (Patel, 2016).

E-commerce

Electronic commerce (e-commerce) is often simply defined as the activity of buying and selling via the Internet (Chaffey, 2009). However, e-commerce involves something more than just mediated financial transactions between buyer and seller. It must consider all of the mediated transactions, even non-financial transactions, between any parties. E-commerce is proven to succeed in improving standard of business community in the world (Niranjanamurthy et al., 2013). It is beneficial to improve technological performance which is able to reduce the cost and time. As buyers have unlimited access of information, sellers find it easier to reach a large number of markets.

OVO

OVO, established under PT Visio net Internasional in 2017, is an e-wallet application that enables the consumers to make online payments (OVO Cash) and collect points (OVO points) after several payments. Other than that, OVO facilitates the Consumers with many financial services associated with merchants and other business partners. Since 2018, it successfully cooperated with Tokopedia, the Indonesian e-commerce unicorn. It received a capital injection from Tokopedia and has been one of many payment methods in the marketplace. It is expected to get more 80 million users from Tokopedia to the existing users of 60 million in OVO (Singh,

2019) and increases financial inclusion in Indonesia. With this partnership, an optimal growth has become a hope for OVO. Lastly, OVO succeeded in becoming a unicorn, which has a value of \$2.9 billion.

Tokopedia

Tokopedia is an online marketplace or also known as e-commerce in Indonesia which was established in 2009 by William Tanuwijaya and Leon Alpha Edison with a purpose to remove the economic gap through technology. Tokopedia allows people from all social and economic levels to open their own online shops via a trusted platform. It has also supported local sellers and consumers to become the future of Indonesia economy.

UTAUT2

Based on many prior researches, this research use the theoretical framework by Venkatesh et al., (2003) who created a model called the Unified Theory of Acceptance and Use Of Technology (UTAUT), which has a purpose to explain user intentions to use an information system and their subsequent behavior. However, the research model is upgraded into UTAUT2, to compliment the internal motivation, cost, and initial acceptance consideration (Venkatesh, Thong, & Xu, 2012). Based on UTAUT2 framework model, the variables used in this research are performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, price value, habit, behavioral intention, and actual use. Furthermore, This research is also willing to add one more construct to the framework based on the proposed model of previous study by Shin (2009) and Slade et al. (2015), which is trust.

Performance Expectancy

Performance expectancy is the degree to which using a technology will help consumers obtaining benefits in performing certain jobs (Venkatesh et al., 2012). It is believed that this construct is the most crucial and important predictor of intention to use the technology. Performance expectancy is also related to intrinsic motivation which is a user perception to conduct an activity because it is considered to produce valuable results (Davis, 1989).

Effort Expectancy

Effort expectancy is the degree of ease associated with consumers' use of technology (Venkatesh et al., 2003). On the other words, it is the degree to which the consumers believe that using the technology would be free of effort. It is most likely that the degree of ease in using e-wallet will influence behavioral intention because of different technologies available in it (Slade et al., 2015).

Social Influence

Social influence is the degree to which consumer perceives that other people's suggestion is important for them whether to use the technology or not (Venkatesh et al., 2003). It is assumed that the consumers' behavior is affected by people around them and how others will value the use of mobile payment such as e-wallet. It means that people like to consult their relatives and

friends about new technologies and can be influenced by another social pressure which perceive something as important (Slade et al., 2015).

Facilitating Conditions

Facilitating conditions are the degree to which an individual believes that there is a sufficient organizational and technical infrastructure to support the effective and efficient use of the technology (Venkatesh et al., 2003). It is believed that each consumer has different access to the technology since the facility might be dissimilar for them. The more facility they have, it is easier for them to get access to the technology which means that it can increase the usage.

Hedonic Motivation

Hedonic motivation is defined as having a fun or pleasure for self-satisfaction while using a technology (Venkatesh et al., 2012). Hedonic motivation is also associated with individual's psychological and emotional condition. On the other side, people seek for the novelty of a technology. When they start to use it, they will pay more attention to the novelty and it will affect their hedonic motivation in using the technology.

Price Value

Price value is defined as when the benefits that consumers perceive to get from the technology use is higher than the cost that they spend on the technology (Venkatesh et al., 2012). Consumers is expected to see the technology based on the price identified with the convenience that they achieve in the case of e-wallet. Thus, price value is added as a predictor of behavioral intention to use a technology (Venkatesh et al., 2012).

Habit

Habit is obtained when people automatically use the technology because of learning it continuously (Venkatesh et al., 2012). Habit is also associated with experience as it reflects individual's past behavior toward technology use which has become a routine. Hence, there is a relationship between habit and experience is strengthened because of the repeated behavior that makes consumers to use the technology unconsciously (Huang & Kao, 2015). Other than past behavior, the current behavior is important as well to create a habit. When both are combined, using a technology will automatically become a regular part of daily life.

Trust

Trust is defined as a subjective belief that other party will have the option to satisfy their expectation toward something, especially in financial transactions where consumers are faced with uncertainty and lack of control (Shin, 2009; Slade et al., 2015). In the case of mobile payment such as e-wallet, the providers must be able to serve the consumers well by showing their application's capability and quality. By doing so, the trust from the consumers can increase because consumers mainly focus on how to avoid losses from the technology.

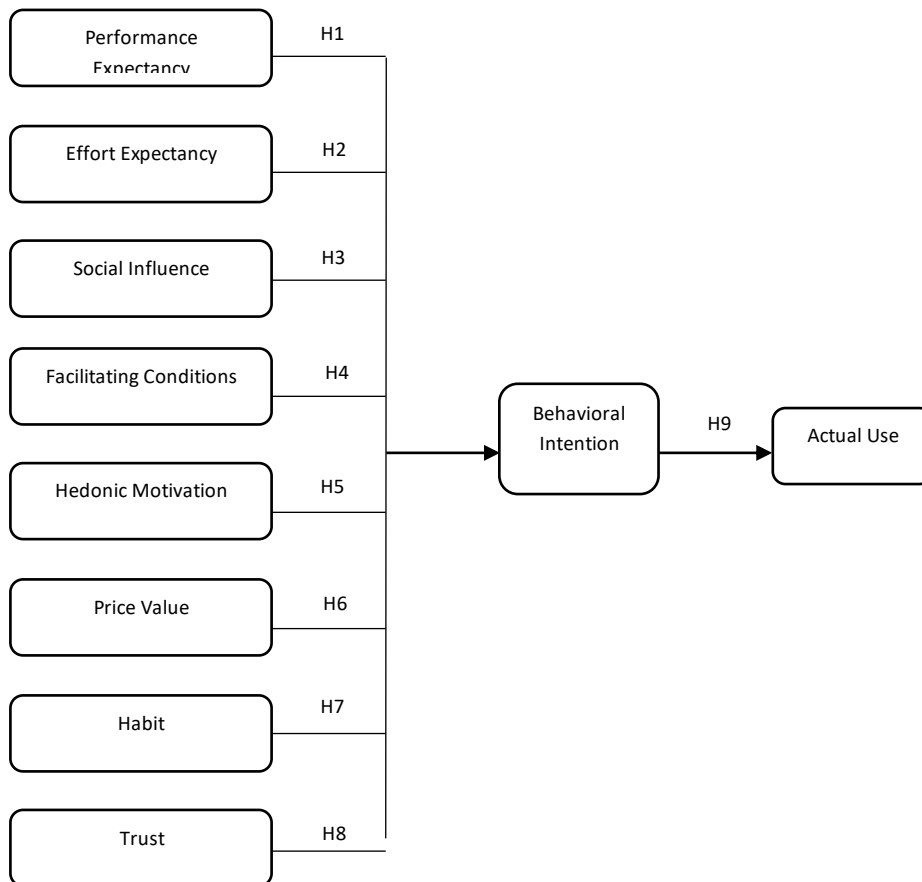
Behavioral Intention

Behavioral intention is described as a willingness of an individual to use the technology and how it affects its actual use behavior (Venkatesh et al., 2012). It is also explained that behavioral intention could affect the actual use behavior of the technology significantly. Behavioral intention comes from individual’s conscious motivation to considerate the decision in using technology. Moreover, it might take time for each individual differently because they want to focus on the consequences as well.

Conceptual Framework

Based on the theories reviewed previously, this research proposes a conceptual framework and hypotheses. The conceptual framework is shown below in Figure 1:

Figure 1. Conceptual Framework



H1: Performance Expectancy (PE) positively affects consumer’s behavioral intention (BI) to use e-wallet in e-commerce transactions.

H2: Effort Expectancy (EE) positively affects consumer's behavioral intention (BI) to use e-wallet in e-commerce transactions.

H3: Social Influence (SI) positively affects consumer's behavioral intention (BI) to use e-wallet in e-commerce transactions.

H4: Facilitating Conditions (FC) positively affects consumer's behavioral intention (BI) to use e-wallet in e-commerce transactions.

H5: Hedonic Motivation (HM) positively affects consumer's behavioral intention (BI) to use e-wallet in e-commerce transactions.

H6: Price Value (PV) positively affects consumer's behavioral intention (BI) to use e-wallet in e-commerce transactions.

H7: Habit (HT) positively affects consumer's behavioral intention (BI) to use e-wallet in e-commerce transactions.

H8: Trust (T) positively affects consumer's behavioral intention (BI) to use e-wallet in e-commerce transactions.

H9: Behavioral Intention (BI) positively affects consumer's actual adoption (AU) to use e-wallet in e-commerce transactions.

2. Method

2.1 Research Design

This research started with defining and explaining the use of e-wallet in e-commerce transactions which OVO in Tokopedia, supported by the background data from journals and websites. This partnership is also expected to attract, maintain, and even increase the number of consumers in Tokopedia and OVO during a tight competition in the digital business. This research was conducted by using a quantitative method which is the Extended UTAUT2, with an additional construct of trust to find out the underlying reasons behind adoption of OVO in Tokopedia. This research will collect the data by using a questionnaire and analyze it using statistical data analysis.

2.2 Population and Sampling

The population in this research are OVO users in Tokopedia who are in the productive age (15 to 64 years old) with Bandung city as the domicile since the largest number of e-wallet users in Indonesia are located in Bandung (MoneySmart, 2019). Based on the data that has been gathered by Badan Pusat Statistik (2019), the population of Bandung city in 2018, with productive age of 15 to 64 years old, reached 1,810,049 people.

The sampling method used in this research is purposive sampling. Purposive sampling is chosen by the researcher to find people who will provide the best information regarding to the research objectives to be reached. It is suggested by Hair et al., (2013), there are several considerations in determining the sample size in the Partial Least Square Structural Equation Model (PLS-SEM) which are the significance level, the statistical power, the minimum coefficient of determination,

and the number of arrows pointing at latent variable. There are 9 arrows directed to the latent construct in this research, so the minimum number of sample size required 88 respondents according to the guideline. However, the researcher should not merely fulfill the requirement since a previous study requires at least 100 respondents (Wong, 2013). Therefore, the number of respondents in this research must be at least 100 people to represent the whole population.

2.4 Research Instrument

This research will use a questionnaire to collect a primary data. To support this research, a good questionnaire design is a must to gain respondents' cooperation in filling the questions. The questionnaire will be made and available on a platform called Google Form so that it can be filled by the respondents online. This questionnaire will cover the variables defined in the adoption model which will be served in questions on each construct. Based on the UTAUT2 research model, the questionnaire items will be made based on the variable indicators as a measurement for each variable. The questionnaire will use a 5-Point Likert scale in this research. The criteria detail for the rating scale are ranged from 1 (strongly disagree) until 5 (strongly agree). However, for the question regarding the frequency of use, the rating scale are ranged from 1 (never) until 5 (more than two times in a week (very often)).

2.5 Data Analysis

The researcher uses the Smart PLS 3.0 to conduct the PLS-SEM to increase the time efficiency and simplification in calculating. PLS-SEM enables researcher to process the model which have constructs, indicators, and paths (Hair et al., 2018). Therefore, it gives solutions to this research in processing the data in a form of Likert scale for each construct. The PLS-SEM analysis is divided into two parts which are measurement model and structural model.

3. Results

3.1 Validity, Reliability, and Coefficient of Determination (R^2)

Table 1. Validity, Reliability, and Coefficient of Determination (R²)

Variable Name	Variable Code	Indicator Loadings	Average Variance Extracted (AVE)	Composite Reliability	Coefficient of Determination (R ²)
Performance Expectancy	PE1	0.874	0.903	0.974	
	PE2	0.915			
	PE3	0.919			
	PE4	0.904			
Effort Expectancy	EE1	0.775	0.785	0.916	
	EE2	0.780			
	EE3	0.801			
Social Influence	SI1	0.786	0.789	0.918	
	SI2	0.793			
	SI3	0.787			
Facilitating Condition	FC1	0.766	0.736	0.893	
	FC2	0.720			
	FC3	0.722			
Hedonic Motivation	HM1	0.776	0.886	0.959	
	HM2	0.945			
	HM3	0.938			
Price Value	PV1	0.959	0.958	0.978	
	PV2	0.956			
Habit	HT1	0.855	0.812	0.928	
	HT2	0.851			
	HT3	0.728			
Trust	T1	0.892	0.875	0.933	
	T2	0.859			
Behavioral Intention	BI1	0.770	0.822	0.933	0.798
	BI2	0.838			
	BI3	0.857			
Actual Use	AU	1.000	1.000	1.000	0.616

In this part, the measurement model analysis is used to shows the relationship between latent variables and its questionnaire items (Hair et al., 2013). Measurement model is evaluated using validity and reliability test for each questionnaire item. Based on the table above, the indicator loadings values are all higher than 0.7. It means that the questionnaire items have passed the indicator reliability test and it can be concluded that all variables have a high reliability level to be included in the framework. All the AVE result for each indicator has a value for more than 0.5 which means that all indicators are qualified for the conceptual framework as the latent variable

is able to represent the indicator variance properly. all of the composite reliability values for each latent variable are greater than 0.7. Hence, it can be concluded that the latent variables have passed the composite reliability test and are qualified to be included in the framework model as the variables have a high reliability level.

Based on the result above, the behavioral intention shows 0.798 as the result for the R² value, meanwhile the actual use shows 0.616 as the result. It means that the independent variables are able to explain the influence toward the dependent variable substantially and moderately respectively. In other words, behavioral intention is explained by the independent variables by 79.8% and the remaining of 20.2% are explained by other independent variables which is not included in this research framework. Lastly, actual use is influenced by behavioral intention by 61.6% and the remaining of 38.4% are explained by other independent variables which is not included in this research framework.

3.2 Hypothesis Testing

Based on the hypotheses that have been made in the previous chapter, the result for each hypothesis can be evaluated by t-test and path coefficient. Below is the data to be used in hypothesis testing.

Table 2. Hypothesis Testing Result

Hypothesis		P Value	Path Coefficient (β)	Information	
No.	Relationship			Significance	Conclusion
H1	PE → BI	0.037	0.181	Positive Significant	Accepted
H2	EE → BI	0.017	0.201	Positive Significant	Accepted
H3	SI → BI	0.558	0.046	Insignificant	Not Accepted
H4	FC → BI	0.788	0.018	Insignificant	Not Accepted
H5	HM → BI	0.083	0.061	Insignificant	Not Accepted
H6	PV → BI	0.000	0.249	Positive Significant	Accepted
H7	HT → BI	0.008	0.159	Positive Significant	Accepted
H8	T → BI	0.007	0.141	Positive Significant	Accepted
H9	BI → AU	0.000	0.785	Positive Significant	Accepted

For the hypotheses, the relationship between variables that has a p value below 0.05 are accepted (significant). Meanwhile, the relationship between variables that has a p value above 0.05 are not accepted (not significant). A path coefficient with positive numbers shows that if the greater the value of the path coefficient at one the independent variable on the dependent variable, it is the influence of independent variables on the dependent variable.

It is statistically proven that performance expectancy, effort expectancy, price value, habit, and trust significantly affect consumers' behavioral intention, meanwhile behavioral intention significantly affects the consumers' actual use. Price value is the most significant factor that influences consumers to use OVO in Tokopedia. These hypotheses are partially aligned with

several previous researches by Shin (2009), Tang et al. (2014), Slade et al., (2015), Arenas-Gaitán et al. (2015), Madan & Yadav, (2016), Patel (2016), Megadewandanu et al. (2017), Widodo et al. (2019), and Anggraini & Rachmawati (2019).

It shows that the performance of OVO is helpful for the consumers to become a payment method in Tokopedia transactions. Consumers are able to achieve what they want to get from the application. Next, consumers can learn how to use OVO as a payment option in Tokopedia easily as OVO has a low level of complexity. Consumers also consider OVO as a good value for money to be used in Tokopedia since it is reasonably priced as well. It means that the consumers are willing to sacrifice a certain amount of cost to be able to use OVO. It is also stated that consumers are familiar with OVO application as a payment method. After they become familiar, they will be interested in using OVO to pay for their purchases in Tokopedia. OVO is able to guarantee the consumers that they will get the expected result from using the application. Trust reassures the consumers to use OVO by keeping a relationship between the service provider and consumers. Lastly, consumers are able to become motivated to use OVO in daily life as a payment option in Tokopedia. However, it does not just stop on becoming a plan. This kind of intention can also increase the frequency in using OVO and leads into actual use in daily life continuously.

4. Conclusion

OVO must maintain the system that it creates in the application. OVO provides the cash backs via OVO points. By doing so, consumers are limited to use OVO points in Tokopedia if they want to do an online purchase via e-commerce. OVO must be aware to ensure that consumers see e-wallet as the easiest payment method to be used in Tokopedia. It is done to attract more users in the future since the first timer in using OVO might be interested to use it in Tokopedia for the second purchase and so on. Other than that, the quality service and security system must be maintained.

Tokopedia should be able to maintain its partnership with OVO as the one and only e-wallet available to pay for purchases in Tokopedia. Since there are a lot of e-commerce who partner up with e-wallet, Tokopedia must keep up with the tight competition. Data of millions of OVO users is a valuable asset has the potential to improve the business environment. In an effort to find an investment (funding round), ownership of data is of great concern for potential investors to disburse capital. Investors are able to see the potential for product development and service expansion that will drive business growth and the company's future. It gives an advantage for Tokopedia as well to increase the number of users (buyers and sellers) by partnering up with OVO.

The researcher recommends the future research to expand the research scope. The scope can be expanded by adding more independent variables to the research framework or changing with other independent variables in it. Since this research is limited in Bandung, the future research can be done for the other cities in Indonesia. Other than that, a research about other e-wallet in different e-commerce can be done to compare the result between them with a purpose of developing each company and product.

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