A CONCEPTUAL STUDY ON THE FACTORS INFLUENCING USAGE INTENTION OF E-WALLETS IN JAVA, INDONESIA

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Abstract: *Indonesia is leading towards digital economy and electronic payment system. One of the most popular and widely used electronic payment system in Indonesia is electronic wallet, or usually called e-wallet. This study aims to provide a proposed model to determine the factors influencing e-wallet usage intention in Java, Indonesia. In this study, the researcher proposed a modified framework from author analysis based on 18 previous literature studies, which consists of 6 independent variables such as: performance expectancy; effort expectancy; social influence; perceived security; hedonic motivation; and relative advantage; which lead to a dependent variable, namely usage intention. The hypotheses on the proposed framework of this study will be tested, taking the sample of Generation Z, to determine the factors that extend the use of e-wallet in Java, Indonesia. The discoveries will be useful as reference for further studies on analysing nor evaluating the use of e-wallet payment, to support the rapidly growing cashless society in Indonesia.*

Keywords: *electronic payment system, e-wallet, usage intention, cashless society*

Introduction

In this industry 4.0 era, a massive drive to go digital seems to appear in a lot of aspects in our life. Stated by The Jakarta Post in 2018, Indonesia's demographic condition is conducive to digital economy and predicted to be one of the strongest in South East Asia by 2025. This can be seen by the number of online transaction growth, which also has driven the digitalization for the payment system. Digital kind of payments has now developed and started to replace the traditional or physical form of payment (cash). Based on the report by JakPat Research (2020), 9 out of 10 internet users in Indonesia have been using electronic payment in their transaction activities. Electronic payment systems such as digital cash, debit or credit cards, and electronic wallets (e-wallet) have benefited consumers in doing cashless transaction in the market.

Currently, one of the most popular and widely used e-payment system in Indonesia is e-wallet. From the latest JakPat survey in January 2020, e-wallet is preferred by 7 out of 10 Indonesian internet users as their favorite payment method. E-wallet is an application based on smartphone that let users store money and make transaction digitally. There are 38 e-wallet applications registered at Bank of Indonesia (Science and Tech: The Jakarta Post, 2019). A report by iPrice Group Research shows that the total amount of transactions in Indonesia (2018) using e-wallet application was US $1.5 billion, and it is estimated to reach $25 billion in 2023. Present data shows that the top four e-wallet application based on downloaders and monthly active users in Indonesia are respectively Go-Pay, OVO, DANA, and LinkAja (Devita, 2019).

People already use e-wallet for various kinds of payment, such as telecom top-ups, online shopping, money transfer, utilities, food-delivery services, on-site dining, online retails, and in numerous types of merchants (JakPat, 2018). These facts show that Indonesia is moving towards a cashless economy at a very fast pace, in which e-wallet being very commonly used in daily lives. The reason is because there is a shifting behaviour into cashless society as the number of *tech-savvy* consumers in Indonesia is rapidly growing. *Tech-savvy* is one of the components of society who are literate in technology. Generation Z is characterized as the most tech-savvy that responsive to some changes (Grail Research, 2011). They are more likely to follow the global lifestyle including technology-driven payment system like e-wallet and services (Ma'aruf, 2016).

Since consumers' awareness about e-wallet payment is growing very quickly, their changing perception about e-wallet needs to be concerned. Otherwise, it may lead to a problem where e-wallet companies don't constantly improve their products and no longer emerging in the market. Therefore, it is important for company and many parties to evaluate factors underlying the reason to use e-wallet service from the point of view of consumers (Singh, Srivastava, & Sinha, 2017). These factors will help us to understand why people choose to use e-wallet service in their transaction. This aims to support sustainable usage on a daily basis for all transactions, not just in certain occasion or period.

To be specific, the population to be studied is Generation Z in Java, Indonesia, because it represents a specific area in Indonesia with urban population and *tech-savvy* criteria, which make them responsive to technological changes. This study aims to increase competitive differentiation and financial service sustainability for e-wallet provider, and also assist the government to support cashless society in terms of e-wallet usage in Indonesia.

Literature Review

Electronic Payment System

Electronic payment is one of a payment method used between two parties (payer and payee) by transferring a sum of money through electronic or digital devices as a compensation or payment of a good or service (Teoh, Chong, Lin, & Chua, 2013).

Electronic Payment System in Indonesia

Electronic payment is one of the issues that is so inevitable to the lifestyle of society in Indonesia. From time to time, the amount of electronic payment in Indonesia economic circulation is rapidly growing. This can be proved on the basis data from Bank of Indonesia (2019) showing a substantial rise each year. In 2019, the amount of transaction using e-payment had increased about 300% to 145,2 trillion Rupiah from 47,2 trillion Rupiah in 2018.

Types of Electronic Payment

In general, electronic payment system can be classified into four categories that are widely used by the customers, which are electronic cash, credit card, debit card, and prepaid card (Shin et al., 2009). However, Sahut (2008) added electronic wallet (e-wallet) into the classification of e-payment system, which is also driven by technology development.

Electronic Wallet (E-wallet)

E-Wallet definition based on Bank Indonesia Regulation No. 18/40 / PBI / 2016 about Implementation of Payment Transaction Processing, is an electronic service for storing payment instrument data, including payment instruments using cards and / or which can also hold funds, to make payments. Currently, there are 38 e-wallet providers that have received official licenses in Indonesia. E-wallet needs electronic devices in order to perform its function, which is normally using smartphone that has been installed with an application offered by e-wallet service provider or company.

Definition of Usage Intention

Ajzen (1991) described intentions are the indicator of what makes people willing to approach a certain action, and how many attempts they are trying in order to perform that action. Usage intention, also known as behavioural intention to use, is defined as motivational factors that capture how much effort a person is willing to dedicate to perform a behaviour. Usage intention of technology can be measured through the most common use theories of technology adoption such as Unified Theory of Acceptance and Use of Technology (UTAUT), Technology Acceptance Model (TAM), and Innovation Diffusion Theory (IDT) (Priyanka Jain, 2019).

Definition of Cashless Society

Cashless society can be defined as an environment where there is transformation from using cash into the non-cash instruments in economic activities (Abbas, 2017). The model of a cashless society is based on electronic transaction (Jain & Jain, 2017). However, it does not mean that there is no cash at all, otherwise the use of cash has been minimized, and people mostly use non-cash payment instruments in conducting their transactions (Xena, 2019).

Previous Study

To find the essential factors influencing intention to use e-wallet, researchers created summaries from findings and journals with topics that are related to the study. The review of literature is related to electronic payment, mobile payment, factors influence behavior intention, and cashless society. To ensure the current status of research in the field of digitization, the approach of literature taken from the latest year ranging from 2005 until 2019. This literature will assist researchers in creating the conceptual frameworks of factors that support the usage intention of e-wallet in digital era.

Performance Expectancy

Performance expectation is described as the extent to which an individual believes that using the system will help to achieve job performance gains. To further clarify, it is a condition where people will tend to adopt new technologies when they perceive it will assist them to execute their job (Putri, 2017). The concept of performance expectancy has been considered the most powerful tool for explaining the intention to use the system regardless of the type of environments (Luo, et al., 2010). The five constructs from different models are perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectations that concern to performance expectancy (Venkantesh et al., 2003). Performance expectancy is examined as well in these previous findings.

Table 1: Previous Study of Performance Expectancy

Title	Author	Findings
An empirical study of mobile banking services	Luo et. al,. (2010)	Performance expectancy is the most significant determining factor for mobile banking services acceptance
Exploring consumer adoption of proximity mobile payments	Slade et al., (2015)	Performance expectancy had the most significant influence on behavioural intention towards mobile payment NFC
The Impact of Use Context on Mobile Payment User Adoption: An Empirical Study in China	Gan, Chunmei (2016)	This study found as similar construct; perceived usefulness, affecting the behavioral intention to adopt mobile payment service on use context

Source: Author's Analysis

Effort Expectancy

Effort expectancy support the degree of convenience which brings customer ease when using e-wallet as payment method. Effort expectancy is also defined as the level of easiness associated with the use of a payment (Venkatesh et al., 2012). It has been verified by various mobile payment studies that effort expectancy has a crucial role in predicting customers' intention to use mobile payment (Riquelme & Rios, 2010). Effort expectancy also recognized by some authors in their similarities of constructs that pertain effort expectancy as easy to use (Singh et al., 2017), and perceived easy of used (Chen, 2008).

Table 2: Previous Study of Effort Expectancy

Title	Author	Findings
A Theoretical Model of Consumer Acceptance of mPayment	Chen (2008)	Perceived easy of used, in which user expects to be free of effort positively affect intention to adopt mPayment
Factors influencing users' employment of mobile map services	Park and Ohm (2014)	The user-friendliness shows positive significant influence over the adoption because the lesser effort was required
Study of Acceptance Factors For Electronic Payment Services	Jansorn, T (2013)	Effort expectancy are one of factors that significantly influence the electronic payment adoption for actual user

Source: Author's Analysis

Social Influence

Social influence is the degree to which an individual believes that it is important that others suggest he or she should use the new technology. From a cultural perspective, Indonesian people as an individual tend to seek recommendations from others. Therefore, it is important for industries to pay attention to word-of-mouth and the social media, as Indonesia is one of the countries with highest social media consumption (Megadewandanu, 2016). According to Jain (2019), social influence includes peer influence, society and demographic factor. It is examined in several previous studies as the factor that affects behavioral intention to use electronic payment, some of them are below.

Table 3: Previous Study of Social Influence

Title	Author	Findings
Hedonic Motivation and Social Influence on Behavioral Intention of E-Money: The Role of Payment Habit as a Mediator	Khatimah et al., (2019)	Social influence found to be a significant factor towards behavioral intention to use e-money in Indonesia
Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, apersonal traits	Yang et al., (2012)	Social influence in the form of subjective norm and image has direct influence on intention to continue using mobile payment
Exploring Mobile Wallet Adoption in Indonesia Using UTAUT2	Megadewandanu, (2016)	Social influence strongly affects behavioral intention to use e-wallet in Indonesia.

Source: Author's Analysis

Perceived Security

Kolsaker and Payne (2002) stated that security reflects perceptions regarding the reliability of payment system used and the mechanisms of data transmission and storage. Perceived security is the amount of subjective prospect or trust to responsible parties that their personal information (private and monetary) will not be viewed, stored and exploited by unauthorized parties during transit and storage in a manner consistent with their confident expectations (Flavia´n & Guinalı´u, 2006). It is proven by many studies which result in customers perceived of the essential to associate with secure transaction. This factors also being presented in the

variables of perceived risk (Brown et al., 2003; Chen, 2008; Yang et al., 2012) that confirmed to be significantly affected behavioral intention to use mobile payment.

Table 4: Previous Study of Perceived Security

Title	Author	Findings
Acceptance Analysis of E-wallet in Indonesia: A study Case of Doku Wallet	S, Fathi (2015)	The result of the study shows that factors affecting acceptance of Doku Wallet are electronic word of mouth (e-WOM), trust, perceived risk
Digital Wallet Adoption: A Literature Review	Jain (2019)	It includes security aspects such as social risk, performance risk, financial risk, time risk, privacy risk, security risk and psychological risk on digital wallet adoption
The Study of Customers' Perceptions of Security in E-payment Systems in Iran	Ghorban et.al. (2011)	Technical protection and security statements are essential for customers' perception of security towards E-payment

Source: Author's Analysis

Hedonic Motivation

Hedonic motivation defined as the pleasure or enjoyment derived from using technology, and it has been stated to have positive correlation to behavioural intention (Venkatesh et al., 2012). Enjoying the experience is highly important in the context of consumer technologies nowadays (Dmitrii Voronenko, 2018). This imitated that using e-wallet will enhance between consumers who perceive that spending time on e-wallet is pleasurable, enjoyable and entertaining (Sharif, 2017). Although not very common, these studies in the past have demonstrated the importance of hedonic motivation (van der Heijden 2004; Brown & Venkatesh 2005; Thong et al., 2006; Yang, 2010), showing it is reasonable to be examined and added in the conceptual framework.

Table 5: Previous Study of Hedonic Motivation

Title	Author	Findings
Consumer Preference and Satisfaction Of M-Wallets: A Study on North Indian Consumer	Singh et al., (2017)	Hedonism as crucial factors towards consumers' preference, satisfaction and mobile wallet use in India.
Hedonic Motivation and Social Influence on Behavioral Intention of E-Money: The Role of Payment Habit as a Mediator	Khatimah et al., (2019)	Examined using PLS-SEM, hedonic motivations have significant affects to the behavioral intention towards e-money user in Indonesia
Consumer Acceptance and Use Of Information Technology: Extending The Unified Theory Of Acceptance And Use Of Technology	Venkatesh et al. (2012)	Hedonic motivation is found to be the second strongest factor of behavioural intention in UTAUT2

Source: Author's Analysis

Relative Advantage

Relative advantage is defined as the degree a person believes that using e-wallet provides benefits compared to the cost. Relative advantages also perceived as increased efficiency,

economic benefits, and enhanced status (Rogers, 1995; 2003). The significance towards intention to use technology is supported by studies from Brown et al., 2003; Lu et al., 2011; Yang et al., 2012. In this study, relative advantage will focus to cover advantages in the form of efficiency and economic benefits (cashback and discounts). This factor is considered important because e-wallet providers in Indonesia are currently giving a lot of promotional benefits, thus it is important to examine user perception towards the advantage given.

Table 6: Previous Study of Relative Advantage

Title	Author	Findings
Diffusion of Innovation in Asian: A Study of Mobile NFC (Near Field Communication) Payment in Korea and Thailand	Longyara and Van (2015)	There is positive relationship between relative advantage and intention to use mobile payment in Thailand and Korea
Mobile payment services adoption across time: An empirical study	Yang, et al., (2012)	For current users, relative advantage is the most significant factor
Exploring consumer adoption of mobile payments – A qualitative study	Mallat, N. (2007)	Using qualitative approach, mobile payments are considered advantageous by interviewees

Source: Author's Analysis

Discussion and Analysis
The extent of e-wallet factors influencing usage intention in Java, Indonesia, will be studied through a technology adoption model, concluding in which developed a previous study conducted by Putri, N. (2017). In her paper entitled "*A Conceptual Study on The Use of Electronic Payment Instrument Among Generation Z in Bandung City*", which applies UTAUT as a standard to determine the variables that directly affect behavioural intention in using technology. The model includes the following variables: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Perceived Security (PS).

After conducting synthesis research from 18 previous studies and literature, the researcher decided to modify the previous model. Due to the significance towards digitalization and the latest development of e-wallet payment, researcher added two other variables to this model, namely Hedonic Motivation (HM) and Relative Advantage (RA). The modification is corresponding to the future research of Putri, N. (2017) suggesting adding other independent variables, since 42.9% of the behavioral intention to use electronic payment instrument in her model is still being explained by other excluded factors. It is also being expounded to evaluate the study within few years to figure out the changes in larger scope or area, which can be explained by the proposed conceptual framework constructed in this study.

Proposed Conceptual Framework
Thus, the conceptual framework proposed for this study is shown in Figure 1, and the hypothesis are constructed in Table 7.

Figure 1: Proposed Conceptual Framework
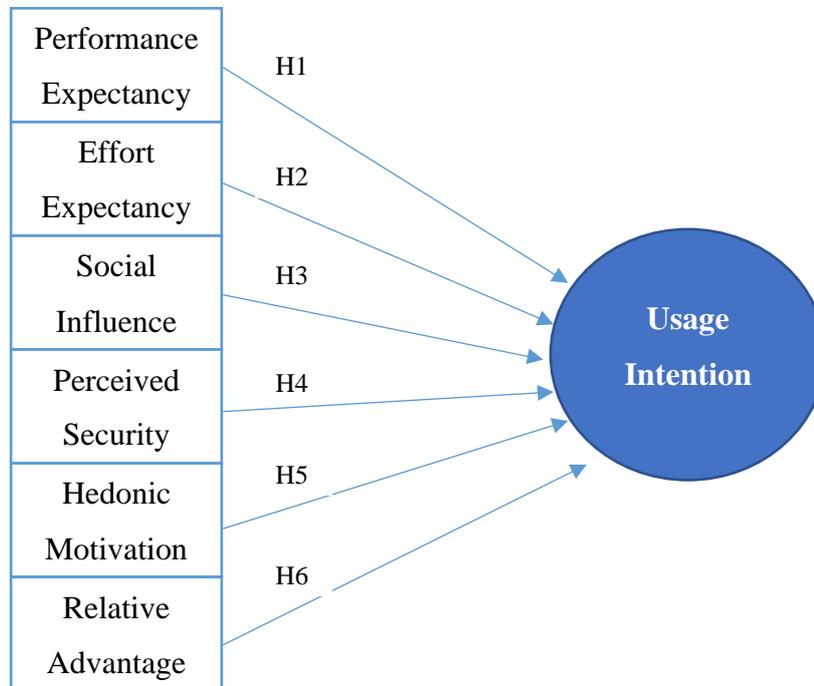
Source: Modified by Author from Putri, N. (2017)

Table 7: Hypothesis Construct

Title	Findings
H1	Performance Expectancy has significant relationship towards intention to use E-wallet payment in Java, Indonesia
H2	Effort Expectancy has significant relationship towards intention to use E-wallet payment in Java, Indonesia
H3	Social Influence has significant relationship towards intention to use E-wallet payment in Java, Indonesia
H4	Perceived Security has significant relationship towards intention to use E-wallet payment in Java, Indonesia
H5	Hedonic Motivation has significant relationship towards intention to use E-wallet payment in Java, Indonesia
H6	Relative Advantage has significant relationship towards intention to use E-wallet payment in Java, Indonesia

Source: Author's Analysis

The factors influencing usage intention of e-wallet in Java, Indonesia, is the topic of this study and will be assessed regarding the extent that is adopted by using a proposed model consists of six independent variables, they are performance expectancy; effort expectancy; social influence; perceived security; hedonic motivation; and relative advantage. These independent variables lead to usage intention as dependent variable. Based on these variables, the hypotheses H1, H2, H3, H4, H5, H6 will be tested to determine whether there is a positive relationship between these variables and the intention to use e-wallet. As it has been assessed using the

proposed model, the extent of factors influencing usage intention of e-wallet will be determined as to how far it is on supporting the level of cashless society in Java, Indonesia.

Conclusion

The primary aim of this study is to identify the factors influencing e-wallet usage intention in Java, Indonesia. The findings reveal that there are several factors that possess significant relationship towards e-wallet usage intention, thus the researcher propose a new conceptual framework. The model is a modification of one applied by Putri, N. (2017), which examines people's intention in using electronic payment instruments. After conducting synthesis research from 18 previous studies and literature, researcher modified the construct by adding two more variables to this model, namely Hedonic Motivation (HM) and Relative Advantage (RA). Due to the significant of digitalization and the latest development of e-wallet payment, the proposed model of this study consists of six variables, they are performance expectancy; effort expectancy; social influence; perceived security; hedonic motivation; and relative advantage, which will be tested towards usage intention as the dependent variable.

Future Research

By conducting this study, researcher will use the proposed conceptual framework to measure the factors influencing intention to use e-wallet. Due to the limited resource and time, this research will be applied specifically for Generation Z located in Java, Indonesia. Thereafter, the model will also be used to conduct comparative study between e-wallets, aims to deliver a better understanding of consumers preferences towards e-wallet services. In the future, the proposed model can be adopted to the results obtained in a wider and vary sampling frame; such as another generation group all-around Indonesia. The result of the study is beneficial for institutions such as e-wallet providers, government, and even the society, as part of analysing e-wallet payment system and evaluating sustainability of the cashless journey.

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