
A CONCEPTUAL MODEL FOR RISK PERCEPTION ON E-WALLET USAGE

Rana Shafira Widyadhani, Raden Aswin Rahadi

School of Business and Management, Institut Teknologi Bandung, Jl. Ganesha No. 10, Bandung, 40132, West Java, Indonesia

Abstract

The advancement of finance and technology in what we now recognize as 'fintech' has introduced many new business models which bring both benefits and risks to society, one of the products is the electronic wallet. E-wallet offers people greater freedom in doing transactions as it only requires the help of smartphone and internet connection. However, many people are not so aware about the risks while making transactions using e-wallet services. Therefore, this study aims to determine the risk perception after the actual usage of e-wallet in Indonesia. A proposed framework is arranged by adopting the Technology Acceptance Model (TAM) which extends to the perceived risk variables. There are in total nine variables to be tested namely Perceived Ease of Use, Perceived Usefulness, Actual Use, Perceived Performance Risk, Perceived Security Risk, Perceived Financial Risk, Perceived Time-loss Risk, Perceived Socio-psychological Risk and Perceived Risk. To reach the above-mentioned objective, a quantitative approach is applied. The respondents of this study are 200 people from the millennial generation and 200 people from the post-millennial generation who are currently living in Jakarta or Bandung.

Keywords: Keywords: Electronic wallet, Risk perception, Millennial generation, Post-millennial generation

1. Introduction

Financial technology (fintech) is an increasingly influential and transformative force in the financial services industry, which encompasses any advanced or technology-based financial service provided to customers or businesses. Fintech, also seen as a rival to conventional financial service providers, addresses the gaps left by the conventional sector and provides an important way to improve financial inclusion in a country where smartphone penetration levels are growing rapidly (Ministry of Communication and Information Technology, 2017) and so do the internet penetration rates (APJII, 2018). According to Daily Social's 2019 study findings, the e-wallet (82.7 percent) has become Indonesia's most popular product category in fintech, continued investment (62.4 percent), paying later (56.7 percent), and personal needs (40 percent) satisfy P2P lending. Cited from Nomura's 2019 ASEAN Mobile Payment Report, iPrice concluded that Over the past two years, e-wallet use has increased by 50 percent, highlighting Fintech's major position in promoting cashless culture in Indonesia with more than 50 percent of unbanked people as stated by the Ministry of Economy in 2018.

Despite the increasing number of e-wallets transactions that can be embodied in its adoption rate, this emerging trend needs to be thoroughly discussed. Many people who have recently adopted e-wallet to their lifestyle and maybe more people will do so, the promising e-wallet offering has greatly influenced society as a whole. By that, we should understand more what are the true potential threats that e-wallet presents to its consumers, which will then offer a valuable perspective for practitioners and more importantly individuals who are directly impacted by this technological innovation trend. E-wallet perceived risks after usage studies in Indonesia are limited and most research have been performed with respect to user adoptions of electronic wallet. Since e-wallets are still the in Indonesia, due to scarce knowledge on customer experience of using e-wallets, most customers have little chance of understanding if it is advisable to use them. Therefore, due to the mixed findings and limited literature on e-wallet in particular, there is an urgent need to conduct determinants, especially on the perceived risk following use of e-wallet in Indonesia, which then reinforces the need for this study.

2. Problem Statements

A research conducted by IPSOS Indonesia in 2020 showed that the use of e-wallets has so far been dominated by Indonesia's young generation. Thus, in this study we focused on e-wallet users in millennial and post-millennials generation of e-wallet users. Based on the consideration of these two groups, this evolving fintech phenomenon is the most affected thus it is anticipated to have an appropriate knowledge perspective. In this study, the author will analyse the comparison of perceived risk in the use of e-wallet in millennial and post-millennial generations. Henceforth, there is some exploration issue to be broke down and covered: (1) What are the perceptions of risk in using e-wallet to millennials, (2) What are the perceptions of risk in using e-wallet to post-millennials?, (3) Is there a difference in risk perception in the use of e-wallet between millennials and post-millennials?, and (4) What are the recommendations to potential users and/or existing users in response to the usage of e-wallet?

3. Literature Review

E-wallet Definition

Definitions about e-wallets are vary. Stated from GSMA (2012), E-wallet refers to a computing program installed at one central location, such as handheld devices that have identical functions as conventional wallets that can carry credit cards and the like. E-wallet allows users to store their physical cards to provide a more convenient and portable resource for online transactions in particular (Upadhayaya, 2012). Moreover, e-wallet may be defined as an online transfer where the money is deposited on a mobile phone (Aransyah et al., 2020). In addition, E-wallet described as payment transactions made on a mobile phone that would be necessary for both real and virtual retail payments (Mjøl̄snes & Rong, 2003). From that, the categories of e-wallet are divided into three types shown on Table 1 below.

Table 1. Categories of E-wallet

Digital Wallet	Electronic Wallet	Mobile Wallet
Store credit/debit card information in the e-wallet.	Stores balance in the wallet.	Need to download a mobile application to use e-wallet.
Payment directly deducted from bank/credit account.	Requires top up balance to deduct amount from e-wallet account.	Payment can be made at offline stores by tapping or scanning.
DANA, PayPal, Google	GO-PAY, OVO, LinkAja	Apple Pay

source: e-ghl.com

Millennial Generation

Millennials are the generational population after Gen X and preceding Gen Z. Researchers use 1981 as birth years starting, and 1996 as birth years finishing. Millennials' characteristics vary, and the group faces a variety of social and economic conditions, but they are typically marked by the coming generation of ages in the Information Age and "Tech Savvy," which are known to be technologically comfortable. Millennials also put their focus on speed, simplicity, quality and convenience in any transaction (Barton, Fromm and Egan, 2012).

Post-millennial Generation

Typically, Gen Z or Post-Millennial Generation is described as someone born between 1996 and 2010. The fact that Gen Z uses technologies to allow financial transfers with the most confidence is unlikely to come as a surprise. Interestingly, in 2015 quoted from Piper Jaffray observed post-millennial consumers appeared more budget-conscious than millennial consumers. Accenture found in 2017 that post-millennial consumers are more engaged with financial services across all channels than other age groups, which will force traditional financial services to digitalise.

4. Previous Study

Study on the Technology Acceptance Model (TAM) has often been used to define influences that affect the application of modern technologies and some of them come with the combination with perceived risk factors. The list of the previous research linked to this study shown below.

Table 2. Previous Research

Title	Purposes	Approaches	Findings
Examining the Perceived Risks of Contactless Card Acceptance in the New Zealand Market (Mcmillan, 2018)	Measures the adoption of contactless cards by the customer that tells stakeholders of their possible direction and highlights opportunities for new markets.	TAM, Perceived Usefulness, Perceived Ease of Use, Behavioural Intention, UTAUT, Perceived Security, Trust, Perceived Risk: Privacy Risk, Performance Risk	Acceptance is strongly affected by perceived security, overall risk, trust and usefulness.
The Effect of Perceived Ease of Use, Perceived of Usefulness, Perceive Risk and Trust towards Behaviour Intention in Transaction by Internet (Nugroho, 2016)	Evaluate the factors affecting customers' decisions to make e-commerce purchases and evaluate the future growth of emerging technologies.	TAM, Perceived Usefulness, Perceived Ease of Use, Perceived of Risk, Trust	All four variables, namely Perceived Ease of Use, Perceived Usefulness, Perceived Risk, and Trust, have a significant effect on customer interest in internet transactions. Perceive Risk is also a variable with the most predominant influence on consumer intent to transact over the Internet.
The Effects of Perceived Risk on Social Commerce adoption based on the TAM model (Biucky et al., 2017)	Examines the effects of perceived risk on social commerce from their viewpoint.	TAM, Perceived Usefulness, Perceived Ease of Use, Behaviour Intention, Subjective Norms, Perceived Risk: Financial Risk, Security Risk, Social Risk, Psychological Risk, Privacy Risk, Time Risk, Functional Risk	The perceived risks have a huge effect on the perceived usefulness of social commerce. Moreover, among the different types of risk, psychological and social risks have no noticeable impact on the adoption of commerce.
Risk Perception of the E-Payment Systems: A Young Adult Perspective (Cheng et al., 2011)	Gain further insight into why young adults choose E-Payment and their view of E-Payment risks as compared to cash.	Perceived Risk: Financial Risk, Physical Risk, Psychology Risk, Time Risk, Performance Risk	The different perceptions of risk are significant in terms of cash and E-Payment but less significant in terms of purchasing volume.

5. Theoretical Framework

Technology Acceptance Model

TAM developed by Davis (1986) is The framework most commonly used for predicting the implementation of information technology (Paul, John and Pierre, 2003). Lee and Jun (2007) concluded that TAM would be able to examine variables that above and beyond perceptions of ease and usefulness influence the adoption intentions. Davis stated that the user 's attitude to the technology was a strong factor of whether the user should use or deny the technology. In fact, the user's attitude was considered to be impacted by two main perceptions: perceived usefulness and

perceived ease of use, with perceived ease of use having a significant effect on perceived usefulness.

Perceived Ease of Use

The perceived ease of use is the degree to which a consumer feels that using digital technology is effortless (Davis, 1989) and can be viewed as users consider new technology as user-friendly and requires less effort and energy, it is more likely that users will embrace new technology.

Perceived Usefulness

The perceived usefulness is the degree to which individuals believes that the use of a particular system will increase the efficacy of his or her work (Davis, 1989). That can be interpreted, the consumer would have a positive intention towards this new technology because a customer believes the new technology is useful.

Perceived Risk

Bauer (1960) defines perceived risk as feeling of doubt on the part of the customer regarding the implications of the transaction. To put it another way, perceived risk is a subjective term, independent from quantitative risk. A research conducted by Madan and Yadav (2016) illustrated that perceived risk has a detrimental effect on behavioural intent to implement electronic wallets

Perceived Performance Risk

Perceived performance risk refers to the understanding by the customer of the likelihood of malfunctioning and non-functioning of the mobile payment system as expected, and is thus unable to deliver the services required (Featherman et al., 2003). The payment method, for example, cannot be used to complete a transaction when necessary due to the retailer's request for refusal or additional charges (Ho et al., 1993).

Perceived Security Risk

Perceived security risk is characterized as a threat that produces a situation, state or incident that could cause economic harm in the form of damage, leakage, manipulation of data, denial of service and/or theft, duplication and exploitation of data or network resources (Kalakota and Whinston, 1997). Perception of potential exposure of private information by the customer is referred to as perceived privacy risk (Featherman et al., 2003).

Perceived Socio-psychological Risk

Perceived socio-psychological risk refers to the understanding by users of any possible psychological and social distress, discomfort or fear resulting from the use of mobile payment (Lim, 2003). E-payment is relatively new and requires a large amount of end-user information or

allows for a more complex transition when using advanced website interfaces compared to wired internet payment or credit card payment (Akpan et al., 2018).

Perceived Financial Risk

Perceived financial risk refers to market understanding of the possible monetary costs suffered by electronic payment use (Featherman et al., 2003). A research defines it as a condition in which the fee is not refundable or not void by using financial services (Ho et al., 1993).

Perceived Time-loss Risk

Perceived time risk applies to any potential time lost due to mobile payment use (Yang et al., 2015), such that using the payment mode would take longer than other payment modes (Ho et al., 1993). It may result from difficulties with the amount of time it takes to learn how to use the system, which protocols to obey while not charging prices, or how to disable smartphone devices when performance is below standard (Featherman et al., 2003).

6. Conceptual Framework

The following conceptual framework in the Figure 1 below is developed to meet the objectives of this study which the literature suggests the following TAM-based research model by Davis (1989) with the extensions of perceived risk variables adopted from Ho et al. (1994) such as Perceived Performance Risk, Perceived Security Risk, Perceived Financial Risk, Perceived Socio-psychological Risk, and Perceived Time-loss Risk.

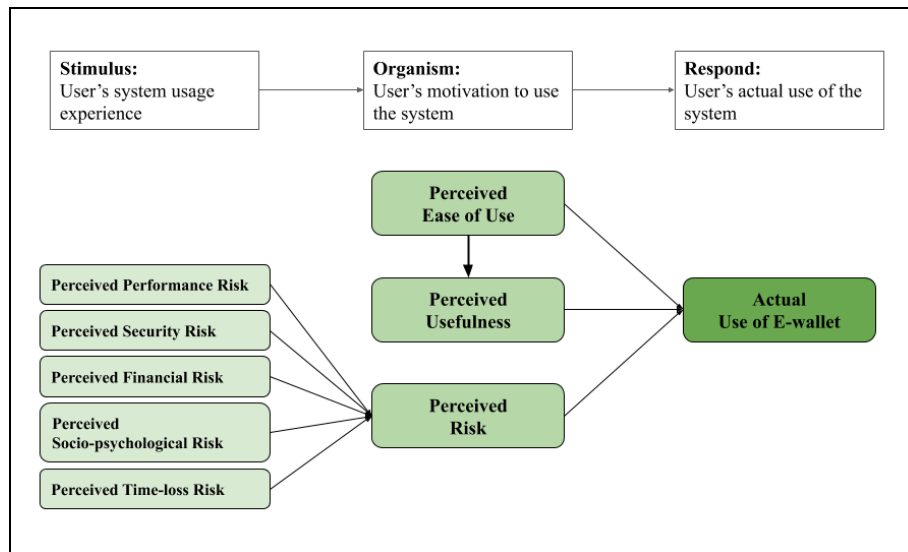


Figure 1. Conceptual Framework

7. Methodology

This study aims to gather the data of e-wallet users through online questionnaires. The target population of this study consisted of e-wallet users in millennials and post-millennials generations in Jakarta and Bandung which are highly concentrated cities that are located on Java island. With total of 400 samplings needs to be collected with the confidence level 95 percent, ± 5 percent precision level and 0.5 degree of variability (Yamane, 1964).

8. Future Research

The proposed model provided in this study is used to examine to compare difference of perceived risk in millennials generation and post-millennials generation of e-wallet users. There are in total of nine variables that need to be tested to the target population sample, 200 people from millennial generation and 200 people from post-millennial generation who are currently living in Jakarta or Bandung, namely Perceived Ease of Use, Perceived Usefulness, Actual Use, Perceived Performance Risk, Perceived Security Risk, Perceived Financial Risk, Perceived Time-loss Risk, Perceived Socio-psychological Risk and Perceived Risk.

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