The Effect of Ease of Use, Usefulness, Trust, Self-Efficacy, and Security on Adoption Technology

by Dyah Sugandini

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Dyah Sugandini, Mohamad Irhas Effendi, Yuni Istanto
Universitas Pembangunan Nasional Veteran Yogyakarta
dini@upnyk.ac.id; m_irhaseffendi@upnyk.ac.id; yuniistanto@upnyk.ac.id

Abstract: This study aims to determine the effect of perceived ease of use, usefulness, trust, self-efficacy, and security towards the decision to use e-payment, namely GO-PAY. This study uses 200 respondents. Data collection techniques using purposive sampling. The data analysis tool used is structural equation modeling (SEM). The results of this study indicate that the hypotheses proposed are not all supported. Perceived ease does not influence trust. Other hypotheses proposed are supported. That is, the adoption model GOPAY in this study is influenced by perceptions of usefulness, self-efficacy, trust, and security.

1   INTRODUCTION

Digital transformation 4.0 has changed many aspects of human life. Advances in technology have an impact on lifestyle changes in the digital age consumers. Transformation makes it easy for consumers to adapt to the world of technology with various conveniences in the media. The use of technology requires consumers to pay more attention to security from various aspects of information, personal data, and financial transactions. Millward (2014) shows that 51% of the total population in Indonesia has used the internet through smartphones, and noted that almost 75% of internet users in Indonesia are aged 15-34 years. The rapid development of the internet also makes it easy to do various kinds of financial transactions, such as making payments and transfers. E-payment system (EPS) offers a variety of benefits by speeding up the transaction process and selling products at lower prices. GO-PAY is one of the vendors providing e-payment. GO-PAY is an electronic money or digital wallet or virtual wallet in the form of a GO-JEK balance and can be used to pay for various GO-JEK services and other transactions. EPS can be classified into cash-based and account-based systems. Electronic cash and prepaid cards are cash-based systems, whereas credit cards, debit cards, and electronic checks are account-based payment systems. EPS has been used throughout the world, with some countries having fully developed systems and others continuing to improve (Kim et al., 2010; Barkhordari et al., 2016).

Adoption EPS by customers can be influenced by security and trust (Hanafizadeh et al., 2014; Junadi, 2015), but there is still a lack of in-depth studies to investigate the perceived trust and safety of EPS customers (Barkhordari et al., 2016). Existing studies (Sanayei and Noroozi, 2009; Alikhani and Davarzani, 2014) do not have a broad analysis of the various factors that influence the adoption of EPS, and the focus is only on trust and security limited to a group of customers. Marifi et al. (2012) also add that there is little research on the direct relationship between perceived consumer security and trust in EPS. This study analyzes EPS adoption by adding variables PEOU, PU, and self-efficacy. This research develops several factors that influence adoption using the TAM 3 model (Venkatesh and Bala, 2008), which extends TAM in the e-commerce context.

2   LITERATURE REVIEW

2.1   e-Payment and e-Commerce

E-commerce refers to purchases and sales transactions made through the Internet. E-commerce includes communication to send information, Products, services, or payments by electronic means,

technology applications towards transaction automation, and services to improve the speed and quality of shipping that can cut costs (Yang, 2017). In an e-commerce environment, payments are made in electronic form, so it is called an e-payment system (EPS). Mukherjee & Roy (2017) points out some of the main benefits of the system e-commerce, namely: e-commerce is a modern business system, it can be used anytime and anywhere in the global market immediately, requiring dedicated human resources, purchasing or selling systems as electronic, only requires an internet connection, PC and knowledge, information can be shared with partners in just a few moments.

2.2   Perceived Ease of Use (PEOU) and Trust

Gefen, Karahanna, and Straub (2003) broaden the Technology Acceptance Model model (TAM) by adding trust factors in the e-commerce context. TAM states that PEOU can influence the level of customer adoption in using information technology. However, because customer behavior online cannot be easily predicted and the risk of adopting payment transactions via the Internet is also high, trust is a factor that must be considered in adoption e-commerce (Chinomona, 2013; Beldad & Hegner, 2018). The risk and uncertainty of using a mobile application are because the application can jeopardize user privacy (Giota & Kleftaras, 2014; Keith, Lewis & Wyatt, 2014). The risks and uncertainties associated with the decision to use mobile applications in transactions online require trust. Beldad & Hegner (2018); Sugandini et al., (2018a) show that the risks and uncertainties associated with the decision to use a mobile application require trust, given its relevance in situations where the positive results of an action cannot be ascertained precisely and when certain technologies can be exploited to damage its users.

H1: Perceived Ease of Use influences trust H2: Trust influences adoption technology

2.3   Perceived Usefulness and the Trust

Technology Acceptance Model (TAM) has been widely used to explain the perceived usefulness that affects consumers' online shopping behavior (Davis, 1989). Sugandini et al., (2018b); Diop et al., (2019) show that perceived usefulness in using certain technologies will improve performance. Trust is another factor that is believed to influence consumer online shopping behavior (Jin et al.,2015). Trust is a

multidimensional concept because trust is based on a rational assessment of individual abilities and integrity. In the online environment, trust is mainly built from the site through person-to-person communication, which is mediated by technology. Trust is important because online shoppers and retailers cannot physically see each other during interactions. Lack of trust is one of the main reasons why customers don't buy online (Beldad & Hegner, 2017).

H3: Perceived Usefulness Influences Trust

2.4   Self-Efficacy and security

Ozer and Bandura defined self-efficacy as one's belief in their ability to mobilize the motivation, cognitive resources, and actions needed to control events. Self-efficacy affects one's motivation and actions, self-regulation, initiation, and perseverance in adapting to face obstacles (Vance et al., 2012). Shahri and Mohanna (2016) state that self-efficacy affects the security of user information. Self-efficacy Users can benefit the effectiveness of information security programs. Hameed & Arachchilage (2018) states that self- efficacy is one of the main predictors of information system security.

H4: Self-Efficacy influences security

2.5   Security and Trust

Access to security guidelines in e-payment systems is among the important factors that influence customer trust (Barkhordari, 2016). Customers who understand security measures, security policies, electronic payment systems will increase customer confidence (Lim, 2008). Ease of security access, resolve security issues through the guidelines available on the EPS website. Ease of access and visibility regarding security of the EPS website can increase online transactions (Sanayei and Noroozi, 2009). Maroofi et al. (2012) conclude that online regulations are subject to several security threats and propose that consumer confidence in transactions online is influenced by the security of the website. Maroofi et al., (2012); Sugandini et al., (2018a; 2018b) show a positive and significant relationship between the concept of online security and trust. Barkhordari, (2016) states that e-payment service providers must consider trust and security as important characteristics of the use of EPS.

H5: Security influences Trust

3   RESEARCH METHOD

The study was conducted in the form of a survey, using an explanatory research approach, namely, research that explains the causal relationship between variables through hypothesis testing (Creswell and Clark, 2017), as well as with survey samples, i.e., samples taken from a population and using a questionnaire as a tool principal data collection and individual analysis units. Respondents in this study include all GO-PAY users in the Special Region of Yogyakarta who are over 17 years old. The number of samples in this study was 200 people. The direct effect (Path coefficient) is observed from standardized regression weights by testing the comparative significance of CR (Critical Ratio). Testing of models developed with various criteria Goodness of Fit (Hair, Anderson, Tatham, & Black, 1998).

4   RESULTS

4.1   Hypothesis testing results.

The measurement model test results in this study are relatively good, so they can proceed to the structural model analysis stage without modification. The results of the structural equation model analysis showed that the resulting goodness of fit index value showed fit results. Value of 0.015; GFI 0.913; RMSEA 0.100; TLI 0.973; CFI 0.994 and CMIN / DF of 3,087. The results of testing the structural model presented in table 1 show that not all hypotheses are supported.

Table 1. Path coefficients

Hypothesis	Estimate	S.E.	C.R	P	Information
H1	0.445	0.055	8.106	***	Supported
H2	0.022	0.094	0.231	0.817	Not Supported
H3	0.752	0.094	7.982	***	Supported
H4	0.285	0.075	3.789	***	Supported
H5	0.645	0.085	7.607	***	Supported

The complete model about GO-PAY adoption can be seen in Figure 1.
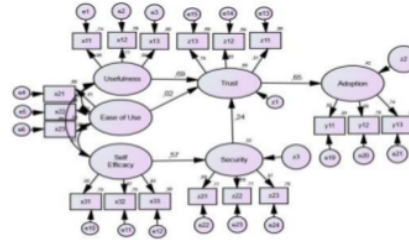

Figure 1. Model of technology adoption GO-PAY

4.2   Discussion

This study could explain the model adoption of GO-PAY technology that is influenced by usefulness, ease of use, self-efficacy, security, and trust. Nearly all of the hypotheses proposed in the research were supported; only the first hypothesis in this study was unsupported. This study does not support the hypothesis that ease of use influences trust. This is because going pay users already feel the ease of use, but the convenience obtained is not able to increase trust in using GO-PAY. This mistrust is caused by GO-PAY users being the initial perpetrators in terms of e-payment. So there are still doubts regarding the use of GO-PAY. So the results of this research cannot support the opinion of Chinomona, (2013); Giota & Kleftaras, (2014); Keith et al., (2014), and Beldad & Hegner, (2018).

The second hypothesis states that trust influences the adoption of supported GO-PAY technology. This shows that actually even though GO-PAY users have a level of trust that is not too high, but because of the need for high use of GO-PAY so this trust can increase adoption of GO-PAY, even though it is still limited payment transactions that exist in the GOJEK application. The results of this study support Keith et al., (2014); Sugandini et al., (2018a, 2018b), and Beldad & Hegner (2018). The third hypothesis which explains that there is an influence of PU on supported trusts. Customers who already feel the benefits of using GO-PAY will trust more. Customers can feel that the benefits of using GO-PAY are relatively numerous; among other things, customers have no trouble paying if they don't carry cash, GO-PAY can handle payments with just one click so that the results of this study support Diop et al., (2019) and Jin et al., (2015).

The fourth hypothesis which states that efficacy has an influence on security supported. This can indicate that the ability to control attitudes and behavior towards the desired course of action can

increase perceptions about the safety of using GO-PAY. Users who feel confident that they can use the GO-PAY application properly feel comfortable and safe using GO-PAY. This study supports Vance et al. (2012), Shahri & Mohanna (2016), and Hameed & Arachchilage (2018). The fifth hypothesis states that security influences supported trust. Customers who understand the security system in electronic payments can increase trust in e-payment. GO-PAY customers mostly already understand the good use of GO-PAY. Proficiency in handling risk and ease of accessing security systems from GO-PAY can increase customer confidence in using GO-PAY. So that by increasingly perceiving that GO-PAY is safe to use, then trust in GO-PAY also increases. The results of this study support Maroofi et al. (2012): Barkhordari (2016), who states that e-payment must consider trust and security as important factors in the adoption of GO-PAY.

5   LIMITATIONS AND SUGGESTIONS

This study only analyzes the use of GO-PAY for payment transactions, although there are many other forms of payment that can be used in online transactions. Further research is expected to further analyze the adoption of GO-PAY by taking a complete set so that it can revise the findings of this research, which are not significant. Taking more complex e-payment settings can increase the generalization of the research findings. Some research variables can also be used in analyzing GO-PAY adoption as a form of e-payment. These variables are the Technical & Transaction Procedure (Barkhordari et al., 2016), compatibility, and network externalities (Maxim Lundh & Alexander Svensson, 2018).

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