Innovation resistance and perceive novelty on e-wallet services

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Abstract

E-wallet, or also known as the digital wallet is a structure that saves users' pins and payment information securely as a means of transaction. Because of the progress of mobile technologies, the use of e-wallet facilities is increasing globally, including in Indonesia. In comparison, on e- wallet services, less attention is paid to user-related Innovation Resistance issues. This paper aims to review the Innovation Resistance Theory that consists of Use, Value, Risk, Tradition, and Image Barrier to investigate e-wallet resistance. This study views perceived novelty factor which proposed in previous studies that focused on mobile application and e-wallet services. The result of this paper is regarded as essential to provide a baseline for future e-wallet services to accommodate user needs and increase e-wallet utilization.

Keyword: E-wallet; innovation resistance theory; perceived novelty

INTRODUCTION

E-wallet defined as a means of payment in electronic form where the value of the money stored in certain electronic media. An e-wallet, the user must first deposit the money to the publisher and save it in electronic media before using it for the transaction. When used, the value of e-wallet stored in electronic media will be reduced by the value of the transaction and afterward can be topped up. The risk of e-wallet being lost and can be used by other parties because in principle e-wallet is the same as cash which if lost, cannot be claimed to the issuer.

The convergence of multifunctional mobile gadgets, payment system, and wireless telecommunication development has changed the means of transaction in the real world besides cards and cash (Seetharaman et al., 2017). All Point of Sale (POS) terminals is mandated by Visa and MasterCard to accept contactless payments by January 2020 (Peterson & Wezel, 2016). Mobile proximity payments are adopting the same standards as contactless cards which are Europay, MasterCard, and Visa standards and NFC (Peterson & Wezel, 2016). Cash is still widely accepted and available in the market while the debit card has been the main competition for an e-wallet.

There are several previous types of research which have attempted to resolve the issue mentioned earlier. Trivedi (2016) stated that only two Technology Acceptance Model (TAM) elements which are perceived usefulness and perceived ease of use significantly influence the acceptance of e-wallet in India. Lai (2012) also specified that perceived usefulness and perceived ease of use positively affect the behavioral intention to use e-wallet for clinic fees payment. On the other hand, Bhuvaneswari and Sivakavitha (2017) discovered that credibility, ease of usage, benefit terms, and prospect value affect customer preference towards e-wallet among the urban population of Chennai city. Also, secured privacy and secured transaction are two significant elements which affect the acceptance of e-wallet (Varsha & Thulasiram, 2016). Sahut (2008) ascertained that other than perceived usefulness in TAM, perceived cost also influences the adoption of Moneo, French e-wallet.

Nevertheless, few empirical research regarding e-wallet had conducted as more recent past studies had been carried out in the context of the mobile wallet. Mobile wallet is a subset of e-wallet where the former is accessible through only mobile devices, and the latter is approachable through other gadgets such as computer and tablets besides mobile devices (Ziff Davis, 2018). Matemba and Li (2017) discovered that besides perceived usefulness and perceived ease of use, trust, security, and privacy are also the paramount causes which affect Wechat wallet adoption.

Moreover, Seetharaman et al. (2017) extended TAM and identified that perceived usefulness, transaction security, innovativeness, critical mass, availability of alternatives, and flexibility significantly affect the behavioral intention to use a mobile wallet. Shaw (2014) found out that perceived usefulness from TAM and informal learning which is mediated by trust strongly influences the adoption of the mobile wallet. Past researches had been conducted to investigate factors of e-wallet usage in foreign countries such as South Africa (Matemba & Li,

2017), Singapore (Seetharaman et al., 2017), India (Trivedi, 2016), Canada (Shaw, 2014), Japan (Amoroso & Watanabe, 2012), United States (Shin, 2009) but seldom in Indonesia.

Notwithstanding, Matemba and Li (2017) had probed into consumers' willingness to adopt Wechat wallet, whereas Sahut (2008) had looked into the adoption of Moneo, which only focused on one type of technology. Trivedi (2016) had only included gen-Y as the target respondent of the study, which leads to a lack of generalization among the population in India. Besides, there are certain limitations inherited in TAM, where it explains a dynamic phenomenon statistically and also unable to provide an extensive understanding of the relationship between variables and behavior (Sahut, 2008). Also, Bhuvaneswari and Sivakavitha (2017) had not thoroughly investigated the barriers of converting paper-based payment system to the e-payment system. Additionally, past studies are more focused on factors which prone to the usage of e-wallet rather than the barriers that affect the adoption of e-wallet. Therefore, negative attitudes towards technology are needed to further explored (Swilley, 2010).

Theoritical review

Innovation resistance theory

Innovation Resistance Theory developed by Ram and Sheth in 1989. Innovation resistance is the consumers' reaction towards an innovation due to possible distinction from their status quo or on the

ground that it clashes with their belief structure (Ram & Sheth, 1989). Ram and Sheth (1989) divided these conflicts into two categories which are psychological barriers and functSional barriers. Psychological barriers include tradition barrier and image barrier, whereas functional barriers include usage barrier, value barrier, and risk barrier (Ram & Sheth, 1989). Psychological barriers are due to a dispute with consumers' past beliefs (Ram & Sheth, 1989). Functional barriers exist when consumers perceive considerable changes from using new technology (Ram & Sheth, 1989).

Innovation Resistance Theory had been prevalently investigated by previous researchers in various areas of studies such as online shopping (Lian & Yen, 2014), mobile commerce (Heinze, Thomann & Fischer, 2017; Chan, Chong, Kwa, Lee & Yeong, 2015), mobile payment (Dotzauer & Haiss, 2017; Low, 2016), political email (Hong & Chang, 2013), mobile social commerce (m-commerce) (Hew, Leong, Tan, Ooi & Lee, 2017) and mobile banking (Yu & Chantatub, 2016).

Innovation Resistance Theory is reviewed in this paper to understand the barriers of resistance towards e-wallet because it has been employed in the electronic commerce (EC) environment context (Lian & Yen, 2014; Lian et al., 2012). Smart products are technological innovations which consumers may tend to resist its adoption as both new products and new services (Mani & Chouk, 2016). Also, innovation resistance needs to be studied as most of the businesses encounter a high percentage of new product failure (Moorthy et al., 2017).

Past researchers had explored perceived novelty in the adoption of information technology innovation (Wells, Campbell, Valacich & Featherman, 2010), consumer resistance towards smart products (Mani & Chouk, 2016) and attitude towards innovation (Truong, 2013). Perceived Novelty is also scarcely analyzed in electronic money context. Moreover, electronic money is a novel innovation since it only made up a small presence in Indonesia (Jayaseelan,

2017). Thus, all five concepts in Innovation Resistance Theory, together with Perceived Novelty, are used to investigate their relationship with resistance towards electronic money in Indonesia.

Discussion

Resistance towards E-wallet

Resistance refers to users' opposing reaction towards changes in innovation (Khan & Kim, 2009). Previous research showed that resistance to an e-wallet is the opposing act towards e-wallet adoption. Mani and Chouk (2016) show that perceived uselessness, perceived price, intrusiveness, self-efficacy, and Perceived Novelty affect consumer resistance towards a smart product. All barriers in Innovation Resistance Theory except for Tradiional Barrier, substantially affect consumer resistance towards mobile banking in Thailand and Taiwan (Yu & Chantatub,

2016). Besides, Chan et al. (2015) concluded that all barriers in Innovation Resistance Theory except for perceived cost barrier, negatively affect mobile commerce adoption.

Cheng et al. (2018) studied barriers that intercept consumers' willingness to use or continue using e-wallet for online payment transactions in Malaysia. The results show that usage barrier, value barrier, risk barrier, and tradition barrier are significantly and positively correlated to resistance towards e-wallet. In contrary, Perceived Novelty has a significant and negative impact on resistance towards e-wallet.

Usage barrier

According to Laukkanen, Sinkkonen, Kivijarvi, and Laukkanen (2007), the usage barrier defined as innovation usability of service and changes required from the users. In Cheng et al. (2018) study, the usage barrier is the innovation usability of e-wallet and changes needed from the users to adopt it. Usage Barrier Is a prominent component that negatively affects the adoption of m-commerce among gen-X in Malaysia (Moorthy et al., 2017; Chan et al., 2015). Therefore, if m-commerce is perceived to be not useful, individuals are reluctant to adopt it. Besides, Usage Barrier is a dominant variable which is negatively correlated to the adoption of PayPal mobile payment among gen-X consumers in Malaysia (Low, 2016). Oppositely, Usage Barrier is prone to resistance to adopting PayPal mobile payment among gen- X consumers in Malaysia. Moreover, Usage Barrier significantly and adversely affects the attitude in using e-wallet (Trivedi, 2016). In contrast, Usage Barrier is significantly and positively correlated to resistance in using an e-wallet.

According to Cheng et al. (2018) research, the Majority of the respondents claimed that Usage Barrier enormously resists them from adopting e-wallet. Conflict in using the innovation and steps to

complete payment transactions are the primary concern in this barrier. Besides, coverage of internet bandwidth and data roaming are also the usage barrier that limits the e- wallet adoption in Malaysia.

Usage Barrier is among the most salient factor that positively influences consumers' resistance towards mobile banking (Yu & Chantatub, 2016). User-friendly mobile banking websites which are easy to use must be provided in order to overcome Usage Barrier confronted by consumers (Yu & Chantatub, 2016). It shows that consumers' resistance towards mobile banking can be banished by eliminating the usage Barrier to adopt it (Yu & Chantatub, 2016). Thus, a positive relationship between Usage Barrier and consumers' resistance towards mobile banking is implied.

Value barrier

Value Barrier is the performance-to-price value of innovation as opposed to its substitutes (Laukkanen et al., 2007). In the current context of e-wallet, Value Barrier can be interpreted as users' unwillingness to adopt e-wallet unless cash imparts higher value than e-wallet does. Laukkanen (2016) proved that Value Barrier is the main hindrance towards the adoption of internet and mobile banking services in Finland. In contrast, this signifies a positive relationship between Value Barrier and consumer resistance towards internet and mobile banking services.

Besides, Cheng et al. (2018) showed that Value Barrier also significantly restricts consumers from using an e-wallet. This may be due to the failure of e-wallet to provide a rigid performance-to-price value against other substitutable devices like credit card or cash. E-wallet users have not discovered the value of e-wallet as they are less conscious of the knowledge and benefits of using an e-wallet. Thus, service providers should improve the performance of e- wallet by enhancing its functions and specifications such as convenience, mobility, and reliability. Also, they have to deliver detailed information on e-wallet to its users in order to boost users' confidence in adopting e-wallet.

Yu and Chantatub (2016), also discovered that Value Barrier positively affects consumers' resistance to use mobile banking in Thailand and Taiwan. Findings revealed that banks need to develop strategies that possess higher value to consumers in using mobile banking as compared to other banking substitutes to relieve the resistance (Yu & Chantatub, 2016). Thus, Value Barrier is positively affecting consumers' resistance to using mobile banking. Furthermore, Lian and Yen (2014) concluded that Value Barrier significantly and negatively influences older adults' intention to shop online in Taiwan. Oppositely, Value Barrier positively influences consumers' resistance to shop online. Swilley (2010) also proved that consumers are preferable to reject wallet phone technology (innovation) by holding cell phones (existing substitute) if they do not discover the value of wallet phone in the USA. Therefore, Value Barrier positively influences consumers' resistance to innovation. To sum up, when e- commerce users find e-wallet has a smaller value than other substitutes, they are more likely to resist its adoption.

Risk barrier

Risk Barrier exists when users confront or perceive risk in an innovation (Laukkanen et al., 2007). In the current context of e-wallet, it is explained as users' perceived risk. Uncertainty also becomes part of it, which probably arise from the use of e-wallet.

Moreover, Dotzauer and Haiss (2017) revealed that RB negatively affects German consumers' adoption intention toward mobile payment services. They identified that security issues would hinder them from adopting m-payment (Dotzauer & Haiss, 2017). Hence, if consumers perceive m-payment to be riskier, they are more likely to refuse their adoption. Moorthy et al. (2017) and Chan et al. (2015) proved that Risk Barrier negatively influences the adoption of mobile commerce among gen-X in Malaysia. Contrarily, Risk Barrier is positively correlated to the resistance of mobile commerce among gen-X in Malaysia.

On top of that, Risk Barrier exists when consumers adopt e-wallet for payment of transactions (Cheng et al., 2018). They are worried about the exposure and illegitimate use of their personal information, amount of savings in account and transaction history by unknown third parties. Thus, service providers have to consider this issue when modifying the functions and specifications of e-wallet.

Lian and Yen (2014) concluded that Risk Barrier negatively affects older adults' intention towards online shopping in Taiwan. It shows that Risk Barrier has positively corresponded to resistance towards online shopping. Peng, Xu, and Liu (2011) found that perceived risk is a critical barrier in consumer adoption of mobile payment in China. Therefore, this indicates that the Risk Barrier positively affects

consumers' resistance towards mobile payment. To conclude, if e-commerce users find e-wallet highly risked, they are more likely to resist its adoption.

Tradition barrier

Tradition Barrier arises when an innovation causes a change in the user's existing routines (Mahatanankoon & Ruiz, 2007). In our study, Tradition Barrier refers to the barrier where customers are needed to alter their existing routines to adopt e-wallet. Tradition Barrier is the most paramount element that negatively influences the intention to adopt mobile payment services by German consumers (Dotzauer & Haiss, 2017). Hence, German consumers are more prone to resist new payment techniques if they are required to alter theirs. Furthermore, Tradition Barrier also significantly leads to resistance towards e-wallet (Cheng et al., 2018). Tradition Barrier is subjective to every e-wallet user since it is affected by cultural deviation, which varies among users. The cultural deviation may arise from different races, religion, or even parental guidance in each family.

According to Low (2016), Tradition Barrier is negatively correlated to PayPal mobile payment adoption since the majority of gen-X in Malaysia prefers to use physical payment methods. In other words, Tradition Barrier is positively affecting resistance to adopting PayPal mobile payment. Tradition is the most significant barrier that negatively influences the intention to adopt mobile financial services (Chemingui & Lallouna, 2013). Thus, this shows that Tradition Barrier is the primary factor why customers refuse to adopt mobile financial services.

Furthermore, Tradition Barrier is the significant barrier that discourages consumers from adopting mobile banking in Egypt (Badrawy, Aziz & Fady, 2012). It implies that Tradition Barrier is positively correlated to resistance towards mobile banking. In conclusion, if the adoption of e-wallet requires a change in existing culture or daily routines, consumers are more inclined to develop resistance towards e-wallet.

Image barrier

Image Barrier exists when users have a negative impression on the identity of innovation like brand, country of origin, and its adverse effects (Laukkanen et al., 2007). In our research, Image Barrier occurs when users develop a negative image on the identity of e-wallets like brand, country of origin, and its side effects. Image Barrier strongly and negatively affects the adoption of mobile commerce among gen-X in Malaysia (Moorthy et al., 2017). Thus, if gen-X in Indonesia posits a negative image towards mobile commerce, they are more likely to reject its adoption.

Moreover, Image Barrier has an antagonistic relationship with the adoption of PayPal mobile payment in Malaysia (Low, 2016). Thus, this indicates that the image barrier is positively correlated to resistance towards PayPal mobile payment adoption. Yu and Chantatub (2016) proved that Image Barrier positively affects the consumers' resistance to adopt mobile banking. Experiential marketing has to be executed to change the negative thoughts of consumers (Yu & Chantatub, 2016). It shows that consumers' resistance to using mobile banking can be avoided by eliminating Image Barrier (Yu & Chantatub, 2016). Therefore, this implies that the Image Barrier is positively correlated to resistance towards mobile banking.

Image Barrier is a barrier which derives from the e-wallet service providers themselves such as reputation, goodwill, and history of the organization. In Cheng et al. (2018) research, they found that Image Barrier does not significantly affect resistance towards e-wallet. Thus, service providers should move the focus of improvements to other significant barriers as mentioned earlier to reduce the barriers in using e-wallet effectively.

Also, Lian et al. (2012) discovered that Image Barrier negatively influences users' intention to use an online service. Contrarily, Image Barrier posits a positive relationship with resistance to adopting an online service.

Perceived novelty

According to Wells et al. (2010), Perceived Novelty is the extent to which perceived newness of an innovation by an individual determines his or her reaction towards it. In the e- wallet context, Perceived Novelty refers to the extent to which perceived newness of e-wallet by users determines their reaction towards it. Perceived Novelty positively influences users' satisfaction towards Personalized Recommender System (PRS) (Choi, Lee & Kim, 2017). Therefore, when PRS users perceive such innovation provides new recommendations, they are less inclined to refuse its adoption.

Also, Perceived Novelty is a dominant factor that positively affects continuance intention of social network services, location-based services, and mobile technologies which are known as SoLoMo services (Yang & Lin, 2017). In other words, when one's novelty needs are fulfilled, one will less resist SoLoMo services. Perceived Novelty is a paramount variable which is negatively correlated with consumer resistance towards smart products (Mani & Chouk, 2016). Cheng et al. (2018) also showed that Perceived Novelty has a significant and negative impact on resistance towards e-wallet. Hence, when smart products are being considered as distinctive and unique; consumers are less reluctant to adopt these innovations.

Wells et al. (2010) discovered that Perceived Novelty is a prominent factor that is positively correlated to attitude towards using an IT innovation. It implies Perceived Novelty posits a negative relationship with resistance to adopting an IT innovation. To conclude, when e- commerce users perceived e-wallet as a novel innovation, they are less likely to resist its adoption.

CONCLUSION

This review paper contributes to all academicians (researchers, students & lecturers) and industry researchers (company research) who are interested in e-wallet technology. Based on other previous studies, the researchers focused more on mobile technologies. However, this paper concentrates on e-wallet, which includes all e-commerce platforms such as desktop and mobile cashless payment. The primary concentration of this study is discovering the previous research between Innovation Resistance Theory which includes Usage Barrier, Value Barrier, Risk Barrier, Tradition Barrier, Image Barrier and another new theory which is Perceived Novelty with resistance towards e-wallet. Besides, Perceived Novelty is an exciting integration with Innovation Resistance Theory to study resistance towards e-wallet as e-wallet is a new payment method in Indonesia. For previous research conducted about Perceived Novelty, they are investigated from the perspective of adoption or intention to consume, adopt and purchase while this research is carried out in the opposite direction which is from the resistance perspective. Thus, a deeper understanding of these studies will contribute useful insights for choosing effective strategies to overcome resistance towards e-wallet.

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