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USE INTENTION OF FINTECH SERVICES FOR E-WALLET USERS: AN EXAMINATION WITH AN EXTENDED TECHNOLOGY ACCEPTANCE MODEL

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ABSTRACT:

Financial Technology (Fintech) has increased, follows by various innovations that lead to efficient, safe, fast, and convenient. One type of Fintech in Indonesia is a non-cash payment using an electronic wallet (e-wallet). People started to do the transaction through their mobile using electronic wallet (e-wallet) in daily life. However, people still prefer to use cash transaction caused by the security concern also e-wallet application often experiences an error during transaction. Thus, there is a need to investigate the people's acceptance of using this e-wallet to make a transaction. This study aims to evaluate one of Indonesia's e-wallet services using the Technology Acceptance Model (TAM). TAM emphasizes perceived usefulness and perceived ease of use and behavior intention to use. It also investigates the perceived risk and Trust as TAM's external variables to test the technology's acceptance. A quantitative research method was employed utilizing the survey method. Data was collected from a sample of 113 e-wallet users in the Jabodetabek area. This study used The Partial Least Square (PLS) analysis method. From this study was discovered that the Perceived Ease of Use, Perceived Usefulness, Perceived Risk, and Trust are essential factors for predicting the user's intention to use an e-wallet as a mobile payment application. This study's recommendation reduces the potential risk of the e-wallet application, provides training, and socialization about e-wallet transactions. Additionally, the government may provide regulation or a system that can guarantee users' security of transactions.

Keywords: e-wallet, Fintech, perceived risk, Trust, TAM

Introduction

A report published by Accenture research institute, global investment in financial technology (Fintech) ventures in the first quarter of 2016, reached 5.3 billion US dollars, up 67 percent from the same period last year. Meanwhile, the percentage of investment for Fintech companies in Europe and Asia-Pacific has almost doubled to 62 percent, specifically for the

Asia-Pacific region. Fintech's investment in the first three months of 2016 increased more than five times compared to the same period last year, from 445 million US dollars to 2.7 billion US dollars. In Indonesia, the government itself keeps abreast of digital start-up developments, both in the global and domestic spheres. In early 2016, President Joko Widodo declared a vision to make Indonesia the 'The Digital Energy of Asia' in Silicon Valley. This vision was followed by the launch of the 1,000th Digital Start-Up Digital Movement and the launch of the Electronic Commerce Roadmap (Setiawan, 2016).

Fintech in Indonesia consists of various types, one of which is non-cash payments using electronic money or e-money (Fatimah & Suib, 2019). The National Non-Cash Movement (GNNT) launched to bring Indonesia into the era of a cashless society. The term

thick wallet that feels disturbing comfort will be lost replaced by one card or digital wallet, e-money (Bank of Indonesia, 2019). In addition to the practicality gained, the use of e-money can also minimize the crime of circulating counterfeit money (Ministry of Finance Indonesia, 2018). Bank Indonesia provides space for financial technology providers to test their products, services, technologies, and business models at Bank Indonesia through the Regulatory Sandbox to support financial technology development and innovation. PADG No. 19/14 / PADG / 2017 concerning the limited testing space (Regulatory Sandbox) of financial technology regulates the procedures and process of trials in the Regulatory Sandbox (Bank Indonesia, 2019).

Today, people who used to use cash payments have now begun to recognize and use non-cash amounts in conducting various payment transaction activities (Maghfira, 2018). One of the non-cash payment instruments currently developing in Indonesia based on applications called e-wallet (Purwanto & Sri Hartini, 2018). E-wallet works through a mobile payment system of scans using QR CODE (Quick Response) established through store outlets.

For the mobile payment case, Technology Acceptance Model is a suitable method to predict and measure user acceptance modified based on the factors required (Taufan & Yuwono, 2018). The Technology Acceptance Model (TAM), was first introduced by Davis (1989), is an application of the development of Theory of Reasoned Action (TRA) formed to model user acceptance in information systems. TAM is an information systems theory designed to explain how users apply and understand information technology. The purpose of TAM is to explain and predict the acceptance of the relationship with the information base in a user of technology and explain the behavior of end-users with wide variations and the number of user populations. There are two core components related to technology acceptance models, namely Perceived Usefulness and Perceived Ease of Use in the use of information technology (Abadi, 2019). In this research, TAM is integrated with two external variables called perceived risk and Trust. Perceived risk and Trust are two critical components to measuring technology adoption, especially for making an electronic transaction (Pavlou, 2003).

There is a massive potential for e-wallets to develop in Indonesia as the (smartphones and tablets) users reach 355.5 million, higher than Indonesia's population (268.2 million people). However, cash transactions in Indonesia are still high at 76 percent (Nurfadilah, 2018) due to some reasons such as security concerns of the money also lost personal data (Diana, 2018) and applications often experience errors that cause the transaction process to fail (Utomo, 2019). Based on the above, this study is interested in investigating the people's acceptance in using this e-wallet to make a transaction. This study aims to evaluate one of Indonesia's e-wallet services using the extended Technology Acceptance Model (TAM).

Literature Review

Electronic Wallet (E-wallet)

E-Wallet is a virtual wallet on your smartphone, where you save money in the form of virtual money. So, in general, this is a digital wallet from which you can make transactions and make payments (Amrutha, 2019). Currently, e-wallet becomes one of the most popular payment instruments in financial activities. E-Wallet enhances the speed of financial transactions and also able to break the old transaction behavior that requires the buyer and seller to stand at the same location (Su et al., 2017). The popularity of e- wallets and the opportunity to enter the e-wallet environment are still effortless, resulting in many business people flocking into this industry and causing fierce competition (Fathi, 2014).

Technology Acceptance Model (TAM)

The TAM model was initially developed by Davis to measure and understand customer behavior towards technology (Meyliana & Surjandy, 2019). TAM was developed from the Theory Reasoned Action (TRA), which included the perception of conduct or action (Davis F. D., 1986). According to the model, TAM can determine and identify the factors or indicators that impact consumer behavior towards using technology. Two main variables of the TAM model use to measure consumer behavior, namely perceived usefulness, the perception of the advantages of the use of technology, and perceived ease of use that represent the ease of using the technology (Meyliana & Surjandy, 2019).
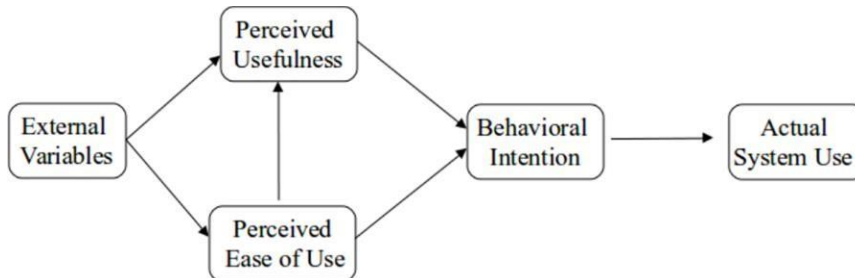

Figure 2.1 Technology Acceptance Model Source: (Davis, 1989)

The Behavioral Intention and actual use are influenced by the perceived usefulness and perceived ease of use directly or indirectly (Scherer et al., 2018). TAM is widely used to identify and predict new features and behaviors such as remote technology, ERP systems, e-commerce, internet business, online banking, web services. Internet, web blogs, e-commerce phones, and more (Zhang et al., 2019). There are many other ways to personalize user adoption besides TAM, such as innovation and satisfaction or dissemination. Still, TAM is more suitable for the mobile payment case, as it is modified based on the factors required for customer acceptance (Taufan & Yuwono, 2018).

Hypotheses development

Perceived Trust is the concept consisting of several aspects: integrity, reliability, self-

confidence, the capacity of an entity, and dependence. One of this concept's problems is the Trust in using mobile payment services (Meyliana & Surjandy, 2019). In the mobile payment case, Trust is one factor that influences the technology intention to use or another component in the TAM model (Chatterjee & Bolar, 2018). Besides Trust, there is another aspect that explains the user behavioral intention to use called risk. Risk refers to the possibility of a negative impact on the services provided (Nguyen & Huynh, 2017). Based on Abdul-Hamid et al., (2019) research, perceived risk has a negative correlation with Trust. It concluded that the higher risk involved in the services offered the lower consumer's Trust in that service. Other related research found that perceived risk negatively relates to perceived usefulness (Biucky et al., 2017). A study by Mutahar et al., (2018) also proved that perceived risk significantly influences perceived usefulness and perceived ease of use. If the level of risk is high, it will reduce the usability of the product or service and reduce the users' productivity. Besides, Jerene (2019) found that perceived ease of use has positively influenced the perceived Trust. The more comfortable a product or service to be obtained or accessed, the higher user's Trust in the product or service will arise. From the literature mention above, this study formulated several hypotheses as follows:

H1: Perceived risk has a significant influence on the perceived usefulness of e-Wallet.
H2: Perceived risk has a significant influence on perceived ease of use of e-Wallet.
H3: Perceived risk has a significant influence on the Trust of e-Wallet.
H4: Perceived ease of use has a significant influence on the perceived Trust of e-Wallet.

Davis (1989) explained two main determinants were adopting the technology: perceived usefulness and perceived ease of use. When a product or service is easily obtained or accessed, it will increase its perceived ease of use. The use or acceptance rate of a product or service will undoubtedly impact the user attitudes (Davis F. D., 1989). The theory of Perceived usefulness can be determined as the concept of usability. It explains the user's belief that technology could improve or increase their productivity and achieved the goals easier (Chuah, et al., 2016). In the mobile payment case, perceived usefulness refers to the user expectation that the technologies could improve the payment process (Phontanukitithaworn, Sellitto, & Fong, 2016). The payment process could be enhanced with the technologies, and then the user believes that technologies are helpful and able to improve their productivity. According to Ameziane et al., (2019), perceived usefulness significantly influences Malaysia's smartphone advertising attitude. Besides, a study by Abdullah, Ward, & Ahmed (2016) found that perceived usefulness has a significant influence on the intention to use. Another study proved that attitude was predicted by the perceived ease of use and perceived usefulness. In other words, perceived ease of use and perceived usefulness significantly influence attitude toward use (Elkaseh, Wong, & Fung, 2016). Based on the literature mention above, it can be hypothesized that:

H5: Perceived Usefulness has a significant influence on attitude toward the use of e-Wallet.

H6: Perceive Ease of Use has a significant influence on attitude toward the use of e-Wallet. H7: Perceived Usefulness has a significant influence on the intention to use e-Wallet.

According to Lee, Ryu, & Lee (2019), the perceived Trust could affect the user attitude. The user shows a more reliable product or services, a more positive attitude. Other studies also indices that Trust has a significant influence on the user's Attitude (Hossain, Mahmud, Hossin,

Bhuiyan, & Hua, 2019). Attitude is defined as the user or consumer's positive or negative feedback toward the adoption of new technology. It explains the user's evaluation of their intention in using technology. If the user gives a positive attitude toward using, it will increase the intention to use the technology (Davis F. D., 1989). In the context of e-wallet, intention to use e-wallet is very dependent on attitude toward using the e-wallet. If the user's attitude towards e-wallet is negative, then the intention to use e-wallet also has a negative effect, which in the end, the user does not use the e-wallet. Vice versa, if the attitude is positive, the intention to use an e-wallet will be positive too, and finally, the user will use the e-wallet. This explanation is supported by previous research by Lee, Ryu, & Lee (2019) that found the attitude toward using has a significant influence on the intention to use a mobile payment service. Another research also found that the user's attitude is positively affecting the intention to use e-wallet (Fathi, 2014). According to the literature and previous study above, the hypotheses are formulated as follows:

H8: Perceived Trust has a significant influence on attitude toward the use of e-Wallet.
H9: Attitude toward use has a significant influence on the intention to use e-Wallet.
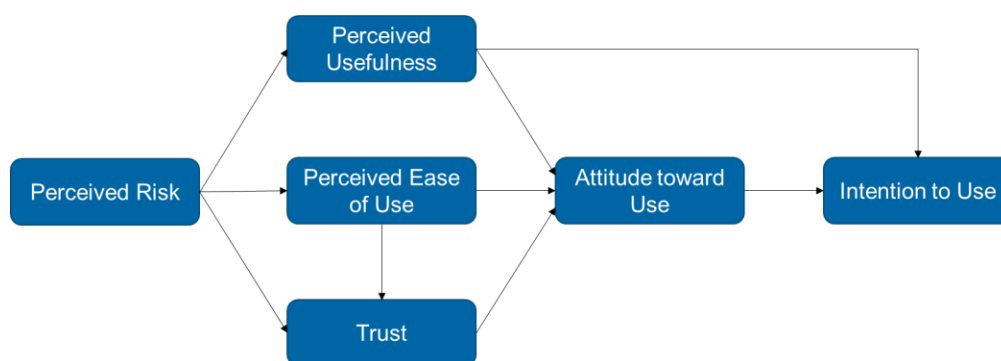

Figure 1. Conceptual Model Source: Adopted from Wong (2014)

Research Method

Construct measurement

The construct measurement in this study has been developed to evaluate variables in the model. One of the scales is Perceived risk adopted from Fathi (2014) and Pavlou (2003) with three items. Additionally, Maghfira (2018) mentioned three items used to measure the Perceived usefulness. Four items from Pavlou (2003) evaluate Trust. Perceived ease of use measure using four items adapted from Maghfira (2018) and Pavlou (2003). Based on Fathi (2014), three items measure attitude toward use. Last, three items from Fathi (2014) and Pavlou (2003) use to evaluate their intention.

Sampling methods and data collection

In this study, a survey was conducted to obtain empirical data. The sample population was selected using a convenient sampling technique from people who were still using one of the e-Wallet applications (App) whereby users reached 6 million in Indonesia (Oktaviani et al., 2019). Respondents are domicile in Jabodetabek (Jakarta, Bogor, Depok, Tanggerang, and

Bekasi) due to as 33% of users in Indonesia are living in the Jabodetabek area, and the rest are spread across Indonesia. Out of 113 sets of questionnaires, three were excluded due to outliers, and 110 sets of questionnaires were used for the final analysis. According to the demographic profile of the 110 respondents, the majority of respondents are female (57.50%) at the age of 21-29 years old (65.50%). Moreover, over half of the respondents (69 percent) are students, whereas 18.60% percent were employees.

Data analysis

In the current study, the Partial Least Square-based Structural Equation Modelling (PLS-SEM) was employed using the SmartPLS software, version 3.2.8. PLS-SEM is the most common implementation as a path model. PLS is characterized as the most suitable technique where the research objective is predictive or exploratory modeling (Garson, 2016). The PLS-based SEM contains two models: the measurement model and the structural model.

Results and Discussion

Measurement model test
The measurement model refers to the relationships between a latent construct and its indicators. The first criterion for assessing the reflective measurement model in the PLS-SEM is examining the reliability and the validity of measures (Hair et al., 2017). For the construct reliability, the measurement model results (Table I) reported that Cronbach's α values were above 0.60, and composite reliability (CR) values were above 0.70, meaning the constructs were reliable (Hair et al., 2017). According to Hair (Fathi, 2014), the item loadings for convergent validity, more than 0.5, can be categorized as valid. AVE (Average Variance Extracted) statistics for each construct ranged between 0.602 and 0.899, which were moderately higher than the suggested threshold of 0.5 (Hair et al., 2017), showing adequate convergent validity for all constructs.

Table 1: Measurement model assessment analysis Construct/measureed items

	Loadings	Convergent Validity AVE	Construct reliabilit α	CR
Perceived Risk		0.676	0.784	0.860
This app server is not running correctly and causes errors when processing payments.	0.647			
A transaction using this app has disadvantages.	0.934			
The opportunity to lose balance when using this app is high.	0.859			
Perceived Usefulness		0.623	0.693	0.831
Using this app can speed up the transaction process.	0.809			
Using this app can make transactions more effective.	0.865			
Using this app can increase productivity.	0.682			
Trust		0.628	0.801	0.870
This app offers trustworthy services.	0.817			
This app keeps its promises and commitments.	0.866			
This app maintains the confidentiality of user data.	0.695			
This app always maintains the quality of products and services offered to consumers.	0.782			
Perceived ease of use		0.602	0.777	0.857
This app is straightforward to understand.	0.849			
This app is easy to use.	0.863			
Using this app does not require a challenging effort.	0.678			
All required information is already available in this app.	0.694			
Attitude toward use		0.781	0.859	0.914
A transaction using this app is a good idea.	0.914			
A transaction using this app is a wise idea.	0.892			
A transaction using this app is interesting	0.844			
Intention to use		0.899	0.944	0.9

Source: Constructed by the researchers (2020)

In the PLS-SEM, the Fornell-larger criterion is recommended to assess discriminant validity (Hair et al. 2017) (Table II). Each latent variable's value must be greater than the highest R^2 value with the value of the other latent variable. It was found that the constructs do not have any discriminant validity problems according to the Fornell-larger criterion.

Table 2: Fornell-larcker criterion result

Variable	(1)	(2)	(3)	(4)	(5)	(6)
Attitude toward use	0.884					
Intention to use	0.677	0.948				
Perceive ease of use	0.565	0.646	0.776			
Perceived risk	-0.179	-0.248	-0.252	0.822		
Perceived Usefulness	0.534	0.591	0.572	-0.214	0.789	
Trust	0.622	0.426	0.546	-0.201	0.458	0.793

Source: Constructed by researchers (2020)

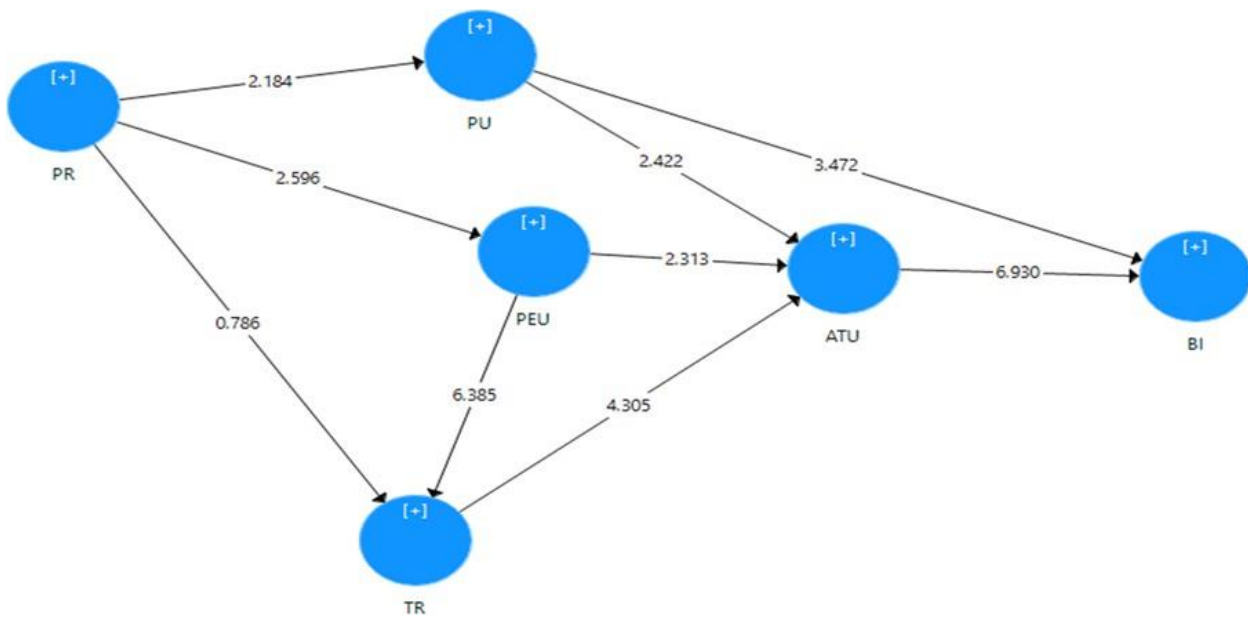*Structural Model and hypotheses testing results*

Figure 2: t-value result

The PLS-SEM structural model, the estimation of the structural model's path coefficient results in Table 3, and Figure 2 show both the perceived risk (H1: β= -0.214; t=2.184; p=0.029 had a significant effect on perceived usefulness. Also, the perceived risk (H2: β= -0.252; t=2.596; p=0.010) had a significant effect on perceived ease of use, whereas (H3: β= -0.068; t=0.786; p=0.432) had a significant effect on trust. Perceived ease of use (H4: β=0.529; t=6.385; p=0.000) also positively influenced on Trust. Perceived usefulness (H5) and perceived ease of use (H6) had a significant effect on attitudes toward use (p=0.016; p=0.021), and perceived usefulness significantly influenced intention to use (H7, p=0.001). Additionally, the influence of Trust (H8) attitude toward use was also positive and significant (p=0.000), whereas attitude toward use also had a positive influence on intention to use (H9: β= 0.506; p=0.000). Overall, only one path was insignificant and not supported the hypothesis (H3), whereas most path coefficient results are statistically significant, and the proposed hypotheses are supported.

Table 3: Path coefficient result with hypotheses testing

Hypotheses relationship	β value	SD	t-value	p-value	Remarks
H1: **Perceived risk ⟶ perceived usefulness**	-0.214	0.098	2.184	0.029	Supported
H2: **Perceived risk ⟶ perceived ease of use**	-0.252	0.097	2.596	0.010	Supported
H3: **Perceived risk ⟶ trust**	-0.068	0.086	0.786	0.432	Not Supported
H4: **Perceived ease of use ⟶ trust**	0.529	0.083	6.385	0.000	Supported
H5: **Perceived Usefulness ⟶ attitude toward use**	0.228	0.094	2.422	0.016	Supported
H6: **Perceive Ease of Use ⟶ attitude toward use**	0.217	0.094	2.313	0.021	Supported
H7: **Perceived Usefulness ⟶**	0.320	0.092	3.472	0.001	Supported

intention to use

H8: **Trust** $\longrightarrow$ **attitude toward use**	0.399	0.093	4.305	0.000	Supported
H9: **Attitude toward use** $\longrightarrow$ **intention to use**	0.506	0.073	6.930	0.000	Supported

Source: Constructed by researchers (2020)

Discussion

The study results supported H1, which means the perceived risk has a significant influence on the perceived usefulness of the e- wallet. The coefficient value of H1 is -0.214. It indicates the negative relationship between perceived risk and perceived usefulness. In other words, the high level of risk will reduce the usability of e-wallet service. If the application often errors when processing the transaction, it will delay the transaction process or even resulting in a monetary loss for the users. This finding is in line with the research by Biucky et al. (2017), which proved that the perceived risk has a negative impact on perceived usefulness. H2 was also accepted with a coefficient value of -0.252, indicating a significant negative effect of perceived risk toward perceived ease of use. The high risk or uncertainty of e-wallet application will reduce the user perception that e-wallet application is ease to use. This result was following a study by Mutahar et al. (2018).

On the contrary, the H3 is rejected because of the p-value of 0.432, which exceeds the maximum required value. The perceived risk did not have a significant influence on Trust. It was found that the perceived risk did not impact Trust. This result is contrary to the research results Abdul-Hamid et al. (2019) found that the perceived risk of mobile money service in Ghana negatively influences Trust. The H4 was accepted with the coefficient value shows a positive relationship between perceived ease of use and Trust with the value of 0.529. This result represents that perceived ease of use has a significant positive influence on the Trust of e-wallet. The easier the application to use, the more user's Trust in using the e-wallet application. Suppose the application is easy to use and provides all necessary information to use the application. In that case, it will increase the user's Trust in using the application, and research by Jerene (2019) also found that perceived ease of use has a significant positive influence on Trust.

H5 is accepted and proves that perceived usefulness influences the attitude toward the use of e-wallet applications significantly. Besides, the coefficient value is 0.228 indicates a positive relationship between variables in this hypothesis. If the e-wallet application provides high usability, it will lead to users' positive attitude in using the e-wallet application. This finding supported by Ameziane et. al (2019) research that perceived usefulness has a significant positive influence on the user's attitude. Additionally, H6 is accepted as the result of a p-value of 0.021. The perceived ease of use has a significant positive influence on attitude toward the use of e-wallet applications. If the e-wallet application is easy to use, it will lead to the user's positive attitude in using the application. This application needs to provide all the required information, making the application more comfortable to use. Then, it will be resulting from positive feedback from users and even increase the intention to use the application. This result is supported by Elkaseh et. al (2016) found that perceived ease of use positively influenced the

user attitude.

Perceived usefulness has a significant influence on the intention to use; thus, this study supported H7. Besides, the coefficient value shows a positive relationship between perceived usefulness and intention to use an e-wallet application as much as 0.320. it can be concluded that the high usability of e-wallet applications will directly increase users' intention to use the application. Previous research by Abdullah et al. (2016) found the same result where the perceived usefulness has a significant positive influence on intention to use. Based on the hypothesis analysis in this research (H8), Trust has a significant influence on the attitude toward using e-wallet application. The increase in the Trust will lead to a positive attitude toward the use of e-wallet applications.

The ability to build a massive user's Trust in using the application results in positive feedback and might increase the application's intention. This study follows the previous research by Lee et al. (2019) about mobile payment service acceptance. The result of H9 has the highest t-value. It can be concluded that the higher (positive) of user attitude will increase the intention to use the e-wallet application. This result is supported by Fathi (2014) and Lee et al. (2019).

Conclusion and Recommendation

Based on the findings, the perceived risk was negatively influencing the acceptance of e-wallet. To gain more users, the researcher suggests reducing the potential risk of the e-wallet application. The potential risk might be reduced by increasing the quality of the server. Based on the observation, some users experience difficulties with top-up balance and transfer money because of the server error. Besides, Trust also influences the acceptance of e-wallet positively. By increasing the user's Trust, will get more customers accordingly.

To achieve a cashless society in Indonesia, it required training and socialization about electronic money and transactions for citizens, especially for those who live outside the Jabodetabek and other big cities in Indonesia. The government may provide regulation or a system that can guarantee the security of transactions for users. Most of the people in Indonesia still afraid to use the e-wallet because of the security concern. Besides, the use of e-wallet could be improved by increasing the merchant or vending machine that requires an e-wallet to make a purchase.

References

Abadi, E. S. (2019). Analisis Faktor - faktor yang Mempengaruhi Minat Customer OVO Sebagai Alat Pembayaran Pembayaran Dengan Pendekatan Technology Acceptance Model (TAM).

Abdul-Hamid, I. K., Shaikh, A. A., Boateng, H., & E.Hinson, R. (2019). Customers' Perceived Risk and Trust in Using Mobile Money Services - an Empirical Study of Ghana. *International Journal of E-Business Research, 15*(1), 1-19.

Abdullah, F., Ward, R., & Ahmed, E. (2016). Investigating the Influence of The Most Commonly Used External Variables of TAM on Students' Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) of e-Portofolios. *Computers in Human Behavior, 63*, 75-90.

Ameziane, A. M., Jager, J. W., Jan, M. T., & Sultan, N. (2019). Applying Technology

Accepatance Model to Investigate the Use of Smartphones Advertising in Malaysia. *Journal of Economics and Behavioral Studies, 11*(1), 202-210.

Amrutha. (2019). Secure E-Wallet System Using Image Steganography and Cryptography. *International Journal of Engineering Science and Computing, 9*(4), 21537-21540.

Bank Indonesia. (2019). *Bank Indonesia*. Retrieved from Bank Sentral Republik Indonesia: https://www.bi.go.id/

Bank of Indonesia. (2019). *Bank Indonesia Mencanangkan Gerakan Nasional Non Tunai*. Retrieved from Bank Indonesia: https://www.bi.go.id/id/ruang-media/siaran-pers/pages/sp_165814.aspx

Biucky, S. T., Abdolvand, N., & Harandi, S. R. (2017). The Effects of Perceived Risk on Social Commerce Adoption Based on the TAM Model. *International Journal of Electronic Commerce Studies, 8*(2), 173-196.

Chatterjee, D., & Bolar, K. (2018). Determinants of Mobile Wallet Inenttions to Use: The Mental Cost Perspective. *International Journal of Human-Computer Interaction, 35*(10), 859-869.

Chuah, S. H.-W., Rauschanabel, P. A., Krey, N., Nguyen, B., Ramayah, T., & Lade, S. (2016). Wearable Technologies: The Role of Usefulness and Visibility in Smartwatch Adoption. *Computers in Human Behavior, 65*, 276-284.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, 13*(3), 319-340.

Diana, N. (2018). Analisis Faktor - faktor yang Mempengaruhi Minat Penggunaan Electronic Money di Indonesia.

Elkaseh, A. M., Wong, K. W., & Fung, C. C. (2016). Perceived Ease of Use and Perceived Usefulness of Social Media for e- Learning in Libyan Higher Education: A Structural Equation Modeling Analysis. *International Journal of Information and Education Technology, 6*(3), 192-199.

Fathi, S. (2014). Analisis Penerimaan E-Wallet Di Indonesia: Studi Kasus Doku Wallet.

Fatimah, S., & Suib, M. S. (2019). Transformasi Sistem Pembayaran Pesantren Melalui E-Money di Era DIgital. Hair, J.F. Jr, Hult, G.T.M., Ringle, C. and Sarstedt, M. (2017), A Primer on Partial Least Squares

Structural Equation Modeling (PLS-SEM), Sage Publications, Singapore.

Hossain, R., Mahmud, S. M., Hossin, M. A., Bhuiyan, T., & Hua, Y. X. (2019). Effect of Cognitive Ability, Trust and Time- Saving: Predicting Further Amelioration and Successive Usage of E-ticketing with TAM, TPB, and Cognitive Framework. *Information and Communication Technology for Competitive Strategies. Lecture Notes in Networks and Systems., 40*(5), 41-51.

Jerene, W. (2019). Determinants of Bank Customer's Intention to Adopt Electronic Finance Technologies in Ethiopia: An Integration of TAM with Financial Risk, Fiancial Trust, and Awareness. *Journal of Internet Banking and Commerce,*

24(2), 1-18.

Lee, J., Ryu, M. H., & Lee, D. (2019). A Study on The Reciprocal Relationship between User Perception and Retailer Perception on Platform-based Mobile Payment Service. *Journal of Retailing and Consumer Services, 48*, 7-15.

Maghfira. (2018). Faktor - faktor yang Mempengaruhi Penggunaan Sistem Pembayaran Go-Pay (Studi Kasus : Mahasiswa di Yogyakarta).

Meyliana, E. F., & Surjandy. (2019). The Influence of Perceived Risk and Trust in Adoption of Fintech Services in Indonesia.

CommIT (Communication & Information Technology) Journal, 13(1), 31-37.

Ministry of Finance Indonesia. (2018). *Sudah Saatnya Beralih ke E-money, Alat Pembayaran Zaman Now*. Retrieved from Kementerian Keuangan Republik Indonesia:

https://www.kemenkeu.go.id/publikasi/artikel-dan-opini/sudah-saatnya- beralih-ke-e-money-alat-pembayaran-zaman-now/

Mutahar, A. M., Daud, N. M., Ramayah, T., Isaac, O., & Aldholay, A. H. (2018). The Effect of Awareness and Perceived Risk on the Technology Acceptance Model (TAM): Mobile Banking in Yemen. *Int. J. Services and Standards, 12*(2), 180-204.

Nguyen, T. D., & Huynh, P. A. (2017). *The Roles of Perceived Risk and Trust on E-Payment Adoption* (Vol. 760). Springer, Cham. Nurfadilah, P. S. (2018). *Transaksi Tunai Masih 76 Persen, BI Terus Genjot Inklusi Keuangan*. Retrieved from Kompas.com:
https://ekonomi.kompas.com/read/2018/12/14/171231526/transaksi-tunai-masih-76-persen-bi-terus-genjot-inklusi- keuangan

Oktaviani, N., Astuti, W., & Firdiansjah, A. (2019). Pengaruh Kepuasan Konsumen Terhadap Pembentukan Komitmen Pelanggan dan e-WOM Pada Pengguna Aplikasi E-Money "OVO".

Pavlou, P. A. (2003). Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce, 7*(3), 101-134.

Phontanukitithaworn, C., Sellitto, C., & Fong, M. W. (2016). A Comparative Study of Current and Potential Users of Mobile Payment Services. *SAGE Open, 6*(4), 1-14.

Purwanto, S., & Sri Hartini, G. C. (2018). The Development and Testing of Technology Acceptance Models for Consumers towards the Intention to Use E-Wallet. *International Conference on Innovation in Research (ICIIR), 88*, 55-61.

Scherer, R., Siddiq, F., & Tondeur, J. (2018). The Technology Acceptance Model (TAM): A Meta-Analytic Structural Equation Modeling Aprroach to Explaining Teachers' Adoption of Digital Technology in Education. *Computers & Education, 128*, 13-35.

Setiawan, S. R. (2016). *Siapa Sangka, "Fintech" Ternyata Sudah Berkembang Sejak 1950-an*. Retrieved from Kompas.com:
https://money.kompas.com/read/2016/08/29/133000326/Siapa.Sangka.Fintech.Ternyata.Sudah.Berkembang.Sejak.1950
-an.

Su, P., Wang, L., & yan, J. (2017). How users' internet experience affects the adoption of mobile payment: a mediation model.
Technology Analysis & Strategic Management, 30(2), 186-197.

Taufan, A., & Yuwono, R. T. (2018). Analysis of Factors That Affect Intention to Use e-Wallet through the Technology Acceptance Model Aproach (Case Study: GO-PAY). *International Journal of Science and Research (IJSR), 8*(7), 413-419.

Utomo, B. P. (2019). *Apps Reviews*. Retrieved from Google Play Store:
https://play.google.com/store/apps/details?id=ovo.id&showAllReviews=true

Zhang, R. R., Khanal, S., & Kim, H. Z. (2019). An empirical study on user acceptance of ERP system by international student in Chinese HEIs: A TAM approach. *International Journal of Higher Education Management (IJHEM), 6*(1), 67-82.