ANALYSIS OF FACTORS AFFECTING INTERNATIONAL E-WALLET USE

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Abstract: The research in this article examines whether perceived usefulness, privacy and security of e-wallets, perceived ease of use, and perceived trust mediated by behavioral intention affect the use of e-wallets. This study uses primary data, namely data obtained by distributing questionnaires using a google form to 230 respondents. The research data is processed using the smart PLS 3 program. The results of this study are perceived usefulness, perceived ease of use, and perceived trust have a positive effect on behavioral intention and e-wallet use. For privacy and security, this variable has a positive effect on behavioral intention but has no relationship with e-wallet use. In addition, the study also found a positive relationship between behavioral intention and e-wallet use, so it can be concluded that the actual use of an e-wallet is determined by the user's intention to use it. Therefore, users should be given an understanding of this faster and easier transaction to encourage usage.

*Keywords***:** perceived usefulness, perceived ease of use, behavioral intention, e-wallet

Abstrak: Penelitian dalam artikel ini meneliti mengenai apakah *perceived usefulness, privacy and security e-wallet, perceived ease of use,* dan *perceived trust* yang dimediasikan oleh *behavioral intention* mempengaruhi penggunaan *e-wallet*. Penelitian ini menggunakan data primer yakni data yang diperoleh dengan melakukan penyebaran kuesioner berupa *google form* kepada 230 responden. Data penelitian diolah menggunakan program *smart* PLS 3. Hasil penelitian ini adalah *perceived usefulness*, *perceived ease of use*, dan *perceived trust* berpengaruh positif pada *behavioral intention* dan *e-wallet use*. Untuk *privacy and security*, variabel ini berpengaruh positif pada *behavioral intention* tetapi tidak mempunyai hubungan dengan *e-wallet use*. Selain itu, penelitian juga menemukan hubungan positif antara *behavioral intention* dan *e-wallet use* sehingga dapat disimpulkan bahwa penggunaan aktual *e-wallet* ditentukan oleh niat pengguna untuk menggunakannya. Oleh sebab itu, pengguna sebaiknya diberikan pemahaman mengenai transaksi yang lebih cepat dan mudah ini untuk mendorong keinginan penggunaan.

Kata kunci: perceived usefulness, perceived ease of use, behavioral intention, e-wallet

INTRODUCTION

In recent years, many countries have developed rapidly in the field of technology, including Indonesia. These developments provide positive benefits to several sectors, namely the financial, education, health, and transportation sectors. In the financial sector, companies usually want to be able to provide more efficient and faster payment services to their customers. This thinking encourages the creation of innovations that can fulfill the wishes of these companies. The innovation created is financial technology or in short, fintech (Willyanto & Sfenrianto, 2021). Fintech is a combination of financial services with technology that changes conventional business models to become more moderate. With fintech, people don't need to carry cash and can make

long-distance transactions quickly where this was previously unattainable (Bank Indonesia, 2018).

The existence of fintech encourages people to move towards a cashless society, namely a situation when transactions are carried out without using cash, but with electronic money or card-based payment instruments. Electronic money storage media are divided into server-based (GoPay, OVO, LinkAja, etc.) and chip/card-based (Flazz, Brizzi, E-money, Tapcash, etc.) (Prima, 2020). Based on data from Bank Indonesia (2021a), it can be seen that the overall number of electronic money circulating in Indonesia has increased every year and the latest data collection has counted 513,968,693 electronic money in August 2021. This proves that the Indonesian people are gradually moving towards a cashless society.

Table 1 Amount of Electronic Money Circulating in Indonesia (2015-2020)

Year	Number of Instruments
2015	34,314,795
2016	51,204,580
2017	90,003,848
2018	167,205,578
2019	292,299,320
2020	432,281,380

Source: Bank Indonesia (2021)

Table 2 Amount of Electronic Money Circulating in Indonesia (2021)

2021	Number of Instruments
January	442,612,567
February	456,736,475
March	470,811,351
April	483,354,024
May	498,202,416
June	511,254,525
July	495,280,424
August	513,968,693

Source: Bank Indonesia (2021)

One of the fintech tools that can help achieve a cashless society is an e-wallet, which is a digital wallet that is linked to a credit or debit

card to make transactions online. Payments via e-wallet are much more convenient and faster than conventional methods (Jesuthasan &

Umakanth, 2021). This method also saves time and money, especially cross-border transactions which have different currency values and are located far away. Based on data from Bank Indonesia (2021b), 8 Indonesian companies have obtained permission to use e-wallets for payment systems and corporate money management. The companies are PT Finnet Indonesia, PT Traveloka Indonesia, PT Paprika Multi Media, PT MNC Teknologi Nusantara, PT Sprint Asia Technology, PT Espay Debit Indonesia Koe, PT Bank Negara Indonesia 1946 (Persero), Tbk, dan PT Nusa Satu Inti Artha.

A useful and secure e-wallet will be in great demand by many. The e-wallet is affected by aspects such as perceived usefulness, perceived trust, perceived ease of use, and privacy and security. The stage where individuals believe that their productivity is increasing because of the system is called perceived usefulness. The more perceived benefits, the more individuals will be influenced to use them. Perceived ease of use is the use of a system that is easy and does not burden individuals when using it and perceived trust can affect the use of e-wallet because if trust is maintained properly, individuals are more likely to use the service again (Rantung *et al.*, 2020). Privacy and security also affect the use of e-wallets. If individual security and privacy are not protected, cybercriminals can illegally access personal data and information (Karim *et al.*, 2020).

This study is a combination of two studies. The first study is the study led by Karim *et al.* (2020) where the researcher investigates what makes young adults use e-wallets using three variables, namely perceived usefulness, privacy and security, and perceived ease of use to see the effect on behavioral intention and actual behavior (actual system use). The second study was conducted by Rantung *et al.* (2020) with the aim of finding the influence of perceived usefulness, perceived trust, and perceived ease of use on the behavioral intention of GoPay

users. The specific difference applied by the author compared to previous studies is to link the use of e-wallets with cross-country or international transactions. Based on the background above, it can be seen that the research in this article will examine whether the perceived usefulness, privacy and security of e-wallets, perceived ease of use, and perceived trust mediated by behavioral intention affect the use of e-wallets.

Alwi *et al.* (2021) examined the effect of perceived usefulness, health precaution, perceived ease of use, social influence, perceived security, perceived value, and transactional costs on behavioral intention. This study strives to find out what affects the intention to implement e-wallets after COVID-19. The research sample obtained was as many as 200 respondents, from various countries including Malaysia, Maldives, the UK, India, Bangladesh, and many more. The study shows that all independent variables have a significant relationship with behavioral intention to adopt an e-wallet.

In the research of Effendy *et al.* (2021), analyzed the effects of perceived usefulness, social influence, and perceived ease of use on the intention to use an e-wallet. This study aims to define the connection between perceived usefulness, social influence, and perceived ease of use on the intention to use an e-wallet. The amount of data obtained is 137 respondents who show a positive and significant relationship between perceived ease of use and perceived usefulness with the intention to use. On the other hand, social influence does not have a significant effect.

Simorangkir and Afgani (2021) conducted a study that showed the effect of performance expectancy, social influence, effort expectancy, perceived security, and trust on behavioral intention. The objective of this study is to find out elements that influence the behavioral intentions of Generation Z in utilizing mobile payments in Bekasi. The data collected

were 409 valid respondents and discovered that social influence and perceived security had a significant effect, while performance expectancy, trust, and effort expectancy were not significantly related to behavioral intention.

Daragmeh *et al.* (2021) examined the effect of subjective norms, perceived usefulness, COVID-19 risk, and perceived ease of use on behavioral intention. The study aimed to evaluate the influencing factors on the behavioral intention of generation X Hungarians for using mobile payment services during COVID-19. The study collected a sample of 1120 respondents and found that all variables had a significant effect on behavioral intention except for perceived ease of use which had an indirect effect.

The research of Sukaris *et al.* (2021), analyzed the influence of trust, performance expectancy, facilitating conditions, effort expectancy, social influence, and hedonic motivation mediated by behavioral intention to use behavior. This study has a purpose, namely to examine the behavior of using e-wallet based applications. The study collected 200 respondents who revealed that performance expectancy, hedonic motivation, social influence, facilitating conditions, and trust affect behavioral intention and behavioral intention has a positive relationship with use behavior.

Penney *et al.* (2021) conducted a study showing the effects of habit, performance expectancy, facilitating conditions, effort expectancy, price value, social influence, hedonic motivation, trust, and perceived risk mediated by behavioral intention to use behavior. The aim of the study is to examine the effect that predicts the behavioral intention of users to adopt an e-wallet. This study used a sample of 373 e-wallet users in Ghana. The results of data analysis reveal that price value, performance expectancy, social influence, effort expectancy, habit, perceived risk, and trust substantially affect behavioral intention. On the

other hand, facilitating conditions and hedonic motivation show no significant effect on behavioral intention.

Perceived Usefulness

Perceived usefulness (PU) is the stage where a person feels that their productivity increases thanks to using a particular system (Yang *et al.*, 2021). PU believes that technology will be used when it can enhance performance. PU fundamentally refers to acting on the work more efficiently and effectively as well as decreasing the time to finish a task (Pertiwi et al., 2020). Users will make online transactions as a useful and smart choice to buy or even repurchase if users obtain knowledge to use them. Users who find e-wallets very useful can be sure to enjoy using e-wallets as a means of payment (Yang *et al.*, 2021). In general, individuals will be interested in using technology that is believed to have benefits and is suitable for everyday life (Alwi *et al.*, 2021). The number of benefits received can affect a person's intention to shop or use services through an e-wallet (Rantung *et al.*, 2020).

This value can predict acceptance and willingness to use e-wallets so that the higher the perceived usefulness, the higher the behavioral intention to use e-wallets (Pertiwi *et al.,* 2020). Several previous studies are using perceived usefulness as a factor to determine the relationship with behavioral intention and e-wallet use (Daragmeh *et al.*, 2021; Effendy *et al.*, 2021; Karim *et al.*, 2020; Nag & Gilitwala, 2019; Pertiwi *et al.*, 2020; Yang *et al.*, 2021). PU is a fundamental and distinct construct effective in operating information technology, where the perceived usefulness has a significant influence on behavioral intention to use the e-wallet payment method (Jesuthasan & Umakanth, 2021). Therefore, e-wallets should create a degree of use that would result in an approving attitude by the users, as any system which does

not help the users would not be used (Alwi et al., 2021).

H1: Perceived usefulness has a significant influence on e-wallet use.

H5: Perceived usefulness has a significant influence on behavioral intention.

H9: Perceived usefulness mediated by behavioral intention has a significant influence on e-wallet use.

Perceived Ease of Use

Perceived ease of use (PEU) is the use of a system that is effortless and does not burden individuals when using it (Yang *et al.,* 2021). PEU considers that technology will be adopted when it is less hassle or effort in using it. PEU is a person's trust in the convenience of operating a system (Pertiwi et al., 2020). If the user can quickly understand the flow of the application, it implies that the perceived ease of use is high. This will increase usability, reduce errors, and attract people to adopt e-wallets (Yang *et al.*, 2021). An e-wallet with a convenient process can motivate users to accept it. The higher the ease of operating an e-wallet, the higher the user's intention (Pertiwi *et al.*, 2020). If the e-wallet has unique features, the user must have some knowledge to find it easy to use and can accept the e-wallet (Alwi *et al.*, 2021).

Pertiwi *et al*. (2020) revealed that perceived ease of use has a significant positive impact on perceived usage in using e-wallets. A study by Karim *et al.* (2020) also found a connection between perceived ease of use and e-wallet use. According to Effendy *et al.* (2021) and Jesuthasan and Umakanth (2021), there is a connection between perceived ease of use and behavioral intention. Nag and Gilitwala (2019) also obtained results that perceived ease of use has a significant impact on the intention to use e-wallets. PEU accentuates that technology must be easy to use, as the complexities of a system would negatively influence the user's intention to adopt. This is due to not being able to figure out or comprehend the use of the system (Alwi et al., 2021). An e-wallet that is easy to use, will influence individual behavioral intention. This intention then drives the actual usage of e-wallets.

H2: Perceived ease of use has a significant influence on e-wallet use.

H6: Perceived ease of use has a significant influence on behavioral intention.

H10: Perceived ease of use mediated by behavioral intention has a significant influence on e-wallet use.

Perceived Trust

Perceived trust (PT) is a transaction between two or more parties that will occur when each side trusts the other (Mahwadha, 2019). PT is a sense of security, confidence, and individual willingness to use something that can meet user expectations (Penney *et al.,* 2021). PT delivers an important role in improving the user's perceived value, satisfaction, and loyalty intentions (Rantung et al., 2020). PT is an accumulation of user importance on truthfulness, benevolence, and capacity that could enhance user willingness to rely on an e-wallet to conduct financial transactions (Simorangkir & Afgani, 2021). Trust also means acknowledging that other individuals or companies with whom one interacts, will not take advantage of our reliability on them. By building trust, the user's uncertainty and fear will decrease thereby increasing decision-making and adoption intention. Therefore, trust and confidence that the service is free from cybercriminals will influence users in adopting e-wallets (Penney *et al.,* 2021). The continued growth in e-wallet data protection can increase the trust of e-wallet users (Nag & Gilitwala, 2019).

Trust is also an important thing in doing business, especially when marketing a product or service. This marketing must be carried out as well as possible so that customers have the confidence to use the product or service. Sukaris

et al. (2021) conducted research with trust as one of the factors thought to have a relationship with use behavior for using e-wallets. Yang *et al.* (2021) also discovered that perceived trust shows a significant positive impact on the adoption of e-wallets. Many previous studies have used perceived trust as a factor to determine the connection with behavioral intention to use e-wallets (Mahwadha, 2019; Simorangkir & Afgani, 2021; Yang *et al.*, 2021). An e-wallet that is trusted, will influence individual behavioral intention. This intention then drives the actual usage of e-wallets.

H3: Perceived trust has a significant influence on e-wallet use.

H7: Perceived trust has a significant influence on behavioral intention.

H11: Perceived trust mediated by behavioral intention has a significant influence on e-wallet use.

Privacy and Security

Privacy and security (PS) is the uncertainty on a system level of protection (Alwi et al., 2021). PS is a heavily studied factor in e-wallet studies due to the financial nature of the transactions (Pal et al., 2021). Privacy is described as an individual's capability to privately monitor information that is relevant to oneself (Karim *et al*., 2020). Security is the perception of safeguarding against the worrying risks associated with online transactions (Alwi *et al.*, 2021). Privacy and security are when the user believes that the payment application can guarantee the security of the payments made such as by applying passwords, account confidentiality, etc (Phan *et al.*, 2020). This is considered an added benefit of secure transactions so it is a positive factor. The sense of a secure transaction will affect the behavior of users to adopt it (Pal *et al.*, 2021).

If the user does not feel security and privacy, the e-wallet will be removed. This is because payment applications without security features will make it easier for cybercriminals to gain access to personal information and data (Alwi *et al.,* 2021; Karim *et al.,* 2020). Several studies have discovered a connection between privacy and security with e-wallet use *(Karim et al.,* 2020; Phan *et al.*, 2020). A study by Simorangkir and Afgani (2021) found that the factor that most influences behavioral intention is perceived security, so providers should inform users that personal data is guaranteed to be safe. Al-Okaily *et al*. (2020) also stated that the intention to use the JoMoPay system is significantly and positively affected by security and privacy. The matters related to privacy and security are very crucial in mobile payments as it involves financial service, thereafter influencing behavioral intention (Alwi et al., 2021), whereas behavioral intention will affect e-wallet use.

H4: Privacy and security have a significant influence on e-wallet use.

H8: Privacy and security have a significant influence on behavioral intention.

H12: Privacy and security mediated by behavioral intention have a significant influence on e-wallet use.

E-Wallet Use and Behavioral Intention

E-wallet use (EU) is the actual usage of an e-wallet (Karim *et al*., 2020). EU is an act of using an e-wallet that is carried out deliberately by an individual (Sukaris et al., 2021). Behavioral intention (BI) is a measure of an individual's intent to take a specific action (Mahwadha, 2019). BI is a desire or interest to do a certain behavior (Rantung et al., 2020). BI is the probability of an individual doing certain things in the future. BI also means the intention on user readiness to use product/service (Phan et al., 2020). Frequency of usage is seen as a useful method to examine real user behavior. A new payment method that is widely accepted and is expected to grow in Indonesia is the e-wallet.

According to Pertiwi *et al.* (2020) and Phan *et al.* (2020), the higher the intention to use it (behavioral intention), the higher the actual behavior (e-wallet use). Many researchers have found a relationship between behavioral intention and e-wallet use (Karim *et al.*, 2020; Pertiwi *et al.*, 2020; Phan *et al.*, 2020; Yang *et al.*, 2021).

H13: Behavioral intention has a significant influence on e-wallet use.

RESEARCH METHOD

Referring to the objectives of the research and presentation by the author, this research is a study to explain what factors can influence the use of international e-wallets. This study has a causal connection between perceived usefulness, perceived ease of use, perceived trust, and privacy and security variables as independent, behavioral intention variable as intervening or mediating, and e-wallet use as dependent. This study also applies quantitative methods because the empirical assessment is composed of measurement and numerical analysis. Quantitative research will focus on collecting data in the form of numbers where the data will be processed and analyzed to obtain research results. The subjects of this research are individuals who are familiar with international e-wallets (Paypal/ Alipay/ WeChat/ etc). The object of this research is located in Indonesia, especially in Batam City in the Riau Islands Province. The sampling method used by the researcher is a non-probability sample, namely purposive sampling. This method takes samples subjectively based on several research criteria. Therefore, the final sample of this research object is international e-wallet users (Paypal/ Alipay/ WeChat/ etc.) in Indonesia, especially Batam City. This sample was obtained by distributing questionnaires to respondents who met the research criteria.

This study uses primary data, namely data obtained by distributing questionnaires in the form of a Google form. The distributed questionnaires contained questions related to the research variables. The total questionnaire questions in this study were 23 items so the required sample size was a minimum of 230 samples from 23 items multiplied by 10 using the Hair *et al.* (2014) method. This study uses Partial Least Square (PLS) as a data analysis technique with the scope of evaluating the outer model and inner model. The outer model is used to see the relationship between variables and indicators in the form of examining the validity and reliability of the data. Tests on the inner model are applied in a study to find links between research variables, tests are carried out on the connection of the independent variable to the dependent variable directly, as well as the relationship of indirect variables.

Table 3 Questionnaire Measurement Indicators

Constructs		Measurement Items	Source
Perceived Usefulness (PU)	PU1	Using an e-wallet makes it easier for me to make daily transactions	Yang *et al.* (2021)
	PU2	Using an e-wallet allows me to manage transactions more efficiently	
	PU3	Using an e-wallet can increase my productivity	
	PU4	Using an e-wallet allows me to complete tasks, such as payments, more quickly	
	PU5	Overall, I believe e-wallets are more useful than making traditional transactions	
Perceived Ease of Use (PEU)	PEU1	Learning how to use an e-wallet was easy for me	Yang *et al.* (2021)
	PEU2	My interaction with an e-wallet is clear and easy to understand	
	PEU3	I found the e-wallet easy to use	
	PEU4	It is very easy for me to become good at using e-wallets	

	PEU5	It's easy for me to remember how to do tasks with an e-wallet	
	PEU6	I like the fact that payments made through e-wallets require minimal effort	
Perceived Trust (PT)	PT1	The e-wallet is competent and effective in handling my transactions	Sleiman *et al.* (2021)
	PT2	E-wallets always provide reliable service	
	PT3	E-wallets can be trusted at all times	
Privacy and Security (PS)	PS1	When I use an e-wallet, financial transactions are safe	Pal *et al.* (2021)
	PS2	Password protection ensures security	
	PS3	The e-wallet provider updates the app regularly	
Behavioral Intention (BI)	BI1	I intend to use an e-wallet	Phan *et al.* (2020)
	BI2	I am planning to use an e-wallet	
	BI3	I have a prediction that I will use an e-wallet	
E-Wallet Use (EU)	EU1	I pay using an e-wallet regularly	Phan *et al.* (2020)
	EU2	Using an e-wallet is fun	
	EU3	Using an e-wallet is positive	

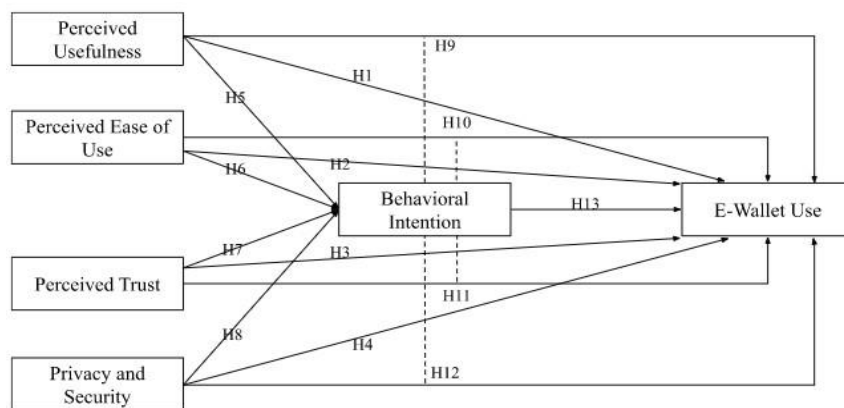Source: Data Processing Result (2022)

Figure 1 Research Conceptual Framework

RESULT AND DISCUSSION

The distribution of questionnaires has been carried out and a sample of 273 respondents who are familiar with international e-wallets (Paypal/ Alipay/ WeChat/ etc.) have been obtained. The distribution of the characteristics of the respondents listed in the questionnaire is based on gender and age. Table 4 states the percentage of respondents who answered the research questionnaire based on gender. There were 95 male respondents and 178 female respondents, so it can be inferred that the majority of respondents in this study were female. Based on table 5, it can be seen that the majority of respondents were aged between 18-25 years, namely 259 people. Contrarily, the least number of respondents came from the small age group of 18 years and the largest of 34 years, namely 1 person.

Table 4 Data of Respondents by Gender

Gender	Amount	%
Men	95	34,7%
Women	178	65,2%
Total	**273**	100%

Source: Data Processing Result (2022)

Table 5 Data of Respondents by Age

Age Group	Amount	%
<18	1	0,3%
18-25	259	94,8%
26-33	12	4,3%
>34	1	0,3%
Total	**273**	100%

Source: Data Processing Result (2022)

The collected data will be tested for validity and reliability by using the Average Variance Extracted (AVE) test, the cronbach alpha test, and the composite reliability test. The AVE test criteria are that a data's AVE value must exceed 0.5 so that research data can be said to be valid (Suhartanto, 2020) and data can be relied upon when obtaining a cronbach alpha value greater than 0.6. For the composite reliability test, the test results must be greater than 0.7 so that the data is said to be reliable (Hair *et al.,* 2014). The outcomes of the validity and reliability tests are displayed in the following table.

Table 6 Validity and Reliability Test

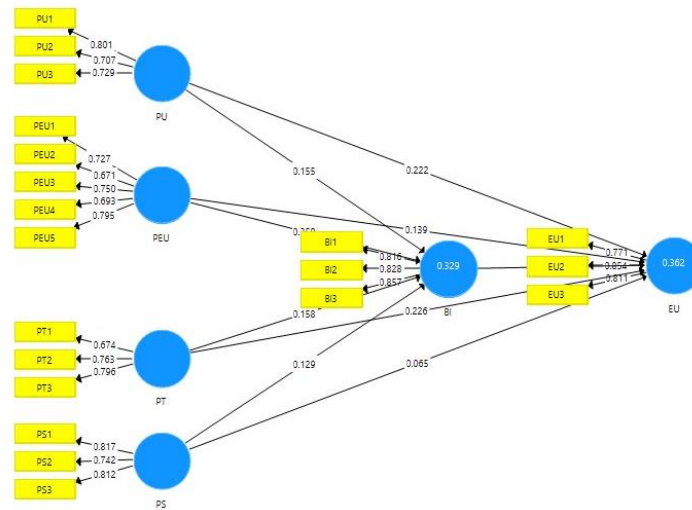| Variable	Cronbach's Alpha	Composite Reliability	AVE
Behavioral Intention (BI)	0,780	0,872	0,695
E-Wallet Use (EU)	0,742	0,853	0,660
Perceived Ease of Use (PEU)	0,778	0,849	0,531
Privacy and Security (PS)	0,705	0,834	0,626
Perceived Trust (PT)	0,600	0,789	0,557
Perceived Usefulness (PU)	0,602	0,790	0,558

Source: Data Processing Result (2022)

Figure 2 Structural Model

After the research data was tested, the results obtained were that all variables were declared valid and reliable. The next test is Adjusted R Square test which is a test to find out how much impact the independent variable has on the dependent variable. If the value is greater, the dependence between variables is getting stronger (Hair *et al.,* 2014).

Table 7 Adjusted R Square Test

Variable	R Square Adjusted
Behavioral Intention (BI)	0,319
E-Wallet Use (EU)	0,350

Source: Data Processing Result (2022)

Table 8 Direct and Indirect Effects Test

Influence	Sample Mean (M)	P Values	Result
BI -> EU	0,206	0,005	Significant Positive
PEU -> BI	0,346	0,000	Significant Positive
PEU -> EU	0,146	0,033	Significant Positive
PS -> BI	0,134	0,023	Significant Positive
PS -> EU	0,072	0,263	Not Significant
PT -> BI	0,157	0,006	Significant Positive
PT -> EU	0,229	0,000	Significant Positive
PU -> BI	0,163	0,027	Significant Positive
PU -> EU	0,223	0,000	Significant Positive
PEU -> BI -> EU	0,071	0,008	Significant Positive
PS -> BI -> EU	0,027	0,078	Not Significant
PT -> BI -> EU	0,034	0,073	Not Significant
PU -> BI -> EU	0,034	0,099	Not Significant

Source: Data

Processing Result (2022)

The outcomes in table 7 reveal the influence of the independent variable on behavioral intention as much as 0.319. This means that the independent variables of this study have an influence of about 31.9% on behavioral intention while 68.1% is influenced by other external factors. Meanwhile, the effect of the independent variable on e-wallet use obtained a value of 0.350, which means that the independent variable of this study has an influence of about 35% on e-wallet use and the remaining 65% is influenced by other external factors.

This study also tested the quality index to assess the overall study model (Jörg Henseler, 2013). Based on the data analysis above, the calculated average AVE value is 0.6045 and the average value of Adjusted R Square is 0.3345 so the quality index test can be calculated as follows:

$$GoF = \sqrt{0,6045 \; X \; 0,3345}$$

$$GoF = 0,449$$

GoF which is worth 0.449 above shows that the data is classified as GoF large, which is greater than 0.36. To find out whether there is a direct connection between the independent and dependent variables, the direct effects test can be carried out. This study has four independent variables, one mediating variable, and one dependent variable. If the variable reaches a t-statistic value that exceeds 1.96 and p-values less than 0.05, then the variable is stated to have a significant impact. For the direction of the effect, it can be seen from the sample mean value that indicates positive or negative outcomes. The indirect effects test was conducted to determine whether there was a successful mediation relationship between the independent and dependent variables. If the variable reaches a t-statistic value that exceeds 1.96 and p-values less than 0.05, then the

variable is declared to be successful in mediating (Hair *et al.,* 2014).

Based on Table 8, it can be concluded that perceived usefulness has a direct effect on e-wallet use as seen from the sample mean, which has a value of 0.223, and p-values which have a value of 0.000. This value means that the connection between perceived usefulness and e-wallet use has a positive and significant influence so **H1 is accepted**. These results suggest that users use e-wallets because of their usefulness and efficiency in various transactions. This usefulness can be an additional incentive for users to enjoy using an e-wallet instead of traditional transactions. By using an e-wallet, physical contact can also be reduced and prevent the spread of COVID-19. This result is confirmed by Yang *et al.* (2021) but contrary to Pertiwi *et al.* (2020).

Perceived ease of use directly affects e-wallet use as seen from the sample mean, which has a value of 0.146, and p-values which have a value of 0.033. This value means that the connection between perceived ease of use and e-wallet use has a positive and significant influence so **H2 is accepted**. This result is in contrast to Phan *et al.* (2020) who state that young users do not pay much attention to the ease or difficulty of using e-wallets. This is because young users can adapt and learn quickly with any technology. The research that is consistent with these results is the study by Karim *et al.* (2020) and Pertiwi *et al.* (2020) who obtained the result that the use of a convenient and easy digital wallet will trigger people to use it.

Perceived trust directly affects e-wallet use, as seen from the sample mean, which is worth 0.229, and the p-values, which are worth 0.000. This value means that the connection between perceived trust and e-wallet use has a positive and significant influence. Therefore, **H3 is accepted**. This result concludes that users will continue to transact if they have confidence

in the system or the provider. A low sense of risk will encourage the intention to use an e-wallet. This study obtained the same results as Yang *et al.* (2021).

Privacy and security directly affect e-wallet use, as seen from the sample mean, which is worth 0.072, and the p-values, which are worth 0.263. This value means that the relationship between privacy and security and e-wallet use has a positive and insignificant impact. Thus, **H4 is rejected**. This outcome means that users do not care about the security and privacy features provided by the system because users rarely experience security and privacy breaches. This is because e-wallet is known for its secure transactions and thorough data verification. The study led by Phan *et al.* (2020) also obtained the same results.

Perceived usefulness directly affects behavioral intention, as seen from the sample mean, which is worth 0.163, and the p-values, which are worth 0.027. This value means that the connection between perceived usefulness and behavioral intention has a positive and significant influence so **H5 is accepted**. The study that supports this result is a study conducted by Effendy *et al.* (2021), Pertiwi *et al.* (2020), and Yang *et al.* (2021) and studies with different results put forward by Jesuthasan & Umakanth (2021).Users have the view that an e-wallet is a very useful transaction tool so many users switch to using e-wallets compared to traditional cash transactions. The higher the sense of usefulness, the intention to use it also increases.

Perceived ease of use directly affects behavioral intention, as seen from the sample mean, which has a value of 0.346, and p-values which have a value of 0.000. This value means that the connection between perceived ease of use and behavioral intention has a positive and significant influence. Thus, **H6 is accepted**. These outcomes indicate that users have no difficulty in using e-wallets so it is more

convenient and easier to encourage the intention to use an e-wallet. Little time to understand e-wallet will encourage the view that e-wallet is very easy to operate. Therefore, the provider must ensure that the e-wallet does not have confusing features and does not take much effort to learn about it. These results are in line with the research by Effendy *et al.* (2021), Jesuthasan & Umakanth (2021), Karim *et al.* (2020), Pertiwi *et al.* (2020), Rantung *et al.* (2020), and Yang *et al.* (2021).

Perceived trust directly affects behavioral intention, as seen from the sample mean, which is worth 0.157, and the p-values, which are worth 0.006. This value means that the connection between perceived trust and behavioral intention has a positive and significant influence so **H7 is accepted**. The study led by Rantung *et al.* (2020) and Yang *et al.* (2021) also obtained consistent results. An e-wallet that provides a sense of reliability and trust will increase user intentions. User ratings and attitudes towards e-wallets are influenced by the confidence the system can provide and the promises the provider keeps.

Privacy and security directly affect behavioral intention, as seen from the sample mean, which is worth 0.134, and the p-values, which is worth 0.023. This value means that the relationship between privacy and security with behavioral intention has a positive and significant impact and this result is also obtained by Al-Okaily *et al.* (2020) and Karim *et al.* (2020). Therefore, **H8 is accepted**. Good security and privacy will cause users to feel protected when using an e-wallet. Without this sense of protection, users will hesitate and be careful in using e-wallets therefore reducing usage intentions.

Perceived usefulness influences e-wallet use, which is mediated by behavioral intention, which can be seen from the sample mean, which is 0.034, and the p-values is 0.099. This value means that the indirect connection between perceived usefulness and e-wallet use

has a positive and insignificant impact and is not mediated successfully by behavioral intention so **H9 is rejected**. These results are different from the results obtained if only tested from direct influence without mediation. Therefore, behavioral intention did not succeed in mediating the relationship between perceived usefulness and e-wallet use.

Perceived ease of use influences e-wallet use, which is mediated by behavioral intention, which can be seen from the sample mean, which is 0.071, and the p-values is 0.008. This value indicates that the indirect connection between perceived ease of use and e-wallet use has a positive and significant impact and is mediated successfully by behavioral intention. Thus, **H10 is accepted**. These results have the same effect as the results obtained if only tested from direct influence without mediation. However, direct influence without mediation obtains a higher coefficient value which is 0.033 than mediation which is 0.008. It shows that direct influence has a greater effect than using mediation. Therefore, intention to use only acts as a complementary partial mediation in the relationship between perceived ease of use and e-wallet use. Behavioral intention as a partial mediation means that behavioral intention contributes a significant percentage to the relationship between perceived ease of use and e-wallet use. Partial mediation implies that the independent variable can directly influence the dependent variable without going through or involving a mediating variable. This happens because users will strongly use a convenient e-wallet with or without the help of behavioral intention. In this study, we can conclude that BI only successfully mediates the relationship between PEU and EU. This happens because ease of use has a significant effect on user's intentions and behavioral intention has a significant effect on using an e-wallet. The convenient use of the international e-wallet (Paypal/ Alipay/ WeChat/ etc.) has already triggered users in Indonesia, especially Batam

City to use them as a payment instrument. A similar finding on this result is found in a study by Pertiwi et al (2020).

Perceived trust influences e-wallet use, which is mediated by behavioral intention, which can be seen from the sample mean, which is 0.034, and the p-values is 0.073. This value means that the indirect connection between perceived trust and e-wallet use has a positive and insignificant impact, and is not mediated successfully by behavioral intention. This result is contrary to the direct impact where perceived trust has a significant positive relationship to e-wallet use. Therefore, **H11 is rejected** and it can be said that behavioral intention did not succeed in mediating between perceived trust and e-wallet use.

Privacy and security affect e-wallet use which is mediated by behavioral intention, which can be seen from the sample mean, which is 0.027, and the p-values, which is 0.078. This value means that the indirect relationship between privacy and security and e-wallet use has a positive and insignificant impact and is not mediated successfully by behavioral intention so **H12 is rejected**. This means that behavioral intention does not succeed in mediating between privacy and security and e-wallet use. These results are consistent with the results obtained when only tested from direct influence without mediation.

Behavioral intention directly affects e-wallet use, as seen from the sample mean, which is worth 0.206, and the p-values, which are worth 0.005. This value means that the connection between behavioral intention and e-wallet use has a positive and significant impact. Thus, **H13 is accepted**. The actual use of the e-wallet is determined by the user's intention to use it. Therefore, users should be given an understanding of this faster and easier transaction to encourage the desire to use it. These results are in line with the research by Pertiwi *et al.* (2020) and Yang *et al.* (2021).

CONCLUSION

The outcomes of this study are perceived usefulness, perceived ease of use, and perceived trust have a positive effect on behavioral intention and e-wallet use. These results suggest that users use e-wallets because of their usability, comfort, and sense of reliability in various transactions. For privacy and security, this variable has a positive effect on behavioral intention but has no relationship with e-wallet use. Because users seldom encounter security and privacy violations, the safety of e-wallets are not in doubt. Perceived ease of use mediated by behavioral intention has a significant positive relationship with e-wallet use. However, behavioral intention did not succeed in mediating the connection between perceived usefulness, perceived trust, and privacy and security with e-wallet use. In addition, the study also found a positive relationship between behavioral intention and e-wallet use, so it can be deduced that the actual use of an e-wallet is determined by the user's intention. Therefore, international e-wallets (Paypal/ Alipay/ WeChat/ etc) will be used if the user already has the intention to use it. This intention is affected by an e-wallet's usefulness, ease of use, and user trust.

Recommendations that can be applied for the development of further research are the addition of several variables or factors that can also affect e-wallet use such as social influence and facilitating conditions as well as adding a moderating variable, namely COVID-19. Obtaining research data can be more accurate by expanding the target respondent and adding respondent selection criteria. Further research can also add more data sources that can support the hypotheses that have been assumed.

This study also had several limitations that hindered the research process, namely the distribution of questionnaires during the COVID-19 period, making it difficult to distribute questionnaires freely and respondents who were

located far away could only be carried out indirectly. This can cause the spread or division of the questionnaire to be uneven. Due to circumstances that made it difficult to meet face to face, some respondents could not receive a detailed explanation regarding the research which caused the respondents to not understand the questionnaire questions making it difficult to test the data. Another obstacle is the limited sources of previous research that can support research results because there are restrictions on accessing data and paid sites.

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