



Continuance usage intention and its antecedents on using OVO e-wallet application in Denpasar



Made Darmiasih^a
Putu Yudi Setiawan^b

Article history:

Submitted: 09 October 2020

Revised: 27 November 2020

Accepted: 18 December 2020

Keywords:

*continuance usage intention;
information quality;
perceived privacy protection;
perceived security protection;
trust;*

Abstract

This study aims to explain the effect of information quality, perceived privacy protection, perceived security protection on trust, and its effect on continuance intention to use OVO in Denpasar. This research was conducted in Denpasar, using 139 respondents. This study uses Structural Equation Modelling (SEM) analysis techniques with the Partial Least Square approach. This study shows that information quality has a positive and significant effect on trust. Perceived privacy protection has a positive and significant effect on trust and continuance usage intention. Perceived security protection has a positive and significant effect on trust and continuance usage intention. Also, this study also shows that trust has a positive and significant effect on continuance usage intention. Information quality was found that have no significant effect on the continuance usage intention.

International research journal of management, IT and social sciences © 2021.

This is an open access article under the CC BY-NC-ND license

(<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Corresponding author:

Made Darmiasih,

Faculty of Economics and Business, Udayana University, Denpasar, Indonesia.

Email address: amimade17@gmail.com

^a Faculty of Economics and Business, Udayana University, Denpasar, Indonesia

^b Faculty of Economics and Business, Udayana University, Denpasar, Indonesia

1 Introduction

Global information technology is currently growing rapidly. Technology affects almost every human activity supported by easy internet access. The existence of the internet makes the process of searching for information, sharing information, communication, and business transactions can be done quickly through computer or smartphone. Internet user penetration has increased by 29.9 percent since 2014 (Indonesian Internet Service Providers Association, 2015). This fact shows that Indonesia is a potential market in information technology.

Online payments using smartphones are known as e-wallets or mobile wallets. E-wallets are defined as multipurpose applications that include elements of mobile transactions that allow users to make payments via mobile devices. E-wallets are considered a fast and efficient payment instrument that can encourage the formation of a cashless society (Widodo *et al.*, 2019). An attractive, easy, and convenient payment system can encourage consumers to use non-cash payments via e-wallets (Hutami, 2019).

Pricewaterhouse Coopers (PwC) in the 2019 Global Consumer Insight stated that 47 percent of respondents in Indonesia currently use e-wallet payment devices to transact in 2019. This figure is higher than in 2018 which was recorded at around 38 percent (Pricewaterhouse Coopers, 2019). Although the adoption of e-wallets has attracted a lot of attention, their sustainable use is still in doubt. Some users are skeptical to continue using it because of the considerable risk (Ryu, 2018). The large potential market has intensified competition in e-wallets. Users can easily switch to other e-wallet platforms. Therefore, user retention is an important issue for electronic financial service providers to remain competitive (Zhou *et al.*, 2018). Service providers have invested huge resources in acquiring new users, thus it is very important to retain users and facilitate their continued use (Zhou, 2014).

Ipsos Indonesia's publication in February 2020 indicates that Gopay dominated the e-wallet market share at 58 percent while OVO only controls 29 percent followed by Dana and LinkAja at 9 percent and 4 percent respectively. In 2019 OVO experienced rapid growth in the number of transactions of more than 70 percent in one year (Walfajri, 2020). OVO as a market challenger has a strategy to build a strong digital payment ecosystem to compete with market leaders, including retail, e-commerce, food delivery, and transportation by building partnerships with Grab and Indonesia's leading e-commerce platform Tokopedia (Kapron Asia, 2019). The size of the payment ecosystem built by OVO is still unable to make OVO the number one e-wallet application in Indonesia.

Department of Communication and Information in Denpasar stated that Denpasar was deemed successful in implementing the smart economy category for the smart city program (Department of Communication and Information of Denpasar City, 2019). Bank Indonesia launched the Indonesian Standard Quick Response Code (QRIS) to supports the realization of that program, which allows various types of e-wallets to transact using one QR code. It is recorded that the number of QRIS user merchants in Bali as of October 2020 was 149,266 merchants. This number increased by 486 percent compared to October 2019 and help increase the number of the digital payment transaction (Kusuma & Darma, 2020).

Online transactions are vulnerable to uncertain conditions and risks faced by consumers. Digital risks and lack of trust are often indicated as the most common reasons for consumers does not to use some digital technologies and applications (OECD, 2017). Trust is a multi-dimensional variable. Cognitive-based trust focuses on rational situations. Cognitive based trust is related to the observations and perceptions of consumers regarding the features and characteristics of the entity that are more significant in influencing decision making, enabling consumers to know, understand, predict routine and interaction processes because consumers are based on evidence (Kim *et al.*, 2008; Sharifi & Esfidani, 2014; Washington, 2013). The different opinion states that cognitive trust represents a low level of trust (Ha *et al.*, 2016; McAllister, 1995; Ranganathan *et al.*, 2013) which states that cognitive trust represents a low level of trust.

Among the factors affecting trust, information quality from e-wallet platforms has a relatively large effect (Gao *et al.*, 2015). The quality of information has a significant effect on the intention to adopt an online system (Komiak & Ilyas, 2010). According to Zheng *et al.* (2013), information quality directly affects the perceived benefits and user satisfaction, which in turn determines the user's continuing intention. Previous research states that information quality does not have a positive and significant effect on continuance usage intention (Neloh *et al.*, 2019). In contrast, Kim *et al.* (2008), proved that information quality has a significant effect on trust and continuance usage intention.

Perceived privacy protection refers to the concern of consumers in using e-wallets. Online consumers tend to face the risk of uncertainty, where consumers are faced with the need for privacy protection they disclose in e-wallets. Perceived privacy protection can provide a sense of trust for customers and can lead to continuance usage intention (Trivedi & Yadav, 2018; Kotte, 2015). However, the opposite suggests that privacy protection does not affect continuance usage intention (Neloh *et al.*, 2019).

A study conducted by the New York Cash Exchange (NYCE) as stated in [Montague \(2010\)](#), revealed increasing consumer attention regarding security in online shopping. The survey found 77 percent of respondents claimed to be concerned about theft of their personal information. Consumers are aware of fraud, malware, and viruses. Both consumers and service providers need to take security measures to protect data security ([Wang et al., 2016](#)). Perceived security protection in the handling of their data is strongly influencing trust in online transactions ([Gupta & Dubey, 2016](#)). Previous research states that there is a positive effect of perceived security protection on trust ([Nelloh et al., 2019](#); [Ofori et al., 2017](#); and [Fatikasari, 2018](#)). Perceived security protection is not proven to have a positive and significant relation to trust in [Putri \(2016\)](#).

Perceived security protection also has a direct influence on continuance usage intention. Several studies state that there is a positive and significant influence between perceived security protection on continuance usage intention ([Kinasih & Albari, 2012](#); [Nelloh et al., 2019](#) and [Trivedi & Yadav, 2018](#)). [Tanjung \(2019\)](#) and [Kim et al. \(2019\)](#), get the opposite result, better security protection does not make consumers make repeat purchases. The inconsistencies in the results of these studies require further research to confirm the relationship between perceived security protection and continuance usage intention.

Trust is highly considered in realizing the level of participation in electronic transactions. The higher customer's trust, the level of participation in re-transactions will be higher as well ([Rofiq, 2007](#)). Customers who have trust tend to be more loyal. Consumer loyalty means that the company has accommodated most of the customer's wishes so that customers do not hesitate to continue to trust the company. Psychologically, trust between cognitive and affective responds to external stimuli differently in forming customer loyalty. Cognitive-based trust is a factor that can create a decision to make a continuous purchase ([Lee et al., 2015](#)).

A pilot study was conducted to see an initial picture of the use of e-wallets in Denpasar. Questionnaires were randomly distributed. From 20 respondents showed that 13 respondents (65 percent) chose OVO as the first e-wallet used for payments, followed by Gopay with 7 respondents (35 percent). Regarding the factors that underlie respondents in using the e-wallet, 55 percent answered due to trust in e-wallets, followed by perceived security protection (15 percent), perceived privacy protection (15 percent), and information quality (5 percent). Although there has been researching that has discussed this topic, it still needs additional literacy. Several research gaps from previous studies that have inconsistent results make this topic interesting to re-examine.

Literature review

Trust

Trusting intention in the trust-building model (TBM) introduced by [McKnight et al. \(2002\)](#), is the consumer's willingness to depend and be involved with vendors in a positive relationship in certain situations. Trusting intention is based on a person's cognitive trust in another party ([McKnight et al., 2002](#)). The existence of trust cannot be separated from the existence of consumer confidence in the company's ability to present products or services according to consumer expectations ([Ruparelia et al., 2010](#)). With trust, it is hoped that consumers can repurchase products. In electronic transactions, trust is a very important issue since the exchange relationship is based on the impersonal nature of the internet infrastructure ([Hong & Cha, 2013](#)).

[Kim et al. \(2008\)](#), argue that there are four categories of antecedents that influence consumer trust, consist of cognitive-based, affective based, experience-based, and personality-oriented. Cognitive based trust is consumer confidence in the competence and reliability of service providers ([Johnson & Grayson, 2005](#)). Cognitive trust occurs when a person makes a conscious decision to believe based on the best knowledge they have ([McAllister, 1995 in Washington, 2013](#)). When relationships are based on cognitive trust, individuals choose to believe based on evidence of trust. Thus, cognitive-based trust tends to be high and allows for repeated interactions. [Lee et al. \(2015\)](#), support the evidence who state that cognitive trust influences customers to start and continue business with their partners based on the knowledge they have obtained about the trustee, reasons, and judgments, and not on their feelings and hunches.

Hypothesis development

Information quality is the general perception of consumers about the accuracy and completeness of the information relating to products and transactions. The quality of information helps reduce the perceived uncertainty and risk associated with e-commerce transactions. Information quality is the main driver in the formation of initial trust in m-payments, service providers should put extra emphasis on keeping their applications updated and providing relevant information accurately and quickly ([Talwar et al., 2020](#)). Among the factors that influence trust, information quality

has a relatively large effect (Gao *et al.*, 2015). Information quality has a positive and significant effect on trust (Nelloh *et al.*, 2019). Budilarto (2018); Ofori *et al.* (2017); McKnight *et al.* (2017); and Putri (2016); state that the quality of information has a strong impact on trust.

H1: Information quality has a positive and significant effect on trust.

The main obstacle to the use of financial technology is the issue of privacy and data security because it has a major influence on trust (Stewart & Jürjens, 2018). Fatikasari (2018), reveals that perceived privacy protection has a positive and significant effect on consumer trust. Other studies have obtained similar results (Putri, 2016 and Ofori *et al.*, 2017). Privacy has a role in increasing trust (Kotte, 2015). On the other hand, Stewart & Jürjens (2018), states that privacy and data security issues have a major influence on trust in financial technology.

H2: Perceived privacy protection has a positive and significant effect on trust.

Security refers to consumer consideration of fraudulent acts in electronic transactions. Online customers often believe that digital payment systems are unsafe and could potentially be bugged (Falk *et al.*, 2016). Perceived security protection contributes to trust in the use of bank services via smartphones (Susanto *et al.*, 2016). The effect of perceived security protection has a positive and significant effect on trust (Nelloh *et al.*, 2019; Kasim, 2017; Ofori *et al.*, 2017; and Fatikasari, 2018).

H3: Perceived security protection has a positive and significant effect on trust.

Continuance usage intention is the customer's willingness to use the same product or service. Previous research indicates that trust has a positive and significant effect on continuance usage intention (Nelloh *et al.*, 2019; Trivedi & Yadav, 2018; Budilarto, 2018; Gong *et al.*, 2018; Ofori *et al.*, 2017; Suandana. *et al.*, 2016 and Astarina *et al.*, 2017). Zhou *et al.* (2018), confirmed the positive effect of trust on continuance usage intention.

H4: Trust has a positive and significant effect on continuance usage intention.

Ofori *et al.* (2016), revealed users easily switch to other social media makes the continuance intention a source of competitive advantage for service providers. When product performance exceeds consumer expectations, it can give a positive impression and make consumers have the intention to re-purchase in the future (Astarina *et al.*, 2017). Chung & Wei (2020) and Chen (2017), prove that information quality has a significant effect on trust and continuance usage intention because information quality can reduce the risk of possible losses.

H5: Information quality has a positive and significant effect on continuance usage intention.

Existing studies show that privacy can directly or indirectly influence users' attitudes and decisions to use mobile applications or share personal information with them (Balapour *et al.*, 2019). Privacy protection has a positive effect on continuance usage intention (Trivedi & Yadav, 2018). Perceived privacy protection can provide a sense of trust for customers and can lead to continuance usage intention (Kotte, 2015).

H6: Perceived privacy protection has a positive and significant effect on continuance usage intention.

Perceived security in mobile Fintech services is an important construct that influences continuance usage intention. Perceived security protection in online transactions will increase users' intention to continue using electronic payment systems even when service features are deemed low in reliability (Huang & Cheng, 2012). Perceived security protection has a positive and significant effect on continuance usage intention (Kinasih & Albari, 2012; Nelloh *et al.*, 2019; Kasim, 2017; and Trivedi & Yadav, 2018).

H7: Perceived security protection has a positive and significant effect on continuance usage intention.

2 Materials and Methods

This research is designed to explain, understand, and predict the relationship between information quality, perceived privacy protection, perceived security protection, trust, and continuance usage intention. This study was conducted for e-wallet OVO's users in Denpasar City. The sample was selected using a non-probability sampling approach. A purposive sampling technique was used in this study. This study uses 21 indicators that the estimate based on the number of indicators specified sample size of 150 respondents. From the data collected, there are 139 respondents'

answers that are valid and can be used for data analysis. In analyzing the research model, Partial Least Square (PLS) was used using statistical software SmartPLS 3.0.

3 Results and Discussions

Respondent characteristic

Respondent characteristics are based on age, most of them are around 25-30 years (50 percent). Women have a higher percentage of 60 percent compared to male respondents at 40 percent. It is known that the undergraduate education level has the highest number at 58 percent. Most of the respondents work as civil servants and private employees, respectively at 37 percent. Based on the frequency of OVO use, using more than 4 times in a month has the greatest number (55 percent).

Outer model – PLS

Indicators are considered valid if the value of the loading factor is more than 0.7. The results of the convergent validity test can be seen in Table 1, where all indicators are valid. Based on the output, the AVE value of each variable is above 0.50, which means that 50% or more of the variance of the indicator can be explained and valid.

Table 1
Convergent validity

Indicators		<i>Outer Loading</i>	AVE	Remark
<i>Information quality (X₁)</i>				
Easy to understand information	X _{1,1}	0.854	0.702	Valid
Accurate information	X _{1,2}	0.855		Valid
Up to date information	X _{1,3}	0.853		Valid
Interesting information	X _{1,4}	0.789		Valid
Information satisfaction	X _{1,5}	0.836		Valid
<i>Perceived privacy protection (X₂)</i>				
Understand the use of personal data collection	X _{2,1}	0.779	0.659	Valid
Keeping personal information confidential	X _{2,2}	0.862		Valid
Do not use personal data for other purposes	X _{2,3}	0.837		Valid
Hackers cannot access personal data	X _{2,4}	0.764		Valid
Privacy data protection	X _{2,5}	0.811		Valid
<i>Perceived security protection (X₃)</i>				
Privacy system	X _{3,1}	0.866	0.712	Valid
Protection against errors	X _{3,2}	0.835		Valid
Payment security	X _{3,3}	0.882		Valid
Protection from manipulation of transactions	X _{3,4}	0.833		Valid
Access protection from unauthorized persons	X _{3,5}	0.802		Valid
<i>Trust (Y₁)</i>				
Integrity	Y _{1,1}	0.825	0.749	Valid
Positive expectation	Y _{1,2}	0.896		Valid
Confidence	Y _{1,3}	0.874		Valid
<i>Continuance usage intention (Y₂)</i>				
Opportunity to reuse	Y _{2,1}	0.789	0.645	Valid
Possibility of reusing	Y _{2,2}	0.751		Valid
Intention to reuse	Y _{2,3}	0.866		Valid

Source: Primary data processed, 2020

To test discriminant validity, cross-loading value for each variable must be greater than 0.70. Cross-loading values are presented in Table 2 showing that each indicator has shown a cross-loading value greater than 0.70 when associated with its endogenous indicator. This indicates that each reflective indicator can represent its exogenous construct. The discriminant validity test of all indicators is valid for measuring latent variables.

Table 2
Discriminant validity

Indicators	Variables				
	Information quality	Perceived privacy protection	Perceived security protection	Trust	Continuance usage intention
X1.1	0.854	0.475	0.604	0.600	0.558
X1.2	0.855	0.493	0.592	0.548	0.551
X1.3	0.853	0.510	0.575	0.559	0.531
X1.4	0.789	0.418	0.509	0.556	0.487
X1.5	0.836	0.473	0.553	0.559	0.512
X2.1	0.430	0.779	0.510	0.411	0.567
X2.2	0.508	0.862	0.682	0.661	0.724
X2.3	0.394	0.837	0.668	0.542	0.676
X2.4	0.370	0.764	0.620	0.452	0.621
X2.5	0.562	0.811	0.818	0.656	0.790
X3.1	0.563	0.724	0.866	0.605	0.791
X3.2	0.616	0.619	0.835	0.670	0.695
X3.3	0.508	0.800	0.882	0.629	0.799
X3.4	0.579	0.733	0.833	0.560	0.674
X3.5	0.595	0.609	0.802	0.694	0.698
Y1.1	0.527	0.659	0.755	0.825	0.743
Y1.2	0.623	0.556	0.604	0.896	0.666
Y1.3	0.602	0.554	0.571	0.874	0.672
Y2.1	0.667	0.602	0.662	0.826	0.789
Y2.2	0.367	0.729	0.587	0.479	0.751
Y2.3	0.474	0.710	0.828	0.621	0.866

Source: Primary data processed, 2020

A constructor variable is said to meet composite reliability if it has a composite reliability value greater than 0.70. Table 3 shows that the composite reliability value of each research variable is more than 0.70. It can be concluded that each variable has met the composite reliability.

Table 3
Composite reliability

Variables	Composite Reliability	Cronbach Alpha
Information quality	0.899	0.832
Perceived privacy protection	0.922	0.894
Perceived security protection	0.845	0.723
Trust	0.925	0.899
Continuance usage intention	0.906	0.871

Source: Primary data processed, 2020

Inner model – PLS

The coefficient of determination (R-square) uses to measure the proportion of the variation in the value of the affected (endogenous) variable which can be explained from the exogenous variable. The coefficient of determination of the

trust variable is 0.626 while the continuance usage intention variable is 0.843. From these figures, it can be categorized that endogenous variables can be explained by exogenous variables with moderate (Y_1) and strong (Y_2) scales.

F-square is a measure used to assess the relative impact of the exogenous variable on the endogenous variable. The F^2 value of information quality on trust has a moderate effect-size (F^2 is 0.134). Perceived privacy protection and perceived security protection have a small effect-size (F^2 of 0.035) on trust. The F^2 value of information quality on the continuance usage intention has a small effect-size (F^2 of 0.001), while the constructs perceived privacy protection, perceived security protection, and trust have moderate effect sizes (F^2 each of 0.213; 0.211; and 0.229).

To measure how well the observed value is generated by the model and also its parameter estimates, it is necessary to calculate the Q-square as follows:

$$Q^2 = 1 - (1 - R^2_1)(1 - R^2_2)$$

$$Q^2 = 1 - (1 - 0.626)(1 - 0.843) = 0.941$$

The Q-square value has a value range of $0 < Q^2 < 1$, where the closer to 1 means better model. The results of these calculations show that the Q-square value is 0.941. It can be concluded that the model has very good predictive relevance. Hypothesis testing is based on t-value and standardized path coefficient value through bootstrapping step in smart PLS 3.0. The t-value hypothesis testing limits the outer loadings is greater than the critical value (≥ 1.96).

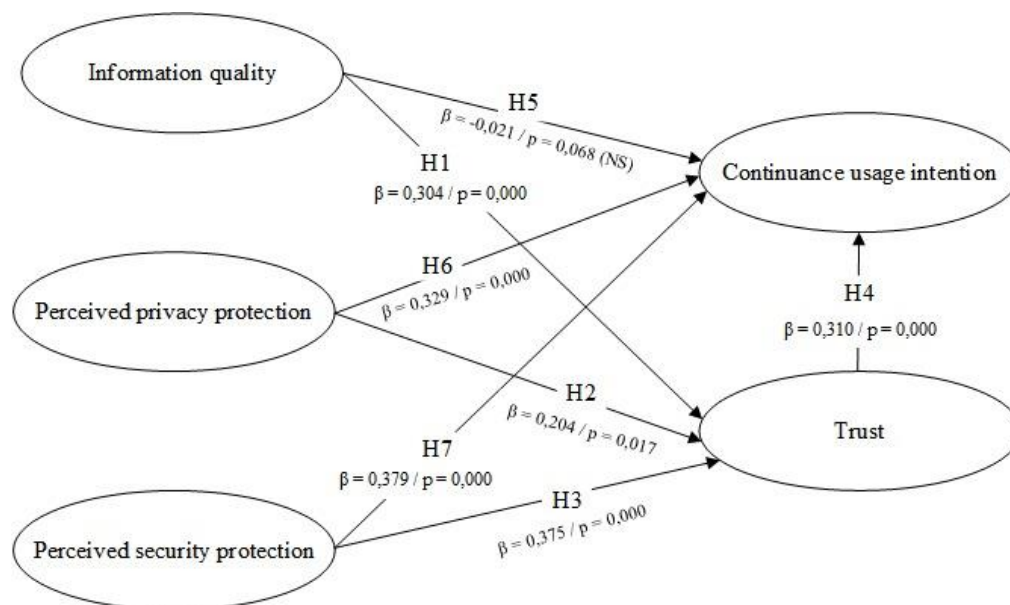


Figure 1. Partial Least Square result

The effect of information quality on trust (H1) resulted in a path coefficient value 0.304 and t statistic 3.943 ($>$ t critical 1.96) with p-value 0.000, meaning that the effect of information quality on trust is positive and significant. Information quality represents an individual's evaluation of the performance of system features based on their experience using the system. Users will judge that providing accurate, relevant, easy to understand information and made in an attractive appearance will increase satisfaction with information. It can be said that the information provided is following the expectations and needs of users, leading to a higher level of trust in the OVO application.

The results of this study are in line with Nelloh *et al.* (2019); Budilarto (2018); McKnight *et al.* (2017); and Putri (2016); a state that the quality of information has a positive and significant effect on trust. Ofori *et al.* (2017), with research on internet banking users in Ghana proving similar things, namely the quality of information has a positive and significant effect on trust.

Hypothesis testing on the effect of perceived privacy protection on trust (H2) results in a path coefficient value of 0.204. The t statistical value obtained is 2.388 ($>$ critical t 1.96) and the p-value is 0.017, so the effect of the perceived privacy protection on trust is significant. Companies must have a clear privacy policy and limit the amount of disclosure of personal data as an effort to protect users' data. If users feel that confidential data, including their personal information, are protected, it will increase their confidence in making transactions using the OVO e-wallet application.

The results of this study are following the findings of [Fatikasari \(2018\)](#); [Putri \(2016\)](#); and [Ofori et al. \(2017\)](#); which shows that the perceived privacy protection has a positive and significant influence on trust. The results of this study are also in line with research by [Kotte \(2015\)](#) and [Stewart & Jürjens \(2018\)](#), that the perception of privacy protection has a positive and significant effect on trust.

The path coefficient value of the effect of perceived security protection on trust is 0.375. The t statistical value is obtained at 3.567 ($> t$ critical 1.96) and p-value 0.000 so that hypothesis 3 (H3) which states that there is a significant positive effect on the perceived security protection on trust is accepted. The use of e-wallets has the potential exposure to user privacy data and the threat of financial loss. This makes perceived security protection the main focus of the user. The security mechanism must be enhanced by the service provider company to maintain the security of user data which allows increasing trust in using e-wallets.

These results were confirmed previous studies that found a positive and significant relationship between perceived security protection against trust ([Nelloh et al., 2019](#); [Kasim, 2017](#)). The same thing was shown in the research of [Ofori et al. \(2017\)](#) and [Fatikasari \(2018\)](#), who stated that perceived security protection has a positive and significant effect on trust.

Hypothesis testing on the effect of trust on continuance usage intention results in a path coefficient value of 0.310. The t statistical value was obtained at 4.965 ($> t$ critical 1.96) and p-value 0.000. Based on this value, hypothesis 4 (H4) which states that trust has a positive and significant effect on continuance usage intention is accepted. Trust in principle plays an important role in the use of online payment technology. Because e-wallets are considered a very personal service, it is recommended that e-wallet application providers focus on relationships that are based on trust so that they can increase long-term relationships ([Sharma & Sharma, 2019](#)).

These results are consistent with [Nelloh et al. \(2019\)](#); [Trivedi & Yadav \(2018\)](#); [Budilarto \(2018\)](#) and [Gong et al. \(2018\)](#); that trust has a positive and significant effect on continuance usage intention. Research [Ofori et al. \(2017\)](#); [Suandana et al. \(2016\)](#); [Astarina et al. \(2017\)](#); [Zhou et al. \(2018\)](#); also produced a similar result, namely the existence of a positive and significant influence between trust on continuance usage intention.

Tests on the effect of information quality on continuance usage intention resulted in a path coefficient value -0.021 and t statistical 0.402 ($< t$ critical 1.96) with p-value 0.688. Hypothesis 5 (H5) is rejected. This means that there is no positive and significant influence between information quality and continuance intention. Based on the result, information quality does not significantly influence continuance usage intention. OVO users, especially in Denpasar City, have not considered information quality as a key factor in their continuance intention. Good or bad information does not affect the user's intention to reuse it. Users do not pay attention to the quality of the information because they are more concerned with the basic needs of using technology, such as protecting security. Furthermore, the integrated payment system with e-wallets in e-commerce encourages the creation of habits to frequently use it. Users who are considered to have habits in using e-wallets tend to make users less sensitive to new information ([Widodo et al., 2019](#)). The results of the research analysis support the previous findings conducted by [Nelloh et al. \(2019\)](#), on e-wallet users in Indonesia who state that information quality does not have a significant effect on continuance usage intention.

The path coefficient value is 0.329 with t statistic 4.749 ($> t$ critical 1.96) and p-value 0.000 for the influence of the variable perceived privacy protection on the continuance usage intention. Based on the results of testing the hypothesis, it can be stated that hypothesis 6 is supported or accepted. Users are faced with serious doubts about the misuse of their personal information when using e-wallet applications. Protection of user privacy is very important in electronic transactions to reduce privacy risks that may occur. This can reduce the level of user doubt in sharing personal information and can increase the continuance usage intention of the OVO application.

The results of this study are following [Kotte \(2015\)](#), which shows the perception of privacy protection has a positive and significant effect on continuance usage intention. [Trivedi & Yadav \(2018\)](#), discusses the effect of security, trust, convenience, and privacy on e-satisfaction and online repurchase intention in India on gen Y consumers.

Testing on the effect of perceived security protection on continuance usage intention (H7) resulted in a path coefficient value of 0.379 and t statistical 5.51 ($> t$ critical 1.96) with p-value 0.000, meaning that the effect of perceived security protection on continuance usage intention is significant. When the company has implemented a security system properly, it can make users feel safe to share personal information needed in payment transactions. When users consider that the security system of the e-wallet application has met user expectations, it can be possible to increase continuance usage intention OVO e-wallet application. Improved security service will improve the business in the long run.

These results are in line with previous study [Huang & Cheng \(2012\)](#); [Kinasih & Albari \(2012\)](#); [Nelloh et al. \(2019\)](#); as well as [Trivedi & Yadav \(2018\)](#), who found that perceived security protection has a positive and significant effect on continuance usage intention. [Kasim \(2017\)](#), discusses the effect of perceived security and perceived privacy on trust

and intention to reuse internet banking in Malaysia. The results showed that there was a positive and significant influence between perceived security and continuance usage intention in the internet banking context.

4 Conclusion

Based on the results of research analysis and discussion results, it can be concluded that there is a positive and significant influence between the information quality, perceived privacy protection, and perceived security protection on trust. Perceived privacy protection, perceived security protection, and trust were found to have a significant relationship with continuance usage intention. However, information quality does not significantly influence continuance usage intention.

There are several limitations in this study, including this study using cross-sectional data, which means that the phenomenon is observed only at a certain point in time so that it cannot provide a more in-depth picture. The proportion of the majority of respondents is filled with millennials who live in Denpasar city and limited types of e-wallets involved make the results of this study cannot be considered as the only finding in examining the continuance usage intention. It is necessary to select respondents that are more proportional to better represent the age range, gender, education level, and income level.

Conflict of interest statement

The authors declared that they have no competing interests.

Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

Acknowledgments

We are grateful to two anonymous reviewers for their valuable comments on the earlier version of this paper.

References

- Astarina, I. G. A., Giantari, I. G. A. K., & Yasa, N. N. K. (2017). Peran Kepercayaan Memediasi Pengaruh Pengalaman Terhadap Niat Menggunakan Kembali Jasa Go-jek di Kota Denpasar. *E-Jurnal Manajemen*, 6(5), 2308-2334.
- Balapour, A., Nikkiah, H. R., & Sabherwal, R. (2020). Mobile application security: Role of perceived privacy as the predictor of security perceptions. *International Journal of Information Management*, 52, 102063. <https://doi.org/10.1016/j.ijinfomgt.2019.102063>
- Budilarto, M. (2018). *Pengaruh kualitas sistem, kualitas layanan, dan kualitas informasi terhadap niat belanja kembali melalui kepercayaan konsumen pada aplikasi Lazada di Surabaya* (Doctoral dissertation, Widya Mandala Catholic University Surabaya).
- Chen, C. W. (2017). Five-star or thumbs-up? The influence of rating system types on users' perceptions of information quality, cognitive effort, enjoyment and continuance intention. *Internet Research*.
- Chung, Y., & Wei, X. (2020). Effects of Perceived Quality of TikTok on User Satisfaction and Continuance Intention: and the Role of Commercial Viability. *The Journal of the Korea Contents Association*, 20(6), 77-89.
- Falk, T., Kunz, W. H., Schepers, J. J., & Mrozek, A. J. (2016). How mobile payment influences the overall store price image. *Journal of Business Research*, 69(7), 2417-2423. <https://doi.org/10.1016/j.jbusres.2016.01.011>
- Fatikasari, C. D. (2018). Pengaruh Persepsi Keamanan, Persepsi Privacy, Dan Brand Awareness Terhadap Kepercayaan Konsumen Online Dengan Kepuasan Sebagai Variabel Mediasi (Studi pada pengguna media sosial Instagram di Yogyakarta). *Jurnal Manajemen Bisnis Indonesia (JMBI)*, 7(2), 136-147.
- Gao, L., Waechter, K. A., & Bai, X. (2015). Understanding consumers' continuance intention towards mobile purchase: A theoretical framework and empirical study—A case of China. *Computers in Human Behavior*, 53, 249-262. <https://doi.org/10.1016/j.chb.2015.07.014>
- Gong, X., Liu, Z., Zheng, X., & Wu, T. (2018). Why are experienced users of WeChat likely to continue using the app?. *Asia Pacific Journal of Marketing and Logistics*.
- Gupta, M. P., & Dubey, A. (2016). E-commerce-study of privacy, trust and security from consumer's perspective. *transactions*, 37, 38.
- Ha, H. Y., John, J., John, J. D., & Chung, Y. K. (2016). Temporal effects of information from social networks on online behavior. *Internet Research*.
- Hong, I. B., & Cha, H. S. (2013). The mediating role of consumer trust in an online merchant in predicting purchase intention. *International Journal of Information Management*, 33(6), 927-939. <https://doi.org/10.1016/j.ijinfomgt.2013.08.007>
- Huang, E., & Cheng, F. C. (2012). Online security cues and e-payment continuance intention. *International Journal of E-Entrepreneurship and Innovation (IJEI)*, 3(1), 42-58.
- Hutami, L. T. H. (2019). Intensi penggunaan electronic wallet generasi millennial pada tiga startup "unicorn" indonesia berdasarkan modifikasi tam. *Jurnal Manajemen*, 8(2), 136-145.
- Johnson, D., & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of Business research*, 58(4), 500-507. [https://doi.org/10.1016/S0148-2963\(03\)00140-1](https://doi.org/10.1016/S0148-2963(03)00140-1)
- Kapron Asia. (2019). How Has OVO Become One of Indonesia's Top Digital Wallets?.
- Kassim, N. M. (2017). Effect of Perceived Security and Perceived Privacy towards Trust and the Influence on Internet Banking Usage among Malaysians. *International Academic Journal of Social Sciences*, 4(2), 26-36.
- Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision support systems*, 44(2), 544-564. <https://doi.org/10.1016/j.dss.2007.07.001>
- Kim, K. H., Kim, K. J., Lee, D. H., & Kim, M. G. (2019). Identification of critical quality dimensions for continuance intention in mHealth services: Case study of onecare service. *International Journal of Information Management*, 46, 187-197. <https://doi.org/10.1016/j.ijinfomgt.2018.12.008>
- Kinasih, B. S., & Albari, A. (2012). Pengaruh Persepsi Keamanan dan Privasi terhadap Kepuasan dan Kepercayaan Konsumen Online. *Jurnal Siasat Bisnis*, 16(1).
- Komiak, S. X., & Ilyas, I. (2010, August). The Effects of Perceived Information Quality and Perceived System Quality on Trust and Adoption of Online Reputation Systems. In *AMCIS* (p. 343).
- Kotte, J. C. (2015). *Faktor Penentu Niatan untuk Membeli Kembali Secara Online: Suatu Integrasi Anteseden Faktor Kepercayaan dan Kepuasan* (Doctoral dissertation, Universitas Gadjah Mada).
- Kusuma, P. O., & Darma, G. S. (2020). Mobile payment transaction on MSMEs. *International research journal of management, IT and social sciences*, 7(3), 104-109.

- Lee, J., Lee, J. N., & Tan, B. C. (2015). Antecedents of cognitive trust and affective distrust and their mediating roles in building customer loyalty. *Information Systems Frontiers*, 17(1), 159-175.
- McAulister, D. J. (1995). Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, 38(1), 24-59.
- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: a trust building model. *The journal of strategic information systems*, 11(3-4), 297-323. [https://doi.org/10.1016/S0963-8687\(02\)00020-3](https://doi.org/10.1016/S0963-8687(02)00020-3)
- McKnight, D. H., Lankton, N. K., Nicolaou, A., & Price, J. (2017). Distinguishing the effects of B2B information quality, system quality, and service outcome quality on trust and distrust. *The Journal of Strategic Information Systems*, 26(2), 118-141. <https://doi.org/10.1016/j.jsis.2017.01.001>
- Montague, D. A. (2010). *Essentials of online payment security and fraud prevention* (Vol. 54). John Wiley & Sons.
- Nelloh, L. A. M., Santoso, A. S., & Slamet, M. W. (2019). Will Users Keep Using Mobile Payment? It Depends on Trust and Cognitive Perspectives. *Procedia Computer Science*, 161, 1156-1164. <https://doi.org/10.1016/j.procs.2019.11.228>
- OECD. (2017). *OECD Digital Economy Outlook 2017*. Paris: OECD Publishing.
- Ofori, K. S., Boateng, H., Okoe, A. F., & Gvozdanovic, I. (2017). Examining customers' continuance intentions towards internet banking usage. *Marketing Intelligence & Planning*.
- Ofori, K. S., Larbi-Siaw, O., Fianu, E., Gladjah, R. E., & Boateng, E. O. Y. (2016). Factors influencing the continuance use of mobile social media: The effect of privacy concerns. *Journal of Cyber Security and Mobility*, 4(3), 105-124.
- PricewaterhouseCoopers. (2019). *It's Time for A Consumer-Centred Metric: Introducing 'Return on Experience': Global Consumer Insights Survey 2019*. Jakarta: PwC.
- Putri, D. (2016). *Pengaruh Kualitas Informasi, Persepsi Risiko, Persepsi Keamanan, Persepsi Privasi Terhadap Kepercayaan Pengguna E-Commerce* (Doctoral dissertation, Universitas Brawijaya).
- Ranganathan, R., Blair, L., Gazier, M., & Thiagarajan, S. (2013). *U.S. Patent No. 8,456,984*. Washington, DC: U.S. Patent and Trademark Office.
- Rofiq, A. (2007). Pengaruh dimensi kepercayaan (trust) terhadap partisipasi pelanggan E-commerce. *Universitas Brawijaya Malang*.
- Ruparelia, N., White, L., & Hughes, K. (2010). Drivers of brand trust in internet retailing. *Journal of Product & Brand Management*.
- Ryu, H. S. (2018). What makes users willing or hesitant to use Fintech?: the moderating effect of user type. *Industrial Management & Data Systems*.
- Sharifi, S. S., & Esfidani, M. R. (2014). The impacts of relationship marketing on cognitive dissonance, satisfaction, and loyalty. *International Journal of Retail & Distribution Management*.
- Sharma, S. K., & Sharma, M. (2019). Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation. *International Journal of Information Management*, 44, 65-75. <https://doi.org/10.1016/j.ijinfomgt.2018.09.013>
- Stewart, H., & Jürjens, J. (2018). Data security and consumer trust in FinTech innovation in Germany. *Information & Computer Security*.
- Suandana, N. P. W., Rahyuda, K., & Yasa, N. N. K. (2016). Pengaruh Pengalaman Membeli Produk Fashion Terhadap Niat Membeli Kembali Melalui Kepuasan Dan Kepercayaan Pelanggan. *Jurnal Manajemen, Strategi Bisnis, dan Kewirausahaan*, 10(1), 85-97.
- Susanto, A., Chang, Y., & Ha, Y. (2016). Determinants of continuance intention to use the smartphone banking services. *Industrial Management & Data Systems*.
- Talwar, S., Dhir, A., Khalil, A., Mohan, G., & Islam, A. N. (2020). Point of adoption and beyond. Initial trust and mobile-payment continuation intention. *Journal of Retailing and Consumer Services*, 55, 102086. <https://doi.org/10.1016/j.jretconser.2020.102086>
- Tanjung, R. F. (2019). Answering the Challenge of Industrial Revolution 4.0 Through Improved Skills Use of Technology College. *International Journal for Educational and Vocational Studies*, 1(1), 11-14.
- Trivedi, S. K., & Yadav, M. (2018). Predicting online repurchase intentions with e-satisfaction as mediator: a study on Gen Y. *VINE Journal of Information and Knowledge Management Systems*.
- Walfajri, M. (2020). Sepanjang 2019 OVO Catat 1 Miliar Transaksi.
- Wang, Y., Hahn, C., & Sutrave, K. (2016). Mobile payment security, threats, and challenges. In *2016 second international conference on mobile and secure services (MobiSecServ)* (pp. 1-5). IEEE.

- Washington, M. G. (2013). Trust and project Performance: The effects of cognitive-based and affective-based trust on client-project manager engagements.
- Widodo, M., Irawan, M. I., & Sukmono, R. A. (2019). Extending UTAUT2 to Explore Digital Wallet Adoption in Indonesia. In *2019 International Conference on Information and Communications Technology (ICOIACT)* (pp. 878-883). IEEE.
- Zheng, Y., Zhao, K., & Stylianou, A. (2013). The impacts of information quality and system quality on users' continuance intention in information-exchange virtual communities: An empirical investigation. *Decision Support Systems*, *56*, 513-524. <https://doi.org/10.1016/j.dss.2012.11.008>
- Zhou, T. (2014). Understanding the determinants of mobile payment continuance usage. *Industrial Management & Data Systems*.
- Zhou, W., Tsiga, Z., Li, B., Zheng, S., & Jiang, S. (2018). What influence users' e-finance continuance intention? The moderating role of trust. *Industrial Management & Data Systems*.