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Intention To Use Mobile Banking Application: Empirical Evidence From Indonesia

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ABSTRACT

Purpose – The study aims to examine the factors that influence the intention to use mobile banking in Indonesia, specifically focusing on perceived usefulness, trust, and perceived security.

Design/methods/approach — The research employs an explanatory design with a quantitative approach. Data were collected through a self-administered survey method using online questionnaires. The sample consisted of 115 respondents who use mobile banking applications. The data were analyzed using PLS-SEM (Partial Least Squares Structural Equation Modeling) with the software SmartPLS 3.3.

Findings – The study reveals that perceived usefulness is the strongest predictor of the intention to use mobile banking applications among users. This means that the more beneficial users find mobile banking, the more likely they are to intend to use it. Trust also plays a significant positive role in influencing the intention to use mobile banking, suggesting that users are more inclined to adopt mobile banking if they trust the service provider. On the other hand, perceived security does not have a significant impact on the intention to use mobile banking. The research model accounts for 62% of the variance in the intention to use mobile banking, indicating that other factors not included in the study might also play a role.

Research implications/limitations — Mobile banking providers should enhance the perceived usefulness and trustworthiness of their services to increase user adoption. The study's limitations include its small sample size and geographic focus on Indonesia, which may affect the generalizability of the findings. Further research with a broader and more diverse sample is recommended.

Originality/value – This study contributes to the understanding of mobile banking adoption in Indonesia by providing empirical evidence on the importance of perceived usefulness and trust over perceived security in influencing user intention.

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perceived usefulness; trust; perceived security; intention to use; mobile banking

Introduction

Digitalization of banking services has grown rapidly in recent years. Banking institutions have used technology to create electronic channels that aim to increase efficiency and reduce the need for traditional banks (Naruetharadhol et al., 2021). Mobile banking has become a new technology and a new trend in the financial system. Mobile banking is a channel where customers can interact with banks through mobile devices (Shanmugam et al., 2014). Mobile banking is a banking service application that aims to provide convenience for customers in making transactions without having to come and transact at the bank (Ramli et al., 2021). Some of the services provided by mobile banking include balance checking, transfers, top-ups, purchases in e-commerce, bill payments, transactions for investment, business and education purposes. These services can be done via cellphone by downloading the mobile banking application first. Customers can perform services anytime and anywhere their cell phones are connected to the internet.

Based on the Populix report, the five most widely used mobile banking applications by Indonesians are BCA mobile 60%, BRI mo 26%, Livin' by Mandiri 25%, BNI mobile banking 23%, and OCTO mobile by CIMB Niaga 5%. The reasons people use mobile banking applications are hassle-free, time efficient, easy to use, easy to track financial transactions, has many features, integrated with e-commerce and e-wallets, safer and are recommended by friends or family. The purpose of making transactions such as e-commerce and e-wallet top-ups, purchases in e-commerce, money transfers, bill payments, transactions for investment, business and education.

Security issues are a major concern when conducting financial transactions through electronic channels so that, it becomes an obstacle in using mobile banking in India because personal information and data can be used for fraudulent activities (Singh & Srivastava, 2018). Siyal et al. (2019) shows that there are barriers that hurt the intention to use M-banking in Pakistan. Research on perceived usefulness provides different results. Pham & Ho (2015) provides evidence that there is a positive and significant effect of perceived usefulness on intention to use while, Li et al. (2014) showed that perceived usefulness has no significant effect on intention to use. The existence of problems related to the security of using mobile banking applications in several countries and the gap in research results related to perceived usefulness, this study will examine the factors of perceived usefulness, trust and perceived security on the intention to use mobile banking in Indonesia.

Literature Review

Mobile Banking

Mobile banking is commonly referred to in various terms such as, mobile banking (Sripalawat et al., 2011), mobile payment (Donner & Tellez, 2008), pocket-banking (Amin et al., 2006). The terms mobile banking and mobile payment refer to applications that allow individuals to use mobile phones to manage bank accounts, deposit money in linked accounts on mobile phones and send their money (Donner & Tellez, 2008). Mobile banking is defined as a technology-enabled mobile commerce application used by individuals to process their banking services on mobile devices (Zhang et al., 2018). Mobile banking has a wide range of services, such as connecting to a bank's website via a mobile phone, conducting banking transactions using an application installed on a mobile device (Zhang et al., 2018).

Intention To Use

Intention is the willingness of individuals to take certain actions (Teng, 2018). Intention is defined as a series of behaviors that individuals want to achieve (Zhao & Othman, 2011).

Intention to use shows the potential ability of individuals to use something specifically within a certain period of time (Dimitriadis & Kyrezis, 2010).

Perceived Usefulness

Perceived usefulness refers to the perception that the use of a technology is believed to provide benefits to its users (Ramli et al., 2021). Perceived usefulness is an important factor in technology adoption in the banking industry (Zhang et al., 2018). Individuals have the belief that adopting a system or technology if they consider it useful (Premkumar et al., 2008). Perceived system usability is related to productivity, effectiveness and its benefits for improving user performance (Tahar et al., 2020). The use of mobile banking applications is considered an innovation in the payment system and provides benefits to consumers because of its convenience, so it is related to individual intention to use it (Muñoz-Leiva et al., 2017). There is a positive and significant effect of perceived usefulness on the intention to use mobile payments (Pham & Ho, 2015). The more useful a technology is, the more likely individuals are to use it (Tahar et al., 2020). In the context of online tax payments, there is an influence of perceived usefulness on intention to use. The more users feel the benefits of the system, the more they will intend to use the system (Aryani et al., 2018).

H1: Perceived usefulness has a positive and significant influence on intention to use mobile banking.

Trust

Trust can be interpreted as a belief in the integrity, benevolence and competence that individuals have towards others (Zhang et al., 2018). Trust is an individual's willingness to rely on the behavior of another party in the hope that the other party is able to deliver the product or service they promised (Budiantara et al., 2019). Perceived consumer trust in electronic payment systems refers to consumers' belief that the electronic payment transaction process matches their expectations (Mallat & Rossi, 2004). Marketers are usually interested in the trust given by individuals in certain products or services because trust can shape product images and brands that lead to customer purchasing behavior (Budiantara et al., 2019). Consumers want to use mobile payment transaction services if the system can be trusted (Mallat et al., 2004). Trust is an important factor that can influence consumer behavior in ecommerce. Increased trust directly affects purchase intentions in e-commerce systems (Kim et al., 2008). Trust has a positive and significant effect on the intention to use mobile payments (Pham & Ho, 2015). The more trust a user has in a cell phone to perform social media operation activities, the more likely the user is to use it (Chinomona, 2013). If customers believe that the bank has competence and provides adequate transaction services, it will increase customer trust in online transactions which can affect the intention to use mobile banking (Ramos et al., 2018).

H2: Trust has a positive and significant influence on intention to use mobile banking.

Perceived Security

Security issues related to mobile banking play an important role in its application as a service (Zhang et al., 2018). Service provider needs to understand the security of the system because customers will judge the system they use is safe to make transaction (Verawati, 2023). Banking services on mobile devices can pose various security problems so that customers feel unsafe using mobile banking if they do not know adequate security measures (Singh & Srivastava, 2020). The service provider should ensure that the security system mechanism is safe from data theft issues (Verawati, 2023). Perceived security refers to user perceptions related to the function and control of personal data information on online

systems (Tahar et al., 2020). Shin (2009) explains perceived security to the extent to which consumers believe that using mobile phone payments will be safe. In the mobile context, security can be grouped into application security that supports mobile payments, network security and mobile device security (Singh & Srivastava, 2018). Perceived security in a system can affect consumer intention to use it (Tahar et al., 2020). A secure transaction will not give any indication of misleading actions. It is necessary to establish a measure of user-perceived security in relation to the intention to use a system (Shin, 2009).

H3: Perceived security has a positive and significant influence on intention to use mobile banking.

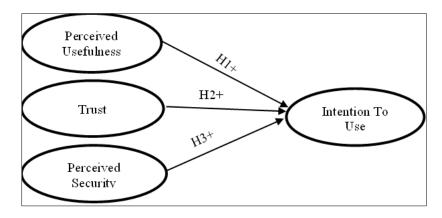


Figure 1. Research Framework

Methods

Digitalization of banking services has grown rapidly in recent years. Banking institutions have used technology to create electronic channels that aim to increase efficiency and reduce the need for traditional banks (Naruetharadhol et al., 2021). Mobile banking has become a new technology and a new trend in the financial system. Mobile banking is a channel where customers can interact with banks through mobile devices (Shanmugam et al., 2014). Mobile banking is a banking service application that aims to provide convenience for customers in making transactions without having to come and transact at the bank (Ramli et al., 2021). Some of the services provided by mobile banking include balance checking, transfers, top-ups, purchases in e-commerce, bill payments, transactions for investment, business and education purposes. These services can be done via cellphone by downloading the mobile banking application first. Customers can perform services anytime and anywhere their cell phones are connected to the internet.

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Result

The questionnaire was distributed to respondents using an online electronic questionnaire. Researchers sent invitations to respondents via links on electronic media to complete the survey with Google Form. The number of respondents who filled in was 115 respondents. Respondents were mostly female (67.8%), their ages ranged from 27-36 years old (62.6%), their income was between Rp 3,100,000 - Rp 5,000,000 (31.3%). Based on their occupation, 25.2% private employee. Mobile banking that is widely used by respondents are myBCA (27%) and Livin' by Mandiri (26.1%) and they used mobile banking services to transfeirs, qris payment, purchases (goods, transportation and hotel tickets), e-money and e-commerce top-up.

Measurement Model

Based on the results of the measurement model evaluation in the tables below, it can be concluded that the measurement instruments and constructs used in the study are valid and reliable. Based on Table 1, the factor loading value of all the items was categorized as valid since the value was ≥ 0.5 and ranged from 0.825 to 0.957. Based on the AVE value, all the research constructs were considered valid since their values were ≥ 0.5 and range from 0.811 to 0.855. Table 2 is the result of the discriminant validity test using the Fornell-Larcker criterion. All constructs were valid. They have a higher AVE square root value than the correlation value between latent constructs.

Table 1.
Convergent Validity Test

Variabel	Indicator	Convergent Validity	
		AVE	Factor Loading
	PU1	0.837	0.949
Peirceiiveid Useifulneiss	PU2		0.957
	PU3		0.923
	PU4		0.825
	T1	0.855	0.919
Trust	T2		0.926
	T3		0.929
Peirceiiveid Seicurity	S1	0.811	0.916
	S2		0.928
	S3		0.855
Inteintion To Usei	ITU1	0.846	0.919
	ITU2		0.925
	ITU3		0.914

Table 2.
Discriminants Validity Test

Discriminants variately rest						
Variable	Discriminant Validity					
	PU	Т	PS	ITU		
PU	0.915					
T	0.822	0.925				
PS	0.724	0.859	0.901			
ITU	0.729	0.764	0.725	0.920		

Note: PU = Perceived Usefulness; T = Trust; PS = Perceived Security; ITU = Intention To Use.

Reliability Test

The reliability test of the composite reliability is presented in Table 3. Based on the results, it can be explained that all the constructs had a composite reliability of \geq 0.70 and all the construct were categorized as reliable.

Table 3. Composite Reliability

Variable	Composite Reliability	Description
Perceived Usefulness	0.935	Reliable
Trust	0.918	Reliable
Perceived Security	0.928	Reliable
Intention To Use	0.943	Reliable

Struktural Model

Based on the structural model's evaluation in Table 4, it can be identified that the model was adequate to represent the phenomena

Table 4. Structural Model Evaluation

	Path Analysis Intention To Use		Description
Hypothesis Relationship			
	Beta (β)	p Value	
H1. Perceived Usefulness	0.299	0.004	Supported
H2. Trust	0.312	0.043	Supported
H3. Perceived Security	0.240	0.092	Not Supported
R^2 Adjusted		0.620	
Q^2		0.508	
f^2 :			
Perceived Usefulness		0.078	
Trust		0.047	
Perceived Security		0.041	

Based on Table 4, the R^2 value of intention to use is 0.620 which indicates the moderate prediction accuracy of the model. These results indicate that 62% of the variance in intention to use can be explained by perceived usefulness, trust, and perceived security while the rest is influenced by other variables not explained in the research model. In addition, the Q^2 value is 0.508 so that the path model has predictive relevance because the value is> 0. Meanwhile, based on the effect size f^2 owned by the three constructs has a minor difference because it has a value \geq 0.02.

Discussion

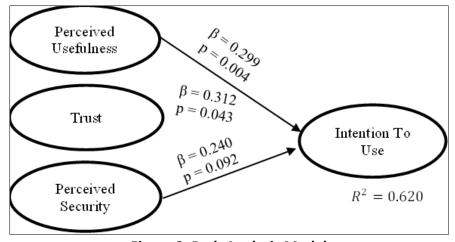


Figure 2. Path Analysis Model

Hypothesis 1: Perceived usefulness has a positive and significant influence on intention to use mobile banking.

The findings in this study explain that perceived usefulness has a positive and significant effect on intention to use mobile banking, as indicated by a positive beta (β) value and significant at the p value. Perceived usefulness is the strongest predictor of intention to use mobile banking applications. This means that the more users feel the benefits of mobile banking, the more they will intend to use the application. The results of this study are supported by the findings of Pham & Ho (2015) and Liébana-Cabanillas et al. (2017) in the same context, namely NFC payment tools. Pham & Ho (2015) reveal that perceived benefits are the main and most important factor in the intention to use NFC mobile payments. The

benefits perceived by consumers of NFC payment tools have a direct and positive impact on intention to use (Liébana-Cabanillas et al., 2017). This means that if consumers feel the benefits of the mobile banking application, users have the intention to use it. There is an increase in non-cash payments among the younger generation, making peer-to-peer (P2P) payment tools considered very useful because individuals no longer need to carry cash. So there is a positive and significant effect of perceived benefits on the intention to use non-cash payment tools (Liébana-Cabanillas et al., 2021). Perceived benefits have an important impact on the intention to adopt technology. Users will adopt a new technology if they feel that the technology is useful for their needs (Shankar & Datta, 2018).

Hypothesis 2: Trust has a positive and significant influence on intention to use mobile banking.

The findings in this study reveal that trust has a positive and significant effect on intention to use mobile banking, which is indicated by a positive beta (β) value and significant at the p value. This means that the more users feel trust in mobile banking, the more they will intend to use the application. The results of this study are in line with the research of Liébana-Cabanillas et al. (2021) and Liébana-Cabanillas et al. (2020) in the same context, namely mobile payment services. Liébana-Cabanillas et al. (2021) revealed that trust is the strongest factor influencing a person's intention to use P2P mobile payments. Trust is also the main factor in a person's intention to use mobile payment services. That is, if users believe in mobile payment services then they have the intention to use them (Liébana-Cabanillas et al., 2020). Trust has a significant influence on mobile payment intentions (Shankar & Datta, 2018). If users trust a mobile payment service provider, they assume that the service provider provides quality services and leads to their intention to use the payment service otherwise, if users do not trust a mobile payment service provider, they assume that the service provider does not provide quality services (Shankar & Datta, 2018).

Hypothesis 3: Perceived security has a positive and significant influence on intention to use mobile banking.

The findings in this study prove that perceived security has a positive and insignificant effect on intention to use mobile banking, which is indicated by a positive beta (β) value and is not significant at the p value. Perceived security is the user's perception related to the function and control of personal data information on the online system, this indicates that security related to the function and control of personal data information does not affect the user's intention to use mobile banking. One possible explanation is that mobile banking applications are considered to have many benefits that are felt by users such as practical payments because there is no need to carry money, transfers do not need to be at ATM machines, purchases or payments do not need to come directly to the store so that security issues do not affect their intention to use mobile banking applications. The results of this study contradict the research of Singh & Srivastava (2018) and Singh & Srivastava (2020) in the same context, namely the use of mobile banking. Perceived security is the strongest predictor of behavioral intention to use mobile banking. Online banking users and customers face various security threats such as identity theft, online fraud and viruses, therefore, mobile devices and online banking need to have strong security mechanisms so as to increase users' intention to use the mobile banking application (Singh & Srivastava, 2020). In the context of using e-filling, the higher the user's perception of system security, the higher the number of taxpayers who use the system (Tahar et al., 2020).

Conclusion

There are three hypotheses proposed in the study, two hypotheses are supported and one hypothesis is not supported. Based on the results of hypothesis testing, perceived usefulness is the biggest factor triggering the intention to use mobile banking and followed by trust. Respondents consider mobile banking applications to provide great benefits because users do not need to come to the store when making purchases, payments and top-ups, do not need to come to an ATM when transferring. Respondents also consider that mobile banking services are trustworthy and provide good quality. On the other hand, although respondents consider that mobile banking services provide great benefits and can be trusted, perceived security does not influence the intention to use mobile banking applications.

There are several limitations associated with this research and can be noted for future research. First, this study only uses the variables of perceived usefulness, trust and perceived security as determinants of the intention to use mobile banking applications. Future research can use additional variables such as experience, habits, and customization. Second, the model used in this study examines the direct effect of perceived usefulness, trust and perceived security on intention to use. It is further recommended to include demographic variables such as gender and age as moderating variables.

Declarations

Author contribution statement

The lead author participated in the conceptualization and design of the study, analysis, interpretation of data, and initial drafting of the paper. Each author contributed to the critical revision of the content for intellectual rigor and provided final approval for the published version. All authors are responsible for every aspect of the work

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Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request. Due to privacy and ethical considerations, the data are not publicly accessible.

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