



Contents lists available at [Journal iCET](http://journal.iicet.org)
JPPi (Jurnal Penelitian Pendidikan Indonesia)
ISSN: 2502-8103 (Print) ISSN: 2477-8524 (Electronic)
Journal homepage: <https://jurnal.iicet.org/index.php/jppi>



Effect of trust, risk perception and diffusion of innovation on the adoption/use of internet banking in Indonesia

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Article Info

Article history:

Received Oct 27th, 2023
Revised Jul 24th, 2023
Accepted Aug 13th, 2023

Keyword:

The effect of trust,
Risk and diffusion of innovation,
Banking usage

ABSTRACT

This study aims to prove the effect of trust, risk perception, and diffusion of innovation on the adoption or use of Internet banking in Indonesia. The research method used is quantitative, with a sample of 500 people from Jakarta, Bandung, Semarang, and Surabaya, and data collection using a questionnaire. The results of this study state that confidence, perceived risk, and diffuse innovation affect the use of Internet banking. In addition, this study also contributes to stakeholder theory. The existence of concern for the environment affects the company's ability. This study shows that the environment can increase customer trust. Therefore, companies must pay attention to the interests of interested parties by putting them in the framework of principles and making decisions to support the achievement of the company's goals, namely company stability and guaranteed business continuity and trust.



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Introduction

Providing IT services based on IT (information technology) has had a profound impact on all aspects of human life as it has made significant changes and enabled customers to use their time more efficiently. According to (Ngafifi, 2014) technological progress is something that cannot be avoided in this life, because technological progress will run in accordance with scientific progress. The rapid development of science and technology in today's digital era has influenced human behavior patterns in accessing various information and electronic service features (Chrismastianto, 2017). According to (Hanafizadeh et al., 2014) and thus customers are willing to adopting new services and products, (Laukkanen, 2016). Internet banking responds to customer demands who want fast, safe, convenient, inexpensive, available 24 hours and accessible from anywhere, whether via mobile phones, computers, or laptops. Internet Banking is a bank service that allows customers to access information, communicate and perform banking transactions via the Internet. As such, financial institutions are providing a new way of financial services in many developed and developing countries.

Internet banking adoption is around 97% in developed countries such as the US, Germany, and the UK. According to OJK (Financial Services Authority), in Indonesia in 2016, only 50.4 million e-banking users, about 19.0 percent of the Indonesian population and about 38.0 percent of the total social media users. In addition, the use of e-banking in Indonesia is one of the early adopters of technology with promising development potential. This is reinforced by increased internet usage supported by lower internet rates. According to (Dz, 2018) Internet banking adoption has grown rapidly in recent years due to advances in

information technology and increasingly sophisticated mobile devices. Internet banking can also be used as a provider of information or bank facilities to customers via the internet (Aini, 2016).

Almost all countries have done a lot of research on e-banking, because the issue of e-banking is still an interesting issue to explore, including in Indonesia. According to (Mishra et al., 2022) banks tend to lose their competitiveness if they delay their actions in offering internet-based transactions because customers are very comfortable using computers and banking services. However, there is no comprehensive study in Indonesia that simultaneously examines the relationship between trust factors, perceived risk, and the diffusion of innovations that influence Internet Banking adoption. Internet banking is a service for conducting banking transactions via the Internet network. It is a banking activity that uses Internet technology to conduct transactions and obtain information through the bank's website (Baso, 2016). Trust is a key factor influencing user behavior in adopting innovation, including internet-based banking technology (Chandra & Simanjorang, 2016). According to (Suryani, 2013), trust in this context is the customer's perception that internet banking technology is safe. A person's trust in the system's capabilities can boost job performance Trust: customers are more likely to use online banking if the bank provides service facilities. Internet banking will result from the client's trust in the bank (Perkins & Annan, 2013).

Research conducted by (Audini & Anis, 2017) shows that not all independent variables show a significant effect on the dependent variable. Perceived risk negatively influences the adoption of mobile banking and Internet banking. Social norms and trust positively influence the adoption of mobile banking and Internet banking. Usefulness does not affect the adoption of mobile banking and Internet banking. The control variable age is shown to affect the adoption of mobile banking and Internet banking positively. However, other variables, namely gender, education, profession and understanding of technology, do not affect mobile and Internet banking adoption. So based on the description above, the researcher wants to research to prove the effect of trust, risk perception, and diffusion of innovation on the adoption or use of Internet banking in Indonesia.

Method

This research uses quantitative research methods, which according to (Sugiyono, 2019), research with quantitative methods is a research method based on the philosophy of positivism; quantitative methods are used in research with a determined population or sample, data is collected using research instruments, quantitative or statistical data analysis is carried out, aimed at testing predetermined conjectures. Data were collected through questionnaires and prepared after investigating related papers. The questionnaire consisted of two parts: the first part asked about the respondents' demographic information, and the second part of the research questions used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The study population consisted of all Internet Banking customers in public and private banks, with an overall sample of 500 people. Research questionnaires were distributed through branches in Indonesia, both private and government banks. Therefore, customers were asked to answer the research questionnaire if they used Internet banking services. The 500 questionnaires were finally analyzed using to report the number of sample members suitable for data analysis from 300 to 500. This study used SPSS22 and Smart PLS software for data and hypothesis analysis.

Results and Discussions

The following is demographic data from respondent research described in the following table 1.

Table 1. Over all Demographic sof Respondents

	Amount	Hundred
Type Sex		
Woman	319	63.8%
Man	181	36.2%
Amount	500	100%
Age		
>21 Years	42	8.4%
21-29 Years	292	58.4%
30-39 Years	98	19.6%
40-49 Years	50	10.0%
>50 Years	18	3.6%

	Amount	Hundred
Amount	500	100%
Income per month		
<from Rp. 200.000.-	121	24.2%
Rp.200.000 - Rp. 3,999,000.-	169	33.8%
Rp.4000.000 - Rp. 5,999,000.-	124	24.8%
Rp. 600.000 - 7,999,000.-	25	5%
Rp. 800.000 - 9.999.000.-	23	4.6%
>10,000,000.-	38	7.6%
Amount	500	100%
EducationEligibility		
SchoolIntermediate	91	18.2%
Diploma	72	14.4%
Degree	314	62.8%
Master	17	3.4%
Doctor	5	1.0%
Other	1	0.2%
		100%
Amount	500	
Work		
WorkerPrivate	240	48.0%
clerklay	30	6.0%
Entrepreneur	68	13.6%
Other	162	32.4%
Amount	500	100%
Marital Status		
Not Married	306	61.2%
getmarried	190	38.0%
Widow/widower	4	0.8%
Amount	500	100%

Validity test

Table 2. ConvergentValidity Model TestSummary

Variable	Indicator	LoadingFactor	T Statistics	Conclusion	AVE	CR	Conclusion
DiffusionInnovation	DI1	0.579	11,557	Valid	0.484	0.903	Reliable
	DI10	0.682	23,139	Valid			
	DI2	0.617	15,938	Valid			
	DI3	0.655	16,039	Valid			
	DI4	0.774	37,863	Valid			
	DI5	0.675	20,417	Valid			
	DI6	0.722	18,801	Valid			
	DI7	0.780	38,418	Valid			
	DI8	0.741	20,127	Valid			
IB use	DI9	0.708	24,333	Valid	0.576	0.872	Reliable
	IB1	0.760	24,180	Valid			
	IB2	0.795	28,401	Valid			
	IB3	0.694	16,986	Valid			
	IB4	0.762	24,428	Valid			
Trust	IB6	0.781	29,550	Valid	0.576	0.802	Reliable
	Kep2	0.762	20,003	Valid			
	Kep4	0.808	24,915	Valid			
Perception Risk	Kep5	0.702	10,500	Valid	0.650	0.787	Reliable
	PR5	0.869	29,270	Valid			
	PR8	0.739	12,742	Valid			

The test results in the table above show that each indicator has a load factor greater than 0.50. This means that this indicator is valid as a benchmark for each latent variable. Then based on the average value of the

variance extracted AVE, almost all variables have AVE > 0.5, and based on the CR value all variables have a composite value CR greater than 0.70 then reliable, indicating that the indicator has consistency in measuring each of these variables.

Structure Test (Internal Model; Study Framework 1)

The structural model is a model that relates exogenous latent variables to endogenous latent variables and also relates endogenous variables to other endogenous variables. In this study, the structural model is associated with 4 research hypotheses that show causal relationships between latent variables. The structural model in this study involves four exogenous latent variables (Risk Perception, Trust, Diffusion of Innovation), and one latent variable (Internet use). banking). The test for the structural model of the Effect of Risk Perception, Confidence, Innovation, and Innovation on IB is presented in the following figure.

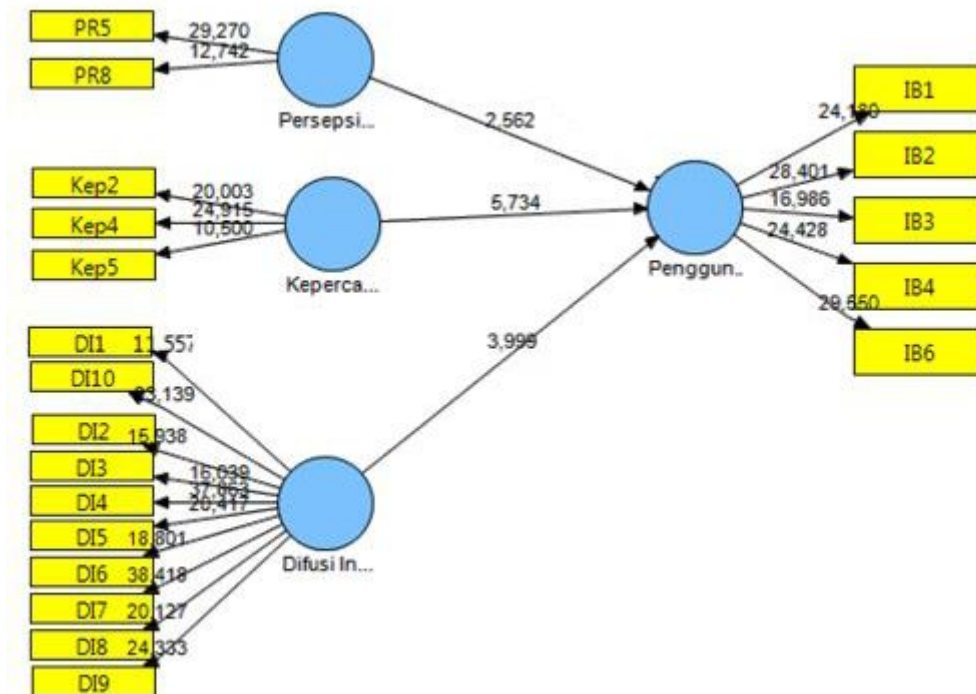


Figure 1. Full Structural Model 1 (T values)

The result of coefficient -coefficient track *standardized* and statistical t value from the test results of the model above can be seen in the schedule following. The table 3 above shows that the use of IB has an R-value of ² 0.482. It shows that a 48.2% variance in IB can be explained by the variable Trust, Perception of Risk, and Diffusion Innovation.

Trust in this context is the customer's perception that this e-banking technology is safe to use. Trust is more important in the online world than in offline banking because transactions in online banking contain sensitive information and parties involved in financial transactions have concerns about access to important files and information transmitted over the internet. Trust is an important factor in overcoming crises and difficulties among business partners and is also an important asset in building long-term relationships between organizations.

Table 3. *Standardized* Path Coefficients For Research Framework Model 1

Connection	Path	T Statistics	Conclusion	R- square
DiffusionInnovation -> Use of IB	0.306	3.999	Received	0.482
Trust -> IB Usage	0.351	5,734	Received	
PerceptionRisk -> Use of IB	0.158	2,562	Received	

Organizations must be able to identify the factors that can build that trust to create, manage, maintain and improve customer relationships. In addition, trust is a major factor that can influence the adoption and usage of Internet banking in Indonesia. To increase adoption, banks and financial institutions must continuously

improve service security, provide proper education, and pay attention to issues affecting users' trust in this technology (Afghani & Yulianti, 2017). In the context of Relationship Marketing, the action is to determine the degree to which the parties perceive the loyalty and promise offered by the other.

The results of this study emphasize that the importance of a product must have the same product advantages to make it look different and have a competitive advantage that can be marketed to customers because customer trust in the product will increase if the product has advantages. This aspect of trust is an important part of the relationship between a company and its customers, because trust is the foundation of business (Al Fian & Yuniati, 2016). Business transactions involving two or more parties occur when each party trusts the other. This trust is not only recognized by business partners/consumers but must be built from scratch and proven. When a user wants to make an online transaction, what is in the mind of the consumer is that the money sent is not only lost but gets a response in the form of the desired product according to what is displayed and explained on the internet banking product.

Trust is an important aspect of many transactions between sellers and buyers so that customer satisfaction can be realized as expected. This study finds that trust has an impact on internet banking use. According to (Muis et al., 2021) in their research concluded that consumer trust in internet banking affects consumer loyalty to internet banking. The results of this study indicate that with internet banking trust, consumers will use internet banking. Referring to the attitude variable, to create a positive attitude for internet banking users, various products are needed. This product variety is expected to represent and adapt to current needs. So, consumers don't have to feel the need to buy what they don't need. In addition, the results of this study found that the spread of innovation also affects internet banking users, because, with product innovation, customers will see the benefits of the product so they will not hesitate to use it.

Therefore, in the development and innovation of information technology products, internet banking can be more emphasized on the convenience and usefulness of internet banking products, so that consumers feel that no effort is needed to control the product and when consumers feel that internet banking products, work becomes easier. more efficient that the product can be more user-friendly. Once the users feel the system is easy to use then it is useful for them. This must be supported by sharia-compliant internet banking services so that better services will be seen by customers as well as the benefits of internet banking services thereby increasing the desire to use internet banking.

Therefore, banks need to focus on understanding customer behavior and designing internet banking systems that are reliable and meet their needs while providing the benefits of quality services (Juliansya, 2018). In addition, banks should focus on delivering information that emphasizes the relative advantages of using internet banking compared to other banking channels such as physical attendance at the bank or using an ATM. Banks should try to mitigate the risks facing their customers by offering certain guarantees to protect them and take their complaints seriously and promptly, and most important in the innovation development process is the decision to start spreading the innovation to potential recipients. How these innovations have been evaluated, in terms of safety factors, ease of use, lower service costs, and other factors are what makes these innovations successful, resulting in continuous innovation development. In addition, it is hoped that this research will provide input to related banking companies on the factors that can influence their customers' decisions to use internet banking, thereby capturing more customers and making use of internet banking in Indonesia.

The use of information technology in many aspects of business has influenced the development of information technology in recent years. The banking industry adheres to information technology in the form of internet banking. The goal is to make it easier for customers to access banking services anywhere and anytime. This finding supports the results of previous research conducted by (Alwan & Al-Zubi, 2016) which stated that trust has a significant relationship with internet banking acceptance. Trust is a psychological condition that leads to trust in banking transactions via the Internet, maintaining the importance of customer transactions, maintaining a commitment to serve customers, and providing benefits to users ((Wibowo et al., 2015). According to (Pratiwi, 2017) in his research states that customers must believe that banks have the ability and motivation to provide online banking services. Therefore, with the customer's confidence that the company can provide good service, it is safe to believe that the transaction will run smoothly without the risk of losing money, so customers will continue to use internet banking. Trust in this context is the customer's perception that this e-banking technology is safe to use. Trust is more important in the online world than in offline banking because transactions in online banking contain sensitive information and parties involved in financial transactions have concerns about access to important files and information transmitted over the internet.

Confidence or trust which is an important factor in overcoming crises and difficulties between partners is also an important asset in building long-term relationships between organizations. Organizations must be able

to identify the factors that can build that trust to create, manage, maintain and improve customer relationships. In the context of Relationship Marketing, the action is to determine the extent to which parties perceive the other's loyalty and promise. The results obtained in this study also support the results of previous research conducted by (Ong & Lin, 2015) which showed that risk had a negative impact on internet banking acceptance. In previous research, (Ong & Lin, 2015) research described the risk as uncertainty from an individual's perspective or individual control that could cause harm. This is because transactions using open internet banking make individuals vulnerable to threats. Likewise, nowadays, especially in Indonesia, age is no longer the cause of the use of internet banking, internet banking is a very important feature in daily life, and it can be seen from the descriptive data of all customers who use internet banking for their daily lives. day, week, or month.

Conclusions

The results of this study are in accordance with the hypothesis made, that belief, perception risk, and diffuse innovation take effect to use of internet banking. In addition, this investigation also contributes to stakeholder theory (stakeholder theory). The presence of concern for the environment affects the company's ability. This study shows that the environment can increase customer trust. Therefore, the company must take care of the interests of interested parties to put it in the framework of principles and make decisions. So that it can be supported in achieving the company's goals, namely company stability and ensuring business continuity and trust. In addition to the above theory, innovation theory also contributes to the achievement of internet banking use because innovation is an idea, practice, or object that is considered new for individuals or other units so the use of internet banking, especially in Indonesia because it is relatively new in its services, can be said that the existence of this innovation has enabled the use of internet banking to become part of banking services for its customers. The results of this study are expected to be useful for science, especially in the fields of administration and marketing. This research is also expected to be used as reference material for further research.

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