

Factors Supporting Use and Satisfaction Of Mobile Banking in Indonesia

Inayatulloh

Information Systems Department
School of Information system
Bina Nusantara University
Jakarta, Indonesia 11480
Inay@binus.ac.id

Prasetya Cahya Saputra

Information Systems Department
School of Information system
Bina Nusantara University
Jakarta, Indonesia 11480
prasetyacs@binus.ac.id

Deny Jollyta

Institut Bisnis Dan Teknologi
Pelita Indonesia
deny.jollyta@lecturer.
pelitaindonesia.ac.id

Enggal Sriwardiningsih,

Management Department,
Binus Business School,
Bina Nusantara University,
Jakarta, Indonesia,
enggal@binus.ac.id

Indra Kusumadi Hartono

Information Systems Department
School of Information system
Bina Nusantara University
Jakarta, Indonesia 11480
indrakh@binus.ac.id

Rozali Toyib

Universitas Muhammadiyah
Bengkulu, Indonesia
rozalitoiyib@umb.ac.id

Murthada

STKIP Muhammadiyah

Aceh Tengah, Indonesia
murthadagayo@gmail.com

Abstract

This study aims to investigate factor consumers' mobile banking implementation and satisfaction on perceived risks in Indonesia. Data were collected from 178 mobile banking user in Jakarta, Aceh, Bengkulu, Samarinda and analyzed by Structural Equation Modeling (SEM). It was initiate that Performance Risk could have a positive influence on adoption mobile banking, privacy risk could have a positive influence on adoption mobile banking. On the other hand using m-banking has a positive effect on m banking satisfaction. Practical implications of this study if banks that use mobile banking as one of the main tools for their customers' financial transactions must ensure all transaction risks and security privacy that occur when customers use mobile banking are reduced by several approaches to customers

Keywords

Mobile Banking; Customer Satisfaction, Support

1. Introduction

Advancements in data innovation have an gigantic impact on the keeping money division, making ceaselessly ever more adaptable installment strategies and user-friendly managing an account administrations. Since the 1980s major technology-enhanced items and administrations from automated teller machines (ATMs) to e-banking have gotten to be accessible all over 24/7 (Karim,2018). Nowadays mobile banking applications are advancing as a modern retail channel for banks. Portable managing an account may be a central point of development techniques for both the managing an account and portable carrier businesses (Markoska,2018). Banks, through versatile managing an account applications, give a combination of installments, keeping money, real-time two-way information transmission, and omnipresent get to to money related data and administrations (Lai,2018). It is presently taken for allowed that the versatile phone as a channel for benefit utilization offers gigantic potential in managing an account (Owusu,2021) Past considers demonstrate the variables contributing to the selection of portable keeping money incorporate comfort, get to the benefit in any case of time and put, protection and investment funds in time and exertion(Baabdullah,2019)

2. Literature Review

Mobile banking is defined as “a channel whereby the consumer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant. In that sense it can be seen as a subset of electronic banking and an extension of internet banking with its own unique characteristics”(Tam,2017)

The impacts of data and direction advertised by a bank on five appropriation obstructions and found that the data and direction advertised by a bank has the foremost noteworthy impact on seen useful ease of use of the development and they play an vital part in expanding the positive picture related with the development (Mwaba,2020).

Past investigate appear that compatibility, seen convenience, and chance are noteworthy markers for the selection of versatile keeping money administrations. Compatibility is a vital predecessor for seen ease of utilize, seen convenience and validity. Additionally, believe and validity are pivotal to decrease the generally seen chance of versatile keeping money (Raza,2017). The seen impediments to the appropriation of portable keeping money administrations and found that that the larger part of respondents don't utilize any kind of versatile keeping money benefit and the reasons behind not utilizing portable keeping money were recognition of fetched, hazard, moo seen relative advantage and complexity (Chaouli,2019). The variables influencing the selection of versatile managing an account among current clients of web keeping money and illustrated that recognitions of relative advantage of the versatile gadget, recognition of hazard, social standards, ease of utilize and convenience of the gadget for keeping money purposes(Kumar, 2017). Jacoby and Kaplan measure of perceived risk, pointing to its five key facets: financial risk, performance risk, social risk physical risk, and psychological risk. (Jacoby, 1972)

Performance risk

Performance risk is the plausibility of the item failing. Clients evaluation of execution hazard is taking under consideration their understanding and thinking capacities in a persuaded thing zone (Litler,2006). Asymmetry in web managing an account information and the nonattendance of person contact turn away the client from appropriately evaluating the qualities of the thing, reducing certainty. Likelihood of the failing and not executing because it was

considered and advanced and so falling apart the favored advantage (Grewal, 1994). Performance risk suggests misfortunes supported by deficiencies or flawed of web banking websites. Clients are regularly on edge that collapse of framework servers or end from the internet will happen whereas driving exchange since the circumstances might result in unforeseen fatalities(Kuisna,2007). Several studies have shown that performance risk has a positive impact on the use of mobile banking

(Kabir,2013),(Kazi,2013),(van,2020)

H1: Performance Risk could have a positive impact on use mobile banking

Financial risk

Financial risk is the potential financial cost related with the beginning buy cost as well as the ensuing upkeep taken a toll of the item. Financial risk too infers money related hazard which is the probability of financial misfortunes amid the method in online buy or shopping (Lim,2003). In another way circular Financial risk is the misfortune of cash as an result of buying item and offices (Laroche,2004). Hazard knowledge of web keeping money clients basically develops out of the IT holes and the ensuing misfortunes encounters in misleading entrance to client accounts (Littler, 2006).Several studies have shown that financial risk has a negative impact towards adoption of mobile banking.(Ibrahim,2015),(Hanifzadeh, 2014),(Maditionos, 203)(Fadare,206)(Kabir,2013)

H2: Financial Risk could have a negative impact on use mobile banking.

Time risk

Time risk is the plausibility of losing time to memorize how to utilize the item. At the point when extra time is obligatory in a way to think about how to urge to any certain organization, risk recognition upsurge. Clients are also said to perceived risk when money transferal isn't comprehended in time and blunders take put amid the period of the exchange turning to period misfortune recognition (Forsythe, 2003). Bother and time may allude to a misfortune supported since of the delay of getting installment or the exertion of controlling (disclosure suitable services and hyperlinks). Two first reason of disappointing web managing an account encounters which will be considered as a time chance including a befuddled location and pages which are so sluggish it couldn't be conceivable download (Ling, 2016).Several studies have shown that time risk has a negative impact towards adoption of mobile banking.[29][30]

H3: Time Risk could have a negative impact on use mobile banking.

Security risk

Security risk is Potential misfortune of control over exchanges and budgetary data. Security chance happen when clients is almost to exchange cash from their account or from their disengaged financial data which can be see by others denied of their assents, this concern make security chance . Security/privacy chance is categorized as a planned relinquish owed to extortion or a programmer bartering the security of an online bank client . Several studies have shown that security risk has a negative impact towards adoption of mobile banking(Lee, 2008),(Lee,2009)

H4: Security Risk could have a negative impact on use mobile banking.

Privacy risk

Privacy risk is Potential misfortune of control over individual data or a conceivable misfortune due to extortion or a programmer interfere the security of a web bank client , protection, comfort and speed where web plan and substance, comfort and speed are the major components that impact client fulfillment in Web banking. Several studies have shown that privacy risk has a positive impact towards adoption of mobile banking(Lee,2009).

H5: Privacy Risk could have a positive impact on use mobile banking

In the end, this research shows that the use of mobile banking has a positive impact on bank customer satisfaction as found in several previous studies(Bhat,2021),(Babdullah,2021),(Puriwat,2017)

H6: use mobile banking could have a positive impact on satisfaction using mobile banking

3. Conceptual Model And Hypothesis

This research uses a quantitative method goes to create a relationship and it also describe the intention of users and how users are influenced by several factors in mobile banking transaction. The five factors stated above are

hypothesized to have a straight influence on use and satisfaction of mobile banking customers. In a effective long term connections with consumers and customer satisfaction is the important of any company

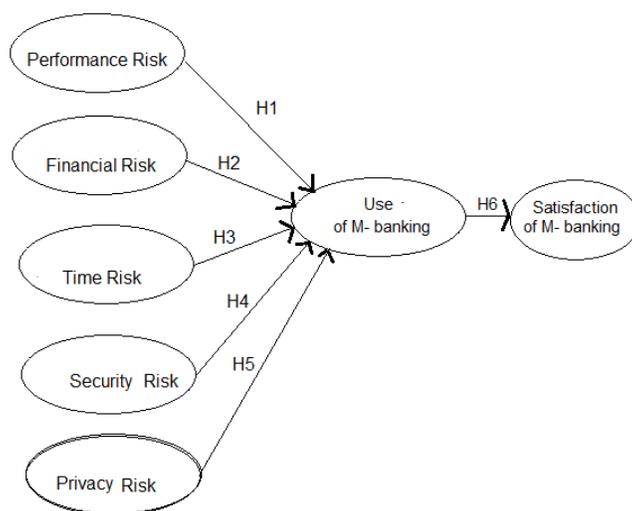


Figure 1. Conceptual Model and Hypothesis

- H1: Performance Risk may have a positive effect on utilize mobile banking.
- H2: Financial Risk may have a negative effect on utilize on use mobile banking.
- H3: Time Risk may have a negative effect on utilize on use mobile banking.
- H4: Security Risk may have a negative effect on utilize on use mobile banking.
- H5: Privacy Risk may have a positive effect on utilize on use mobile banking.
- H6: use mobile banking could have a positive impact on satisfaction using mobile banking.

4. Result And Discussion

Result examination Survey is the most information collection device that was used in this ponder to gather speedy, cheap, adaptable, exact and productive data around the populace. The populace chosen for the inquire about is the versatile managing an account benefit clients in a several city in Indonesia: Jakarta, Aceh, Bengkulu and Samarinda. The survey was dispersed among 178 mobile banking customers. A organized instrument was utilized to gather information counting multi-item measures utilizing five-point Likert scale: intention to use mobile banking; financial risk, performance risk (Kim,200&), time risk(Stone,1993), security, privacy risk(Pikkaraenen, 2004) and relation between use and satisfaction using mobile banking(Sampaio,2017)

This study uses a quantitative method with a Likert scale, testing 6 hypotheses, testing theory and theory consistency (JHA,2008), Partial least square(Bantler, 1987) and data processing using the SMART PLS professional version 3

program(Ramayah,2018). The purpose of PLS does not require a large sample size, the distribution does not need to be normal, and explains the relationship of latent variables or more to predict. The model is declared good because it meets the requested conditions (Model Fit)

Model_Fit

| | Saturated Model | Estimated Model |
|------------|-----------------|-----------------|
| SRMR | 0.077 | 0.087 |
| d_ULS | 1.361 | 1.762 |
| d_G | 0.590 | 0.630 |
| Chi-Square | 642.115 | 671.130 |
| NFI | 0.714 | 0.701 |

Figure 2. Model Fit

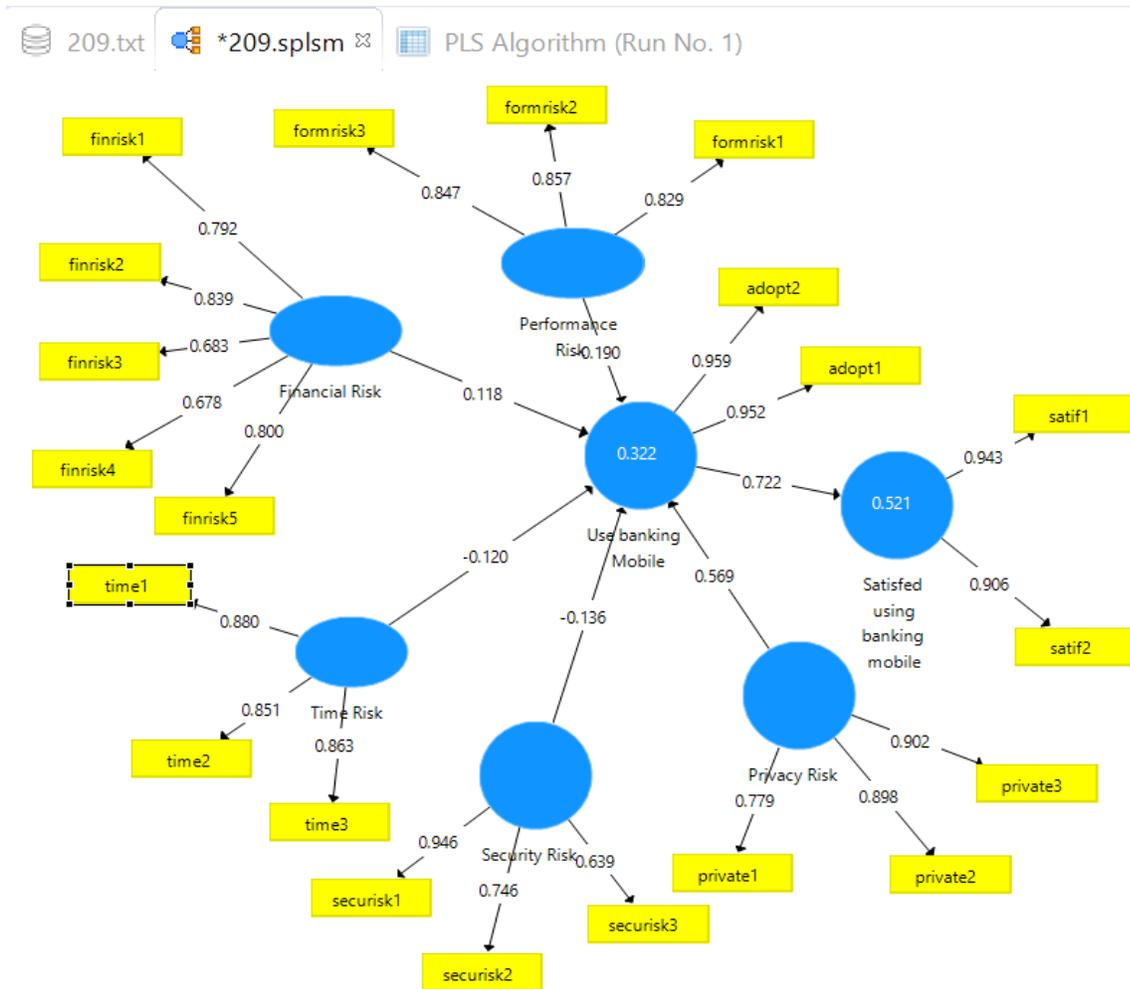


Figure 3 Model PLS Algorithm

Table 1. Hypothesis results

| Variable | PValue |
|----------|--------|
|----------|--------|

| | |
|---|-------|
| Financial Risk | 0.298 |
| Performance Risk | 0.033 |
| Privacy Risk | 0.000 |
| Security Risk | 0.140 |
| Time Risk | 0.324 |
| Use Mobile banking and satisfied using mobile banking | 0.000 |

- H1: Performance Risk may have a positive effect on utilize mobile banking. → Proven valid significant positive.
 H2: Financial Risk may have a negative effect on utilize on use of mobile banking. → Proven valid significant positive.
 H3: Time Risk may have a negative effect on utilize on use of mobile banking. → Proven valid significant positive.
 H4: Security Risk may have a negative effect on utilize on use of mobile banking. → Proven valid significant positive
 H5: Privacy Risk may have a positive effect on utilize on use of mobile banking. → Proven valid significant positive.
 H6: use mobile banking could have a positive impact on satisfaction using mobile banking. → Proven valid significant positive.

This research donates both theoretically and practically. Theoretical, this research has been able to observe the link among perceived risk intentions to use and satisfaction mobile banking. As such, it has offered to knowledge by supporting the previous research on the recognized connection among perceived risk and purpose to usage mobile banking. Practically, this research has delivered an opportunity for government and banking authority to improve on customer adoption on mobile banking

5. Conclusion

Based on our study show performance risk, privacy risk have a positive effect on utilize mobile banking. Utilize mobile banking have positive effect on mobile banking user satisfaction. The other hand financial risk, time risk and security risk have a negative effect on use of mobile banking

References

- Al-Dmour, R., Dawood, E. A. H., Al-Dmour, H., & Masa'deh, R. E. (2020). The effect of customer lifestyle patterns on the use of mobile banking applications in Jordan. *International Journal of Electronic Marketing and Retailing*, 11(3), 239-258.
- Baabdullah, A. M., Alalwan, A. A., Rana, N. P., Kizgin, H., & Patil, P. Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model. *International Journal of Information Management*, 2019, 44, 38-52.
- Beyene, Ebisa. "Adoption and Challenges of Mobile Banking Systems in Ethiopia: The Case of Cooperative Bank of Oromiya." (2020).
- Bentler, Peter M., and Chih-Ping Chou. "Practical issues in structural modeling." *Sociological methods & research* 16, no. 1 (1987): 78-117
- Bhatt, Viral. "An empirical study to evaluate factors affecting customer satisfaction on the adoption of Mobile Banking Track: Financial Management." *Turkish Journal of Computer and Mathematics Education (TURCOMAT)* 12, no. 10 (2021): 5354-5373.
- Chaouali, Walid, and Nizar Souiden. "The role of cognitive age in explaining mobile banking resistance among elderly people." *Journal of Retailing and Consumer Services* 50, 2019, 342-350.
- D. Maditinos, D. Chatzoudes, L. Sarigiannidis, "An examination of the critical factors affecting consumer acceptance of online banking: A focus on the dimensions of risk." *Journal of Systems and Information Technology*, Vol. 15 No. 1, 2013, pp. 97-116
- Fadare, O. A., M. B. Ibrahim, and A. Edogbanya. "A survey on perceived risk and intention of adopting internet banking." *Journal of Internet Banking and Commerce* 21, no. 1 (2016): 1-21.

- Forsythe SM, Shi B (2003) Consumer Patronage and Risk Perceptions in Internet Shopping. *Journal of Business Research* 56: 867-75
- Gide, E., Sandu, R., & Al Tawara, A. Analysing Bangladeshi Consumers' Satisfaction and Preferences of E-banking Services in Small to Mid-sized Enterprises (SMEs). *Global Journal of Information Technology: Emerging Technologies*, 2018,8(2), 62-74.
- Grewal D, Gotlieb J, Marmorstein H, The Moderating Effects of Message Framing and Source Credibility on the Price-Perceived Risk Relationship. *Journal of Consumer Research* 199421: 145-153.
- Hair, Joe F., Christian M. Ringle, and Marko Sarstedt. "PLS-SEM: Indeed a silver bullet." *Journal of Marketing theory and Practice* 19, no. 2 (2011): 139-152
- Ibrahim, Muhammad, and M. K. Shahid. "Impact of risk and ethics on adoption of mobile banking in Pakistan." *Fire J. Eng. Technol.* 6, no. 7 (2015): 175-189.
- Jacoby, J. and Kaplan, L.B., "The components of perceived risk", in Venkatesan, M. (Ed.), proceedings of The Third Annual Conference of The Association for Consumer Research, Association for Consumer Research, Duluth, MN, 1972, pp. 382-93.
- JHA, N.K.. *Research Methodology*. Abhisek Publications, 2008
- Kabir, Mohammad Rokibul. "Factors influencing the usage of mobile banking: Incident from a developing country." *World Review of Business Research* 3, no. 3 (2013): 96-114.
- Kim, H.W., Chan, H.C. and Gupta, S. (2007), "Value-based adoption of mobile internet: an empirical investigation", *Decision Support Systems*, Vol. 43 No. 1, pp. 111-26.
- Kazi, Abdul Kabeer, and Mohammad Adeel Mannan. "Factors affecting adoption of mobile banking in Pakistan: Empirical Evidence." *International Journal of Research in Business and Social Science* (2147-4478) 2, no. 3 (2013): 54-61.
- Kumar, G., and V. M. Shenbagaraman. "The customers' perception of mobile banking adoption in Chennai City. An empirical assessment of an extended technology acceptance model." *International Journal of Business Information Systems* 26, no. 1 (2017): 46-65.
- Kuisma T, Laukkanen T, Hiltunen M, Mapping the Reasons for Resistance to Internet Banking: A Means-End Approach. *Int J Inform Manage*, 2007, 27: 75-85
- Laroche, Michael, McDougall, Gordon HC, Bergeron (2004) Exploring How Intangibility Affects Perceived Risk. *Journal of Service Research* 6: 373-389
- Lai, R. Understanding Interbank Real-Time Retail Payment Systems. In *Handbook of Blockchain, Digital Finance, and Inclusion*, 2018, Volume 1 (pp. 283-310).
- Littler D, Melanthiou D, Consumer Perceptions of Risk and Uncertainty and the Implications for Behaviour towards Innovative Retail Services. The Case of Internet Banking, 2006, 13: 431-43.
- Lim, Nena, Consumer's Perceived Risk: Sources versus Consequences. *Electronic Commerce Research and Applications* 22003: 216-228
- Ling, G. M., Fern, Y. S., Boon, L. K., and Huat, T. S. 2016. "Understanding Customer Satisfaction of Internet Banking: A Case Study in Malacca," *Procedia Economics and Finance* (37), pp. 80-85
- Lee MC (2008) Predicting Behavioural Intention to Use Online Banking. Proceedings of the 19th International Conference on Information Management
- Lee, M.-C. 2009. "Factors Influencing the Adoption of Internet Banking: An Integration of Tam and Tpb with Perceived Risk and Perceived Benefit," *Electronic Commerce Research and Applications* (8:3), pp. 130-141.
- Markoska, K., & Ivanochko, I. Mobile banking services—business information management with mobile payments. In *Agile Information Business* 2018, (pp. 125-175). Springer, Singapore.
- Mwaba, Grace. "Exploring Factors Affecting Mobile Banking Adoption In Zambia." PhD diss., Cavendish University, 2020.
- Owusu, G. M. Y., Bekoe, R. A., Addo-Yobo, A. A., & Otiaku, J. Mobile banking adoption among the Ghanaian youth. *Journal of African Business*, 2021,22(3), 339-360.
- P. Hanafizadeh, M. Behboudi, A. A. Koshksaray, M. J. S. Tabar, "Mobile- Banking Adoption by Iranian Bank clients" *Journal of Telematics and Informatics*, Vol.31 No.1, 2014, pp.62-78
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H. and Pahnla, S. (2004), "Consumer acceptance of online banking: an extension of the technology acceptance model", *Internet Research*, Vol. 14 No. 3, pp. 224-35
- Puriwat, Wilert, and Suchart Tripopsakul. "Mobile banking adoption in Thailand: an integration of technology acceptance model and mobile service quality." (2017).
- Ramayah, T., Jacky Cheah, Francis Chuah, Hiram Ting, and Mumtaz Ali Memon. "Partial least squares structural equation modeling (PLS-SEM) using smartPLS 3.0." (2018)

- Raza, S. A., Umer, A., & Shah, N. (2017). New determinants of ease of use and perceived usefulness for mobile banking adoption. *International Journal of Electronic Customer Relationship Management*, 11(1), 44-65.
- Stone, R.N. and Gronhaug, K. (1993), "Perceived risk: further considerations for the marketing discipline", *European Journal of Marketing*, Vol. 27 No. 3, pp. 39-50
- Sampaio, Cláudio Hoffmann, Wagner Junior Ladeira, and Fernando De Oliveira Santini. "Apps for mobile banking and customer satisfaction: a cross-cultural study." *International Journal of Bank Marketing* (2017).
- Tam, Carlos, and Tiago Oliveira. "Literature review of mobile banking and individual performance." *International Journal of Bank Marketing* (2017).
- Van, Ha Nguyen, Long Pham, Stan Williamson, Vu Thanh Huong, Pham Xuan Hoa, and Pham Lam Hanh Trang. "Impact of perceived risk on mobile banking usage intentions: trust as a mediator and a moderator." *International Journal of Business and Emerging Markets* 12, no. 1 (2020): 94-118

Biography

Inayatulloh is a candidate doctor at Bina Nusantara University's Doctor of Computer Science. Since 2000, Inayatulloh has been a lecturer at several universities and colleges in Indonesia such as Bina Nusnantara University, Indonusa University, State Islamic University, Archipelago Economics College and is currently a lecturer at Bina Nusantara University in the school of information system. Scopus indexed publications have been produced with topics related to information systems such as e-learning, e-SCM, e-CRM. E-government and others