

The Influence of Mobile Money Adoption and Usage and Digital Consumer Protection on Financial Inclusion in Indonesia

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ABSTRACT

The purpose of this study was to verify the influence of Mobile Money Adoption and Usage (MMAU) and Digital Consumer Protection (DCP) on Financial Inclusion (FI) among Financial Technology users in Indonesia using the Diffusion of Innovation (DOI) theory and Restricted Access / Limited Control (RALC) theory. The data used was primary data obtained through the distribution of Google Form. The number of samples that have been obtained is 403 respondents. The results show that MMAU and DCP have positive and significant influence on FI. The originality of this research is that this research is the first attempt in using fintech with the Diffusion of Innovation (DOI) theory and Restricted Access / Limited Control (RALC) theory.

Keywords: *Mobile Money Adoption and Usage, Financial Inclusion, Digital Consumer Protection, Financial Technology*

1. INTRODUCTION

Along with the economic development in Indonesia, *financial inclusion* becomes an important matter to be paid attention to, especially regarding the *financial technology* in the use of electronic money that influences community welfare. Such activity of financial inclusion becomes one of the most important agenda in the world, especially in Indonesia. According to The Presidential Regulation [1], The National Strategy of Financial Inclusion constitutes a national strategy containing the ways to achieve the objective and target of financial inclusion, in which all kinds of communities can easily access the financial services institutions based on the necessities to encourage economic growth and poverty reduction in order to envision the welfare of Indonesians. Therefore, the development of financial inclusion becomes an important national issue nowadays.

Based on World Bank in [2], financial inclusion is the access for every person or business to utilize the financial products or services. According to [3], the result of national survey on financial literacy and inclusion in 2019 shows the index of financial inclusion of 76.19%. Thus, it can be concluded that most of Indonesians have been using and knowing the kinds of financial products. Nevertheless, the distribution of financial inclusion in Indonesia is not balanced in each province, in which The Special Region of Jakarta has the highest level of financial inclusion, which is 94.76% and the lowest is in West Papua Province, which is 59.84%, thus the difference is 34.92%. An article on

Kompas.com [4] mentioned that The President Joko Widodo concerned on the index of financial inclusion in Indonesia which is still low compared to many countries in ASEAN region, such as Singapura that has reached 98%, Malaysia 85%, and Thailand 82%, hence it can be concluded that financial inclusion in Indonesia remains problematic due to having low index and unequal distribution.

Along with the development of information technology as well as the rapid level of internet penetration, several digital financial services exist that can ease the communities in conducting financial transactions, such as the Mobile Money Adoption and Usage (MMAU), that can enhance and encourage the financial inclusion in Indonesia. Meanwhile, the development of MMAU in the context of digital financial services in Indonesia causes some people concern on the aspect of security and privacy of the users, because this matter is related to the risk of users' personal data leak, thus the Digital Consumer Protection (DCP) is needed to enhance the consumers' welfare [5].

This research used two kinds of basic theories, which are the *Restricted Access / Limited Control* (RALC) theory and the *Diffusion of Innovation* (DOI) theory. Basically, the RALC theory discusses about the urgency of an individual's privacy that has to be protected. This research investigated how the financial service providers can guarantee the security and privacy regarding the consumers' personal data in using the provided products or services. On other side, the DOI theory discusses about how a new technological innovation can spread into a social system, such as groups,

communities, and countries, with the speed depending on the existing channels. Therefore, this research used the Mobile Money Adoption and Usage (MMAU) dan Digital Consumer Protection (DCP) as the independent variables. Based on the explanation above, this research intended to analyze the influence of MMAU and DCP on Financial Inclusion. Previous research conducted by [6] used the approach of RALC theory, and the novelty of this research is the combination of *Restricted Access / Limited Control* (RALC) Theory and *Diffusion of Innovation* (DOI) Theory, while the samples used were the Indonesians conducting financial transactions by using electronic money in Indonesia.

2. THEORETICAL REVIEW

2.1. Diffusion of Innovation Theory

This theory was introduced by [7] who defined diffusion as an innovation process communicated through the channels from time to time among the members of a social system. According to [8], Diffusion of Innovation is a theory about how, why, and addition of meaningful ideas so that the technology can spread into a social environment, such as groups, communities, and countries. Based on [9], innovation is an intended effort to bring changes or new methods to manage the working structure, process, or organizational procedure, as well as individual and group changes.

2.2. Restricted Access / Limited Control (RALC) Theory

[10] mentioned that restricted access is an individual or group who has privacy in the situation, if and if only in such situation, the information related to the individual or group is protected from disorder, observation, and surveillance by other parties. According to [11], privacy is one of the expressions of basic security values. The concept of privacy control / limited access has advantages that the privacy policy can be managed well. In the era of computerization, the information technology is developed rapidly and the consequences are difficult to be predicted, because many people can conduct more information search through the internet.

2.3. Mobile Money Adoption and Usage

According to [12], mobile money adoption and usage is a service of money remittance by using the telecommunication and information technology in order to provide and expand the financial services, such as deposits, withdrawals, transfers, and payments. Meanwhile, [13] defined mobile money as the use of cellular gadgets to conduct the transactions, transfers, and payments.

2.4. Digital Consumer Protection

Based on [14], digital consumer protection is a kind of consumer protection applied in digital financial services, which is very important to develop trust and confidence of the users. Meanwhile, according to [15], digital consumer protection ensures that consumers receive the correct information, get fair treatment and not being cheated, complain easily whenever there is a problem, and keep their personal information.

2.5. Financial Inclusion

According to [16], financial inclusion is the use of financial products and services formally provided to the isolated community. [17] stated that financial inclusion is a kind of financial service provided to community in order to use the financial services including overall savings, loans, insurances, credits and etc.

2.6. The Relationship between ‘Mobile Money Adoption and Usage’ and ‘Financial Inclusion’

Based on the research conducted by [6], Mobile Money Adoption and Usage (MMAU) has a positive and significant influence on Financial Inclusion (FI). The result of this research shows that Financial Inclusion has four very important dimensions, which are access, quality, usage, and welfare. Nevertheless, formal financial institutions, such as banks do not operate in rural areas in which the community members do not have bank account. Therefore, mobile money adoption and usage can enhance the community's access to affordable financial services, such as savings, credits, and payments. Based on this phenomenon, the use of electronic money becomes more intensive which can enhance the financial inclusion. Financial inclusion is meant to individuals and businesses that have the same access to affordable financial products and services to fulfil the necessities of communities.

H₁: Mobile Money Adoption and Usage (MMAU) has a positive and significant influence on Financial Inclusion (FI).

2.7. The Relationship between ‘Digital Consumer Protection’ and ‘Financial Inclusion’

The research conducted by [18] concluded that the protection to consumers regarding digital financial system is necessary to guarantee the safety and security of consumers, in order to increase their confidence in accessing the financial products or services. Thus, consumer protection is ultimately important because it can affect the consumers' trust in accessing the products from service providers.

H₂: Digital Consumer Protection (DCP) has a positive and significant influence on Financial Inclusion (FI).

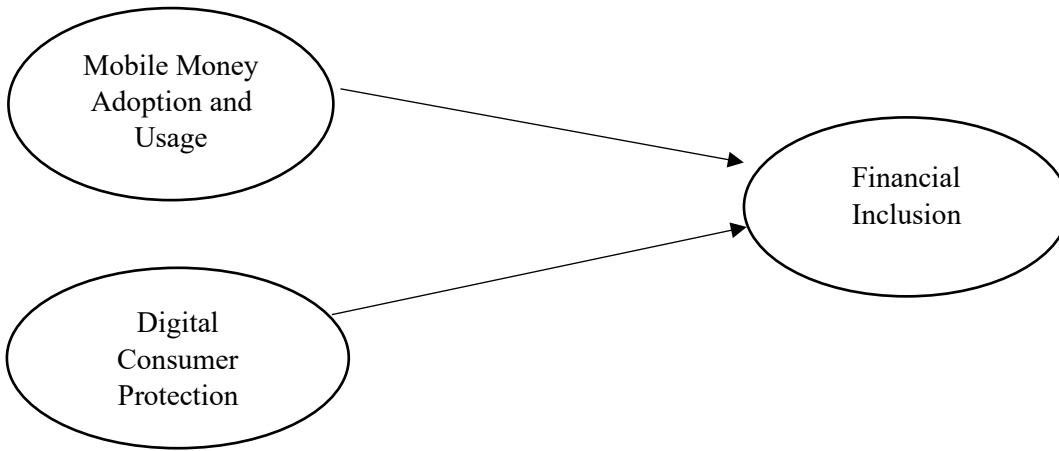


Figure 1. Research Framework

3. RESEARCH METHODOLOGY

3.1. Research Subject and Object

The object of this research focusses on Mobile Money Adoption and Usage (MMAU), Digital Consumer Protection (DCP), and Financial Inclusion (FI), while the subject is the community members using financial

technology, especially the users of electronic money. This research used the non-probability sampling technique due to the certain criteria applied to the respondents. The questionnaire data was collected from 403 respondents, and it was then analyzed using the Smart PLS 3.3.3 Program to run the tests of validity, reliability, t-statistics, and coefficient of determination. The Operationalization of variables in this research are as follows:

Table 1. Variable Operationalization

Variable	Qty	Source
Mobile Money Adoption and Usage	10 items	[6]
Digital Consumer Protection	11 items	[6]
Financial Inclusion	17 items	[6]

3.2. Statistical-Test Results

3.2.1. Validity Test

According to [19], a variable is considered valid if the result of Average Variance Extracted (AVE) is greater than 0.5 toward the target construct. Based on the result of PLS, the AVE of each variable is: 1) Mobile Money Adoption and Usage = 0.570; 2) Digital Consumer Protection = 0.606; and 3) Financial Inclusion = 0.555. Based on the results, the AVE of all variables (MMAU, DCP, and FI) are greater than 0.5, thus those fulfil the criteria of validity.

3.2.2. Reliability Test

The result of reliability test can be acquired by observing the value of composite reliability from an indicator block

that measures the construct. The assessment result regarding composite reliability is considered sufficient the value is greater than 0.7. Meanwhile, by using the Cronbach Alpha, the assessment result is considered sufficient if the value is greater than 0.6 [20]. The results of composite reliability for each variable are: 1) Mobile Money Adoption and Usage = 0.929; 2) Digital Consumer Protection = 0.955; and 3) Financial Inclusion = 0.944. These results show that the variables of MMAU, DCP, and FI have met the criteria of reliability.

3.2.3. Statistical t-Test

In this research, an independent variable has a significant influence on the dependent variable if the t-statistics is greater than 1.96 at 5% (or 0.05) significance level. The t-statistics of each variable can be seen in Table 2 as follow:

Table 2. The Results of t-Test

	Original Sample (O)	t-Statistics (O/STDEV)	p-Values
MMAU ---> FI	0.528	10.769	0
DCP ---> FI	0.401	7.958	0

The result of the first hypothesis testing shows that there is a significant influence of Mobile Money Adoption and Usage (MMAU) on Financial Inclusion (FI) with the t-statistics of 10.769 (> 1.96) and the p-value of 0 (< 0.05). The value of original sample estimate is positive, which is 0.528 showing that the relationship between MMAU and FI is positive as well. This means that there is a positive influence of Mobile Money Adoption and Usage toward Financial Inclusion, thus the first hypothesis was accepted. The result of the second hypothesis testing shows that there is a significant influence of Digital Consumer Protection (DCP) on Financial Inclusion (FI) with the t-statistics of 7.958 (> 1.96) and the p-value of 0 (< 0.05). The value of original sample estimate is positive, which is 0.401 showing that the relationship between DCP and FI is positive as well. This means that there is a positive influence of Digital Consumer Protection toward Financial Inclusion, thus the second hypothesis was accepted.

3.2.4. Coefficient-of-Determination Test

The Coefficient of Determination (CD) is based on the value of R-Square. In this research, the value of R-Square is 0.693. This result shows that the variation in the variable of Financial Inclusion can be explained by the variation in the variables of Mobile Money Adoption and Usage (MMAU) and Digital Consumer Protection (DCP) as much as 69.3%, while the remaining 30.7% can be explained by other variables not included in this research.

4. DISCUSSIONS

The result of this research is in line with the research conducted by [6] concluding that mobile money adoption and usage has a positive and significant influence on financial inclusion. Therefore, in order to enhance the financial inclusion, the financial service providers have to utilize the use of electronic money massively, so that people can easily access their various services.

This research has the same result as the previous research conducted by [18] mentioning that digital consumer protection has a positive and significant influence on financial inclusion. Thus, in order to enhance the financial inclusion, the protection in using financial products and/or services is ultimately needed to attract people's confidence and interest.

5. CONCLUSIONS

In this research, there is a positive and significant influence of mobile money adoption and usage on financial inclusion among the financial technology users in Indonesia. This positive influence means that the more application of electronic money, the faster delivery of information to people regarding financial inclusion will be. The high level of electronic money usage makes the information on financial inclusion can be distributed faster, thus people can utilize the financial inclusion to manage their own financial matters.

This research also shows that digital consumer protection a positive and significant influence on financial inclusion among the financial technology users in Indonesia. This positive influence means that by providing the right information, safety feeling, and trust to consumers, then the financial product and/or services can be distributed to people faster. Hence, people can utilize the financial inclusion to manage their financial matters.

6. LIMITATIONS AND SUGGESTIONS

This research has some limitations, which are: 1) This research only used 403 respondents of financial technology users in Indonesia, thus this number of respondents is considered less able to represent the Indonesian population as a whole; 2) The independent variable in this research is limited only to Mobile Money Adoption and Usage and Digital Consumer Protection, while there are still many factors influencing the financial inclusion such as financial knowledge, financial attitude, financial intermediation, and etc.; 3) There is a possibility that the respondents did not fulfil the questionnaire correctly based on the reality they experienced.

Based on such limitations, the next research can increase the number of samples in order to acquire the stronger predictive-power, as well as the more accurate and representative results.

REFERENCES

- [1] Peraturan Presiden 114, (2020). <https://www.ekon.go.id/publikasi/detail/705/pemerintah-terbitkan-perpres-nomor-114-tahun-2020-untuk-percepat-inklusi-keuangan-indonesia#:~:text=Peraturan Presiden Nomor 114 Tahun 2020 tentang Strategi,Hartarto sebagai Ketua Harian Dewan Nasional Keuangan>

- [2] <https://accurate.id/ekonomi-keuangan/inklusi-keuangan>. Accessed on 28th July, 2020.
- [3] Otoritas Jasa Keuangan. (2020). Survei Nasional Literasi dan Inklusi Keuangan 2019. Otoritas Jasa Keuangan. <https://www.ojk.go.id/id/berita-dan-kegiatan/publikasi/Pages/Survei-Nasional-Literasi-dan-Inklusi-Keuangan-2019.aspx>
- [4] Kompas.com. (2020). Jokowi Sebut Indeks Inklusi Keuangan RI Jauh Lebih Rendah dari Negara ASEAN Lain. Kompas.Com. <https://money.kompas.com/read/2020/11/11/150144726/jokowi-sebut-indeks-inklusi-keuangan-ri-jauh-lebih-rendah-dari-negara-asean>
- [5] Mazer, R., & Rowan, P. (2016). Competition in mobile financial services: Lessons from Kenya and Tanzania. *The African Journal of Information and Communication*, Issue 17, pp. 39-59. <https://doi.org/10.23962/10539/21629>
- [6] Bongomin, George O. C., Munene. John C., & Yourougou, P. (2020). Examining the role of financial intermediaries in promoting financial literacy and financial inclusion among the poor in developing countries: Lessons from Rural Uganda. *Cogent Economics & Finance*, Vol 8 (1), pp. 1-21.
- [7] Rogers, E. M., Singhal, A., & Quinlan, M. M. (1983). Diffusion of innovations. In *An Integrated Approach to Communication Theory and Research*, Third Edition. <https://doi.org/10.4324/9780203710753-35>
- [8] Ottosson, Stig. (2019). Innovation Theory. 11–39. <https://doi.org/10.1007/978-3-319-94045-8>
- [9] West, M. A., & Farr, J. L. (1989). Innovation at Work: Psychological Perspectives. *Social Behaviour*.
- [10] Moor, J. H. (1990). The Ethics of Privacy. *The Ethics of Privacy Protection* James, 69–82. <https://doi.org/10.1093/acprof:oso/9780195370805.003.0014>
- [11] Moor, J. H. (1997). Towards a theory of privacy in the information age. *ACM SIGCAS Computers and Society*, 27(3), 27–32. <https://doi.org/10.1145/270858.270866>
- [12] Upadhyay, P., & Jahanyan, S. (2016). Analyzing user perspective on the factors affecting use intention of mobile based transfer payment. *Internet Research*, 26(1), 38–56. <https://doi.org/10.1108/IntR-05-2014-0143>
- [13] Masrek, M. N., Halim, M. Z. B. A., Khan, A., & Ramli, I. (2018). The impact of perceived credibility and perceived quality on trust and satisfaction in mobile banking context. *Asian Economic and Financial Review*, 8 (7), 1013–1025. <https://doi.org/10.18488/journal.aefr.2018.87.1013.1025>
- [14] Malady, L. (2016). Consumer protection issues for digital financial services in emerging markets. *Banking & Finance Law Review*, 31 (2), pp. 389–401.
- [15] Rutledge, S. L., Annamalai, N., Lester, R., & Symonds, R. L. (2010). *Good Practices for Consumer Protection and Financial Literacy in Europe and Central Asia: A Diagnostic Tool*. ECSPF Working Paper 001. Washington DC: The World Bank.
- [16] Allen, F., Demircuc-Kunt, A., Klapper, L., & Peria, M. S. M. (2016). The foundations of financial inclusion: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation*, 27, pp. 1–30.
- [17] Vidya, A. (2017). Social Capital a Mediator of Financial Inclusion Development in Rural Kerala. 5(09), 547–550. https://www.academia.edu/35618864/Social_Capital_a_Mediator_of_Financi%0Aal_Inclusion_Development_in_Rural_Kerala
- [18] Bongomin, George O. C., & Ntayi, Joseph M. (2020). Mobile money adoption and usage and financial inclusion: Mediating effect of digital consumer protection. *Digital Policy, Regulation and Governance*, 22(3), pp. 157–176. <https://doi.org/10.1108/DPRG-01-2019-0005>
- [19] Hair, Joe F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- [20] Hair, Joseph F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>