Financial Technology And Financial Inclusions In Indonesia

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Abstract. The purpose of this study is to describe the influence of the development of financial technology and financial literacy on the development of financial inclusion both partially and simultaneously. The research method used is quantitative. Data is obtained from documentation data that has been available at the central statistics agency, Bank Indonesia, the Financial Services Authority, and the Ministry of Finance of the Republic of Indonesia since 2013-2019, which can be downloaded online. Data were analyzed using multiple regression. Based on the results of data analysis it can be concluded that there is a significant influence between financial technology and financial literacy on financial inclusion both partially and simultaneously.

Keywords: Financial, Inclusion, Literation, Start Up, Technology.

1 Introduction

At present, fifty percent of the world's population has not been touched by bank services. In 2018, Global Findex World Bank, the number of Indonesian adults who already have accounts in financial institutions (banked people) has only reached 36% of the total adult population (OJK, 2016a). Various reasons for the community cannot relate to financial institutions, one of them is because it is far from banking infrastructure, both the banking service office and the independent platform machine (Member-Board-Governor-BI, 2018).

Table 1. Number of commercial bank infrastructure

Indicator	2014	2015	2016	2017	2018	2019
Total bank						
Commercial banks	119	118	116	115	115	115
Rural bank	1.643	1.636	1.633	1.619	1.597	1.593
Total Bank Offices						
Commercial banks	32.739	32.949	32.730	32.285	31.618	31.676
Raral bank	4.895	5.982	6.075	6.192	6.273	6.014

Source: (OJK, 2017)

ICSTIAMI 2019, July 17-18, Jakarta, Indonesia

DOI 10.4108/eai.17-7-2019.2301673

The table above provides an understanding that, as of 2019 there are 115 commercial banks in Indonesia, as many as 1,593 rural banks. While the number of public bank offices is 31,676 units, and the number of public credit bank offices is 6,014 units.

Table 2. Amount of Islamic bank infrastructure

Indicator	2016	2017	2018	2019
Sharia commercial bank and busines unit				
Total number of offices	2.201	2.169	2.229	2.260
Total number of ATMs/ADMs	3.259	2.728	2.962	2.958
Sharia Rural bank				
Number of Banks	166	167	167	165
Number of offices	453	441	495	469

Source: (OJK, 2017)

Looking at the data above, the number of Islamic banks in Indonesia is still very small, not comparable with the number of cities and districts in Indonesia. In 2016-2017, there were only 13 Islamic banks, and in 2018-2019 the number of Islamic banks increased by one to 14 Islamic banks. The number of offices until 2019 is 2,260 sharia bank offices. The number of ATMs / SDMs until 2019 is that there are only 2,958 units. Sharia Rural Bank until 2019 there are 165 banks, with a total of Sharia Rural Bank offices until 2019, which are 269 units.

By looking at both the infrastructure of both commercial banks and Islamic commercial banks, the number of banks available is still very small. So it is natural that financial services to the community are still exclusive, not yet exclusive. Banking services are still exclusive, because they can only be enjoyed by certain people, have not been able to reach all Indonesian people.

The results of the National Survey on Financial Literacy in 2016 showed that the level of financial inclusion of people in Indonesia was only 67.82 percent which was dominated by banking products, while the literacy rate of financial products was only 29.66 percent of finance in Indonesia which was still dominated by the banking sector as seen in Table 3. (OJK, 2016b).

Table 3. Types of inclusion facilities and percentages

No	Types of inclusion facilities	%
1	Banking	74%
2	Insurance	10%
3	Pension fund	2%
4	Mutual funds	5%
5	Non-banking	2%
6	Securities company	1%
7	Finance company	6%

Source: (OJK, 2016b)

Currently, there is a fin-tech startup that will transform financial services from exclusive to inclusive, which can reach all Indonesian people, both those living in urban, rural and rural areas. Given that so far, the majority of conventional and sharia commercial bank services are

mostly located in urban areas and urban suburbs, they have not been able to reach remote areas and remote areas.

The fundamental question of this research is that the fintech startup is able to change the condition of financial services that were initially exclusive, shifting into inclusion which is characterized by growing and increasing numbers of people who receive financial services from both bank and non-bank financial institutions. The originality of this research lies in the benefits of fintech in facilitating exclusive financial services to be inclusive so that people who have not been touched by financial institution services have been served.

2 Theoritical Review

There is a lot of research, for example by Prawirasastra, which states that financial technology is a combination of the terms of financial services and information technology (Prawirasasra, 2018). "Today, the financial technologies industry (fintech) is rapidly developing around the world. Under the finance-tech, the Basel Committee on Banking Supervision (BCBN) understands "financial innovations that can lead to the creation of new business models, applications, processes or products that will sub- sequently affect the financial markets, institutions or the production of financial services "(Kolesova & Girzheva, 2018).

Furthermore, it was explained that, "The number of people around the world, who are not willing to use traditional banking services, contributes to the development of technology which offers the same services, but is faster, cheaper and more profitable than banks ”(Svetlana Saksonova & Irina Kuzmina-Merlino, 2017)

Also explain that, "Financial technology, or FinTech, involves the design and delivery of financial products and services through technology. It affects financial institutions, regulators, customers and merchants across a wide range of industries. Pervasive "(Leong, Tan, Xiao, Tan, & Sun, 2017)

The findings (Leong et al., 2017) regarding the rapid development of fintech occur because of public dissatisfaction with the types of bank services that have never moved to use technology, while fintech services are able to penetrate various weaknesses in bank services. Fintech also does not need physical infrastructure such as banking services, which until now are very limited in number, especially in villages.

According to Kolesova and Girzheva, the existing lending fintech seized various banking functions, so that it was felt very troubling to develop. The positive impact is that many people are being served by financial institutions. In other words, financial services to the community are more inclusive (Kolesova & Girzheva, 2018)

The study conducted by (Clusters, 2016) concluded that fintech is a form of refinancing traditional financial services. Fintech is able to present new financial markets that are in line with the development of information technology. With the presence of fintech startups, the number of remote communities that receive financial services has increased significantly.

Galvin and his colleagues' study concluded that fintech as the most successful startup in defeating the role of the bank, while being able to increase the number of people using financial services both banks and non-banks. (Galvin et al., 2018).

Micu's findings relating to innovations produced by Fintech's financial service providers have been able to increase the number of micro, small and medium business actors. More than 68% of MSMEs have been offered by Fintech to borrow available funds in order to advance

MSMEs. At that time, the banks were very disturbed by the presence of fintech that was able to win the hearts of users of financial services, eventually the number of customers of banks became drastically reduced (Micu, 2016)

The study conducted by He, et.al. also concluded that, fintech as the fastest solution in financial services, because in addition to being able to change the currency according to the target country's exchange rate, it was also able to maintain financial stability internationally. In other words, fintech is able to answer various weaknesses possessed by conventional banks (He et al., 2017).

Financial literacy is a financial awareness and knowledge of financial products, financial institutions and concepts regarding financial management skills (Xu and Zia 2012).

3 Method

This study uses quantitative research methods specifically descriptive verification. Secondary data was collected from four sources of government institutions, namely the Ministry of Finance of the Republic of Indonesia, Bank Indonesia, the Deposit Insurance Corporation, and the Financial Services Authority. Data is taken from the official website of the four institutions that can be accessed online. Data accessed in 2013-2019 data. Data that has been collected is analyzed using multiple linear regression analysis (Sekaran, 2016). The results of this analysis are used to answer the research problem formulation.

4 Research result

In testing multiple linear regression models used two independent variables namely financial and financial literacy technology, and one dependent variable is financial inclusion. The following is a linear regression test

Table 4. Ring-test results of the Regression Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	SE	Beta		
1	(Constant)	-3.778	1.261		-2.995	.009
	utilization_Fintech (X1)	1.017	.039	.958	26.139	.000
	Literacy level (X2)	.119	.091	.048	1.308	.211

Source: Results of the 2019 Analysis

From the Unstandardized Coefficients values in the table above, a regression equation can be formed as follows.

$$Y= -3.778 +1.017X1 + 0,119\ X2$$

The results of the first hypothesis test are obtained by the determinant coefficient (R2) to calculate the part of the diversity of the total dependent variables Y which can be explained by the diversity of the independent variables X.

Table 5. Summary of the Results of the Determination Coefficient

Model	R	R Square	Adj. R Square	SEE
1	.996[a]	.993	.992	2.57656

Source: Results of the 2019 Analysis

Based on the adjusted R2 value obtained at 0.993, which means that 99.2% of the diversity of the dependent variable can be explained by the model, the remaining 0.8% is explained by other variables outside the model. Next is the F test to find out the real effect of the independent variable on the dependent variable as a whole. The test uses a real level of 0.05 (5%).

Table 6. Summary of F Test Results

Model		SS	df	Mean Square	F	Sig.
1	Regression	13708.668	2	6854.334	1.032E3	,000[b]
	Residual	99.580	15	6.639		
	Total	13808.248	17			

Source: Results of the 2019 Analysis

Based on the results of the F test in the table above, a significant value of 0.00 is less than 0.05, so Ho is rejected and H1 is accepted. Means, there is at least one independent variable that affects the dependent variabe. This shows that financial literacy and financial technology simultaneously have a significant effect on financial inclusion.

Fintech's role in encouraging financial inclusion

The financial literacy variable obtained by t coefficient of 5.627 has a significant value of 0.00 less than 0.05, so Ho is rejected and Hi is accepted. That is, financial technology has a positive and significant effect on financial inclusion. This means that the higher the people who use digital-based financial services, the higher the form of support for financial inclusion.

Table 7. Financial Tests for Financial Inclusion

		Unstandardized Coefficients		SC		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-5.464	8.320		-.657	.521
	Fin-Tech	2.026	.360	.815	5.627	.000

Source: Results of the 2019 Analysis

The results of this study also confirmed the results of research conducted by Kolesova & Girzheva who concluded that, fintech had an impact on the occurrence of social change, because many people were touched by fintech services with artificial intelligence created by the developers. (Kolesova & Girzheva, 2018).

The results of this study also corroborate the findings of Leong et al., Who said that, fintech has been able to improve the community that serves the services provided. The number of customers has increased in accordance with the development of information and technology. This technology has significantly been able to increase the number of bank customers, the number of fintech users and the number of people interested in using fintech. (Leong et al., 2017).

With various marketing strategies possessed by Fin-tech and fintech legality, it turns out that it can also increase financial inclusion through financial markets (He et al., 2017). Other researchers also believe that fin-tech impact can significantly increase financial inclusion and stability (Ozili, 2018)

The following researchers also strengthened this research because it concluded that financial technology services were able to increase public interest in conducting online transactions, so that it would make it easier for people to get financial services (Joju, Shanmugam, & P K, 2017)

So, what is predicted (Chiu & Iris, 2016) explains that, financial technology will be able to increase public financial inclusion but also can lead to technological distortions in the field of development.

Effects of Financial Literacy on Financial Inclusion

The financial literacy variable obtained by t coefficient of 44,446 has a significant value of 0.00 less than 0.05 so Ho is rejected and Hi is accepted. That is, financial literacy has a positive and significant effect on financial inclusion. This means that the higher the financial knowledge the higher the level of financial inclusion.

Table 8. Financial Test t for Financial Inclusion

Model		Unstandardized Coefficients		SC		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-2.846	1.064		-2.676	.017
	Literasi (X2)	1.057	.024	.996	44.446	.000

Source: Results of the 2019 Analysis

The results of this study are in accordance with the findings of Odelius et al., Who stated that in Kenya, the number of people who received banking services increased dramatically after the M-Pesa, which was able to provide money transfer services via SMS banking. This is very much needed by people in rural areas that are far from banks and automated teller machines. (Odelius, Traynor, Mehigan, Wasike, & Caldwell, 2017)

The findings of this study are also in line with the findings of Muzdalifa et al., Who said that fintech was proven to be able to increase the number of people who received financial services from both financial and non-banking financial institutions. The millennial community prefers conventional fintech services. In other words, fintech services are able to touch all circles (Muzdalifa, Rahma, & Novalia, 2018)

Financial literacy has been able to increase the level of public financial inclusion, especially people who always use fintech services (Carmona et al., 2018). Financial literacy has also been able to increase the index of fintech utilization in the world (Gulamhuseinwala, 2017).

In the field of sharia, it is also explained that Islamic financial literacy is also able to increase the inclusion of Islamic finance (Grais & Pellegrini, 2006). Thus, Islamic financial literacy and utilization of sharia technology finance are able to improve Islamic financial inclusion (Arno Maierbrugger, 2018)

5 Conclusion

Reading the entire description above, it can be concluded: first, that simultaneously there is an influence between financial technology and financial literacy on financial inclusion with a R2 coefficient of 0.992, or 99.2% variation in financial inclusion is determined by financial technology and financial literacy variables. The remainder of the calculation of 1.6% is determined by other variables not included in this study. Secondly, partially there is a significant influence between financial technology on financial inclusion. Likewise, there is a significant influence between financial literacy on financial inclusion.

Acknowledgment

Thank you for being delivered to the Islamic Economics Postgraduate Program, UIN Radin Intan Lampung Indonesia, starting from the leadership element to the executive staff including all student colleagues, who have contributed both to the academic and non-academic levels, all of which are able to provide less motivation, so that various scientific work in the field of Islamic economics can be realized.

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