

The Effectiveness of Financial Technology and Financial Literacy on Financial Analysis for Small and Medium Enterprises

Inta Budi Setya Nusa¹, Juwita Sri Rahmawati²

Accounting Department

Universitas Komputer Indonesia

inta.budi@email.unikom.ac.id

Abstract. The purposes of this study are 1) To test and analyze the effect of Financial Literacy on Financial Technology 2) To test and analyze the effect of Financial Literacy on financial analysis for small and medium enterprises, 3) To test and analyze how much influence Financial Literacy has on financial analysis for small and medium enterprises. This study uses a quantitative approach with philosophical considerations of positivism, including applied research, and including descriptive research. The research design used is correlational research, namely testing and estimating the relationship of many variables both partially and simultaneously using multiple regression methods from data harvesting research. This research uses panel data regression analysis with (1) Common Effect with the most basic model or estimation method in regression panel data, which still uses the ordinary least squares (OLS) principle, (2) Fixed Effect uses the dummy variable technique, (3) Random Effect Model (REM) or Generalized Least Square techniques. The research data uses a quantitative sampling method with random sampling systematically using intervals in selecting research samples obtained from data that can be measured by statistical techniques, with a total sample of 179 small and medium enterprises in Bandung. The results of the study show that (1) Financial Literacy can increase the knowledge of small and medium enterprises on the use of Financial Technology (2) there is an effect of Financial Literacy on financial analysis in small and medium enterprises. Financial literacy has a positive influence on individual welfare because of its very strong influence on financial conditions. By increasing the knowledge, confidence, and skills a person or the wider community can manage their finances well, their economic welfare tends to be better.

1. Introduction

Fintech is a service that is created from a combination of technology and digital-based finance that supports the transaction process to be faster. In Indonesia alone, Fintech is developing in various sectors, ranging from startup payments, lending, financial planning (personal finance), retail investment, financing (crowdfunding), remittances, financial research, and others. The fintech industry has been present in Indonesia since 2016 until now. The Indonesian Fintech Association (Aftech) explained the development of the fintech industry in the country. "The number of fintech companies registered as members of Aftech increased from 24 in 2016 to 275 at the end of 2019. By the end of the second quarter of 2020 it had reached 362," according to the General Chairperson of Aftech [1] Initially, Indonesian fintech only engaged in two verticals, namely digital payments (e-money) and online loans (peer to peer lending). Now it has grown to include Aggregators, innovative credit scoring, financial planners, equity crowdfunding services, and

project financing. Until the end of the second quarter of 2020, among the four categories of fintech business models, online loans were the most dominant at 44%, followed by fintech in the Digital Financial Innovation (IKD) category with 24%. Then digital payments are 17% and followed by crowdfunding services of 1%. BI Senior Deputy Governor, [2].

According [3] reveals three conditions that underlie economic growth supported by the digital economy and fintech in Indonesia. First, around 30% of Indonesia's GDP is digital-based and more than 55% of the Indonesian people are Gen Z and Millennials who incidentally are digital natives. Second, internet penetration in Indonesia, although still at a low level, is starting to grow by 15-20%, which is higher than economic growth. Third, the pandemic forced people to turn to the digital economy, both from the demand and supply sides. Meanwhile, according to [4], the Chairman of the OJK Board of Commissioners revealed three things to be considered in the development of fintech in Indonesia. First, the distance between inclusion and financial literacy is narrowing, more people have access to financial services. Indonesia will need more creative, customized and trustworthy solutions from financial service operators. Second, the existing types of financial services are towards a more convergent solution: multi apps, super apps, all financial solutions in one application. "Regulations and policies are needed that can accommodate these changes.

There was a decline in the flow of digital startup funding in the Asian region by 60 percent (year-on-year) and 33 percent (quarter-to-quarter) in the third quarter of 2022. "However, the transaction value of the Indonesian fintech sector continues to achieve a Compound Annual Growth Rate (CAGR) of 39 percent. The second highest among the G20 countries during the Covid-19 pandemic until this year," Minister of Communication and Informatics [5]. Furthermore, according to the Minister of Communication and Information, geopolitical conflicts, scarring effects after the Covid-19 pandemic, to stagflation put a lot of pressure on the economic sector. Quoting Statista 2022 data, [5] stated that this condition also had an impact on the occurrence of Tech Winter in the world's digital economy sector. "Fintech's superior performance occurred in five main fintech segments that digitized the financial services sector in Indonesia, namely the Neobanking, Alternative Financing, Digital Assets, Digital Investment, and Digital Payments segments. As for Bank Indonesia Regulation Number 19/12/PBI/2017, the types of fintech in Indonesia include: Payment, clearing, and settlement, namely payment transactional services and details, by utilizing technology. For example, like a digital wallet. Securities, which serve various investment needs by using technology. Aggregator, which provides services in the form of data, which is then used by users to make decisions. For example, when one aggregator provides a comparison between several credit card products, one can see the pluses and minuses of each. Crowdfunding, which is usually used to raise funds from many people. Peer to peer lending, which is a digital platform that brings together owners and borrowers of funds in one place. peer to peer lending which is often confused with online loans. Even though online lending and peer to peer lending clearly have different "rules of the game [6]

The important role of fintech in supporting stronger and more resilient economic growth. "In Indonesia, the opportunities for digital economic and financial growth are enormous," he said. Based on the latest data from Google reports, he continued, more than 30% of Indonesia's GDP is based on digital finance. Looking at the Indonesian population of around 267 million people, the majority of which are young people, the potential for information technology development is very high. With the development of information technology, the penetration of digital finance is not only in urban areas, but also in villages and touches all levels of society. With that, the target of economic inclusiveness can be achieved more quickly [7]. A financially literate person will have some basic knowledge of key financial concepts [9]. According to [10], financial literacy provides financial literacy and skills used for making financial decisions. The low level of financial inclusion in capital market products illustrates that the Indonesian people have not

optimized their wealth to invest. The low level of financial inclusion in the investment sector is influenced by financial literacy and income [11].

The Organization for economic cooperation and development or OECD (2016), states that financial literacy is not only literacy and understanding of financial concepts and risks but also a combination of awareness, literacy, skills, attitudes and behaviors needed to make an effective financial decision to improve welfare. individual and community financial well-being and participation in the economy. The US Financial Literacy and Education Commission in the US National Strategy for Financial Literacy (2020) describes financial literacy as skills, literacy and tools that become provisions for individuals to make financial decisions and actions to achieve their financial goals (OJK, 2020). The Indonesian Financial Services Authority (OJK) defines financial literacy as literacy, skills and beliefs that influence attitudes and behavior to improve the quality of decision-making and financial management in order to achieve prosperity. Thus, the concept of financial literacy is multidimensional, not only reflecting literacy but also actual skills, attitudes and behavior. Financial literacy will also influence decision making in investing or using products in the financial sector [13]. Digital literacy plays an important role in economic development and poverty alleviation, by helping the community to get basic knowledge about the various schemes started by utilizing digitalization or financial services based on financial technology [14]. This was also conveyed by [15] Digital Financial Literacy is critical and very important in this digital era to improve management of better finance. Meanwhile, according to [16] FinTech developments can endanger welfare if not supported by good financial literacy which will increase financial risk and encourage impulsive consumer behavior. Probit and logit models signify that ITs and household characteristics positively and significantly affect financial literacy [17] and subsequently financial literacy has strong and positive effects on an individual's awareness and use of fintech products [18]

2. Literature Review

2.1. Financial Technology and Financial Literacy

Financial literacy has an important role in global financial reform and is one of the key tools for financial sector policy in the world [19] emphasized that the insufficient level of financial literacy was one of the catalysts in the financial crisis. The role of financial literacy in mitigating economic crises is very important (Olson, 2008) and the ability to make the right financial decisions is very critical in maintaining the stability of the financial sector, especially during a crisis [20]. financial literacy as the ability to understand financial conditions and financial concepts and to convert that literacy appropriately into behavior. [21]

According to [22] because by having financial literacy each individual can avoid the risk of inflation which can occur at any time, have an understanding of the impact of inflation on returns. [23]. especially when the individual is investing in the long term. Individuals who have good financial literacy will borrow at low cost and pay attention to costs. The definition of financial literacy, in [20] is the ability to read, analyze, manage and communicate about personal financial conditions that will affect material well-being. The definition of financial literacy, according to [24] is the ability to make informed judgments and make effective decisions about the use and management of money.

According to [24] proposed a model that includes the relationship between financial literacy, literacy, education, behavior, and financial well-being. In this model, financial literacy comes from human capital and financial education. There are other influences such as demographics, culture, and family influences related to financial behavior. Financial knowledge is referred to as the main dimension of financial literacy [26] and is largely considered a synonym of financial literacy [27]. Knowledge refers to what individuals know about their financial problems, measured by the level of literacy about various personal finance concepts [24]

The Organization for economic cooperation and development or [28], states that financial literacy is not only literacy and understanding of financial concepts and risks but also a combination of awareness, literacy, skills, attitudes and behaviors needed to make an effective financial decision to improve welfare. individual and community financial well-being and participation in the economy. US Financial literacy and Education Commission in the US National Strategy for Financial Literacy.

According to [29] categorize financial literacy into three groups, namely 1) $< 60\%$ which means that individuals have low financial literacy 2) $60\% - 79\%$, which means individuals have moderate financial literacy and 3) $> 80\%$ indicating that individuals have high financial literacy. This categorization is based on the percentage of correct answers to a number of questions used to measure financial literacy. [30] describes five domains of financial literacy, namely 1) Knowledge of financial concepts 2) Ability to communicate about financial concepts 3) Ability to manage personal finances 4) Ability to make financial decisions 5) Confidence to make future financial plans

2.2. Financial Literacy on Financial Analysis

Financial report analysis is an activity carried out to identify, assess, process and compare the information contained in a financial report. In the business world, analysis is a common thing that is done by every company. In general, the results of the analysis are used as material for consideration by using their literacy in making important decisions. This is inseparable from the company's financial problems, which make the company called healthy or unhealthy. One of the financial analyzes used to assess this is financial ratio analysis. Knowledge refers to what individuals know about personal finance issues, as measured by their level of literacy about various personal finance concepts [31]. Financial knowledge is one's mastery of various things about the world of finance. According to [32] Basically every management activity has a goal to get something. Likewise with financial analysis, the following are the various objectives of financial analysis that must be carried out by companies.

According to [33] states that the four most common things in financial literacy are budgeting, savings, loans, which are used to improve business or organizational performance. Meanwhile, the Jumpstart Coalition divides financial literacy into the topics of income, money management, savings and investment, and loans. or credit. [34]. also said that low financial literacy will lead to wrong financial planning and cause a bias in achieving prosperity when people are no longer productive. , financial intelligence is absolutely necessary so that someone can continue to enjoy prosperity. The sooner you have high financial intelligence, the more prosperous one's life will be. If it's too late, of course you will experience misery in life knowledge about finance. very important not only for individuals but also for companies and the economy, the higher a person's financial literacy, the person tends to have the ability to analyze finances by using money [35] Financial Knowledge: Insight and knowledge of economic concepts and systems. People with financial expertise can better understand financial concepts and procedures, as well as apply what they have learned to solve financial challenges[36]. It is the ability to manage money in a variety of ways, including keeping track of day to day financial concerns in the market and making the best decisions for "financially literate" people's requirements.

3. Method

This study uses a quantitative approach with philosophical considerations of positivism, including applied research, and including descriptive research. The consideration for using quantitative methods in this study is because quantitative data analysis can be interpreted with statistical analysis and in statistical science it is based on mathematical principles, so that the quantitative approach is seen as scientifically objective, and rational. In addition, the possibility of changing the behavior of the object of research is also very small when compared to qualitative data analysis. In addition to this, the analysis in this study uses data in the form of numbers and can be descriptive, correlational, or associative. Quantitative methods used in research can fulfill their objectives and determine the effect of a treatment which is then tested for the hypothesis

and can then measure the interaction of the relationship between the two variables, namely the financial technology variable with financial literacy and the financial literacy variable by improving the quality of financial analysis.. The research design used is correlational research, namely testing and estimating the relationship of many variables both partially and simultaneously using multiple regression methods from data harvesting research. This research uses panel data regression analysis with (1) Common Effect with the most basic model or estimation method in regression panel data, which still uses the ordinary least squares (OLS) principle, (2) Fixed Effect uses the dummy variable technique, (3) Random Effect Model (REM) or Generalized Least Square techniques. This study used a questionnaire instrument adapted from the OECD (2018). In this study there are two independent variables and one dependent variable. The dependent variable is financial literacy and financial inclusion. The financial literacy variable consists of three sub variables, namely financial knowledge with seven indicators, financial technology with 8 indicators, and financial attitude with three indicators. The financial inclusion variable consists of 21 questions that measure awareness, ownership status, and length of ownership of savings products, payment products, insurance products, and loan/credit products in small and medium enterprises in Bandung. The research data uses a quantitative sampling method with random sampling systematically using intervals in selecting research samples obtained from data that can be measured by statistical techniques, with a total sample of 179 small and medium enterprises in Bandung.

4. Results and Discussion

4.1 . Results

Based on the data, it shows that all Indonesian people still do not have sufficient or high levels of literacy and significant financial literacy. The data above shows that overall in Bandung still do not have a high or adequate level of financial literacy

Table 1. Respondents' level of financial literacy

Sub Variable	Financial Literacy Level Categor			
	No Literate (0-24%) (Small of Business)	Less Literate (25-49%) (Small of Business)	Sufficient Literate (50- 74%) (Small of Business)	Well Literate (75-100%) (Small of Business)
Financial Knowledge	1	16	123	35
Financial Behavior	2	8	34	141
Financial Attitude	0	12	77	106
Financial Literacy	0	3	77	105
	0%	1%	38%	61%

Source: Primary data, processed data (2023)

Based on the data aboveThe indicators of financial literacy referred to in this study are understanding of the features, benefits, risks, as well as rights and obligations related to financial products and services. Financial literacy also measures the correct level of skills, attitudes and behavior in using financial products and services. Based on an analysis of the level of financial literacy index of 61%, it shows that out of every 100 inhabitants there are only around 61 people who have a good understanding of financial institutions and financial service products. Thus there are 39 other residents who do not yet have financial literacy. This shows the level of financial literacy index in the city of Bandung in the low category. That is, the higher the level of financial literacy, the better individual behavior in using financial technology wisely

Table 2. Level of financial inclusion of respondents

Product	Lowest value (%)	The highest score (%)	Average (%)
Savings/Investment	50	100	60
Payment Products	50	100	90
Insurance	50	100	68
Loans/Credit	83	50	53
Financial Inclusion	50	81	64

Source: Primary data, processed data (2023)

Based on the data above, it can be said that financial inclusion in the city of Bandung shows that the utilization of savings products is 60% in the pretty good category, for payment products it is 90% in the very good category or often uses the product, for insurance products it is 68 % in the fairly good category, 53 loan products, the sufficient category, while the use of financial inclusion in MSMEs in Bandung city is 64% or in the sufficient category to provide access in the financial sector.

Structural model testing (inner model) is done by looking at the value of R-Square (R²). The R-Square value (R²) is used to measure how much influence certain independent latent variables have on certain dependent latent variables (37). The R-Square value (R²) in this study can be seen in Table 3

Table3. R-Square Value

Latent Variable	R-Square (R ²)
Financial literacy	0,177

Source: Primary data, processed data (2023)

Based on the results of the data processing above, the R-Square value for the investment variable is 0.177. This means that the diversity of financial inclusion and financial literacy variables is able to explain the investment interest variable by 17.7 percent, meaning that financial literacy is able to contribute 17.7 percent in making an individual contribution in considering the use of financial technology

Table 4. The results of the direct influence on the model

Variable Relations Latent	Original Sample	Standard Deviation	T Statistics	P-Values	hypothesis
Financial Technology -> Financial Literacy	0,091	0,095	0,963	0,336	Accept H0
Financial Literacy -> Financial Analysis	0,406	0,104	3,903	0,000**	Reject H0

Note: **: Significant at the 5 percent level Source: Primary data, processed data (2023)

Path analysis coefficients are used to see the direct effect on each latent variable. In Table 4, it can be seen the relationship between financial technology latent variables on financial literacy and financial literacy on financial analysis. Financial literacy has a positive effect on inclusion with the use of financial technology in small and medium enterprises in Bandung due to the level of financial literacy of people who are included in the medium category of financial literacy and also have a high level of awareness about the importance of financial knowledge and skills both in the present and in the future , so that you can use financial products and services wisely and can make the right decisions by being able to analyze good finances. The government and financial institutions in their practical implications, feel the need to pay attention to the level of public financial literacy because it can affect the increase in financial use. This is in line with the research of Yakubu et al. (2017), Mindra & Moya (2017), Saputra & Dewi (2017), Bongomin et al. (2016),

Pulungan & Ndruru (2019), and Hutabarat (2018) who found a positive effect between financial literacy on inclusion through financial technology..

4.2. Discussion

This study finds strong evidence about financial technology and digital literacy. However, the small sample coverage period is a limitation of the study. the need for more research with a larger sample and different places with its impact on literacy. Other general factors directly or indirectly describe the presence or absence of financial literacy and digitalization at the national level. the importance of financial literacy is the fact that the current generation has convenience and comfort in shopping, the presence of financial technology, is susceptible to being influenced by advertisements and idols, lacks financial management skills, and lacks information on financial literacy. So it is necessary to research on cultural factors, other lifestyle factors that are relevant to the development of financial technology

5. Conclusion

The Importance of Financial Literacy for Personal Financial Management or for small and medium enterprises in Indonesia. Financial literacy is a very basic need for everyone or small and medium enterprise actors to avoid financial problems. Financial difficulties are not only a function of income alone (low income), financial difficulties can also arise if there is an error in financial management, such as misuse of credit, and the absence of financial planning. Financial literacy should receive high attention from stakeholders such as OJK and Indonesian banks. Research results generally show that there is still a low level of financial literacy in Indonesia. This condition is a problem that needs to be addressed immediately considering that financial literacy has a positive effect on financial inclusion and behavior. Furthermore This financial access has an important role in improving the standard of living or welfare of the community. Please note, financial access here is not limited to access to banks, but also includes access to other financial services such as insurance, financing, pension programs, and investments. Recognizing the importance of financial literacy and inclusion for this community, the Government must make efforts to make various efforts aimed at increasing the level of public understanding of the financial sector and access to the financial sector (from those who have no access at all to becoming customers or consumers in the financial sector or a term that more often we hear, from unbankable to bankable). Most importantly, this effort is also intended to prevent the public from illegal investments, which are currently quite a lot in Indonesia

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