

The Effect of Fintech Implementation on The Performance of SMEs

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The emergence of FinTech has now made the unstoppable growth of technology in this digital era complete. Defined as technology-based financial services, FinTech allows transactions to be processed anywhere and anytime. It has provided small and medium enterprises (SMEs) with advantages, from provision of capital funding to ease of transactions that supports growth in SMEs. This study aims to identify how FinTech adoption and financial literacy affect Indonesian SMEs' performance. Online questionnaires were distributed among respondents—100 business owners—selected using convenience sampling technique, and data were then analyzed using OLS regression. It was later found that FinTech adoption positively and significantly influences SMEs' performance. Financial literacy, at the same time, strengthen the association between FinTech adoption and SMEs' performance.

Keywords: Fintech, Financial Literacy, SMEs' Performance

JEL Classification: G23, G53, O14

INTRODUCTION

Digitalization has been part of many sectors, including the financial sector. With rising human interconnectedness through the Internet and the advancement of technology, conventional approaches in financial services are now challenged by innovative financial technology that will fulfill the needs of the community through provision of access to financial services and transaction processing (Pizzi et al., 2020). Financial technology (FinTech) is a new form of business incorporating the power of technology and digital devices to provide people with ease of financial transactions. In general, FinTech aims at attracting consumers with user-friendlier, more efficient, more transparent, and automatic products and services (Wulandari, 2017). FinTech keeps innovating as a part of the ever-changing Internet of Thing (IOT) through quantum computing (Schulte & Liu, 2017). Presence of FinTech in Indonesia has been regulated by Bank Indonesia through Regulation of Bank Indonesia Number 19/12/PBI/2017 concerning Implementation of Financial Technology and by the Financial Service Authority through Regulation of OJK of the Republic of Indonesia Number 12/POJK.02/2018 concerning Digital Financial Technology in Financial Service Sector. Currently, there are four registered FinTech services: (1) Crowdfunding and Peer-to-Peer Lending, (2) Market Aggregator, (3) Risk Management and Investment, and (4) Payment, Clearing and Settlement. These services aim to promote economic equality in the society, provide ease of transactions, and help small and medium business professionals obtain funding and loans (Winarto, 2020). In addition, the roles of FinTech in Indonesia (Hadad, 2017) include, for example, promoting wealth-related equality in the society, helping to satisfy demands for domestic financing that remain high, promoting equal distributions of national financing across Indonesia, increasing SMEs' export capacity that is still low, and promoting national financial inclusion.

SMEs play significant and strategic roles given their high percentage and substantial contribution to Indonesia. Nevertheless, SMEs have still been facing challenges, from obtaining funding used to expand their businesses to making use of FinTech transaction features. Prior to the emergence of FinTech, Indonesian SMEs relied on bank loans to get funding, with many SME professionals having difficulties getting access to loans from banks or other financial institutions due to technical issues (not having adequate collateral) and non-technical issues (lacking access to information about banking services) (Hidayatulloh et al., 2019). Complex procedure and requirements are among reasons for which SMEs fail to get funding to increase production and improve their marketing. This situation has been exacerbated by the Covid-19 pandemic across the globe. According to a survey conducted by the Ministry of SMEs, nearly half of SMEs reduced employment, or even shut their business due to zero demand.

It is expected that P2P lending FinTech platforms, along with its easy access to funding, can help increase SMEs' funding. Numerous services offered by FinTech companies will help people, particularly SME owners, satisfy their needs. With payment gateway feature, for example, small and medium businesses can now offer electronic payment options to customers. Adoption of digital services also make business process faster, easier, and more affordable (Chen, 2016). According to Pollari (2016), FinTech and digital platform offer business models and alternative solutions that can help the government and other financial institutions expand their coverage and provide sufficient financial services.

Primary data were collected using convenience sampling technique involving Indonesian SME professionals to examine the influence of financial technology on performance SMEs in Indonesia using financial literacy as a mediating variable. This study is important given how studies on financial technology and its relation to SMEs' financing are limited.

LITERATURE REVIEW

Financial technology (FinTech) is defined as innovative technology in financial services that could generate new business models, applications, processes, or products with material effects related to provision of financial services (Financial Stability Board, 2017). As a digital-technology-based financial intermediary, FinTech helps people get access to financial products and financial literacy (Aaron et al., 2017). Loan-making service is one of the fastest-growing FinTech sectors in Indonesia. According to data compiled by OJK (2021), 104 legal P2P lending companies have been listed, and they give SMEs easy access to funding. FinTech offers innovative financial services based on online technology to help people pay instalments, insurance premium, or household bills, obtain funding, check balance, get financing, and make investment (Fahlefi, 2019).

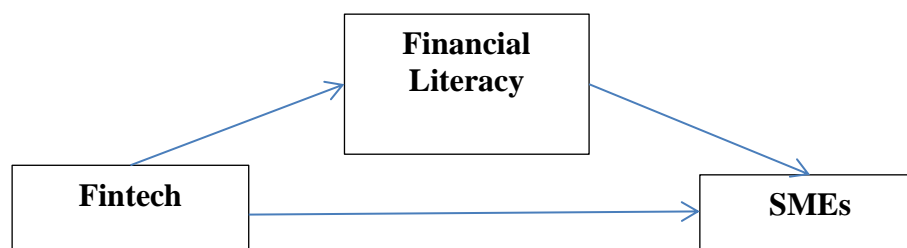
OJK also stated that FinTech is an important mission as well as a part of financial literacy program to help communities in Indonesian manage their finance wisely. Problems caused by the lack of knowledge of the financial industry can be solved and people are protected from illegal and unlicensed FinTech companies offering high returns in a short period of time without taking into account the risks. Financial literacy also helps SME professionals get easy access and select the right FinTech services carefully.

The main function of technology is to make transactions easier. Unluckily, not all Indonesian business owners and customers can take advantage of the technology. SMEs are one of significant economic variables in a country (Wang, 2016). They help boost economic growth and create job opportunities. In other words, SMEs help maintain economic stability. The use of FinTech in SMEs, unfortunately, remain poor due to the lack of trust and education, and this is what makes financial literacy vital to ensure FinTech-based capital financing for SMEs is even across Indonesia. Small and medium enterprise (SMEs) is a terminology used to call a business established by individuals, with net assets reaching no more than Rp200,000,000.00 (excluding land and buildings). SMEs play significant roles in promoting Indonesian economic development, ensuring economic growth, and creating new job opportunities (Temelkov & Gogova Samonikov, 2018). The number of SMEs in Indonesia has been continuously rising while their sectors now vary significantly. It is expected that the growth of SMEs can increase the country's Gross Domestic Product and create more employment opportunities, leading to lower rates of unemployment and poverty. However, the growing number of SMEs has made business more competitive. The emergence of FinTech is like a breath of fresh air to SME professionals. It helps business owners get access to financial products and increase their financial literacy (Sugiarti et al., 2019). Financial literacy is a vital support to the use of FinTech in SMEs (Ardila et al., 2021). The more rapid the growth of financial technology is, the greater the challenges and threats to the security will be. Without comprehensive knowledge and understanding of financial literacy, SMEs will be easily trapped in illegal FinTech applications and detrimental use of the technology (Stewart & Jürjens, 2018).

FinTech provides SMEs with easy access to capital that can help them grow their business. Muzdalifa et al. (2018) found that presence of FinTech companies is critical to support SMEs financially. FinTech now offers more than just capital funding; it covers more various aspects such as digital payment and financial mechanism. Similarly, Rahardjo et al. (2019) stated that FinTech plays a critical role in boosting SMEs' performance by improving efficiency in their operations. FinTech reduces operating costs by offering services such as non-cash transactions using application, freeing businesses from bank's administration fees. In addition, access to non-collateral loan will provide business owners with better access to capital. Candraningrat et al. (2021) and Winarto (2020) claimed that financial technology positively and significantly influences SMEs'

capital growth and asset value. On the other hand, Rusdianasari (2018) argued that FinTech does not have any significant impacts on financial inclusion and stability. Taking this background and previous research into account, the research model of this study can be portrayed as follows:

Figure 1. Research Framework



RESEARCH METHOD

This study examines how adoption of FinTech improves Indonesian SMEs' performance, and the roles of financial literacy in moderating this association. This qualitative study collected samples using convenience sampling technique considering accessibility, time allocation and funding available. Selection of this technique is right given how challenging it is to use random sampling technique in an extremely large population size. Data were collected using Google Forms questionnaires and then analyzed in a number of stages. Data were then interpreted and coded before being archived in Excel. Validity and reliability were tested using SPSS. Validity test sees how accurate the questionnaire is in measuring the variables tested, while reliability test sees how reliable the questionnaire is in generating a similar score in other tests. Furthermore, a descriptive statistics analysis was performed to see the characteristics of the respondents.

The hypotheses were tested using Ordinary Least Square (OLS) regression in SPSS. Independent variable in this study is SMEs' financial performance, with indicators namely increase in sales, increase in total assets, and the number of workforces after adopting FinTech services. The dependent variable in this study is the use of Fintech applications or services; this is a dummy variable. Score 0 indicates no adoption of FinTech services while score 1 represents adoption of FinTech. More specifically, the FinTech services mentioned in this study include to the following services (OJK Regulations): (1) payment system such as OVO, GOPAY, ShopeePay, DOKU, and Digital Banking; (2) capital/loan provision such as KreditCepet, Kredivo, JULO, and Amarta.; (3) Market Agregator such as Cermati, CekAja, DuitPintar, and Digitalmakerter; and (4) Risk Management and Investment such as Bibit and Bareksa. Respondents are business professionals using at least one of the aforementioned platforms. The moderating variable in this study is financial literacy which manifests in questions about financial knowledge, financial attitude and financial behavior. Financial literacy questionnaire was made by modifying the questionnaire used in the study conducted by Bongomin et al. (2016).

RESULTS

Validity and Reliability

Table 1. Validity Test on Financial Literacy

	Pearson Correlation	Sig. (2- tailed)	N
item1	.573*	.026	100
item2	.977**	.000	100
item3	.977**	.000	100
item4	.977**	.000	100
item5	.771**	.001	100
item6	.977**	.000	100
item7	.977**	.000	100
item8	.833**	.000	100
item9	.891**	.000	100
item10	.977**	.000	100
item11	.771**	.001	100
total_literasi	1		100

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Validity test results suggest that r-value of all items (0.482), from item1 to item11, is greater than the r-table for $n = 100$ and $\alpha = 5\%$. Therefore, it can be concluded that all questions in the questionnaire are valid.

Table 2. Reliability Test on Financial Literacy

	N	%
Cases		
Valid	100	100.0
Excluded ^a	0	.0
Total	100	100.0

Reliability Statistics	
Cronbach's Alpha	N of Items
.970	11

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
item1	26.8667	18.838	.495	.977
item2	26.4667	17.267	.971	.963
item3	26.4667	17.267	.971	.963
item4	26.4667	17.267	.971	.963
item5	26.6000	17.829	.721	.971
item6	26.4667	17.267	.971	.963
item7	26.4667	17.267	.971	.963
item8	26.6000	17.543	.794	.969
item9	26.5333	17.410	.865	.966
item10	26.4667	17.267	.971	.963
item11	26.6000	17.829	.721	.971

Reliability test generated a Cronbach Alpha of 0.970 ($0.970 > 0.600$), which suggests reliability of financial literacy variable in this study.

Demography of Respondents

In this study, 100 respondents—SME owners currently using FinTech application services—filled out questionnaires. Data were collected from May 2021 to November 2021. Characteristics of respondents can be described as follows:

Table 3. Respondents Characteristics

Sex	Total Respondents	Percentage (%)
Female	56	56.00
Male	44	44.00
Grand Total	100	100.00
Educational Background	Total Respondents	Percentage (%)
Bachelor	69	69.00
Master	16	16.00
Senior High School	11	11.00
Junior High School	4	4.00
Grand Total	100	100.00
Industry	Total Respondents	Percentage (%)
Food and Beverage	48	48.00
Fashion	31	31.00
Creative Product	10	10.00
Agribusiness	3	3.00
Farming and Fishery	3	3.00
Internet Technology	2	2.00
Beauty	1	1.00
Animal Feed and Agriculture	1	1.00
Traditional Herbal Medicine	1	1.00
Grand Total	100	100.00
Types of FinTech Services Used	Total Respondents	Percentage (%)
Payment	80	80.00
P2P Lending	10	10.00
Risk Management & Investment	8	8.00
Market Aggregator	2	2.00
Grand Total	100	100.00
How Long Have They Used FinTech Services?	Total Respondents	Percentage (%)
7-12 Months	43	43.00
< 6 Months	36	36.00
1 - 5 Years	21	21.00
Grand Total	100	100.00

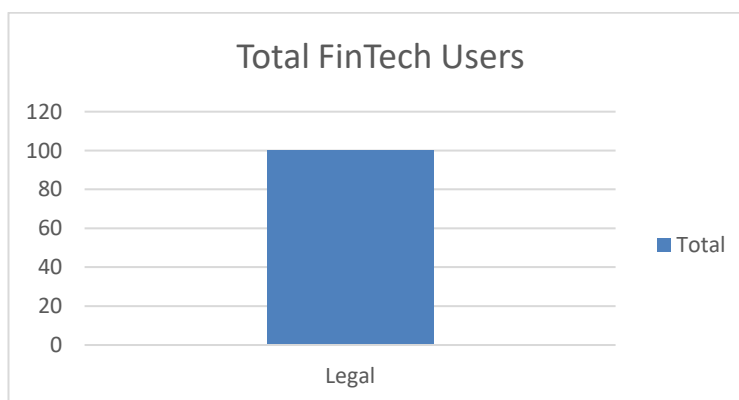
Referring to Table 1, more than half of respondents are female (56%), while 44% of them are male. Majority of respondents are university graduates, with 69% having a bachelor degree and 16% obtaining a master's degree. Therefore, it can be inferred that respondents are knowledgeable about business management. These two groups of respondents tend to have better understanding of how to use FinTech, compared to senior high school graduates (11%) and junior high school graduates (4%).

Furthermore, most respondents manage culinary businesses and fashion businesses, 48% and 31% respectively, indicating how favorable these two industries are for starting or opening new businesses. At the same time, 10% of respondents are in the creative industry, whereas others are in farming and fishery business (3%), agribusiness (3%), Internet technology business (2%), beauty industry (1%), animal feeding and farming (1%), and traditional herbal medicine (1%). Most respondents (80%) use FinTech payment gateway or digital-based payment system, while only one in ten respondents uses FinTech P2P lending services—a service through which business owners obtain loans. A small percentage of respondents (8%) use FinTech for risk management and investment purposes while only 2% use market aggregation FinTech services.

Domination of payment gateway as the most used FinTech service is reasonable given the implementation of lockdown between 2020 and 2021 to tackle the Covid-19 pandemic. With people staying at home, businesses have been greatly affected. SMEs were forced to move their businesses online in order to survive and to keep generating money. In such situation, majority of transactions are carried out online, and that is why SMEs need a digital payment system to help customers make payment conveniently without having to meet other people. However, despite the pandemic and nearly zero transaction from offline sales, data collected in this study indicate that only a small number of SMEs used FinTech to get loans.

In addition, when looking at how long businesses have used FinTech services, it was found that 43% of respondents have used FinTech services for 7 to 12 months, while 36% for 1 to 6 months, and 21% for 1 to 5 years. It can be concluded that most respondents are new FinTech users. They also admitted that the Fintech platforms they use are Legal Fintech (Figure 2) registered and regulated by the government of Indonesia.

Figure 2. The Total Number of Legal FinTech Users



Regression Analysis

Model 1. The Influence of FinTech Adoption on SMEs' Performance

OLS regression was used to study how FinTech (dummy) adoption influences performance of SMEs, using sales, total assets, and workforce.

Table 4. Determination Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.452 ^a	.423	.352	3.331

a. Predictors: (Constant), Fintech

c. Dependent Variable: SME

The test generated an R-squared of 0.423, and it means that 42.3% of SMEs' performance is explained by the independent variable while the rest (100% – 42.3% = 57.7%) can be explained by other factors not included in the model.

Table 5. Hypothesis Test on the Influence of FinTech on SMEs' Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.000	1.665		.093	.027
	Fintech	9.182	5.221	.152	.053	.049

a. Dependent Variable: SMEs

According to regression test results, the coefficient value of FinTech variable is 9.182. With a p-value of 0.049 (lower than $\alpha = 0.05$), this variable has significant influences on SMEs' performance.

Model 2. The Influence of FinTech Adoption on the Performance of SMEs with Financial Literacy as a Moderating Variable

The test for model 2 aims to study how financial literacy moderates the association between FinTech adoption and SMEs' growth.

Table 6. Regression Test on the Influence of Fintech on Financial Literacy

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.000	1.206		25.704	.000
	Fintech	0.818	1.408	.159	.081	.037

a. Dependent Variable: Financial Literacy

Table 7. Results of Regression Test on the Influence of Financial Literacy on SMEs' Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.234	2.243		.589	.066
	Financial_Literacy	9.802	18.522	.184	.074	.012

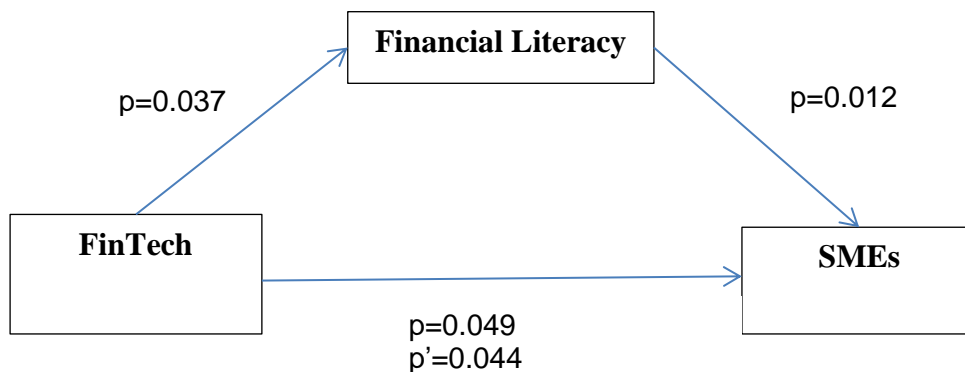
a. Dependent Variable: SMEs

Table 8. Results of Regression Test on the Influence of Fintech and Financial Literacy on SMEs'

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.585	3.117		.735	.077
	Fintech	2.350	5.282	.185	.657	.044
	Financial_Literacy	2.761	9.766	.213	.755	.021

a. Dependent Variable: SMEs

Figure 3. Conclusion of Research Framework



The coefficient value of FinTech-SMEs is 9.182 and the coefficient value of FinTech-SMEs through financial literacy is 2.350. A lower coefficient level and a p-value < 0.05 indicate presence of a moderating effect.

DISCUSSION

The use of FinTech influences the performance of SMEs in Indonesia given how FinTech services, such as payment technology and online-based loans, offer ease and efficiency in financial management through technology and digitalization. FinTech has helped SMEs by minimizing the needs for face-to-face payment, making transactions faster and more efficient. Moreover, FinTech helps small and medium business owners obtain loans for capital more easily without collateral, but with agreed amount. Having this option, SMEs will no longer need to borrow from other institutions and can avoid a lengthy process and collateral requirements. FinTech, particularly practical and easy-to-use digital financial transaction services, can help businesses with no access to the bank expand their markets. FinTech offers a more democratic and transparent alternative solution to funding to replace traditional financial and banking services that are often strictly regulated and limited to certain geographical areas only. It can be said that FinTech innovations are an alternative solution for the communities and supporters of financial inclusion.

The influence of FinTech on SMEs' growth is strengthened by the presence of financial literacy. Having knowledge and understanding of financial products, financial institutions, regulations, and other financial aspects, small and medium business owners can make a better decision and use of FinTech services. It is even more important considering the great number of unlicensed FinTech applications existing these days. High literacy rates help SMEs select legal FinTech services, ensuring safety in the transactions and in loan-making process. In addition, having sound knowledge of how to calculate loan interests,

administration fees and flotation fees helps business owners make a more accurate calculation when using FinTech services, avoid the traps of taking too many loans and borrowing from random unlicensed applications. With better calculations, SMEs' sales, total assets and the total number of workforces will increase. In short, the higher the financial literacy rates are, the wiser the SMEs will be when using FinTech services to improve their performance. Financial literacy helps SMEs obtain knowledge, develop skills, and acquire abilities needed to make financial strategies as well as the right financial decisions and options.

CONCLUSION

Financial technology has impacts on the performance of small and medium enterprises (SMEs) in Indonesia, and a high rate of literacy strengthens this association. It is expected that results of this study can help business professionals see presence of financial technology positively rather than as a threat. Financial technology offers practicality in loan or capital funding, bill payment, or payment checking, and simplifies marketing process. This is in line with the Financial Service Authority (FSA/OJK) program to improve financial literacy and inclusion.

It is recommended that future studies add more variables to identify other factors influencing the performance of SMEs than adoption of financial technology. Moreover, bigger sample size is expected in the future studies to ensure more evenly distributed data. This study, however, has its limitations: (1) the use of only one independent variable—fintech—that makes conclusions of the study less comprehensive, (2) adoption of convenience sampling technique given its easiness, and (3) the lack access so that sample does not represent the entire population accurately.

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DECLARATION OF CONFLICTING INTERESTS

The author declares that there is no conflict of interest.

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