



# The Impact of Financial Literacy and Financial Inclusion on the Performance of MSME in Bogor City

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## Authors' contributions

*This work was carried out in collaboration between both authors. Author RP designed the study, collecting primary data, analyze the primary data and prepare the manuscript. Authors DA assist RP in collecting primary data and prepare the manuscript. Both authors read and approved the final manuscript.*

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## ABSTRACT

**Aims:** This study aims to analyze the impact of financial literacy and inclusion on the performance of MSMEs in the Bogor city region. The existence of MSMEs in Bogor city has an essential role that needs to analyze through financial literacy and inclusion approaches.

**Methodology:** The respondents were selected through a non-probability sampling technique, mainly purposive sampling. Primary data was gathered by using a self-administered questionnaire with five points Likert scale. Multiple regression was conducted to analyze the research hypotheses determined.

**Results:** The results, financial literacy, partially has a significant effect on MSMEs' performance. Unfortunately, financial inclusion did not support by empirical data. Nevertheless, financial literacy and inclusion simultaneously significantly affect MSMEs' performance in the Bogor city region.

*Keywords: Financial literacy; financial inclusion; MSMEs'; business performance.*

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## 1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are a form of business engaged in various fields of community empowerment, not only in Indonesia but also in Southeast Asian countries. Data from the Central Statistics Agency (BPS) noted that the number of MSMEs after the economic crisis did not decrease. Chart 1 shows that the number of MSMEs from 2010 to 2018 has increased. The development of business units until 2018 reached 64,199,606 consisting of 64,194,057 MSMEs. The development of the number of MSMEs requires MSME actors to be ready to face competition so that MSMEs are expected to perform well. MSME performance is a measure that can provide an overview of the extent to which MSMEs can achieve the goals that have been set. Therefore, MSME actors must have the ability and knowledge of finance (financial literacy) to manage finances effectively [1]. MSMEs strengthened and developed with financial resources would be more competitive in domestic and global markets. The more competitive the region's better products are, the more challenging the MSMEs are, and the more employment chances will be created. It will also reduce unemployment, which will boost regional economic growth.

**Chart 1. Development of the Number of MSMEs (2010-2019)**

Year	Number of MSMEs (Unit)	Growth (%)
2010	52,764,750	
2011	54,114,821	2.55
2012	55,206,444	2.01
2013	56,534,592	2.40
2014	57,895,721	2.40
2015	59,262,772	2.36
2016	61,656,547	4.03
2017	62,928,077	2.06
2018	64,194,057	2.02

Source: Ministry of Cooperatives and Small and Medium Enterprises (data processed)

“Financial literacy is knowledge, beliefs, and skills that can influence attitudes and behavior in making quality decisions and managing finances to achieve prosperity for MSME actors. The results of a survey conducted by the Financial Services Authority (OJK) show that the literacy rate in West Java province has increased and reached the target of 35% by the end of 2019” [2].

Kasumaningrum [2] stated one of the factors that can improve financial literacy is financial

inclusion which helps increase financial access for MSME actors. The results of the OJK survey in 2017 regarding national financial literacy showed that the financial inclusion index of the Indonesian people increased from 59.7 percent in 2013 to 67.8 percent in 2016. However, according to the Deputy Commissioner of the Voluntary Financial Services Authority, financial inclusion is still relatively low. Only 60 percent of the adult population has a bank account. Moreover, the Indonesian population is quite large. The National Strategy for Financial Inclusion is contained in Presidential Regulation No. 82 of 2016, which targets achieving a financial inclusion index of 75 percent by 2019. Financial inclusion is a concern of the government because it has a role in encouraging sustainable national economic growth, reducing inequality, and improving people's welfare [3].

“Financial literacy or financial knowledge indicators are commonly used as inputs to models of financial education needs and explain variations in financial outcomes such as savings, investment, and debt behavior. Financial literacy is the ability to make informed judgments and to take effective decisions regarding the use and management of money” [4]. “Financial literacy is knowledge of facts, concepts, principles, and underlying technology tools for the intelligent use of money” [5]. Therefore, it can be said that financial literacy is the ability to understand and use financial concepts and skills to manage financial resources effectively [6,7].

Based on the results of the National Survey from the OJK, the level of public financial literacy is classified into four levels. The first level is well-literate. It means having knowledge and belief in financial products and services, including features, benefits, risks, rights, and responsibilities related to financial products and services, and skills in utilizing financial products and services. The second level is sufficiently literate, which means having knowledge and confidence in the services and products of financial institutions, including features, benefits, and risks, as well as rights and responsibilities related to financial products and services. Third, it is less literate, which only knows financial service institutions and has some knowledge of financial products and services. Fourth, it is not literate. That is, they do not have knowledge and confidence in service institutions and financial products and services and do not have the skills to use financial products and services [1].

According to Chepngetich, P. [8] “the success or failure of small and medium enterprises (MSMEs) depends on their financial viability. One of the most common problems these companies face is their ability to secure sufficient cash flow and working capital to remain profitable”. In his research, Chepngetich, P. [8] added that based on theory, “a high level of financial literacy might depend on the prevalence of two thinking styles: the dual process theory consisting of intuition and cognition”.

The results of the OJK survey explain that the MSME sector in Indonesia has a very significant contribution to the National Economy by contributing 60 percent of GDP and absorbing 97 percent of the national workforce. Therefore strengthening MSMEs is very important to do. Setiawan, B., Panduwangi, M., & Sumintono, B. [9] explains that financial literacy is one strategy to improve the performance of MSMEs. The results of research from Martínez-Ferrero [10] and Herath, S., & Albarqi. N. [11] states that financial literacy has a positive effect on MSME performance. So, the hypothesis in this study is that financial literacy has a positive effect on performance. SMEs in the city of Bogor.

H1: Financial literacy has a positive effect on the performance of MSMEs in the city of Bogor.

Financial inclusion, based on the Financial Services Authority Regulation Number 76/POJK.07/2017, is the availability of access to various financial institutions, products, and services by the needs and capabilities of the community in order to improve the welfare of the community [12]. Furthermore, financial inclusion, according to SNLKI (2017), is “access to financial products and services that are useful and affordable in meeting the needs of the community and their businesses in terms of transactions, payments, credit savings, and insurance that are used responsibly and sustainably”. According to SNLKI (2017), the basic principles of financial inclusion are measurable, affordable, targeted, and sustainable.

The objectives of financial inclusion based on the Financial Services Authority regulation Number 76/POJK.07/2017 are: 1) Increase public access to financial institutions, products, and services of financial services providers. 2) Increasing the provision of financial products and services provided by FSBs to the needs and capabilities of the community. 3) Increased use

of financial products and services by the needs and capabilities of the community. 4) Increasing the quality of the utilization of financial products and services to the needs and capabilities of the community.

The inclusion measurement indicators used in this study are the most widely used in previous studies [9]. The most widely used indicators to measure the level of financial inclusion, according to Beest, F. van, B. Braam, & S. Boelens. [13], are access to finance and welfare. The growth of MSMEs is one of the factors that have a role in influencing economic growth because the community has vast opportunities to own a business and ultimately contribute to GDP. However, in reality, MSME actors still have limited capital constraints in developing their business. The capital problem in Beest, F. van, B. Braam, & S. Boelens [13] can be solved through financial inclusion. The results of previous studies state that financial inclusion has a positive effect on the performance of MSME actors [14]. So, it can be hypothesized as follows:

H2: Financial inclusion has a positive effect on the performance of SMEs.

The obstacles experienced by MSMEs are caused by various conventional problems that cannot be resolved entirely. Some problems include the capacity of human resources as MSME actors, ownership, financing, marketing, and problems in managing the business. One of the strategic efforts to improve the performance of MSMEs in Beest, F. van, B. Braam, & S. Boelens. [13] research is increasing knowledge for MSME actors in the financial sector (financial literacy) so that MSME actors can manage and account for their business correctly [15].

Financial literacy, in this case, also helps MSME actors in facilitating the effective use of products and developing the best product skills according to their needs so that, in the end, they can increase financial inclusion. There was evidence from several previous studies stating that financial literacy and inclusion have a positive effect on the performance of MSMEs [14].

H3 : Financial literacy and inclusion simultaneously positively affect the performance of MSMEs.

## 2. MATERIALS AND METHODS

The research method used in this study is a questionnaire survey method. This research is

limited to only MSME actors in the Bogor city area. The scale used in measuring each latent variable is a five-point Likert Scale from 1 = strongly disagree to 5 = strongly agree. The size of the respondents in this study was 102 MSMEs, determined by using a purposive sampling technique. Respondents who have businesses in micro, small and medium enterprises, retail, wholesale, service, food and beverages, and other types of business are the right target respondents. Questionnaires are created and distributed online using the Google Forms platform.

The data analysis technique used to test the research hypothesis is the multiple regression analysis techniques, which consists of several stages. Firstly, the normality, multicollinearity, and heteroscedastic tests were conducted as the classical assumption test. This assumption must be met in performing multiple regression analysis. Secondly, a partial hypothesis test was conducted through the t-test. Thirdly, a simultaneous hypothesis test was conducted through the F-test.

### 3. RESULTS AND DISCUSSION

#### 3.1 Respondents' Profile

Research respondents are generally more dominated by MSMEs aged more than 37 years, having a formal high school education background, a retail and food and beverages business type, and a business scale included in the micro-scale. As for gender, respondents in this study were dominated by female MSME respondents. The complete results of the respondent's profile are presented in Table 1.

#### 3.2 Classical Assumption Test Results

The results of testing the assumption of normality for this study's regression model are known to have met the assumption of normality because the pattern of dots in each Q-Q Plot has followed a diagonal line (Fig. 1). Therefore, the data distribution has met the assumption of a normal distribution as the first requirement in multiple regression analysis.

The results of the multicollinearity test as the first assumption for the regression model of this study indicate that the regression model does not have any problems. This result is because the entire value of the Variance Inflation Factor (VIF) on all independent variables is less than 10 (Table 2).

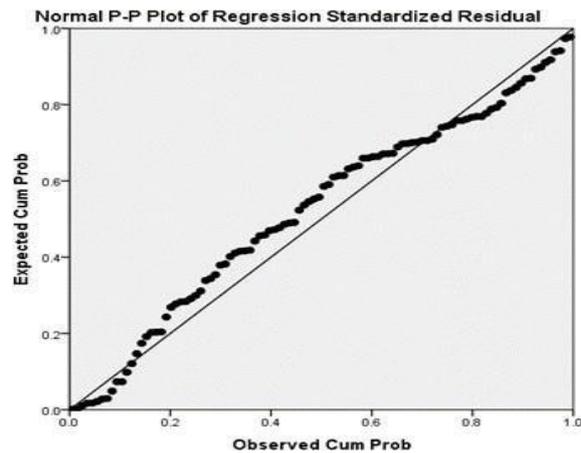


Fig. 1. Q-QPlot residual model regression

Table 1. Respondents' profile

Category	n	%
Gender		
Male	35	34.3
Female	67	65.7
Age		
18 – 22 years old	7	6.9
23 – 27 years old	7	6.9
28 – 32 years old	4	3.9
33 – 37 years old	25	24.5
> 37 years old	59	57.8
Formal education		
≤ High school	82	80.4
Diploma	8	7.8
≥ Bachelor	12	11.8
Type of business		
Wholesale	7	6.9
Services	9	8.8
Retail	36	35.3
Food and beverages	49	48.0
Others	1	1.0
Business scale		
Micro	83	81.4
Small	17	16.7
Medium	2	2.0

Table 2. Multicollinearity test

Variable	VIF
Financial literacy (X1)	3.29
Financial inclusion (X2)	3.29

The results of testing the homoscedasticity assumption for the regression model of this study can be seen in Fig. 2. The test results of these assumptions indicate that the regression model of this study has met the assumption of homoscedasticity because the pattern of dots on each residual does not form a particular pattern.

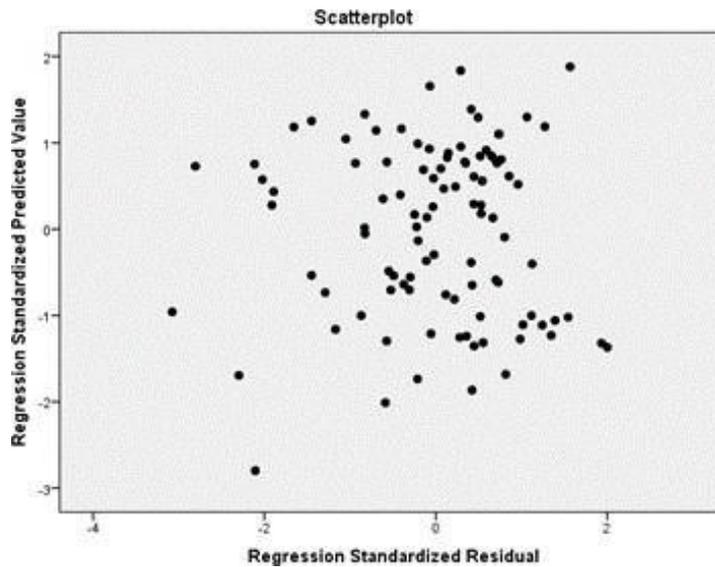


Fig. 2. Homoscedasticity test

Table 3. T-test

Variable	$\beta$	t-stat	P-Value	Hypothesis
Financial literacy (X1)	0.55	4.16	0.00	Supported
Financial inclusion (X2)	0.15	1.16	0.25	Not Supported

### 3.3 Hypotheses Testing

The first stage in testing the partial hypothesis is through a t-test. In regression analysis, this test was conducted to analyze whether there is an effect of each independent variable, namely financial literacy and financial inclusion, on the dependent variable (SME performance). An independent variable is said to influence the dependent variable if the p-value (p-count) of the test results is below 0.05 ( $\alpha = 5\%$ ).

Based on Table 3, it is revealed that only one independent variable has t-stat above 1.96 and the p-value coefficient below 0.05, namely Financial Literacy (X1). Therefore, only the financial literacy variable significantly affects MSMEs' performance in the regression model. The hypothesis that there is a significant effect of financial literacy on MSMEs' performance has adequately empirical data support. With adequate financial literacy, entrepreneurs can use their financial skills to make the right decisions for their companies. Business owners/managers are closely related to creating complex and strategic financial decisions related to the success of achieving business goals and sustainability. Therefore, strategic efforts are needed to improve performance in the sustainability of MSMEs and the community's

welfare. One of the efforts that can be made is to enrich the knowledge of the financial literacy of MSME actors so that financial management can be accounted for by applying better accounting rules. Financial literacy is an essential factor to be mastered by MSME actors because the understanding possessed by MSME actors is a determinant of business success, one of which is in managing MSME business finances.

Unfortunately, the financial inclusion has t-stat below 1.96 and the p-value above 0.05. Therefore, there is no adequate empirical data to support the hypothesis that there is a significant effect of financial inclusion on MSMEs' performance. The next step is to test the hypothesis simultaneously using the F-test. This stage is done to test the variables of financial literacy and financial inclusion simultaneously significantly influence the MSMEs' performance. The independent variables are said to influence the dependent variable if the p-value of the test results is below 0.05 ( $\alpha = 5\%$ ). Based on Table 4, it is revealed that the coefficient of the p-value from the F test results is worth 0.00, which is below 0.05. Therefore, the conclusion is that Financial Literacy and Financial Inclusion simultaneously significantly influence MSME performance.

**Table 4. F-test**

	<b>Sum of Squares</b>	<b>Degrees of Freedom</b>	<b>Mean Square</b>	<b>F</b>	<b>P-value</b>
Regression	48.06	2	24.03	44.11	0.00
Residual	53.94	99	0.54		
Total	102.00	101			

The first hypothesis that there is an effect of financial literacy on the performance of SMEs in Bogor city is thought to be accurate based on the study findings, which show that financial literacy has a beneficial influence on the performance of SMEs. This study thus supports the findings of earlier research. Individuals with financial skills are less likely to be overwhelmed by the complexity of the financial system and so have a better chance of demonstrating financial competence. Financial institutions must bring their services closer to MSMEs by counseling them on the many financial solutions available to them and how to obtain them. Trainings in budgeting skills, risk management, and the beauty of a transfer from manual to electronic records should be highlighted in such trainings through the collaborative engagement of financial institutions and MSMEs organizations. The results of this study somewhat corroborate the arguments made by earlier researchers who hypothesized a link between financial literacy and business performance. The findings of this study suggest that financial literacy is essential and may be linked to record keeping, performance, or risk management, even if not all financial literacy variables are substantially correlated with other indicators.

Owners or managers of businesses, particularly in the MSMEs context, should understand financial management to make informed financial decisions to help the business achieve its goals. They require financial management capabilities to accomplish the company's goals more effectively and efficiently. People who want to handle their money more wisely may find it more straightforward if they comprehend finance fundamentals. As predicted, the regression findings demonstrated that, at = 5% with p = 0.000, financial literacy has a favorable and substantial impact on the performance of MSMEs.

This result lends credence to the concept that financial literacy enhances SMEs' success. In other words, the performance of an MSME will be better with the SME entrepreneur's higher financial literacy level. MSME owners with a greater degree of financial literacy are better able

to manage their finances, including risk management through insurance, savings and investment, and debt management. Financial literacy enables SME business owners to be aware of the funding options accessible to them and to employ various techniques when looking for funding for their operations.

Unfortunately, the empirical data provided did not support the financial inclusion hypothesis. As a result, financial inclusion had no meaningful influence on MSMEs' performance. Nonetheless, if financial inclusion is combined with financial literacy, it considerably impacts MSME performance. As a result, it is possible to conclude that financial literacy is more significant than financial inclusion in shaping MSMEs' success in these circumstances.

**3.4 Coefficient of Determination**

The results of the coefficient of determination test are as provided in Table 5. It is revealed that the MSMEs performance in the region of Bogor city can be explained by financial literacy and financial inclusion by 47%. The rest, by 53% can be explained by other variables outside in this research model.

**Table 5. Coefficient of Determination**

<b>R Square</b>	<b>Adjusted R Square</b>
0.47	0.46

**4. CONCLUSION**

A comprehensive conclusion is now coming up. Based on the results and discussion in this context. There is adequate empirical data support regarding the linkage between financial literacy and MSMEs' performance. Therefore, financial literacy has a significant effect on MSMEs' performance. Unfortunately, no empirical data support the association between financial inclusion and MSMEs' performance. Therefore, financial inclusion did not significantly affect MSMEs' performance, particularly in the context of MSMEs in the Bogor city area. Even though partial financial inclusion did not considerably affect MSMEs' performance, the

results differ in simultaneous effect. Along with financial literacy, financial inclusion has a significant impact on MSMEs' performance. Therefore, the comprehensive role of financial inclusion should be accompanied by financial literacy.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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