

# Analysis of the Influence of Financial Literacy and Financial Inclusion on MSME Performance

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**Abstract**– This research is motivated by the fact that the majority of MSMEs in Garut Regency are micro-scale, representing 86%. The purpose of this study is to determine the influence of financial literacy, financial inclusion, and financial management on the performance of MSMEs in Garut Regency. The research method used is descriptive analysis using SEM-PLS. The analysis used in this study includes outer model testing, inner model testing, and hypothesis testing, which are carried out by determining the values of *r*-square, *f*-square, and *t*-statistic. The sample in this study was 100 MSME actors in Garut Regency who were registered as MSMEs with NIB (Entrepreneurship Identification Number). The findings of this study indicate that financial literacy does not significantly influence MSME performance. Meanwhile, financial inclusion and financial management have a significant positive effect.

**Keywords:** MSMEs, financial literacy, financial inclusion, financial management and MSME performance.

## I. INTRODUCTION

MSME performance is a description of a company in producing output in order to successfully achieve what is aimed at, in accordance with the short-term and long-term goals of the organization that have been planned [1]. In a study, it was stated that there are three mission components in measuring the performance of an MSME, namely: (1) survival, growth and profitability, (2) philosophy and values, (3) public image [2].

To improve the performance of MSMEs, it is necessary to understand the factors that can support them in improving their performance. Therefore, to understand this, several factors influencing MSME performance need to be examined and used as a basis for entrepreneurs to scale up their businesses, particularly in Garut Regency.

The existence of MSMEs plays an important role in the economic development of a country, especially in the growth of the domestic economy. MSMEs can be one of the main things in building the national economy [3]. In 2023, BPS and the Ministry of Cooperatives and SMEs recorded the number of MSMEs in Indonesia at 64 million MSMEs [4]. With this number, MSMEs are the sector that produces the largest GDP (Gross Domestic Product) contribution to the Indonesian economy.

**Table 1.** Data on MSMEs in Garut Regency

Year	MSME figures
2018	1,167
2019	3,667
2020	2,117
2021	6,906
2022	38,711
2023	33,644
<b>Total</b>	<b>86,212</b>

Source : [5]

The data above is data on the number of MSMEs registered as owners of NIB (Entrepreneurship Identification Number) at the Cooperatives and SMEs Service of Garut Regency. Of course, this data does not represent the total data of MSMEs in Garut Regency, there are still many MSME actors who have not registered with NIB in Garut Regency, therefore the total number of MSMEs in Garut Regency cannot be known.

**Table 2.** Percentage Data of Business Scales in Garut Regency

Skala Business	%
Micro	86
Small	11
Intermediate	1
Big	2

Source : [5]

The data above shows how the majority of MSMEs in Garut Regency are dominated by micro-scale businesses, with a percentage of 86%, this



figure is very large, illustrating how the majority of MSMEs in Garut Regency have business valuations and capacities that are classified as very small (micro). This certainly illustrates how the contribution of MSMEs to social and economic problems is not optimal in Garut Regency, MSMEs cannot create decent jobs in large numbers which ultimately cannot solve problems such as unemployment, as well as social and economic disparities that exist in the Garut Regency area.

To improve the performance of MSMEs, it is necessary to understand the factors that can support them in improving their performance. Therefore, to understand this, several factors influencing MSME performance need to be examined and used as a basis for entrepreneurs to scale up their businesses, particularly in Garut Regency.

In measuring the performance of MSMEs, the majority of literature analyzes various specific elements of the internal and external business environments as important in business performance [6]. In line with this explanation, MSME performance can be measured by several indicators, including company growth, sales growth, consumer growth, profit growth, and asset growth. Thus, there are many variables that can influence MSME performance [7]. The focus of this study is the impact of financial literacy, financial inclusion, and financial management on MSME performance. In this study, financial literacy, financial inclusion and financial management are considered as independent variables, and MSME performance is considered as the dependent variable.

A finding revealed that (MSME) performance will increase if the level of financial literacy in the community is higher [8], [9]. The literature above differs from other studies where low financial knowledge affects MSME performance, and good financial knowledge does not affect MSME performance [7].

## II. LITERATURE REVIEW

### 2.1 MSME Performance

Business performance measurement is the process of assessing how effective business activities are in achieving strategic goals, finding waste, and providing quick information on how to make continuous improvements [10]. To measure performance, two types of information are used. The first is financial information and the second is non-financial information [11]. Therefore, to calculate business success, it can be measured from the

assessment of business performance, which economically can be measured through financial performance, namely liquidity ratio, profit ratio, and can be measured through non-financial performance, namely market share, sales growth and sales of new products and increasing the number of new customers and loyal customers [12]. Business/MSME performance is a series of results from business activities, both results from a financial perspective and results from a non-financial perspective, which can describe the extent to which a business/organization is able to carry out and achieve business goals that are oriented towards financial and non-financial profits according to targets.

The indicators used in this study were taken from research [13], namely: profit, competitive ability, marketing performance, business resilience. The reason for choosing these indicators is because these indicators have been used in many previous studies with good levels of validity and reliability.

### 2.2 Financial Literacy

Financial insight that influences financial decisions is the definition of financial literacy [14]. Most people believe that the best way to educate people about finance and protect them in the long term is to learn about their finances [15]. Financial literacy is also a key variable that can influence financial behavior. This ability is crucial for minimizing problems caused by financial planning errors that lead to uncontrolled spending, and for fostering sound financial management [17]. Major variable that can influence financial behavior [16]. This ability is very important to minimize problems due to financial planning errors that cause uncontrolled spending, to help financial management based on good understanding [17]. OJK defines financial literacy as a collection of actions aimed at improving the understanding and skills of users, customers, and beliefs about finance so that they can organize and manage finances better and in the most effective way [18].

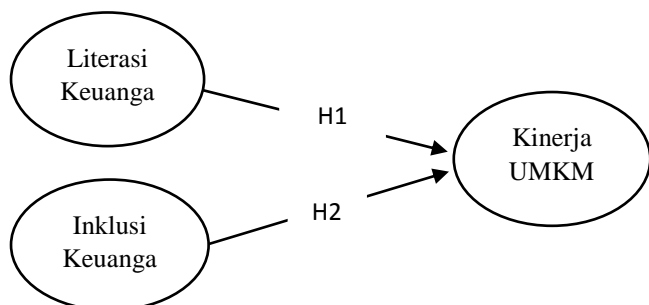
Financial Literacy can be defined as financial insight that determines the financial capabilities and behavior of an individual, including business actors, to manage their finances. The indicators selected for use in this study were taken from research by [19], including the following: General knowledge of financial management, Savings and loan



management, Insurance management and Investment management.

### 2.3 Research Model

As for the research model in the study, it is described as below:



**Figure 1.** Research Model

Source: (Researcher 2025)

H1 : Financial literacy has a significant impact on MSME performance

H2 : Financial inclusion has a significant impact on MSME performance

### III. RESEARCH METHODS

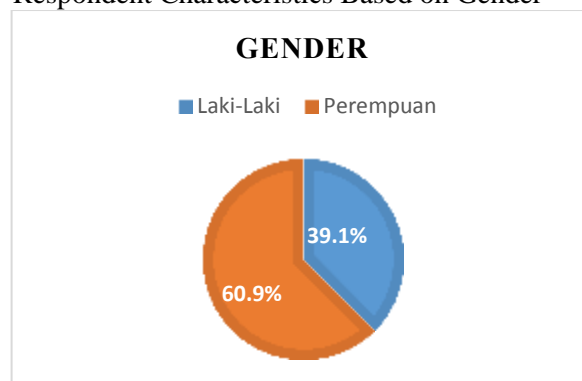
This study uses a quantitative method, which is a formal, objective, rigorous, and systematic approach that uses deductive strategies to create and refine knowledge in problem solving [21]. The objects to be studied in this study are business actors or MSMEs in the Garut Regency area in general who have been registered as MSMEs that are recorded as having an Entrepreneurship Identification Number (NIB) at the Garut Regency Cooperatives and SMEs Office. This study uses primary and secondary data where both can be used in quantitative research [22]. The survey in this study will be conducted online using *Google Forms* containing a questionnaire that will be distributed to 100 MSME samples. Partial Least Squares (PLS) data analysis was used in this study. SEM-PLS analysis consists of two submodels: a measurement model (outer model) and a structural model (inner model). The measurement model is part of structural equation modeling (SEM), using a variance-based or component-based approach. [23].

### IV. RESULTS AND DISCUSSION

#### Results

#### 4.1 Respondent Characteristics

##### 1. Respondent Characteristics Based on Gender

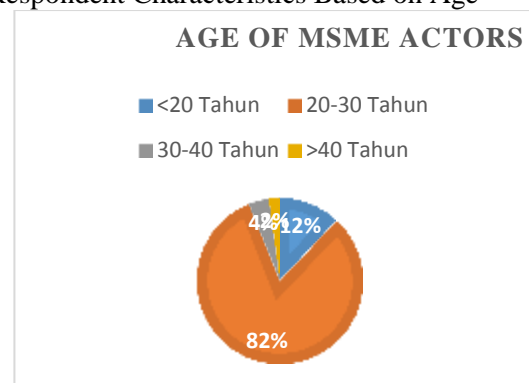


**Figure 2 .** Gender

Source: (Primary Data, 2025)

Based on Figure 2, the characteristics of respondents by gender can be seen that 60.9% of MSMEs in Garut Regency are dominated by women, or 61 individuals. Meanwhile, only 39% of MSMEs are male, or 39 individuals.

##### 2. Respondent Characteristics Based on Age



**Figure 3.** Age of MSME Actors

Source: (Primary Data, 2025)

Based on Figure 3 regarding respondents based on age, it can be seen that the average age of respondents is <20 years old at 12% or as many as 12 people. At the age of 21-30 years old at 82% or as many as 82 people, at the age of 31-40 years old at 4% or as many as 4 people, and at the age of >40 years old at 2% or as many as 2 people.

##### 3. Respondent Characteristics Based on Education Level

**Table 3.** Percentage of Respondent Characteristics Based on Education Level

No	Education	Frequency	Presentation
1	Studying	57	57%
2	High	41	41%

school/equivalent

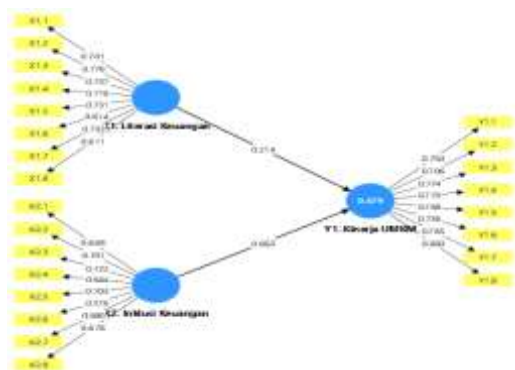
3	Junior high school/equivalent	1	1%
4	Elementary school/equivalent	1	1%

Source: (Primary Data, 2025)

Based on Table 3 regarding respondents based on education level, it can be seen that the average education level of respondents who are college graduates or still in college is 57 people or 57%, followed by high school graduates as many as 41 people.

#### 4.2 Model Measurement Testing (Outer Model)

The outer model was tested using several analytical tests, including convergent validity, discriminant validity, and reliability. These validity and reliability tests were conducted using SmartPLS version 4 software, with a sample of 100 MSMEs in Garut Regency. The following are the results and findings from the outer model testing:



**Figure 4 .** Algorithm Analysis Results

Source: (SmartPLS, 2025)

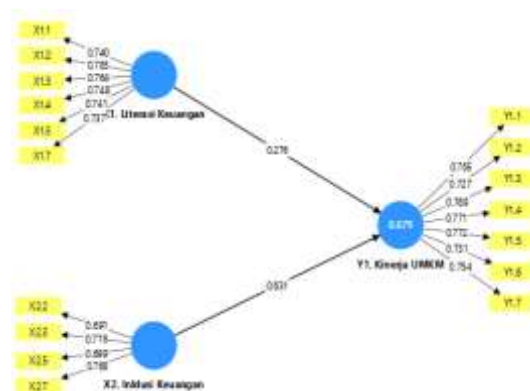
Based on the explanation in Figure 4, the results of the indicator values for all variables are depicted. Six indicators for the financial literacy variable had loading factor values above 0.7 and two indicators below 0.7. Three indicators for the financial inclusion variable had loading factor values above 0.7 and five indicators below 0.7. To clearly see all the loading factor values below the construct data for invalid loading factor values, see the following table:

**Table 4 .** Invalid Item Construct

Variables	Invalid Item
Financial Literacy	X1.6 & X1.8
Financial Inclusion	X2.1, X2.4, X2.6, & X2.7
MSME Performance	Y1.8

Source: (Researcher, 2025)

Based on table 4 above, it can be seen that in the financial literacy variable, the loading factor value is below 0.7, namely two indicators, the financial inclusion variable has 4 indicators and the MSME performance variable has one indicator, so it is removed because the loading factor value is below 0.7.



**Figure 5.** Algorithm Analysis Results after re-estimation

Source: (SmartPLS, 2025)

Based on Figure 5, it shows that there are 4 indicators of the financial literacy variable (X1), 4 indicators of the financial inclusion variable (X2), and 4 indicators of the MSME performance variable (Y), with a total of 12 indicators from all existing variables. In this outer model test, the indicators carried out in testing each item from the total number of indicators that have been validated in the previous instrument test. Of the 3 variables above, all variable indicators have a value greater than 0.5 , meaning that the 4 variables are declared valid. The following are the results of the convergent validity test, discriminant validity test, and reliability test in this study, namely:

##### 1. Convergent Validity Test

This research will be tested using a convergent validity test involving two evaluation criteria: factor loading values and average variance extracted (AVE). To evaluate convergent validity, an assessment is made of whether each indicator validly measures the dimensions of the concept being measured. An indicator is considered valid if the factor loading value is more than 0.70. However, for the initial stage of research in developing a measurement scale, a loading value of 0.50 to 0.60 is considered a sufficient level [25] . The following are the outer loading values of each variable indicator in the study:





**Table 5 . Outer Loading Value**

	X1. Financial Literacy	X2. Financial Inclusion	Y1. MSME Performance
X1.1	0.740		
X1.2	0.785		
X1.3	0.764		
X1.4	0.748		
X1.5	0.741		
X1.7	0.737		
X2.2		0.691	
X2.3		0.776	
X2.5		0.699	
X2.7		0.768	
Y1.1			0.765
Y1.2			0.727
Y1.3			0.789
Y1.4			0.771
Y1.5			0.772
Y1.6			0.731
Y1.7			0.754

Source: (SmartPLS, 2025)

Based on Table 5, it can be concluded that the factor loading values for all research variable indicators have an outer loading value  $> 0.50$ . Thus, it can be concluded that all outer loading values are declared valid. After conducting factor testing, the next step is to look at the Average Variance Extracted (AVE) value. An indicator is declared valid if it has an AVE value above 0.5. The AVE values are shown in the table below:

**Table 6 . Average Varince Extracted (AVE) Value**

Variables	Average Variance Extracted (AVE)	Information
Financial Literacy	0.567	Valid
Financial Inclusion	0.539	Valid
MSME Performance	0.576	Valid

Source: (SmartPLS, 2025)

Based on Table 6, it can be seen that the AVE value for the financial literacy variable is 0.567, the AVE value for the financial inclusion variable is 0.539, and the AVE value for the MSME performance variable is 0.576. Thus, the AVE value for financial literacy, financial inclusion, and MSME performance has a value above  $> 0.50$  and is declared valid.

## 2. Discriminant Validity Test

Discriminant validity is conducted to assess whether a variable has adequate discriminant power. This is done by comparing the values (loadings) of

the variables to be tested, which should be higher than other variables. The discriminant validity test is conducted by looking at the cross-loading value for each variable, which must have a value  $> 0.70$ . In the testing stage of this study, there are two value criteria to be evaluated, namely the cross-loading value, which is as follows:

**Table 7. Cross Loading Values**

	X1. Financial Literacy	X2. Financial Inclusion	Y1. MSME Performance
X1.1	0.740	0.332	0.434
X1.2	0.785	0.467	0.458
X1.3	0.764	0.383	0.464
X1.4	0.748	0.351	0.369
X1.5	0.741	0.489	0.511
X1.7	0.737	0.555	0.610
X2.2	0.441	0.691	0.548
X2.3	0.452	0.776	0.546
X2.5	0.426	0.699	0.568
X2.7	0.407	0.768	0.655
Y1.1	0.506	0.621	0.765
Y1.2	0.530	0.581	0.727
Y1.3	0.492	0.617	0.789
Y1.4	0.523	0.546	0.771
Y1.5	0.503	0.560	0.772
Y1.6	0.426	0.628	0.731
Y1.7	0.453	0.651	0.754

Source: (SmartPLS, 2025)

Based on table 7 regarding the cross loading value, it can be concluded that each indicator in this research variable has the highest cross loading value on the variable it forms  $> 0.70$ , compared to the cross loading value on other variables. Based on this finding, it can be concluded that most of the indicators used in this study have shown strong discriminant validity in forming their respective variables except for point X2.2. Another method that can be used is by comparing the r-square root average variance extracted (AVE) value of each construct with the correlation between other constructs in the model, if the AVE root value of each construct is greater than the correlation value between the construct and other constructs in the model, then it is said to have a good discriminant validity value [26]. Thus, all indicators in the construct can be declared valid.

## 3. Reliability Test

In addition to construct validity tests (convergent and discriminant validity tests) in measuring the level of internal consistency of the indicators of a construct, a reliability test is also carried out. In reliability testing, a variable is declared valid if its composite reliability and Cronbach's Alpha values are above 0.70 [23].



**Table 8 . Reliability Test**

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
<b>X1. Financial Literacy</b>	0.849	0.855	0.887	0.567
<b>X2. Financial Inclusion</b>	0.714	0.718	0.824	0.539
<b>Y1. MSME Performance</b>	0.877	0.877	0.905	0.576

Source: (SmartPLS, 2025)

Based on Table 8 regarding the reliability test, the composite reliability value obtained for each variable, namely the financial literacy variable of 0.855, the financial inclusion variable of 0.818, and the MSME performance variable of 0.877. Meanwhile, the Cronbach's alpha value obtained for the financial literacy variable was 0.849, the financial inclusion variable of 0.814, and the MSME performance variable of 0.877. This means that the composite reliability and Cronbach's alpha output results for each variable are  $> 0.70$ . This indicates that the questionnaire can produce valid results and high reliability.

#### 4.3 Structural Model Testing (Inner Model)

The inner model test has three stages of evaluation which are carried out by looking at the criteria for the R-square, f-square and t-test (hypothesis test) values. The R-square value can be used to explain the influence of the dependent variable on the independent variable, whether it has a substantive influence. The following are the findings of the R-square value.

**Table 9 . R-Square Value**

	R-square	R-square adjusted
<b>Y1. MSME Performance</b>	0.679	0.672

Source: (SmartPLS, 2025)

Based on table 9, it can be seen that the R-square value for the MSME performance variable is 0.679 or 67.9%, which means that the variability of the construct of purchasing decision value can be explained by financial literacy, financial inclusion and financial management by 67.9%, the remaining 32.1% is influenced by other variables outside the variables in this study.

Furthermore, to measure the inner model, it can be done by evaluating the f-square value. R-Square is used to show how much influence endogenous variables have on other variables. The R-square result of 0.67 and above for latent variables in the inner model shows how much influence exogenous

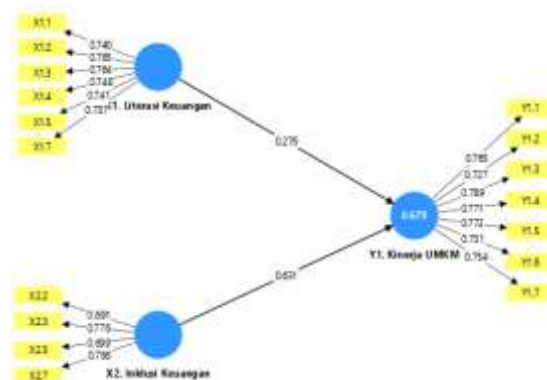
variables, or influencing variables, have on endogenous variables, the R-square result of 0.33–0.67 indicates that it is moderate, and the R-square result of 0.19–0.33 indicates that it is weak [23]. The following are the findings of the f-square value, namely.

**Table 10 . F-Square Value**

	X1. Financial Literacy	X2. Financial Inclusion	Y1. MSME Performance
<b>X1. Financial Literacy</b>			0.156
<b>X2. Financial Inclusion</b>			0.816
<b>Y1. MSME Performance</b>			

Source: (SmartPLS, 2025)

Based on Table 10, it can be concluded that the f-square value of financial literacy on MSME performance is 0.156. Furthermore, the f-square value of financial inclusion on MSME performance is 0.816. These values indicate that the influence of financial literacy, financial inclusion and financial management on MSME performance is in the medium category. The f-square value measures the extent of influence an independent variable has on the dependent variable. In this study, the f-square value of 0.156 for financial literacy and 0.816 for financial inclusion indicates that financial literacy has a moderate influence on MSME performance, while financial inclusion has a high influence. The next test is to examine the results of the t-test (hypothesis testing) in this study. These results can be seen from the bootstrapping results.



**Figure 6. Bootstrapping Model**

Source: (SmartPLS, 2025)

To see how much influence there is between variables and bootstrapping calculations, measuring the coefficient between constructs aims to test the

hypothesis where the value resulting from the bootstrapping test method is a t-statistic value that must be greater than 1.96, then the relationship between the variables is positive, whereas if the t-statistic value  $<1.96$ , then the relationship between the variables is negative. The path coefficient direct effect test is as follows:

**Table 11. Path Coefficient**

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
<b>X1. Financial Literacy -&gt; Y1. MSME Performance</b>	0.295	0.298	0.088	3,339	0.001
<b>X2. Financial Inclusion -&gt; Y1. MSME Performance</b>	0.600	0.601	0.075	8,026	0.000

Source: (SmartPLS, 2025)

Hypothesis testing is used to decide whether a hypothesis will be rejected or accepted. A hypothesis is accepted if the T-statistic is  $>1.96$ , which is considered significant and the P-value is  $<0.05$ . A hypothesis is rejected if the T-statistic is  $<1.96$ , which is considered insignificant and the P-value is  $>0.05$ .

Based on table 11 regarding the t-test of hypothesis 1, the relationship between financial literacy and MSME performance is significant. The magnitude of the effect is 0.295, this is because the higher the value of X, the higher the value of Y. Increasing financial literacy units will increase MSME performance by 29.5%. After calculating using bootstrapping, where the results of the financial literacy estimation coefficient test on MSME performance are 0.298 and a standard deviation of 0.088, and the t-statistic value is  $13.339 > 1.96$  and the p-value is  $0.001 < 0.05$ , which means that this shows that the financial literacy variable has a significant effect on MSME performance. Therefore, hypothesis 1 is accepted.

## Discussion

The findings of this study are in line with previous research where financial literacy has a significant positive effect on MSME performance [28] [9]. Low financial knowledge affects the performance of MSMEs, and good financial knowledge does not affect the performance of MSMEs [7]. However, several previous studies found different findings, where several studies found that low financial knowledge affects the performance

of MSMEs, and good financial knowledge does not affect the performance of MSMEs [7].

The findings of this study confirm previous research where financial literacy includes the ability to sort out financial needs, discuss financial problems, plan for the future, and respond to life events that influence daily financial decisions wisely, where this skill is very important to minimize difficulties due to errors in financial planning that will cause uncontrolled spending, so that financial management based on good understanding can help make financial decisions regularly [17].

Based on these findings, it can be seen that most MSMEs in Garut Regency get many benefits when using online transaction or payment systems in their businesses. It makes it easier for customers and sellers to conduct their transactions and increases customer purchasing power due to the convenience obtained when using an online payment system. The problem for MSMEs in Garut Regency includes the perception that the majority of MSMEs in Garut Regency have not been able to obtain financial products in the form of business capital loans easily and simply for them to get, the process of applying for capital loans is considered complicated and requires conditions that tend to be difficult to fulfill making the use of capital loans for businesses offered by lenders cannot be utilized by the majority of MSMEs and only a small portion who benefit from the financial product (capital loan).

In the financial inclusion variable, this study found that financial inclusion greatly influences the performance of MSMEs in Garut district. Financial inclusion refers not only to financial products such as business loans or other loans, but also to transaction services, both digital and conventional. This study found that the most important financial product for MSMEs in Garut Regency is digital payment features, which significantly facilitate transactions in their business activities.

The findings of this study are in line with previous research which stated that there is an influence of financial inclusion on the performance of MSMEs [29]. In addition, a number of other studies show that financial inclusion does not affect the performance of MSMEs [30]. A study found that the younger generation in Indonesia, who are inseparable from the influence of technology, shows more impulsive buying behavior when using digital payment features [31].

This further emphasizes the real opportunities that exist from the current technological distribution,





namely digital payment methods, which have proven to significantly impact the business ecosystem. MSMEs that use digital payment methods will experience numerous benefits, particularly in terms of sales of their products or services. Consumers who feel facilitated by digital payment systems will become more impulsive in purchasing products or services from MSMEs that offer digital payment features in their businesses.

Digital payment systems not only influence individual consumer decisions but also contribute to the revitalization of Micro, Small, and Medium Enterprises (MSMEs). It should be emphasized that digital payment systems provide opportunities for MSMEs to access a wider market, which in turn increases their sales and competitiveness [32]. From this explanation, it can be understood that not only do they influence purchasing decisions or the level of purchasing impulsivity of consumers, digital payment systems are also able to expand market access to a larger market. This all happened because there were no boundaries of space and time between consumers and sellers in carrying out transactions between them. This is an opportunity and chance for MSMEs to improve their business marketing performance.

## V. CONCLUSION AND SUGGESTION

The results of the analysis show that financial literacy has a positive and significant effect on the performance of MSMEs. This shows that the better a business owner's ability to understand and manage financial aspects, the better their business performance. Financially literate individuals are able to plan for the future, manage their needs effectively, and make wise financial decisions. These skills are crucial for preventing uncontrolled spending. This finding is in line with theories that emphasize the importance of empirical evidence in decision making. Moreover, these results are consistent with many previous studies showing that good financial literacy improves business performance and sustainability.

This study also shows that financial inclusion plays an important role in improving the performance of small and medium enterprises (MSMEs) in Garut Regency. Increased access to and utilization of financial services, particularly digital payment systems, has made it easier for customers and businesses to conduct transactions,

boosting sales and consumer purchasing power. However, due to complicated application processes and difficult requirements, most MSMEs still face challenges in obtaining financial products such as working capital loans.

The results show that financial inclusion includes not only access to loan products but also digital and conventional transaction services, all of which impact the business ecosystem. It is proven that digital payment features are the most important element in driving business, expanding market reach, and increasing the competitiveness of MSMEs.

It is hoped that these steps will accelerate MSME growth, facilitate capital access, and improve business performance. MSMEs must take the initiative to learn and implement financial literacy, including providing digital payment methods to facilitate transactions and increase consumer purchasing interest. To improve their financial reporting and standards, MSMEs should use financial recording applications or tools. The process of applying for capital loans will be easier with good financial reporting, which can help business growth and improve performance.

Future research is recommended to modify or add variables and combine questionnaire and interview methods to obtain more accurate results. To gain a more specific understanding, research could also be directed at specific MSME sectors such as culinary, services, or fashion.

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