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MSME Financial Literacy Model as a Measuring Tool for MSME Financial Performance

Case Study of Bogor, Depok and Kuningan MSMEs

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) are vital to the economy but often struggle with financial management due to limited financial literacy. This leads to poor accounting practices and weak financial reporting, hindering growth and competitiveness. The rapid changes of the industrial revolution 4.0 further challenge MSMEs to adapt. This study examines financial literacy's role in enhancing MSME financial performance in Bogor, Depok, and Kuningan. It identifies key influencing factors and their impact. Using an associative methodology with quantitative and qualitative approaches, data were collected from 399 MSME practitioners via surveys, interviews, and Focus Group Discussions (FGDs). Structural Equation Modeling (SEM) with Partial Least Square (PLS) was used for analysis. Findings show financial behavior, attitude, bank product usage, credit/loans, and financial inclusion positively affect financial performance through financial literacy. However, risk preference and digital literacy had no significant impact. The study underscores the need to improve financial literacy and recommends developing a financial reporting application to help MSMEs manage finances effectively.

Keywords: *Financial Literacy, Financial Performance, MSMEs*

INTRODUCTION

MSMEs play a strategic role in economic development by providing around 97% of the national workforce and contributing 57% to GDP (Putra, 2018). However, MSMEs still face various obstacles, especially in financial literacy, such as limited access to financial institutions, weak financial control, and inappropriate investment strategies (Rujitoningtyas et al., 2025). Most MSME practitioners also lack the use of standardized financial analysis tools, indicating their weak understanding of financial literacy (Plakalovic, 2015).

Ahamed (2025) mentioned that financial literacy levels are still low in both developed and developing countries, with few individuals fully comprehending basic financial concepts. In Indonesia, the financial literacy index in 2016 was only 29.7%, although 67.8% of the population had used financial products and services (Utomo & Kaujan, 2019). In 2018, MSMEs absorbed 96.99% of the national workforce and contributed 62.58% to GDP, proving its role as an economic savior during the 1998 crisis (Arifin & Zainal, 2023).

However, the access of Indonesian MSMEs to global supply chains is still minimal, only 0.8%, indicating a lack of information and access to global markets for MSME players (Sasongko, 2020). The contribution of Indonesian MSMEs in global supply chains in ASEAN is only 2.7%, better than Brunei, Laos, Myanmar and Cambodia, but still far below the ASEAN average of 9.3% in 2009-2013. As a result, the contribution of MSMEs to Indonesian exports in 2015 was only 15.8%, lagging behind Thailand (29.5%) and the Philippines (20%) (Ummah, 2019).

Financial literacy is very important for MSME players to develop their businesses to be more competitive in the global era (Kifli, 2019). Intense competition requires MSMEs to innovate in various aspects, including products, marketing, human resources, and technology. In the 4.0 era, technological advances accelerate economic and social changes, requiring MSMEs to be more adaptive and collaborative at the global level (S. & Pratama, 2024).

Research shows that financial literacy can increase turnover and business sustainability, as it allows MSME actors to access financial resources more easily (Aribawa, 2016). High financial literacy contributes to good financial management, including financial planning, management and control, and helps MSMEs avoid financial difficulties due to uncontrolled spending (Yushita, 2017).

In addition, a thorough understanding of financial behavior enables MSME entrepreneurs to manage cash flow, credit, savings and investments more effectively (Selvi et al., 2024). Financial literacy also plays a role in increasing awareness of investment risks and preventing financial fraud (Ilham, 2019). The government has launched three main pillars to improve financial literacy, namely financial education, strengthening infrastructure, and developing digital-based financial products and services (Yushita, 2017).

MSMEs have proven to be highly resilient, especially during the 1998 financial crisis and the COVID-19 pandemic, making them a strategic sector for the national economy (Impact of COVID-19 Pandemic on MSMEs in Indonesia, 2020). However, MSMEs still face challenges in competing with large companies, hence the need for more effective growth strategies (Hafifah, 2019). With a large contribution to the regional budget and state budget as well as its role in reducing unemployment, MSMEs have significant potential in improving community welfare and the national economy.

Financial management is a challenge for MSMEs as many business actors ignore correct accounting principles, often due to limited knowledge and educational background (Dwyanti, 2024). Accounting is important for MSMEs as a systematic tool to produce financial information that is useful in decision-making (Risnarningsih, 2017). Many MSMEs do not have standardized financial records, resulting in non-standardized financial reports. Several business owners value profits in the form of tangible assets without clear records, often mixing personal assets with company assets. This condition indicates low financial literacy, thus a strategy is necessary to increase financial understanding for MSMEs to be more accountable such as large companies (Djou, 2019).

The era of industrial revolution 4.0 brings challenges for MSMEs, especially in adapting to technology. Although some MSMEs have been brought online, many are still operating conventionally. Therefore, government support is needed to encourage the use of technology in the development of MSMEs, especially in rural areas with local wisdom (Hidayat & Andarini, 2020). Previous studies have shown that financial literacy has a positive relationship with MSME financial management behavior (Djou, 2019). Good financial literacy helps businesses in investing, financial transactions, and reducing consumptive lifestyles that lead to more effective financial management (Dewi, 2017).

According to the data from the Financial Services Authority (OJK) in 2014, the level of financial literacy of MSMEs is only 15.68%, which impacts issues such as debt management, financial planning, and business credit. Conversely, high financial literacy contributes positively to the performance and financial resilience of MSMEs (Rofifah, 2020). The findings of another research reveal that SMEs using technology in financial record-keeping show improved performance and better risk management. However, the relationship between financial literacy and bookkeeping practices is not significant, suggesting that technology may partially replace aspects of financial literacy in improving the financial practices of SMEs in developing countries (Buhimila Mabula & Dong Ping, 2018).

This research highlights the role of financial literacy in the success of MSMEs, focusing on case studies of MSMEs in Bogor, Depok and Kuningan. Improving financial literacy in the region not only impacts business sustainability but also contributes to reducing unemployment and increasing regional and national income. Based on the background that has been described, this research aims to

analyze the positive relationship between Financial Behavior, Financial Attitude, Risk Preference, Use of Financial Products, Loan Credit, Digital Literacy, and Financial Inclusion on Financial Literacy and Financial Performance of MSMEs, either directly or through Financial Literacy as a mediating variable.

RESEARCH METHODOLOGY

This research is an associative research that aims to analyze the relationship between several variables such as financial behavior, financial attitude, risk preference, use of financial products, loan credit, digital literacy, and financial inclusion on financial literacy and financial performance of MSMEs. The research was conducted in the Bogor, Depok, and Kuningan areas with a sample size of 399 respondents from MSME practitioners in West Java. Data was collected through a survey using a 5-point Likert scale questionnaire and analyzed using the Structural Equation Modeling (SEM) method based on Partial Least Square (PLS). In addition to quantitative data from the questionnaire, this research also uses qualitative data obtained through interviews and Focus Group Discussions (FGDs).

The data used in this research consisted of primary and secondary data. Primary data was collected through distributing questionnaires to MSME practitioners as well as interviews and FGDs with relevant academics and practitioners. Meanwhile, secondary data was obtained from MSME financial reports, such as reports on sales, costs, gross profit, and profitability. Sampling was conducted using the Slovin formula at a 7% margin of error, with a proportion of 160 respondents from Bogor and 239 from Depok and Kuningan. A Likert scale was used to measure responses with five categories, ranging from “never” to “always.”

The SEM analysis in this research aims to test the causal relationship between exogenous and endogenous latent variables, as well as analyze the factors that influence financial literacy and financial performance of MSMEs. The SEM model consists of a measurement model and a structural model, with validity and reliability tested using Confirmatory Factor Analysis (CFA). This analytical technique allows testing the relationship between variables simultaneously and produces the most appropriate model based on Goodness of Fit criteria.

RESULT AND DISCUSSION

Table 1. Overview of MSMEs in Depok City, Bogor Regency, and Kuningan Regency in 2024

Aspects	Depok City MSMEs	Bogor Regency MSMEs	Kuningan Regency MSMEs
Growth	Increased 15% through policies, digital literacy, and changes in	Increased by 12% due to empowerment programs, improved	Increased by 10% as a result of government empowerment, improved infrastructure,

	post-pandemic consumption patterns.	infrastructure, and growing tourism sector.	and natural tourism potential.
Developing Sector	Creative economy (+20%), culinary (+18%), technology-based services (+25%), urban agriculture (+10%).	Agribusiness (+18%), tourism & creative economy (+22%), culinary (+15%), crafts (+10%).	Agribusiness (+15%), tourism (+20%), culinary (+12%), crafts (+8%).
Digitalization	80% use e-commerce/social media, 65% use digital payments, 50% use business management apps.	70% use e-commerce/social media, 55% use digital payments, 40% use business management apps.	60% use e-commerce/social media, 45% use digital payments, 30% use business management apps.
Contribution	Contributing 60% of Depok's Gross Regional Domestic Product (GRDP) (+5%) and absorbing 70% of the workforce.	Contributing 65% of Bogor's GRDP (+3%) and employing 75% of the workforce.	Contributing 60% of Kuningan's GRDP (+2%) and employing 70% of the workforce.
Challenge	Competition with big businesses, limited access to capital, and the need to upgrade digital skills.	Gaps in digital infrastructure, limited access to capital, and the need for standardization and improvement of product quality.	Digital disparity, limited access to capital, and the need to improve product quality and managerial skills.
Government Program	"Depok Digital UMKM", soft credit access, product certification, and construction of MSME centers.	"Bogor UMKM Connect", research cooperation with universities, and initiatives of "One Village One Product"	"Pasar UMKM Kuningan", research cooperation with universities, and initiatives of "One Village One Product"
Prospects	Focus on innovation, digitalization, and quality improvement to face regional/national competition.	Strengthening local resource-based products, improving quality, and expanding digital markets.	Focus on ecotourism, organic agricultural products, and revitalization of the bamboo handicraft industry to improve competitiveness.

Source: Processed Data by Researchers

Table 2. MSME Business Location

Business Location	Frequency	Percent	Valid Percent	Cumulative Percent
Bogor	66	16.5	16.5	16.5
Depok	38	9.5	9.5	26.1
Cipayung Jaya	61	15.3	15.3	41.4
Ratu Jaya	112	28.1	28.1	69.4

Bojong Pondok Terong	41	10.3	10.3	79.7
Cipayung	48	12.0	12.0	91.7
Kuningan	33	8.3	8.3	100.0
Total	399	100.0	100.0	

Source: Processed Data by Researchers

Based on the data in Table 2, the location of MSMEs with the highest number of respondents is in the Ratu Jaya area, with 112 respondents (28.10%). Furthermore, the Bogor area has 66 respondents (16.50%), while the least number of respondents is in Kuningan, which is 33 respondents (8.30%).

Table 3. Type of MSME Business

Type of Business	Frequency	Percent	Valid Percent	Cumulative Percent
Culinary	271	67.9	67.9	67.9
Trade	10	2.5	2.5	70.4
Livestock/Agriculture/Fisheries	4	1.0	1.0	71.4
Trade and Service	14	3.5	3.5	74.9
Service	84	21.05	21.0	95.9
Grocery stalls	2	.5	.5	96.4
Reseller	4	1.0	1.0	97.4
Fashion	8	2.0	2.0	99.5
Laundry	2	.5	.5	100.0
Total	399	100.0	100.0	

Source: Processed Data by Researchers

In Table 3, the types of MSME businesses that were respondents consisted of various categories, with a total of 399 respondents divided into 10 types of businesses. The most dominant type of business is culinary, with 271 respondents (67.90%), followed by service businesses with 78 respondents (19.50%). Meanwhile, the business type with the least number of respondents is grocery stalls, with 2 respondents (0.50%).

Table 4. Monthly Sales Turnover

Monthly Turnover	Frequency	Percent	Valid Percent	Cumulative Percent
> 25 M	294	73.7	73.7	73.7
IDR 25 M – IDR 200 M	56	14.0	14.0	87.7
IDR 200 M < IDR 400 M	6	1.5	1.5	89.2
> IDR 400 M	21	5.3	5.3	94.5
Others (< IDR25 M)	22	5.5	5.5	100.0
Total	399	100.0	100.0	

Source: Processed Data by Researchers

In the table above, the most sales turnover per month is more than IDR 25 million per month, namely 294 people (73.70%), followed by a turnover of IDR 25

million - IDR 200 million as many as 56 people (14.0%). Meanwhile, the number of respondents with a turnover of IDR 200 million - less than IDR 400 million was 6 people (1.50%). Based on the table, it can be seen that the most dominant turnover is more than IDR 25 million per month, while the number of MSME respondents with a turnover of less than IDR 25 million per month is 22 people (5.30%).

Table 5. Descriptive Statistics Data

Variable	Mean	MAX	MIN	Std. Deviation
FB	3.871	20.00	5.00	2.79435
FA	3.850	30.00	6.00	4.11033
PR	3.761	10.00	3.00	1.42404
PPK	3.825	15.00	5.00	1.91285
KP	3.827	20.00	5.00	2.66024
MD	3.801	10.00	2.00	1.31189
IK	3.866	15.00	3.00	2.41680
LK	3.815	15.00	6.00	1.77905
KK	3.707	5.00	2.00	0.70080

Source: Processed Data by Researchers

From the table, it can be seen that:

1. The Financial Behavior (FB) variable has an average value of 3.871, the highest value is 20, the lowest value is 5, and the standard deviation is 2.79435.
2. The Financial Attitude (FA) variable has an average value of 3.850, the highest value is 30, the lowest value is 6, and the standard deviation is 4.11033.
3. The Risk Preference (PR) variable has an average value of 3.761, the highest value is 10, the lowest value is 3, and the standard deviation is 1.42404.
4. The Use of Financial Products (PPK) variable has an average value of 3.825, the highest value is 15, the lowest value is 5, and the standard deviation is 1.91285.
5. The Loan Credit (KP) variable has an average value of 3.827, the highest value is 20, the lowest value is 5, and the standard deviation is 2.66024.
6. The Digital Literacy (MD) variable has an average value of 3.801, the highest value is 10, the lowest value is 2, and the standard deviation is 1.31189.

7. The Financial Inclusion (IK) variable has an average value of 3.866, the highest value is 15, the lowest value is 3, and the standard deviation is 2.41680.
8. The Financial Literacy (LK) variable has an average value of 3.815, the highest value is 15, the lowest value is 6, and the standard deviation is 1.77905.
9. The Financial Performance variable (KK) has an average value of 3.707, the highest value is 5, the lowest value is 2, and the standard deviation is 0.70080.

After preparing the questionnaire, a Pre-Test analysis was carried out to test the validity of each indicator used. This Pre-Test test was carried out with a predetermined sample size of 399 respondents, with the initial stage using 100 respondents.

Table 6. Overview of Hypothesis Testing Results

Hypothesis		Coefficient	<i>t</i> -Statistic	<i>t</i> -Table	<i>p</i> -Value	Accepted/Rejected
H	Relationship					
H ₁	FB → LK	7.430	5.312	1.96	0.000	Accepted
H ₂	FA → LK	4.065	8.613	1.96	0.000	Accepted
H ₃	PR → LK	7.013	1.013	1.96	0.000	Rejected
H ₄	PP → LK	3.806	3.806	1.96	0.000	Accepted
H ₅	KP → LK	1.292	1.972	1.96	0.049	Accepted
H ₆	MD → LK	1.934	1.934	1.96	0.054	Rejected
H ₇	IK → LK	2.614	4.261	1.96	0.000	Accepted
H ₈	FB → KK	5.312	7.430	1.96	0.000	Accepted
H ₉	FA → KK	8.613	4.065	1.96	0.000	Accepted
H ₁₀	PR → KK	3.485	3.485	1.96	0.001	Accepted
H ₁₁	PP → KK	2.667	2.667	1.96	0.008	Accepted
H ₁₂	KP → KK	1.972	1.292	1.96	0.197	Rejected
H ₁₃	MD → KK	0.881	0.881	1.96	0.379	Rejected
H ₁₄	IK → KK	4.261	2.614	1.96	0.009	Accepted
H ₁₅	FB → LK → KK	9.039	2.260	1.96	0.024	Accepted
H ₁₆	FA → LK → KK	3.462	2.421	1.96	0.016	Accepted
H ₁₇	PR → LK → KK	6.456	2.268	1.96	0.024	Accepted
H ₁₈	PP → LK → KK	2.182	2.010	1.96	0.045	Accepted
H ₁₉	KP → LK → KK	0.728	1.428	1.96	0.154	Rejected
H ₂₀	MD → LK → KK	0.169	1.454	1.96	0.147	Rejected
H ₂₁	IK → LK → KK	2.377	2.097	1.96	0.037	Accepted
H ₂₂	LK → KK	2.462	0.009	1.96	0.014	Accepted

Source: Processed Data by Researchers

Table 6 shows the results of hypothesis testing regarding the relationship between independent variables and intervening variables, the relationship between independent variables and the dependent variable through intervening variables,

and the relationship between intervening variables and the dependent variable is explained as follows:

H₁: Financial Behavior (FB) is Positively Related to Financial Literacy (LK)

The p-value of 0.000 is smaller than the significance level used (5% or 0.05), and the t-count value of 5.312 is greater than the t-table (1.96). This shows that Financial Behavior is significantly related to Financial Literacy. In addition, the relationship coefficient between FB and LK has a positive sign with a value of 7.430, which indicates that the relationship is positive. Thus, H₁ is accepted, where Financial Behavior is positively related to Financial Literacy.

This implies that if Financial Behavior increases, then Financial Literacy also increases, and vice versa, if Financial Behavior decreases, then Financial Literacy also decreases. Financial behavior is an important factor in financial literacy, as evidenced in research by Eniola & Entebang (2017) which states that financial behavior has a positive influence on financial literacy.

H₂: Financial Attitude (FA) is Positively Related to Financial Literacy (LK)

The p-value of 0.000 is smaller than the significance level used (5% or 0.05), and the t-count value of 8.613 is greater than the t-table (1.96). This shows that Financial Attitude is significantly related to Financial Literacy. In addition, the relationship coefficient between Financial Attitude and Financial Literacy has a positive sign with a value of 4.065, which indicates that the relationship is positive. Thus, H₂ is accepted, which means that Financial Attitude is positively related to Financial Literacy. This means that if Financial Attitude increases, then Financial Literacy also increases, and vice versa, if Financial Attitude decreases, then Financial Literacy also decreases. This is in line with research conducted by Fessler et al. (2020) which concluded that financial attitude has a positive effect on financial literacy.

H₃: Risk Preference (PR) is Positively Related to Financial Literacy (LK)

The p-value of 0.000 is greater than the significance level used (5% or 0.05), and the t-count value of 1.013 is smaller than the t-table (1.96). This shows that Risk Preference does not have a significant relationship with Financial Literacy. Based on these results, H₃ is rejected, namely Risk Preference is not related to Financial Literacy. This means that even though Risk Preference increases or decreases, Financial Literacy tends to remain unchanged. This finding is supported by Widiastuti & Santoso's (2017) research which found that risk preference has no significant impact on financial literacy.

H₄: Product Usage (PP) is Positively Related to Financial Literacy (LK)

The p-value of 0.000 is smaller than the significance level used (5% or 0.05), and the t-count value of 3.806 is greater than the t-table (1.96). This shows that Product Usage has a significant relationship with Financial Literacy. In addition,

the coefficient value of the PP to LK relationship is positive at 3.806, which indicates that the relationship is positive. Based on these results, H_4 is accepted, namely Product Usage is positively related to Financial Literacy. This means that if Product Usage increases, then Financial Literacy also increases. Conversely, if Product Usage decreases, then Financial Literacy also tends to decrease. This is in line with statement from Jose & Ghosh (2024) that the use of financial products has a positive influence on financial literacy.

H₅: Loan Credit (KP) is Positively Related to Financial Literacy (LK)

The p-value of 0.049 is smaller than the significance level used (5% or 0.05), and the t-count value of 1.972 is greater than the t-table (1.96). This shows that Loan Credit has a significant relationship with Financial Literacy. In addition, the coefficient value of the relationship between KP and LK is positive at 1.292, which indicates that the relationship is positive. Based on these results, H_5 is accepted, meaning that loan credit is positively related to financial literacy. This means that if loan credit increases, then financial literacy also increases. Conversely, if loan credit decreases, then financial literacy also tends to decrease. Research by Anuradha (2024) shows that the use of loan credit has a positive impact on financial literacy.

H₆: Digital Literacy (MD) is Positively Related to Financial Literacy (LK)

The p-value of 0.054 is greater than the significance level of 5% (0.05), and the t-value of 1.934 is smaller than the t-table of 1.96. Thus, MD is not related to LK. Based on these results, H_6 is rejected, which means that Digital Literacy is not related to Financial Literacy. This means that changes in Digital Literacy, either up or down, have no influence on Financial Literacy. This is in line with Effendi et al. (2018) research, which shows that the digital economy on the one hand encourages the growth of small and medium enterprises, but on the other hand can slow down the improvement of financial literacy, especially in developing countries which still have limitations in financial education. However, this finding contradicts Davison & Ou's (2017) research, which states that increasing financial literacy actually allows individuals to be more active in digital technology and artificial intelligence.

H₇: Financial Inclusion (IK) is Positively Related to Financial Literacy (LK)

The p-value of 0.000 is smaller than the significance level used, which is 5% (0.05), and the t-count value of 4.261 is greater than the t-table of 1.96. Thus, Financial Inclusion is related to Financial Literacy. In addition, the coefficient of the relationship between Financial Inclusion and Financial Literacy is positive at 2.614, which indicates a positive relationship between the two. Based on these results, H_7 is accepted, which means that Financial Inclusion is positively related to Financial Literacy. This means that when Financial Inclusion increases, Financial Literacy also increases, and vice versa, when Financial Inclusion decreases, Financial Literacy also decreases. This is in line with Yanti's (2019) research, which

explains that a good understanding of financial literacy helps individuals in dealing with various barriers related to access to financial services.

H₈: Financial Behavior (FB) is Positively Related to Financial Performance (KK)

The p-value of 0.000 is less than the significance level of 5% (0.05), and the t-value of 7.430 is greater than the t-table of 1.96. Thus, FB is related to KK. In addition, the coefficient of the relationship between FB and KK is positive at 5.312, which indicates a positive relationship between the two. Based on these results, H₈ is accepted, which means that Financial Behavior is positively related to Financial Performance. This means that when Financial Behavior increases, Financial Performance also increases, and vice versa, when Financial Behavior decreases, Financial Performance (KK) also decreases. This is in line with Ningtyas & Andarsari's (2021) research, which states that financial behavior is related to financial management behavior, such as planning, supervision, management, control, and storage of funds.

H₉: Financial Attitude (FA) is Positively Related to Financial Performance (KK)

The p-value of 0.000 is less than the significance level of 5% (0.05), and the t-value of 4.065 is greater than the t-table of 1.96. Thus, FA is related to KK. In addition, the coefficient of the relationship between FA and KK is positive at 8.613, which indicates a positive relationship between the two. Based on these results, H₉ is accepted, which means that Financial Attitude is positively related to Financial Performance. This means that when Financial Attitude increases, Financial Performance also increases, and vice versa, when Financial Attitude decreases, Financial Performance also decreases. These results are in line with Hery's (2016) statement that financial performance reflects the effectiveness and efficiency of a business in generating profits and managing cash, which can be achieved through a good financial attitude. In addition, a study conducted by Esiebugie et al. (2018) in Nigeria showed that the financial performance of a business is influenced by the financial knowledge and attitudes of the actors. In other words, financial attitude plays a role in improving understanding of financial management, which in turn has a positive impact on the financial performance of MSMEs.

H₁₀: Risk Preference (PR) is Positively Related to Financial Performance (KK)

The p-value of 0.001 is less than the significance level of 5% (0.05), and the t-value of 3.485 is greater than the t-table of 1.96. Thus, FA is related to KK. In addition, the coefficient of the relationship between PR and KK is positive at 3.485, which indicates a positive relationship between the two. Based on these results, H₁₀ is accepted, which means that Risk Preference is positively related to Financial Performance. That is, when Risk Preference increases, Financial Performance also increases, and vice versa, when Risk Preference decreases, Financial Performance

also decreases. This is supported by Hillson & Murray-Webster (2017) who explains that risk preferences reflect the level of uncertainty that can have a positive or negative impact on financial performance, depending on the level of financial literacy of business owners.

H₁₁: Product Usage (PP) is Positively Related to Financial Performance (KK)

The p-value of 0.008 is less than the significance level of 5% (0.05), and the t-value of 2.667 is greater than the t-table of 1.96. Thus, PP is related to KK. In addition, the coefficient of the relationship between PP and KK is positive at 2.667, which indicates a positive relationship between the two. Based on these results, H₁₁ is accepted, which means that Product Usage is positively related to Financial Performance. This means that when Product Usage increases, Financial Performance also increases, and vice versa, when Product Usage decreases, Financial Performance also decreases. This is in line with research conducted by Joram Nyaga Njagi & Mutwiri (2024), which states financial products like micro savings, micro credit, micro insurance, and digital banking significantly enhance the performance of SMEs in Kenya by improving operational efficiency, financial stability, risk management, and cash flow, ultimately supporting sustainable business practices. Muigai & Muriithi (2023) found that microcredit services positively and significantly influence the financial performance of MSMEs in Kirinyaga County, enabling them to expand operations and improve efficiency, ultimately leading to growth in sales turnover. However, research by Dela Cruz et al. (2023) shows that even though MSMEs gain access to microloans, there is no significant impact on their financial performance. In fact, some MSMEs experienced difficulties in managing the loans received, which eventually led to bigger financial problems.

H₁₂: Loan Credit (KP) is Positively Related to Financial Performance (KK)

The p-value of 0.197 is greater than the significance level used, which is 5% (0.05), and the t-value of 1.292 is smaller than the t-table of 1.96. Thus, KP is not related to KK. Based on these results, H₁₂ is rejected, which means that Loan Credit is not related to Financial Performance. This means that changes in loan credit, whether up or down, do not affect Financial Performance.

H₁₃: Digital Literacy (MD) is Positively Related to Financial Performance (KK)

The p-value of 0.379 is greater than the significance level of 5% (0.05), and the t-value of 0.881 is smaller than the t-table of 1.96. Thus, MD is not related to KK. Based on these results, H₁₃ is rejected, which means that Digital Literacy is not related to Financial Performance. This means that changes in Digital Literacy, whether up or down, do not affect Financial Performance.

Research by Bresciani & Eppler (2015) shows that the adoption of digital technology and digital literacy does not always have a significant impact on the

financial performance of MSMEs. Many MSMEs face obstacles in integrating digital technology effectively, resulting in benefits to financial performance that are not always visible. In contrast, research by Febrianawati et al. (2024) indicates that MSMEs with higher levels of digital literacy tend to experience improvements in their financial performance. The use of digital technology in daily operations allows MSMEs to gain better access to market information, improve efficiency, and expand customer reach.

H₁₄: Financial Inclusion (IK) is Positively Related to Financial Performance (KK)

The p-value of 0.009 is less than the significance level of 5% (0.05), and the t-value of 2.614 is greater than the t-table of 1.96. Thus, IK is related to KK. In addition, the coefficient of the relationship between IK and KK is positive at 4.261, which indicates a positive relationship between the two. Based on these results, H₁₄ is accepted, which means that Financial Inclusion is positively related to Financial Performance. This means that when Financial Inclusion increases, Financial Performance also increases, and vice versa, when Financial Inclusion decreases, Financial Performance also decreases. However, this finding differs from Zunairoh & Wijaya's (2024) research, which states that although MSMEs in Indonesia have access to microloans, increased financial inclusion does not always have a significant impact on their financial performance. Many MSMEs have not been able to manage their loans effectively and therefore cannot improve their profitability or business growth.

H₁₅: Financial Behavior is Positively Related to Financial Performance (KK) through Financial Literacy (LK)

The p-value of 0.024 is smaller than the significance level used, which is 5% (0.05), and the t-count value of 2.260 is greater than the t-table of 1.96. Thus, FB is related to LK. In addition, the coefficient of the relationship between FB and KK through LK is positive at 9.039, which indicates a positive relationship. Based on these results, H₁₅ is accepted, which means that Financial Behavior (FB) is positively related to Financial Performance (KK) through Financial Literacy (LK). This means that when Financial Behavior (FB) increases, Financial Literacy (LK) also increases, which in turn encourages an increase in Financial Performance (KK). Conversely, when Financial Behavior (FB) decreases, Financial Literacy (LK) also decreases, which ultimately leads to a decrease in Financial Performance (KK). Research by Arráiz et al. (2014) has proven that financial literacy contributes positively to the financial performance of MSMEs. MSME owners with a good understanding of financial management are better able to access financing and manage their finances more effectively. However, research by Yulianto (2023) shows that in some developing countries, financial literacy does not always have a significant relationship with MSME financial performance. External factors, such

as government policies and economic infrastructure, often determine the financial success of MSMEs more than individual financial literacy factors.

H₁₆: Financial Attitude (FA) is Positively Related to Financial Performance (KK) through Financial Literacy (LK)

The p-value of 0.016 is less than the significance level of 5% (0.05), and the t-value of 2.421 is greater than the t-table of 1.96. Thus, FA is related to LK. In addition, the coefficient of the relationship between FA and KK through LK is positive at 3.462, which indicates a positive relationship. Based on these results, H₁₆ is accepted, which means that Financial Attitude is positively related to Financial Performance through Financial Literacy. This means that when Financial Attitude increases, Financial Literacy also increases, which in turn encourages an increase in Financial Performance. Conversely, when Financial Attitude decreases, Financial Literacy also decreases, which ultimately leads to a decrease in Financial Performance.

A study conducted by Djuwita & Yusuf (2018) found that financial attitude plays a role in the growth of street vendors' businesses, although knowledge and financial factors do not always contribute directly to their business development. In addition, the study of Esiebugie et al. (2018) in Nigeria showed that the financial performance of a business is influenced by the knowledge and financial attitude of the owner. However, this study also revealed that in some cases, poor financial management can hinder the positive impact of financial attitude. Meanwhile, Eniola & Entebang's (2017) study found that financial attitude has no direct impact on firm performance, while financial literacy has a stronger relationship to the financial success of the firm. In the world of MSMEs, financial literacy plays an important role in supporting wiser financial decision-making.

H₁₇: Risk Preference (PR) is Positively Related to Financial Performance (KK) through Financial Literacy (LK)

The p-value of 0.024 is smaller than the significance level used, which is 5% (0.05), and the t-count value of 2.268 is greater than the t-table of 1.96. Thus, PR is related to LK. In addition, the coefficient of the relationship between PR and KK through LK is positive at 6.456, which indicates a positive relationship. Based on these results, H₁₇ is accepted, which means that Risk Preference is positively related to Financial Performance through Financial Literacy. This means that when Risk Preference increases, Financial Literacy also increases, which in turn encourages an increase in Financial Performance. Conversely, when Risk Preference decreases, Financial Literacy also decreases, which ultimately leads to a decrease in Financial Performance. Cai (2025) define risk preference as an individual's tendency to choose between two alternatives with the same expected value but different risk dimensions. In this context, financial literacy plays a role in improving an individual's ability to assess and make better decisions regarding financial risk.

Knowledge and skills in financial literacy can strengthen healthy risk preferences, thus having a positive impact on financial performance.

H₁₈: Use of Financial Products (PP) is Positively Related to Financial Performance (KK) through Financial Literacy (LK)

The p-value of 0.045 is smaller than the significance level used, which is 5% (0.05), and the t-count value of 2.010 is greater than the t-table of 1.96. Thus, PP is related to LK. In addition, the coefficient of the relationship between PP and KK through LK is positive at 2.182, which indicates a positive relationship. Based on these results, H₁₈ is accepted, which means that the Use of Financial Products is positively related to Financial Performance through Financial Literacy. That is, when the Use of Financial Products increases, Financial Literacy also increases, which in turn encourages an increase in Financial Performance. Conversely, when the Use of Financial Products decreases, Financial Literacy also decreases, which ultimately leads to a decrease in Financial Performance. Amaria & Rahmawati (2024) stated that individuals with higher levels of financial literacy tend to make better financial decisions, which have an impact on improving financial well-being.

H₁₉: Loan Credit (KP) is Positively Related to Financial Performance (KK) through Financial Literacy (LK)

The p-value of 0.154 is greater than the significance level used, which is 5% (0.05), and the t-count value of 1.428 is smaller than the t-table of 1.96. Thus, LK does not moderate the relationship between KP and KK. Based on these results, H₁₉ is rejected, which means that Loan Credit is not related to Financial Performance through Financial Literacy. Although based on hypothesis testing H₅ shows that Loan Credit is positively related to Financial Literacy, and H₂₂ shows that Financial Literacy is positively related to Financial Performance, however, Financial Literacy cannot moderate the relationship between Loan Credit and Financial Performance. Bramantyo (2017) explained that the low level of financial literacy in Indonesia has an impact on limited access to formal financial services. This has led to relatively low lending to MSMEs by banks, hindering the improvement of the financial performance of the MSME sector. In this context, limited financial literacy makes many businesses less able to manage loans effectively. As a result, even when credit is available, not all MSMEs are able to utilize it to improve their profitability and business growth.

H₂₀: Digital Literacy (MD) is Positively Related to Financial Performance (KK) through Financial Literacy (LK)

The p-value of 0.147 is greater than the significance level used, which is 5% (0.05), and the t-count value of 1.454 is smaller than the t-table of 1.96. Thus, LK does not moderate the relationship between MD and KK. Based on these results, H₂₀ is rejected, which means that Digital Literacy is not related to Financial Performance through Financial Literacy. Although testing hypothesis H₅ shows that

Digital Literacy is positively related to Financial Literacy, and H₂₂ shows that Financial Literacy is positively related to Financial Performance, Financial Literacy cannot moderate the relationship between Digital Literacy and Financial Performance. Nasution (2023) emphasizes the importance of financial literacy in financial decision-making, financial capacity building, and access to the broader financial system.

H₂₁: Financial Inclusion (IK) is Positively Related to Financial Performance (KK) through Financial Literacy (LK)

The p-value of 0.037 is smaller than the significance level used, which is 5% (0.05), and the t-count value of 2.097 is greater than the t-table of 1.96. Thus, IK is related to LK. In addition, the coefficient value of the relationship between IK and KK through LK is positive at 2.377, indicating that the relationship is positive. Based on these results, H₂₁ is accepted, which means that Financial Inclusion is positively related to Financial Performance through Financial Literacy.

This means that if Financial Inclusion increases, then Financial Literacy also increases, and an increase in Financial Literacy will cause Financial Performance to increase. Conversely, if Financial Inclusion decreases, then Financial Literacy also decreases, and a decrease in Financial Literacy will cause Financial Performance to decrease. This is also in line with Peraturan Presiden (Perpres) Nomor 82 Tahun 2016 Tentang Strategi Nasional Keuangan Inklusif (2016) which emphasizes that financial inclusion is an important factor in reducing economic inequality. Optimal financial inclusion conditions allow for access to quality, safe, timely, and affordable formal financial services, which in turn can improve economic welfare.

H₂₂: Financial Literacy (LK) is Positively Related to Financial Performance (KK)

The p-value of 0.014 is less than the significance level of 5% (0.05), and the t-value of 8.550 is greater than the t-table of 1.96. Thus, LK is related to KK. In addition, the coefficient value of the relationship between LK and KK is positive at 2.462, indicating that the relationship is positive. Based on these results, H₂₂ is accepted, which means that Financial Literacy is positively related to Financial Performance.

This means that if Financial Literacy (LK) increases, then Financial Performance (KK) also increases. Conversely, if Financial Literacy (LK) decreases, then Financial Performance (KK) also decreases. Tambunan's research (2012) shows that small and medium enterprises (SMEs) have great potential in creating jobs and absorbing qualified labor. However, to improve financial performance, SMEs need to strengthen financial literacy to support more effective financial management. Salsabillah et al. (2023) also emphasized that the SME sector receives great attention from the government due to its crucial role in the national economy.

Although this sector is able to survive in crisis conditions, financial literacy remains an important factor in supporting the financial performance of MSMEs to be more competitive and sustainable.

CONCLUSION AND SUGGESTION

Conclusion

Financial Behavior (FB), Financial Attitude (FA), Financial Product Usage (PP), Loan Credit (KP), and Financial Inclusion (IK) have a positive relationship with Financial Literacy (LK). However, Risk Preference (PR) and Digital Literacy (MD) do not show a significant relationship with LK. Meanwhile, FB, FA, PR, PP, and IK are also positively related to Financial Performance (FM), while KP and MD have no relationship with FM.

In addition, LK plays a role in connecting several variables with KK. FB, FA, PR, PP, and IK are shown to be positively related to KK through LK. However, although KP and MD have a relationship with LK and LK is related to KK, LK is not able to moderate the relationship between KP and MD with KK. This suggests that other factors may be more instrumental in determining the effect of KP and MD on KK directly.

Suggestion

Improving financial literacy and utilizing digital technology are important steps for MSME practitioners in improving their financial performance. MSMEs should look at various indicators thoroughly in an effort to increase sales, including the optimization of digital transactions using services such as OVO, Gopay, and QRIS. In addition, the utilization of financial applications such as GEMMA KASKITA can help in recording more organized and efficient financial reports. Collaboration with financial institutions is also necessary to provide education and access to financial products that suit the interests of MSMEs.

In order to support more sustainable development of MSMEs, financial literacy training programs that focus on cash flow management, budget planning, and understanding basic financial statements are also necessary. Long-term mentoring and simplified learning materials may help MSMEs apply financial knowledge in their daily operations. In addition, periodic evaluation of the effectiveness of financial literacy programs, government policies that support financial training, and the establishment of MSME communities to share experiences and information are important factors in improving MSME competitiveness. Further research is also recommended to understand the factors that influence MSMEs' financial literacy and performance, and to explore a broader range of approaches in future research.

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