The Role of Financial Literacy, Financial Inclusion, Digital Marketing Strategies, and Cashless Payment Adoption in Enhancing the Financial Performance of MSMEs in Medan City

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Abstract. Financial performance of MSMEs is a key indicator of their capacity to survive and grow, however, many MSMEs in Medan City still encounter obstacles in financial management and digital adaptation. This research examines the impact of Financial Literacy, Financial Inclusion, Digital Marketing, and Cashless Payment on the financial performance of MSMEs in Medan City. Using a quantitative descriptive-verificative method, data were collected from 300 MSME actors and analyzed with SEM-PLS. The results show that Financial Literacy and Cashless Payment significantly improve financial performance, while Financial Inclusion and Digital Marketing have no significant effect. These findings emphasize the importance of financial education and digital payment adoption to enhance MSME competitiveness and sustainability

Keywords : Financial Literacy, Financial Inclusion, Digital Marketing, Cashless Payment, MSME Financial Performance

1 Introduction

Indonesia, as a developing country, positions MSMEs as the main foundation driving the nation's economy, as MSMEs represent one of the most prevalent business practices in society. MSMEs exist across various regions, including rural and remote areas. They contribute to improving local economic conditions and promoting equitable distribution among small communities. This role is further supported by the government to foster economic self-reliance, as the principles and objectives of MSME empowerment aim to create a balanced, growing, and fair national economic structure.

In addition, MSMEs serve as a pillar of Indonesia's economy in maintaining economic stability, especially during the COVID-19 pandemic. MSMEs were able to survive and adapt more quickly to market conditions compared to large companies. They also serve as a driving force of the local economy, significantly contributing to improving community welfare through the

empowerment of local labor and the strengthening of local production to preserve the potential and unique characteristics of each region.

Although MSMEs make a substantial contribution, their financial performance still faces various challenges that may hinder business growth and sustainability. These include limited access to formal funding sources, low levels of financial literacy among MSME actors, suboptimal financial management, and the slow adoption of digital technology in business operations. In addition, MSMEs often encounter problems such as limited working capital and the lack of effective marketing strategies, all of which can negatively impact their profitability and competitiveness in the market.

Performance is the outcome achieved in terms of both quantity and quality through the utilization of available resources. Performance serves as an indicator of a company's success in achieving its predetermined goals and targets. According to [1], financial performance is an assessment basis used to evaluate the extent to which a company has managed its finances in accordance with sound and proper financial principles and regulations. Financial performance analysis is crucial for every business, including MSMEs, as business actors must ensure that their enterprises can survive and grow. Poor financial performance may lead MSME entrepreneurs to face liquidity problems and difficulties in meeting short-term obligations. The findings of [2] indicate that MSMEs need to carefully monitor cash flow, net profit, and debt ratios, as these three aspects are the main indicators in assessing financial health and business operational stability. To support the financial performance of MSMEs, several factors play a role, including financial literacy, financial inclusion, digital marketing strategies, cashless payments such as QRIS, good service quality, high product quality, and strategic location.

Previous research has extensively examined the improvement of MSMEs' financial performance in Indonesia through financial literacy and financial inclusion. [3] concluded that both financial literacy and financial inclusion exert a positive and significant influence on the financial performance of MSMEs in Indonesia. Similarly, [4] found that financial knowledge plays a crucial role in enhancing MSME financial outcomes. In the same vein, [5] demonstrated that financial inclusion contributes to the improvement of MSME financial performance. Furthermore, [6] highlighted the positive impact of electronic marketing on MSME performance, which is consistent with the findings of [7] who revealed that digital marketing strategies significantly affect the performance of micro, small and medium enterprises (MSMEs). In addition, [8] provided evidence that digital payments positively influence business performance. This aligns with the research of [9], which confirmed that fintech innovations, particularly payment gateways, have a positive and significant effect on the financial performance of MSMEs in Denpasar City.

2 Method

2.1 Grant Theory
The theory used in this research is the Resource-Based View (RBV)**,** which is an approach in strategic management that emphasizes that a company's competitive advantage is largely influenced by the effectiveness of managing its internal resources. This concept was first

introduced by [10] and later developed by [11]. The main essence of RBV is that a company can achieve a sustainable competitive advantage if it possesses resources with four key characteristics: valuable, rare, inimitable, and non-substitutable.

According to RBV, a company's resources can consist of both tangible (physical) and intangible (non-physical) assets. Tangible assets include capital, equipment, and infrastructure, while intangible assets include knowledge, managerial capabilities, corporate brand, digital systems, and others.

2.2 Population and Sample

The population in this research consists of MSME actors spread across 21 sub-districts in Medan City. The sampling was carried out using one type of non-probability sampling, namely purposive sampling. Purposive sampling is a technique used to determine samples based on specific considerations. The sample size in this study was determined using the formula from [12], as the exact population size is unknown. The formula suggests that the minimum sample size should be 5–10 times the number of indicator variables. A total of 315 questionnaires were distributed in this study. Of these, 260 questionnaires were returned and could be processed as they met the research criteria, namely MSMEs that have been operating for at least two years, have implemented digital marketing strategies and cashless payment methods, and are willing to participate as research respondents.

2.3 Data Collection and Data Processing Stages

The data collection technique in this study used a questionnaire. The scaling technique applied was the Likert scale, which is designed to measure the respondents' degree of agreement with a statement or question.

Table 1. Likert Scale Instrument

Description	Score
Strongly Agree	5
Agree	4
Somewhat Disagree	3
Disagree	2
Strongly Disagree	1

The data analysis used to test the hypotheses employed descriptive statistics and Structural Equation Modeling (SEM). The data obtained in this study was analyzed using the statistical tool SmartPLS. Partial Least Squares (PLS) analysis is a multivariate statistical technique that compares multiple dependent variables with multiple independent variables [13].

Data processing was carried out through instrument testing and SEM-PLS analysis. Instrument testing included validity, to ensure that the questions matched the variables being measured, and reliability, with Cronbach's Alpha > 0.70 as the criterion for consistency [14].

Next, data analysis was conducted using SEM-PLS with the help of SmartPLS software. This method was chosen because it can handle small sample sizes and does not require specific data distribution assumptions [13]. Model evaluation included testing the outer model (validity and reliability of indicators) and the inner model (relationships among variables through R^2, path coefficients, t-tests, Q^2, and f^2) [15]. The results were then interpreted to determine the influence of financial literacy, financial inclusion, digital marketing strategies, and the use of cashless payment systems on the financial performance of SMEs.

3 Results and Discussion

3.1 Results

The following figure presents the results of the structural model analysis (SEM-PLS), which illustrates the relationships among the variables in the study, namely Financial Literacy, Financial Inclusion, Digital Marketing Strategy, Cashless Payment Adoption, and MSME Financial Performance. The values on the connecting lines represent the path coefficients, which indicate the influence between variables, while the numbers on the indicators (yellow boxes) show the loading factors that assess the validity of each indicator for its construct. In addition, the R^2 value displayed on the endogenous variables (for example, 0.318 on Financial Performance) indicates the proportion of variance explained by the independent variables in the model.
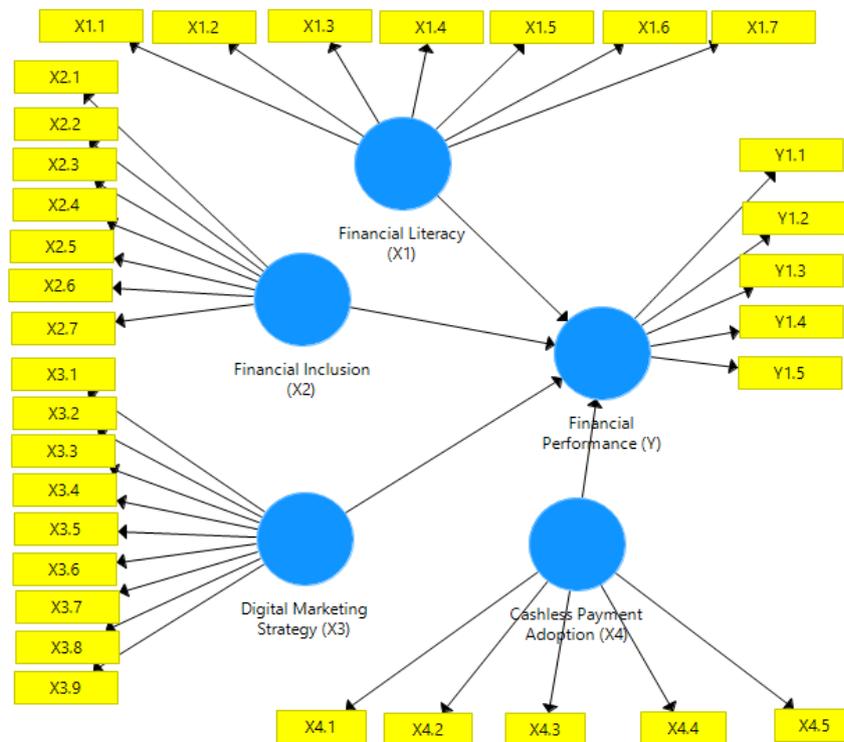

Figure 1. Research Model

Table 2. Descriptive Statistics Results

Variable	Mean	Median	Min	Max	Std. Deviation
Financial Literacy (X1)	3.929	4.000	1.000	5.000	0.926
Financial Inclusion (X2)	3.887	4.000	1.000	5.000	1.070
Digital Marketing Strategy (X3)	3.828	4.000	1.000	5.000	1.145
Cashless Payment Adoption (X4)	3.905	4.000	1.000	5.000	1.119
Financial Performance (Y)	4.090	4.000	1.000	5.000	0.708

Based on the results presented in Table 2, the descriptive statistical analysis of 260 observations can be summarized as follows. Financial literacy (X1) shows a mean score of 3.929 and a median of 4.00, indicating that respondents generally demonstrate a relatively good level of financial literacy, with a stable distribution (SD = 0.926). Financial inclusion (X2) records a mean of 3.887 and a median of 4.00, suggesting that most MSMEs already have adequate access to financial services, although the variation remains relatively high (SD = 1.070).

Digital marketing strategy (X3) exhibits the lowest mean score among all variables (M = 3.828; Median = 4.00) with the highest variability (SD = 1.145), implying that the adoption of digital marketing among MSMEs is still uneven. The use of cashless payment (X4) yields a mean of 3.905 and a median of 4.00, while the relatively high standard deviation (1.119) indicates differences in the frequency of adoption across respondents. Lastly, financial performance (Y) demonstrates the highest mean value (M = 4.090; Median = 4.00) with the lowest variability (SD = 0.708), reflecting that MSMEs in the sample generally maintain good and relatively consistent financial performance.
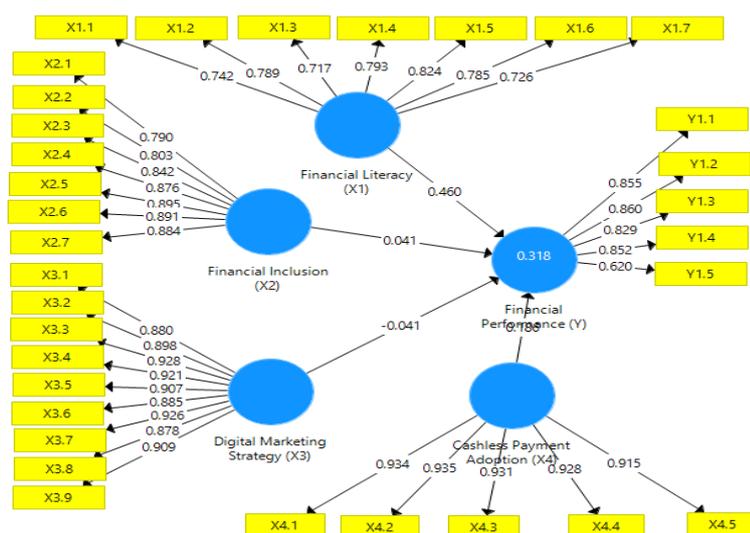

Figure 2. Outer Model Analysis Results

1. Measurement Model Analysis (Outer Model)

The outer model is used to evaluate validity and reliability of the indicators.

- Convergent Validity (Loading Factor)

  All indicators in each construct have loading factor values above 0.70 (e.g., X2.3 = 0.790; X3.1 = 0.880; Y1.1 = 0.855). This shows that the indicators are valid in representing their respective constructs.

  [16] emphasized that loading factor ≥ 0.70 and AVE ≥ 0.50 are the general criteria that must be met.

- Construct Reliability

  The results show that all constructs have Cronbach's Alpha > 0.70 and Composite Reliability (CR) > 0.70.

  Given the consistently high loading factor values, construct reliability is also fulfilled. Based on the criteria (Cronbach's Alpha > 0.70; Composite Reliability > 0.70), all constructs are considered reliable.

  According to [17], these values indicate good internal consistency and that construct reliability has been achieved.

Table 3. R-Square Results

	R Square	R Square Adjusted
Financial Performance	0,318	0,308

Table 4. Path Coefficients Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Financial Literacy -> Financial Performance	0,460	0,457	0,075	6,095	0,000
Financial Inclusion -> Financial Performance	0,041	0,058	0,098	0,419	0,675
Digital Marketing Strategy -> Financial Performance	-0,041	-0,039	0,099	0,411	0,681
Cashless Payment Adoption -> Financial Performance	0,186	0,177	0,093	1,993	0,047

2. Structural Model Analysis (Inner Model)

The inner model evaluates the relationships among latent variables.

- R^2 Values
  a. Financial Performance (0.318) → 31.8% of the variance in Financial Performance is explained by Financial Literacy, Financial Inclusion, Digital Marketing Strategy, and Cashless Payment Adoption. The remaining 68.2% is explained by other factors outside the model.
  b. Cashless Payment Adoption (0.186) → 18.6% of its variability is explained by variables in the model.

According to [16], an R² value of 0.25 is categorized as weak, 0.50 as moderate, and 0.75 as strong. Thus, the R^2 value for financial performance can be categorized as moderate, while cashless payment adoption falls into the weak category.

- Relationships between variables (Path Coefficients)
  a. Financial Literacy → Financial Performance ($\beta = 0.460$, positive and fairly strong)
  The t-statistic value of the financial literacy variable is 6.095, which is greater than 1.96. The p-value is 0.000, which is less than 0.05. With a path coefficient (original sample) of 0.460 (positive value), this means that financial literacy has a positive effect on improving the financial performance of MSMEs in Medan City; therefore, the H1 is accepted.
  b. Financial Inclusion → Financial Performance ($\beta = 0.041$, positive but weak)
  The t-statistic value of the financial inclusion variable is 0.419, which is less than 1.96. The p-value is 0.675, which is greater than 0.05. This means that financial inclusion does not have a significant effect on improving the financial performance of MSMEs in Medan City; therefore, the H2 is rejected.
  c. Digital Marketing Strategy → Financial Performance ($\beta = -0.041$, negative and weak)
  The t-statistic value of the digital marketing strategy variable is 0.411, which is less than 1.96. The p-value is 0.681, which is greater than 0.05. This means that the digital marketing strategy does not have a significant effect on improving the financial performance of MSMEs in Medan City; therefore, the H3 is rejected.
  d. Cashless Payment Adoption → Financial Performance ($\beta = 0.186$, positive and moderate)
  The t-statistic value of the cashless payment variable is 1.993, which is greater than 1.96. The p-value is 0.047, which is less than 0.05. With a path coefficient (original sample) of 0.186 (positive value), this indicates that the use of cashless payments positively affects on improving the financial performance of MSMEs in Medan City; therefore, the H4 is accepted.

3.2 Discussion

1. Finansial Literacy has a positive effect on Financial Performance (0.460). The research findings indicate that financial literacy has a positive and significant effect on the financial performance of MSMEs in Medan City. This means that the higher the entrepreneurs' understanding of financial management, transaction recording, cash flow management, budgeting, savings, and the utilization of credit, the better their financial performance will be. This finding is consistent with the theory stating that financial literacy is an essential foundation in business planning and control. With adequate financial literacy, MSME actors are able to make more rational business decisions, reduce the risk of losses, and increase efficiency in resource utilization. This also reinforces previous studies emphasizing that financial literacy plays an important role in maintaining the sustainability of small and medium-sized enterprises. A study in line with this result was conducted by [18], who showed that financial literacy contributes significantly to improving both individual and business financial performance. However, [19] found that among certain groups of MSMEs, financial literacy does not always have a direct impact on financial performance due to limitations in the application of managerial practices.

2. Financial Inclusion has a very small effect on Financial Performance (0.041). Although financial inclusion is recognized as important because it provides access to various formal financial services such as savings, credit, and insurance, the results of this study show that its effect on the financial performance of MSMEs is still weak. This may occur because, although many MSME actors already have access to formal financial institutions, they have not fully utilized them optimally to support business performance improvement. For instance, some MSMEs only have bank accounts for basic transactions but have not yet used other banking products such as microcredit (KUR) or working capital financing facilities. This condition illustrates that financial inclusion is indeed necessary, but its benefits for improving financial performance can only be realized if it is truly followed by the proper and effective use of financial services. These results are in line with the study of [20], who stated that financial inclusion does not always directly improve MSME performance because it is still influenced by financial literacy and business readiness. Conversely, [21] found that effective financial inclusion can significantly increase MSME profitability, thereby showing different results from the findings of this research.

3. Digital Marketing Strategy has a negative effect on Financial Performance (-0.041). The research findings indicate a negative, although not significant, relationship between digital marketing strategies and the financial performance of MSMEs. This may suggest that the digital marketing strategies implemented by MSMEs have not yet been effective in improving sales or profits. Several factors may explain this, including the limited knowledge and skills of MSME actors in managing digital advertisements, the relatively high costs of digital marketing compared to the outcomes achieved, as well as the inadequacy of targeting the right market segments. In other words, although digital marketing holds great potential to expand markets and enhance competitiveness, its implementation still encounters various technical and strategic challenges. These findings highlight the importance of providing training and assistance in digital marketing management so that MSMEs can utilize digital technology more effectively. [22] reported similar findings, noting that not all business actors are able to optimally leverage digital marketing, which can lead to less significant or even negative impacts. However, [23] found contrasting results, showing that well-planned digital marketing strategies can have a significantly positive effect on company financial performance.

4. Cashless Payment Adoption has a positive effect on Financial Performance (0.186). The use of cashless payment systems has been proven to have a positive effect on improving the financial performance of MSMEs, although with a moderate level of influence. This can be understood because cashless payments provide convenience in transactions, enhance the efficiency of financial record-keeping, and expand accessibility for customers who prefer digital payment methods. By adopting cashless payment systems, MSMEs can minimize errors in manual recording, accelerate cash flow, and increase consumer trust. In addition, the use of cashless payment also enables MSMEs to follow the growing trend of economic digitalization, thereby enhancing their competitiveness in the market. These findings are consistent with the study by [24], which demonstrated that the use of cashless payment improves transaction efficiency and consumer trust. However, [25] found that some MSMEs still face challenges in adopting cashless payment systems due to infrastructure limitations and low digital literacy, making the results inconsistent with the present research.

5. The R² value of Financial Performance is 0.318 (moderate category). This means the research model explains about one-third of the variance in MSMEs' financial performance, while the rest is influenced by other factors such as product innovation, human resource quality, managerial capacity strengthening, and market.

4 Conclusion

The SEM-PLS results indicate that Financial Literacy and Cashless Payment Adoption significantly enhance MSME Financial Performance, whereas Financial Inclusion and Digital Marketing Strategies show weaker effects. The R² value of 0.318 suggests that 31.8% of the variance in MSME performance can be explained by these factors. This highlights the importance of improving financial literacy, expanding financial inclusion, adopting effective digital marketing, and utilizing cashless payment systems to strengthen MSME performance.Acknowledgments. We would like to thank Universitas Negeri Medan for the funding support extended to this research

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