

AI-BASED MARKETING, DIGITAL LITERACY, AND SOCIAL MEDIA CAPABILITY AS PREDICTORS OF CREATIVE MSME PERFORMANCE IN MEDAN CITY

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ABSTRACT

The rapid development of digital technologies has transformed the way Micro, Small, and Medium Enterprises (MSMEs) create value, interact with customers, and compete in increasingly dynamic markets. Creative MSMEs, which depend heavily on innovation, market visibility, and customer engagement, require digital capabilities to improve their business performance. This study aims to examine the influence of AI-based marketing, digital literacy, and social media capabilities on the performance of creative MSMEs in Medan. This research employed a quantitative approach involving 85 creative MSME actors as respondents. Data were collected using a structured questionnaire with a five-point Likert scale and analyzed using Statistical Package for the Social Sciences (SPSS) version 25. The data analysis included validity testing, reliability testing, classical assumption testing, multiple linear regression analysis, t-test, F-test, and coefficient of determination analysis. The results indicate that AI-based marketing, digital literacy, and social media capabilities have positive and significant effects on creative MSME performance. Among these factors, digital literacy demonstrates the strongest contribution, indicating that entrepreneurs' ability to understand and utilize digital technologies plays a critical role in improving business outcomes. Furthermore, the regression model shows that the three digital capability factors simultaneously explain 57.6% of the variation in MSME performance. These findings highlight that successful digital transformation among creative MSMEs requires not only technology adoption but also the development of entrepreneurial digital competencies and effective social media management capabilities. This study provides practical implications for MSME owners and policymakers in designing strategies to strengthen digital competitiveness and sustainable business growth.

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A. INTRODUCTION

The rapid advancement of digital technology has fundamentally reshaped the competitive environment of business, particularly for Micro, Small, and Medium Enterprises (MSMEs). Within the digital economy, MSMEs are increasingly required to develop adaptive capabilities that enable them to respond effectively to evolving consumer behavior, market uncertainty, and technological disruption (Fitrayanto Nugraha et al., 2023; Indriastuti & Kartika, 2022). Creative MSMEs, which depend strongly on innovation, design, cultural resources, and customer engagement, face greater pressure to adopt digital strategies that enhance market visibility, strengthen customer relationships, and

improve business performance (Rosyidiana & Narsa, 2024; Suliswanto & Rofik, 2019). The integration of emerging digital technologies, particularly artificial intelligence (AI), digital literacy, and social media capabilities, has become a strategic approach for creative MSMEs to achieve sustainable competitiveness in increasingly dynamic markets (Haider Syed et al., 2020; Singhal et al., 2023).

Creative MSMEs play an important role in Indonesia's economic development by contributing to employment generation, local economic growth, and the creation of innovative products based on cultural and creative resources (Resmi et al., 2020; Zainuri et al., 2025). Despite their strategic contribution, many creative MSMEs continue to experience challenges related to limited technology adoption, insufficient digital competencies, and restricted access to broader markets. Many entrepreneurs still rely on traditional marketing approaches that limit customer reach and reduce promotional efficiency (Budi et al., 2023; Wulandari & Diko, 2024). These challenges have become more significant as consumer behavior increasingly shifts toward digital platforms, where businesses are expected to provide personalized experiences, interactive communication, and faster responses to market needs. Therefore, strengthening digital capabilities has become an essential requirement for creative MSMEs to remain competitive.

Among various technological developments, artificial intelligence-based marketing has emerged as an important innovation that can support MSME competitiveness. AI-based marketing enables businesses to process consumer data, identify market patterns, predict purchasing behavior, automate marketing activities, and develop more personalized communication strategies (Aripin et al., 2023; Irawan, 2020). For creative MSMEs with limited financial and human resources, AI technologies provide opportunities to improve marketing efficiency and enhance decision-making processes. Applications such as automated customer service, content generation, recommendation systems, and consumer analytics allow MSMEs to optimize customer engagement and strengthen their market position (Aripin et al., 2023; Sibuea et al., 2022). Thus, the ability to integrate AI into marketing practices represents an important strategic capability for MSMEs seeking improved business performance.

Beyond technological adoption, digital literacy represents a fundamental capability that determines the effectiveness of digital transformation among MSMEs. Digital literacy reflects the ability of entrepreneurs to access, understand, evaluate, and utilize digital technologies to support business activities. For MSME owners, adequate digital literacy influences their ability to select appropriate technological solutions, manage digital platforms, conduct online transactions, and utilize digital information for strategic decision-making (Arshad et al., 2022; Lin et al., 2023; Obinyan, 2021). Without sufficient digital knowledge and skills, technology adoption may not generate optimal outcomes because entrepreneurs may face difficulties in utilizing available digital resources effectively. Consequently, improving digital literacy among MSME actors is necessary to ensure that technological investments contribute positively to business development.

Social media capabilities have also become a critical factor influencing MSME performance in the contemporary business environment. Social media platforms provide accessible channels for marketing communication, customer interaction, brand development, and market expansion. This capability is particularly relevant for creative MSMEs because creative products often depend on visual storytelling, digital exposure, and community-based engagement. MSMEs with strong social media capabilities are better positioned to develop customer relationships, increase brand awareness, and create consumer loyalty (Aripin et al., 2023; Molle, 2021). However, the effectiveness of social media utilization depends on entrepreneurs' ability to manage digital content, understand audience behavior, and implement appropriate engagement strategies rather than merely maintaining an online presence.

Although previous studies have explored the relationship between digital transformation and business performance, several research gaps remain. First, existing studies frequently examine large organizations, while empirical evidence regarding digital capability development among creative MSMEs remains relatively limited. Second, previous research often investigates AI adoption, digital literacy, and social media utilization separately rather than examining their combined influence as integrated predictors of MSME performance. Third, research focusing on creative MSMEs in regional contexts, particularly in Medan, remains insufficient despite the city's growing creative economy potential.

Therefore, this study aims to examine the influence of artificial intelligence-based marketing, digital literacy, and social media capabilities on creative MSME performance. The findings are expected to contribute to the theoretical understanding of digital transformation in MSMEs and provide practical insights for entrepreneurs, policymakers, and business development institutions in strengthening MSME competitiveness within the digital economy.

B. LITERATURE REVIEW

1. AI-Based Marketing

Artificial intelligence (AI)-based marketing refers to the application of AI technologies to analyze consumer data, improve decision-making, and enhance marketing effectiveness through tools such as predictive analytics, automation, and personalized communication. For MSMEs, AI-based marketing provides strategic advantages by improving customer targeting, reducing marketing inefficiencies, and supporting data-driven decisions despite limited resources (Haleem et al., 2022; Kumar et al., 2023). This capability is particularly relevant for creative MSMEs that rely on customer engagement, innovation, and market visibility. Based on the resource-based view (RBV), AI-based marketing represents a valuable technological capability that can strengthen competitive advantage and improve business performance (Haleem et al., 2022; Kumar et al., 2023). Therefore, AI-based marketing is expected to positively influence the performance of creative MSMEs.

H1: AI-based marketing has a positive and significant effect on the performance of creative MSMEs.

2. Digital Literacy

Digital literacy refers to the ability of individuals or organizations to access, understand, evaluate, and effectively utilize digital technologies for business activities. In the context of MSMEs, digital literacy includes not only technical skills but also the capability to use digital platforms for operations, marketing, communication, and strategic decision-making (Dura & Hamdani, 2024; Efendi et al., 2023). Entrepreneurs with higher digital literacy are more capable of adopting technological innovations, utilizing digital resources, and responding to changing market conditions. For creative MSMEs, digital literacy supports innovation, expands market access, and improves operational effectiveness. Based on the technology acceptance perspective, greater digital knowledge and confidence encourage technology utilization, which ultimately contributes to improved MSME performance (Frimpong et al., 2022; Zahoor et al., 2023). Therefore, digital literacy is expected to positively influence the performance of creative MSMEs.

H2: Digital literacy has a positive and significant effect on the performance of creative MSMEs.

3. Social Media Capabilities

Social media capabilities refer to the ability of organizations to effectively utilize social media platforms for marketing, customer interaction, brand development, and business growth. For creative MSMEs, these capabilities are particularly important because creative products require visual communication, storytelling, and continuous engagement with consumers (Kane, 2015). Strong social media capabilities enable entrepreneurs to manage digital content, understand customer responses, expand market reach, and transform online interactions into strategic business resources (Aripin et al., 2023; Molle, 2021). Based on the dynamic capability perspective, social media capabilities allow MSMEs to adapt to market changes, identify consumer opportunities, and improve competitiveness. Therefore, social media capabilities are expected to positively influence the performance of creative MSMEs.

H3: Social media capabilities have a positive and significant effect on the performance of creative MSMEs.

4. MSME Performance

MSME performance refers to the extent to which businesses achieve their strategic and operational objectives through financial and non-financial outcomes, including sales growth, profitability, market expansion, customer satisfaction, and competitiveness. For creative MSMEs, performance is not only determined by financial results but also

by innovation capability, customer relationships, and brand development (Pandya et al., 2023; Simanjuntak & Pasaribu, 2023). Based on the resource-based view (RBV), business performance is influenced by the ability of organizations to develop and utilize valuable resources and capabilities. In this context, digital capabilities such as AI-based marketing, digital literacy, and social media capabilities represent strategic resources that can improve operational efficiency, expand market opportunities, and strengthen competitive advantage (Antoni et al., 2024; Pratikto, 2023). Therefore, effective digital transformation is considered an important factor in enhancing the performance and sustainability of creative MSMEs.

C. RESEARCH METHOD

This study employed a quantitative research approach to examine the influence of AI-based marketing, digital literacy, and social media capabilities on the performance of creative Micro, Small, and Medium Enterprises (MSMEs) in Medan. The quantitative approach was selected because this research aims to test relationships among variables through statistical measurement and hypothesis testing. An explanatory research design was applied to identify causal relationships between the independent variables, namely AI-based marketing (X1), digital literacy (X2), and social media capabilities (X3), and the dependent variable, creative MSME performance (Y). The research framework was developed based on the resource-based view (RBV), which emphasizes that valuable organizational resources and capabilities can generate competitive advantages and improve business outcomes.

The population of this study consisted of creative MSME actors operating in Medan, Indonesia. The sampling technique used was purposive sampling, with respondents selected based on specific criteria, including business owners or managers of creative MSMEs located in Medan, businesses operating for at least one year, MSMEs utilizing digital platforms such as social media, online marketplaces, or digital marketing tools, and respondents who understand their business operations and marketing activities. A total of 85 respondents participated in this study. Primary data were collected through a structured questionnaire using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was developed based on previous studies related to digital transformation, AI-based marketing, digital literacy, social media capabilities, and MSME performance to measure respondents' perceptions regarding the implementation of digital capabilities and their impact on business performance.

Table 1. Research Variables and Indicators

Variable	Definition	Indicators
AI-Based Marketing (X1)	The utilization of artificial intelligence technologies to support marketing activities through automation, data analysis, and personalized customer interaction (Haleem et al., 2022; Kumar et al., 2023).	1. Use of AI-based marketing tools 2. Customer data analysis capability 3. Marketing personalization 4. Marketing automation effectiveness
Digital Literacy (X2)	The ability of MSME actors to access, understand, evaluate, and utilize digital technologies for business purposes (Dura & Hamdani, 2024; Efendi et al., 2023).	1. Digital technology knowledge 2. Ability to use digital applications 3. Ability to evaluate digital information 4. Ability to utilize digital resources for business development
Social Media Capabilities (X3)	The ability of businesses to manage and utilize social media platforms for marketing communication, customer engagement, and market development (Aripin et al., 2023; Molle, 2021).	1. Social media content management 2. Customer interaction capability 3. Social media marketing strategy 4. Social media performance monitoring
MSME Performance (Y)	The achievement level of MSMEs in relation to business growth, market competitiveness, and operational outcomes (Dewi et al., 2023; Fitrayanto Nugraha et al., 2023).	1. Sales growth improvement 2. Customer growth 3. Market expansion 4. Business competitiveness improvement

The collected data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25 through several statistical procedures to ensure the accuracy and reliability of the research findings (Ghozali, 2018). The analysis

included validity testing using the Pearson Product Moment correlation method to assess whether questionnaire items accurately measured each variable, and reliability testing using Cronbach's Alpha with a threshold value of 0.70 to evaluate measurement consistency. Classical assumption tests, including normality, multicollinearity, and heteroscedasticity tests, were conducted to ensure that the regression model met statistical requirements. Multiple linear regression analysis was applied to examine the influence of AI-based marketing, digital literacy, and social media capabilities on creative MSME performance. Hypothesis testing was performed through partial t-tests to evaluate the effect of each independent variable, simultaneous F-tests to determine the collective influence of all independent variables, and coefficient of determination (R^2) analysis to measure the explanatory power of the regression model in explaining variations in MSME performance.

D. RESULTS AND DISCUSSION

1. Respondent Characteristics

This study involved 85 respondents who were creative MSME owners or managers operating in Medan. The characteristics of respondents were analyzed based on gender, age, education level, business sector, and length of business operation. The demographic profile provides an overview of the background diversity of respondents involved in this research.

Table 2. Characteristics of Respondents

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	42	49.4
	Female	43	50.6
Age	< 25 years	12	14.1
	25–35 years	38	44.7
	36–45 years	24	28.2
	>45 years	11	12.9
Education Level	High School	18	21.2
	Diploma	15	17.6
	Bachelor Degree	45	52.9
	Master Degree	7	8.2
Business Sector	Culinary	28	32.9
	Fashion	17	20.0
	Craft and Creative Products	21	24.7
	Digital Creative Services	19	22.4
Business Age	1–3 years	31	36.5
	4–6 years	29	34.1
	>6 years	25	29.4

Source: Data Processed by Author, 2026

Table 2 presents the characteristics of the respondents involved in this study. A total of 85 creative MSME actors participated, consisting of 42 male respondents (49.4%) and 43 female respondents (50.6%), indicating a relatively balanced gender distribution. Based on age, most respondents were between 25–35 years old (44.7%), followed by those aged 36–45 years (28.2%), below 25 years (14.1%), and above 45 years (12.9%). Regarding educational background, the majority of respondents held a Bachelor's degree (52.9%), followed by high school education (21.2%), diploma education (17.6%), and master's degree holders (8.2%). In terms of business sector, culinary businesses represented the largest proportion (32.9%), followed by craft and creative products (24.7%), digital creative services (22.4%), and fashion businesses (20.0%). Furthermore, based on business age, most MSMEs had operated for 1–3 years (36.5%), followed by 4–6 years (34.1%) and more than 6 years (29.4%). These characteristics indicate that the respondents represent diverse creative MSME backgrounds, providing relevant perspectives for examining the role of digital capabilities in improving business performance.

2. Descriptive Statistics

Descriptive statistical analysis was conducted to identify the characteristics and distribution of each research variable based on the minimum value, maximum value, mean, and standard deviation. The results show that all variables obtained relatively high mean values above 4.00, indicating that respondents generally perceived digital capabilities and MSME performance positively. AI-based marketing (X1) obtained a mean value of 4.12 with a standard deviation of 0.58, digital literacy (X2) achieved the highest mean value of 4.25 with a standard deviation of 0.55, social media capabilities (X3) recorded a mean value of 4.18 with a standard deviation of 0.61, while MSME performance (Y) obtained a mean value of 4.21 with a standard deviation of 0.57. These findings indicate that creative MSME actors in Medan demonstrate strong digital literacy, effective utilization of social media capabilities, and positive perceptions regarding the contribution of digital capabilities to improving business performance. The relatively low standard deviation values suggest that respondents' responses were relatively consistent across all variables.

3. Validity Test

The validity test was conducted using Pearson Product Moment correlation analysis. The questionnaire items were considered valid when the correlation coefficient (r-value) exceeded the r-table value of 0.213 ($n=85$, $\alpha=0.05$).

Table 3. Validity Test Results

Variable	Item	Correlation Value	Significance	Result
AI-Based Marketing	X1.1	0.742	0.000	Valid
	X1.2	0.781	0.000	Valid
	X1.3	0.816	0.000	Valid
	X1.4	0.759	0.000	Valid
Digital Literacy	X2.1	0.735	0.000	Valid
	X2.2	0.792	0.000	Valid
	X2.3	0.804	0.000	Valid
	X2.4	0.768	0.000	Valid
Social Media Capabilities	X3.1	0.781	0.000	Valid
	X3.2	0.823	0.000	Valid
	X3.3	0.796	0.000	Valid
	X3.4	0.754	0.000	Valid
MSME Performance	Y1	0.812	0.000	Valid
	Y2	0.785	0.000	Valid
	Y3	0.836	0.000	Valid
	Y4	0.801	0.000	Valid

Source: SPSS 25 Output, Processed by Author, 2026

Table 3 presents the validity test results for all research variables using the Pearson Product Moment correlation method. The results indicate that all questionnaire items for AI-based marketing, digital literacy, social media capabilities, and MSME performance have correlation values exceeding the minimum required threshold and significance values of 0.000 (<0.05). The correlation values for AI-based marketing items (X1.1–X1.4) ranged from 0.742 to 0.816, digital literacy items (X2.1–X2.4) ranged from 0.735 to 0.804, social media capabilities items (X3.1–X3.4) ranged from 0.754 to 0.823, and MSME performance items (Y1–Y4) ranged from 0.785 to 0.836. These findings confirm that all measurement items are valid and accurately represent their respective constructs, indicating that the questionnaire is appropriate for further statistical analysis.

4. Reliability Test

Reliability analysis was conducted using Cronbach's Alpha coefficient. A variable is considered reliable when the Cronbach's Alpha value exceeds 0.70.

Table 4. Reliability Test Results

Variable	Cronbach's Alpha	Standard	Result
AI-Based Marketing	0.812	0.70	Reliable
Digital Literacy	0.826	0.70	Reliable
Social Media Capabilities	0.839	0.70	Reliable
MSME Performance	0.851	0.70	Reliable

Source: SPSS 25 Output, Processed by Author, 2026

Table 4 presents the reliability test results for each research variable using Cronbach's Alpha coefficient. The findings indicate that all variables have Cronbach's Alpha values above the recommended standard of 0.70, demonstrating acceptable internal consistency among the measurement items. AI-based marketing obtained a Cronbach's Alpha value of 0.812, digital literacy recorded 0.826, social media capabilities achieved 0.839, and MSME performance obtained the highest value of 0.851. These results confirm that all research instruments are reliable and consistently measure the intended constructs, allowing the variables to be used for further statistical analysis.

5. Classical Assumption Test

5.1 Normality Test

The normality test was conducted using the Kolmogorov-Smirnov test to determine whether the residual values in the regression model follow a normal distribution. The test results show that the Kolmogorov-Smirnov Z value was 0.821 with an Asymp. Sig. (2-tailed) value of 0.511. Since the significance value of 0.511 is greater than 0.05, the residual data are considered normally distributed. These results indicate that the regression model satisfies the normality assumption and is appropriate for further statistical analysis.

5.2 Multicollinearity Test

Table 5. Multicollinearity Test Results

Variable	Tolerance	VIF	Result
AI-Based Marketing	0.641	1.560	No Multicollinearity
Digital Literacy	0.587	1.704	No Multicollinearity
Social Media Capabilities	0.612	1.634	No Multicollinearity

Source: SPSS 25 Output, Processed by Author, 2026

Table 5 presents the results of the multicollinearity test conducted to identify potential correlations among the independent variables in the regression model. The findings indicate that all independent variables have tolerance values greater than 0.10 and VIF values below 10, suggesting that the model is free from multicollinearity issues. AI-based marketing obtained a tolerance value of 0.641 and VIF value of 1.560, digital literacy recorded a tolerance value of 0.587 and VIF value of 1.704, while social media capabilities showed a tolerance value of 0.612 and VIF value of 1.634. These results confirm that the independent variables do not have excessive correlations with each other, allowing the regression analysis to be conducted reliably.

5.3 Heteroscedasticity Test

The Glejser test was used to examine heteroscedasticity.

Table 6. Heteroscedasticity Test Results

Variable	Significance	Result
AI-Based Marketing	0.482	No Heteroscedasticity
Digital Literacy	0.631	No Heteroscedasticity
Social Media Capabilities	0.557	No Heteroscedasticity

Source: SPSS 25 Output, Processed by Author, 2026

Table 6 presents the results of the heteroscedasticity test conducted to determine whether the regression model has unequal residual variances across observations. The findings show that all independent variables have significance values greater than 0.05, indicating that the model does not experience heteroscedasticity problems. AI-based marketing obtained a significance value of 0.482, digital literacy recorded 0.631, and social media capabilities showed 0.557. These results indicate that the residual variance remains relatively constant, confirming that the regression model meets the assumption of homoscedasticity and is suitable for further analysis.

6. Multiple Linear Regression Analysis

Multiple regression analysis was performed to determine the influence of AI-based marketing, digital literacy, and social media capabilities on creative MSME performance.

Table 7. Regression Analysis Results

Variable	Regression Coefficient (β)	t-value	Sig.
Constant	0.842	2.314	0.023
AI-Based Marketing (X1)	0.286	3.421	0.001
Digital Literacy (X2)	0.318	3.875	0.000
Social Media Capabilities (X3)	0.274	3.206	0.002

Source: SPSS 25 Output, Processed by Author, 2026

Based on the regression analysis, the regression equation obtained is $Y = 0.842 + 0.286X_1 + 0.318X_2 + 0.274X_3 + e$. The results indicate that all independent variables have positive coefficients, meaning that increases in AI-based marketing, digital literacy, and social media capabilities are associated with improvements in creative MSME performance. Digital literacy shows the strongest influence with a regression coefficient of 0.318, followed by AI-based marketing with 0.286 and social media capabilities with 0.274. Furthermore, hypothesis testing results confirm that all proposed hypotheses are accepted. AI-based marketing has a significant positive effect on MSME performance ($t = 3.421$; $p = 0.001$), digital literacy has the strongest significant positive effect ($t = 3.875$; $p = 0.000$), and social media capabilities also significantly influence MSME performance ($t = 3.206$; $p = 0.002$). These findings demonstrate that digital capabilities play an important role in enhancing the performance and competitiveness of creative MSMEs in Medan.

7. Simultaneous Test and Coefficient of Determination

Table 8. F-Test and R^2 Results

Analysis	Value
F-value	38.624
Sig. F	0.000
R Square	0.591
Adjusted R Square	0.576

Source: SPSS 25 Output, Processed by Author, 2026

The F-test results show a significance value of 0.000, indicating that AI-based marketing, digital literacy, and social media capabilities simultaneously have a significant influence on creative MSME performance. Furthermore, the adjusted R^2 value of 0.576 indicates that the research model explains 57.6% of the variation in MSME performance through the three independent variables, while the remaining 42.4% is influenced by other factors not included in this study. These findings demonstrate that digital capabilities collectively provide substantial explanatory power in understanding the performance improvement of creative MSMEs.

8. Discussion

The findings demonstrate that AI-based marketing has a positive and significant effect on creative MSME performance ($\beta = 0.286$; $p = 0.001$). This result indicates that the utilization of AI-supported marketing activities

contributes to improved business outcomes by enabling entrepreneurs to analyze customer preferences, develop personalized promotional strategies, and increase marketing efficiency. For creative MSMEs, AI provides valuable support in managing digital content, identifying consumer trends, and optimizing communication strategies to reach targeted markets more effectively. These findings support the resource-based view (RBV), which emphasizes that technological capabilities can serve as strategic resources that strengthen competitive advantage and enhance organizational performance (Ratanavanich & Charoensukmongkol, 2024; Titova & Sloka, 2022).

Digital literacy shows the strongest influence on creative MSME performance ($\beta = 0.318$; $p = 0.000$), indicating that entrepreneurs' ability to understand and utilize digital technologies represents an essential factor in achieving business success. MSME actors with higher digital literacy are better able to adopt digital marketing tools, utilize online payment systems, access market information, and develop technology-based business strategies. This finding highlights that digital transformation effectiveness depends not only on technology availability but also on the capability of entrepreneurs to utilize digital resources strategically (Dura & Hamdani, 2024; Efendi et al., 2023). Therefore, digital literacy functions as a fundamental capability that enables creative MSMEs to maximize opportunities in the digital economy.

The results also indicate that social media capabilities have a positive and significant influence on creative MSME performance ($\beta = 0.274$; $p = 0.002$). This finding confirms that effective social media utilization contributes to increased market visibility, stronger customer relationships, and business growth. For creative MSMEs, social media platforms provide important channels for visual promotion, storytelling, and direct consumer interaction, which are essential for building brand recognition. MSMEs that develop strategic social media capabilities are more capable of expanding their market reach, improving customer engagement, and creating sustainable competitive advantages in dynamic business environments.

E. CONCLUSION

This study examined the influence of AI-based marketing, digital literacy, and social media capabilities on the performance of creative MSMEs in Medan. The findings reveal that AI-based marketing has a positive and significant effect on MSME performance, indicating that the use of artificial intelligence technologies in customer analysis, personalized promotion, and marketing automation can enhance business effectiveness and competitiveness. Digital literacy demonstrates the strongest influence among the examined variables, confirming that entrepreneurs' ability to understand and utilize digital technologies is a fundamental capability for accessing market information, adopting digital platforms, and implementing technology-based strategies. Furthermore, social media capabilities significantly contribute to MSME performance by improving customer interaction, brand awareness, market expansion, and consumer relationships. The simultaneous test shows that these three digital capabilities collectively explain 57.6% of the variation in creative MSME performance, while the remaining 42.4% is influenced by other factors outside the research model, such as financial capability, innovation capability, entrepreneurial orientation, business networks, and market conditions. Theoretically, this study contributes to the understanding of digital transformation by demonstrating that digital capabilities can function as strategic resources that enhance MSME performance. Practically, the findings suggest that MSME actors should strengthen digital competencies, adopt relevant AI-based marketing solutions, and optimize social media strategies, while policymakers and business development institutions should provide digital training and technological support. Future studies are encouraged to incorporate additional variables and broader samples across different regions to improve the generalizability of findings.

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