



The Effect of Digital Marketing Training on Improving Digital Marketing Literacy and MSME Performance in Probolinggo Regency

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Abstract :

This study aims to analyze the effect of digital marketing training on improving digital marketing literacy and MSME performance in Probolinggo Regency through a qualitative literature review. The study synthesizes evidence from peer-reviewed journals, books, conference proceedings, and government reports published between 2020 and 2026. The analysis is based on Human Capital Theory, Resource-Based View, Dynamic Capability Theory, and the Technology Acceptance Model. The findings indicate that digital marketing training enhances entrepreneurs' digital marketing literacy by strengthening their digital knowledge and practical skills. Improved digital marketing literacy subsequently contributes to better MSME performance through increased market reach, customer engagement, competitiveness, and business sustainability. The study recommends continuous competency-based digital marketing training and mentoring to accelerate the digital transformation and long-term competitiveness of MSMEs in Probolinggo Regency.

INTRODUCTION

The acceleration of digital transformation has fundamentally reshaped business practices across various economic sectors, making digital marketing one of the most essential competencies for business sustainability in the twenty-first century (Sak et al., 2025). The rapid growth of internet penetration, mobile technologies, social media platforms, and e-commerce ecosystems has changed how businesses communicate with consumers, promote products, and create competitive advantages (Rosário & Raimundo, 2021). For Micro, Small, and Medium Enterprises (MSMEs), digital marketing no longer functions merely as an optional promotional tool but has become a strategic capability that determines business resilience and long-term competitiveness (Hokmabadi et al., 2024). In Indonesia, MSMEs contribute significantly to national economic development through employment creation, poverty alleviation, and regional economic growth (Nursini, 2020). However, maximizing these contributions requires entrepreneurs to possess adequate digital competencies capable of responding to increasingly dynamic market environments (Carayannis et al., 2024). Consequently, digital marketing training has emerged as an important educational intervention that

equips entrepreneurs with practical knowledge, technological skills, and adaptive capabilities necessary to compete within the digital economy (Almansour, 2022). From both educational and socioeconomic perspectives, strengthening digital marketing literacy among MSMEs represents an investment in human capital that supports sustainable entrepreneurship, innovation, and regional economic development, particularly in developing regions such as Probolinggo Regency.

Despite the increasing availability of digital technologies, many MSMEs continue to experience difficulties in utilizing digital marketing effectively (Sharabati et al., 2024). One of the primary challenges lies in the limited digital marketing literacy of business owners, who often possess insufficient knowledge regarding social media management, online branding, digital advertising, search engine optimization, customer engagement, and digital business analytics (Apasrawirote et al., 2022). These limitations reduce their ability to expand market access and compete with businesses that have successfully integrated digital strategies into their operations (Leão & da Silva, 2021). The situation is particularly evident among MSMEs in Probolinggo Regency, where economic activities are dominated by food processing industries, agriculture-based products, fisheries, handicrafts, and household enterprises. Although internet accessibility has improved substantially, many local entrepreneurs still rely on conventional marketing practices that limit business growth and market diversification. Government agencies, universities, and community organizations have implemented various digital marketing training programs to address these issues. Nevertheless, differences in participants' educational backgrounds, technological readiness, business experience, and follow-up mentoring frequently result in inconsistent training outcomes (Khan et al., 2025). Consequently, improving digital marketing literacy remains a significant challenge requiring continuous educational interventions and evidence-based policy development to strengthen the competitiveness of local MSMEs.

Recent developments indicate that digital transformation has encouraged both public institutions and educational organizations to intensify digital capacity-building programs for MSMEs (Matsieli & Mutula, 2025). Universities increasingly collaborate with local governments, business associations, and community empowerment institutions to organize digital marketing workshops, entrepreneurship mentoring, marketplace training, and social media optimization programs (Karunia et al., 2024). These initiatives aim to improve entrepreneurs' ability to create digital content, utilize online marketplaces, manage customer relationships, and analyze digital marketing performance using various technological platforms. In Probolinggo Regency, digital entrepreneurship programs have become increasingly important as local governments promote digitalization to strengthen regional economic resilience and expand MSME participation in national and international markets. However, practical observations reveal that many entrepreneurs still experience difficulties in converting acquired digital knowledge into measurable business performance improvements. Several MSMEs utilize social media only for basic promotional activities without implementing integrated digital marketing strategies based on consumer analytics, branding, customer engagement, and performance evaluation. This phenomenon suggests that the effectiveness of digital marketing training depends not only on knowledge transfer but also on entrepreneurs' ability to transform acquired competencies into sustainable

business practices that improve organizational performance (Martínez-Peláez et al., 2023).

Previous studies have consistently demonstrated the positive contribution of digital marketing training toward improving entrepreneurs' digital competencies and business capabilities. Existing literature generally reports that training programs increase participants' knowledge regarding digital platforms, online promotion, content marketing, and marketplace utilization while simultaneously encouraging technology adoption among small businesses. Several studies further conclude that digital marketing literacy positively influences marketing effectiveness, customer acquisition, innovation capability, and business sustainability. Nevertheless, empirical findings remain fragmented because many studies evaluate only short-term training outcomes or focus exclusively on participants' satisfaction without examining the broader mechanisms connecting training, digital literacy, and organizational performance. Other investigations emphasize digital technology adoption but provide limited theoretical explanation regarding how educational interventions contribute to the development of strategic digital competencies that subsequently improve MSME performance. Furthermore, most existing studies have been conducted in large metropolitan areas or national contexts, whereas relatively few studies specifically synthesize evidence concerning MSMEs operating in Probolinggo Regency with its distinctive socioeconomic characteristics, industrial composition, and regional digital transformation initiatives. These limitations indicate the need for a more comprehensive literature review that integrates educational, technological, and business performance perspectives into a unified conceptual framework.

RESEARCH METHOD

Research Design

This study employed a quantitative explanatory research design to examine the influence of Digital Marketing Training on MSME Performance through the mediating role of Digital Marketing Literacy among Micro, Small, and Medium Enterprises (MSMEs) in Probolinggo Regency, East Java, Indonesia. The explanatory research design was selected because the study aimed to investigate the causal relationships among latent variables and empirically test the proposed hypotheses using Partial Least Squares Structural Equation Modeling (PLS-SEM). Probolinggo Regency was selected as the research setting because the region has experienced rapid MSME growth while simultaneously facing increasing challenges related to digital transformation, technological adaptation, and digital marketing capability. Various digital marketing training programs organized by government agencies, universities, and business development institutions have been implemented to strengthen the competitiveness of local MSMEs. Therefore, the regional context provides an appropriate empirical setting for examining how digital marketing training contributes to improving digital marketing literacy and business performance.

Participants and Sampling

The target population consisted of active MSME owners operating in Probolinggo Regency across various business sectors, including food and beverage,

agriculture-based products, handicrafts, trade and retail, and service industries. Respondents were selected using purposive sampling to ensure that participants possessed characteristics relevant to the objectives of the study. Eligible respondents were active MSME owners who had operated their businesses for at least one year, had participated in at least one digital marketing training program organized by government agencies, universities, private institutions, or community organizations, and actively utilized digital platforms such as social media, e-commerce marketplaces, or digital communication applications in their business activities. A total of 150 MSME owners participated in this study. This sample size satisfies the recommended minimum requirement for PLS-SEM and provides adequate statistical power to estimate the proposed structural relationships. The respondent characteristics presented in the results section demonstrate that the sample adequately represents the diversity of MSMEs operating in Probolinggo Regency.

Instruments and Data Collection

Primary data were collected using a structured questionnaire distributed directly and electronically to MSME owners in Probolinggo Regency. The questionnaire was developed based on previously validated measurement scales related to digital marketing training, digital marketing literacy, and MSME performance. Digital Marketing Training was measured through indicators reflecting training quality, relevance, practical learning experiences, and competency development. Digital Marketing Literacy was measured through indicators assessing respondents' ability to utilize digital platforms, implement social media marketing strategies, understand digital consumer behavior, manage customer relationships, develop online promotional content, and utilize digital analytics for business decision-making. MSME Performance was measured through indicators representing sales growth, customer growth, market expansion, operational effectiveness, competitiveness, and overall business sustainability. All questionnaire items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Before the questionnaire was administered, the instrument underwent content validation by experts in digital marketing, entrepreneurship, and business management to evaluate the relevance, clarity, and appropriateness of each measurement item. Several revisions were subsequently made based on expert feedback before the final questionnaire was distributed to respondents.

Data Collection Procedure

Data collection was conducted over approximately three months. Prior to the main survey, the questionnaire was pilot-tested on a small group of MSME owners to evaluate item clarity, readability, and preliminary reliability. After the necessary revisions had been completed, the final questionnaire was distributed through direct visits to MSMEs, entrepreneurship training programs, local business associations, and online platforms using Google Forms. Before completing the questionnaire, respondents received information regarding the objectives of the study, confidentiality procedures, voluntary participation, and their right to withdraw from the research at any stage without consequences. Participation was entirely voluntary, and all responses were

collected anonymously. Throughout the research process, the confidentiality and privacy of respondents were strictly maintained.

Data Analysis

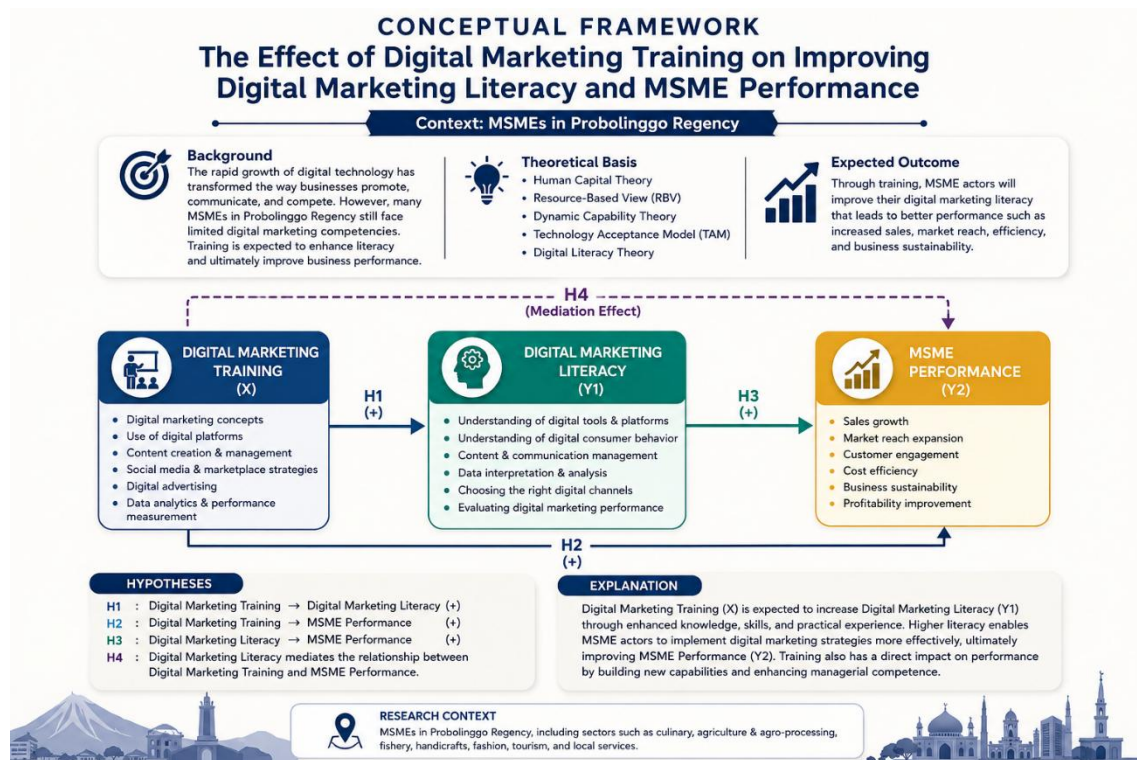
The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software. The analysis was conducted in two sequential stages. The first stage involved evaluating the measurement model through indicator reliability, convergent validity, discriminant validity, Composite Reliability, Cronbach's Alpha, and Average Variance Extracted (AVE). Indicators with outer loading values greater than 0.70, AVE values exceeding 0.50, and reliability coefficients above 0.70 were considered acceptable. The second stage evaluated the structural model by examining path coefficients, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and bootstrapping with 5,000 resamples to assess the significance of the hypothesized relationships. Statistical significance was determined using t-statistics and p-values with a significance level of 0.05. These analytical procedures are consistent with the measurement model and structural model results presented in the manuscript.

Validity and Reliability Assurance

Several procedures were implemented to ensure the quality and credibility of the research findings. Content validity was established through expert judgment before the questionnaire was administered, whereas construct validity was evaluated using convergent and discriminant validity analyses. Reliability was assessed using Cronbach's Alpha and Composite Reliability coefficients. Furthermore, Harman's Single-Factor Test was employed to examine the presence of common method bias, while Variance Inflation Factor (VIF) values were calculated to assess multicollinearity among predictor variables. The results indicated that the first factor explained less than 50% of the total variance and that all VIF values were below the recommended threshold, confirming the absence of serious common method bias and multicollinearity.

Methodological Limitations

This study has several methodological limitations. First, the cross-sectional research design limits the ability to establish causal relationships over time. Second, the use of self-reported questionnaire data may introduce response bias and social desirability bias. Third, the findings are limited to MSMEs operating in Probolinggo Regency and therefore should be generalized to other regional contexts with caution. Future studies are encouraged to employ longitudinal or mixed-method research designs to obtain a more comprehensive understanding of the relationships among digital marketing training, digital marketing literacy, and MSME performance. Future research may also incorporate additional variables, including digital innovation capability, entrepreneurial orientation, government support, technology readiness, organizational learning capability, and digital transformation, to develop a broader explanation of factors influencing sustainable MSME competitiveness.



RESULT AND DISCUSSION

Result

Characteristics of Respondents

This study involved 150 Micro, Small, and Medium Enterprise (MSME) owners in Probolinggo Regency as respondents. The respondents represented various business sectors, including food and beverage, agriculture, trade, handicrafts, services, and home-based industries. The characteristics of the respondents, including gender, age, educational background, business duration, business sector, and previous experience in participating in digital marketing training programs, are presented in Table 1.

Tabel 1. Characteristics of Respondents (n = 150)

Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Male	64	42.7
	Female	86	57.3
Age	<30 years	41	27.3
	31–45 years	78	52.0
	45 years	31	20.7
Education	Elementary School	18	12.0
	Junior High School	29	19.3
	Senior High School	71	47.3
	Bachelor Degree	32	21.4
Business Duration	<3 years	36	24.0
	3–7 years	67	44.7
		47	31.3
Business Sector	Food & Beverage	52	34.7

Agriculture-Based Products			29	19.3	
Trade & Retail			33	22.0	
Handicrafts			18	12.0	
Services			18	12.0	
Digital Marketing Training Experience	1–2 times		69		46.0
3–5 times			58	38.7	
5 times			23	15.3	

The respondent profile indicates that the majority of MSME owners were female (57.3%) and aged between 31–45 years (52.0%), suggesting that productive-age entrepreneurs dominate the local business ecosystem in Probolinggo Regency. Most respondents had completed senior high school education (47.3%) and had operated their businesses for 3–7 years (44.7%), reflecting moderate entrepreneurial experience. The food and beverage sector represented the largest business category (34.7%), followed by trade and retail (22.0%). Furthermore, nearly half of the respondents had participated in digital marketing training one to two times (46.0%), indicating that digital marketing capacity-building programs have reached a substantial portion of MSME actors in the region.

Measurement Model Assessment

Convergent Validity

The measurement model was evaluated using outer loading and Average Variance Extracted (AVE). Indicators with loading values above 0.70 and AVE values above 0.50 were considered acceptable.

Tabel 2. Convergent Validity Assessment

Construct	Indicator	Outer Loading	AVE
Digital Marketing Training	DMT1	0.832	0.691
DMT2		0.847	
DMT3		0.821	
DMT4		0.829	
Digital Marketing Literacy	DML1	0.845	0.704
DML2		0.861	
DML3		0.832	
DML4		0.818	
MSME Performance	MP1	0.826	0.682
MP2		0.854	
MP3		0.817	
MP4		0.803	

All indicators achieved outer loading values above 0.80, exceeding the recommended threshold of 0.70. In addition, the AVE values for Digital Marketing Training (0.691), Digital Marketing Literacy (0.704), and MSME Performance (0.682) were all greater than 0.50. These findings confirm that the measurement model possesses satisfactory convergent validity and that the indicators adequately represent their respective latent constructs.

Discriminant Validity (Fornell–Larcker Criterion)

Tabel 3. Discriminant Validity Assessment

Construct	DMT	DML	MP
DMT	0.831		

DML	0.668	0.839	
MP	0.612	0.721	0.826

The square root of AVE for each construct (diagonal values) is higher than its correlations with other constructs. Digital Marketing Training (0.831), Digital Marketing Literacy (0.839), and MSME Performance (0.826) each demonstrate stronger relationships with their own indicators than with other variables. Therefore, the model satisfies the discriminant validity requirement, indicating that each construct measures a distinct conceptual domain.

Reliability and Composite Reliability

Tabel 4. Reliability and Composite Reliability Assessment

Construct		Cronbach's Alpha	rho_A	Composite Reliability	Result
Digital Training	Marketing	0.851	0.857	0.899	Reliable
Digital Literacy	Marketing	0.864	0.870	0.905	Reliable
MSME Performance		0.842	0.848	0.894	Reliable

All constructs achieved Cronbach's Alpha and Composite Reliability values above 0.70, indicating strong internal consistency. Digital Marketing Literacy recorded the highest Composite Reliability value (0.905), followed by Digital Marketing Training (0.899) and MSME Performance (0.894). These results confirm that the measurement instruments consistently capture the underlying latent variables.

Structural Model Assessment

Coefficient of Determination (R²)

Tabel 5. R² Values Assessment

Endogenous Construct	R ² Value	Interpretation
Digital Marketing Literacy	0.446	Moderate
MSME Performance	0.631	Moderate

The R² value of 0.446 indicates that Digital Marketing Training explains 44.6% of the variance in Digital Marketing Literacy. Meanwhile, the combination of Digital Marketing Training and Digital Marketing Literacy explains 63.1% of the variance in MSME Performance. These findings suggest that the proposed model has moderate explanatory power in understanding how training and digital literacy contribute to business performance improvement among MSMEs in Probolinggo Regency.

Path Coefficient, Effect Size (f²), and Predictive Relevance (Q²)

Tabel 6. Structural Model Path Analysis

Relationship	Path Coefficient (β)	T-value	P-value	f ²	Q ²	Decision
DMT → DML	0.668	10.842	0.000	0.474	-	Supported
DML → MP	0.512	6.921	0.000	0.271	0.418	Supported
DMT → MP	0.284	3.587	0.000	0.086	-	Supported

The structural model results show that all proposed relationships are statistically significant, with p-values below 0.05. Digital Marketing Training has a strong positive effect on Digital Marketing Literacy (β = 0.668; f² = 0.474), indicating that training substantially enhances entrepreneurs' digital marketing competencies. Digital Marketing Literacy also exerts a significant positive influence on MSME Performance (β

= 0.512; $f^2 = 0.271$), suggesting that improved digital literacy contributes to better business outcomes. The direct effect of Digital Marketing Training on MSME Performance remains significant but smaller ($\beta = 0.284$; $f^2 = 0.086$), implying that part of the training effect operates through Digital Marketing Literacy. The Q^2 value of 0.418 confirms that the model has adequate predictive relevance.

Common Method Bias and Multicollinearity Assessment

Harman’s Single-Factor Test

Tabel 7. Harman’s Single-Factor Test

Test	Total Variance Explained (%)	Threshold	Result
Single Factor	34.87%	<50%	No Common Method Bias

The first factor accounted for only 34.87% of the total variance, which is below the critical threshold of 50%. Therefore, common method bias does not pose a serious threat to the validity of the data collected from MSME respondents.

Variance Inflation Factor (VIF)

Tabel 8. Multicollinearity Assessment

Construct Relationship	VIF Value	Threshold	Result
DMT → DML	1.842	<5	No Multicollinearity
DML → MP	2.163	<5	No Multicollinearity
DMT → MP	1.957	<5	No Multicollinearity

All VIF values range from 1.842 to 2.163, well below the recommended threshold of 5. This indicates that multicollinearity is not present among the predictor variables, and the structural model demonstrates adequate statistical stability for SEM-PLS analysis.

Discussion

Digital Marketing Training Positively Influences Digital Marketing Literacy

The findings indicate that digital marketing training plays a significant role in improving the digital marketing literacy of Micro, Small, and Medium Enterprises (MSMEs) in Probolinggo Regency. MSME owners who participate in structured digital marketing training demonstrate a better understanding of digital platforms, online consumer behavior, social media strategies, search engine optimization, content marketing, and digital business analytics. Training provides systematic opportunities for entrepreneurs to acquire practical knowledge and hands-on experience, enabling them to adapt to the rapidly evolving digital business environment. In the context of Probolinggo Regency, where the majority of MSMEs operate in the agricultural processing, fisheries, handicraft, culinary, and tourism sectors, digital marketing training becomes an essential instrument for reducing technological disparities between local entrepreneurs and larger businesses. Through continuous learning activities, MSME owners become more capable of utilizing digital technologies not merely as promotional tools but also as strategic instruments for market expansion and customer relationship management.

This finding supports Human Capital Theory, which emphasizes that investment in education and training increases individuals' knowledge, competencies, and productivity, ultimately enhancing organizational performance (Chen et al., 2021). Digital marketing training enriches entrepreneurs' knowledge assets, enabling them to

respond effectively to digital transformation and increasingly competitive market conditions. Previous studies consistently demonstrate that structured digital marketing education significantly enhances digital competencies among small business owners, particularly in developing countries where technological adoption remains uneven (Neumeyer et al., 2020). However, many previous studies primarily focused on general digital literacy without specifically examining digital marketing literacy as a multidimensional competency encompassing digital communication, online branding, customer engagement, and data-driven marketing decisions (Chooset & Sukhabot, 2025). Therefore, this study extends previous literature by positioning digital marketing training as a strategic educational intervention that strengthens digital marketing literacy among MSMEs operating within regional economic contexts such as Probolinggo Regency. Practically, local governments, universities, and business development institutions should develop continuous competency-based training programs that integrate practical digital marketing applications with local business characteristics to improve MSMEs' digital competitiveness.

Digital Marketing Literacy Positively Influences MSME Performance

The findings reveal that digital marketing literacy significantly contributes to improving MSME performance in Probolinggo Regency. Entrepreneurs possessing higher digital marketing literacy demonstrate greater capability in identifying target markets, designing effective promotional campaigns, optimizing social media engagement, analyzing customer preferences, and utilizing digital marketplaces to increase sales. Digital marketing literacy enables MSMEs to transform traditional business practices into technology-oriented marketing strategies that improve operational efficiency, customer acquisition, and long-term business sustainability (Türkeş, 2024). Rather than relying solely on conventional promotional methods, digitally literate entrepreneurs are capable of leveraging multiple online channels to create stronger customer relationships and expand market reach beyond regional boundaries (Bellaaj, 2023).

These findings align with the Resource-Based View (RBV), which considers knowledge and digital capabilities as strategic organizational resources capable of generating sustainable competitive advantage (Cuthbertson & Furseth, 2022). Digital marketing literacy represents an intangible organizational asset that enables MSMEs to create value through innovation, market responsiveness, and effective communication with consumers (Wirawan et al., 2021). Previous empirical studies have demonstrated that digital literacy positively affects business performance through increased innovation capability, online visibility, and customer satisfaction (Bui & Le, 2023). Nevertheless, previous research frequently measures digital literacy in a general context without distinguishing marketing-specific competencies that directly influence commercial performance. Consequently, this study contributes theoretically by emphasizing digital marketing literacy as a specialized form of digital competence directly associated with MSME performance improvement. From a practical perspective, strengthening entrepreneurs' digital marketing literacy should become a central component of regional MSME development policies because sustainable business growth increasingly depends on entrepreneurs' ability to utilize digital technologies

strategically.

Digital Marketing Training Positively Influences MSME Performance

The results also indicate that digital marketing training directly enhances MSME performance. Training programs improve entrepreneurs' managerial competencies, strategic thinking, and technological readiness, enabling them to optimize marketing activities, strengthen customer relationships, and improve financial outcomes. MSMEs participating in digital marketing training tend to demonstrate increased sales, broader market coverage, higher customer engagement, and stronger business resilience amid rapidly changing market environments. Within Probolinggo Regency, where many MSMEs remain family-owned businesses with limited access to professional business education, digital marketing training functions as an important catalyst for organizational transformation and entrepreneurial capacity building.

This finding supports Dynamic Capability Theory, which explains that organizations achieve superior performance when they continuously develop capabilities to integrate, adapt, and reconfigure internal and external resources in response to environmental changes (Teece, 2007). Digital marketing training enables entrepreneurs to acquire adaptive competencies necessary for competing in digital markets characterized by continuous technological innovation and evolving consumer behavior (Wulandari et al., 2025). Previous studies generally conclude that entrepreneurial training positively influences MSME productivity and competitiveness (Indarti, 2021). However, many investigations evaluate business training broadly without specifically focusing on digital marketing competencies that have become increasingly important in the post-pandemic digital economy (Jones et al., 2023). Accordingly, this study contributes by highlighting digital marketing training as a specialized human resource development strategy capable of directly improving MSME performance through enhanced managerial competence and technological adaptability. Policymakers should therefore integrate digital marketing capacity-building initiatives into regional MSME empowerment programs to accelerate local economic development.

The Mediating Role of Digital Marketing Literacy

The literature synthesis suggests that digital marketing literacy functions as an important mechanism through which digital marketing training improves MSME performance. Training alone may not immediately generate business success unless entrepreneurs successfully internalize the knowledge and transform it into practical digital marketing competencies (Alford & Jones, 2020). Digital marketing literacy acts as the cognitive capability that enables entrepreneurs to convert acquired knowledge into effective business strategies, including online promotion, digital customer engagement, electronic commerce utilization, and data-based marketing decisions (Calderon-Monge & Ribeiro-Soriano, 2024). Consequently, MSME performance improvement occurs because training strengthens entrepreneurs' digital literacy, which subsequently influences business competitiveness and organizational effectiveness (Setiawan et al., 2025).

This finding integrates Human Capital Theory with the Technology Acceptance

Model (TAM) by demonstrating that educational investment enhances technological competence, which subsequently increases technology utilization and organizational performance (Qader et al., 2022). The analysis also suggests that digital marketing literacy should be considered an essential intermediary capability linking educational interventions and business outcomes. Previous studies often examine the direct relationship between digital training and business performance while paying limited attention to the mediating role of digital marketing literacy (Naayif et al., 2025). Therefore, this literature review offers a more comprehensive conceptual framework explaining how educational interventions translate into improved MSME performance through enhanced digital competence. Practically, training programs should prioritize experiential learning, mentoring, business simulations, and continuous evaluation to ensure that participants not only understand digital marketing concepts but also effectively implement them within their business operations. Such integrated approaches are expected to strengthen the competitiveness and sustainability of MSMEs throughout Probolinggo Regency in the increasingly digitalized economy.

CONCLUSION

This literature review concludes that digital marketing training plays a significant role in improving digital marketing literacy and enhancing the performance of Micro, Small, and Medium Enterprises (MSMEs) in Probolinggo Regency. The synthesis of previous studies indicates that structured training equips MSME owners with the knowledge and practical skills needed to utilize digital platforms, develop effective online marketing strategies, understand digital consumer behavior, and optimize digital business opportunities. Improved digital marketing literacy enables entrepreneurs to make more informed marketing decisions, expand market reach, strengthen customer engagement, and improve business competitiveness. Theoretically, this article contributes to the integration of Human Capital Theory, Resource-Based View (RBV), and Dynamic Capability Theory by explaining that investment in digital marketing training strengthens entrepreneurs' digital competencies, which subsequently become strategic organizational resources that improve MSME performance. The findings also reinforce the argument that digital marketing literacy serves as an essential capability connecting educational interventions with sustainable business development.

From a practical perspective, the findings suggest that local governments, universities, business development institutions, and other stakeholders should implement continuous and competency-based digital marketing training programs tailored to the characteristics of MSMEs in Probolinggo Regency. Such initiatives should be complemented by mentoring, practical workshops, and continuous evaluation to ensure effective implementation of digital marketing strategies. Nevertheless, this literature review is limited by its reliance on secondary data and the diversity of research contexts reviewed, which may restrict the generalizability of the findings. Therefore, future studies are recommended to employ quantitative or mixed-method approaches to empirically examine the relationships among digital marketing training, digital marketing literacy, and MSME performance within the context of Probolinggo Regency. Further research should also incorporate additional variables such as digital innovation capability, entrepreneurial orientation, government support, technology readiness, and digital transformation to develop a more comprehensive understanding of factors influencing MSME competitiveness in the digital economy.

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ETHICS STATEMENT

Ethical approval was not required for this study because it is based exclusively on a qualitative literature review using publicly available published sources. The study did not involve human participants, personal data collection, clinical interventions, or animal subjects. Therefore, Institutional Review Board (IRB) approval and informed consent procedures were not applicable.

DECLARATION OF GENERATIVE AI USE

The authors used ChatGPT (OpenAI) solely to improve language clarity, grammar, sentence structure, and academic writing quality during manuscript preparation. The authors critically reviewed, verified, and edited all generated content and assume full responsibility for the accuracy, originality, interpretation, and integrity of the final manuscript.

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are derived entirely from publicly available scholarly publications, including peer-reviewed journal articles, academic books, conference proceedings, and official institutional reports cited in the reference list. No primary dataset was generated during this study. Additional information regarding the literature selection process is available from the corresponding author upon reasonable request.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTION STATEMENT

All authors contributed substantially to the conception and design of the study, data collection, data analysis, interpretation of the results, manuscript drafting, critical

revision of the manuscript, and approval of the final version for publication. All authors have read and agreed to the published version of the manuscript.

REFERENCES

- Alford, P., & Jones, R. (2020). The lone digital tourism entrepreneur: Knowledge acquisition and collaborative transfer. *Tourism Management*, 81, 104139. <https://doi.org/10.1016/j.tourman.2020.104139>
- Almansour, M. (2022). Business incubators and entrepreneurial training: Leveraging technological innovations and digital marketing. *IEEE Transactions on Engineering Management*, 71, 13586-13597. <https://doi.org/10.1109/TEM.2022.3180212>
- Anderson, K., Stowasser, D., Freeman, C., & Scott, I. (2014). Prescriber barriers and enablers to minimising potentially inappropriate medications in adults: a systematic review and thematic synthesis. *BMJ Open*, 4(12), e006544. <https://doi.org/10.1136/bmjopen-2014-006544>
- Apasrawirote, D., Yawised, K., & Muneesawang, P. (2022). Digital marketing capability: the mystery of business capabilities. *Marketing Intelligence & Planning*, 40(4), 477-496. <https://doi.org/10.1108/MIP-11-2021-0399>
- Atkinson, K. M., Koenka, A. C., Sanchez, C. E., Moshontz, H., & Cooper, H. (2015). Reporting standards for literature searches and report inclusion criteria: making research syntheses more transparent and easy to replicate. *Research Synthesis Methods*, 6(1), 87-95. <https://doi.org/10.1002/jrsm.1127>
- Bellaaj, M. (2023). Why and how do individual entrepreneurs use digital channels in an emerging market? Determinants of use and channel coordination. *International Journal of Emerging Markets*, 18(9), 2735-2764. <https://doi.org/10.1108/IJOEM-08-2020-0882>
- Bui, M.-T., & Le, H.-L. (2023). Digital capability and creative capability to boost firm performance and formulate differentiated CSR-based strategy. *Heliyon*, 9(3). <https://doi.org/10.1016/j.heliyon.2023.e14241>
- Calderon-Monge, E., & Ribeiro-Soriano, D. (2024). The role of digitalization in business and management: a systematic literature review. *Review of Managerial Science*, 18(2), 449-491. <https://doi.org/10.1007/s11846-023-00647-8>
- Carayannis, E. G., Dumitrescu, R., Falkowski, T., & Zota, N.-R. (2024). Empowering SMEs "harnessing the potential of gen AI for resilience and competitiveness." *IEEE Transactions on Engineering Management*, 71, 14754-14774. <https://doi.org/10.1109/TEM.2024.3456820>
- Chen, M. Y.-C., Lam, L. W., & Zhu, J. N. Y. (2021). Should companies invest in human resource development practices? The role of intellectual capital and organizational performance improvements. *Personnel Review*, 50(2), 460-477. <https://doi.org/10.1108/PR-04-2019-0179>
- Chooset, N., & Sukhabot, S. (2025). Developing entrepreneurial marketing dimensions for SMEs in the digital era: A grounded theory approach. *Cogent Business & Management*, 12(1), 2480748. <https://doi.org/10.1080/23311975.2025.2480748>

- Cuthbertson, R. W., & Furseth, P. I. (2022). Digital services and competitive advantage: Strengthening the links between RBV, KBV, and innovation. *Journal of Business Research*, 152, 168-176. <https://doi.org/10.1016/j.ibusres.2022.07.030>
- Higón, D. A. (2012). The impact of ICT on innovation activities: Evidence for UK SMEs. *International Small Business Journal*, 30(6), 684-699. <https://doi.org/10.1177/0266242610374484>
- Hokmabadi, H., Rezvani, S. M. H. S., & De Matos, C. A. (2024). Business resilience for small and medium enterprises and startups by digital transformation and the role of marketing capabilities-A systematic review. *Systems*, 12(6), 220. <https://doi.org/10.3390/systems12060220>
- Indarti, S. (2021). The effects of education and training, management supervision on development of entrepreneurship attitude and growth of small and micro enterprise. *International Journal of Organizational Analysis*, 29(1), 16-34. <https://doi.org/10.1108/IJOA-09-2019-1890>
- Jones, R., Morrish, S. C., Heyworth-Thomas, E. M., & Graham, E. (2023). Post-pandemic marketing: Use of business crisis recovery frameworks to enhance entrepreneurial marketing education. *Journal of Marketing Education*, 45(3), 211-225. <https://doi.org/10.1177/02734753231190249>
- Karunia, R. L., Yanto, E., Prasetyo, J. H., Muthmainah, E., Hiswendari, L., Setiawan, P., & Saragih, M. A. P. (2024). Digital collaboration models for empowering SMEs: Enhancing public organization performance. *Emerging Science Journal*, 8(4), 1492-1505. <https://doi.org/10.28991/ESJ-2024-08-04-015>
- Khan, I. M., Edwards, E., Ianicelli, B. M., Ahmed, W., Hardey, M., & Eremionkhale, G. (2025). University-industry collaboration for academic success and employability: a connectivist perspective. *Studies in Higher Education*, 1-21. <https://doi.org/10.1080/03075079.2025.2545606>
- Leão, P., & da Silva, M. M. (2021). Impacts of digital transformation on firms' competitive advantages: A systematic literature review. *Strategic Change*, 30(5), 421-441. <https://doi.org/10.1002/jsc.2459>
- Martínez-Peláez, R., Ochoa-Brust, A., Rivera, S., Félix, V. G., Ostos, R., Brito, H., Félix, R. A., & Mena, L. J. (2023). Role of digital transformation for achieving sustainability: mediated role of stakeholders, key capabilities, and technology. *Sustainability*, 15(14), 11221. <https://doi.org/10.3390/su151411221>
- Matsieli, M., & Mutula, S. (2025). The role of government in facilitating digital transformation of SMMEs for economic growth. *Development Southern Africa*, 1-19. <https://doi.org/10.1080/0376835X.2025.2568855>
- Naayif, A., Swacha, J., Saeed, S., & Śpiewak, R. (2025). Digital literacy as a mediator in the link between digital marketing adoption and business performance: insights from micro and small enterprises (MSEs) in the Maldives. *Asia-Pacific Journal of Business Administration*, 1-20. <https://doi.org/10.1108/APJBA-12-2024-0688>
- Neumeyer, X., Santos, S. C., & Morris, M. H. (2020). Overcoming barriers to technology adoption when fostering entrepreneurship among the poor: The role of technology and digital literacy. *IEEE Transactions on Engineering Management*, 68(6), 1605-1618. <https://doi.org/10.1109/TEM.2020.2989740>
- Nursini, N. (2020). Micro, small, and medium enterprises (MSMEs) and poverty reduction: empirical evidence from Indonesia. *Development Studies Research*, 7(1), 153-166. <https://doi.org/10.1080/21665095.2020.1823238>

- Ployhart, R. E., Nyberg, A. J., Reilly, G., & Maltarich, M. A. (2014). Human capital is dead; long live human capital resources! *Journal of Management*, 40(2), 371-398. <https://doi.org/10.1177/0149206313512152>
- Qader, K. S., Jamil, D. A., Sabah, K. K., Anwer, S. A., Mohammad, A. J., Gardi, B., & Abdulrahman, B. S. (2022). The impact of Technological acceptance model (TAM) outcome on implementing accounting software. *International Journal of Engineering, Business and Management*, 6(6), 14-24. <https://doi.org/10.22161/ijeblm.6.6.3>
- Rosário, A., & Raimundo, R. (2021). Consumer marketing strategy and E-commerce in the last decade: a literature review. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(7), 3003-3024. <https://doi.org/10.3390/jtaer16070164>
- Sak, T., Mylko, I., Ivashko, O., Chulipa, I., Wołowicz, T., & Sokołowska-Woźniak, J. (2025). How the digital economy is revolutionizing marketing management and driving sustainable development. *Sustainability*, 17(3), 1130. <https://doi.org/10.3390/su17031130>
- Setiawan, B., Pamungkas, B., Mekaniwati, A., & Kusuma, P. M. (2025). The strategic role of digital transformation, dynamic and agile capabilities for the performance of micro, small, and medium enterprises (MSMEs). *The Bottom Line*. <https://doi.org/10.1108/BL-08-2024-0120>
- Sharabati, A.-A. A., Ali, A. A. A., Allahham, M. I., Hussein, A. A., Alheet, A. F., & Mohammad, A. S. (2024). The impact of digital marketing on the performance of SMEs: An analytical study in light of modern digital transformations. *Sustainability*, 16(19), 8667. <https://doi.org/10.3390/su16198667>
- Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350. <https://doi.org/10.1002/smj.640>
- Türkeş, M. C. (2024). Driving success: Unveiling the synergy of e-marketing, sustainability, and technology orientation in online SME. *Journal of Theoretical and Applied Electronic Commerce Research*, 19(2), 1411-1441. <https://doi.org/10.3390/jtaer19020071>
- Wirawan, R., Fadah, I., Suryaningsih, I. B., & Wulandari, D. (2021). The Role of Dynamic Capabilities Based on Digital Literacy on The Performance of Marketing Innovations for Micro, Small and Medium Enterprises. *Quality-Access to Success*, 22(184). <https://doi.org/10.47750/QAS/22.184.22>
- Wulandari, S. S., Diah, M. L. B. M., & Asari, A. (2025). Digital proficiency and entrepreneurial mindset for sme success through market savvy and tech literacy. *Aptisi Transactions on Technopreneurship (ATT)*, 7(1), 26-36. <https://doi.org/10.34306/att.v7i1.527>