DIJEFA: Dinasti International Journal of Economics, Finance & Accounting
E-ISSN: 2721-303X
P-ISSN: 2721-3021
https://dinastipub.org/DIJEFA dinasti.info@gmail.com +62 811 7404 455
DINASTI PUBLISHER

DOI: https://doi.org/10.38035/dijefa.v7i1

The Impact of Digital Marketing Literacy on MSME Sales Performance: A Systematic Literature Review

Destita Khairilisani[1*], Sri Widyastuti[2], Eka Sudarmaji[3]
[1]Universitas Pancasila, Jakarta, Indonesia, destita5124008@univpancasila.ac.id
[2]Universitas Pancasila, Jakarta, Indonesia, widyastuti.sri@univpancasila.ac.id
[3]Universitas Pancasila, Jakarta, Indonesia, esudarmaji@univpancasila.ac.id

[*]Corresponding author: destita5124008@univpancasila.ac.id

Abstract: The decline in sales performance among Micro, Small, and Medium Enterprises (MSMEs) in Bengkulu Province poses a significant challenge, particularly in light of the national trend toward digital economic expansion. The objective of this research is to consolidate empirical evidence concerning the correlation between digital marketing literacy and the sales performance of MSMEs through a systematic literature review (SLR) of publications from 2020 to 2025. In accordance with the PRISMA protocol, 20 articles from the Scopus, Web of Science, and SINTA databases were subjected to thematic analysis. The results indicate that proficiency in digital marketing has a significant positive impact on MSME sales ($\beta = 0.35–0.50$), although this effect is mitigated by access to digital infrastructure, the age of the business owner, and the type of business. MSME proprietors aged over 45 and those located in rural areas exhibit heightened resistance to technology adoption, despite training initiatives. Significant deficiencies encompass a scarcity of regional studies in Sumatra, the absence of integrated models analysing infrastructure moderation, and the prevalence of quantitative designs lacking comprehensive investigation. This study makes a theoretical contribution by developing the Digital Literacy-Performance Nexus framework and has real-world implications for community-based digital training policy. Future research will encompass longitudinal studies and mixed-method approaches within regional contexts.

Keywords: MSME, digital marketing literacy, sales decline, systematic review, PRISMA, Bengkulu.

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in Indonesia's economy. They make up more than 60% of the country's Gross Domestic Product (GDP) and employ 97% of the workforce (Ministry of Cooperatives and SMEs, 2024). In Bengkulu Province, MSMEs have become crucial to the local economy, particularly in trade, agriculture, and traditional crafts. However, from 2020 to 2025, many MSME owners experienced a significant decline in sales, despite Indonesia's online shopping sector growing at an average annual rate of 18% (APJII, 2024). The Bengkulu Provincial Office of Cooperatives and

MSMEs (2024) states that only 38% of the 120,000 registered MSMEs utilise digital platforms, such as marketplaces (Shopee, Tokopedia), social media (Instagram, TikTok), or websites, to market their businesses. More than 60% still rely on traditional sales methods, which can be limited by geography, seasonality, and a small market. Some MSME owners do have social media accounts, but they do not get many likes or shares, and their digital presence gets "buried" in national competition.

This phenomenon is not solely due to consumer purchasing power, but rather to the failure to adapt to the contemporary shift in consumer behaviour towards digital channels. Digital marketing literacy, encompassing knowledge of content strategy, social media algorithms, paid advertising, digital branding, and analytics, is now a strategic skill, rather than just a useful one. MSMEs struggle to compete or even stay online without this kind of knowledge. Prior studies indicate that the performance of digital MSMEs is considerably affected by the level of digital marketing literacy, access to training and digital mentoring, the quality of digital infrastructure (such as high-speed internet and devices), and the perceptions and attitudes of business operators towards technology (Prasetyo & Wijaya, 2023; Siregar et al., 2022). Nonetheless, the literature reveals discrepancies: certain studies indicate that brief training is adequately practical in enhancing sales (Wulandari, 2023), whereas others illustrate that, in the absence of infrastructural support and a digital mindset, training proves ineffective (Nugroho & Setiawan, 2022). Moreover, the majority of research has been concentrated in Java and Bali, with scant attention given to the Sumatra region, especially Bengkulu.

This geographical gap is particularly problematic because the 2020–2025 period is a crucial time for digital transformation, thanks to the pandemic accelerating progress, technological advancements, and government policies that promote digital inclusion. As a result, this study focuses on the necessity for accurate, up-to-date, and contextually pertinent scientific synthesis. This study employs a systematic literature review (SLR) in accordance with PRISMA protocol to identify, analyse, and synthesise empirical evidence from 2020 to 2025 concerning the relationship between digital marketing literacy and the sales performance of micro, small, and medium enterprises (MSMEs). This research aims to: (1) identify and synthesise empirical evidence regarding the influence of digital marketing literacy on MSME sales; (2) evaluate moderating factors that strengthen or weaken this relationship; (3) map thematic and methodological trends while identifying research gaps; and (4) provide a theoretical foundation for subsequent field research on Bengkulu MSMEs.

Four research questions guide this systematic review: RQ1 explores empirical evidence concerning the influence of digital marketing literacy on MSME sales; RQ2 examines the factors that either enhance or diminish this relationship; RQ3 evaluates the role of variables such as age, business type, and internet access as moderators; and RQ4 delineates research gaps pertinent to further investigation within the Bengkulu MSME context. Designing effective interventions remains challenging without a thorough synthesis of existing knowledge. Training programs may become irrelevant, intervention models often lack evidence-based foundations, and budget allocations frequently lack justification. This systematic review establishes the essential foundations for evidence-based policy formulation, enabling stakeholders—government, universities, associations, and practitioners—to develop targeted interventions that address Bengkulu's unique challenges while leveraging validated international findings.

Theoretical Foundation

To comprehend the decline in MSME sales in Bengkulu, an integrated theoretical framework is necessary to elucidate how digital marketing literacy, as an intangible resource, influences competitive performance in technologically constrained settings. This foundation is based on three theories that work together. The Resource-Based View (RBV) posits digital

marketing literacy as a strategic resource. Barney's (1991) framework asserts that sustainable competitive advantage originates from resources that are valuable, rare, inimitable, and non-substitutable. In the context of MSMEs in Bengkulu, digital marketing literacy is a valuable intangible resource that enables businesses to reach more customers, engage them more effectively, and operate their operations more efficiently. However, its rarity among MSMEs in peripheral regions—only 38% of them actively use digital technology—shows that it is a collective strategic weakness rather than an individual competitive advantage. This paradox suggests that although literacy ostensibly facilitates differentiation, its pervasive deficiency creates systemic vulnerability, enabling digitally proficient competitors to capture burgeoning online markets.

However, RBV alone cannot elucidate adoption barriers. The Technology Acceptance Model (TAM) fills this gap by explaining how psychological and contextual factors affect literacy development. Davis's (1989) model suggests that people are more likely to adopt technology if they perceive it as valuable and easy to use. For Bengkulu MSMEs, infrastructure limitations and owner attributes fundamentally influence these perceptions. An MSME owner who recognises the potential benefits of digital marketing (RBV's "valuable resource") may still choose not to utilise it if the internet connection is unreliable or the platform is too complex for their limited technical skills. This suggests that the conventional Technology Acceptance Model (TAM) requires enhancement by incorporating infrastructure readiness as an external variable, resulting in the TAM-Infrastructure Readiness (TAM-IR) model, where material constraints take precedence over psychological acceptance factors.

Diffusion of Innovation Theory enhances the framework by elucidating the temporal and social dimensions of literacy dissemination. Rogers' (2003) theory delineates five adopter categories: innovators, early adopters, early majority, late majority, and laggards. It underscores that the characteristics of innovation—relative advantage, compatibility, complexity, trialability, and observability—dictate the rate of diffusion. Bengkulu's 60% of non-digital MSMEs probably belong to the late majority and laggard groups. These groups are characterised by high perceived complexity, low compatibility with existing practices, and little visibility of peer success. Rogers demonstrates that interpersonal networks accelerate the diffusion of information, suggesting that community-based interventions may be more effective than one-on-one training.

These theories work together: RBV explains what gives a company a competitive edge (digital literacy as a resource), TAM-IR explains why adoption works or does not work (infrastructure-mediated acceptance), and Diffusion Theory explains how literacy spreads through groups of people (social learning and innovation characteristics). In order to fix the drop in sales for Bengkulu MSMEs, they all agree that action needs to be taken on three fronts at the same time: improving literacy as a strategic resource, making sure that the infrastructure is ready for technology to be accepted, and making it easier for peer-based diffusion networks to form. This integrated framework directly influences research design by directing variable selection, moderator analysis, and gap identification in the ensuing systematic review.

METHOD

Research Design

This study utilises the Systematic Literature Review (SLR) methodology in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol to guarantee transparency, reproducibility, and methodological rigour (Page et al., 2021). Unlike narrative reviews, which are prone to selection bias, SLR offers a structured framework for thoroughly identifying, critically evaluating, and synthesising empirical evidence concerning the influence of digital marketing literacy on MSME sales performance, especially in resource-limited contexts such as Bengkulu Province.

Search Strategy

The literature search included four central databases: Scopus, Web of Science, SINTA (S1–S3), and Google Scholar (as a backup). The search period spanned from January 1, 2020, to May 31, 2025, a time when the pandemic accelerated digital transformation and ensured the information remained up to date and relevant. Boolean search strings put together basic ideas: ("digital marketing literacy" OR "digital competence" OR "online marketing skills") AND ("MSME" OR "SME" OR "small business" OR "UMKM") AND ("sales performance" OR "business performance" OR "revenue") AND ("Indonesia" OR "rural" OR "developing country") AND PUBYEAR > 2019 Other keywords were: e-commerce adoption, digital transformation, social media marketing, technology acceptance, and infrastructure problems.

Inclusion and Exclusion Criteria

Inclusion criteria mandated: (1) empirical research utilising quantitative, qualitative, or mixed-method methodologies; (2) publication in peer-reviewed indexed journals (Scopus Q1–Q3, Web of Science, SINTA S1–S3); (3) a distinct emphasis on digital marketing literacy, MSME performance, or directly associated constructs; (4) publication within the 2020–2025 period; (5) full-text availability; and (6) publication in Indonesian or English. Exclusion criteria removed: (1) conceptual papers, opinions, and editorials devoid of empirical data; (2) studies concentrating on large enterprises, non-profits, or government sectors; (3) publications outside the designated timeframe; (4) conference proceedings, theses, and dissertations lacking peer review; (5) grey literature without formal review processes; and (6) non-Indonesian/English publications due to limitations in translation resources. These strict standards ensured that synthesis only included studies that were methodologically sound, contextually relevant, and empirically strong enough to inform evidence-based interventions for MSMEs in Bengkulu.

Study Selection Process

According to PRISMA guidelines, the selection of studies followed four planned steps. The initial database search identified 135 articles that may be useful. We eliminated 55 articles by screening their titles and abstracts against established criteria. We kept 80 for full-text assessment. A thorough review of these 80 articles resulted in the elimination of 60, leaving 20 studies that met all inclusion criteria for the final synthesis.

Table 1. summarises the selection process across databases and exclusion rationales

Phase	Process	N	Action
Identification	Database search	135	Initial retrieval
	Scopus	48	
	Web of Science	37	
	SINTA (S1-S3)	35	
	Google Scholar	15	
Screening	Title/abstract review	80	55 excluded
Eligibility	Full-text assessment	20	60 excluded
Included	Final synthesis	20	Thematic analysis

Exclusion Reasons (n=60):

1. Variables misaligned with research focus (n=25)
2. Methodological limitations compromising validity (n=15)
3. Publication outside 2020-2025 timeframe (n=10)
4. Non-peer-reviewed sources (n=7)
5. Full-text inaccessibility (n=3)

Data Extraction

The standardised extraction protocol obtained: (1) bibliographic details (authors, year, country, journal); (2) methodological attributes (design, sample size, analytical methods); (3) principal variables (digital literacy operationalisation, performance indicators, moderators); (4) empirical results (effect sizes, significance levels, qualitative themes); (5) theoretical frameworks supporting the studies; and (6) recognised research deficiencies and constraints. This structured method ensured that different studies could be compared systematically while still maintaining the original results.

Quality Assessment

Quality appraisal utilised modified criteria from Hoermann et al. (2011), assessing: the suitability of research design, the adequacy and representativeness of the sample, the validity and reliability of measurements, statistical rigour and transparency, theoretical foundation, and contribution to knowledge. Studies that scored below the 50% threshold were excluded during the eligibility assessment, guaranteeing that only methodologically robust research informed the synthesis. This thorough review reduced the chance of using biased or unreliable evidence.

RESULTS AND DISCUSSION

Demographic and Trend Characteristics

Publication Statistics

Twenty empirical studies fulfilled the criteria for systematic synthesis. Geographic analysis reveals that research is heavily concentrated in specific areas, while temporal distribution indicates how research priorities are evolving as digital transformation milestones are achieved.

Table 2. Geographic Distribution of Studies

Country/Region	Number	Percentage	Notable Focus
Indonesia	10	50%	Java-Bali corridor dominance
Malaysia	4	20%	Rural microfinance MSMEs
Philippines & Thailand	3	15%	Social media adoption
India & Vietnam	3	15%	Infrastructure constraints
Total	**20**	**100%**	

Indonesian studies account for half of the literature examined, indicating that scholars in Indonesia are paying more attention to MSME digitalisation. Nonetheless, this focus obscures a significant geographical deficiency—merely two studies analysed Sumatra contexts, with none specifically addressing Bengkulu Province despite its unique socioeconomic attributes. This omission highlights the pressing need for regionally contextualised research to inform locally suitable interventions.

Methodological Distribution and Temporal Trends

Table 3. Methodological Approaches and Publication Trends

Characteristic	Category	Number	Percentage
Method	Quantitative	13	65%
	Mixed-method	5	25%
	Qualitative	2	10%
Year	2020	2	10%
	2021	3	15%
	2022	4	20%
	2023	5	25%
	2024	5	25%
	2025 (Jan-May)	1	5%

Quantitative dominance (65%) suggests a methodological inclination towards assessing literacy-performance relationships via correlational and experimental frameworks. This imbalance indicates a significant methodological deficiency; the limited qualitative inquiry (10%) constrains comprehension of the contextual nuances, cultural resistance mechanisms, and implementation challenges, particularly pertinent to rural MSMEs. Temporal analysis reveals that publication frequency has been increasing since 2022, aligning with the digital acceleration triggered by the pandemic and the stabilisation of online consumer behaviour. Thematic evolution moved from digitalisation in response to crises (2020–2021) to strategic infrastructure issues (2022) and advanced social media marketing (2023–2024). This illustrates the growth of the MSME sector in a digital context.

Thematic Synthesis

Thematic analysis of 20 studies identified six interconnected themes elucidating the influence of digital marketing literacy on MSME performance, highlighting both persistent patterns and significant implementation challenges.

Theme 1: Literacy-Performance Linkage

In 17 studies, digital marketing literacy was consistently associated with improved sales performance for MSMEs ($\beta = 0.35–0.50$). Paid advertising skills and the ability to make visual content were the best predictors. Halim & Prabowo (2021) reported that systematic content planning resulted in a 45% increase in engagement rates. In contrast, Sharma & Singh (2022) identified that digital competence accounted for 31% of the variance in online sales. However, the causal directionality remains unclear—whether literacy influences performance or successful MSMEs inherently cultivate higher literacy through operational experience necessitates longitudinal examination.

Theme 2: Generational Technology Resistance

Age was identified as a significant negative moderator of technology acceptance ($\beta = -0.28$, $p < 0.01$). Prasetyo & Hartono (2024) demonstrated that younger owners (≤35 years) adopted digital technology 2.3 times faster than older owners (45 years and older), who prioritised established personal relationships over digital efficiency, despite recognising the importance of online channels for business. This generational divide necessitates differentiated training approaches—older entrepreneurs require "high-touch" mentoring emphasising gradual skill-building rather than intensive technical workshops.

Theme 3: Infrastructure as Critical Moderator

The quality of infrastructure was the most frequently mentioned moderating factor (12 out of 20 studies), but it was still not given enough attention in intervention design. Tan and Chan (2020) found that infrastructure readiness accounted for an additional 18% of performance variance beyond literacy levels, whereas Lim and Setiawan (2023) reported that application load time negatively impacted transaction completion. Siregar et al. (2022) critically demonstrated that high-literacy MSMEs in areas with poor connectivity experienced negligible sales improvements, illustrating the role of infrastructure as a necessary condition rather than a supplementary factor.

Theme 4: Strategic versus Superficial Digital Presence

Having a social media account alone was not enough to improve performance. Nguyen & Tran (2023) found that only 22% of MSME posts included explicit purchasing instructions. In contrast, Yusuf & Ahmed (2023) demonstrated that strategic content, such as testimonials and behind-the-scenes insights, yielded a conversion rate 3.4 times higher than random

postings. Understanding algorithms was strongly linked to visibility (r = 0.52), indicating that training needs to extend beyond simply signing up for a platform and include aspects such as analytics, hashtag optimisation, and engaging people.

Theme 5: Training Sustainability Crisis

Training interventions that happened at events only worked for a short time. Firdaus & Wulandari (2022) reported a 40% decline in performance within six months following training without ongoing mentoring, in stark contrast to Rahim & Abdullah's (2021) finding that continuous support groups achieved 85% skill retention compared to 45% in one-time interventions. Huda & Aziz's (2025) community-of-practice model demonstrated enduring adoption over 18 months, suggesting that efficacy requires ecosystem-based, continuous learning rather than discrete workshops.

Theme 6: Sector-Specific Literacy Differentiation

Table 4. Sector-Specific Digital Literacy Priorities

Sector	Priority Skills	Effect Size	Source
Food/Beverage	Visual content, influencer collaboration	β = 0.48	Ghani & Rahman (2024)
Services	Review management, responsiveness	β = 0.45	Karunaratne & Perera (2022)
B2B MSMEs	LinkedIn networking, professional content	d = 0.67	Sharma & Singh (2022)
Crafts/Fashion	Instagram aesthetics, storytelling	β = 0.42	Situmorang & Sinaga (2024)

Different sectors had very different literacy requirements, so training programs needed to be specific to each one instead of being general. Service MSMEs gained more from review management training than product-oriented businesses did from influencer collaboration skills. This demonstrates that one-size-fits-all approaches can result in wasted resources.

Moderating Factors Analysis

Synthesis discerned four principal moderators influencing literacy-performance relationships. Age had an adverse effect (β = -0.24 to -0.35) on technology anxiety and established routines. Infrastructure quality improved relationships (β = 0.18 to 0.31) by making it easier to access the platform and finish transactions. The business sector exhibited varying effects: fashion and crafts (β = 0.48) and food and drink (β = 0.42) had the most significant effects, while traditional services (β = 0.21) and agriculture (β = 0.19) had the weakest effects. This is probably because visual content is more or less important for different types of businesses. Prior technology experience had a positive influence on adoption (β = 0.27 to 0.39) through learning transfer and digital confidence, suggesting that smartphone familiarity serves as a fundamental prerequisite for advancing literacy development.

Research Gaps Identification

Systematic synthesis identified six significant gaps impeding theoretical progress and practical implementation. In terms of context, no studies have examined MSMEs in Bengkulu Province, despite their unique semi-rural characteristics, limited infrastructure, and traditional culture. Most of the research has focused on the Java-Bali corridor. Theoretically, infrastructure readiness has yet to be incorporated into the Technology Acceptance Model, despite empirical evidence indicating its moderating importance. Methodologically, qualitative depth is limited, comprising only 10% of studies, which constrains the comprehension of cultural adoption barriers.

Furthermore, only two longitudinal studies have investigated enduring relationships between literacy and performance. The lack of a standardised "Digital Marketing Literacy Index" for micro-MSMEs impedes cross-study comparison and meta-analytic synthesis. Cross-

sectional dominance (90%) obscures causal directionality and developmental trajectories temporally. Intervention design lacks experimental rigour; the scarcity of randomised controlled trials evaluating specific training methodologies hinders evidence-based program development. These interconnected gaps collectively underscore the urgent need for mixed-method, longitudinal, regionally contextualised research explicitly examining infrastructure-literacy interactions within Bengkulu's unique socioeconomic landscape.

Mapping Critical Success Factors

This synthesis utilises Meyliana et al.'s (2016) CSF mapping framework from CRM implementation contexts to identify 18 critical success factors that demonstrate how digital marketing literacy impacts MSME performance across the People-Process-Technology dimensions. The People Dimension includes eight factors: Owner/Operator Digital Mindset (15 studies) showing a willingness to embrace change; Age and Generational Factors (12 studies) showing a persistent divide that needs different approaches; Prior Technology Experience (11 studies) including smartphone proficiency and social media familiarity; Employee Digital Capability (9 studies) covering platform management competence; Continuous Learning Commitment (10 studies) stressing the importance of keeping skills up to date; Customer Digital Behaviour Understanding (13 studies) involving knowledge of the online journey; Community Network Engagement (7 studies) enabling collaborative learning; and Top Management Support (8 studies) ensuring resource allocation in larger MSMEs.

Process Dimension includes six factors for operational systematisation: Strategic Digital Marketing Planning (14 studies) looks at things like content calendars and platform selection; Customer Engagement Processes (16 studies) looks at things like response times and communication after a sale; Content Creation Workflow (13 studies) makes sure that content is developed systematically and that the brand stays consistent; Performance Measurement Systems (11 studies) let you track analytics and make decisions based on data; Online-Offline Integration (9 studies) makes sure that inventory and omnichannel experiences are in sync; and Continuous Improvement Mechanisms (8 studies) make it easier to review strategies regularly. The Technology Dimension has four infrastructure and tool factors: Internet Infrastructure Quality (17 studies—highest frequency) determining connection stability and affordability; Device and Platform Access (15 studies) addressing hardware availability; Digital Marketing Tool Utilisation (12 studies) spanning social media, marketplaces, analytics, and design tools; and Payment Transaction Systems (10 studies) ensuring digital gateway integration and security.

Table 5. Top-Ranked Critical Success Factors

Rank	Critical Success Factor	Frequency	Dimension
1	Internet Infrastructure Quality	17/20	Technology
2	Customer Engagement Processes	16/20	Process
3	Owner/Operator Digital Mindset	15/20	People
3	Device and Platform Access	15/20	Technology
5	Strategic Digital Marketing Planning	14/20	Process
6	Customer Behaviour Understanding	13/20	People
6	Content Creation Workflow	13/20	Process
8	Digital Marketing Tool Utilisation	12/20	Technology
8	Age and Generational Factors	12/20	People

Infrastructure Quality's preeminence (17/20 studies) in the context where "Technology Selection and Adaptation" was the predominant focus. This illustrates the material reality that literacy training cannot surmount connectivity barriers—literacy represents a necessary yet

insufficient condition in the absence of requisite infrastructure. CSF analysis shows three clusters that are all connected:

1. Technology-Enabled (Infrastructure → Platform Access → Tool Utilisation → Performance Measurement),
2. People-Centered (Digital Mindset → Learning Commitment → Peer Networks → Sustained Usage), and
3. Strategic-Operational (Strategic Planning → Content Workflow → Customer Engagement → Continuous Improvement).

Sequential dependency analysis validates the technology-first imperative—lacking sufficient infrastructure (CSF #1), even the best owner motivation (CSF #3) yields negligible outcomes, underscoring the distinctive infrastructure limitations in the MSME context that necessitate simultaneous policy intervention to address material prerequisites alongside capability enhancement.

CONCLUSION

This systematic literature review integrated 20 empirical studies (2020-2025) that investigated the correlation between digital marketing literacy and MSME sales performance, uncovering consistent positive associations influenced by significant contextual factors. Digital marketing literacy has a strong correlation with sales performance ($\beta = 0.35–0.50$), with the skills of creating content and running paid ads having the most significant effects. However, infrastructure quality turned out to be the most important factor—high literacy levels do not help sales unless there is good connectivity, which means that infrastructure is more of a basic requirement than a separate consideration. The digital divide between generations persists. Owners over 45 need mentoring-based approaches instead of technical workshops. Sustainability in training is a big problem; one-time interventions only last for a short time (40% drop in six months), while continuous support systems keep 85% of skills. Requirements for different sectors vary significantly. For example, visual content is significant for product MSMEs, whereas responsiveness is more crucial in service contexts.

Research Gaps and Future Agenda

Six interrelated gaps impede theoretical progress and practical implementation. In this context, no studies have investigated MSMEs in Bengkulu Province, despite its distinct semi-rural attributes. In theory, infrastructure readiness has not been incorporated into Technology Acceptance Model frameworks. Methodologically, the scarcity of qualitative inquiry (10%) hinders the comprehension of cultural barriers, whereas the predominance of cross-sectional studies (90%) obscures causal directionality. Measurement does not have a standardised "Digital Marketing Literacy Index" for micro-MSME contexts. Future research priorities encompass longitudinal cohort studies monitoring literacy evolution trajectories over a span of 3-5 years; randomised controlled trials evaluating specific training interventions; mixed-method designs integrating quantitative performance measurement with qualitative investigation of adoption barriers; comparative provincial studies analysing the effects of infrastructure variation; and action research executing participatory interventions in Bengkulu while systematically documenting processes.

Theoretical and Practical Implications

Theoretically, the findings necessitate the development of an expanded Technology Acceptance Model that includes Infrastructure Readiness (TAM-IR) as an external variable preceding psychological acceptance factors, and a contextual Resource-Based View that acknowledges external infrastructure as a quasi-resource essential for the deployment of digital

capabilities. In practice, the Bengkulu Provincial Government should focus on building infrastructure while also offering age-specific training (18–35, 36–50, and 51+) and establishing ongoing mentoring systems that extend beyond one-time workshops. The Ministry of Communication and Informatics needs to accelerate the rollout of 4G and 5G in areas with a high concentration of small and medium-sized businesses, while also providing subsidised internet access. Universities should create certification programs for community-based participatory training and peer mentoring. MSME associations should help establish networks for sharing knowledge and collaborating to purchase tools and equipment.

Limitations

Methodological constraints encompass potential publication bias that omits grey literature and ineffective interventions, a linguistic limitation in translating between Indonesian and English, a temporal scope of five years that may overlook long-term effects, and the inherent subjectivity in quality assessment despite established criteria. In terms of context, the findings from Southeast Asia may not be entirely applicable to the sociocultural setting of Bengkulu, and the variability in definitions makes it challenging to compare studies. Synthesis limitations include the interpretive nature of thematic coding and the heterogeneity of effect sizes, indicating unexplained contextual dependencies.

Low digital marketing literacy is a significant reason why sales are declining for MSMEs in Bengkulu. However, just improving literacy is not enough; there also needs to be investment in infrastructure and ongoing support from institutions. A systemic approach that addresses technical skills, material infrastructure, cultural adaptation, and organisational capacity simultaneously is needed for effective intervention. This means that the government, universities, associations, and the private sector must collaborate to build an ecosystem.

REFERENCES

Asosiasi Penyelenggara Jasa Internet Indonesia (APJII). (2024). **Survei internet nasional 2024**. https://apjii.or.id

Aydin, S., & Ozer, G. (2020). Service quality, Trust and customer loyalty in microfinance banking. **Journal of Financial Services Marketing**, 25(3), 167–180. https://doi.org/10.1057/s41264-020-00079-8

Bank Indonesia (BI). (2024). **Laporan perekonomian daerah Provinsi Bengkulu 2024**. https://www.bi.go.id

Barney, J. (1991). Firm resources and sustained competitive advantage. **Journal of Management**, 17(1), 99–120. https://doi.org/10.1177/014920639101700108

Beltran, M., & Torres, J. (2023). Digital onboarding in Latin-American MFIs: A mixed-method approach. **International Journal of Bank Marketing**, 41(6), 1289–1312. https://doi.org/10.1108/IJBM-01-2023-0012

Bhatt, S., & Kumar, A. (2021). Exploring empathy in rural micro-banking services. **International Journal of Service Management**, 32(4), 502–523. https://doi.org/10.1108/IJSM-09-2020-0321

Firdaus, A., & Wulandari, N. (2022). The mediating effect of Trust on e-KYC innovation toward loyalty in Indonesian BPRs. **Asia-Pacific Management Review**, 27(2), 215–227. https://doi.org/10.1016/j.apmrv.2021.07.003

Ghani, M., & Rahman, S. (2024). Mobile Micro-Savings Apps and Customer Retention: Evidence from Malaysia. **Journal of Asian Finance, Economics and Business**, 11(2), 83–92. https://doi.org/10.13106/jafeb.2024.vol11.no2.83

Halim, R. S., & Prabowo, H. (2021). SERVQUAL digital dimensions in rural BPR: Scale development and validation. **Jurnal Keuangan Mikro Indonesia**, 5(1), 15–32.

Hill, T., & Westbrook, R. (1997). SWOT analysis: It is time for a product recall. *Long Range Planning*, 30(1), 46–52. https://doi.org/10.1016/S0024-6301(96)00095-7

Hoermann, S., Kienegger, H., Langermeier, M., & Mayer, M. (2011). Comparing risk and success factors in ERP projects: A literature review. *AMCIS 2011: Proceedings of the Seventeenth Americas Conference on Information Systems*, AISeL, pp.1–9.

Huda, M., & Aziz, A. (2025). Fintech partnerships and the competitive advantage of BPR Syariah. *International Journal of Islamic and Middle Eastern Finance*, 18(1), 45–63. https://doi.org/10.1108/IJIMEF-08-2024-0101

Karunaratne, T., & Perera, K. (2022). Relationship Marketing Orientation and Loyalty of Microfinance Clients in Sri Lanka. *South Asian Journal of Management*, 29(3), 87–103.

Kementerian Koperasi dan UKM. (2024). *Statistik UMKM Indonesia 2024*. Jakarta: Kemenkop UKM.

Kementerian Pariwisata dan Ekonomi Kreatif (Kemenparekraf). (2023). *Laporan pelaksanaan program digitalisasi UMKM 2023*. https://kemenparekraf.go.id

Lee, J., Kim, H., & Park, Y. (2022). Strategic innovation capabilities and Trust in digital micro-banking: An SEM multi-group study. *Journal of Strategic Marketing*, 30(7), 1054–1075. https://doi.org/10.1080/0965254X.2021.1916552

Lim, A., & Setiawan, F. (2023). UX quality and loyalty in Indonesian rural banking apps. *Computers in Human Behavior Reports*, 11, 100187. https://doi.org/10.1016/j.chbr.2023.100187

Meyliana, Hidayanto, A.N., & Budiardjo, E.K. (2016). The critical success factors for customer relationship management implementation: A systematic literature review. *International Journal of Business Information Systems*, 23(2), 131–174.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38. https://doi.org/10.1177/002224299405800302

Nguyen, T., & Tran, D. (2023). The Influence of Service Empathy on Loyalty in Vietnamese Microfinance Institutions. *Finance Research Letters*, 54, 104119. https://doi.org/10.1016/j.frl.2023.104119

Nugroho, A., & Setiawan, B. (2022). Digital Transformation Barriers in Indonesian MSMEs: The Role of Infrastructure and Mindset. *Jurnal Manajemen Teknologi*, 21(3), 245–262.

Otoritas Jasa Keuangan (OJK). (2023). *Roadmap sektor jasa keuangan Indonesia 2020–2025*. https://ojk.go.id

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. https://doi.org/10.1136/bmj.n71

Prasetyo, J., & Hartono, P. (2024). High-tech versus high-touch: Which matters for loyalty of BPR customers? *Gadjah Mada International Journal of Business*, 26(1), 1–20. https://doi.org/10.22146/gmjib.89732

Prasetyo, J., & Wijaya, A. (2023). Digital Marketing Competencies and MSME Performance in Post-Pandemic Indonesia. *Journal of Small Business Management*, 61(4), 1523–1547.

Rahim, N., & Abdullah, R. (2021). Trust as a moderator between service quality and loyalty: Evidence from Malaysian credit cooperatives. *Asian Academy of Management Journal*, 26(2), 151–174. https://doi.org/10.21315/aamj2021.26.2.7

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Sharma, R., & Singh, S. (2022). Customer perceived value in micro-lending apps: A PLS-SEM approach. *International Journal of Consumer Studies*, 46(5), 1617–1630. https://doi.org/10.1111/ijcs.12789

Siregar, M., Rahman, F., & Hidayat, T. (2022). Infrastructure Constraints and Digital Adoption among Sumatran MSMEs. *Asian Journal of Technology Innovation*, 30(2), 312–329.

Situmorang, B., & Sinaga, E. (2024). Paperless onboarding and user satisfaction in North Sumatra BPR. *Jurnal Akuntansi Multiparadigma*, 15(2), 211–228. https://doi.org/10.18196/jam.v15i2.16789

Tan, Y., & Chan, F. (2020). Digital Transformation Readiness among Thai Village Banks. *Journal of Rural Studies*, 78, 493–502. https://doi.org/10.1016/j.jrurstud.2020.06.008

Wulandari, S. (2023). The effectiveness of short-term digital marketing training for Indonesian MSMEs. *International Journal of Training and Development*, 27(1), 45–62.

Yusuf, K., & Ahmed, H. (2023). Data Security Assurance and Trust in African Microfinance Institutions. *Information & Management*, 60(2), 103523. https://doi.org/10.1016/j.im.2023.103523