Jurnal Pengabdian Kepada Masyarakat
Publisher
Cv Era Digital Nusantara

Strengthening MSME Digital Literacy through the HALVORA Platform

Dimas Bagus Wiranatakusuma*[1], ***Fawwaz Ardhan Kencana***[2], ***Satria Utama***[3]
[1,2,3]Universitas Muhammadiyah Yogyakarta
*dimas_kusuma@umy.ac.id[1]

Abstract: Digital literacy has emerged as a foundational determinant of MSME participation in digital platform economies, yet its conceptualization and measurement remain inconsistent across the literature. This study conducts a Systematic Literature Review (SLR) of 20 Scopus-indexed articles to examine how digital literacy interventions shape MSME outcomes within platform ecosystems, with particular reference to the HALVORA digital empowerment platform deployed in Sleman Regency, Yogyakarta. Guided by the PRISMA methodology and analyzed through VOSviewer bibliometric mapping, the study identifies five thematic clusters: customer satisfaction and AI-driven commerce; information systems and management frameworks; fintech and vertical marketplace applications; competitive market structures; and blockchain-based financial infrastructure. The density visualization confirms commerce and information systems as the most intensively studied research anchors, while the overlay visualization reveals that blockchain, data marketplaces, and financial assets are the most rapidly emerging themes (2024–2025). Field survey data collected from MSME participants in Sleman show that 83.8% demonstrate high literacy and openness toward educational marketplace platforms, with 87.7% affirming the value of integrated digital marketing as a business capability. The findings underscore that effective digital literacy programs must address platform competency, digital payment skills, and marketing analytics simultaneously. This study recommends the HALVORA platform as a scalable vehicle for context-sensitive digital literacy enhancement, with training design grounded in the community's specific marketplace engagement patterns and business sector needs.
Keywords: Digital Economy, Digital Literacy, HALVORA Platform, MSME, Sleman, Systematic Literature Review

Abstrak: *Literasi digital telah muncul sebagai penentu mendasar partisipasi UMKM dalam ekonomi platform digital, namun konseptualisasi dan pengukurannya masih tidak konsisten di berbagai literatur. Studi ini menggunakan Systematic Literature Review (SLR) terhadap 20 artikel terindeks Scopus untuk mengkaji bagaimana intervensi literasi digital memengaruhi capaian UMKM di dalam ekosistem platform, dengan rujukan khusus pada platform pemberdayaan digital HALVORA yang diterapkan di Kabupaten Sleman, Yogyakarta. Dipandu oleh metodologi PRISMA dan dianalisis melalui pemetaan bibliometrik VOSviewer, studi ini mengidentifikasi lima klaster tematik: kepuasan pelanggan dan perdagangan berbasis AI; sistem informasi dan kerangka kerja manajemen; fintech dan aplikasi marketplace vertikal; struktur pasar yang kompetitif; serta infrastruktur keuangan berbasis blockchain. Visualisasi densitas mengonfirmasi perdagangan dan sistem informasi sebagai jangkar penelitian yang paling intensif dipelajari, sementara visualisasi overlay mengungkapkan bahwa blockchain, data marketplace, dan aset keuangan adalah tema baru yang paling cepat muncul (2024–2025). Data survei lapangan yang dikumpulkan dari peserta UMKM di Sleman menunjukkan bahwa 83,8% mendemonstrasikan literasi dan keterbukaan yang tinggi terhadap platform marketplace edukasional, dengan 87,7% menegaskan nilai pemasaran digital terintegrasi sebagai sebuah kapabilitas bisnis. Temuan ini menggarisbawahi bahwa program literasi digital yang efektif harus menyasar kompetensi platform, keterampilan pembayaran digital, dan analitik pemasaran secara bersamaan. Studi ini merekomendasikan platform HALVORA sebagai sarana terukur untuk peningkatan literasi digital yang peka terhadap konteks, dengan desain pelatihan yang didasarkan pada pola keterlibatan marketplace spesifik pada komunitas dan kebutuhan sektor bisnis.*
Kata kunci: Ekonomi Digital, Literasi Digital, Platform HALVORA, Sleman, Systematic Literature Review, UMKM

1. INTRODUCTION

Digital literacy—the capacity to access, evaluate, apply, and create information and services using digital technologies—has become an increasingly central determinant of MSME economic performance in platform-mediated markets (Hermansyah et al., 2025). For MSMEs operating in competitive online environments, digital literacy extends beyond basic device competency to encompass platform navigation, digital marketing, data interpretation, and e-payment management. Yet, significant digital literacy deficits persist among MSME operators in Indonesian peri-urban and rural settings, limiting their ability to capture the economic value that marketplace platforms offer (Hermansyah et al., 2025; Song, 2019).

The HALVORA (Halal, Voluntary, and Relational) digital empowerment platform, developed under the community service program of Universitas Muhammadiyah Yogyakarta's Faculty of Economics and Business, represents an institutional response to this challenge. Operating in Sleman Regency, HALVORA provides structured digital literacy training, marketplace onboarding support, and peer-learning facilitation to MSME communities. A rigorous understanding of what the academic literature says about the determinants and outcomes of such programs is essential for optimizing HALVORA's design and measuring its impact.

This Systematic Literature Review synthesizes 20 Scopus-indexed articles to map the current state of knowledge on MSME digital literacy in platform economies. Three research questions guide the review: (1) What thematic clusters structure the literature on MSME digital literacy and platform engagement? (2) Which research topics represent the most recent emerging frontiers? (3) What program design features are most consistently associated with effective digital literacy outcomes for MSMEs?

2. RESEARCH METHODOLOGY

This study adopts a Systematic Literature Review (SLR) and Systematic Mapping Study approach following established methodological standards (Aprizal et al., 2025; Hasanah et al., 2024). The SLR process is guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, which prescribes sequential stages of identification, screening, eligibility assessment, and final inclusion (Wiranatakusuma et al., 2024).

2.1. Search Strategy

The Scopus database was queried using the following structured search string applied to article title, abstract, and keywords (TITLE-ABS-KEY):

> *TITLE-ABS-KEY (("digital literacy" OR "digital skills" OR "digital capability") AND ("MSME" OR "SME" OR "small business" OR "micro enterprise") AND ("platform" OR "e-commerce" OR "online marketplace" OR "digital economy"))*

The search was restricted to English-language journal articles across all available years in Scopus, document type 'Article.' Data extraction was completed on 02 May 2025.

2.2. PRISMA Selection Process

The initial query identified 52 candidate records. After applying PRISMA-guided screening criteria (see Table 1), 20 articles were retained for full-text review. All 20 were confirmed eligible; no further exclusions were applied.

Table 1. PRISMA Article Selection Summary

PRISMA Stage	Action	Result
Pre-Identification	Determine topic & research question	Community MSME × Digital Platform SLR
Identification	Scopus keyword query (TITLE-ABS-KEY)	52 records identified

PRISMA Stage	Action	Result
Screening	Filter: English, journal articles, on-topic	32 records excluded
Eligibility	Full-text relevance & quality assessment	0 additional exclusions
Included	Final corpus for SLR and bibliometric analysis	N = 20 articles

Source: Authors' Compilation

2.3. Analysis Tools

The 20 selected articles were imported into Mendeley and exported as RIS format, then analysed in VOSviewer (v1.6.20) for keyword co-occurrence network, overlay, and density mapping (Van Eck & Waltman, 2013). Microsoft Excel 365 was used for thematic classification and quantitative content coding.

3. RESULT AND DISCUSSION

3.1. Survey Data

A community survey conducted among MSME participants in Sleman Regency assessed baseline digital literacy levels, marketplace usage patterns, and perceived training needs prior to HALVORA program delivery. Results are summarized in Table 1a below.

Table 1a. Literacy Survey on Marketplace Education — Sleman MSME Participants

No.	Item	Yes	Remark
1	Usage of educational marketplace platforms	61.4%	High
2	Intensity of non-education marketplace use	94.0%	High
3	Platform switching behavior (willingness)	84.2%	High
4	Perceived urgency of digital marketplace training	82.5%	High
5	Value of integrated digital marketing	87.7%	High
6	Belief that digital platforms promote sector growth	93.0%	High
AVERAGE		**83.8%**	**HIGH**

Source: Authors' Calculation

The survey results indicate a high aggregate literacy score of 83.8%, suggesting fertile ground for HALVORA's educational marketplace program. The contrast between high non-education marketplace usage (94.0%) and relatively lower educational marketplace usage (61.4%) reveals a behavioral gap that HALVORA training is specifically positioned to close. The high willingness to switch platforms (84.2%) and strong belief in digital platform sector spillovers (93.0%) provide positive behavioral preconditions for program uptake.

3.2. VOSviewer Network Visualization

The network visualization in Figure 2 was produced from keyword co-occurrence patterns across the 20 reviewed studies and identifies five distinct thematic clusters relevant to the research topic.

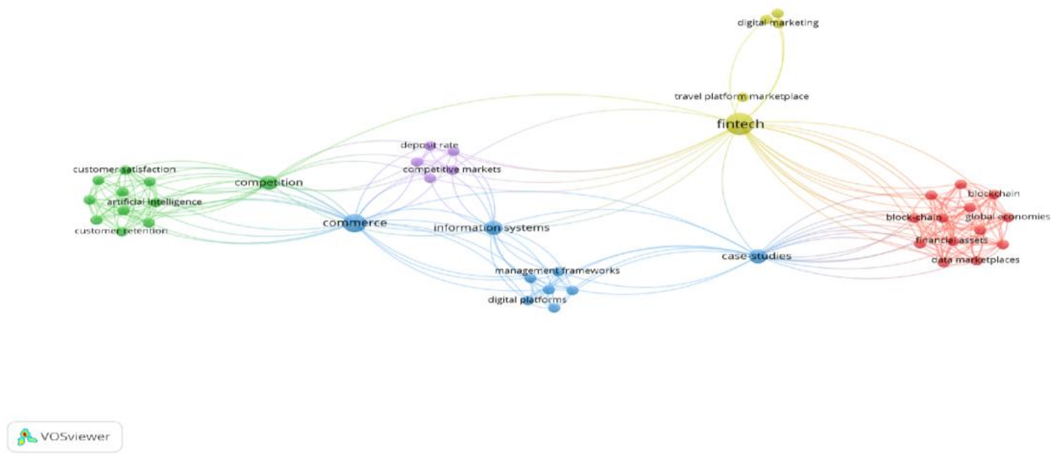

Figure 2. Network VisualizationSource: Data Processed

The green cluster—customer satisfaction, artificial intelligence, competition, and customer retention—maps onto the HALVORA program's goal of building MSME digital marketing competency that generates customer loyalty (Fuadi et al., 2022; Imani et al., 2022). The blue cluster (commerce, information systems, management frameworks, digital platforms) reflects the dominant literature framing of MSME digital literacy as an information management challenge (Crittenden et al., 2019; Hermansyah et al., 2025). The yellow cluster (fintech, digital marketing, travel platform marketplace) captures the intersection of fintech tools and marketplace promotion skills directly relevant to HALVORA's curriculum design. The purple cluster (deposit rate, competitive markets) provides context on competitive financial pressures MSMEs navigate in digital markets. The red cluster (blockchain, data marketplaces, financial assets) represents frontier capabilities that advanced HALVORA graduates may eventually access (Hayati et al., 2025; Khoirurrozikin et al., 2026; Rasyidah et al., 2025).

3.3. Overlay Visualization: Trend and Emerging Issues

Figure 3 presents the overlay visualization, encoding the recency of keyword appearance via color gradient. Dark blue-purple indicates terms prominent around 2021–2022; bright yellow indicates terms emerging in 2024–2025.

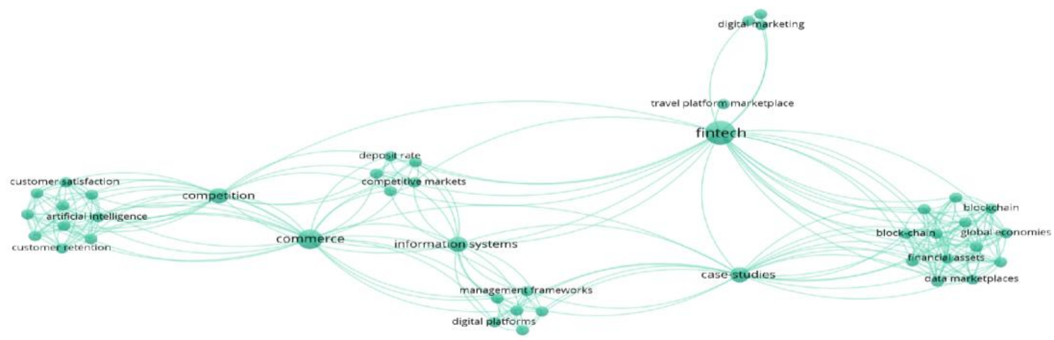

Figure 3. Overlay VisualizationSource: Data Processed

The overlay visualization confirms that the most recently published research—represented in bright yellow—is concentrated in the blockchain, data marketplace, and financial assets zone, while foundational digital literacy and e-commerce adoption studies dominate the earlier review period. This temporal pattern has direct implications for HALVORA curriculum sequencing: foundational platform and payment literacy should form the early program core, with advanced modules on digital analytics and emerging financial technologies introduced in later stages for participants who complete foundational training (Hayati et al., 2025; Rasyidah et al., 2025).

3.4. Density Visualization: Research Concentration

Figure 4 illustrates the relative concentration of research activity around each keyword node. Brighter yellow zones reflect the highest density; darker blue zones indicate underexplored areas with research opportunity.

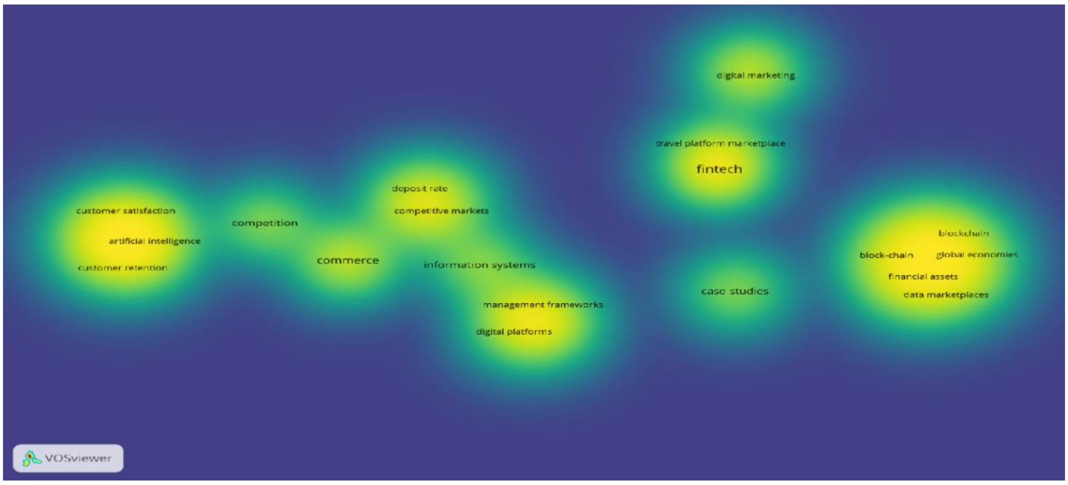

Figure 4. Density VisualizationSource: Data Processed

The density visualization confirms that commerce and information systems remain the research field's twin conceptual anchors, reflecting the substantial accumulated literature on MSME e-commerce adoption and digital platform integration. Importantly, management frameworks and digital platform governance appear in lower-density zones, suggesting that the institutional design of programs like HALVORA—how they are structured, managed, and sustained over time—remains a comparatively understudied dimension (Van Eck & Waltman, 2013; Wiranatakusuma et al., 2024). This is a relevant gap for both program design and future research.

3.5. Classification of Key Issues

Qualitative content analysis of the 20 reviewed articles identifies five thematic categories, each with direct relevance to the HALVORA program's theory of change:

Table 2. Distribution of Key Themes

Theme Category	Share (%)	Representative Issues
Digital Literacy Foundations	30%	Core competencies, device/internet use, MSME performance
Platform Engagement & Marketing Skills	25%	Content creation, ratings, promotions, marketplace visibility
Financial Technology Literacy	20%	E-wallets, P2P lending, crowdfunding, digital payments

Theme Category	Share (%)	Representative Issues
Community Learning & Peer Support	15%	Peer mentors, communities of practice, training sustainability
Policy & Regulatory Enablement	10%	Digital economy policy, fintech regulation, halal compliance

Source: Authors' Calculation

Digital Literacy Foundations (30%): Studies in this category examine the core components of digital literacy—device competency, internet navigation, platform usage, and digital communication—and their relationship to MSME performance. Consistently, digital literacy is found to be a necessary but not sufficient condition for marketplace participation; organizational and financial literacy must accompany it (Hermansyah et al., 2025; Ratnasari et al., 2024).

Platform Engagement & Marketing Skills (25%): Research on digital marketing literacy for MSMEs finds that skills in content creation, seller ratings optimization, and promotional campaign management are the most economically consequential capabilities for marketplace performance. These are areas where HALVORA training can deliver high-impact returns (Imani et al., 2022; Ratnasari et al., 2024).

Financial Technology Literacy (20%): This category covers digital payment systems, e-wallets, peer-to-peer lending platforms, and crowdfunding tools. Digital payment literacy is consistently identified as a critical gateway capability that unlocks broader marketplace engagement for MSME operators (Hamdiah et al., 2025; Nurjannah et al., 2025).

Community Learning & Peer Support (15%): Studies in this category highlight the role of peer-learning networks, community mentors, and digital communities of practice in sustaining literacy gains after formal training. HALVORA's relational program model aligns closely with these evidence-based peer-support mechanisms (Hasanah et al., 2024; Wiranatakusuma et al., 2024).

Policy & Regulatory Enablement (10%): A smaller but important body of literature examines how regulatory frameworks—including digital economy policies, fintech regulations, and halal certification systems—shape the conditions under which MSME digital literacy investments translate into economic outcomes (Jannah, 2026; Nurjannah et al., 2025).

4. CONCLUSION

This Systematic Literature Review has mapped the current state of academic knowledge on MSME digital literacy within platform economies, providing an evidence base for the design and evaluation of the HALVORA program in Sleman Regency. The analysis confirms that digital literacy is a multidimensional capability encompassing platform competency, digital marketing skills, financial technology literacy, and community learning engagement—all of which HALVORA's curriculum is positioned to address.

The overlay visualization's identification of blockchain and data marketplace skills as emerging research frontiers (2024–2025) signals that future HALVORA curriculum iterations should incorporate modules on these technologies as they become accessible to MSME-scale operators. The density analysis further confirms that program governance and institutional sustainability—currently underexplored in the literature—should be treated as first-order design priorities, not afterthoughts.

Three evidence-based recommendations emerge for the HALVORA program. First, digital literacy training should be delivered through integrated bundles that combine platform skills, digital marketing, and payment literacy rather than sequential, siloed modules. Second, peer-learning communities and alumni networks should be established as structural program features to sustain literacy gains beyond the initial training period. Third, the HALVORA program should document its governance model and outcomes systematically to contribute to the underdeveloped literature on community-based digital literacy program design in Islamic economic contexts.

REFERENCES

Abd Latib, N. A., Mohamad, S. N. A., Ishak, A. H., & Baharudin, Z. N. B. (2026). An empowerment model of Islamic crowdfunding based charity to optimize microfinancing for SMEs. Journal of Halal Science and Management, 2(1), 75–86.

Anthony Jr, B. (2023). Decentralized brokered enabled ecosystem for data marketplace in smart cities towards a data sharing economy. Environment Systems and Decisions, 43(3), 453–471.

Aprizal, A., Wiranatakusuma, D. B., Rizki, M., & Anugrah, R. A. (2025). The role of technology in climate resilience: A systematic literature review and mapping study approach. Journal of Physics: Conference Series, 2989(1), 012037.

Asiyah, B. N., Sari, C. M., Syaichoni, A., & Mahesty, D. (2023). Digitizing halal MSMEs: Strategies to sustainability of halal MSMEs. Proceedings of 1st ICIEBZW, 281–290.

Crittenden, W. F., Biel, I. K., & Lovely III, W. A. (2019). Embracing digitalization: Student learning and new technologies. Journal of Marketing Education, 41(1), 5–14.

Fuadi, N. F. Z., Bukhori, B., & Firdiyanti, S. I. (2022). Halal marketplace: The influence of attitude, subjective norms, and perceived behavior control on purchase intention of Muslim consumers. Shirkah: Journal of Economics and Business, 7(1), 100–112.

Hamdiah, Hamid, & Yanto, S. (2025). Halal fintech and the future of Islamic microfinance: Toward inclusive digital prosperity in rural communities. Journal Islamic Economic Minangkabau, 3(5), 261–271.

Hasanah, N. U., Wiranatakusuma, D. B., & Aprizal, A. (2024). A review of the blue economy: Improving community welfare with innovation and environmentally friendly technology. BIO Web of Conferences, 144, 04001.

Hasibuan, R. P. A. (2026). The digital inclusion and empowerment of halal tourism MSMEs in Bengkulu City. Proceedings of AICIEB, 772.

Hayati, A., Huda, N., & Chai, N. (2025). Halal economy and global trade 4.0: Digital halal standards in cross-border e-commerce. Journal Islamic Economic Minangkabau, 3(4), 215–225.

Hermansyah, Suhud, U., & Rizan, M. (2025). Empowering MSMEs in the digital era: A systematic literature review on the role of digital literacy. GIJEA, 3(2), 185–199.

Imani, S., Mi'raj, D. A., Bawana, T. A., & Malik, A. R. (2022). E-commerce platform as a halal lifestyle ecosystem innovation of the Maqashid Shariah. JDBIM, 1(2), 101–118.

Jannah, M. (2026). Price and information transparency in digital Sharia trading as an ethical challenge for Islamic business in the halal marketplace. Mukhtasab: Journal of Economics and Islamic Business, 2(1), 19–36.

Khoirurrozikin, M. L., Azahra, M. H. N., Niquyza, J. E., Rismawan, M. K. A., & Hidayati, A. N. (2026). Halal digital economy: Membangun ekosistem ekonomi Islam berbasis teknologi. JIBEMA, 3(4), 275–289.

Nurjannah, S., Hidayat, S., Khairunnisa, D., Al Faridzy, M. N., & Chairunnisa, R. (2025). Digitalization of halal markets and Sharia e-commerce: Reassessing Sharia compliance and ethical consumerism. Iltizam Journal of Shariah Economic Research, 9(2), 192–208.

Rasyidah, A. N., Azizi, A. Q., & Kholis, N. (2025). Digital ecosystems in supporting global trade of halal products: Innovation and challenges. ADPEBI International Journal of Business and Social Science, 5(2), 1–11.

Ratnasari, A., Maryani, A., Yuniati, Y., & Sofyan, A. (2024). Management of digital marketing of halal products: Solutive strategies for empowering MSME entrepreneurs. KnE Social Sciences, 9(24), 177–189.

Song, A. K. (2019). The digital entrepreneurial ecosystem—a critique and reconfiguration. Small Business Economics, 53(3), 569–590.
Van Eck, N. J., & Waltman, L. (2013). VOSviewer manual. Leiden: Universiteit Leiden, 1(1), 1–53.
Wiranatakusuma, D. B., Aprizal, A., & Kamil, M. (2024). Smart farming for sustainable agriculture: Systematic literature and mapping study approaches. IOP Conference Series: Earth and Environmental Science, 1417(1), 012046.