

Capacity Building for MSMEs: Driving Digital Transformation and Financial Literacy to Boost Competitiveness in the Digital Economy

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Abstract

Originality/novelty: This program introduces a comprehensive, community-based participatory approach tailored for MSMEs in Soloraya, integrating digital technology, product innovation, and financial management to drive mindset transformation from conventional to adaptive digital business practices.

Objective: This initiative aimed to enhance the understanding, capabilities, and business performance of local MSMEs in Surakarta through digital technology utilization, product innovation, and financial literacy.

Methods/approach: The study involved 50 MSME actors across culinary, fashion, and handicraft sectors. The methodology comprised training, mentoring, and practical assistance covering digital marketing, branding, packaging, and digital bookkeeping. Data was gathered via observations, interviews, discussions, documentation, and practical evaluations, then analyzed descriptively using a qualitative approach.

Results: The intervention successfully improved participants' digital knowledge, entrepreneurial skills, and financial management capabilities. Participants demonstrated enhanced proficiency in social media promotion, marketplace usage, attractive packaging creation, and simple digital bookkeeping.

Implications: Despite challenges like varied literacy levels and infrastructure limits, the program offers practical strategies to bolster MSME competitiveness and supports sustainable local economic growth in the digital era.

Keywords:

Digitalization, Product Innovation, Financial Literacy, UMKM, Business Performance.

INTRODUCTION

Digitalization has become a central force in the transformation of contemporary economic systems, reshaping how firms produce, market, transact, and compete. For micro, small, and medium enterprises (MSMEs), digital transformation is no longer an optional modernization strategy but an increasingly necessary condition for business continuity, competitiveness, and growth in an economy marked by rapid technological change and shifting consumer behavior (Nasution et al., 2026; Sitompul et al., 2025; Morisson & Fikri, 2025; Rahayu, 2026). Across the Indonesian context, digital technologies such as e-commerce platforms, social media, fintech services, cloud-based applications, digital payment systems, and customer data tools have expanded the range of strategic instruments available to MSMEs for improving market access, operational efficiency, and business adaptability (Nasution et al., 2026; Sitompul et al., 2025; Morisson & Fikri, 2025; Rahayu, 2026). Evidence from Indonesia also indicates that digital adoption is positively associated with business performance, especially sales growth, and can also strengthen owners' financial literacy, suggesting that digital transformation affects not only commercial activity but also managerial capability (Affandi et al., 2024; Rahmawati et al., 2023; Sari et al., 2025).

In Indonesia, MSMEs occupy a highly strategic position within the national economy. They account for a substantial share of gross domestic product and absorb the overwhelming majority of the labor force, making them a major pillar of economic resilience, employment creation, and regional development (Anggraeni et al., 2025; Sitompul et al., 2025; Morisson & Fikri, 2025; Ferli et al., 2025). Several studies place MSME contribution at around 60%–61% of national GDP and around 97% of employment, underlining why improvements in MSME capability have implications far beyond firm-level outcomes alone (Anggraeni et al., 2025; Sunuantari et al., 2021; Ferli et al., 2025; Hamdani et al., 2024). MSMEs are therefore not merely complementary actors in Indonesia's economy; they are one of its principal productive foundations, especially in periods of economic uncertainty when their flexibility and local embeddedness can support broader economic stability (Anggraeni et al., 2025; Rahayu, 2026; Putri, 2022).

Despite their economic importance, many Indonesian MSMEs continue to experience structural and capability-based barriers that limit their ability to benefit fully from digital transformation. Recurrent constraints in the literature include low digital literacy, limited financial resources, unequal infrastructure access, managerial weakness, organizational unreadiness, and resistance to technological change (Nasution et al., 2026; Sitompul et al., 2025; Morisson & Fikri, 2025; Rahmawati et al., 2023). Large-scale survey evidence from 5,035 ultra-micro, micro, and small enterprises across 17 major Indonesian provinces shows that digital adoption varies with owner characteristics, firm-specific features, business environment, connectivity infrastructure, and culture, confirming that digital transition is uneven and shaped by both enterprise-level and contextual factors (Affandi et al., 2024).

The literature also indicates that many MSMEs remain aware of digital change but hesitate

to implement it in practice because digitalization requires resources, knowledge, sustained support, and alignment between people, process, strategy, technology, and integration (Putra et al., 2023). Organizational barriers include insufficient financial capacity, weak managerial support, limited infrastructure, and low readiness for advanced digital systems (Putra et al., 2023; Sitompul et al., 2025; Rahayu, 2026). Even where government intervention exists, implementation often remains partial, and some MSMEs use only simple digital content without adopting more data-driven strategies or integrated business processes (Rahayu, 2026).

A related challenge is the increasingly intense level of digital competition. Digital markets widen access, but they also expose local MSMEs to stronger competition from both domestic and global actors operating on the same platforms (Morisson & Fikri, 2025; Rahmawati et al., 2023). MSMEs that still operate conventionally are less able to compete in these integrated market environments, especially when they lack the capacity to use inventory systems, consumer analytics, algorithmic marketing, e-commerce channels, or efficient digital payment tools (Morisson & Fikri, 2025; Herawati & Harapan, 2025).

Table 1. Evidence on Performance Drivers

Driver	Main Finding	Evidence for Performance
Digital adoption	Positively linked to sales growth and competitiveness	Positive correlation with business performance and sales growth (Affandi et al., 2024; Nasution et al., 2026)
Financial literacy	Improves financial decisions and MSME performance	Positive effects reported in several MSME studies (Ferli et al., 2025; Tuffour et al., 2020)
Product innovation	Strengthens profitability, sales, and market share	Innovation improves performance across SME settings (Hamdani et al., 2024; Onyango et al., 2025)
Digital technology as mediator	Amplifies effects of internal capabilities	Digital technology strengthens performance pathways (Sari et al., 2025; Rahmawati et al., 2023)

Financial literacy emerges as another consistent determinant of MSME performance. Studies in Indonesian MSMEs report that stronger financial literacy is associated with better business execution, improved strategic decision-making, stronger financial planning, and higher performance outcomes (Ferli et al., 2025; Rahmawati et al., 2023; Putri, 2022; Sari et al., 2025). Financial literacy also affects the ability to manage cash flow, access external finance, and design sustainable business development plans, all of which are especially important for smaller firms that face capital constraints and volatile markets (Ferli et al., 2025; Rahmawati et al., 2023). International evidence is directionally consistent: among small-scale enterprises in Ghana, financial literacy significantly improves both financial and non-financial performance, and all three components—awareness, attitude, and knowledge show positive effects (Tuffour et al., 2020). Some evidence is

not fully uniform, however. One study found that financial literacy was not significant in partial testing, although financial literacy, financial management, and capital were jointly significant, which suggests that the effect of financial literacy may depend on the broader managerial and capital context in which it operates (Lubis & Irawati, 2022).

Product innovation is also a major pathway through which MSMEs strengthen competitiveness and performance. Research on culinary MSMEs reports that product innovation has a substantial positive influence on business performance (Hamdani et al., 2024). Evidence from Kenya similarly shows that SMEs engaged in new product development, product improvement, and product-line diversification experience higher profitability, stronger sales turnover, and wider market share (Onyango et al., 2025). Broader evidence from emerging-country apparel-sector MSMEs indicates that product innovation, together with business process innovation, explains meaningful variation in organizational, economic, commercial, and productive performance, although the isolated effect of product innovation is not always significant across all performance dimensions (Larios-Francia & Ferasso, 2023). This pattern suggests that innovation matters most when it is embedded in wider organizational and process improvements rather than treated as a stand-alone activity (Hamdani et al., 2024; Aksoy, 2017).

The literature consistently shows that capability building is essential if MSMEs are to adapt successfully to digital-era market demands. Training in digital literacy and financial literacy is repeatedly identified as a mechanism for strengthening managerial competence, technology adoption, and business performance (Rahmawati et al., 2023; Tuffour et al., 2020; Ferli et al., 2025). Practical models include workshops, seminars, live assistance, and sustained mentoring rather than one-off socialization efforts (Sunuantari et al., 2021; Herawati & Harapan, 2025).

- Training and mentoring improve digital readiness and technology use (Sitompul et al., 2025).
- Digital payment assistance increases understanding, efficiency, and competitiveness (Herawati & Harapan, 2025).
- Cross-stakeholder collaboration strengthens sustainability of transformation (Sitompul et al., 2025; Morisson & Fikri, 2025; Rahayu, 2026).
- Government programs and policy support remain important for scale and inclusion (Sunuantari et al., 2021; Rahayu, 2026; Sari et al., 2025).

Government support is therefore not peripheral but integral to MSME transformation. The evidence points to the importance of infrastructure expansion, digitalization programs, e-commerce facilitation, digital payment systems such as QRIS, entrepreneurship coaching, and locally adapted policy implementation (Sitompul et al., 2025; Rahayu, 2026). At the same time, several studies stress that policy effectiveness depends on continuity, technical assistance, and alignment with local social and economic conditions, not merely the availability of programs in formal terms (Rahayu, 2026).

Based on these conditions, community service and empowerment initiatives directed at MSME actors are well justified. The literature supports interventions that aim to improve understanding and practical capability in using digital technologies, strengthening product

innovation, and enhancing financial literacy as mutually reinforcing foundations of MSME performance (Affandi et al., 2024; Sitompul et al., 2025; Putri, 2022; Sari et al., 2025). In the Indonesian digital economy, MSME competitiveness appears to depend not on technology adoption alone, but on the combined development of digital capability, innovation capacity, and financial competence, supported by sustained collaboration among government, educational institutions, communities, and market actors (Nasution et al., 2026; Putra et al., 2023; Sholihin, 2024; Larios-Francia & Ferasso, 2023).

LITERATURE REVIEW

UMKM Digitalization

Digitalization is the process of transforming business activities from manual systems into digital technology-based systems by utilizing information and communication technology (ICT) to improve efficiency and competitiveness (Dallocchio et al., 2024). In the context of UMKM, digitalization includes the implementation of technologies such as e-commerce, social media, digital payment systems, and management information systems to strengthen business processes and expand market reach (Santos-Jaén & Gimeno-Arias, 2023). According to Sharabati et al. (2024), digitalization is not merely the adoption of technology, but also a transformation of business strategies and models to become more adaptive to the digital economic ecosystem. This process helps UMKM optimize data, accelerate transactions, and improve customer experience. From a theoretical standpoint, this is consistent with the Resource Based View (Barney, 1991), which posits that a firm's internal resources and capabilities, such as digital competence, can serve as a source of sustained competitive advantage.

Product Innovation

Product innovation is the process of creating or developing new products that provide added value to customers and enhance a company's competitiveness. According to the OECD and Eurostat (2005), the Oslo Manual defines product innovation as "the introduction of goods or services that are new or significantly improved with respect to their characteristics or intended uses." In the context of Micro, Small, and Medium Enterprises (UMKM), product innovation includes changes in design, functionality, packaging, or the technology used to meet dynamic market demands (Quaye & Mensah, 2019). Furthermore, Gao and Yu (2023) state that product innovation in UMKM is not limited to the creation of new products, but also involves adapting existing products to align with consumer preferences through design approaches and the utilization of digital technology

Financial Literacy

Financial literacy is an individual's ability to understand and use financial knowledge to make effective and efficient economic decisions. Annamaria Lusardi and Olivia S. Mitchell (2014) define financial literacy as "knowledge and understanding of financial concepts and risks, and the

skills, motivation and confidence to apply such knowledge to make effective decisions across financial contexts.” In the context of UMKM, financial literacy is an important aspect for entrepreneurs in managing cash flow, investments, and strategic decision making (Rahayu & Musdholifah, 2020). Good financial literacy will help UMKM owners in financial planning, risk management, and improve business profitability (Nguyen & Rozsa, 2022).

UMKM Performance

The performance of Micro, Small, and Medium Enterprises refers to the extent to which a business achieves its predetermined objectives, both in financial and nonfinancial aspects. According to Venkatraman and Ramanujam (1986), business performance includes two main dimensions: financial performance (profitability, sales growth, and return on investment) and operational performance (efficiency, innovation, and customer satisfaction). In the context of UMKM, performance reflects the ability of business actors to manage resources in order to achieve competitive advantage and business sustainability (Molefi & Rankhumise, 2020). Meanwhile, Hapsari and Setiawan (2021) emphasize that UMKM performance is not only measured by profit, but also by the effectiveness of business processes, product quality, and customer satisfaction.

Government Support

Government support refers to all forms of intervention, policies, and programs provided by the government to encourage the growth, sustainability, and competitiveness of UMKM. According to David J. Storey (2016), government support is the government’s effort to provide financial resources, policies, and infrastructure to support the small and medium enterprise sector. In the context of the digital economy, government support includes pro UMKM policies, digital competency training, financing facilitation, and the development of technological infrastructure (Abor et al., 2022). Organisation for Economic Co-operation and Development (2020) emphasizes that the government plays a crucial role in reducing the digital divide and strengthening UMKM resilience through innovative policies.

METHODS

Program Design

This community service program employs a training and mentoring design based on a community based participatory approach, which emphasizes the active involvement of UMKM actors in every stage of the activity. The program is designed as an intervention to enhance MSME capacity in utilizing digitalization, product innovation, and financial literacy in order to strengthen business performance amid digital competition. In addition, the program also integrates the role of government support through the dissemination of government programs, access to financing, and digital training for UMKM. The program is implemented in three main interrelated stages. The first stage is preparation and coordination, which includes identifying UMKM needs, coordinating with partners and relevant institutions, and developing training materials based on participant needs. The second stage is training implementation, which focuses on understanding

digital marketing, the use of marketplaces and social media, product innovation strategies, and simple digital based business financial management. The third stage is mentoring and evaluation, where participants receive hands on practice, business consultation, feedback, and evaluation of the implementation of digitalization and innovation that have been carried out. The program was implemented over five training and mentoring sessions across a four month period, from April 2026 to July 2026

Participants

The partners in this program are UMKM actors in the Soloraya region, particularly in the City of Surakarta, operating in the culinary, fashion, and handicraft sectors. A total of 50 UMKM actors participated in this program, comprising 24 from the culinary sector, 18 from the fashion sector, and 8 from the handicraft sector. Participants were selected through referrals from the Department of Industry and Trade (Disperindag) of Soloraya, based on the following criteria: (1) having operated the business for at least one year, (2) already using digital technology to some extent, and (3) willing to participate in the training through to its completion. UMKM actors actively participate in training activities, discussions, hands on practice using digital platforms, as well as the development of product innovation strategies and business financial management. In addition, local governments and relevant stakeholders also support the implementation of the program by providing venues, information on UMKM programs, and business development assistance.

Data Collection and Analysis

The data in this community service program were collected through: (1) observation during the training and mentoring process; (2) interviews and discussions with UMKM participants; (3) activity documentation; and (4) evaluation of participants practical outcomes in implementing digitalization, product innovation, and business financial management. The data were analyzed using a descriptive qualitative method to describe changes in participants understanding, skills, and the challenges they faced during the program. The evaluation results were used as a basis for improving future UMKM mentoring programs

RESULTS AND DISCUSSION

Initial Conditions and Needs: Baseline of UMKM Capacity

Initial observations indicate that many UMKM participants still entered the program with uneven readiness for digital business adaptation, especially in digital marketing, product development, and financial management (Maula et al., 2026; Ismarina & Anggraini, 2026; Sitompul et al., 2025). This pattern is consistent with broader evidence that Indonesian UMKM often face low digital literacy, traditional management practices, and limited strategic competence, which together weaken competitiveness in the digital economy (Masitoh et al., 2025; Maula et al., 2026;

Ismarina & Anggraini, 2026).

More specifically, limited understanding of digital marketing and marketplace use appears to be a common baseline problem in empowerment settings (Alaksari et al., 2026; Sinaga et al., 2025; Rinawati & Hanif, 2025). Several programs report that many participants still relied on conventional or direct selling before intervention, had not optimized social media, and had weak knowledge of e-commerce features and digital content creation (Nisa et al., 2026; Aysa et al., 2025; Prasetyo et al., 2025). Gaps in product innovation were also visible, especially in packaging, labeling, branding, and product presentation, which limited product appeal and market expansion (Sinaga et al., 2025; Wijonarko et al., 2025; Rinawati & Hanif, 2025).

Financial capability showed the same pattern of weakness. Many UMKM actors lacked structured bookkeeping, mixed personal and business funds, and had difficulty managing cash flow and planning expenditures (Supriyanto et al., 2025; Sari, 2026; Santoso & Iwannudin, 2025). Evidence from Surabaya links bookkeeping, debt, and budgeting literacy directly to UMKM performance, which helps explain why weak financial literacy at baseline can reduce business control and growth capacity (Amri & Iramani, 2018). Differences in participant readiness are also expected, because digital adoption varies with human resources, infrastructure, cost, resistance to change, and location-specific access to training (Sitompul et al., 2025; Masitoh et al., 2025; Prasetyo et al., 2025). The initial findings are consistent with previous studies emphasizing that low digital literacy and weak financial capability remain major barriers to improving UMKM competitiveness in the digital economy era.

Strengthening Knowledge on Digitalization, Product Innovation, and Financial Literacy

The training sessions functioned as a knowledge enhancement process aimed at strengthening participants understanding of digital business practices, product innovation, and financial literacy. This structure aligns with evidence that effective UMKM training combines conceptual explanation with practical topics such as social media use, e-commerce, financial recording, and branding strategy (Sitompul et al., 2025; Nisa et al., 2026; Febriani et al., 2026). Participants were introduced to digital marketing concepts, marketplace utilization, branding strategies, simple bookkeeping techniques, and methods for developing innovative products based on consumer preferences. One important transformation observed during the activities was the change in participants perceptions toward digital technology. Initially, many participants considered digital marketing difficult and costly. However, after receiving practical demonstrations and mentoring, participants began to understand that digital platforms could be utilized easily and effectively to expand market reach and improve customer engagement.

The product innovation sessions also encouraged participants to redesign packaging, improve product presentation, and create more attractive product variations. At the same time, financial literacy training increased participants awareness of the importance of separating personal and business finances, recording transactions regularly, and planning business expenditures systematically. These findings indicate an improvement in participants cognitive and managerial capacity, where conceptual knowledge was translated into practical business applications. The

results support previous studies highlighting that effective UMKM empowerment programs should integrate practical learning and direct application to business activities. The product innovation component also appears to strengthen knowledge by linking consumer appeal with packaging redesign, logo and label development, and more attractive product presentation (Sinaga et al., 2025; Rinawati & Hanif, 2025; Aysa et al., 2025). In parallel, financial literacy sessions increase awareness that transaction recording, budgeting, cash-flow monitoring, and separation of household and business finance are foundational to sustainable enterprise management (Supriyanto et al., 2025; Sari, 2026; Amri & Iramani, 2018).

Development of Digital and Entrepreneurial Skills through Practice

The workshop and mentoring sessions represented an important stage in transforming knowledge into practical entrepreneurial skills. Through hands on activities, participants practiced creating digital promotional content, managing social media accounts, utilizing marketplace features, and developing simple financial records using digital applications.

Participants also received guidance in improving product packaging, designing promotional strategies, and identifying market opportunities. The diversity of participants digital skills showed that the process of capability development was not uniform. Participants with prior experience in social media marketing adapted more quickly, while others required individualized assistance and continuous mentoring. Despite these differences, most participants were able to produce initial digital marketing content, improve product presentation, and apply basic financial recording practices. This demonstrates measurable progress in both digital capability and business management skills. The results align with the concept of entrepreneurial capacity development, which emphasizes the integration of technological skills, innovation capability, and managerial competence to improve business sustainability and competitiveness.

Even so, the literature suggests that most participants in this kind of program can achieve early measurable skill gains. Reported outcomes include the ability to create promotional content, improve product photography and captions, present ordering information, redesign packaging, and produce basic financial records (Nisa et al., 2026; Sinaga et al., 2025; Nabila, 2026). In some cases, these gains are large: one participatory digital marketing program reported movement from 10%–20% baseline performance to 70%–85% after training, while a community-based digital literacy program reported a 73.4% increase in digital marketing competence and a 58.2% increase in financial management competence (Alaksari et al., 2026; Maula et al., 2026).

Observed Outcomes: Integrated Capacity Development of UMKM

The observed outcomes support an interpretation of integrated capacity development, not isolated skill acquisition. Participants improved digital knowledge and use of social media, e-commerce, and marketplace platforms for market expansion, which is consistent with findings that digital adoption improves reach, efficiency, and competitiveness (Sitompul et al., 2025; Ismarina & Anggraini, 2026; Nisa et al., 2026). Product innovation capability also strengthened through

packaging redesign, branding refinement, and more professional visual presentation, which other studies associate with stronger product appeal and sales growth (Sinaga et al., 2025; Nisa et al., 2026; Ismarina & Anggraini, 2026).

Financial literacy improved at the same time. Participants became more capable of recording transactions, separating personal and business finance, managing cash flow, and using digital financial applications, which prior evidence links to better decision-making, access to capital, and stronger business sustainability (Supriyanto et al., 2025; Sari, 2026; Santoso & Iwannudin, 2025). This combined effect fits quantitative evidence from Bandung showing that both financial literacy and digital transformation adoption significantly influence MSME performance, with digital transformation showing the stronger effect (Rahmawati et al., 2023).

Beyond technical outcomes, mentoring programs often produce a mindset shift from conventional management toward more structured, adaptive, and opportunity-oriented entrepreneurship (Sari, 2026; Nabila, 2026; Ismarina & Anggraini, 2026). Community-based and participatory models appear especially effective because they integrate training, practice, mentoring, follow-up, and sustainability planning rather than treating learning as a one-time event (Ismarina & Anggraini, 2026; Wijonarko et al., 2025).

- Integrated mentoring improves market reach and often sales alongside skills (Ismarina & Anggraini, 2026).
- Government and institutional support help sustain digitalization through training, infrastructure, and follow-up access (Sitompul et al., 2025; Santoso & Iwannudin, 2025).
- Capacity building works best when digital literacy, product innovation, and financial governance are strengthened together (Alamin, 2026; Maula et al., 2026).

These findings indicate that the program contributed to integrated capacity development, where knowledge, practical skills, and entrepreneurial attitudes were strengthened simultaneously. The program also demonstrated that community-based mentoring and participatory training can encourage UMKM actors to become more confident in adopting digital technology and innovation strategies in business operations. Furthermore, government support introduced during the activities such as information on digitalization programs, financing access, and UMKM assistance schemes provided additional motivation for participants to continue improving their business performance and competitiveness

Challenges and Contextual Constraints

Despite the positive outcomes, several challenges affected the implementation and sustainability of the program. First, disparities in digital literacy among participants required differentiated mentoring approaches and additional training time for participants with limited technological experience.

Second, limited access to digital infrastructure, including unstable internet connections and inadequate digital devices, became obstacles for some UMKM actors in implementing digital business strategies consistently. This indicates that UMKM digital transformation requires not only individual capability improvement but also institutional and infrastructural support.

Third, some participants still faced difficulties in maintaining consistent financial records and applying innovation strategies due to limited time, human resources, and business capital. Finally, the absence of quantitative evaluation methods, such as pretest and post test assessments, limited the ability to measure the exact magnitude of participant improvement. Although qualitative observations showed positive changes in knowledge and skills, future community service programs should incorporate measurable indicators to strengthen the evaluation of program effectiveness and long-term impact on UMKM performance

CONCLUSION

The community service program conducted for UMKM actors in Soloraya, particularly in Surakarta, successfully enhanced participants understanding and capabilities in digitalization, product innovation, and financial literacy. Through participatory training and mentoring activities, participants gained practical knowledge regarding digital marketing, marketplace utilization, product development strategies, and simple financial management practices. The program also contributed to improving entrepreneurial capacity by encouraging participants to adopt more adaptive and technology oriented business practices. Participants demonstrated increased confidence in utilizing social media and digital platforms for business promotion, improving product packaging and branding, and implementing basic financial recording systems. Overall, the integration of digitalization, innovation, financial literacy, and government support within the program positively contributed to strengthening UMKM competitiveness and business sustainability in the digital economy era.

Despite the positive outcomes, several limitations were identified during the implementation of the program. First, differences in participants digital literacy levels affected the pace of learning and required differentiated mentoring approaches. Some participants adapted quickly to digital tools, while others required more intensive assistance. Second, limited access to digital infrastructure, including internet connectivity and digital devices, constrained the optimal implementation of digital business practices among several UMKM participants.

Third, the program duration was relatively short, limiting the ability to monitor long term behavioral and business performance changes after the training activities. Finally, the evaluation process relied primarily on qualitative observations and participant feedback without quantitative measurements such as pretest and post test assessments. Therefore, the extent of competency improvement could not be measured statistically

Future community service programs should incorporate longer term mentoring and continuous evaluation to ensure the sustainability of UMKM digital transformation and business development. Training activities should also adopt differentiated learning approaches based on participants' digital competency levels to improve learning effectiveness. In addition, collaboration between universities, local governments, financial institutions, and digital platform providers should be strengthened to provide broader access to training, business financing, and technological

infrastructure for UMKM actors.

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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

AI Usage Statement

The use of Artificial Intelligence (AI) tools in this work was strictly limited to supportive functions, specifically for language editing, grammar checking, and improving clarity and readability. AI was not used to generate core ideas, conduct substantive analysis, interpret data, or draw scholarly conclusions. The authors retain full responsibility for the originality, accuracy, and academic integrity of the content, and AI tools are not credited as authors or contributors, in accordance with ethical standards in academic publishing

Author Contributions Statement

NS, T, NAS, and LH conceptualized and designed the community-based capacity building program. NS and T led the overall coordination, digital marketing, and product innovation sessions. NAS and LH conducted financial literacy training, digital bookkeeping mentoring, and data collection through interviews and observations. NS, T, NAS, and LH performed the qualitative data analysis, drafted the manuscript, and critically revised the final version for publication. All authors have read and approved the final manuscript.

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