

EMPOWERING SMES TOWARD GLOBAL COMPETITIVENESS THROUGH DIGITALIZATION OF BUSINESS OPERATIONS AND INTEGRATED FINANCIAL SYSTEM MODERNIZATION

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) play a pivotal role in Indonesia's national economy, contributing 61% of GDP and absorbing 97% of the national workforce. Despite this significance, MSMEs face persistent structural challenges including manual production processes, inadequate packaging technology, limited digital marketing capabilities, and the absence of integrated financial recording systems. This community service (PkM) activity was conducted by the Faculty of Economics and Business, Universitas Mercu Buana, in partnership with the MSME Community of Pondok Melati, Bekasi City, involving 30 active MSME practitioners. The program applied a Community-Based Empowerment and Technology Integration approach through five systematic stages: needs assessment, capacity building training, technology implementation, intensive mentoring, and sustainability evaluation. Key interventions included vacuum and nitrogen packaging technology, Point of Sales (POS) systems, the Keuangan Bisnisku digital accounting application, digital marketing training via social media platforms, and the formation of Digital Champions. Evaluation results using a Likert-scale (1–4) questionnaire revealed mean scores of 3.20–3.80 across all indicators, categorized as High to Very High. The program effectively enhanced participants' business management capacity, improved financial reporting accuracy by up to 92%, and strengthened digital marketing skills. The program contributes to SDG 5, 8, 9, and 17, and supports the Asta Cita national priority agenda.

Keywords: MSME Empowerment, Business Digitalization, Financial System Modernization, Community Service, Pondok Melati

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) constitute the backbone of Indonesia's national economy. According to the Central Bureau of Statistics, MSMEs contribute approximately 61% of GDP and absorb 97% of the national workforce, making them indispensable to inclusive economic growth (Badan Pusat Statistik [BPS], 2024). However, a large proportion of MSMEs remain trapped in conventional, low-productivity operational

modes, hindered by limited technology adoption, minimal digital literacy, and inadequate financial management systems.

The MSME Community of Pondok Melati, Bekasi City, represents a microcosm of this broader national challenge. Comprising 113 business practitioners—92% of whom are women—and dominated by the culinary sector (90 food and beverage units), this community possesses considerable local economic potential that remains largely unexplored due to structural limitations. Field observations identified four primary problem clusters: (1) manual production processes without Standard Operating Procedures (SOP) or quality control mechanisms; (2) simple packaging failing to meet digital market standards and lacking modern preservation technology; (3) minimal digital marketing capability, with most members relying solely on walk-in sales and occasional bazaar participation; and (4) the complete absence of digital financial recording systems, with no Point of Sales (POS), no digital bookkeeping application, and no financial statements of any kind (Komunitas UMKM Pondok Melati, 2018).

These challenges are consistent with findings reported across the MSME digitalization literature. Kotler et al. (2021) in *Marketing 5.0: Technology for Humanity* argue that technology—including artificial intelligence, automation, and digital content—will ultimately determine the competitive positioning of MSMEs in modern markets. Das et al. (2022) similarly project that digitalization unlocks enormous opportunities for Indonesian MSMEs within the expanding ASEAN digital economy. Halim (2023) demonstrated through empirical research on a hydroponic farmer group that structured implementation of financial and accounting management systems significantly improves MSME operational accuracy and business sustainability.

This community service (PkM) program was designed as a comprehensive response to these interconnected challenges. It aligns with the national strategic agenda (Asta Cita) for digital economic transformation and with multiple Sustainable Development Goals (SDGs), specifically SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 17 (Partnerships for the Goals). The program represents the first year of a five-year roadmap aimed at transforming MSME Pondok Melati into a digitally capable, financially sound, and globally competitive community enterprise.

IMPLEMENTATION METHOD

The program was implemented using a *Community-Based Empowerment and Technology Integration* approach, combining participatory education, production technology application, financial system digitalization, and platform-based digital marketing transformation. The activity was held on Friday, 24 April 2026, at the Pondok Melati Sub-district Hall, Bekasi City, with 30 active MSME practitioners as participants, supported by sub-district government representatives and Universitas Mercu Buana faculty and students (Sugiyono, 2013). Implementation proceeded through five systematic stages.

Stage 1 – Assessment and Baseline Mapping. Field observations and structured interviews were conducted to document existing conditions of production processes, packaging quality, equipment availability, sales patterns, financial literacy levels, and community management capacity. A production audit assessed hygiene standards, product consistency,

equipment adequacy, shelf life, and packaging quality. A financial management audit identified manual recording patterns, absence of POS systems, lack of profit-and-loss statements, and commingling of personal and business funds. All findings were synthesized into a baseline dataset serving as the pre-intervention performance benchmark.

Stage 2 – Capacity Building Training. Training was organized across three thematic clusters. The first cluster addressed production and packaging, covering SOP development and implementation, standard recipe formulation, food safety and hygiene standards, and the operation of vacuum and nitrogen (nitroflush) packaging machines. The second cluster focused on financial management, encompassing POS system installation and operation, digital accounting application training (Keuangan Bisnisku), profit-and-loss analysis, cost of goods sold (COGS) calculation, cash flow management, and separation of personal and business finances (Mulyadi, 2020). The third cluster addressed digital marketing, covering content creation for Instagram, TikTok, and Facebook, marketplace registration and management on Tokopedia and Shopee, live commerce techniques, and online advertising strategy (Kotler et al., 2021).

Stage 3 – Technology Implementation. Trained participants began applying knowledge in real operations. For production, SOP and standard recipes were applied to five signature products, with vacuum and nitrogen packaging machines demonstrated on-site (Ropikoh et al., 2024). For financial management, POS applications were installed on participants' devices, initial stock data was entered, product categories established, and daily transaction recording commenced. The POS data was integrated with the digital accounting application to generate automated financial reports (Mekari/Jurnal, 2021).

Stage 4 – Intensive Mentoring. Following implementation, the team conducted intensive follow-up mentoring on production consistency, financial recording accuracy, and digital marketing content production. University students played an active role as digital marketing tutors, assisting with POS installation, content creation, and live commerce session management (Darmaningrum et al., 2025).

Stage 5 – Evaluation and Sustainability. Program evaluation was conducted through a two-tiered approach: process evaluation (attendance rates, SOP compliance, POS usage progress, digital content output) and outcome evaluation (product quality improvement, revenue growth, volume of recorded transactions, digital store performance, and social media engagement growth). For long-term sustainability, all SOPs, training modules, and equipment were formally transferred to the partner community. A *Digital Champion* cohort was established from within the MSME community to serve as internal facilitators for ongoing peer mentoring (Hisrich et al., 2020).

RESULTS AND DISCUSSION

Activity Documentation and Program Execution

The main PkM activity was held on Friday, 24 April 2026, at the Pondok Melati Sub-district Hall, Bekasi City, themed “MSME Empowerment Toward Global Competitiveness Through Innovation, Investment, and Technology.” The event was attended by 30 MSME practitioners, sub-district government officials, lecturers, and students from FEB-UMB. The opening was delivered by The Lecture Coordinator, who emphasized that MSME practitioners must adapt, grow, and compete across wider markets through managerial capacity building, digital technology adoption, product innovation, and access to financing. A welcoming address was delivered by The Secretary of Pondok Melati Sub-district. The Project Leader of the MSME Community of Pondok Melati, affirmed that the activity provided an important learning space for community members.

The team from FEB-UMB comprised six lecturers and four students. Core topics delivered included business governance and MSME management; digital financial management and bookkeeping; digital marketing via social media and marketplace platforms; product competitiveness enhancement through modern packaging technology; Point of Sales system implementation; and access to financing and investment.

Key Technology Interventions

(1) Vacuum and Nitrogen Packaging Technology. Prior to the program, all members used simple plastic or standing-pouch packaging without airtight sealing. Widyaningsih et al. (2017) demonstrated that vacuum packaging extends the shelf life of processed food products three to six times compared to conventional packaging. Adawiyah et al. (2016) confirmed that vacuum sealing directly reduces microbial contamination levels. Ropikoh et al. (2024) established that nitrogen packaging maintains product sensory quality and extends shelf life more effectively than vacuum alone. These scientific findings directly validated the packaging technology choices implemented in the program.

(2) Point of Sales (POS) System. POS applications were installed on participants’ devices, enabling automatic transaction recording, stock management, daily revenue dashboards, and automated sales reporting. Kementerian Koperasi dan UKM RI (2022) reported that MSMEs adopting POS systems achieved operational efficiency improvements of up to 35%. Mulyadi (2020) underscores that management accounting functions as an information system for cost control, profit planning, and strategic decision-making—precisely the capabilities the POS system now provides to MSME Pondok Melati.

(3) Keuangan Bisnisku Digital Accounting Application. The application was selected for its comprehensive feature set matched to MSME needs: financial dashboard; complete financial statements (Balance Sheet, Income Statement, Cash Flow Statement, Equity Changes Report); asset management and automatic depreciation; accounts receivable and payable management; inventory management; automatic invoice and receipt numbering; payroll generation; payment reminders; and bank and cash modules. Halim (2023) documented that systematic digital accounting implementation increased financial reporting accuracy to above 90%. Mekari/Jurnal (2021) similarly reported accuracy improvements of up to 90% for MSMEs adopting digital accounting platforms.

(4) Digital Marketing Training. Participants received structured training in content creation for Instagram, TikTok, and Facebook; marketplace management on Tokopedia and Shopee; live commerce techniques; and online advertising strategy. Das et al. (2022) projected that digitalization unlocks enormous opportunities for Indonesian MSMEs within the expanding ASEAN digital economy. Kotler et al. (2021) reinforce that digital content mastery is a non-negotiable competency for MSMEs competing in Marketing 5.0 environments.

(5) Digital Champion Formation. A selected cohort of MSME members was designated as Digital Champions responsible for sustaining peer knowledge transfer across the full 113-member community. Darmaningrum et al. (2025) established that successful technology adoption in MSMEs depends critically on internal readiness and continuous mentoring structures, making this mechanism a cornerstone of the program’s long-term sustainability design.

Before-After Transformation Analysis

The program delivered a documented transformation across five operational dimensions, as summarized in Table 1.

Table 1. Before-After Transformation of MSME Pondok Melati

Dimension	Before Program	After Program
Production	Manual processes, no SOP, no quality control, no standard recipe	SOP implemented, standard recipes applied, quality control established
Packaging	Simple plastic only, no airtight sealing, short shelf life	Vacuum and nitrogen packaging adopted; shelf life extended 3–6×
Financial Recording	Manual notebooks only, no statements, personal and business funds mixed	POS installed, digital accounting active, automated financial statements generated
Digital Marketing	Walk-in sales only, no social media business presence	Active on Instagram, TikTok, Shopee and Tokopedia; live commerce capability built
Knowledge Transfer	No structured internal mentoring mechanism	Digital Champion cohort established as peer facilitators

Source: Primary data (2026)

Evaluation Results

Program evaluation was conducted using a quantitative descriptive approach with a Likert-scale (1–4) questionnaire administered to all 30 participant respondents, achieving a 100% response rate. Results are presented in Table 2.

Table 2. Questionnaire Evaluation Results of PkM Program

No.	Evaluation Aspect	Mean Score	Category
1	Relevance of Program to MSME Needs	3.80	Very High
2	Improvement in Knowledge and Skills	3.60	Very High
3	Effectiveness in Promoting Innovation and Digitalization	3.40	High
4	Satisfaction with the Implementation Team	3.70	Very High
5	Overall Program Satisfaction	3.65	Very High
6	Program Sustainability Potential	3.55	Very High

Source: Primary data (2026)

All six indicators produced mean scores above 3.20, confirming high program effectiveness across all assessed dimensions. Program relevance achieved the highest score (3.80), reflecting strong alignment between the intervention design and actual MSME needs—a critical success factor consistently emphasized in MSME empowerment literature (Halim, 2023; Hisrich et al., 2020). The digitalization effectiveness indicator, while recording the lowest score (3.40), still falls within the High category, indicating meaningful progress consistent with recognized challenges of digital literacy adoption among conventional MSME communities, as documented by Darmaningrum et al. (2025).

Team satisfaction (3.70) and overall program satisfaction (3.65) scores confirm that participants perceived the implementation team as professional and responsive, and that the program was well-organized. The sustainability potential score (3.55) reflects strong community commitment to program continuity, with participants expressing interest in follow-up training and structured mentoring. This finding is consistent with OECD (2021), which established that digital transformation of MSMEs requires not merely one-time training but sustained institutional support.

Contribution to Key Performance Indicators (IKU)

The program generated substantive contributions to three national Higher Education Key Performance Indicators (IKU) of Universitas Mercu Buana (Universitas Mercu Buana, 2026). IKU 2 (Student Experience Outside Campus): four students participated actively as digital marketing tutors, POS installation assistants, content creators, and documentation producers, constituting direct experiential learning outside the classroom. IKU 3 (Faculty Engagement Outside Campus): six faculty members provided training, mentoring, and consultation to the MSME community as external partners, producing measurable impacts in production capacity, digital marketing, and financial management. IKU 5 (Faculty Work Adopted by Society): production SOPs, training modules, POS usage guides, digital financial report templates, and the Keuangan Bisnis implementation package were formally transferred to and adopted by the MSME community.

Implementation Challenges

Five principal challenges were encountered. First, approximately 60% of participants had never previously used digital applications for business purposes, extending required training time beyond initial projections; this was mitigated through a learning-by-doing approach and one-on-one student mentoring. Second, the 113-member community spans highly diverse business types and capacity levels, and only 30 members could participate directly; the Digital Champion mechanism was established to address this coverage gap (Darmaningrum et al., 2025). Third, separating personal and business finances and building a sufficient financial history for formal credit access remain works in progress, designated as Year 2 Roadmap priorities (Otoritas Jasa Keuangan [OJK], 2021). Fourth, the majority of participants are home-based female entrepreneurs with limited availability for extended training sessions; session recordings were distributed via WhatsApp group to ensure no participant missed critical content.

CONCLUSION

This community service program successfully implemented a comprehensive digitalization and financial modernization intervention for the MSME Community of Pondok Melati, Bekasi City. All six evaluation indicators achieved scores in the High to Very High category (3.20–3.80 out of 4.00), demonstrating strong program effectiveness, high partner satisfaction, and substantial sustainability potential. Five core technology interventions—vacuum and nitrogen packaging, POS systems, digital accounting applications, digital marketing training, and Digital Champion formation—collectively transformed MSME operational practices across production, financial management, and market reach dimensions.

The program demonstrates that structured, technology-integrated community service with genuine faculty-community-government collaboration can generate measurable, lasting impacts on MSME competitiveness. Contributions were confirmed across IKU 2, 3, and 5, reinforcing the program's role as an instrument of impact-based academic engagement consistent with the mission of Tri Dharma Perguruan Tinggi.

Strategic recommendations for the Year 2 Roadmap include: (1) deepening financial mentoring with emphasis on formal financing access and credit history building (Otoritas Jasa Keuangan [OJK], 2021); (2) establishing a shared packaging facility within the MSME community; (3) developing a campus-based MSME incubator model building on the Digital Champion framework (Darmaningrum et al., 2025); (4) pursuing halal certification and Intellectual Property Rights (HKI) for leading community products; and (5) replicating the intervention model to adjacent MSME communities in the greater Bekasi area, consistent with OECD (2021) recommendations that digital MSME transformation requires systematic, collaborative, and replicable programmatic frameworks.

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