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ENHANCING LOCAL ECONOMIC GROWTH THROUGH DIGITAL COOPERATIVE-BASED MSME DEVELOPMENT IN SUPPORT OF THE VILLAGE SDGS PROGRAM

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ABSTRAK

UMKM menjalankan peran strategis dalam memajukan perekonomian pedesaan dan mendukung pencapaian tujuan pembangunan berkelanjutan (SDGs) di tingkat desa. Terlepas dari potensi yang dimiliki, banyak UMKM di pedesaan dihadapkan pada situasi seperti keterbatasan literasi digital, strategi pemasaran yang masih konvensional, dan integrasi yang lemah terhadap sistem ekonomi kolektif. Tujuan dari program pengabdian masyarakat ini adalah untuk menumbuhkan kapasitas ekonomi pada para pelaku UMKM Desa Kalisidi di Ungaran Barat, Semarang melalui pengenalan aplikasi koperasi digital. Kegiatan pengabdian diikuti oleh 30 pelaku UMKM desa kalisidi dalam bentuk pemaparan materi dan group coaching. Aktivitas yang dilakukan meliputi pelatihan berbasis komunitas, pengenalan platform koperasi digital, berikut dengan simulasi penggunaannya. Hasil menunjukkan para peserta mengalami peningkatan terkait pemahaman terhadap pemasaran digital serta peningkatan kepercayaan diri dalam menggunakan teknologi untuk bisnis mereka. Platform digital juga memfasilitasi terciptanya ekosistem bisnis yang terpadu, yang memungkinkan collaborative branding, berbagi sumber daya yang efisien, dan perluasan akses pasar bagi UMKM. Inisiatif ini menunjukkan bahwa penerapan model koperasi digital dapat secara efektif menjadi katalis untuk pembangunan ekonomi inklusif dan berkelanjutan di daerah pedesaan. Lebih lanjut, ini berkontribusi pada pencapaian beberapa target SDGs, khususnya SDGs 8 (pekerjaan layak dan pertumbuhan ekonomi) dan SDGs 8 11 (kota dan komunitas berkelanjutan). Integrasi digital yang berakar pada potensi lokal merupakan kunci untuk membangun perekonomian desa yang tangguh dan mandiri.

ABSTRACT

MSMEs are an integral part of advancing the rural economy and realizing the SDGs at the grassroots/village level. Many rural MSMEs often seem not to feel the full impact of this potential, as they are hindered by a lack of digital literacy, limited application of marketing strategies, and only weak ties to the economy. The primary objective of this program is to enhance the economic potential of MSMEs in Kalisidi Village, West Ungaran District, Semarang Regency, by utilizing an online cooperative application. A total of 30 MSMEs in Kalisidi Village participated in a community service program that included explanations and group coaching. Some of these activities included community training, presentations, and simulated use of a digital platform for a cooperative. The findings indicated that the trainees developed a deeper understanding of digital marketing and had high confidence in leveraging technology to conduct business. The digital platform also established an integrated business environment for MSMEs, facilitating collaboration in branding, shared resource deployment, and new market entry. This initiative demonstrates that implementing a digital cooperative model can effectively catalyze inclusive and sustainable economic development in rural areas. Furthermore, it contributes to the achievement of several SDG targets, particularly SDG 8 (decent work and economic growth) and SDG 811 (sustainable cities and communities). Digital integration rooted in local potential is key to building a resilient and independent village economy.

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INTRODUCTION

Sustainable development at the village level (Village SDGs) represents a concrete commitment by the Indonesian government to balance social, economic, and environmental development through inclusive and participatory approaches (Mardiani & Setiawan, 2021). This commitment is reflected in Presidential Regulation No. 59 of 2017, which was later elaborated upon through the Ministry of Villages Regulation No. 21 of 2020 as a guideline for village-level implementation. The primary goal of the Village SDGs is to accelerate integrated and sustainable rural development. However, implementation in the field faces various challenges, such as limited human resources, insufficient funding, and unequal access to technology and information (Wiratama et.al 2024). Therefore, synergy between the government, academia, the private sector, and the community is crucial, especially in applying digital technologies that have proven to accelerate SDG achievement, particularly in management, education, and economic aspects (Cahyaningdyah et.al 2024; Boekosoe & Maksum, 2022).

The realization of the Village SDGs continues to face significant obstacles, including limitations in human resources, budget constraints, and unequal access to information and technology (Saputra et al., 2021). Thus, collaboration among stakeholders is essential to ensure the sustainability of these programs (Jorneault et.al 2021). Moreover, community-based participatory approaches in planning and managing village development have been shown to enhance the effectiveness of achieving the SDGs. Research also indicates that digital governance can significantly expedite the realization of Village SDGs, particularly in management, economy, and education (Buchari et.al, 2023). One strategic effort to support the implementation of Village SDGs is the integration of digital solutions to promote local products and develop digital-based educational services for rural communities with limited access to formal education (Lestari & Abdullah, 2022). The Village SDGs are expected to become an inclusive and sustainable development strategy in Indonesia through adaptive policies and innovations rooted in local wisdom.

Kalisidi Village, situated on the northern slopes of Mount Ungaran, has excellent potential for household industries and MSMEs, including tempe chips, oyster mushrooms, and cassava-based snacks. These products are primarily sold in nearby sub-district markets, including East Ungaran, Bergas, and Pringapus. Despite their promising potential, MSME actors in this village face various challenges in expanding their market reach. The community service team's findings, which included a mapping of needs conducted in January 2024 by the Kalisidi Village Sub-district, revealed that approximately 73% of MSMEs at the village level had never utilized digital media, such as marketplaces or social media, for marketing their products. Interview results with village officials also revealed that only 12% of MSMEs had taken part in digital marketing training and held technology mentoring programs with the external institutions (both government and educational institutions). This condition underscores the urgent need to enhance digital literacy and modern marketing capabilities, thereby expanding market access and increasing the competitiveness of MSMEs in Kalisidi Village.

A strategic solution to address these challenges is the integration of digitalization through training and mentoring for village MSMEs

and cooperatives in utilizing digital cooperative applications. This program is a key part of efforts to support the Village SDGs, particularly in building a digital-based economic ecosystem (Nugroho & Wibisono, 2023). The implementation involves collaboration with lecturers from Udinus who specialize in digital marketing. The digital cooperative application enables automated, transparent, accountable financial recording, member management, and reporting processes. It enhances managerial efficiency, strengthens member trust, and simplifies financial reporting in accordance with accounting standards (Pebriani et al., 2025). Therefore, training on how to use this application is essential to fostering modern and professional cooperative management. Moreover, integrating digital cooperative applications is expected to foster a culture of innovation and continuous learning among MSME actors in the village. By engaging in digital training and mentorship, local entrepreneurs can gradually build their digital competencies, adapt to evolving market trends, and explore new business models (Propenko et al., 2024). This transformation improves individual business performance and strengthens the village's overall economic resilience. In the long term, such digital empowerment initiatives can serve as a replicable model for other rural areas aiming to achieve inclusive and sustainable development through technology-driven solutions.

Through this community service program, MSME actors and cooperative managers in Kalisidi Village gain insights into the importance of digitalization in marketing and governance and receive direct assistance in using the digital cooperative application. Success indicators of this program include increased online transactions,

expanded market reach, improved accuracy of financial reporting, and greater user satisfaction with the adopted system. Furthermore, the involvement of local stakeholders in the training process fosters a sense of ownership and collective responsibility in driving digital transformation. The program also encourages knowledge sharing between generations, bridging the digital divide between young entrepreneurs and older entrepreneurs, which is essential for long-term sustainability. In addition, this initiative promotes gender-inclusive participation by encouraging women entrepreneurs, who are often dominant in the household industries of Kalisidi, to take an active role in digital training and cooperative management. This aligns with the broader Village SDGs agenda of reducing inequality and empowering marginalized groups through equitable access to resources and technology. By embracing technology and innovation, village cooperatives are expected to transform into institutions capable of addressing contemporary challenges and driving the achievement of sustainable development goals at the village level. The lessons learned from this pilot program may serve as a blueprint for scaling up similar digital empowerment projects in other rural communities, contributing to national efforts to build digitally resilient villages.

METHOD

This community service initiative was implemented using a combination of practical training and group coaching methods specifically designed for micro, small, and medium-sized enterprises (MSMEs) in Kalisidi Village. The practical training component enabled participants to engage directly with the materials, with a particular focus on utilizing a digital cooperative

application introduced during the program. This hands-on learning approach was designed to deepen participants' understanding, promote active engagement, and assess their readiness to adopt digital tools within their businesses effectively (Pebriani et al., 2025).

Complementing this, the group coaching method fostered structured, small-group interactions facilitated by trained coaches. These sessions fostered collaborative learning, peer support, and open discussions of real challenges encountered during digital transformation. In community development contexts, this method has proven effective in building participants' skills and confidence in navigating technological shifts, particularly in the digital economy (Puspita & Maulana, 2023; Propenko et al., 2024).

The program was implemented in two major phases. The first phase focused on preparation, which included initial coordination with village authorities, a needs assessment, identification of targeted participants, mapping of MSME clusters, and the development of tailored training materials. The second phase consisted of program implementation, which was structured into three key activities: (1) a session on digital marketing strategy and socialization, (2) training on branding techniques and online promotion, and (3) hands-on practice and mentoring in using the digital cooperative platform.

Following implementation, a thorough evaluation was conducted to assess the effectiveness of the training, the extent of participant engagement, and the learning outcomes. The findings were compiled in a progress report and a final report. They were disseminated through various academic and public channels, including journal publications,

conference proceedings, media articles, video highlights, and potential intellectual property filings. To ensure the program's sustainability, a follow-up plan was developed in collaboration with Kalisidi Village to explore future community service projects. Additionally, the program was structured to be replicated and offered to other communities facing similar challenges. This comprehensive method was selected to enhance the digital capacity of MSMEs, improve market access, and make a meaningful contribution to achieving the Sustainable Development Goals (SDGs), particularly in the areas of digital transformation and inclusive local economic development (Nugroho & Wibisono, 2023).
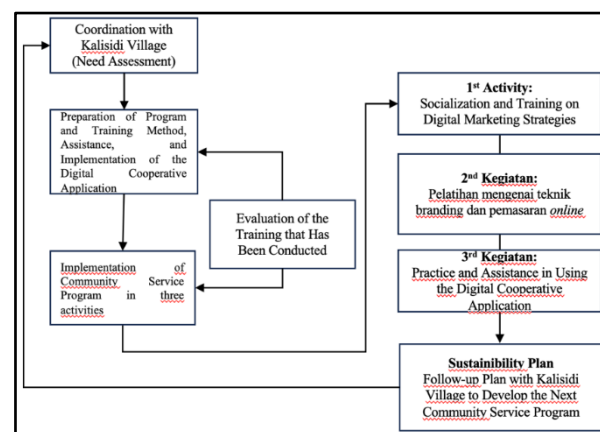
Picture 1. Method of International Service Community

RESULTS AND DISCUSSION

Implementing the community service program in Kalisidi Village has proven to be an effective strategy for enhancing local economic growth by empowering MSMEs through digital cooperative-based approaches that align with the Village SDGs agenda. The introduction of a digital cooperative application, supported by structured training and group coaching methods, successfully addressed key challenges previously faced by MSME actors, such as low digital literacy, ineffective marketing practices, and the lack of

collective digital economic structures. Participants demonstrated significant improvements in understanding digital marketing concepts, including product branding, pricing strategies, and online platform promotion. They could also apply this knowledge in real time during business simulations, which helped build their confidence and digital competencies. These results are consistent with prior studies, which highlight that context-sensitive and experiential training models significantly improve the learning outcomes and technology adoption of rural entrepreneurs (Rahman et al., 2023; Pebriani et al., 2025).

Beyond individual learning outcomes, the digital cooperative platform facilitated the formation of a unified business ecosystem that encouraged resource sharing, collective branding, and cooperative financial reporting. This digital integration enhanced operational transparency, building trust among members, and increased access to broader markets, particularly outside the local sub-district. In addition, the platform's accessibility via smartphones allowed greater inclusion, enabling women entrepreneurs—who dominate Kalisidi's household industry sector—to participate more actively in digital marketing and cooperative decision-making. This aligns with the findings of D'Silva and Bhat (2022), who emphasize the strategic role of women-led MSMEs in the food and local product sectors.

Participants expressed a sense of empowerment, noting that digital tools simplified their business processes and opened up new opportunities to expand their enterprises sustainably. Moreover, group coaching played a vital role in strengthening peer-to-peer learning and community support. Participants benefited from the opportunity to exchange experiences,

troubleshoot challenges, and build a shared vision of innovation. This model fostered intergenerational collaboration, where younger, tech-savvy individuals assisted older participants in understanding the application, bridging the digital divide within the community. Such collaborative learning practices have improved knowledge retention and fostered a long-term culture of innovation and entrepreneurship (Prokopenko et al., 2024).

As a result, a sense of ownership and solidarity grew among the MSMEs, an essential foundation for the sustainability of any cooperative-based system. However, several implementation challenges were also identified. Limited internet infrastructure in parts of the village, uneven access to smartphones, and initial hesitation toward digital adaptation among older participants posed barriers. These challenges reflect broader structural issues that must be addressed for the sustainability of digital empowerment initiatives. Research by Tim et al. (2021) highlights that the success of rural digital transformation hinges on providing digital tools and systemic support, including infrastructure, local policy alignment, and ongoing mentoring. In response, the Kalisidi program incorporated follow-up planning, stakeholder collaboration, and the potential for replicability in other rural areas.

The program has since received interest from nearby villages seeking to adopt similar models, demonstrating its potential as a scalable framework for rural digital empowerment. Overall, the program demonstrates how a localized, needs-based, and inclusive digital intervention can make a meaningful contribution to achieving the Village SDGs—particularly in promoting economic inclusion, innovation, and gender-responsive

development. The empowerment of MSMEs through cooperative digitalization addresses market access barriers and strengthens social cohesion and participatory governance at the village level. This positions digital cooperative models as strategic instruments for building resilient, future-ready, and self-sufficient rural economies in Indonesia. In addition to improving digital marketing skills and platform adoption, the evaluation results also revealed enhanced organizational behavior among MSME actors and cooperative members. Participants reported better coordination, transparency, and trust among fellow members after applying cooperative principles through the digital system.

The digital cooperative platform enabled real-time tracking of inventory and sales, minimizing reporting errors and reducing reliance on manual bookkeeping. These changes had a ripple effect: not only did they improve internal efficiency, but they also enhanced the cooperative's credibility when engaging with external stakeholders, including suppliers, customers, and supporting institutions. Moreover, the participatory nature of the training—where village leaders and facilitators provided continuous mentoring—encouraged MSME actors to be more proactive in setting business targets, managing customer relationships, and periodically evaluating their financial performance. This suggests that digital transformation, localized leadership, and collective responsibility can foster a new governance culture within rural business communities.

Another significant program outcome is its growing scalability and potential for replication. The digital cooperative model employed in Kalisidi Village has sparked interest from neighboring communities facing similar challenges in MSME development and market access. The structured yet flexible nature of the training modules, combined with the application's adaptability, allows the program to be modified for various local contexts. The positive social dynamics—such as gender inclusiveness, intergenerational cooperation, and peer mentoring—are transferable values that contribute to the replicability of the approach. Furthermore, the alignment of the program with key SDG targets provides an entry point for integration into village development planning and budgeting processes, supported by government regulations on the implementation of Village SDGs. In this regard, the Kalisidi pilot addresses short-term needs for digital upskilling and lays the foundation for long-term institutional learning and economic resilience. Thus, the model holds promise as a strategic reference for regional governments and development partners seeking to implement community-based digital empowerment in rural Indonesia.

Picture 2. A training session was conducted on product digitalization using a digital cooperative application**.**

Picture 3. Question and Answer Session with the participants

CONCLUSION

The community empowerment program implemented in Kalisidi Village has demonstrated a holistic and transformative approach to enhancing rural economic resilience by embedding digital innovation within locally grounded, participatory learning models. Through the carefully designed integration of a digital cooperative application, paired with hands-on training and structured group coaching sessions, the program succeeded not only in addressing fundamental digital literacy gaps among MSME actors but also in catalyzing broader shifts in mindset, behavior, and organizational culture. MSMEs that previously operated with minimal exposure to digital tools began to understand and apply core concepts in digital marketing, product branding, inventory management, and financial tracking while gaining confidence in navigating digital platforms. More than just individual learning gains, the program strengthened the cooperative's internal capacity, fostering new transparency, accountability, and data-driven decision-making routines that improved operational effectiveness and built trust among members. These advances are particularly significant given the rural context, where limited infrastructure and fragmented market access have historically constrained innovation and scalability.

The program also generated meaningful social transformations by promoting inclusive participation across age groups and gender lines. Women entrepreneurs, representing a significant proportion of the village's informal economy, actively engaged in the training and were among the first to adopt the cooperative platform for managing home-based businesses. Meanwhile, younger participants with stronger digital fluency provided peer support to older MSMEs, enabling a cross-generational exchange of skills and reinforcing a community-based learning and innovation culture. These interactions enhanced the program's efficacy and laid the foundation for a shared digital culture rooted in mutual support, self-initiative, and collective problem-solving—values critical for sustaining long-term behavioral change. Moreover, the program's relevance to local development priorities and alignment with the Village SDGs further amplify its impact. By directly contributing to SDG 8 (Decent Work and Economic Growth), SDG 10 (Reduced Inequality), and SDG 11 (Sustainable Cities and Communities), the initiative supports Indonesia's broader vision of inclusive, bottom-up development, where rural communities are not passive recipients of innovation but active agents of change.

Crucially, the success of this initiative offers lessons and strategic implications for the scalability and sustainability of similar programs. Interest from surrounding villages has shown strong potential for replication, provided that future implementations are embedded within a supportive ecosystem that includes long-term mentoring, access to digital infrastructure, village-

level regulatory support, and ongoing collaboration with academic institutions and technology developers. Without these enabling conditions, even the most well-intentioned innovations may face implementation fatigue or regress to previous practices. The experience of Kalisidi Village stands as a compelling blueprint for other rural areas in Indonesia seeking to integrate digital tools into their development agendas, not as ends in themselves but as enablers of community-driven innovation, inclusive governance, and resilient economic ecosystems.

The community service team is also urging the Village Government and the relevant stakeholders to enhance the community's access to a reliable internet network and to make essential digital devices available to residents. They will receive advanced training to professionally manage the system, handle transactions, and collectively promote members' products. The community service team also encourages the Village Government and relevant parties to increase access to a stable internet network and provide basic digital devices, through collaboration with the private sector or corporate CSR programs. This can be an effective strategy for fulfilling the village's digital infrastructure needs. To ensure adaptation to changing trends, the community service team recommends ongoing digital marketing training through advanced classes that target specific skills, such as video content creation and digital market analysis. Finally, to ensure the program's sustainability, the community service team encourages the establishment of a digital MSME forum or community in Kalisidi Village to share knowledge and marketing strategies among business owners.

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