

From Tradition to Innovation: Enhancing Village MSMEs' Business Sustainability Through Digital Literacy and Community Engagement"

Elsa Aryusi Kusuma Dwi Putri¹, Nisrina Fauziah Balqish², Yunita Dwi Lestari³, Ardita Putri Ambarwati⁴, Deny Wahyu Tricana^{5*}

¹ Department of Law, Faculty of Law, Universitas Muhammadiyah Ponorogo, East Java, Indonesia

² Department of Nursing, Faculty of Health and Sciences, Universitas Muhammadiyah Ponorogo, East Java, Indonesia

^{3,4} Department of Management, Faculty of Economics, Universitas Muhammadiyah Ponorogo, East Java, Indonesia

⁵ Department of Communications Science, Faculty of Social Science and Political Science, Universitas Muhammadiyah Ponorogo, East Java, Indonesia

*Corresponding Author(s) Email : deny@umpo.ac.id

Article Info	Abstract
Article History: Received : 24/09/2025 Reviewed : 25/09/2025 Revised : 29/09/2025 Accepted : 11/10/2025 Keywords: <i>Business Sustainability; Community Empowerment; Digital Literacy; MSMEs;</i>  License: cc-by-sa	Community Service Program represents the practical implementation of the Tri Dharma Perguruan Tinggi in the field of community service. The activity conducted in Ngrogung Village, Ngebel District, aimed to address challenges faced by Micro, Small, and Medium Enterprises (MSMEs), including the limited utilization of digital technology, lack of product development leading to weak competitiveness, and licensing barriers that hindered business growth. The program employed the Asset-Based Community Development (ABCD) approach, emphasizing the utilization of local assets such as community skills, social networks, natural resources, and MSME experience. Through mentoring and empowerment activities, the program sought to strengthen existing capacities to enable MSMEs to grow independently and sustainably. The results demonstrated improved understanding among MSME participants regarding innovation and digital transformation. They successfully adopted digital tools such as WhatsApp Business, Instagram, Facebook Marketplace, Canva, and Google Sites for marketing, product promotion, and online catalog development. Additionally, several MSME actors obtained home industry food business permits (PIRT), enhancing their legitimacy and competitiveness. The outcomes indicated substantial progress in digital literacy, product branding, and market expansion, with participants showing improved entrepreneurial skills, more attractive product packaging, and early adoption of digital payment systems. This initiative has not only fostered individual capacity development but also promoted collective awareness of innovation as a key driver of sustainable rural economic growth. Overall, the program contributes directly to achieving three key Sustainable Development Goals (SDGs): SDG 4 (Quality Education) through digital training and capacity building, SDG 8 (Decent Work and Economic Growth) by encouraging sustainable entrepreneurship and enhancing rural economic productivity, and SDG 9 (Industry, Innovation, and Infrastructure) by fostering innovation and strengthening digital business ecosystems within local communities.

INTRODUCTION

The contribution of MSMEs to the economy is very important. While in a number of cases MSMEs face various issues such as a widening gap in business skills, creativity in promotion, and the level of community readiness to assist in promoting business activities, the lack of promotional skills to reach the target audience is described as the lowest position. There are various urgent obstacles, as cited in previous studies involving the community and SMEs, that

require mapping for sustainable interventions, as well as combinations of obstacles, as described by (Baharuddin et al., 2024), shows an urgent need for a combination of obstacles such as hyperactive digital creativity, hyperactive energy-draining interventions, and various other obstacles (a combination of creativity and engagement) that are centered. There are other reasons to argue that various approaches have exacerbated the area of social engineering.

This domain of social engineering has changed the absence of frameworks such as sustainable relationships, social architecture, and interdisciplinary approaches to social distortion. This creates a strong dissonance between research results and actual practice in the field and has been observed repeatedly with the aforementioned obstacles, which are claimed to be factors that hinder the adoption of advanced practices that are considered a level of transformation in the field.

Its unique elements include the consolidation of digital literacy, branding, and cooperative teaching of the MSME framework, which emphasizes cross-sectoral leadership and the need for community support programs. This is the first program to use technology and community engagement to enhance participatory community development, particularly in digital skills, to transform the local development ecosystem and encourage MSME collaboration in Ngrogung Village (Idayu et al., 2021). Given the ongoing digital transformation in the country, it is undeniable that MSMEs in rural areas lack the necessary digital skills. Compared to urban MSMEs, rural MSMEs are clearly unprepared in terms of digital skills. This growing gap, especially in the context of rapid change, undermines the competitiveness of the local economy and the integrated development of rural areas. This is the first community service model that creates the capacity for bold business innovation and economic independence among rural small and medium enterprises (SMEs), and it is intended to systematically empower them to participate in the digital economy (Sarjana et al., 2022).

An illustrative example is that some business owners in the MSME sector still show a form of helplessness when faced with the acceptance of new ideas and the use of innovation. This condition has resulted in the low competitiveness of MSMEs, particularly in the aspects of marketing and market access, which are increasingly shifting toward digital platforms. Based on data from the Ministry of Cooperatives and SMEs (2024), out of a total of 65.4 million MSMEs in Indonesia, only around 27% have utilized digital platforms for their business activities. This indicates a significant gap in technology adoption. Research on MSME digitalization in product marketing innovation and digital payment among home-based industries also confirms that digital technology and payment systems have not been widely adopted, primarily due to low digital literacy and limited access to infrastructure (Ramadhani et al., 2025).

Data from East Java show that out of approximately 9.78 million MSMEs, 4.6 million non-agricultural MSMEs have adopted digital technology for marketing and financial reporting, although the use of digital financial reporting remains limited (Radar Surabaya, 2024). Thus, even though digital marketing training has increasingly been provided in Ponorogo (such as the collaboration between the regional government and PT Pegadaian to train hundreds of MSMEs), technology adaptation has not been evenly distributed. This data reinforces that the digitalization gap is indeed evident at the local level, and digital literacy and mentoring programs such as those carried out in Ngrogung Village are highly relevant. Moreover, the use of QRIS, which has reached 93% among MSMEs in East Java, indicates that digital payment adoption has advanced faster compared to other aspects such as branding, online catalogs, or digital financial reporting.

From a business perspective, the delay in adopting digitalization among MSMEs has implications for their declining ability to expand market networks, improve cost efficiency, and compete with more technology-adaptive enterprises. In fact, a report by Bank Indonesia (2024) shows that MSMEs that adopted digital payment systems experienced an average revenue increase of 20% within the first six months. This demonstrates the untapped potential among a large proportion of rural MSMEs. However, previous research has tended to focus more on digital adoption among MSMEs in urban areas, where infrastructure and access to technology are relatively adequate (Pratama et al., 2022); (Widyastuti et al., 2023). In contrast, in-depth studies on rural-based MSMEs remain limited. The existing research gap lies in the lack of exploration of how socio-cultural factors, the role of local communities, and community-based mentoring influence the level of digitalization acceptance among rural MSMEs. Some studies, such as those

by (Baharuddin et al., 2024) and (Kosasih & Sulaiman, 2024) emphasize the importance of combining innovation, training, and active participation, yet these have not been sufficiently contextualized in the rural setting.

Micro and small businesses (MSMEs) in remote areas are still struggling with a “digital divide” and facing “management” challenges. The competitiveness and productivity of MSMEs in these regions have not yet reached optimal levels, hindered by limitations in technology, market information, and management training. Low levels of digital literacy remain a major barrier for rural MSMEs. Without this knowledge, they struggle to take advantage of opportunities in the digital era, such as online sales, electronic payments, and supply chain optimization through technology. The gap between the significant potential of MSMEs and the low adoption of digital technologies and modern managerial practices, particularly in rural areas, prevents the growth of local economies. Many rural business actors are not accustomed to using digital devices such as smartphones for business purposes. Local governments must prioritize MSMEs in remote areas within national digitalization initiatives, including providing incentives for technology adoption, subsidies for training, and access to technology-based financing. These limitations directly impact the low utilization of social media and e-commerce as means for promoting and distributing products. Research also shows that these constraints affect operational efficiency, access to digital markets, and the resilience of MSMEs in facing increasingly competitive economic environments (Rika Avista et al., 2025).

Based on this problem analysis, the program in Ngrogung Village was specifically designed to strengthen the role of students in assisting MSMEs through a community-based digital literacy approach. The novelty of this program lies in its integration of direct mentoring for MSMEs with practical innovations such as the development of digital product catalogs, the use of social media marketing, and the introduction of digital payment systems tailored to the rural context. This program prioritizes behavioral transformation among MSME actors through the promotion of collaborative practices, facilitation of peer-to-peer learning, and establishment of a sustainable digital ecosystem for rural entrepreneurs, unlike numerous community service projects that offer only brief training (Kurniawan et al., 2022).

This program stands out due to its approach of positioning students not just as facilitators, but as co-creators in driving MSME innovations. By collaborating closely with local business stakeholders, students have been instrumental in developing adaptive models of cooperation. These models include digital branding strategies tailored to local resources and effective two-way communication channels with village authorities to bolster MSME advancement. This strategy not only ensures the transfer of knowledge but also cultivates the ability of local entrepreneurs to independently uphold and expand their digital initiatives post-intervention.

Furthermore, the novelty is reinforced through the creation of a collective MSME network at the village level. By linking MSME actors in joint promotion and packaging initiatives, the program introduced a model of collaborative entrepreneurship rarely found in similar programs. This community-driven integration of digital literacy, market access expansion, and local leadership formation makes the program’s contribution unique, providing a replicable model for empowering rural MSMEs in the digital economy.

IMPLEMENTATION METHOD

The community service activity was organized by Universitas Muhammadiyah Ponorogo as one of the programs for students to serve the community through collaboration across various disciplines and sectors within a specific period of time. The program took place for one month in Dukuh Pule, Ngrogung Village, Ngebel, East Java. This program was implemented by sixth-semester students as the executors of the activities, while the partners were MSME actors in Ngrogung Village who received assistance and community service support. Village officials and local leaders functioned as facilitators and mediators to ensure coordination and community participation.

The method used in this community service was Asset-Based Community Development (ABCD), which utilizes existing assets such as skills, social networks, local resources, and the business experience of MSME actors. Thus, the assistance provided aimed to optimize and further develop these assets so that MSMEs could grow independently and sustainably.

The Preparation Stage involved registration, training, surveys, mapping, and program design. Students registered according to university procedures and then participated in training organized by LPPM and the Field Supervisor (DPL), which covered the philosophy of community service, ethics, and communication strategies. Surveys were conducted to identify community problems and potentials through observation and interviews, resulting in a mapping of needs and priority issues. The work program was then designed together with the community, covering education, social, economic, and health sectors with clear indicators of success.

The Implementation Stage included the opening of the community service, program execution, and socialization. Students were officially deployed during the opening ceremony, and the program was carried out with flexibility according to field needs. Internal consolidation and socialization with the community were conducted to ensure participation and support.

The Post-Community Service Stage focused on evaluation and reporting. Evaluation was conducted to assess the program's achievements, followed by the preparation of individual and group reports. The activity concluded with a presentation of results involving the university, village government, and the local community. The withdrawal of students marked the official end of the program, although it was expected that social relationships would be maintained beyond the completion of the activity.

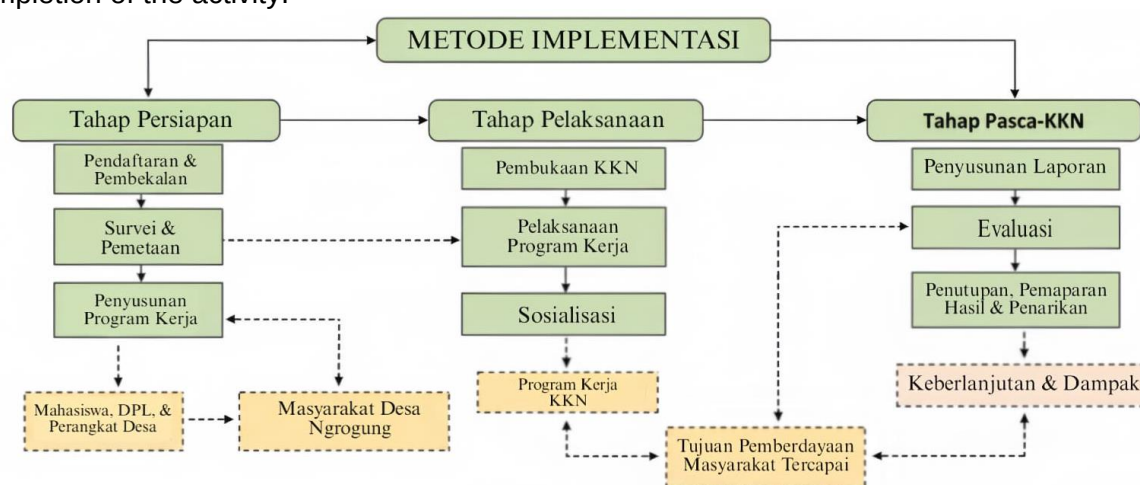


Image 1. Implementation method

RESULTS

Community participation is one of the key determinants of the success of MSME assistance programs in rural areas. Without the active involvement of business actors and local stakeholders, any form of intervention will find it difficult to achieve sustainable impact. As a result, the approach taken in the program being studied focuses on more than just providing didactic and technical teaching materials; the goal is to promote the understanding that the success of MSMEs is the result of the MSMEs themselves, the community, teachers, and the entire ecosystem (Zafira & Widiyarta, 2025).

Sustained mentoring has the potential to significantly change the mindset and skills of Micro, Small, and Medium Enterprises (MSMEs). By actively participating in a rigorously designed and structured mentoring program, participants realize that the digitization process is not a temporary phenomenon but a critical factor for the survival and competitiveness of their businesses in a fast-paced modern business ecosystem. Therefore, these programs aim to ensure that participants not only gain knowledge but are also encouraged to take action and mobilize that knowledge in their businesses (Salsabila et al., 2024).

Evidence has been documented to show that the use of appropriate mentoring techniques coupled with active community participation has produced good results. Part of the program's success can be attributed to the willingness of participants to continue exploring new avenues even though they are surrounded by people with very low levels of formal education and digital skills. It can be concluded that a community-focused approach is more likely to produce significant

improvements for Micro, Small, and Medium Enterprises (MSMEs) in rural areas by adopting a concentrated and highly structured approach, as well as active and positive participation by participants (Hadiyanti et al., 2024).

1. Characteristics of Activity Participants

The support initiative for micro, small, and medium enterprises (MSMEs) in Ngrogung village has 17 participants, 14 of whom are women of working age. Most participants have a maximum education level of junior high school. Existing business activities include traditional foods, handicrafts, and other activities in agriculture-based industries. This illustrates that rural MSMEs are still highly dependent on local resources but have not yet been fully developed through modern marketing strategies.

Description	Category	Frequency	%
Gender	Female	12	70%
	Male	5	30%
Age	20-30 years	8	17%
	31-40 years	6	47%
	41-50 years	3	35%
Education Level	Senior High School	15	88%
	Diploma/Bachelor	2	12%
Type of Business	Food & Beverage	8	47%
	Handicraft	6	35%
	Agriculture-based product	3	17%

The contents of this table describe the profile of MSME participants who take part in the mentoring program:

The findings show that the majority of MSME participants in Ngrogung Village were women, accounting for around 70%. This phenomenon is common, as many small businesses in rural areas particularly in the food, beverage, and handicraft sectors are driven by housewives. Women in the village not only play the role of household managers but also serve as the main drivers of family economic sustainability through home-based businesses. Meanwhile, men accounted for only about 30% of participants, mostly involved in agriculture-based enterprises or product distribution. These findings highlight a clear gender role, where women dominate household-based production businesses, while men tend to support distribution and agricultural production.

In terms of age, the majority of MSME actors were between 31–40 years old, making up 47% of participants. This group can be categorized as mature and productive, generally having experience in managing businesses, but at the same time facing challenges in adapting to new technologies. By contrast, participants aged 20–30 years accounted for only 17%, indicating that the regeneration of rural MSME actors remains weak, as young generations are still less involved in local enterprises. Meanwhile, those aged 41–50 years reached 35% and were generally more established in business management but relatively slower in adopting digital technology. This age distribution suggests that although the MSME base is relatively strong, greater youth involvement is needed to accelerate innovation.

From an educational perspective, most participants were senior high school graduates, representing around 88%. This mid-level education background reflects limitations in digital literacy, where many business actors still face challenges in understanding modern marketing concepts, utilizing technology, or managing finances through digital applications. However, a small group of participants around 12% were diploma or bachelor's graduates. This group has significant potential to become agents of change in their community due to their better understanding of innovation and digitalization. Nonetheless, their small proportion

has not yet produced a significant collective impact in driving MSME transformation in the village.

Regarding business types, MSMEs in Ngrogung Village were still dominated by the food and beverage sector, with 47% of participants engaged in producing local snacks. These products hold market potential both within and outside the village, but are still managed traditionally. The next significant sector was handicrafts, accounting for 35% of participants. Handicraft products have great opportunities to grow, especially if combined with digital marketing strategies. Meanwhile, about 17% of participants were engaged in processed agricultural products, such as farm produce processed into consumables. The dominance of locally based traditional businesses confirms that while the development potential of MSMEs in Ngrogung Village is high, it requires interventions in the form of technological innovation, marketing strategies, and capacity building to compete in wider markets.

Overall, the characteristics of MSME participants in Ngrogung Village reveal a very distinctive profile: female-driven, in their productive age, with a mid-level educational background, and dominated by traditional, locally based enterprises. This represents both challenges and opportunities. On the one hand, low digital literacy and the dominance of traditional businesses significantly hinder MSME development. On the other hand, the strong involvement of women and the solid base of home-based businesses provide substantial social capital to drive change if supported by the right mentoring strategies.

2. Program Achievement Data

The assistance program was carried out through various activities, including digital literacy training, branding support, product design development, and social media-based marketing simulations. From these activities, several key outcomes were recorded.

Indicator	N	Minimum	Maximum	Mean	Std. Deviation
Attendance in training	17	60%	100%	82%	0.12
Digital literacy skills	17	2.0	3.5	2.8	0.15
Branding improvement	17	1	4	3.2	0.9
Online catalog usage	17	0%	70%	45%	0.18
Sales growth after program	17	0	20%	8%	0.6

The implementation of MSME assistance in Ngrogung Village showed important achievements in terms of participation, skill improvement, and impact on sales. In terms of training attendance, the average participation rate reached 82%. This indicates relatively high enthusiasm from the community, although not all participants were able to attend every session. Factors influencing absenteeism included daily business operations, household responsibilities, and limited time. Nevertheless, this level of attendance can be categorized as good and reflects the community's interest in learning and adapting.

Regarding digital literacy, evaluation results showed that most participants fell into the intermediate level. They started to grasp basic tech skills like using instant messaging apps, communicating through social media for their business, and getting familiar with online catalog features. However, more advanced skills—such as optimizing social media, managing business accounts, and designing digital content—are still not fully mastered. This shows that the program helped open the door to basic understanding, but ongoing mentoring is needed to help MSME owners reach a higher level of expertise.

The biggest success came in the area of branding. According to assessment results,

participants scored an average of 3.2 out of 4 the highest among all measured areas. They improved their skills in upgrading product packaging, creating logos that better reflect their brand, and strengthening their business identity. Many MSMEs managed to modernize the look of their products, making them more appealing and up-to-date, which helped boost their market competitiveness. This shows how effective the branding training was and how easily MSME owners, even those with little previous experience in modern visual design, could apply what they learned.

However, the use of online catalogs stayed fairly low, with only about 45% of participants adopting them. Most of the resistance came from older MSME owners who preferred traditional methods like selling directly at local markets or to loyal customers. Factors such as limited tech skills, lack of confidence in using digital apps, and worries about the risks of online transactions also played a big role in slowing down the adoption of digital catalogs. On the other hand, younger business actors began experimenting with digital catalogs to expand their market reach.

In terms of sales growth, the program generated a positive but modest impact. On average, sales increased by 8% after the intervention. This reflects a direct effect of the program, although still relatively small compared to existing market potential. The increase was mainly observed among MSMEs that quickly adopted branding strategies and became active in social media promotion, while those less engaged with digitalization did not yet experience meaningful sales improvement.

Field data also revealed behavioral changes in marketing practices. Three MSMEs began regularly using social media platforms (WhatsApp Business and Instagram) to promote their products, with two of them gaining an average of 10–15 new customers per month. Additionally, one MSME that received assistance in creating a digital logo and product packaging reported a 20% increase in sales within two months. These findings illustrate that although not all participants immediately adopted technology, digital literacy-based interventions have triggered an initial transformation in business management.

Overall, the results of the assistance program demonstrate that it successfully provided a foundation for improving digital literacy and branding among MSME actors. The most significant achievement was in business identity development, while online catalog adoption remained low due to age, education, and conservative attitudes. Although average sales growth was only 8%, these results confirm that the program has strong potential to generate greater impact if implemented on a continuous basis with more intensive approaches.

3. Dynamics of the Mentoring Process

During the mentoring process, the outcomes indicated significant changes, both in the economic behavior of MSME actors and in the social dynamics of the community. Initially, most business owners were hesitant to use digital technology, assuming that social media and online catalogs were only relevant for large-scale enterprises. However, after participating in a series of training sessions, there was a notable shift in both understanding and behavior. Several MSME actors began to market their products through social media, create simple online catalogs, and expand their customer base beyond their immediate surroundings. This achievement is particularly important as it signifies a transition from traditional marketing practices to the utilization of more modern digital technologies (Renaningtias et al., 2024). Furthermore, the success of this program is in line with the emergence of local leaders among MSME program participants. These leaders not only guide small teams in using online catalogs, but also act as peer motivators. The emergence of these local leaders has changed how new leadership emerges and has led to a growing consensus that collaboration and cooperation are the way to advance MSME growth (Susanti et al., 2025).

These are some of the proven facts: With the help of the MSME cooperative framework, significant progress has been made. In Ngrogung Village, business actors have collaborated to increase the competitiveness of local goods. This includes cooperative

marketing, packaging design, and marketing strategies through e-commerce. These activities are collaborations that have been proven to bring meaningful change because of the coaching program, changing the acceptance and practice of norms and behaviors of 'community spirit'. This change, in itself, proves the success of the program in mobilizing the community at the grassroots level. Of course, more effort is still needed to achieve economic sustainability for MSMEs in Ngrogung Village, but this coaching program has proven to improve marketing and produce new local leaders who understand digital networks and local cooperatives, as well as local cooperative networks (Pamuji et al., 2025).

The impact of this program in the economic field, although real, remains narrow and superficial. The implementation of advanced and innovative branding and digital marketing strategies by several MSMEs has resulted in an increase in sales of around 8%. And even though this is, at best, truly minimal, it illustrates a trend that, with more entrepreneurial efforts towards the digital technology domain, can produce more positive results. Moreover, improvements in product packaging and brand identity have made MSMEs in Ngrogung Village more prepared to compete in both local and regional markets. This impact serves as an important foundation for advancing innovation-based economic independence, reaffirming that the success of the program should be measured not only by the skills imparted but also by the tangible outcomes in strengthening the competitiveness of MSMEs within the community economy. (Krismajayanti et al., 2025).

DISCUSSION

1. Active Participation of MSME Actors and Local Authorities

In the field, although students had invited MSME actors and neighborhood leaders (RT) to participate from the very start of program design, many RT offices and some MSME participants did not respond actively. Invitations sent repeatedly often received no reply, and discussions over proposals were frequently met with passivity from the RT. Such conditions clearly hinder coordination, mobilization of community members, and the expected effectiveness of the program (field findings).

Theoretically, this situation accords with Community Participation Theory and Empowerment Theory, which emphasize that genuine empowerment and sustainable outcomes are deeply tied to local ownership, not just external intervention. According to Arnstein's Ladder of Citizen Participation (Arnstein, 1969, with contemporary applications) and subsequent literature on participatory development, the absence of active local stakeholders (such as community representatives and local business figures) may lead to programs retaining a top-down approach and being short-lived. Recent studies back this assertion; for instance, research in Sidoarjo indicates that the quality of leadership, effectiveness of communication strategies, and levels of education play significant roles in determining the extent of rural community involvement in planning endeavors (Taurista & Choiriyah, 2024). The study "Penerapan Leadership Digital di UMKM Kota Bandung" illustrated that empowering local UMKM leaders with digital leadership abilities enhances their capability to involve and rally colleagues, thereby boosting community engagement in initiatives (Syafei et al., 2025).

To begin with, program design issues appear to require changes in event scheduling, schedule communication, communication patterns from abstract expressions of grief, and event implementation, which may indeed involve local RTs and leaders at a later stage to the level of detail offered in informal visits rather than formal written invitations. Second, there may be a need to 'develop' local digital leaders or MSME participants. These local digital leaders or MSME participants serve as liaisons between students/programs and RTs and local governments. These local champions can help maintain engagement long after external facilitators withdraw. Finally, from a theoretical-practical perspective, these constraints illustrate the 'gap' that links the need to develop 'capacity' and the need for resources while being sensitive to governance and social structures. Rural MSME programs need to integrate frameworks that are responsive to local decision-making, constructive feedback, and collective accountability. Otherwise, even the best-planned programs will not be able to withstand local commitment.

2. Improvement in Digital Competence / Digital Literacy of MSMEs

As a result of basic digital tool training, micro-entrepreneurs in Ngrogung village showed improvement in the use of social media, basic online catalogs, and cash management applications. However, significant disparities in capability emerged: younger participants or those with higher educational backgrounds adapted more quickly, while older business actors continued to need more intensive guidance. These findings show that digital literacy isn't just about having access to technology; it's also heavily influenced by factors like age, education level, and previous learning experiences, which aligns with what recent studies have found.

Theoretically, these findings align with several grand theories. The Technology Acceptance Model (TAM) shows that how easy people think a technology is to use and how useful they believe it is play a big role in whether they decide to adopt it. The varying levels of adoption among participants reflect how digital literacy influences these perceptions. Additionally, Rogers' Diffusion of Innovation Theory (2003) helps explain how the "early adopters" among MSMEs in Ngrogung—mostly younger actors—play a role in influencing the wider group. Recent studies in Indonesia confirm that peer influence and incremental learning are critical for sustaining digital transformation in MSME communities. From a learning perspective, Constructivist Learning Theory reinforces that skills are best internalized when knowledge is built through practice and contextual experience, rather than one-way instruction (Kahveci 2025).

From a practical perspective, this means digital literacy programs can't just depend on one-time or top-down training alone. Instead, they must be iterative, adaptive, and highly contextualized. The effectiveness of both individual counseling and group seminars is demonstrated by the Ngrogung instance, especially when peer mentors possess digital literacy. This not only accelerates the transfer of skills but also fosters social ownership of knowledge within the community. Moreover, tailoring training methods for different demographic segments simplified modules for older participants and advanced sessions for younger ones can address the learning gap more effectively.

3. Adoption of Innovation (Branding, Online Catalogs, Social Media)

Visual identities, packaging, and logos have evolved over the years. Entrepreneurs of micro, small, and medium-sized enterprises (MSMEs) have begun improving their product presentations to appeal to a wider clientele. Furthermore, several entrepreneurs have started to use online catalogs and social media platforms to introduce their products more widely. However, resistance remains among some MSME actors, particularly older groups, who are reluctant to adopt these innovations due to concerns about maintaining accounts or promoting products consistently. This hesitancy reflects generational differences in adapting to dynamic digital systems.

Roger (2003) has explained the theory of Innovation Diffusion well, describing how the adoption of innovation is influenced by factors such as relative advantage, ease of use, ease of trial, and visibility. In practice, as shown, innovation is adopted more quickly through practical illustrations, success stories, and peer activities than when explained in abstract terms. This emphasizes the understanding that innovations that can be tried and seen tend to encourage adoption within a community (Purwanta et al., 2025). Conceptually, this is a case that illustrates the need to create perceived usefulness and ease of use, which are fundamental to the Technology Acceptance Model (TAM). This case also echoes the Technology Acceptance Model (TAM), particularly perceived ease of use and perceived usefulness, which are critical determinants of the adoption rate of digital brands and promotions by micro, small, and medium enterprises (MSMEs). Recent evidence from Indonesia shows that peer influence and experiential learning are strong motivators for digital adoption in MSMEs (Andika et al, 2021).

In practical terms, these observations offer a number of implications. First, facilitators need to balance the emphasis on lectures over time spent on experiential learning activities such as social media roles, digital catalog writing, and step-by-step online demonstrations. What is needed is support, such as online discussion groups or ongoing training, to ensure that innovations are sustainable. Innovation must endure beyond the KKN program. Success in

branding and digital marketing serves as motivation for peers who are still hesitant. By adopting such innovations, a business is able to maintain and develop the entire community. This is because innovation from micro, small, and medium enterprises is quite common among businesses.

4. Improvement of Business Performance (Sales and Market Reach)

The latest assessment showed a small but consistent increase in sales, along with a wider presence on social media and digital platforms. Several MSMEs successfully expanded their product sales beyond their local areas, receiving new orders through WhatsApp and online catalogs. This reflects a meaningful shift in how they market and distribute their products, moving beyond traditional local, face-to-face methods (Nipo et al., 2024).

The findings basically line up with Teece's (2007) Dynamic Capabilities Theory, which says that organizations—including MSMEs—need to build the ability to adapt, reorganize, and respond to changes in their environment to keep growing. Digitalization is a key skill that helps MSMEs quickly seize new market opportunities. Specifically, productivity improvements guided toward endless innovation show that even small improvements to a change are far more beneficial than an all-or-nothing approach that often harms small businesses dealing with internal and external constraints (Arjang et al., 2024). Sales growth, in particular, that is gradual and sustainable, is crucial in Market Sapping, the first stage of the journey towards resilience and then sustainable dominance, also referred to as Market Drought. This document explains how, even with the best efforts, MSMEs are bound to realize better sales and wider geographical spread, at certain points, thanks to social networking sites, WhatsApp, and online catalogs. This reflects the extraordinary shift that has occurred in sales and distribution from local and physical to the hyper-digital era. In this context, the recipe from the Dynamic Capabilities Theory proposed by Teece (2007) is very useful. It is the ability to grow in complexity, which, alongside the ability to transform, is more than enough for the dominant growth of MSMEs, as is the case. This document also emphasizes the transformation of the digital shift as the most transformative enabling framework for capturing MSMEs on the right side of the digital divide.

The capabilities possessed by companies, accompanied by very different internal and external environments, make them more precise in their strategies, in addition to more profitable strategic choices and repositioning for new and small companies, using a foundation of new and gradual change. In summary, a gradual increase in the volume of new sales transactions is fundamental to ensuring sustainable competitiveness and the survival of companies in the market.

In practice, it has been found that business actors who use advanced digital tools are no longer considered best practice. In marketing activities, entrepreneurs want to implement a sustainable marketing strategy with customer silviculture. Marketing, analysis of the effectiveness of social media interactions, and 'special client' administration must be carried out continuously and sustainably to achieve meaningful growth. Not only is it necessary, but it is also very creative to increase product variety and innovative packaging to enhance the competitiveness of MSME products in the global market. This structure must begin with collecting feedback, and within that system, entrepreneurs must revisit the basis and system used for sales control. By spending enough on budget strategies, the workforce's responses can be synchronized for joint revision. On the other hand, the company can then accept the workforce that has been jointly determined.

5. Social Change and Internalization (Awareness, Local Leadership, Sustainable Collaboration)

The social transformation emerging from the Ngrogung Village MSME program reflects a deep internalization of digital awareness, collaboration, and shared leadership among participants. MSME actors began to coordinate product packaging, joint marketing, and online catalog creation, shifting from independent entrepreneurs to members of a cooperative, innovation-driven community (Santoso et al., 2025). This collective participation strengthened social capital and created informal digital leaders who sustained peer mentoring and knowledge

exchange beyond the program period. Theoretically, this aligns with Social Capital Theory and Community Empowerment Theory, which emphasize trust, cooperation, and local ownership as the basis for sustainable transformation (Nugroho et al. 2025). Practically, such internalization indicates that technological change becomes meaningful only when supported by local networks and cultural acceptance turning digital literacy into a shared social norm and ensuring the continuity of community-driven innovation even after external facilitators withdraw.

The integrated findings across all five discussion points demonstrate that the community service program effectively supports SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation, and Infrastructure). The program's emphasis on digital literacy and contextualized mentoring represents a form of inclusive and lifelong education, in line with SDG 4, as it enhances human resource capacity through participatory learning and peer-based knowledge transfer. By fostering continuous education and skills development, the initiative contributes to empowering rural communities to adapt to digital transformation sustainably (Arjang et al., 2024; Kosasih & Sulaiman, 2024)..

In relation to SDG 8 and SDG 9, the program stimulates local economic growth and innovation through digitalization, entrepreneurship, and infrastructure strengthening. MSME actors who adopted digital tools and social media marketing demonstrated increased productivity, broader market access, and improved competitiveness key indicators of sustainable economic empowerment under SDG 8. Meanwhile, the establishment of digital business ecosystems and innovation networks at the village level reflects the realization of SDG 9, as it promotes industry development based on technology, creativity, and local collaboration. Altogether, these outcomes show that the community service initiative in Ngrogung Village embodies the synergy between education, innovation, and inclusive economic growth as the foundation for achieving sustainable rural development (Sucipto et al., 2025).

CONCLUSIONS

Despite the challenges, the results of the community service program that assists micro, small, and medium enterprises in Ngrogung Village are positive. The goal is to improve digital literacy and the use of technology in business branding and marketing. A number of micro, small, and medium enterprises practice the use of social media as a promotional tool, digital catalog, logo, and social media marketing. Networking, social market development, and the phenomenon of social change and the emergence of local social leaders among young entrepreneurs who support their peers and provide leadership, advocacy, and mentorship, help us in the further sustainability of this program's social development.

Not everything went as smoothly as it seems. Minimal participation from neighborhood leaders (RT) hindered effective coordination. At the same time, some MSME actors were hesitant and unfamiliar with digital tools, resulting in slow adoption. Differences in age and varied educational backgrounds have caused some participants to understand the training materials differently. These challenges highlight the need for extra strategies to improve the overall results.

Several recommendations can be drawn for the improvement of the work in community service to address these problems. In the planning process, RTs and village authorities need to be included in addressing coordination issues. This will encourage collective ownership and social support. Second, the skills gap and digital divide can be addressed by implementing peer mentoring. This means that more experienced MSMEs will take on the role of local tutors to help bridge the knowledge, education, and generation gaps. When there is hesitation to embrace new technology, a gradual approach should be taken. This can start with the simple digitization of product catalogs and basic WhatsApp Business features. It is advisable to formally establish MSME associations at the village level, a measure that should be backed by local governmental policies and resources including complimentary digital training, internet connectivity, and engagement with digital marketplaces. With these improvements, community service efforts in Ngrogung Village will not only overcome current challenges but also create a stronger foundation for MSMEs to grow on their own, become more competitive, and make a real difference in the village economy.

ACKNOWLEDGEMENTS

We, the authors and the entire KKN team, would like to express our sincere gratitude to Universitas Muhammadiyah Ponorogo for the invaluable funding support provided for the implementation of this community service program. We also extend our appreciation to the Ngrogung Village Government, Ngebel Subdistrict, for their contributions in financing several field activities, such as providing materials for MSME products and supporting the organization of morning exercise sessions with the community. The moral, material, and facility support from both parties has been crucial to the smooth execution of the program, enabling the entire series of KKN activities to run as expected and deliver tangible benefits to the people of Ngrogung Village.

ETHICAL CONSIDERATIONS

Not applicable

CONFLICT OF INTEREST

The authors declare no conflicts of interest

FUNDING

The preparation of this scientific work, which is based on the activities carried out during the community service program (KKN) in Ngrogung Village, was funded by Universitas Muhammadiyah Ponorogo outside the regular KKN funding scheme. All financial support provided was allocated to facilitate the implementation of activities, including educational programs, public health initiatives, and the empowerment of Micro, Small, and Medium Enterprises (MSMEs) in Ngrogung Village, Ngebel Subdistrict

REFERENCES

- Andika, A., Jennifer, J., Huang, J. C., & Sebastian, J. C. (2021). Analysis of Digital Marketing Adoption in Indonesian Micro, Small, and Medium Enterprises. *Jurnal Manajemen Bisnis*, 18(3), 308–328. <https://doi.org/10.38043/jmb.v18i3.3173>
- Arjang, Junaidi, A., & Choerudin, A. (2024). Business Innovation for SMEs and Community Empowerment: Strategies to Enhance Income and Quality of Life. *Jurnal Terobosan Peduli Masyarakat (TIRAKAT)*, 1(2), 133–146. <https://doi.org/10.61100/j.tirakat.v1i2.183>
- Baharuddin, B., Afkar Ramadhani, M. S., Resky, M., Abidin, D., & Faiz Ridlo, A. (2024). Pengembangan Kompetensi Guru Melalui Pelatihan Ptk Dalam Meningkatkan Kualitas Pembelajaran Di Desa Karang Indah. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 5(2), 1574–1581. <https://doi.org/10.55338/jpkmn.v5i2.3017>
- Fakhriyyah, D. D., Munawaroh, D., Utami, D., Putri, D., Nisa', F. K., Khaliza, F. N., Ahmad, F., Farradina, F., Ferlika, F., Jaffan, J., Maimun, M., & Mudzakir, M. (2022). Strategi Promosi Digital Marketing Wisata Rafting Guna Meningkatkan Potensi Desa Wisata. *PENA DIMAS: Jurnal Pengabdian Masyarakat*, 1(1). <https://doi.org/10.33474/penadimas.v1i1.18563>
- Hadiyanti, P., Darmawan, D., Sasmita, K., Jafar, M. M., & Dalimunthe, H. H. B. (2024). Empowering Rural Entrepreneurship: Innovating Through Village-Owned Enterprises. *Journal of Nonformal Education*, 10(2), 414–424. <https://doi.org/10.15294/jone.v10i2.5998>
- Idayu, R., Husni, M., & Suhandi, S. (2021). Strategi Pengembangan Usaha Mikro Kecil dan Menengah (UMKM) Untuk Meningkatkan Perekonomian Masyarakat Desa di Desa Nembol Kecamatan Mandalawangi Kabupaten Pandeglang Banten. *Jurnal Manajemen STIE Muhammadiyah Palopo*, 7(1), 73. <https://doi.org/10.35906/jm001.v7i1.729>
- Kahveci, E. (2025). Digital Transformation in SMEs: Enablers, Interconnections, and a Framework for Sustainable Competitive Advantage. *Administrative Sciences*, 15(3), 107. <https://doi.org/10.3390/admsci15030107>
- Kosasih, A., & Sulaiman, E. (2024). Digital transformation in rural settings: Unlocking opportunities for sustainable economic growth and community empowerment. *Journal of Sustainable Tourism and Entrepreneurship*, 5(2), 129–143. <https://doi.org/10.35912/joste.v5i2.2278>

- Krismajayanti, N. P. A., Nurmalasari, M. R., Prawitasari, P. P., & Megawati, I. A. P. (2025). Digital Transformation in Business Marketing of SMEs in Celuk Village, Gianyar, Bali. *Jurnal Pengabdian Masyarakat*, 6(1), 293–299. <https://doi.org/10.32815/jpm.v6i1.2301>
- Kurniawan, H., Purwati, A. D., Supriyadi, S., Wulandari, R., Warsahanda, D., & Suseno, A. (2022). Pengembangan dan Optimalisasi UMKM KWT Maju Bersama melalui Metode Pelatihan Berbasis Digital. *Jurnal Publika Pengabdian Masyarakat*, 4(02), 78–86. <https://doi.org/10.30873/jppm.v4i02.3274>
- Nipo, D. T., Lily, J., Fabeil, N. F., & Jamil, I. A. A. (2024). Transforming Rural Entrepreneurship Through Digital Innovation: A Review on Opportunities, Barriers and Challenges. *Journal of Management and Sustainability*, 14(2), 114. <https://doi.org/10.5539/jms.v14n2p114>
- Nugroho, C., Wulandari, A., Maulana, D., Rina, N., & Kalaloi, A. F. (2025). Digital communication and literacy for MSME empowerment: Evidence from a rural digital village in Indonesia. *International Journal of Innovative Research and Scientific Studies*, 8(3), 4523–4535. <https://doi.org/10.53894/ijirss.v8i3.7544>
- Pamuji, R. S. S., Saparinda, Rd. W., Rusdiana, A., & Musabaqoh, T. S. (2025). Penguatan UMKM Melalui Pemisahan Keuangan Pribadi dan Modal Usaha: Pemberdayaan Masyarakat di Desa Juntinyuat, Kec. Juntinyuat Kab. Indramayu, Provinsi Jawa Barat. *Abdimas Galuh*, 7(1), 114. <https://doi.org/10.25157/ag.v7i1.16398>
- Pratama, M. F., Suryani, L., & Hidayat, W. (2022). Penerapan Prinsip Eco-Tech Architecture pada Perancangan Pekanbaru Sports Medicine Center. *JAUR (JOURNAL OF ARCHITECTURE AND URBANISM RESEARCH)*, 5(2), 114–120. <https://doi.org/10.31289/jaur.v5i2.5694>
- Purwanta, Qihaj, D. F., Auliarachim, H. N., & Mansurina, S. A. R. (2025). Digitalisasi Pemasaran UMKM Desa Puntukdoro Berbasis Web dan Geotagging untuk Penguatan Ekonomi Lokal. *Jurnal Pengabdian, Riset, Kreativitas, Inovasi, Dan Teknologi Tepat Guna*, 3(1), 148–159. <https://doi.org/10.22146/parikesit.v3i1.16499>
- Ramadhani, R. W., Efisiensi, P., Posyandu, P., Kader, P., Sop, I., Posyandu, D., Kelurahan, M., Bahu, L., Kunjang, K. S., Samarinda, K., Ahnaf,), Mahendra, Z., Suleman, A., Aulia,), Rahmadani, T., Dela,), Sam, D., Hasanah, D., Maghfir,), ... Kunci, K. (2025). Peningkatan Efisiensi Pelayanan Posyandu melalui Pemberdayaan Kader dan Implementasi SOP di Posyandu Matahari Kelurahan Lok Bahu, Kecamatan Sungai Kunjang, Kota Samarinda. *Jurnal Pengabdian Kepada Masyarakat Nusantara (JPkMN)*, 6(1). <https://doi.org/10.55338/jpkmn.v6i1.5110>
- Renaningtias, N., Novalio Daratha, & Muhammad Khairul Amri Rosa. (2024). Pengembangan Potensi Usaha Mikro Kecil dan Menengah (UMKM) melalui Pemanfaatan Teknologi Informasi dengan Pelatihan Sistem Pembayaran Digital. *Jurnal Pengabdian Kepada Masyarakat Nusantara (JPkMN)*, 5. <https://doi.org/10.55338/jpkmn.v5i2.2768>
- Rika Avista, D., Arofatu Sekar Langit, U., & Mashudi. (2025). Literasi Digital dan Penguatan UMKM: Tinjauan Teoritis terhadap Strategi Pemberdayaan di Daerah Terpencil. *PARADUTA: JURNAL EKONOMI DAN ILMU-ILMU SOSIAL*, 3. <https://creativecommons.org/licenses/by/4.0/> <https://doi.org/10.56630/paraduta.v3i2.913>
- Salsabila, A., Adiza, T. N., Irdianti, A. J., & Saraswati, D. (2024). Strategy to Increase the Competitiveness of MSME Businesses in the Era of Digitalization for Rural Communities in the Medan Region of North Sumatra. *Jurnal Pemberdayaan Ekonomi Dan Masyarakat*, 1(3), 11. <https://doi.org/10.47134/jpem.v1i3.409>
- Santoso, G., Rizal, M., Wiyana, H., Nabila Subagja, S., Muhammadiyah Jakarta, U., & Teknologi Muhammadiyah Jakarta, U. (2025). Digitalisasi UMKM: Strategi Dan Model Bisnis Berbasis Teknologi Untuk Keberlanjutan. *JUBISDIGI: Jurnal Bisnis Digital*, 21. <https://doi.org/10.9030/jubisdigi.v1i1>
- Sarjana, S., Susandini, A., Azmi, Z., Luhgiatno, K. R., Noviany, H., & Setyowati, L. (2022). *Manajemen UMKM (Konsep dan Strategi di Era Digital)* (1st ed.). EUREKA MEDIA AKSARA.
- Sucipto, K. R. R., Rezty Amalia Aras, Muhammad Fachrul Salam, Aulia Rahmawati, Yogi Hadi Afrizal, & Syamsul Rijal. (2025). UMKM Go Digital: Peningkatan Literasi Digital UMKM Kota Makassar Pemanfaatan Google Maps dan Media Sosial. *Jurnal Pengabdian Kepada Masyarakat Nusantara (JPkMN)*, 6. <https://doi.org/10.55338/jpkmn.v6i3.6633>

- Suliyanto. (2023). The Effect of Market Orientation on MSMEs Marketing Performance during the Covid-19 Pandemic: The Role of MSMEs' Innovativeness. *Quality - Access to Success*, 24(195). <https://doi.org/10.47750/QAS/24.195.15>
- Susanti, E., Alia, S., & Harta, R. (2025). Digital Empowerment in Rural Villages: Unraveling MSEs' Path to Technological Readiness and Sustainability. *Publica: Jurnal Pemikiran Administrasi Negara*, 17(1), 261–282. <https://doi.org/10.15575/jpan.v17i1.46514>
- Syafei, M. Y., Narimawati, U., Komara, N., & Dewi, P. S. G. K. (2025). Penerapan 'Leadership Digital' Di Umkm Kota Bandung. *Jurnal Mandala Pengabdian Masyarakat*, 6(1), 102–109. <https://doi.org/10.35311/jmpm.v6i1.525>
- Taurista, H., & Choiriyah, I. U. (2024). Community Participation in Development Planning is Driven by Leadership, Communication, and Education. *Indonesian Journal of Cultural and Community Development*, 15(3). <https://doi.org/10.21070/ijccd.v15i3.1080>
- Vania, A., & Fikriah, N. L. (2023). Optimalisasi Creative Digital Marketing untuk Keberlanjutan UMKM: Penggunaan Google Business dan WhatsApp Business. *PENA DIMAS: Jurnal Pengabdian Masyarakat*, 2(1). <https://doi.org/10.33474/penadimas.v2i1.22916>
- Widyastuti, M., Ferdinand, D. Y. Y., & Hermanto, Y. B. (2023). Strengthening Formal Credit Access and Performance through Financial Literacy and Credit Terms in Micro, Small and Medium Businesses. *Journal of Risk and Financial Management*, 16(1). <https://doi.org/10.3390/jrfm16010052>
- Zafira, A. V. J., & Widiyarta, A. (2025). Partisipasi Masyarakat dalam Kegiatan Posyandu di Kota Surabaya. *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, 8(7), 7136–7143. <https://doi.org/10.54371/jiip.v8i7.8626>