

EMPOWERING VILLAGE MSMEs THROUGH THE STRENGTHENING OF LEGAL STATUS AND BUSINESS DIGITALIZATION: A CASE STUDY OF THE COMMUNITY SERVICE PROGRAM IN BAROS VILLAGE

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Article History

Received: 17 July 2026

Accepted: 17 August 2026

Published: 31 August 2026

Abstract

Digitalization has now become a key strategy for enhancing the competitiveness of Micro, Small, and Medium Enterprises (MSMEs). However, in rural areas such as Baros Village, Arjasari Subdistrict, Bandung Regency, MSME operators still face many challenges. They struggle with building product brands, establishing payment systems, securing business legal compliance, and lack promotional channels. This raises the question: how can the digitization process be implemented to help MSMEs in villages with limited resources and time? This study aims to provide an answer. This study makes a tangible contribution to the body of research on MSME empowerment through a digital approach. Previously, many studies focused on urban or larger MSMEs. This study, however, presents direct evidence from a rural setting and offers a model of activities that can be replicated elsewhere. To answer this question, the study employed a case study method with a qualitative approach. Data were collected through direct observation and documentation of three work programs conducted over the course of one month. These programs include: First, branding and digitization of kicimpring MSMEs through the use of packaging stickers and registration of business locations on Google Maps in Kampung Pakusorok RW 8. Second, digitization of payments using QRIS and assistance in obtaining Business Identification Numbers (NIB) for MSMEs and small shops in Dusun 3. Third, the development of a website-based information system for Kopi Baros MSMEs in Kampung Pakusorok RW 8. The results show that all of these interventions successfully increased business visibility, made transactions easier, provided legal certainty, and expanded promotional reach. All of this demonstrates that small-scale, hands-on digitalization can be an effective way to empower rural MSMEs in a short period of time.

Keywords: digitization of MSMEs, Community Service Program, rural economic empowerment, QRIS, case studies

A. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in supporting the rural economy because they not only serve as a source of income for local communities but also transform local resources into products with economic value. However, advancements in information technology require MSME operators to adapt to changing patterns in marketing, transactions, and business management. Digitalization has emerged as a key strategy for expanding marketing reach, enhancing competitiveness, and supporting the sustainability of MSMEs at the local level (Rasenda et al., 2025). The adoption of technological innovations in MSME development is also seen as a means to drive local economic growth by improving businesses' ability to adapt to technological advancements (Judijanto et al., 2023).

Challenges related to digitalization are also still encountered by MSMEs in rural areas. Limited knowledge and skills, as well as the perception that using technology is complicated, can act as barriers for MSME operators in undertaking digital transformation. Fuadi et al. (2021), through a systematic review, demonstrated that empowering MSME operators toward the digital economy requires social action and mentoring so that business operators can utilize technology more effectively. This indicates that the digitalization of MSMEs requires more than just providing technology; it also necessitates a mentoring process tailored to the community's circumstances and capabilities.

A number of previous studies have demonstrated the benefits of applying various forms of technology to support the empowerment of SMEs. Zahroh et al. (2025) showed that digitalization strategies can be used as a means to empower rural SMEs to support local economic growth. Adi et al. (2023) also demonstrated that digital marketing training can serve as a form of community empowerment to enhance SMEs' marketing capabilities for agricultural products. Meanwhile, the use of websites has been employed to help improve the marketing and sales of SME products, as demonstrated by Thohiry et al. (2025). In terms of transactions, guidance on using QRIS can also serve as a means to enhance the competitiveness of SMEs through the utilization of digital payment systems (Martiyanti et al., 2023).

In addition to marketing and transactional aspects, the digitalization of MSMEs is also related to business legality. Legal requirements, such as the Business Identification Number (NIB), play a crucial role in enhancing credibility and supporting business development. Taufikurrahman (2022) demonstrates that assistance with NIB registration through the Online Single Submission (OSS) system can help MSME operators obtain business legality. A similar point is made by Anasrulloh et al. (2023), who identify legal assistance as one of the efforts to enhance the credibility of rural community businesses.

Although previous studies have extensively discussed digital marketing, websites, digital payments, and the legal status of MSMEs separately, some of these studies have focused more on a single form of intervention or a single aspect of empowerment. Padil et al. (2021), for example, focused on digital marketing assistance for BUMDes enterprises, while the study by Martiyanti et al. (2023) focused on guidance regarding the use of QRIS. On the other hand, Taufikurrahman (2022) specifically discussed legal assistance through the NIB. These circumstances indicate an

opportunity to examine the integrated application of various forms of digitalization and assistance within the context of empowering rural MSMEs.

This study was conducted as part of the Thematic Impact Community Service Program (KKN) by Group 30 of Al-Ghifari University in Baros Village, Arjasari Subdistrict, Bandung Regency. Based on field observations, Baros Village possesses significant potential for local SMEs, particularly in Hamlet 3, such as the kicimpring and coffee businesses. However, some SME operators still face challenges in utilizing digital technology because they perceive the digitization process and business administration as quite complicated. These conditions formed the basis for implementing various forms of assistance, including product branding, creating Google Maps listings, QRIS guidance, NIB registration, and the development of a website-based information system for SMEs.

Consequently, this study aims to describe and analyse the empowerment of MSMEs in Baros Village through digitalisation and the utilisation of technology in Community Service Programme (KKN) activities. The focus of this study lies in the integrated application of various forms of technology within the context of village MSME empowerment, rather than on a single type of technology. The research findings are expected to provide an overview of the implementation of digitalisation that is simple and tailored to the needs of village MSME operators, whilst also serving as a reference for the implementation of technology-based community empowerment programmes in other rural areas.

B. LITERATURE REVIEW

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) explains how users come to accept and adopt digital innovations in their business operations. Grounded in information systems theory, it posits that an individual's decision to utilize a new system is primarily determined by their perception of its utility and ease of use. In rural MSME contexts, operators often hesitate to engage in digital transformation due to the perception that technological platforms and business administration are overly complex and time-consuming. Direct mentoring and hands-on guidance serve as external factors that reduce these perceived barriers, allowing business owners to gradually embrace technology. Consequently, simple and accessible digital tools such as basic branding, digital mapping, and QRIS facilitate smoother technological adoption tailored to the readiness of micro-entrepreneurs. Indicator:

- Perceived Usefulness: The belief that using technology (such as QRIS or a website) can enhance performance, promotional access, and business efficiency.
- Perceived Ease of Use: The level of ease felt by business operators in using digital tools without increasing their operational burden.
- Attitude Toward Using: A positive attitude or interest of MSME operators toward adopting digitalization and business administration.
- Behavioral Intention to Use: The desire and intention of business operators to continuously utilize digital platforms for the long term.
- Actual System Usage: The actual use of digital tools in day-to-day business activities (e.g., using branding stickers, registering locations on Google Maps, and conducting QRIS transactions)

Resource-Based View (RBV) Theory

The Resource-Based View (RBV) theory framework positions internal firm resources and capabilities as the primary drivers for achieving sustainable competitive advantage. In the context of rural micro-enterprises, resources encompass both tangible assets such as raw materials and physical production tools and intangible assets like brand identity, digital presence, and legal status. Securing formal business legality through a Business Identification Number (NIB) serves as a critical intangible resource that establishes business credibility and administrative readiness. Furthermore, integrating digital assets including customized websites, Google Maps markers, and digital payment access transforms conventional local operations into higher-value economic capabilities. Thus, resource augmentation through legal compliance and digital tools enables small-scale rural enterprises to enhance their market visibility and long-term competitiveness. Indicators:

- Business Legality & Credibility Assets: Ownership of official permits such as the Business Identification Number (NIB) to strengthen legal standing.
- Visual Identity Assets (Branding): The presence of a consistent visual identity on product packaging (such as packaging stickers).
- Digital Accessibility Capacity: The presence of digital location markers (Google Maps) and independent information channels (business website).
- Digital Transaction Capacity: The ability to provide alternative payment systems (QRIS) to serve consumers.
- Local Competitive Advantage: The ability of rural enterprises to expand promotional reach and increase visibility beyond conventional markets.

C. RESEARCH METHODOLOGY

This study employs a descriptive qualitative approach using the case study method. It focuses on the implementation of an MSME empowerment programme through the application of digitalisation and technology in the 2026 Thematic Impact Community Service Programme (KKN) for Group 30 at Al-Ghifari University, which was carried out in Baros Village, Arjasari Sub-district, Bandung Regency. The case study was used to gain a deeper understanding of the conditions of micro, small and medium-sized enterprises, the problems they face, how the programme was implemented, and the types of technology used during the KKN activities. The same method was used in the MSME digitalisation activities based on the KKN, with data collected through observation and interviews.

The research process was carried out in stages, following a qualitative case study approach. The first stage began with initial observations in Baros Village, particularly in Hamlet 3, Cimentrik and Pakusorok, to identify the capabilities and circumstances of local micro, small and medium-sized enterprises. These observations were conducted to ascertain the types of businesses, how they sold their products, their use of technology, and the problems they faced in running their businesses. In addition to these observations, face-to-face interviews were also conducted with business owners to gather further information regarding their needs and the problems they were unable to resolve on their own. Following the observations and interviews, the next step was to identify and analyse the existing

problems. The findings revealed that some MSME business owners still face challenges in designing product brands, utilising digital media, obtaining information about business locations, using digital payment systems, and managing business legal documentation. These issues then served as a basis for developing a capacity-building programme tailored to the needs and capabilities of each MSME business owner, ensuring that the guidance provided could be easily and continuously implemented.

The next step was to implement an empowerment programme through the 'High-Impact Thematic Community Service Programme' (KKN Tematik Berdampak). The programme included the creation of branding and packaging stickers for the Kicimpring MSMEs, the mapping of production facilities on Google Maps, guidance on setting up QRIS for grocery shops in Dusun 3, assistance with the application process for the Business Identification Number (NIB), and the development of a website-based information system for the Baros Coffee MSMEs. Each activity was carried out in close consultation with and under the direct guidance of the business owners to ensure the programme outcomes aligned with their needs and could be utilised in their day-to-day business operations.

Once all programme activities had been completed, a mentoring and evaluation phase was conducted to gauge the SME owners' responses to the outcomes. The evaluation was carried out through observation and interviews, focusing on the ease of using the technology, the level of utilisation of the programme outcomes, and the initial benefits experienced by the business owners. The data obtained from observations, interviews and documentation was then analysed using qualitative descriptive methods, grouping the information according to the SMEs' initial conditions, the problems identified, the forms of digitalisation intervention, the programme implementation process, and the results achieved. The results of this analysis were subsequently presented narratively to illustrate the process of empowering SMEs through digitalisation and the utilisation of technology in the High-Impact Thematic Community Service Programme (KKN) in Baros Village.

D. RESULT AND DISCUSSION

Current Situation and Potential of MSMEs in Baros Village

Based on observations carried out during the Community Service Programme (KKN) in Baros Village, Arjasari Sub-district, Bandung Regency, it was found that the Micro, Small and Medium Enterprises (MSMEs) sector represents one of the community's economic potentials that can be developed. MSME potential was primarily found in Hamlet 3, specifically in Pakusorok Village, RW 08. Some of the businesses identified include the production of kicimpring and coffee. These products already have a customer base amongst the local community, and some business owners also receive orders from outside the area, including the Banjaran market.

Although they already have customers and a market, the findings of the observations indicate that some MSME operators still face limitations in utilising digital technology. Some business owners stated that they were not yet interested in expanding their marketing via digital platforms because they considered the management process to be quite complicated and time-consuming. This situation indicates that the challenges of SME digitalisation in Baros Village are not only related to the availability of technology, but also to the level of

understanding, comfort and readiness of business owners in adopting technology.

From a legal perspective, it was found that some business operators already held a Business Identification Number (NIB), whilst others still required assistance with the application process. During the observation period, it was also found that some business operators lacked other legal requirements, such as halal certification and Intellectual Property Rights (IPR). However, these aspects were not the primary focus of the Community Service Programme (KKN). The legal compliance programme implemented by the group focused on providing guidance on NIB registration.

These initial findings formed the basis for the KKN group in determining a form of intervention that was straightforward and suited to the business owners' needs. The intervention was subsequently directed towards two main aspects: strengthening legal compliance through NIB guidance, and the digitalisation of businesses through branding, registering business locations on Google Maps, QRIS, and the development of a website-based MSME information system.

Assistance with applying for a Business Identification Number (NIB)

One of the initiatives carried out by Group 30 of the Al-Ghifari University Thematic High-Impact Community Service Programme (KKN) was to provide guidance on applying for a Business Identification Number (NIB) for several business owners in Hamlet 3, Baros Village. This programme was implemented to strengthen the legal standing of these businesses whilst helping MSME owners gain a more practical understanding of business administrative processes.

Based on observations and discussions with business owners, the process of obtaining legal registration is still considered quite complex when undertaken independently. Therefore, the students act as facilitators by providing explanations and supporting business owners throughout the process of obtaining an NIB. A hands-on support approach was chosen so that business owners could understand the steps involved, rather than simply receiving the final outcome of the administrative process.



Figure 1. Assistance with NIB applications for MSMEs operators in Baros Village

The mentoring programme resulted in two business owners successfully obtaining or completing the NIB application process, namely Warung Mr. Cecep and Baros Coffee, owned by Mr Ika. These results demonstrate that direct mentoring can be one way of

reducing the administrative barriers faced by MSME owners.



Figure 2. Handover of NIB certificates to business owners in Baros Village

This support with legal formalities is in line with the findings of Taufikurrahman (2022), who demonstrated that assistance with NIB applications can help MSME operators obtain business legal status through the Online Single Submission (OSS) system. Business legal status is one of the key aspects in building credibility and ensuring a business is ready to grow.

Strengthening Product Identity through Branding of Kicimpring MSMEs

The next digitisation initiative was carried out for the Kicimpring MSMEs in Pakusorok Village, RW 08. Based on observations, Kicimpring products already had a customer base and ongoing production activities, but lacked a visual identity that was consistently applied to product packaging. This situation presented an opportunity for the Community Service Programme (KKN) group to help strengthen the product's identity through branding.

The group designed a simple visual identity, which was then applied in the form of packaging stickers. The branding was developed taking into account the product's characteristics and the needs of the SME operators to ensure the results could be easily incorporated into their day-to-day production activities.



Figure 3. The process of creating and implementing branding for the Kicimpring MSMEs The application of branding to the packaging provides a clearer visual identity for *kicimpring* products.

visual identity as part of a strategy to introduce the product to consumers.



Figure 4. Branding on the packaging of Kicimpring MSMEs products

These findings are consistent with those of Zahroh et al. (2025), who demonstrated that digitalisation can be used as a strategy to empower rural MSMEs and enhance local economic potential. In the context of Baros Village, digitalisation is implemented through a simple approach tailored to the readiness of business operators, so as not to add to their operational burden.

Increasing Business Visibility via Google Maps

In addition to branding, the KKN 30 group digitised the production sites of Kicimpring MSMEs by marking their locations on Google Maps. This programme was carried out to make it easier for the public to find the production sites, whilst also establishing a digital presence for businesses that previously lacked easily discoverable location information via internet searches.



Figure 5. Creating a Google Maps location for the Kicimpring MSMEs production facility
Creating a location marker on Google Maps is a relatively straightforward form of digitalisation and does not require any major changes to business operations.

MSMEs operators continue to carry out their production activities as usual, whilst the business location is added to the digital information ecosystem.



Figure 6. Location of the Kicimpring MSMEs production facility on Google Maps

The inclusion of business locations on Google Maps makes it easier for consumers and the general public to find out where production facilities are situated. This initiative also demonstrates that the digitalisation of MSMEs can begin by utilising platforms that are already available and familiar to the public.

Digitization of Payment Systems Through QRIS Support

Digitalisation has also been implemented in the area of transactions through support for the creation of QRIS codes for grocery shops in Dusun 3. This programme targets a number of shops that previously relied on face-to-face or cash transactions. The support involves helping business owners understand the process of creating and using QRIS as an alternative digital payment method.



Figure 7. Support for the implementation of QRIS for small shops in Dusun 3 Baros Village



Figure 8. Handover of QRIS to small shops in Hamlet 3, Baros Village

The QRIS support programme provides an alternative digital transaction method that businesses can use to serve their customers. This programme also introduces the use of relatively simple payment technology without requiring businesses to overhaul their entire operational systems. These findings are consistent with Martiyanti et al. (2023), who explain that guidance on the use of QRIS can be one of the measures to enhance the competitiveness of MSMEs through the adoption of digital payment systems.

However, this programme is not intended to suggest that QRIS directly increases business turnover. This study merely identifies the initial implementation and utilisation of digital payments as part of the digital transformation process for MSMEs.

Development of a Digital Information System for Baros Coffee MSMEs

In addition to the digitalisation of the Kicimpring MSMEs and local shops, the Community Service Programme (KKN) group also developed a website-based information system for the Baros Coffee MSMEs located in Pakusorok Village, RW 08. The development of the website is a form of technological innovation aimed at providing a digital platform for information and promotion for the Baros Coffee MSMEs.



Figure 9. The process of developing the Baros Coffee MSMEs information system



Figure 10. Training on the use of the Kopi Baros website and its launch

The system was developed with the needs of MSMEs as users in mind. The website was designed as a medium for introducing business profiles and coffee products to the public via a digital platform. It is hoped that the website will broaden the business's information channels so that it does not rely solely on local customers and conventional marketing.

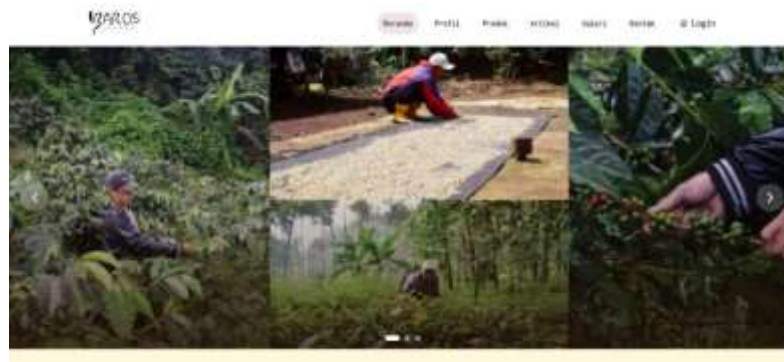


Figure 11. Screenshot of the homepage of the Baros Coffee MSMEs website

Website development indicates a shift in the nature of digital interventions, moving from the use of third-party platforms towards the provision of information media specifically designed to meet the needs of MSMEs. However, the sustainability of these websites is highly dependent on the administrators' ability to update information, maintain content and manage the system once the Community Service Programme (KKN) has ended.

This is in line with the findings of Adi et al. (2023) and Fuadi et al. (2021), who highlight the importance of enhancing the digital capacity of MSME operators in the process of utilising technology to support economic activities.

Integrating the Strengthening of Legal Status and the Digitalization of MSMEs

The results of the programme's implementation show that the empowerment of MSMEs in Baros Village was achieved through two complementary approaches: strengthening legal compliance and the digitalisation of businesses. Legal compliance was strengthened through support with the NIB, whilst digitalisation was achieved through product branding, Google

Maps, QRIS and the development of MSMEs websites.

Table 1. Form and outcomes of the MSMEs empowerment programme in Baros village

Aspect	Programme	Results
Legal compliance	NIB support	Business operators obtain/complete the NIB registration process
Product identity	Kicimpring Branding	Packaging stickers
Business visibility	Google Maps	The production house's location is available online
Transaction Information & Promotion	QRIS Baros Coffe website	Digital payment alternatives digital information and promotional media

This series of programmes demonstrates that the digital transformation of MSMEs does not necessarily have to be carried out directly through complex systems. Digitalisation can begin with the simplest needs that are easiest for business owners to implement. In the case of Baros Village, branding, Google Maps and QRIS formed the initial stages of digitalisation, whilst a website represented a more advanced form of technological intervention.

This approach is important because observations show that some SME owners still regard the use of digital platforms as complicated. Therefore, the interventions provided by the Community Service Programme (KKN) group placed greater emphasis on direct mentoring and the use of technology suited to the needs and capabilities of the business owners.

E. CONCLUSION

Based on the findings of the research into the empowerment of MSMEs through the strengthening of legal status and business digitalisation in Baros Village, it can be concluded that the Community Service Programme (KKN) was able to provide interventions tailored to the needs of MSME operators. Legal compliance was strengthened through guidance on obtaining a Business Identification Number (NIB), whilst digitalisation was achieved by enhancing the branding of the Kicimpring MSMEs, creating business listings on Google Maps, providing guidance on the use of QRIS, and developing a website-based information system for the Baros Coffee MSMEs. This series of activities supported improvements in legal compliance and the utilisation of digital technology in business operations. However, this study has not yet measured the quantitative impact on increases in turnover, customer numbers, or SME revenue; consequently, the results obtained primarily indicate improved access and business readiness in utilising legal compliance and digital technology.

For future research, it is recommended that an evaluation be carried out over a longer period using quantitative indicators, such as changes in turnover, the number of customers, the volume of digital transactions, and the level of digital platform usage before and after the mentoring programme. Subsequent research could also examine the continued use of the NIB, QRIS, Google Maps, branding and the website after the KKN programme has ended, so as to determine the extent to which the interventions provided have genuinely contributed to the development and self-reliance of MSMEs in Baros Village.

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