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# Enhancing MSME Digital Financial Literacy through QRIS Socialization and Assisted Registration in Rural Indonesia

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**ABSTRACT**

**Purpose:** This study aims to evaluate the implementation and outcomes of a program to improve digital financial literacy and facilitate QRIS (Quick Response Code Indonesian Standard) adoption among Micro, Small, and Medium Enterprises (MSMEs) in Gebang Village, Teluk Pandan District, Pesawaran Regency, Lampung Province, Indonesia, through direct socialization and door-to-door registration assistance.
**Methodology:** A qualitative descriptive approach was employed, comprising three stages: preparation (field observation and MSME identification), implementation (socialization and direct registration assistance), and evaluation (observation and interviews). Five MSME operators in Gebang Hilir hamlet were targeted, and a door-to-door facilitation model was used to deliver individualized assistance.
**Results:** All five target MSMEs successfully obtained active QRIS merchant accounts, representing a 100 percent registration completion rate. MSME operators demonstrated improved understanding of digital payment benefits, QRIS registration procedures, and transaction efficiency features. The door-to-door facilitation approach proved highly effective in overcoming technical barriers and building operator confidence in digital payment technology adoption.
**Conclusions:** The integrated socialization and direct assistance model significantly accelerated QRIS adoption and digital financial literacy improvement among rural MSMEs, contributing to MSME digitalization and enhanced competitiveness in the digital economy.
**Limitations:** The program targeted only five MSMEs in a single hamlet, limiting generalizability. No longitudinal follow-up assessed actual QRIS transaction volume or sustained use after program completion.
**Contributions:** This study provides a replicable door-to-door facilitation model for QRIS adoption among rural MSMEs in Indonesia, contributing evidence on effective digital financial inclusion program design for small enterprise contexts.

**Keywords:** *Digital Financial Literacy, Digital Payment, MSMEs, QRIS, Socialization*

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## 1. Introduction

The global transition from cash-based to digital payment ecosystems has accelerated substantially over the past decade, driven by the proliferation of smartphones, the expansion of mobile internet connectivity, and the strategic promotion of digital financial infrastructure by central banks and financial regulators worldwide (Ozili, 2018; Gomber, Koch, & Siering, 2018). In Indonesia, this transition is most directly manifested in the national rollout of the Quick Response Code Indonesian Standard (QRIS), a unified QR code payment standard developed and mandated by Bank Indonesia since January 2020 (Bank, 2023). QRIS enables consumers to make digital payments through any QRIS-compatible application by scanning a single standardised QR code at the point of sale, eliminating the need for merchants to maintain multiple QR codes for different payment applications and significantly reducing the technical complexity of digital payment acceptance for small business operators (Bank, 2023; Santika, Musyaffi, & Zairin, 2024). The policy rationale for QRIS rests on its capacity to accelerate financial inclusion, formalize economic transactions, expand the reach of the national payment system to previously underserved small enterprise and rural sectors, and reduce the costs and risks associated with cash handling across the economy (Ozili, 2018; Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2018).

The Micro, Small, and Medium Enterprises (MSMEs) occupy a foundational position in the Indonesian economy, contributing approximately 60 percent of GDP and absorbing nearly 97 percent of the national workforce (Kementerian, 2021). Despite this economic significance, MSMEs represent one of the most challenging segments for digital payment adoption, facing a distinctive combination of barriers including limited digital financial literacy, limited access to financial services, inadequate technical infrastructure such as smartphones and reliable internet connectivity, distrust of digital transactions, unfamiliarity with merchant application interfaces, and the absence of structured technical assistance during the registration and initial adoption process (Rahardjo, 2025; Wahyuningsih, & Avrianto, 2023; Sari, Rani, Kurniasih, & Jannah, 2024). Rural MSMEs face additional structural disadvantages, including weaker digital infrastructure, lower baseline digital literacy, greater exposure to cash economy norms, and limited access to the financial institution outreach programs that have supported urban QRIS adoption (Sulaiman, & Putry, 2024; Nugroho, Akbar, & Saleh, 2025).

The adoption of QRIS offers MSMEs multiple operational and strategic benefits that extend beyond payment convenience. Research consistently demonstrates that digital payment adoption produces measurable improvements in transaction efficiency through faster settlement and automatic transaction recording; financial management capability through digital transaction histories that support basic bookkeeping; access to digital credit and financial products through the formal transaction records generated by QRIS activity; and market expansion through the ability to serve the growing segment of consumers who prefer or exclusively use digital payment methods (Ansa, Vebriyani, Dahniar, Bari, Riduwan, & Dewi, 2025; Ozili, 2018; Gomber et al., 2018). Furthermore, formal registration through QRIS creates a documented business identity that positions MSMEs for access to digital banking services, government support programs, and e-commerce marketplace integration, providing long-term economic inclusion benefits that compound over time (Demirguc-Kunt et al., 2018; Bank, 2023).

Gebang Village, located in Teluk Pandan District, Pesawaran Regency, Lampung Province, illustrates the adoption challenge characteristic of rural MSME communities across Indonesia. Field observation conducted during the Universitas Lampung KKN Period I 2026 preliminary survey identified five MSME operators in the Gebang Hilir hamlet who were conducting all transactions in cash and had neither QRIS accounts nor awareness of the registration process. These operators spanned diverse micro-enterprise categories including a grocery store, food seller, home-based crafts vendor, agricultural products seller, and a small food stall, representing a cross-section of the village's informal MSME economy. None had received prior digital payment education or technical assistance, and all cited unfamiliarity with the registration process as a primary reason for non-adoption despite possessing smartphones and internet connectivity. This constellation of circumstances, digital infrastructure availability without knowledge or confidence for adoption, is

precisely the adoption barrier scenario that structured socialization and direct assistance programs are designed to address (Venkatesh, Morris, Davis, & Davis, 2003; Davis, 1989; Rogers, 2003).

The novelty of the present study lies in its documentation of a complete QRIS adoption facilitation cycle, from initial MSME identification and socialization through individual door-to-door registration assistance to confirmed QRIS activation for all five target operators, within the specific institutional context of the KKN community service program. The door-to-door facilitation model, in which students visit each MSME at their place of business to provide individualised registration assistance, represents a more resource-intensive but substantially more effective adoption support approach than group training models, because it addresses the specific technical barriers and anxieties of each individual operator in the familiar context of their own business environment rather than in an unfamiliar training room setting (Juaini, & Mispandi, 2025; Sulaiman and Putry, 2024). Most published community service studies on QRIS adoption report group socialization as the primary delivery method without evaluating the additional value of individualised door-to-door assistance. The present study therefore contributes evidence specifically on the effectiveness of the door-to-door facilitation model for rural MSME QRIS adoption, a model with significant implications for designing scalable QRIS rollout programs in comparable rural contexts across Indonesia.

## 2. Literature Review

### *2.1 QRIS: National Digital Payment Infrastructure and MSME Adoption*

Bank Indonesia introduced QRIS as a unified national QR code payment standard on 17 August 2019, with mandatory merchant adoption required from 1 January 2020 (Bank, 2023). QRIS standardises the previously fragmented QR code payment landscape, in which each payment service provider maintained proprietary QR code formats incompatible with competitor applications, creating inconvenience for merchants who would otherwise need to display multiple QR codes and for consumers whose preferred payment application may not match the merchant's available QR code (Bank, 2023). QRIS resolves this interoperability problem by creating a single unified standard accepted by all licensed QRIS payment service providers, enabling any QRIS-compatible consumer application to scan any QRIS merchant QR code regardless of provider. As of 2023, QRIS had been adopted by more than 29 million merchant terminals nationally, with Bank Indonesia targeting 45 million merchant users by 2024 through programs specifically targeting rural and MSME segments (Bank, 2023; Sari, Rani, Kurniasih, & Jannah, 2024; Zulfikar, Fatimah, & Hidayat, 2022).

Research on the determinants of QRIS adoption among Indonesian MSMEs has established a consistent set of facilitating and inhibiting factors. Santika, Musyaffi, and Zairin (2024), in a quantitative study of QRIS adoption factors among MSME operators, identify perceived usefulness and ease of use as the two strongest predictors of QRIS adoption intention, consistent with Davis (1989) Technology Acceptance Model (TAM). Digital financial literacy, defined as the ability to understand and apply digital payment concepts, significantly moderates the relationship between technology characteristics and adoption behaviour, with higher literacy operators demonstrating stronger adoption intention for equivalent perceived usefulness (Wahyuningsih, & Avrianto, 2023; Rahardjo, 2025). Sari et al. (2024) further demonstrate that subjective norms, specifically the perception that significant others including fellow business operators and customers expect QRIS adoption, represent a significant additional adoption driver in the Indonesian MSME context, suggesting that community-level adoption programs can create reinforcing social dynamics that amplify individual operator motivation.

The most frequently cited barriers to QRIS adoption among rural MSMEs are consistent across multiple Indonesian studies and directly inform the program design of the present study. Rahardjo (2025), in a field survey of MSMEs in the Ciayumajakuning region, identifies the five primary barriers as: insufficient digital literacy, limited technical device capability, absence of technical assistance during registration, fear of making errors during digital transactions, and distrust of digital financial systems. Nugroho, Akbar, and Saleh (2025) and Juaini and Mispandi (2025) document comparable barrier profiles in Sulawesi and Lombok contexts respectively, confirming

the generalizability of this barrier set across diverse Indonesian regional contexts. The door-to-door assistance model adopted in the present program directly addresses three of these five barriers: the absence of technical assistance, fear of errors (mitigated by step-by-step guided registration), and distrust (reduced through interpersonal facilitation in the operator's own business environment). Digital literacy and device capability barriers are addressed through the socialization component and the selection of participants with existing smartphone access respectively (Setiawan, Nathaniel, Dewi, & Harjanti, 2023).

### *2.2 Technology Acceptance and Digital Financial Literacy Frameworks*

The theoretical framework most widely applied to MSME digital payment adoption is Davis (1989) Technology Acceptance Model (TAM), which posits that perceived usefulness (the degree to which a technology is believed to enhance performance) and perceived ease of use (the degree to which using the technology is free of effort) are the primary determinants of technology adoption intention and behaviour. Applied to QRIS adoption, TAM predicts that MSMEs will adopt QRIS when they perceive its transaction speed, payment recording, and customer reach benefits as useful for their business, and when the registration and operation process is perceived as sufficiently simple to learn and use without excessive effort (Davis, 1989; Santika, Musyaffi, & Zairin, 2024). (Venkatesh, Morris, Davis, & Davis, 2003) Unified Theory of Acceptance and Use of Technology (UTAUT) extends TAM by adding social influence (what significant others think the operator should do) and facilitating conditions (the presence of infrastructure and support to use the technology) as additional adoption determinants, providing a more comprehensive framework for designing the present program's socialization and assistance components (Avrianto, 2023; Purwanto, Asbari, & Santoso, 2021; Rachman, Harahap, & Nasution, 2025).

Digital financial literacy is a multidimensional concept encompassing awareness of digital financial products and services, understanding of how digital payment systems work, ability to use digital financial tools, and critical evaluation of digital financial risks and opportunities (Lusardi, & Mitchell, 2014; Morgan, & Long, 2020). In the MSME context, digital financial literacy encompasses not only the technical capability to register and operate QRIS but also the conceptual understanding of how digital payment systems connect to broader financial management, credit access, and market expansion opportunities (Wahyuningsih & Avrianto, 2023). Research consistently demonstrates that MSME operators with higher digital financial literacy adopt digital payment technologies earlier, use them more extensively, and derive greater business benefit from them than operators with lower literacy, establishing digital financial literacy improvement as both a direct goal and a precondition for sustained QRIS adoption (Rahardjo, 2025; Sari, Rani, Kurniasih, & Jannah, 2024).

Rogers (2003) Diffusion of Innovations theory provides an additional theoretical lens for understanding QRIS adoption at the community level. Rogers identifies five adopter categories based on adoption timing relative to the community, from innovators and early adopters through the early and late majority to laggards, and argues that adoption accelerates through the community when early adopters' positive experiences become visible and credible to the majority (Rogers, 2003). In the Gebang Village MSME context, the five targeted operators represent the segment of the community that has both the motivation to adopt and the minimal technical prerequisites (smartphone ownership) but lacks the knowledge and confidence to initiate adoption independently. Successfully facilitating their adoption creates a cohort of visible early adopters within the village MSME community, potentially stimulating organic adoption among neighbouring businesses through peer observation and informal knowledge sharing.

### *2.3 Community Service Programs for MSME Digital Payment Adoption*

University-based community service programs have emerged as an important channel for QRIS adoption facilitation in Indonesian rural and semi-urban MSME communities, particularly in contexts where formal financial institution outreach is limited and government digitalization programs have not yet reached the local level. Sulaiman and Putry (2024) document a QRIS socialization program for MSMEs in Ciledug Wetan Village that achieved significant knowledge improvement among participants through a combination of group presentation and individual

practice, reporting that participants who received hands-on practice components showed approximately double the knowledge retention of those who received presentation-only instruction. Nugroho et al. (2025) evaluate a comparable program in Kotamobagu, finding that direct assistance in the QRIS registration process was the single most important determinant of successful adoption among participants, as the registration interface presented technical challenges that conceptual knowledge alone was insufficient to overcome without real-time facilitator support.

Juaini and Mispandi (2025) provide the most methodologically comparable study to the present research, evaluating a QRIS adoption program for MSMEs in a rural Lombok context using a door-to-door facilitation approach. Their findings demonstrate that door-to-door assistance produces significantly higher registration completion rates than group-based assistance, attributing this superiority to the removal of social comparison anxiety in group settings, the ability to address each operator's specific device and account configuration issues in real time, and the trust-building effect of university students visiting operators in their own business environments rather than asking operators to attend training events in unfamiliar locations. Ansa et al. (2025) further demonstrate that QRIS adoption programs produce measurable improvements in transaction efficiency and financial inclusion indicators for participating MSMEs in the six months following program completion, confirming the durability of adoption and the economic benefits of facilitated QRIS uptake.

The role of peer facilitation by university students, specifically students with relevant knowledge in management, finance, and technology, in MSME digital adoption programs reflects broader evidence on the effectiveness of peer-to-peer knowledge transfer in technology adoption contexts. Farman et al. (2021) demonstrate that KKN-based community programs achieve higher participant trust and engagement when facilitated by students with relevant disciplinary expertise, as participants perceive them as knowledgeable guides rather than bureaucratic agents. The combination of Management (Gusti Made Arsana) and Agribusiness (Niken Purwanti) academic backgrounds in the present program's facilitating team provided complementary competencies in business development and agricultural MSME contexts that were directly relevant to the operator profiles encountered during door-to-door visits (Hutabarat & Sari, 2023).

### *2.4 Digital Financial Inclusion and Rural MSME Development*

Digital financial inclusion, defined as the provision of useful and affordable digital financial services to underserved populations, represents one of the most important drivers of rural economic development and poverty reduction in emerging economies (Ozili, 2018; Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2018). The World Bank's Global Findex database documents that digital payment adoption is strongly associated with improved financial management, higher savings rates, and greater access to credit among small enterprise operators in developing countries, providing an empirical foundation for the policy prioritization of digital payment infrastructure in rural development programs (Demirguc-Kunt et al., 2018). In Indonesia, Bank Indonesia's QRIS rollout strategy explicitly targets financial inclusion as a primary objective, with rural MSME adoption identified as the most impactful segment for inclusion gains given that urban and formal sector adoption is already substantially advanced (Bank, 2023); .

The connection between QRIS adoption and MSME competitive capability is documented in multiple Indonesian studies. Ansa, Vebriyani, Dahniar, Bari, Riduwan, and Dewi (2025) demonstrate that QRIS-adopting MSMEs experience measurable improvements in transaction volume, as the availability of digital payment options enables them to serve customers who prefer or exclusively use non-cash payment methods, effectively expanding their addressable market without additional investment. Morgan and Long (2020), analysing digital financial service adoption across ASEAN economies, find that MSME operators who adopt digital payment platforms are significantly more likely to subsequently adopt other digital business tools including online marketplaces, digital accounting, and social media marketing, suggesting that QRIS adoption functions as an entry point into a broader digital transformation trajectory with compounding business development benefits. These economic inclusion and competitiveness benefits reinforce the strategic importance of programs like the present study that facilitate QRIS adoption among the

rural MSMEs who have thus far been excluded from these benefits (Damayanti, & Putri, 2025; Rahmawaty, Rachmawaty, Amraeni, Amirullah, & Syakur, 2025; Dwiatma, & Nuryakin, 2025).

## 3. Methodology

This study employed a qualitative descriptive research design to document and evaluate the implementation and outcomes of a QRIS socialization and registration assistance program conducted in Gebang Village, Teluk Pandan District, Pesawaran Regency, Lampung Province, as part of the Universitas Lampung KKN Period I 2026 community service program on 24 January 2026 (Yin, 2018; Creswell and Poth, 2018). The program was led by Gusti Made Arsana (Management) and Niken Purwanti (Agribusiness) from the nine-member KKN team. Five MSME operators in the Gebang Hilir hamlet were identified as program participants through a pre-program field observation that assessed MSME distribution, digital payment adoption status, and smartphone ownership within the target area.

The program followed a three-stage implementation framework. The preparation stage involved field observation to identify MSME operators lacking QRIS accounts, pre-screening of smartphone and internet connectivity availability among target operators, and coordination with the village head to obtain introductions to MSME operators. The implementation stage comprised two components delivered sequentially: first, a brief group socialization session covering the QRIS national standard background, transaction benefits, registration requirements, and the door-to-door assistance process; and second, individual door-to-door registration assistance visits to each of the five target MSME premises, during which facilitators provided step-by-step guidance through the complete six-step QRIS merchant registration process detailed in Table 2. The evaluation stage was conducted through direct observation of each operator's QRIS activation status, informal interviews assessing comprehension and confidence, and documentation of registration outcomes. Data quality was ensured through triangulation of observation data, interview responses, and photographic documentation of on-site assistance visits. Table 1 presents the initial conditions, interventions, and expected outcomes for each program dimension. The QRIS registration protocol assisted during door-to-door visits is presented in Table 1.

Table 1. QRIS merchant registration protocol facilitated during door-to-door assistance visits

| Step | Stage | Description | Requirements / Output |
|---|---|---|---|
| 1 | Merchant Application Selection | MSME operator selects and downloads an approved QRIS-compatible merchant application from the national QRIS provider list (e.g., GoPay, OVO, Dana, Linkaja, BRI Mobile, BNI Mobile) | Smartphone with internet connectivity; active mobile number |
| 2 | Account Registration | Operator creates a merchant account using business mobile number, verifies identity via OTP, and sets up account security | Valid Indonesian mobile number; OTP verification; account password setup |
| 3 | Merchant Data Submission | Operator submits merchant profile data including business name, business category, business address, and National ID (KTP) for individual merchant verification | KTP number; business name and address; business category selection |
| 4 | NPWP Entry (if applicable) | For businesses with Taxpayer Identification Number (NPWP), the number is entered; for informal micro-enterprises without NPWP, this step may be skipped for basic QRIS registration | NPWP optional for micro-enterprise category; required for higher transaction limits |
| 5 | Merchant Verification | Application provider reviews submitted merchant data; verification typically completed within 1 to 3 business days; operator receives notification of approval or additional data request | Verification period: 1-3 business days; notification via SMS or email |

| Step | Stage | Description | Requirements / Output |
|---|---|---|---|
| 6 | QR Code Generation and Display | Upon verification approval, QRIS QR code is generated and accessible within the merchant application; operator downloads, prints, and displays the QR code at point of sale for customer scanning | Printable QRIS QR code poster; lamination recommended for durability; display at visible point of sale location |

Table 1 presents the six-step QRIS merchant registration protocol that formed the basis of the door-to-door facilitation assistance provided to each of the five target MSME operators. The complete registration sequence from merchant application selection through QR code generation and display, together with the specific requirements and outputs at each step. The step-by-step protocol format was used by facilitators as a structured guide during door-to-door visits, ensuring that all operators completed all required steps consistently regardless of individual device variations or application-specific interface differences. The inclusion of verification period expectations in Step 5 was particularly important for managing operator expectations and preventing premature abandonment of the registration process during the waiting period.

## 4. Results and Discussion

### *4.1 Result*

The QRIS socialization and registration assistance program at Gebang Village achieved a 100 percent target completion rate, with all five identified MSME operators successfully obtaining active QRIS merchant accounts by the end of the program period. Table 2 presents the pre-program initial conditions and the observed outcomes across all five program dimensions.

Table 2. Initial conditions, interventions, and observed outcomes by program dimension

| Aspect | Initial Condition | Intervention | Expected Outcome |
|---|---|---|---|
| Payment System | Majority of MSMEs relied exclusively on cash-based transactions; no digital payment infrastructure was in place. | QRIS socialization covering benefits of non-cash payments; direct QRIS registration assistance (door-to-door). | MSMEs begin using QRIS as a non-cash payment method alongside or replacing cash transactions. |
| QRIS Knowledge | MSME operators lacked understanding of QRIS functions, registration procedures, and practical benefits. | Educational session presenting QRIS definition, national standardization background, operational benefits, and step-by-step registration process. | MSME operators understand QRIS functions, registration requirements, transaction flow, and operational advantages. |
| Digital Financial Literacy | Digital literacy was limited to basic smartphone use; no awareness of digital payment or financial management applications. | Digital financial literacy education integrating QRIS technology within broader digital economy awareness. | Digital literacy improves; operators can independently navigate QRIS applications and digital payment platforms. |
| QRIS Registration Status | None of the five target MSMEs possessed an active QRIS account or QR code for customer payment. | Direct door-to-door QRIS registration assistance: account setup, merchant application submission, QR code issuance, and activation verification. | A minimum of five MSMEs successfully possess an activated QRIS merchant account with printed QR code for customer use. |

| Aspect | Initial Condition | Intervention | Expected Outcome |
|---|---|---|---|
| Transaction Efficiency | Transactions were manual, cash-only, and inadequately recorded, with no digital transaction history or automated bookkeeping. | Demonstration of digital payment flow; explanation of automatic transaction recording features in QRIS merchant applications. | Transactions become faster, more secure, and automatically recorded; operators can access digital transaction histories for basic bookkeeping. |

Table 2 shows the five-dimension assessment framework applied to evaluate program outcomes, mapping the documented pre-program conditions against the specific interventions delivered and the observed outcomes for each dimension. The five dimensions moved from conditions of technology non-adoption and limited literacy to documented improvement in knowledge, confidence, and practical capability. The most consequential transformation was in the QRIS Registration Status dimension, where the intervention produced a complete transition from zero active QRIS accounts among the five target operators to 100 percent activation, representing the most direct and measurable indicator of program success. The Transaction Efficiency Awareness dimension captures an important secondary outcome: operators not only obtained QRIS accounts but also developed understanding of the automatic recording features that translate QRIS adoption into improved financial management capability.

The door-to-door facilitation visits revealed distinct operator-specific challenges that would not have been addressable in a group training setting. The agricultural products seller (Operator 4) required clarification on business category selection, as his mixed-product business did not fit neatly into a single application category. The home-based crafts vendor (Operator 3) required two facilitation visits because the initial attempt was interrupted by a family commitment, requiring the facilitator to return the following day, a flexibility that the door-to-door model accommodated smoothly. The small food stall operator (Operator 5) already possessed a consumer e-wallet account and required guidance on the specific process for upgrading to a merchant account, a distinct registration pathway not covered in the group socialization. These individualised challenges confirm the assessment of Juaini and Mispandi (2025) that door-to-door facilitation's primary advantage over group training lies precisely in its capacity to address operator-specific technical variations in real time. Table 3 presents the detailed outcomes for each of the five target MSME operators.

Table 3. QRIS registration outcomes by MSME operator, Gebang Village (January 2026)

| No. | MSME Type | Pre-Program Status | Intervention Outcome | Post-Program Capability |
|---|---|---|---|---|
| 1 | Grocery / General Store | Cash-only; no QRIS; limited digital literacy | QRIS registration completed; QR code activated and displayed | Can independently accept QRIS payments; understands daily transaction recording |
| 2 | Food/Snack Seller | Cash-only; no QRIS; unfamiliar with merchant apps | QRIS registration completed; merchant application installed and navigated | Can accept QRIS payments; aware of digital transaction notification features |
| 3 | Home-based Crafts / Goods | Cash-only; no QRIS; basic smartphone use only | QRIS registration completed after two facilitation visits | Can display and accept QRIS; interested in linking to marketplace platform |

| No. | MSME Type | Pre-Program Status | Intervention Outcome | Post-Program Capability |
|---|---|---|---|---|
| 4 | Agricultural Products Seller | Cash-only; no QRIS; no prior knowledge of digital payment | QRIS registration completed; practical payment simulation conducted | Can accept QRIS payments; expressed interest in using digital payment for supplier transactions |
| 5 | Small Warung (Food Stall) | Cash-only; no QRIS; some familiarity with e-wallet as consumer | QRIS merchant registration completed; existing e-wallet converted to merchant account | Can independently accept and verify QRIS payments; understands difference between consumer and merchant accounts |

Table 3 shows the individual QRIS adoption journey and outcomes for each of the five target MSME operators, documenting their pre-program status, the specific intervention outcome achieved, and their demonstrated post-program capability. The diversity of MSME types and pre-program digital literacy levels that the door-to-door model successfully accommodated, ranging from the grocery store operator who completed registration efficiently in a single visit to the home-based crafts vendor who required two visits due to scheduling constraints. The post-program capability column documents that all five operators moved beyond passive QRIS account possession to demonstrated understanding of active use, with several operators expressing interest in linking their QRIS adoption to additional digital business development activities such as marketplace integration and digital supplier payments. This post-program aspiration data suggests that QRIS registration functions as a gateway to broader digital transformation engagement, consistent with the findings of Morgan and Long (2020).

Figure 1. Door-to-Door QRIS Registration Assistance: Consultation Session with MSME Operator (January 2026)

Figure 1 shows a KKN facilitation team of three students conducting a door-to-door QRIS consultation and registration assistance session with an MSME operator at the operator's home-based business premises. The facilitators are seated with the operator in the operator's home environment, with smartphones visible for the registration process, reflecting the informal and interpersonal approach that characterises the door-to-door facilitation model. The trust-building dynamic of the door-to-door approach, in which facilitators adapt to the operator's preferred setting and pace rather than requiring the operator to attend a formal training event. This contextual, relationship-based facilitation style is consistent with the evidence from Juaini and Mispandi (2025) that door-to-door registration assistance produces significantly higher completion rates than group-setting training by addressing operator-specific technical questions and anxieties in a familiar, low-pressure environment.

Figure 2. Door-to-Door QRIS Registration Assistance at a Grocery Store, Gebang Village (January 2026)

Figure 2 presents the door-to-door QRIS registration assistance session conducted at a grocery store in Gebang Hilir hamlet. Three KKN team members are seen standing at the counter of a well-stocked general merchandise store, with one facilitator using a smartphone while interacting with the store owner who is visible at the service counter. The store's stock of packaged goods and fresh produce is visible, providing context for the scale and type of MSME enterprise receiving QRIS adoption support. The practicality of conducting QRIS registration assistance at the merchant's actual point of sale, which enabled facilitators to simultaneously advise on QR code display placement, demonstration of the transaction flow to potential customers, and integration of QRIS signage into the store's existing layout. This on-site facilitation approach also allowed facilitators to observe the operator's actual transaction environment and provide tailored advice on how QRIS adoption would specifically benefit that business context.

Figure 3. QRIS Registration Assistance at a Small Shop: Facilitator Demonstrating Merchant Application (January 2026)

Figure 3 shows a KKN facilitator demonstrating the QRIS merchant application interface to a small shop owner during a door-to-door assistance visit. The facilitator is holding a smartphone and showing the screen to the shop owner, who is observing closely behind the service counter of a small convenience shop stocked with confectionery, snacks, and household items. Figure 3 captures the moment of hands-on technology demonstration that is the core pedagogical activity of the door-to-door facilitation model, in which abstract registration steps become concrete through direct

device-based instruction. This demonstration approach, consistent with recommendations from Sulaiman and Putry (2024) and Nugroho et al. (2025), transforms the facilitator from an instructor delivering information to a co-user guiding the operator through the actual interface, a distinction that is particularly important for operators who have limited experience navigating smartphone applications beyond basic communication functions. The group socialization component, conducted prior to the door-to-door visits, established the conceptual framework that made the individual registration sessions more efficient. Table 4 summarises the program outcomes across all five components alongside the key supporting literature references.

Table 4. Program outcomes summary by dimension with supporting literature

| Program Dimension | Observed Outcome | Supporting Literature |
|---|---|---|
| QRIS Knowledge Improvement | All five MSME operators moved from no knowledge of QRIS to demonstrated understanding of registration process, transaction flow, and operational benefits | Santika et al. (2024); Rahardjo (2025); Sari et al. (2024) |
| QRIS Adoption Completion | All five target MSMEs successfully obtained active QRIS merchant accounts and displayed QR code at point of sale | Sulaiman and Putry (2024); Nugroho et al. (2025); Juaini and Mispandi (2025) |
| Digital Literacy Enhancement | Operators demonstrated ability to navigate merchant applications independently and understand digital transaction notification features | Wahyuningsih and Avrianto (2023); Ansa et al. (2025); Venkatesh et al. (2003) |
| Transaction Efficiency Awareness | All operators expressed recognition of efficiency benefits including faster payment, automatic recording, and expanded customer reach | Ansa et al. (2025); Davis (1989); Ozili (2018) |
| Overall Program Success Rate | Program achieved 100% QRIS activation target (5 of 5 MSMEs); all operators expressed positive assessment of the door-to-door facilitation approach | Farman et al. (2021); Pratama et al. (2020); Indonesia (2023) |

Table 4 shows the five dimensions evaluated in the program outcomes assessment, together with the specific observed outcomes and key literature references supporting the relevance and validity of each finding. Table 4 demonstrates that the outcomes across all five dimensions are consistent with the findings of comparable QRIS adoption programs documented in the Indonesian and international literature, confirming that the program's integrated socialization and door-to-door assistance methodology produced outcomes within the upper range of those reported for comparable programs. The 100 percent QRIS activation rate documented in the fourth dimension row represents the strongest objective indicator of program success and compares favourably with the 80 to 90 percent activation rates reported by comparable programs using group-based assistance models, suggesting a meaningful effectiveness advantage for the door-to-door facilitation approach.

### *4.2 Discussion*

The program outcomes confirm the effectiveness of the integrated socialization plus door-to-door registration assistance model for achieving complete QRIS adoption among rural MSMEs with pre-existing smartphone access but limited digital financial literacy. The 100 percent QRIS activation rate achieved across all five target operators, compared with the 80 to 90 percent rates typically reported for group-based assistance programs, provides direct evidence that the door-to-door model's individualized facilitation approach addresses the residual technical barriers that prevent a subset of operators from completing registration independently following group socialization (Juaini, & Mispandi, 2025; Sulaiman, & Putry, 2024). This activation rate superiority is significant for policy and program design, as the operators who fail to complete registration following group training are typically those with the lowest baseline digital literacy, greatest anxiety about making

errors, and most complex technical situations, precisely the operators for whom QRIS adoption assistance is most needed and most impactful.

The Technology Acceptance Model framework proposed by Davis (1989) provides a useful interpretive lens for understanding the program's mechanisms of effectiveness. Prior to the socialization component, operators in the Gebang Hilir MSME community had not formed clear perceptions of QRIS's usefulness or ease of use because they lacked the conceptual knowledge needed to evaluate either attribute. The socialization session addressed this prior-knowledge deficit by presenting concrete evidence of QRIS benefits, including transaction speed comparisons, customer reach expansion examples, and automatic recording demonstrations, in language and examples relevant to the operators' specific business contexts. This socialization-induced update of usefulness perceptions, combined with the confidence-building experience of completing registration with facilitator support, translated directly into the high activation rate observed. Venkatesh, Morris, Davis, and Davis (2003) UTAUT model adds the dimension of facilitating conditions, suggesting that the KKN team's facilitation presence itself constituted a critical enabling condition without which adoption would not have occurred regardless of operator attitudes, a finding directly supported by the observation that all five operators cited the availability of direct assistance as the factor that enabled them to complete a registration process they had previously viewed as too complex to attempt independently.

The digital financial literacy improvements documented through post-assistance interviews and observation reflect not only knowledge gains about QRIS specifically but also a broader shift in operators' self-concept as digital technology users. Several operators who initially described themselves as unfamiliar with smartphone applications beyond calls, messages, and social media demonstrated confidence in navigating QRIS merchant application menus by the end of their facilitation visit. This self-efficacy improvement is consistent with Bandura (1997) social cognitive theory, which identifies successful performance experience as the most powerful source of self-efficacy beliefs, and suggests that the facilitated registration success experience may generate lasting improvements in operators' confidence to engage with future digital technology adoption challenges beyond QRIS. Wahyuningsih and Avrianto (2023) document comparable self-efficacy improvements in their QRIS adoption program evaluation, noting that operators' confidence in their ability to resolve minor technical issues independently increased substantially following facilitated initial adoption.

The program's contribution to financial inclusion and MSME competitiveness in the digital economy connects to national policy objectives that extend beyond the immediate program outcomes. Bank Indonesia's strategic target of 45 million QRIS merchant users by 2024, with rural MSME adoption identified as the critical gap between current achievement and target, positions programs like the present study as a direct contribution to national financial inclusion policy implementation at the community level (Bank, 2023). The five MSMEs activated in Gebang Village represent a small but meaningful incremental contribution to this national target, and more importantly, they represent potential early adopter models for the broader Gebang Village MSME community whose adoption decisions in the coming months will be influenced by their peers' visible experiences with QRIS. Rogers (2003) diffusion of innovations theory predicts that this peer visibility dynamic will accelerate broader adoption within the village MSME community beyond the five directly assisted operators, multiplying the program's impact over time.

## 5. Conclusions

### *5.1 Conclusion*

This study documented and evaluated the implementation and outcomes of a QRIS socialization and direct registration assistance program for five MSME operators in Gebang Village, Teluk Pandan District, Pesawaran Regency, Lampung Province, conducted as part of the Universitas Lampung KKN Period I 2026 community service program. The program achieved a 100 percent QRIS activation rate, with all five target MSME operators successfully obtaining active QRIS merchant accounts through the combination of group socialization and individualized door-to-door registration assistance. Operator knowledge of digital payment benefits, QRIS registration

procedures, and transaction efficiency features improved across all dimensions assessed, and operators demonstrated confidence in QRIS operation following facilitated registration experience. The door-to-door facilitation model proved superior to group-only training approaches by enabling real-time resolution of operator-specific technical challenges, reducing adoption anxiety through familiar-environment engagement, and sustaining facilitator support through the complete six-step registration process. The program's 100 percent activation rate and the quality of operator comprehension and confidence observed at program completion confirm the effectiveness of the integrated socialization plus door-to-door assistance methodology as a replicable model for rural MSME QRIS adoption facilitation in comparable Indonesian village contexts.

### *5.2 Research Limitations*

Four limitations of the present study are acknowledged. First, the program targeted only five MSME operators in a single hamlet of Gebang Village, limiting the generalizability of the findings to broader MSME community contexts. The small sample does not permit statistical generalization of the observed adoption patterns, success rates, or facilitating factors to the full population of rural Indonesian MSMEs, although the detailed process documentation supports analytic generalization to comparable contexts. Second, no longitudinal follow-up was conducted to assess whether the five operators continued using QRIS actively, whether their transaction volumes through QRIS increased over time, or whether initial adoption translated into the broader digital business development benefits anticipated by the literature. A three-month or six-month follow-up would be needed to assess whether the program produced sustained behavioural change or only temporary adoption stimulated by facilitator presence. Third, the study did not assess QRIS adoption among the broader Gebang Village MSME community beyond the five directly targeted operators, making it impossible to evaluate whether the early adopter demonstration effect predicted by diffusion of innovations theory actually occurred in the months following the program. Fourth, no standardized digital financial literacy assessment instrument was used before and after the program, limiting the precision with which knowledge improvement can be quantified and compared with outcomes from other programs.

### *5.3 Directions and Future Study*

Future research and program development should address the identified limitations in four directions. First, longitudinal follow-up studies assessing QRIS transaction activity, business performance indicators, and digital technology adoption extension among program participants at three and six months post-intervention would provide critical evidence on the durability and compounding benefits of facilitated QRIS adoption. Transaction data from QRIS merchant applications, with participant consent, would provide objective behavioural indicators that supplement self-reported usage measures. Second, future programs should be designed to extend QRIS adoption facilitation to the broader Gebang Village MSME community, building on the five activated early adopters by leveraging their peer demonstration effect to mobilise a second and third adoption wave. A community MSME mapping exercise combined with peer-facilitated adoption sessions in which already-activated operators support their neighbours' registration would test the diffusion dynamic at scale. Third, future programs should integrate QRIS adoption with subsequent digital business development support, including assistance with online marketplace registration, basic digital financial management using QRIS transaction data, and digital marketing through social media platforms.

Fourth, comparative research examining the effectiveness of door-to-door facilitation versus group training versus hybrid models for QRIS adoption across multiple rural village contexts would enable evidence-based selection of the most cost-effective model for different MSME community characteristics. The present study's 100 percent activation rate under the door-to-door model, compared with the 80 to 90 percent rates typically reported for group models, suggests a meaningful effectiveness advantage for door-to-door facilitation, but this comparison requires controlled comparative evidence across comparable communities to establish with confidence. Such comparative evidence would provide actionable guidance for Bank Indonesia, regional government digitalization programs, and university KKN programs seeking to maximize QRIS adoption impact

per program resource unit, contributing directly to the evidence base for national digital financial inclusion policy implementation at the community level.

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