

Communication Strategies for Digital Payment Adoption in Traditional Markets: Evidence from Indonesia

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ABSTRACT

This study aims to evaluate the effectiveness of the communication strategy implemented by the management of Pal Meriam Market, Perumda Pasar Jaya, located in East Jakarta, in socializing the digital payment (QRIS) program to traditional merchants. A digital divide phenomenon was found, where non-food merchants reached a 90% adoption rate, while food produce merchants, representing the majority population (78% or 548 merchants), only reached 30%. This study used a qualitative descriptive approach through in-depth interviews and observations. The informants consisted of market management and traditional merchants. The results show that despite limited human resources, management optimized face-to-face interpersonal communication conducted by the Market Head during quiet hours. Furthermore, management utilized the observability principle of innovation diffusion theory by placing QRIS stickers in the stalls of successful digital adopters. This micro-visual attribute triggered social learning and reduced the passive resistance of elderly merchants who frequently cited signal disruption concerns when declining non-cash transactions. Although the persuasive approach and use of social capital effectively reduced psychological barriers, communication management still lacked an independent internal data system to guide future data-based socialization policies.

Keywords Communication Strategy, Digital Payment Adoption, Organizational Communication, Traditional Merchants, Diffusion of Innovation.

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INTRODUCTION

Digital transformation has emerged as a critical strategic agenda for organizations operating in both formal and informal economic sectors around the world. Beyond enhancing operational performance, digital technologies have fundamentally altered the way organizations conduct business processes, engage with customers, and generate value. Vial (2019) defines digital transformation as a process through which the adoption of digital technologies leads to substantial changes in organizational structures, business models, and patterns of social interaction. Despite its potential benefits, the implementation of digital transformation remains particularly challenging in informal economic environments, such as traditional markets, where limited technological readiness, low levels of digital literacy, and resistance to change often impede adoption efforts. Recent literature suggests that the effectiveness of digital transformation is determined not only by the availability of technological resources but also by various human and social dimensions, including trust, communication practices, leadership capabilities, and stakeholder involvement (Kraus et al., 2021; Verhoef et al., 2021).

The current development of information technology demands a comprehensive digital transformation, including in the Micro, Small, and Medium Enterprises (MSMEs) sector. MSME digitalization is the utilization of technology to facilitate commercial transactions and business efficiency (Hendrawan et al., 2024), the implementation of which requires an alignment between infrastructure readiness, human resource quality, and organizational structure adaptation (Vong et al., 2025). In the DKI Jakarta area, the Smart City vision is concretely implemented by Perumda Pasar Jaya through a digital payment program based on the Quick Response Code Indonesian Standard (QRIS) in traditional market ecosystems, one of which is at Pal Meriam Market, located on Jalan Pal Meriam, Matraman, East Jakarta. This policy aims to modernize market governance, create financial operational transparency (Anand & Navío-Marco, 2018), and minimize various risks of managing physical cash in the field (Guerrero et al., 2020).

Although macroscopically the implementation of this program is claimed to be running positively, the reality at the micro level reveals an anomaly in the form of a significant digital divide. Based on pre-research data, the non-food sector merchant group has reached an impressive non-cash payment adoption rate of 90%. Conversely, the Food Produce (Hasil Bumi/HB Pangan) sector merchants, who dominate the market

demography (about 78% or 548 merchants of the total population), have only reached an adoption rate of 30%. The low participation in this majority group stems from sociocultural complexities, where most elderly merchants have a chronic dependence on conventional trading patterns. They often consider the adaptation of digital banking applications as a cognitive burden. This is exacerbated by the merchants' inherent infrastructural conditions such as low gadget specifications, internet signal blind spots in the wet market area, and the preference of buyers who still glorify the speed of transactions using physical money.

Amidst the thick walls of this passive resistance, the position of the Pal Meriam Market management becomes very crucial as an agent of change. The most interesting aspect, which also serves as the biggest challenge, is that the managerial operations of this market are run with limited human resource limitations, handled by only four personnel, including one Market Head and three supporting staff members. In these unbalanced demographic and resource conditions, communication strategy shifts its function into the most vital survival instrument. A communication strategy does not merely serve as an information distribution channel, but rather as a tactical blend of planning and message management to trigger acceptance and changes in the communicants' actions. Referring to Lasswell's model (Taqi et al., 2025) and Effendy's persuasive communication components (Mulyono et al., 2024), the management faces a severe test in formulating how limited members can act as credible communicators, and how the message of "digital efficiency" is packaged so as not to intimidate hundreds of elderly merchants who are unfamiliar with technology.

While previous research has widely explored digital payment adoption, technology acceptance, and digital transformation within small and medium-sized enterprises (SMEs), relatively little attention has been devoted to understanding the communication processes that support digital transformation in traditional market settings. Most existing studies emphasize factors such as technological preparedness, perceived benefits, organizational capabilities, and the availability of supporting infrastructure as key determinants of digital transformation success (Kahveci, 2025; Lokuge & Duan, 2021).

Meanwhile, research on traditional market digitalization has primarily focused on technological implementation and collective digital initiatives, with limited attention given to the role of interpersonal communication and social interactions in facilitating technology adoption (Suyatna et al., 2026). Furthermore, although social capital has been recognized as an important enabler of digital economic participation and innovation, its interaction with communication strategies and community-based learning mechanisms remains insufficiently examined, particularly among informal-sector merchants operating in resource-constrained environments (Hamid et al., 2025; Triolita & Budiyo, 2022).

Although previous studies have examined technology adoption and organizational communication separately, limited attention has been given to how these perspectives interact within traditional market digitalization initiatives. Existing studies either analyze technology diffusion through purely consumer-behavior perspectives or evaluate organizational communication within formal, corporate bureaucracies (Bokolo, 2023; Vargo et al., 2020; Xiong et al., 2022). Consequently, there is a missing link in understanding how a lean, micro-scale organization operates as an institutional agent of

change, utilizing structured communicative actions to drive innovation adoption amid severe infrastructural and cultural resistance.

To bridge this crucial academic gap, this study synthesizes these disconnected domains by developing an integrated theoretical lens. Based on the findings from Pal Meriam Market, this study proposes a preliminary Communication-Based Digital Transformation Model (CDTM) that illustrates how communication practices, social capital, and observational learning may facilitate digital payment adoption in traditional market settings, which captures how micro-organizational socialization operationalizes a Social Capital-Driven Digital Adoption process. By exploring these dynamics, this study develops an initial conceptual framework that integrates organizational communication and diffusion of innovation perspectives to explain digital adoption within informal retail environments. Ultimately, this study seeks to contribute an exploratory framework for understanding digital transformation processes in informal-sector markets, which may serve as a foundation for future empirical validation. The proposed CDTM represents an exploratory communication-centered framework for understanding digital transformation in traditional market settings and provides a foundation for future empirical validation.

LITERATURE REVIEW

Organizational Communication in Lean Micro-Scale Structures

Communication within the social realm of traditional market ecosystems is a dynamic convergence process aimed at creating shared meaning and achieving uncertainty reduction through continuous dialogue (Rogers, 2003). For this dialogue to effectively direct behavioral change, an organization requires a structured communication strategy that adaptively integrates planning and operational management tactics (Gomaa, 2025). This strategy fundamentally encompasses a mix of communicator, message, media, audience, and effect components (Roslan et al., 2025). To manage change systematically within public spheres, organizations often adopt the Four-Step Communication Process framework developed by Cutlip, Center, and Broom (Li et al., 2020). This cycle moves both linearly and circularly, shifting from defining the problem through a situational audit (fact-finding), planning the work program (planning & programming), executing concrete actions through intense channels (taking action & communicating), to reviewing the results based on feedback (evaluating). However, executing this communication strategy becomes highly complex when implemented within an organization characterized by a lean structure.

Integrating Diffusion of Innovations and Traditional Market Digitalization

In the context of informal economic sectors, digitalization is defined as the transformation of conventional trading environments toward efficient ecosystem governance through the integration of non-cash instruments like QRIS and internal digital management systems like e-retribution (Feng et al., 2024; Manintan, 2024). This transformation is not merely the technical procurement of hardware, but a profound process of socio-cultural collision that demands a severe paradigm shift from the tactile comfort of physical money to the absolute rigidity of digital banking applications. Therefore, a structured socialization process is needed as a continuous educational

instrument to internalize new digital values, minimize institutional rejection, and facilitate knowledge transfer across both the cognitive and affective domains of food produce merchants (Guhin et al., 2020). Socialization is considered highly successful if it can successfully transform the merchants' reactive defensive behaviors into proactive digital adoptions based on an organic awareness of transaction efficiency (Rachman et al., 2024).

The speed and quality of this socialization heavily depend on how target audiences perceive the core characteristics of the technological shift. Referring to Rogers (2003) Diffusion of Innovations Theory, the rate of adoption of an innovation within a social system is determined by five main attributes, namely relative advantage, compatibility, complexity, trialability, and observability. Relative advantage measures the degree to which an innovation is perceived as better than the idea it supersedes, such as transaction speed or fraud prevention, while compatibility gauges how well the innovation aligns with the values, past experiences, and immediate daily socio-economic rhythms of the potential adopters.

Furthermore, complexity dictates the degree to which an innovation is perceived as relatively difficult to understand and implement by lay users, which is balanced by trialability, or the capacity to experiment with the technology on a limited basis before making a full behavioral commitment. Finally, observability represents the distinct degree to which the visual and tangible results of an innovation are visible to others within the immediate social system, serving as a catalyst for communal imitation.

Multidimensional Communication Barriers and the Theoretical Convergence Gap

Despite the clear conceptual benefits of digital payments, the practical effectiveness of socialization within traditional market environments is heavily obstructed by various multidimensional disruptions. As classified by de Oliveira et al. (2023), these intense communication barriers expand across semantic, technical, ecological, and socio-psychological dimensions. Semantic barriers are primarily generated by the administrative use of rigid, high-level banking and financial technology terminology that is fundamentally intimidating and foreign to lay, uneducated merchants. These are further compounded by mechanical or technical barriers pertaining directly to hardware limitations, cellular internet dead zones, and persistent mobile signal dropouts within dense market infrastructures.

Furthermore, ecological barriers emerge directly from the noisy, chaotic, crowded, and fast-paced physical environment of the marketplace, which leaves virtually no room for formal or structured classroom training. Finally, these external disruptions culminate in severe socio-psychological barriers, which are deeply rooted in the merchants' internal mental anxieties regarding digital fund safety, fear of operational errors, and deep-seated trauma over potential online financial scams (Balcombe, 2025). Contemporary studies confirm that age significantly exacerbates these psychological anxieties; however, strong social capital and localized trust mechanisms are proven to be the most critical buffers in facilitating digital technology use among older adults, mitigating their inherent technological anxieties (Grotto & Buja, 2025).

The core theoretical challenge of modern retail digitalization lies at the intersection of these fields. While existing literature extensively maps communication

barriers (de Oliveira et al., 2023) and technology acceptance models in isolated vacuums, there is a profound theoretical gap regarding how they dynamically interact within informal retail ecosystems. Contemporary organizational research argues that the diffusion of innovation should no longer be viewed merely as a linear adoption of technological tools, but rather as an evolutionary socio-institutional process within a service ecosystem (Vargo et al., 2020; Xiong et al., 2022).

Traditional market environments represent highly dense, low-literacy micro-business ecosystems driven by oral traditions, intense communal network ties, and immediate socio-economic interdependencies. In such contexts, formal corporate organizational structures fail when applied bluntly. Instead, the digitalization performance of micro and small businesses is heavily dictated by localized social capital rather than sheer technical expertise (Manafe et al., 2024). Consequently, resolving the traditional market digital divide demands a unique theoretical convergence: understanding how micro-scale organizational structures can adapt their strategic message management, leverage interpersonal channels, and bypass multi-layered semantic and psychological barriers by operationalizing Rogers' principle of observability directly through local social capital. This study bridges this critical academic gap by laying the conceptual foundation for a Communication-Based Digital Transformation Framework (CDTM), which explores how structured and human-centered communication may facilitate technology diffusion within highly resistant informal social systems.

RESEARCH METHOD

This study aims to describe and evaluate the effectiveness of the communication strategy implemented by the market management in socializing the digitalization program (QRIS) to food produce merchants experiencing high resistance. To achieve this objective, this study employs a qualitative approach with a case study design. This approach was selected to gain a deep, holistic understanding of the social dynamics, interactions, and meaning negotiation processes occurring in the field without any intervention from the researcher (Sugiyono, 2022). The unit of analysis in this study focuses on the strategic communication actions implemented by the micro-scale market management organization (Assyakurrohim et al., 2022). The research was conducted purposively at Pal Meriam Market, East Jakarta, considering that this location is a digitalization pilot project exhibiting a significant data anomaly (digital divide) between the non-food merchant group and the Food Produce (Hasil Bumi Pangan) sector merchants. Data collection took place during the period of March to May 2026.

The type of data used is qualitative descriptive, sourced from primary and secondary data. The main instrument in this study is the researcher, who collected primary data through semi-structured in-depth interviews and non-participant observation (Hardani et al., 2020). Sample selection was conducted using a purposive sampling technique on 4 informants divided into tiered categories to ensure credibility: 1 key informant (Market Head), 1 main informant (Operational Staff), and 2 supporting informants (Food Produce merchants). The study prioritizes depth of understanding rather than statistical representation. The selected informants occupied key positions within the

communication and adoption process, enabling the researcher to capture information-rich perspectives from both organizational and merchant viewpoints. This composition enabled the researcher to capture diverse yet information-rich perspectives relevant to the study objectives.

Secondary data was obtained through documentation studies in the form of internal statistical reports, visual campaign archives, and organizational profiles. To ensure the validity of the findings, the researcher simultaneously applied source triangulation and technique triangulation, accompanied by a confirmability procedure (audit trail) with the informants (Abdussamad, 2021). The data analysis procedure refers to the interactive model by Miles and Huberman, which consists of three circular stages: data reduction to filter crucial points related to the strategy and digital literacy barriers, data display into a descriptive narrative, and concluding with continuous conclusion drawing and verification.

RESULTS AND DISCUSSION

Results

The qualitative research conducted at Pal Meriam Market reveals the complex dynamics of implementing the digitalization program (QRIS and e-retribution), an initiative spearheaded by a micro-scale management unit consisting of only four personnel. Table 1 outlines the profile of participants selected through purposive sampling to ensure a balanced representation of both the communicator and the communicants' perspectives, ensuring data depth.

Table 1. Research Participant Profiles

Code	Position/Role	Function in Research
Informant A	Head of Pal Meriam Market	Primary Communicator & Strategist
Informant B	Administration & Finance Staff	Technical Implementer & Support
Informant C	Food Produce Merchant (Elderly/Resistant)	Target Audience & Barrier Evaluator
Informant D	Food Produce Merchant (New Adopter)	Target Audience & Approach Evaluator

Source(s): Authors' own creation (2026)

As a contextual basis for identifying the research problem, the management faced significant demographic characteristics and a glaring disparity in technology adoption rates among the market's ecosystem. The distribution of the merchant population and the contrasting QRIS adoption percentages at Pal Meriam Market are presented in an integrated manner in Table 2.

Table 2. Distribution of Merchant Population and QRIS Adoption Rate

Merchant Commodity Category	Population (Persons)	Population (%)	QRIS Adoption Rate (%)
Food Produce (Wet Market)	548	78%	30%
Non-Food (Gold, Clothing, Stationery)	152	22%	90%
Total	700	100%	-

Source(s): Authors' own creation (2026)

Based on the data in Table 2, management implemented an initial strategy centered on target segmentation with a priority scale. Given staff limitations, the Market Head prioritized the initial digitalization assistance for the non-food commodity group, who were deemed to have higher digital literacy readiness (achieving a 90% adoption rate), while the Food Produce merchants (the wet market sector), who constitute the absolute majority, were relegated to a subsequent phase. This administrative decision was made because the lower-income demographic environment of the fresh produce sector required a longer readiness period. As stated by the informant:

"We prioritized textile, stationery, and gold merchants. Vegetable and food produce merchants were handled later because the majority of their buyers and sellers are from lower-middle-class backgrounds and were simply not ready." (Informant A, Market Head)

To engage this resistant majority group, management relied on direct face-to-face (door-to-door) interpersonal communication led by the Market Head. This persuasive approach was not executed randomly but tactically implemented during midday hours (approaching the Duhr prayer time) when transaction activity subsided, thereby avoiding interference with the merchants' peak hours. Informant D confirmed the effectiveness of this timing, noting:

"The timing was very perfect, usually during midday when the market was quiet and we merchants were free to talk." (Informant D, Fresh Produce Merchant).

Furthermore, due to the tight management structure, the operational team had to multi-task and maintain high relational availability to bridge the personnel gap. An operational staff member described this collaborative field execution: *"Because the staff is limited, we fill in for each other. All officers went down to the field to handle merchants' complaints directly and reported them to the Market Head. We used an interpersonal approach, chatting directly, eye-to-eye."* (Informant B, Operational Staff)

Technical banking terminology was also simplified; for instance, the instruction for QRIS code scanning was substituted with the local term "bayar tempelan" (stick-on payment) to make the innovation feel more accessible and grounded. The operational staff member highlighted this specific message formulation strategy to lower cognitive barriers:

"We did not use digital terms like 'cashless transfer' or anything like that. We just simplified it by telling the merchants, 'Sir/Madam, let's just use stick-on payment (bayar tempelan)." (Informant B, Operational Staff)

Although the market unit has institutionally achieved provincial-level awards for digital participation, implementation at the micro level is plagued by multi-layered obstacles. Technical and ecological barriers stem from the physical positioning of the wet market stalls in the basement, which serves as a natural blind spot for mobile cellular signals. The absence of public Wi-Fi facilities forced merchants to rely on personal data quotas. A food produce merchant detailed this localized infrastructural frustration:

"The problem is the signal. Down here in the basement, the signal is blank. Sometimes a buyer has scanned the code, but the notification doesn't go through to my phone." (Informant C, Fresh Produce Merchant)

Furthermore, based on field observations, the QRIS socialization process suffered from a loss of "mass exposure" because macro-scale educational banners were temporarily replaced by government program attributes deemed more urgent. Systemic barriers also arose from the QRIS fund disbursement mechanism (the day after), which conflicted with the wet market's economic rhythm, highly dependent on rapid physical cash flow for operational expenses such as porter fees and daily supplier payments. The market management identified this financial synchronization issue early on:

"Merchants were not ready, they did not understand technology, did not have bank balances, and there was a weakness in the QRIS system because it is not real-time—the funds are disbursed on H+1 (the day after)." (Informant A, Market Head)

The community's high dependence on daily liquid cash was reinforced by observation findings regarding the consistent and heavy traffic of physical cash withdrawals by visitors at the ATM Link facility within the market area. The accumulation of these ecological and systemic constraints eventually triggered socio-psychological barriers; elderly merchants frequently utilized "signal disruption" as a polite pretext to reject digital transactions from younger buyers, serving to mask their mental anxiety regarding the loss of physical cash.

To erode this resistance, management refrained from forcing rigid technical education, instead optimizing the placement of QRIS stickers in a consistent and neat manner at stalls of successful adopters. This passive visual attribute was left to naturally trigger communal social learning within the market environment. Informant C admitted that peer observation was the practical turning point for their tech adoption: *"At first, I didn't want to use it. But after seeing my fellow merchant at the next stall use it successfully and easily, I decided to contact the market officers to make a QRIS code for my stall too."* (Informant C, Fresh Produce Merchant)

This organic adoption pattern was highly supported by the growing market demand from a younger demographic shift, as experienced by other early adopters in the wet market sector:

"It is easy, especially since young buyers and those aged 30 to 50 are now reluctant to carry physical cash. It is highly compatible with the buyers' demands." (Informant D, Fresh Produce Merchant).



Figure 1. QRIS Constantly Displayed at Merchant Stalls

Source(s): Authors' own creation (2026)

Discussion

Field findings demonstrate that communication in digital socialization is not merely a mechanistic transmission of instructions, but a dynamic dialogical convergence process aimed at creating shared meaning and reducing structural uncertainty within the market community. Operating within a lean organizational structure, the absence of a formal Public Relations division compelled the Market Head to directly assume the role of primary communicator. This empirical reality proves that an effective organizational communication strategy does not necessitate complex bureaucratic frameworks. Instead, participatory leadership that actively engages with the field provides a strong psychological impact, significantly lowering the uncertainty threshold among food produce merchants (Raelin, 2012). Furthermore, the strategic use of local idioms—such as substituting complex banking terms with the vernacular expression "bayar tempelan"—effectively mitigated inherent semantic barriers, rendering a highly technical innovation contextually accessible to lay audiences (Lundgard & Satyanarayan, 2022).

From a managerial perspective, the market authorities empirically executed three of the four linear stages of the classic Communication Process framework by Cutlip, Center, & Broom (Novakovska, 2024). The fact-finding stage was evident in management's situational audit, which successfully mapped the profound digital literacy gap between market zones. The planning and programming stage was demonstrated by the intentional simplification of systemic terminology and tactical demographic mapping. Meanwhile, the taking action and communicating stage proceeded through a personalized midday socialization schedule. This temporal choice cleverly bypassed the ecological barriers of a noisy and hectic morning market, which frequently disrupt information delivery (Balcombe, 2025). This proactive interpersonal approach effectively patched the information gaps caused by the temporary loss of macro-visual exposures, such as relocated government banners.

The socio-technical dynamics underlying this intervention offer critical insights into Digital Transformation Theory. As articulated by Vial (2019), digital transformation is not a standard process of hardware procurement, but a complex socio-technical phenomenon involving deeply interconnected technological, organizational, and cultural shifts. The empirical evidence from Pal Meriam Market indicates that the widespread

adoption of QRIS was not determined solely by the technical availability of digital financial infrastructure. Instead, it was fundamentally driven by the social alignment between market management, traditional merchants, and their community network. Market management functioned as an essential transformation catalyst, altering the routines and behavioral patterns of stakeholders rather than merely forcing the usage of digital devices (Verhoef et al., 2021).

This behavioral adaptation can be further decoded through the lens of Social Capital Theory (Putnam, 2000). The intense door-to-door communication approach implemented by the lean management team established a high degree of relational trust. Food produce merchants—who are notoriously dependent on liquid cash flows and vulnerable to psychological anxieties regarding digital fund safety—proved more receptive to technological change when the educational push originated from trusted authority figures within their existing social ecosystem. In resource-constrained settings, localized social trust exerts a far more dominant influence on digital economic participation than formal institutional training or technology-oriented interventions alone.

Furthermore, this mechanism highly aligns with the foundational principles of Rogers (2003) Diffusion of Innovations Theory, particularly regarding the attribute of observability. Because formal, macro-scale educational banners were absent, the systematic placement of small QRIS stickers at the stalls of early adopters served as a powerful passive information channel. When elderly traders (the laggards group) consistently witnessed tangible, secure, and successful non-cash transactions executed by their immediate peers, their structural psychological resistance and anxiety regarding digital banking apps slowly crumbled. Rather than relying on a rational evaluation of technological performance, the fresh food produce merchants group changed their habits through socially mediated and community-driven observational learning.

To further anchor the theoretical and practical significance of the findings from Pal Meriam Market, it is essential to contextualize this study within the broader global spectrum of traditional market digitalization, particularly across major Asian economies such as China, India, and Japan. Empirical evidence reveals that while the end objective—cashless optimization—is uniform, the socio-technical pathways, structural drivers, and communication frameworks diverge substantially based on macroeconomic support, infrastructural scaffolds, and cultural readiness.

In China, the digital transformation of traditional wet markets (*cai shichang*) represents a highly centralized, top-down, and mandate-driven model (Zhong et al., 2019). Driven by dominant tech-monopolies and heavily backed by municipal state support, mobile payment methods achieved near-instantaneous, ubiquitous adoption. Research by Wang & Coe (2021; Yuan & Zhang, 2025) indicates that this rapid transition in China's food markets was structurally compelled by large-scale platform capitalism and state-backed institutional governance, which systematically disincentivized physical cash transactions. In this environment, communication strategies were secondary; macro-infrastructure and institutional enforcement erased the space for passive merchant resistance. Conversely, Pal Meriam Market operates under severe macroeconomic limitations, where a lean management team cannot rely on absolute enforcement but must optimize affective interpersonal communication to navigate and lower the active cognitive burdens of traders from the ground up.

In India, the digitalization of marginalized street vendors and traditional marketplaces presents a technology-scaffolded, high-volume environment unified under the Unified Payments Interface (UPI) (Sharmila Devi et al., 2025). According to a study by Sindakis & Showkat (2024), the adoption intention among informal traders in emerging economies is heavily determined by technological performance expectations, structural training initiatives, and explicit socio-economic inclusion programs. However, unlike India's strong emphasis on automated financial literacy campaigns and national technical scaffolds, the Pal Meriam Market model demonstrates that when large-scale training infrastructures or government subsidies are structurally missing, localized social capital and micro-visual attributes (such as adjacent stall QRIS stickers) can effectively substitute for formal frameworks to trigger organic digital diffusion among highly resistant demographics.

Meanwhile, the digital reality in Japan provides a starkly contrasting cultural anomaly. Despite possessing hyper-advanced technological infrastructures and robust institutional scaffolds, Japan's traditional retail sectors and community markets exhibit persistent stagnation and active reluctance toward non-cash transactions (Fujiki, 2020). As investigated by Fujiki (2020), traditional Japanese consumers and merchants maintain a profound behavioral attachment to physical cash (*genkin shugi*), viewing physical money as an emblem of absolute transaction safety, tactile speed, and institutional trust. This deeply ingrained socio-cultural friction closely mirrors the psychological anxiety observed among the elderly fresh food produce merchants at Pal Meriam Market who utilized "signal disruption" as a defensive mask. However, while Japan's retail ecosystem struggles to overcome this cultural anchor despite high technical compatibility, the micro-scale management at Pal Meriam successfully cracked this barrier by strategically shifting away from rigid digital mandates, using instead localized vernacular idioms "bayar tempelan" and peer observability to reshape the market's communal habits.

The framework was developed inductively from the empirical findings and subsequently interpreted through the lenses of Organizational Communication, Social Capital Theory, and Diffusion of Innovations Theory.

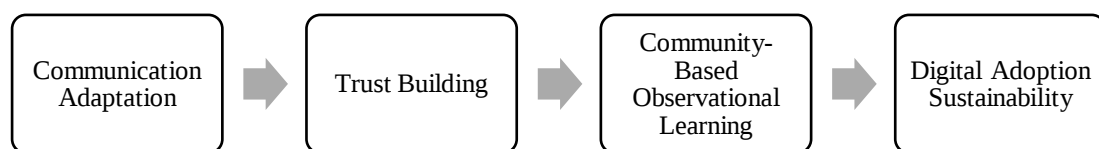


Figure 2. Proposed Communication-Based Digital Transformation Framework (CDTM)

Source(s): Authors' own creation (2026)

Drawing upon the empirical findings and theoretical synthesis, this study proposes the Communication-Based Digital Transformation Model (CDTM) as an exploratory framework for understanding communication-driven digital transformation in traditional market contexts (see Figure 2). The CDTM models digital transformation in informal economic sectors through four progressive, interrelated stages: (1) Communication Adaptation: Translating rigid, technical digital banking concepts into simple, culturally grounded, and locally meaningful expressions to eradicate semantic barriers. (2) Trust

Building: Leveraging localized interpersonal communication channels to strengthen social capital, thereby minimizing perceived financial risks and psychological resistance. (3) Community-Based Observational Learning: Utilizing the visibility and immediate physical presence of successful early adopters as localized social evidence to trigger passive, peer-led communal learning. (4) Digital Adoption Sustainability: Cultivating long-term structural monitoring and continuous institutional support to seamlessly lock the digital routine into the daily market ecosystem.

In stark contrast to conventional digital transformation frameworks that heavily overemphasize technological readiness, massive financial resources, or complex digital capabilities, the CDTM explicitly positions strategic communication as the core engine of behavioral transformation. The experience of Pal Meriam Market clearly highlights that in informal environments with low digital literacy, technology deployment alone is structurally insufficient. Lasting behavioral change is achieved when strategic communication practices and relational social capital dynamically interact to reshape community perceptions from the bottom up.

However, this study uncovers a critical systemic blind spot on the fourth stage of the model (Digital Adoption Sustainability). While the affective and interpersonal strategies successfully minimized psychological barriers, the market's communication management at the final evaluation stage remains structurally weak. Due to limited human resource shortages, the management lacks an independent internal data system to monitor real-time transaction continuity or generate quantitative transaction metrics. Consequently, future policy directions risk losing their empirical accuracy. To achieve absolute digital sustainability, this interpersonal communication framework must inevitably be paired with independent, evidence-based internal data recording systems.

CONCLUSION

This study demonstrates that digital transformation in traditional market environments should be understood not only as a technological initiative but also as a process shaped by social interaction and communication. The findings indicate that the successful adoption of QRIS at Pal Meriam Market was driven less by technological infrastructure and more by the ability of market management to foster effective communication, build interpersonal trust, and facilitate collective learning among merchants. Within a setting characterized by limited resources, low levels of digital literacy, and resistance to technological change, communication emerged as the key mechanism enabling digital transformation.

The study identifies three communication practices that played a crucial role in promoting digital adoption. These include the strategic segmentation of merchants according to their level of digital readiness, personalized door-to-door communication carried out by trusted market leaders, and the translation of technical concepts into simple and locally meaningful expressions. Together, these practices helped reduce uncertainty, strengthen trust in digital payment systems, and increase merchants' willingness to engage in digital transactions. At the same time, the findings reveal that resistance to QRIS adoption was influenced by a combination of infrastructural

constraints, concerns regarding delayed fund disbursement, and psychological apprehension, particularly among older merchants.

The results provide empirical support for Digital Transformation Theory by showing that successful transformation requires social and organizational adaptation in addition to technological implementation. The study also extends Social Capital Theory by demonstrating how trust-based relationships between market authorities and merchants can facilitate behavioral change within informal economic settings. Furthermore, the findings reinforce Rogers' Diffusion of Innovation Theory, particularly the role of observability, as the visible use of QRIS among early adopters encouraged peer learning and accelerated acceptance among previously resistant merchants.

Based on these findings, the study proposes the Communication-Based Digital Transformation Model (CDTM), which conceptualizes digital transformation in traditional markets as a four-stage process consisting of communication adaptation, trust building, community-based observational learning, and digital adoption sustainability. In contrast to conventional digital transformation frameworks that emphasize technological capability and organizational resources, the CDTM highlights communication as the central mechanism linking innovation, social capital, and behavioral change in informal-sector contexts.

From a theoretical perspective, this research contributes to the digital transformation literature by offering a communication-centered explanation of technology adoption in traditional markets. It demonstrates how communication practices, social trust, and community learning collectively facilitate digital transformation in contexts where technological readiness alone is insufficient. From a practical standpoint, the findings suggest that policymakers and market administrators should complement technological initiatives with communication-based interventions that leverage trusted community leaders, local social networks, and peer-learning processes. In addition, market authorities should develop structured communication programs tailored to merchants' levels of digital readiness, institutionalize interpersonal mentoring through market leaders, and establish internal monitoring systems to track digital payment adoption and transaction continuity. These measures can support evidence-based decision-making and enhance the long-term sustainability of digital transformation initiatives in traditional markets.

Despite its contributions, this study has several limitations. First, the research was conducted in a single traditional market, which may limit the transferability of the findings to other traditional market contexts with different demographic, cultural, or institutional characteristics. Second, the relatively small number of participants restricts the breadth of perspectives captured in the study, although the purposive sampling strategy was designed to obtain information-rich cases. Third, as with most qualitative case studies, the findings are subject to researcher interpretation, despite efforts to enhance credibility through triangulation and confirmability procedures. Fourth, the study was unable to access independent quantitative transaction data that could objectively measure the continuity and intensity of QRIS usage among merchants. Finally, the research employed a cross-sectional design, preventing an assessment of how merchants' digital adoption behaviors evolve over time.

Therefore, the proposed Communication-Based Digital Transformation Model (CDTM) should be regarded as a preliminary and exploratory framework rather than a universally validated model. Future research should investigate multiple traditional markets across diverse regions and employ comparative, longitudinal, or mixed-method approaches to further validate and refine the proposed CDTM. Additional variables, such as digital literacy, perceived risk, technological self-efficacy, institutional support, and transaction performance indicators, should also be incorporated to provide a more comprehensive understanding of digital transformation within informal economic sectors. Beyond its theoretical contribution, the proposed CDTM may also serve as a practical reference for public market managers and local governments in designing communication-centered digitalization strategies for informal economic sectors with limited technological readiness and human resources.

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