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The Paradox of Inclusivity in Multi-QRIS Code Payment Systems: A Literature Review on Consumer and Merchant Experience in Jabodetabek

Devi Aprianty[1*], Dudi Permana[2]
Mercu Buana University, Indonesia
Corresponding Author: Devi Aprianty Aprianty.devi@gmail.com

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A B S T R A C T

This study investigates the dynamics of multi-code QRIS adoption in retail stores across Jabodetabek using a qualitative phenomenological approach, focusing on the interplay between consumer preferences, merchant adaptation strategies, and the role of service providers in the digital payment ecosystem. Based on in-depth interviews with 15 key informants (merchants, consumers, and fintech representatives), participatory observations, and policy document analysis, the study reveals a paradox between systemic flexibility and operational fragmentation, which increases cognitive and administrative burdens. While QRIS promotes non-cash transactions and access for digital-native users, the presence of multiple QR codes exacerbates digital illiteracy, operational inefficiencies, and invisible carbon footprints. Using Self-Determination Theory (SDT), the analysis highlights the tension between autonomy, competence, and relatedness in actual adoption practices. The study develops a phenomenological model of consumer decision-making, a typology of merchant adaptation, and policy recommendations grounded in local contexts. Findings underscore the urgency of regulatory harmonization, tiered digital literacy programs, and cross-sector collaboration to advance a more inclusive and sustainable payment ecosystem.

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INTRODUCTION

The history of QR Codes began in 1994 when this technology was first introduced by Masahiro Hara from Denso Wave in Japan for the needs of the automotive industry. As it developed, QR Codes began to be used in various fields in the early 2000s, including advertising, logistics, and marketing, before finally entering the financial sector. In 2010–2014, China became a pioneer in the use of QR Codes as a digital payment instrument through Alipay and WeChat Pay. A similar trend began to be seen in Indonesia since 2015 when several banks and financial technology (fintech) companies introduced QR-based payment methods, such as Mandiri e-Cash, BCA Sakuku, OVO, GoPay, Dana, and LinkAja. However, the use of QR Codes in the early days was still very fragmented because each provider implemented a different format, causing confusion for consumers and making it difficult for merchants who had to prepare many QR codes. Responding to this condition, Bank Indonesia together with the Indonesian Payment System Association (ASPI) launched the Quick Response Code Indonesian Standard (QRIS) on August 17, 2019 as a national standard to unify the digital payment ecosystem. The introduction of QRIS simplifies cashless transactions by providing a single, universal QR code that can be used across applications, while simultaneously promoting efficiency, financial inclusion, and transparency. Since then, QRIS has developed rapidly, including the launch of a cross-border payment feature (QRIS Cross-Border) in 2022 and widespread adoption expansion through 2025, making it an integral part of Indonesia's digital economy ecosystem.

The main goal of QRIS is to create a simpler and more integrated digital transaction process. This is realized through the provision of a single universal QR code that can be used by various payment applications, including digital wallets and mobile banking. Bank Indonesia emphasizes that QRIS aims to increase the accessibility of financial services for all people, including those previously hampered by limited access to bank accounts. Furthermore, this effort to increase financial inclusion aligns with the Sustainable Development Goals (SDGs), particularly SDG number 9 (Industry, Innovation, and Infrastructure), which emphasizes the importance of access to financial services to support inclusive and sustainable economic growth. Furthermore, this system is also expected to support transaction transparency and reduce dependence on cash. Thus, QRIS is designed to create a more inclusive, efficient, and sustainable digital payment ecosystem for all parties involved.

However, amid the rapid growth of digital transactions in Indonesia through the adoption of QRIS, an interesting paradox has emerged. In line with data compiled by the Indonesian Payment Systems Association (ASPI) in 2024, which recorded significant growth in QRIS usage, the emergence of the "Multi-QRIS Code" phenomenon actually indicates challenges to effective implementation. This situation suggests the need for a deeper understanding of the dynamics occurring on the ground and how various parties are adapting to these conditions.

Quoting from the ASPI Statistics Bulletin for the fourth quarter, 2024 QRIS transactions continued to show a significant upward trend until the end of 2024.

In total, the volume of QRIS transactions throughout 2024 reached 6.24 billion transactions and recorded a growth of 192% compared to the period in 2023. The same phenomenon was also seen in the total nominal QRIS transactions in 2024, which recorded a growth of 192% compared to 2023. Until the end of 2024, the total nominal QRIS transactions reached IDR 659.93 T. Specifically in December 2024, the volume of QRIS transactions reached 779 million transactions worth IDR 81.7 T, which was a new record for QRIS transactions. This shows the continued increase in adoption of QRIS as the payment method chosen by the public.

Previous research has highlighted the role of QRIS in increasing financial inclusion (Rahma & Putra, 2022). However, these studies tend to under-emphasize the dynamics of "platform pluralism," the phenomenon where merchants simultaneously offer multiple QR codes from different service providers. This reality, reflected in viral conversations on social media platforms like Reddit (r/indonesia, 2021), illustrates consumer confusion when faced with choices, as in the example dialogue: "Are you paying with OVO, Miss? Oh, that's for ShopeePay!" Reddit. (2021). This type of interaction indicates cognitive overload due to the large number of available QR codes, which contradicts the basic principle of QRIS to simplify digital transactions.

This phenomenon underscores that QRIS implementation in the field does not always align with its original goal, which was to create an integrated and easy-to-use payment system. As a result, consumers feel confused, merchants face additional administrative burdens, and competition among digital payment service providers increases. Therefore, further research is needed to understand these dynamics more comprehensively and formulate more effective solutions to achieve QRIS's original goal of creating an inclusive, efficient, and sustainable digital payment system.

LITERATURE REVIEW

Qualitative Phenomenological Research

Phenomenology as a research methodology is rooted in the philosophical tradition of Edmund Husserl (1859-1938), who sought to understand the "essence of lived experience" through systematic reflection on human consciousness (Husserl, 1931/1970). Husserl emphasized the importance of epoché (the researcher's suspension of subjective judgment) in achieving intentionality, how human consciousness leads to certain objects or phenomena. This method was later developed by Martin Heidegger (1889-1976) into hermeneutic phenomenology, which emphasizes contextual interpretation of experience in the lifeworld (Lebenswelt) (Heidegger, 1927/1962).

Justification for the Use of Phenomenological Methodology in Research

The choice of phenomenological methodology in this study is based on four main interrelated considerations that strengthen the accuracy of measuring the qualitative approach to the phenomenon of multi-code QRIS adoption. First, the focus on the essence of experience is the main foundation because phenomenology allows researchers to understand how merchants and

consumers interpret the complexity of multi-platform transactions, including visual confusion, administrative burdens, and the adaptation strategies they develop in the face of fragmented digital payment systems (Smith et al., 2009). When merchants like Joko "stay up late studying the interbank transfer system," phenomenology helps capture the essence of the struggle for technical competence in the context of business autonomy, revealing layers of meaning hidden behind seemingly simple daily activities that are fraught with psychological and operational dilemmas.

Theoretical Approach: Self-Determination Theory (SDT)

Self-Determination Theory (SDT), developed by Deci and Ryan (2000), offers a unique framework for understanding the dynamics of human motivation in the context of technology adoption. Like the roots of a banyan tree that spread in search of fertile soil, this theory centers on three innate psychological needs: autonomy (the freedom to act according to one's values), competence (the belief in one's ability to master challenges), and relatedness (connectedness to the social environment). In the context of multi-code adoption.

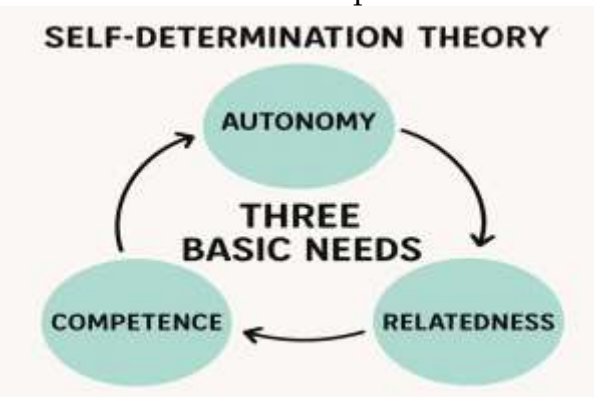

Figure 1. Self-Determination Theory

QRIS, these three pillars are not merely abstract concepts, but rather the lifeblood that animates the interaction between merchants, consumers, and the digital ecosystem. Autonomy, as articulated by SDT (Ryan & Deci, 2017), is realized when merchants like Joko choose to provide three different QRIS codes. However, this freedom is a double-edged sword: on the one hand, it fulfills customer desires (relatedness), while on the other, it is entangled in the complexities of financial statement reconciliation. Here, SDT reminds us that autonomy is not always linear; the freedom to choose a platform can actually erode freedom from administrative burdens (Deci et al., 2017). This conflict reveals the paradox of digital transformation: technology designed to empower actually risks alienating if it does not align with the psychological capacities of users.

Autonomy and Autonomy of Traders

Merchants' decision-making autonomy is a critical factor. A study by Ryan & Deci (2000) showed that autonomy is realized when individuals feel in control of their choices. In the case of multi-code QRIS, merchants may adopt this system

to avoid dependence on a single service provider, thereby increasing operational flexibility. However, the complexity of multi-code management can potentially reduce perceptions of autonomy if perceived as burdensome. Previous research (Wonglimpiyarat, 2021) identified that MSMEs tend to choose technology that does not interfere with their business control, making user-friendly system design a prerequisite.

Competence and Adaptability

User competence in operating technology significantly influences adoption. According to Venkatesh et al. (2003), perceived ease of use is a key predictor of technology acceptance. In the context of multi-code QRIS, merchant competence encompasses not only technical understanding but also the ability to manage transactions across multiple platforms. Training and support from service providers (such as banks or fintechs) are key factors, as revealed in Chen & Li's (2019) study on digital payment adoption in Southeast Asia. For consumers, ease of multi-platform transactions can increase trust and frequency of use, provided the interface is intuitive (Gupta et al., 2020).

Relatedness and Ecosystem Dynamics

The interconnectedness of parties within the digital payment ecosystem creates social pressure or support that influences adoption decisions. Merchants interact not only with consumers demanding modern payment methods but also with service providers offering incentives. Research by Karjaluoto et al. (2022) highlights that competitive pressure among retail merchants drives technology adoption to maintain competitiveness. Furthermore, collaboration between fintech companies and regulators in simplifying multi-code QRIS regulations can strengthen relatedness by reducing bureaucratic barriers (Arner et al., 2020).

Multi-Code QRIS: Sustainability and Financial Inclusion

The multi-code QRIS configuration creates a hybrid infrastructure that integrates fintech, banking, and MSME services (SDG 9), shifting reliance on resource-intensive cash systems toward an adaptive digital payment ecosystem. Standardized interoperability within fragmented platforms not only builds technological resilience but also paves the way for green transaction practices (SDG 12) by reducing the use of physical cash and paper receipts, significantly reducing the operational waste footprint (green transaction footprint). However, this efficiency must be balanced with a measured transactional emissions policy to mitigate the energy impact of multi-platform servers, preventing digitalization from becoming a hidden environmental burden. A study by Demirgüç-Kunt et al. (2018) confirms that payment digitization such as multi-code QRIS not only improves MSME operational efficiency but also aligns with the principles of a circular economy, where savings in cash infrastructure costs are redirected to strengthen sustainable business models. Thus, this innovation serves as a connecting axis between inclusive infrastructure development (SDG 9) and responsible consumption-production practices (SDG 12), although it requires policy synergy to ensure holistic sustainability.

Research Gaps and Contributions

Although SDT has been applied in technology adoption studies, previous research has understudied the complexities of multi-code QRIS in the context of sustainability and financial inclusion. This study fills this gap by integrating three dimensions of SDT to analyze the dynamics between merchant autonomy, technical competence, and ecosystem connectivity, while evaluating their impact on sustainable business practices and expanding financial access. These findings are expected to provide practical recommendations for service providers, policymakers, and MSMEs in optimizing the adoption of inclusive technology.

METHODOLOGY

This study used a qualitative approach with in-depth interviews to explore consumer behaviour in adopting the QRIS multi-code payment system in retail stores. Participants were selected using purposive sampling, specifically consumers with experience using QRIS as a payment method, ensuring the information provided was relevant to the research objectives.

Data collection was conducted through face-to-face and online interviews, using semi-structured questions to allow respondents to freely explain their experiences and perceptions. Interviews were recorded, transcribed, and then analysed using thematic analysis to identify behavioural patterns, motivations, and obstacles in using multi-code QRIS.

To ensure data validity, researchers employed source triangulation by comparing information from multiple respondents and also conducted member checking by asking participants to confirm the researcher's interpretations. This approach ensured that the research findings were academically sound and reflected real-life consumer experiences.

RESEARCH RESULTS AND DISCUSSION

Key Findings from a Service Provider Perspective

An in-depth analysis of interviews with five QRIS service providers reveals three interrelated paradoxes that form a unified narrative in the adoption of multi-code QRIS in retail in Greater Jakarta (Jabodetabek). These three paradoxes—apparent autonomy, structural competency gaps, and tripartite relationship exclusivity—do not operate in isolation but rather reinforce each other and create systemic complexity that challenges the goal of financial inclusion.

Figure 2. The Paradox of Autonomy: Freedom in the Shackles of Fragmentation

All service providers consistently emphasized giving merchants "complete freedom" in choosing a QRIS provider. Olive firmly stated, "We give merchants the freedom to choose any digital payment... There are none. No restrictions. Free. Free." Lucky similarly expressed that "we give merchants full flexibility like that," while Edward emphasized that merchants are "free to choose their payment options... according to their preferences and needs."

However, behind this rhetoric of freedom, Luthfy reveals a fundamental contradiction: "it's too flexible because there are no restrictions on merchants using only one QRIS provider in their store." He further explained that "private companies, state-owned enterprises, or other banks shouldn't be able to register QRIS again for these merchants. Because then they'll end up using the same product." This statement highlights how the weak regulation of a single NMID actually creates fragmentation, forcing merchants to adopt multiple providers.

This fragmentation is reinforced by Albert's statement, "There are many private interests and many products, and it turns out that banks are also opening many QRIS products. So that's what creates flexibility for merchants to see the advantages of each offering that appeals to them." Thus, the seemingly broad autonomy becomes an adaptive response to competitive pressures between service providers, not a true free choice.

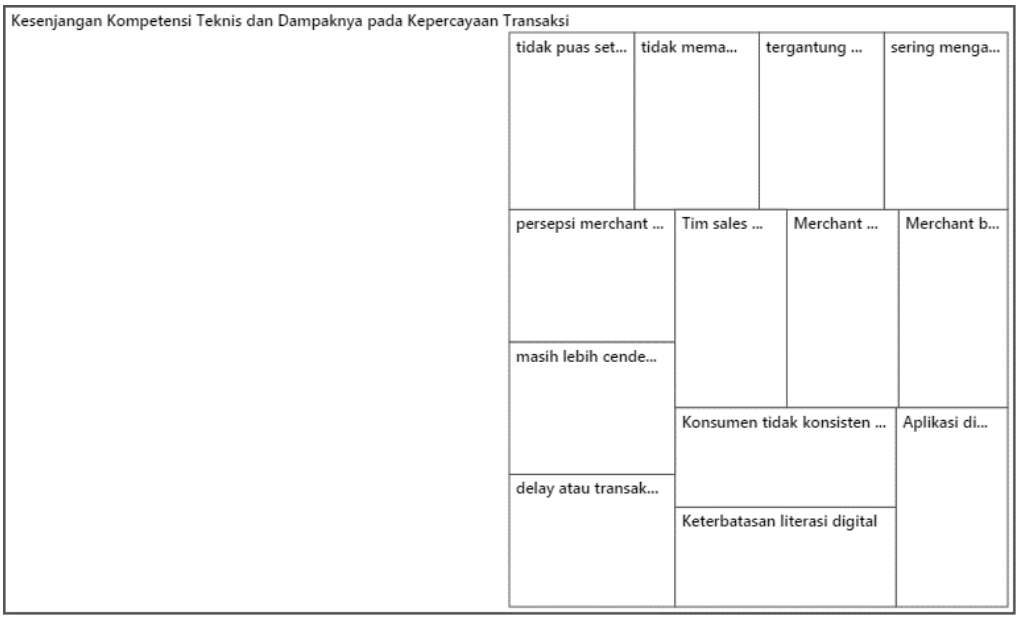

Figure 3. Competency Gap: Digital Literacy as a Structural Barrier

The second paradox is revealed in the systemic competency gap between the capacity of traders and the standard of technology provided. Olive identified "the most serious problem is actually the generational gap. So, we can't deny that, uh, when a lot of our traders are probably from the older generation, they might not be as fluent in using technology." This forces service providers to "try maybe educating younger family members, maybe the second generation" and "really focusing on younger children, maybe from millennials and below."

Figure 4. Word Cloud

Albert reinforced this finding by explaining that "some merchants prefer to use cash, so they choose not to use QRIS," especially those "usually in the lower-middle class, in the market segment, or small MSMEs." Luthfy added that "these merchants haven't yet embraced the idea of going digital," while Lucky emphasized that "their education levels vary within the MSME segment."

Edward revealed the direct impact of this gap: "When merchants don't understand how to use it, or perhaps they feel dissatisfied after using it." Although service providers attempt to understand by saying, "We'll try to

understand. From there, we'll examine it. What's the problem?", this reactive approach demonstrates a systemic unpreparedness to anticipate the digital literacy needs of small merchants.

Exclusivity of Relations: Service Stratification in the Tripartite Ecosystem

The third paradox arises in the discriminatory tripartite relationship between merchants, service providers, and consumers. Edward explicitly acknowledged the existence of "priority merchants, whom we help maintain and engage," but firmly stated that "not all merchants have such opportunities. So it's truly limited, and we appreciate merchants who we deem loyal and valuable to us."

Albert clarified this stratification by explaining that "for management and enterprise, there are dedicated PICs who maintain relationships and understand their pain points and needs." Meanwhile, Luthfy emphasized the importance of "being responsive in handling system disruptions so that Merchants maintain confidence in the services provided" and providing "a call center where they can contact us anytime and can help when they encounter problems," but the intensity of this service is not evenly distributed across all Merchant segments.

This pattern of exclusivity creates a systemic digital divide, where large merchants receive priority access to incentive programs, intensive mentoring, and promotional collaborations, while small merchants receive only minimal, standard services. As a result, QRIS adoption becomes elitist and contradicts the principle of financial inclusion, which should be the primary goal.

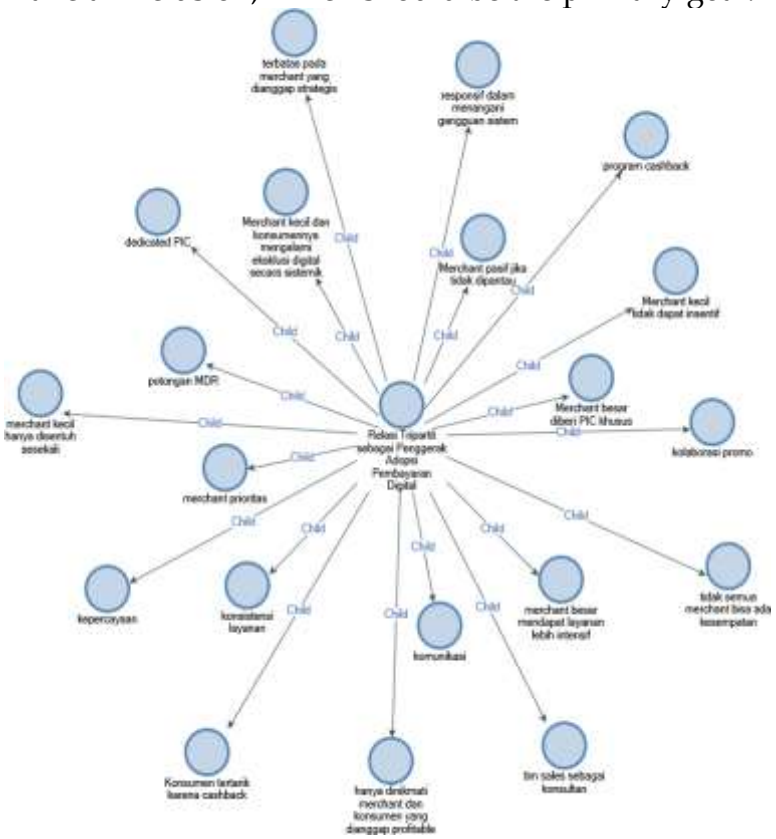

Figure 5. Integration of Findings with Research Problem Formulation

These three paradoxes form a narrative unity closely related to the main research problem formulation. The pseudo-autonomy paradox creates system fragmentation that increases merchants' administrative burden and consumer confusion, contradicting the purpose of QRIS to simplify transactions. Structural competency gaps complicate small merchants' adaptation and widen the digital divide, hindering financial inclusion. The exclusivity of tripartite relationships reinforces discriminatory service stratification, hindering equitable access and the benefits of digitalization.

The dynamic interaction of these three paradoxes demonstrates that the fragmentation of the multi-code QRIS system is not merely a technical issue but also a reflection of structural imbalances in the digital payment ecosystem. Small merchants are trapped in a situation where they have the "freedom" to choose a provider, but lack the competency to optimally utilize that choice, and lack adequate relational support to develop their capabilities.

Figure 6. Description of Key Findings of the service provider

Thus, the success of multi-code QRIS adoption depends heavily on the digital ecosystem's ability to align three aspects: meaningful autonomy (not just freedom of choice), equitable competency (through ongoing education and mentoring), and inclusive relationships (without discrimination based on business scale). The balance of these three elements is key to creating a truly inclusive, efficient, and sustainable digital payment system for all levels of society.

Key Findings from a Trader's Perspective

Retailers' Self-Adaptation: A Survival Strategy in the Complexity of Multi-Code QRIS (SDT Grounded Theory Analysis: Competence, Autonomy, and Connectedness)

Self-Adaptation: Learning by Doing in the Field

Interviews and field observations with five retail merchants in Greater Jakarta (Jabodetabek)—Okti, Yopi, Yanti, Hardi, and Tonjang—demonstrate the strength of their independent adaptability in navigating the complexities of the

QRIS multi-code payment system. Without relying on formal training, these merchants developed operational strategies independently. The learning process took place directly through daily experience (learning by doing), supported by informal knowledge sharing among fellow merchants.

Figure 7. Independent Trader Learning in Handling Administrative Burdens

This pattern aligns with the Self-Determination Theory (SDT) framework, where competence and autonomy are prominent. Merchants demonstrate expertise in managing technological change and making independent decisions to adapt store operations to customer needs and market dynamics.

Daily Ritual: Transaction Organization and Efficiency

Every day, cashiers routinely prepare and arrange QRIS stickers from various providers (Gopay, Mandiri, BCA, BRI, Permata) on the cashier's desk. Stickers are strategically placed to ensure easy customer access, expedite transactions, and minimize questions. Field data shows that QRIS is used for 60–90% of daily transactions, while cash payments serve as a backup option in case of technical issues.

A cashier's ability to adapt to customer requests is key to ensuring smooth transactions and avoiding long queues. This activity has become an ingrained daily ritual, strengthening competence and the connection between cashier and customer.

Multi-Platform Administration: Challenges and Pragmatic Solutions

One of the main challenges faced by merchants is the administrative burden of managing multiple QRIS platforms. Reconciliation and matching of financial reports are performed manually, usually during busy times. Merchants prefer using digital POS applications and bank statement apps over manual record-keeping, as they are considered more efficient and accurate.

Multi-platform administration is often considered cumbersome, especially if there are delays in disbursement of funds from one provider. However,

merchants are developing pragmatic solutions, such as diversifying platforms, to reduce the risk of dependence on a single provider. This strategy allows store operations to continue running smoothly even in the face of technical disruptions.

This process requires extra precision and patience from the cashier. Time management is a crucial skill, using quiet times for administration while busy times are focused on customer service.

Emotional Resilience Amid Technological Disruption

Observations show that merchants exhibit high emotional resilience when facing technical challenges, such as system errors or transaction delays. Cashiers quickly offer alternative QRIS options or revert to cash payments when necessary. Emotional management is a crucial skill, especially when faced with time pressure and high customer expectations.

Despite occasional displays of frustration, the cashier remained friendly and reassuring. Open conflict never occurred, and the store atmosphere remained conducive. Emotional pressures do increase during busy hours or when funds haven't been disbursed, but the cashier maintained emotional stability for the sake of customer comfort. This demonstrates professionalism and a focus on customer satisfaction as a top priority.

Figure 8. Word Cloud Visualization: Challenges and Dynamics of QRIS Adoption

A word cloud from NVIVO data processing shows keywords such as "small," "hassle," "consumer," "cashback," and "PIC" as dominant issues in multi-code QRIS adoption. "Small" highlights the challenges faced by small-scale merchants, who often feel burdened by complex digital payment systems. Meanwhile, "hassle" reflects the perception that multi-code QRIS systems add complexity to daily operations.

The word "person in charge" (pic) emphasizes the importance of the human touch of the service provider team (field sales) in the adoption and complaint handling process. Meanwhile, cashback emphasizes the reliance on incentives from the service provider. Words like "system," "service," "communication," and "dedicated" highlight the need for an integrated system and clear communication between merchants, consumers, and service providers.

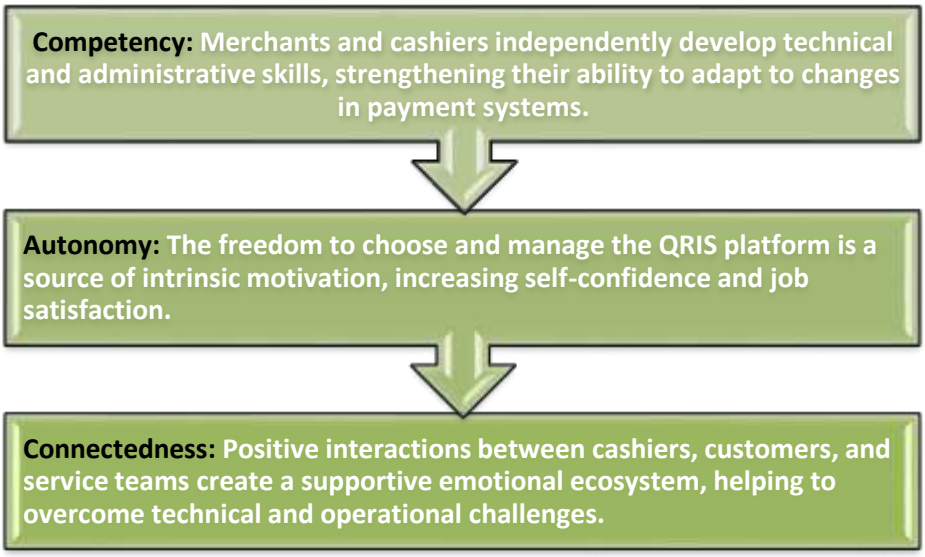

Figure 9. Implications of SDT: Competence, Autonomy, and Connectedness

These findings reinforce the importance of self-adaptation as a survival strategy amidst the complexity of QRIS's multi-code system. A humanistic, educational, and collaborative approach is essential to ensure QRIS adoption is not merely an administrative burden but truly provides added value for small merchants and consumers. Creating an inclusive and sustainable digital payment ecosystem requires an educational strategy, system simplification, and close collaboration between regulators, service providers, and the merchant and consumer communities.

Key Findings from a Consumer Perspective

Cognitive Overload Phenomenon and Coping Strategies

Observations of five consumers: Anisa, Fauzan, Belinda, Reno, and Kayla, highlighted the cognitive overload experienced when faced with four to six QR code options at a single store checkout. This situation slowed down the selection process, increased screen time, and often prompted consumers to ask the cashier for more information, sometimes even leading to dissatisfaction after the transaction.

From each individual's behavior, three coping strategy patterns emerged. Anisa, who is accustomed to using digital payments, tends to immediately choose her favorite digital wallet (e.g., GoPay) to avoid a protracted process—this pattern is called heuristic choosing. Meanwhile, Fauzan and Belinda are attracted to promotions and cashback; they are willing to switch apps if the discount is large enough, even if it results in longer queues (promo-driven switching). Reno, as a conventional user, prefers to ask or follow the advice of cashiers or friends when choosing a digital payment platform, using social referencing as a shortcut to avoid making the wrong choice. Kayla herself combines a pattern of quickly choosing based on promotions and then confirming with the cashier which app is appropriate.

When connected with Self-Determination Theory (SDT), the three patterns above describe the dynamics of the main psychological needs in SDT: autonomy, competence, and relatedness.

a. Autonomy: Anisa's heuristic choosing pattern shows the need for autonomy in determining the payment method that feels most convenient and quick so as not to feel limited by complex choices.
b. Competence: Consumer uncertainty or anxiety that requires reconfirmation with the cashier indicates that their competence in understanding the system is still limited, so they look for shortcuts to avoid feeling like they have made a mistake or are afraid of failing the transaction.
c. Relatedness: The role of the cashier or friend as a source of questions reinforces the importance of social connections in building confidence during the payment process; this was particularly evident for Reno and partly for Kayla, who needed interaction to ensure the security of their transactions.

The cognitive overload phenomenon caused by the abundance of QRIS options indirectly impacts all three key aspects of SDT. If any of these psychological needs are not met (e.g., autonomy is hampered by excessive choice, competence is insufficient, or social support is weak), consumer satisfaction and trust in digital payment systems can be compromised. Adaptive coping strategies are a balancing act and crucial to maintaining a positive transaction experience, even though the system is still far from a simple and inclusive design. These findings suggest that simplifying the QRIS interface and educating consumers is necessary to meet basic SDT needs, making the payment process more convenient and less mentally burdensome for consumers.

Dependence on the Cashier as a Mediator of Trust

The findings revealed a high level of consumer reliance on cashiers as a trusted intermediary in the payment decision-making process. All five consumers demonstrated a consistent pattern of relying on cashiers as trusted advisors when experiencing confusion regarding QRIS compatibility with their e-wallet applications.

Reno explicitly stated, "I always ask the cashier first which is the easiest and safest" when faced with multiple QR code options. Belinda added, "If the cashier is friendly and patient in explaining, I feel more confident using a new app." This demonstrates that interpersonal interaction is a crucial factor in building consumer trust in digital payment systems overall.

Kayla and Anisa showed a lower level of dependency on the cashier, but still valued their presence as a problem solver when experiencing technical errors. Fauzan demonstrated an interesting pattern, relying on the cashier for information on the latest promotions, despite being proficient in using various digital payment platforms.

Segmentation Based on Technology Adaptation Level

An in-depth analysis of the behavior of the five consumers revealed clear segmentation based on the level of technology adaptation and familiarity with digital payment systems.

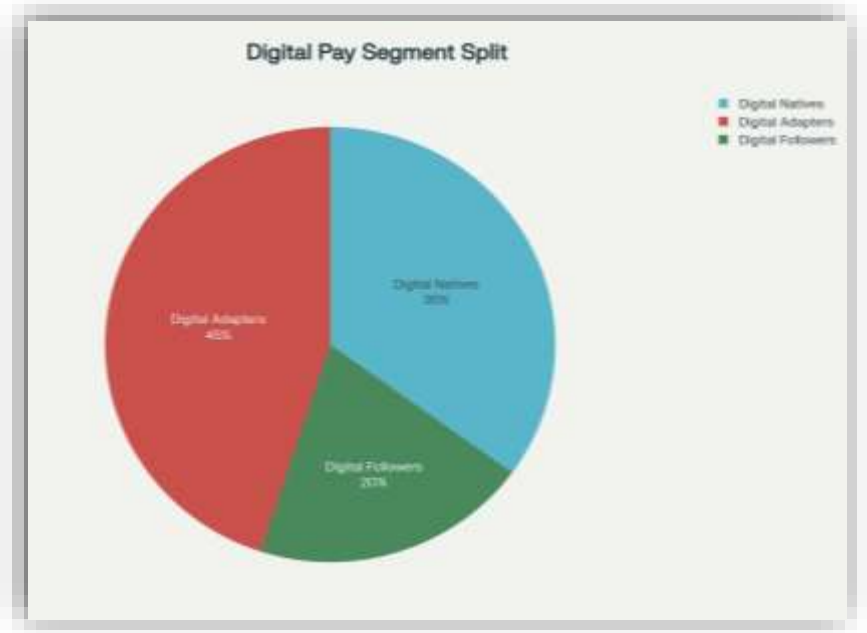

Figure 10. User Informant Demographics Based on Technology Adaptation Level

Anisa and Fauzan fall into the Digital Natives category, demonstrating rapid adaptability, a high level of confidence in using various platforms, and a strong preference for transaction efficiency.

Belinda and Kayla fall into the Digital Adapters category, demonstrating good adaptability but still requiring minimal guidance from the cashier for complex decision-making. They demonstrate flexibility in using multiple platforms but maintain personal preferences based on their experience and program rewards.

Reno falls into the Digital Followers category, which shows a tendency to follow external recommendations (cashiers, friends) when making payment decisions. Although he is familiar with digital payments, his confidence remains low when faced with unfamiliar situations or new platforms.

Psychological Factors Influencing Payment Decisions

Observations in this study highlight the various psychological dynamics that influence consumer decisions in choosing a digital payment platform, closely linked to the Self-Determination Theory (SDT) framework. Concerns about potential transaction failure emerged predominantly among consumers like Reno and Kayla, particularly when they had to interact with platforms they were unfamiliar with or unfamiliar with. This situation illustrates an unmet basic need for competence, namely the confidence to successfully execute transactions without technical obstacles.

Furthermore, external incentives in the form of promotions or cashback significantly influence the behavior of consumers like Fauzan and Belinda. They tend to delay transaction decisions while comparing various offers across apps, demonstrating that extrinsic motivation plays a significant role in shaping preferences and providing a concrete illustration of how the need for autonomy works, allowing consumers to make independent decisions while still being influenced by external factors.

Personal data security issues were a major concern for Anisa and Kayla, especially after they were exposed to information about the risks of digital fraud. Statements such as "I prefer trusted apps even if the promotion is smaller" (Anisa) and "if the app is new, I have to be sure it's secure before entering personal data" (Kayla) emphasize the dominant need for security and certainty, which in the context of SDT reflects a drive to feel competent and able to consciously manage risk.

The influence of peer influence is also crucial, especially for Reno and Belinda, who often follow the advice or recommendations of friends and family when choosing a payment app. This aspect is directly related to the need for relatedness, where trust arises from collaboration and social support among users. Interestingly, Fauzan exhibits a different pattern, emphasizing personal experience and rational calculation when making decisions, indicating a strong effort to achieve autonomy in managing transaction processes independently with logical considerations.

CONCLUSIONS

Research found that multi-code QRIS adoption in retail stores is influenced by several key factors:

1. Ease of use the main reason consumers choose QRIS is because it is considered practical and efficient.
2. Transaction security is an important concern; consumers are more confident if transactions are fast, transparent, and have minimal risk.
3. Promotions and incentives such as cashback or discounts encourage increased use of QRIS.
4. Consumer habits and convenience still plays a role; some consumers still prefer conventional methods if they feel less familiar with QRIS. In general, consumers show a positive tendency towards the use of multi-code QRIS, although there are still challenges in the form of digital literacy and security perceptions.

RECOMMENDATIONS

1. Consumer education: A digital literacy campaign is needed so that consumers better understand the security and practicality of QRIS.
2. Service optimization**:** Retailers and service providers are advised to improve system stability, transaction speed, and consumer data protection.

3. Sustainable promotion strategy**:** Incentives such as cashback and discounts need to be implemented consistently to strengthen consumer loyalty.
4. Multi-party collaboration: Collaboration is needed between QRIS providers, retailers, and regulators to ensure uniform and reliable service standards.

ADVANCED RESEARCH

1. Quantitative Approach
   Since this study is qualitative phenomenological, future research could use a quantitative approach to empirically test the factors influencing multi-code QRIS adoption, such as promotion, security, digital literacy, and operational efficiency.
2. Studies in Different Sectors and Locations
   Research could be extended to non-retail sectors (e.g., transportation, services, or education) and locations outside Greater Jakarta (Jabodetabek) to see whether the QRIS multi-code phenomenon is consistent across contexts.
3. Service Provider & Regulator Perspective Analysis
   Further studies could focus more on the role of regulators (Bank Indonesia, OJK) and fintech service providers in addressing system fragmentation, including policies that encourage standardization and digital literacy.
4. Impact of Sustainability & Financial Inclusion
   Future research could delve deeper into environmental sustainability aspects (digital carbon footprint, energy efficiency) and financial inclusion for marginalized groups, thus contributing more broadly to the SDGs.
5. Digital Education Experiment
   Experimental or quasi-experimental research is needed to see how digital education programs for merchants and consumers can improve understanding, reduce multi-code confusion, and accelerate the adoption of a single QRIS.

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