

## The impact of QRIS implementation on the growth and competitiveness of small tourism businesses in Bali

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**Abstract -** This study explores the influence of QRIS on the operational efficiency, market reach, and financial inclusion of micro, small, and medium-sized enterprises (MSMEs) within Bali's tourism sector. Employing a mixed-methods approach—utilizing quantitative surveys and qualitative interviews conducted with business owners across sites such as Ubud, Seminyak, and Nusa Penida—the research aims to pinpoint both the drivers behind QRIS uptake and the obstacles that remain. Findings suggest that QRIS has effectively lowered transaction fees, increased the convenience of payments for customers, and bolstered the visibility of small enterprises among both domestic and international visitors. Furthermore, QRIS adoption has supported more accurate financial record-keeping, a critical factor when MSMEs seek access to microcredit or similar institutional backing. Nonetheless, certain obstacles persist. Issues including limited digital literacy, inconsistent internet infrastructure, and irregular regulatory oversight continue to challenge the implementation process. Overall, the evidence suggests that while QRIS has strengthened the competitiveness and adaptability of small tourism businesses in Bali, its ongoing success relies heavily on expanded digital education, supportive government policies, and inclusive frameworks. This study contributes to academic discussions surrounding digital payment systems and MSME development in emerging markets. Moreover, it provides practical recommendations for policymakers, financial institutions, and tourism sector stakeholders seeking to enhance the socioeconomic impact of QRIS in Indonesia and in comparable contexts.

**Keywords:** QRIS, digital payment systems, small tourism businesses, MSMEs, financial inclusion, tourism economy, digital transformation

### 1. Introduction

The tourism industry stands as a central pillar of Indonesia's economic development, with Bali, in particular, recognized globally as a leading tourism destination. Bali's distinct cultural heritage, remarkable natural beauty, and resilient hospitality sector have positioned the island as a significant contributor to both the national service sector and foreign exchange earnings. Official reports indicate that tourism accounts for roughly 4.8% of Indonesia's national GDP, with Bali's contribution comprising a considerable proportion of this figure (BPS, 2023). Small and medium-sized tourism businesses—ranging from local accommodations and tour operators to craftspeople and culinary vendors—form the essential backbone of this sector, generating employment and promoting localized, community-driven development.

Amid the ongoing digital transformation in commerce and finance, the integration of digital payment systems has emerged as a crucial factor for the competitiveness and



modernization of small businesses. In the Indonesian context, the implementation of the Quick Response Code Indonesian Standard (QRIS), launched by Bank Indonesia in 2019, marked a significant milestone toward a unified and interoperable digital payment ecosystem. QRIS standardizes digital transactions through a single QR code, facilitating cashless payments and enabling seamless interoperability across different financial service providers (Bank Indonesia, 2020). For micro, small, and medium enterprises (MSMEs), QRIS presents an accessible tool aligned with the country's broader digitalization and financial inclusion strategies, as outlined in the National Strategy for Financial Inclusion (SNKI).

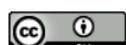
The relevance of QRIS has been heightened in the wake of the COVID-19 pandemic, which rapidly accelerated the demand for contactless and hygienic transaction methods. The changing landscape of consumer preferences and health protocols has made digital payments increasingly salient for small tourism businesses striving to adapt to new expectations. QRIS adoption allows these enterprises to streamline transaction processes, enhance operational efficiency, and potentially increase their visibility and trust among both domestic and international visitors who increasingly expect digital payment options as part of their travel experience.

Despite these advantages, the actual adoption rates of QRIS and its concrete impact on Bali's small tourism businesses remain varied. Research highlights that several challenges hinder digital technology adoption, including persistent gaps in digital literacy, infrastructure limitations, and continued reliance on cash-based transactions (World Bank, 2021; G20 Indonesia, 2022). While some enterprises report improved performance and customer outreach following QRIS integration, others face difficulties or observe limited benefits. These disparities necessitate further investigation into the genuine effectiveness of QRIS for small tourism operators in Bali and its implications for business performance in an evolving market environment. Understanding the mechanisms through which QRIS affects business management, marketing, and resilience—as well as identifying barriers to its uptake—is critical for the formulation of effective support measures. Without empirical, context-specific research, strategies aimed at promoting digital payments among MSMEs risk being ineffective or disconnected from on-the-ground realities.

This study aims to assess the impact of QRIS implementation on the growth and competitiveness of small tourism businesses in Bali. The key objectives are: (1) to analyse the level of QRIS adoption among small tourism enterprises in Bali; (2) to evaluate the perceived benefits and challenges of QRIS from the perspective of business owners; (3) to examine the effect of QRIS on business performance indicators, such as transaction efficiency, customer satisfaction, and financial access; and (4) to provide policy recommendations to foster broader and more effective QRIS implementation in the tourism sector.

By addressing these objectives, the study contributes to the ongoing discourse on digital payment systems and their role in inclusive economic development within emerging economies. The research offers relevant insights for policymakers regarding the strengths and limitations of the national digital payment agenda and highlights the importance of complementary interventions, such as digital literacy initiatives and infrastructure investment. For practitioners and small business owners, the study provides practical knowledge on the strategic value of adopting digital tools like QRIS to enhance enterprise competitiveness and connectivity in the modern tourism industry.

Recent scholarship affirms that digital payment systems can significantly enhance business efficiency and broaden market reach. For example, Karjaluoto et al. (2020) and Kim et al., 2019; Hamari et al., 2020) indicate that the introduction of mobile payments accelerates transaction speed, improves customer satisfaction, and helps reduce operational costs for small businesses. In many developing economies, expanding the adoption of mobile payment platforms has become closely linked to financial inclusion—especially among unbanked populations (Demirguc-Kunt et al., 2022). Within tourism, digital payment options are



increasingly integrated into the expected standard of service, influencing both tourist satisfaction and the likelihood of return visits (UNWTO, 2021).

Nevertheless, several challenges remain. The Asian Development Bank (ADB, 2021) notes that micro, small, and medium enterprises (MSMEs) operating in tourism often struggle to adopt new digital technologies for reasons such as limited capital, insufficient awareness, and infrastructure gaps. Even as QR-based payments become more prevalent, their overall impact remains dependent on broader ecosystem readiness – factors like widespread smartphone use, consistent internet access, and supportive regulation all play crucial roles.

Multiple empirical and review studies show that QRIS streamlines payments, reduces cash dependence, and raises MSME turnover and operational efficiency, including in tourism areas. Case studies report faster transactions, better financial recording, and higher customer satisfaction, with some MSMEs experiencing substantial shifts of sales to QRIS and improved cash-flow management (Ridlo et al., 2025; Serang et al., 2025; Teyensi et al., 2025; Varina et al., 2025; Rosyidiana et al., 2025; Saleh et al., 2025; Naimah et al., 2025).

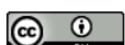
Training-based interventions find QRIS strengthens financial monitoring and cash-flow control while expanding consumer reach (Teyensi et al., 2025; Rosyidiana et al., 2025). Quantitative work indicates QRIS use and digital literacy both have significant positive effects on MSME income, with synergistic impacts when combined (Serang et al., 2025). Literature reviews and field studies highlight broader benefits: increased financial inclusion, market expansion, and integration of MSMEs into the digital economy, though constrained by low digital literacy, security concerns, and uneven internet infrastructure, especially in rural settings (Daeli et al., 2025; Cahyono et al., 2024; Varina et al., 2025; Rosyidiana et al., 2025; Saleh et al., 2025; Hidayanti & Ariani, 2025; Sarwini et al., 2025; Chakti et al., 2025).

Technology-adoption studies based on the Technology Acceptance Model show that **perceived usefulness and security** are key drivers of intention to use QRIS among MSME owners; ease of use mainly works through perceived usefulness [131920](#). (Firdausi & Antonio, 2025; Usman et al., 2025; Firdaus et al., 2025). In tourism contexts, evidence from Banjarmasin's Siring waterfront tourism indicates that most MSME operators perceive QRIS as beneficial, easy to use, and are willing to keep using it to increase income and destination competitiveness (Naimah et al., 2025).

Studies of digital technology adoption more broadly confirm that e-business and digital payments primarily improve **operational efficiency and service quality**, which then underpin competitiveness (Saleh et al., 2025). For Bali's small tourism firms, these findings suggest QRIS is likely to first enhance payment convenience and back-office efficiency, with competitive advantages emerging as these gains translate into better service, wider market access, and alignment with smart-tourism and financial-inclusion initiatives.

Specific to Indonesia, studies directly examining the role of QRIS in tourism-related MSMEs are still rare. Ramadhan and Nurfitriani (2023), in their analysis of small traders in Java, observed that QRIS adoption has led to noticeable improvements in transaction efficiency. Yet, there has been little targeted assessment in major tourism destinations such as Bali. This study directly addresses such gaps by investigating the specific economic, cultural, and technological context surrounding MSMEs in Bali's tourism sector.

The study's conceptual framework rests on three interconnected pillars: (1) Technology Adoption – drawing on Rogers' Diffusion of Innovation theory (2003) to analyse what influences small business owners to embrace QRIS, with focuses on perceived usefulness, usability, and alignment with existing practices; (2) Business Performance – using the Balanced Scorecard approach (Kaplan & Norton, 1996) to evaluate changes in customer satisfaction, internal operations, and financial outcomes post-QRIS adoption; and (3) Competitiveness – employing Porter's (1985) model of competitive advantage to consider whether QRIS adoption enables greater service differentiation, stronger customer loyalty, or improved market responsiveness. Combining these perspectives allows the study to construct a multidimensional analysis of how digital payments are transforming small-scale tourism enterprises.



This research focuses on small tourism-related businesses across three prominent Bali destinations: Ubud, Seminyak, and Nusa Penida. The selection of these locations covers diverse tourism types (cultural, beach, and eco-tourism), thereby contributing to a broader understanding of QRIS's applicability. Study limitations include data availability and reliance on self-reported business metrics. Furthermore, since tourism is highly susceptible to external shocks—such as travel restrictions, seasonal patterns, and socio-political developments—findings should be understood in light of Bali's particular tourism trends during the 2024–2025 period.

To guide its analysis, the study poses the following questions: (1) What is the current level of QRIS adoption among small tourism enterprises in Bali? (2) What are the main incentives and obstacles to QRIS adoption? (3) What effects has QRIS had on business growth, customer satisfaction, and financial access? (4) Which policy or institutional measures could further facilitate QRIS uptake in the tourism MSME sector? Ultimately, these questions support the overarching objective of assessing QRIS's strategic potential in shaping the future of small tourism enterprises in Bali.

## **2. Method**

### **2.1 Research Design**

This study employs a mixed-methods research design, integrating both quantitative and qualitative approaches to gain a comprehensive understanding of the impact of QRIS implementation on small tourism enterprises in Bali. The rationale behind this approach lies in the complexity of the research objectives, which require both empirical measurement (quantitative) and contextual depth (qualitative). A combination of surveys and semi-structured interviews was deemed suitable for examining both the measurable outcomes and the subjective experiences associated with QRIS adoption. The study adopts a descriptive-explanatory approach, aiming not only to describe the level of QRIS adoption but also to explain how and why this adoption influences business performance and competitiveness. The mixed-methods design ensures methodological triangulation, enhancing the validity and reliability of the research findings (Creswell & Plano Clark, 2018).

### **2.2 Population and Sample**

The population for this research consists of small and medium-sized tourism businesses operating in Bali, specifically in three key tourism areas: Ubud, Seminyak, and Nusa Penida. These areas were selected to reflect diverse types of tourism markets: cultural tourism (Ubud), coastal tourism (Seminyak), and eco-marine tourism (Nusa Penida). The definition of "small tourism businesses" in this study includes enterprises such as guesthouses, local travel agencies, tour guides, souvenir shops, food stalls, and transportation services with fewer than 20 employees and annual revenue below IDR 2.5 billion, following the classification of MSMEs by the Indonesian Ministry of Cooperatives and SMEs. A stratified random sampling technique was employed to ensure adequate representation from each tourism zone. A total of 150 businesses were surveyed (50 from each area), and 15 key informants were selected for in-depth interviews (5 per area) based on their length of business operation, prior digital payment experience, and willingness to participate.

### **2.3 Data Collection Techniques**

#### **2.3.1 Quantitative Data Collection**

Quantitative data were collected through structured questionnaires administered to business owners or their managers. The questionnaire consisted of three main sections: (1) Demographic and Business Profile: Type of business, number of employees, years of operation, and primary customer segment (domestic vs. foreign tourists). (2) QRIS Adoption and Usage: Date of QRIS adoption, frequency of use, training received, and integration with other digital tools (e.g., accounting apps, e-wallets). (3) Business Performance Indicators: Self-reported changes in revenue, customer volume, transaction speed, customer satisfaction, and access to financial services before and after adopting QRIS.



Most items were measured using Likert-scale questions (e.g., 1 = strongly disagree, 5 = strongly agree) to capture attitudes and perceptions.

### **2.3.2 Qualitative Data Collection**

Qualitative data were gathered through semi-structured interviews with selected business owners and local tourism stakeholders, including representatives from the Bali Tourism Board and fintech service providers. The interviews explored: (a) Motivations for adopting QRIS. (b) Perceived benefits and limitations (c) Challenges encountered during implementation (d) Suggestions for improving QRIS services and support mechanisms.

Each interview lasted approximately 30–45 minutes and was conducted in Bahasa Indonesia, with permission for audio recording. Interviews were later transcribed and translated into English for analysis.

### **2.4 Data Analysis Methods**

Quantitative data from the questionnaires were coded and analyzed using SPSS version 26. The analysis involved: (a) Descriptive Statistics: To summarize the demographic characteristics and QRIS usage patterns. (b) Correlation Analysis: To test the relationships between QRIS adoption and business performance indicators. (c) Regression Analysis: To determine the extent to which QRIS usage predicts business growth outcomes such as revenue increase and customer retention.

Reliability testing was conducted using Cronbach's Alpha, and all scales reported a value above 0.70, indicating acceptable internal consistency (Nunnally & Bernstein, 1994). Thematic analysis was used for the interview transcripts, following Braun and Clarke's (2006) six-phase process: (a) Familiarization with the data. (b) Generating initial codes. (c) Searching for themes. (d) Reviewing themes. (e) Defining and naming themes. (f) Producing the report.

NVivo software was used to assist in coding and managing the qualitative data. Emerging themes were triangulated with the quantitative findings to draw comprehensive insights into the QRIS adoption experience among small tourism businesses.

## **3. Results and Discussion**

### **3.1 Results**

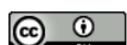
This section details the findings from the study regarding QRIS (Quick Response Code Indonesian Standard) adoption among small tourism businesses in Bali. Drawing from both quantitative survey data and qualitative interview information, the results are organized around four principal themes: the overall rate of adoption, the characteristics of businesses influencing uptake, notable benefits experienced from using QRIS, and key barriers hindering broader implementation.

#### **3.1.1 Rate of Adoption**

A total of 150 businesses were surveyed across three major tourist destinations in Bali: Ubud, Seminyak, and Nusa Penida. Out of these, 128 businesses – amounting to 85.3% – had integrated QRIS by March 2025. The remaining 22 businesses had either not yet adopted QRIS or were hesitant to do so. Reported reasons for reluctance included limited awareness of QRIS, technological challenges, and perceptions that QRIS was not particularly relevant to their customer base.

Adoption rates varied by region. Seminyak recorded the highest adoption rate at 92%, followed by Ubud at 88%, and Nusa Penida at 76%. These figures suggest that adoption is strongest in areas with better-developed infrastructure and higher volumes of international visitors, which correlate with increased internet and mobile payment penetration. Seminyak – widely considered a modern, well-established tourist center – showed especially rapid uptake, in line with its modern infrastructure and significant presence of foreign tourists. Ubud, also a major international destination, likewise saw extensive adoption of QRIS, likely aided by the area's proximity to Denpasar and more reliable connectivity.

In contrast, Nusa Penida – a comparatively rural and less-developed location – presented the lowest adoption rate. Even though tourism is growing in that area, challenges such



as unreliable internet access and lower digital literacy have slowed QRIS uptake. Such geographic disparities in QRIS adoption reflect larger trends observed elsewhere in Indonesia: more developed urban environments generally report greater uptake of digital payments compared to rural regions (Asia Development Bank, 2021).

The findings from this study broadly support earlier research into digital payment adoption in developing countries, highlighting that urban centers tend to incorporate new technologies more rapidly than rural areas. As stated by Demirgürç-Kunt et al. (2022), mobile payment systems encounter obstacles in rural communities, where supporting infrastructure and digital skills are often lacking. The expansion of QRIS in Bali—especially in prominent tourist areas—underscores the importance of the tourism sector in advancing digital financial services. With tourists increasingly expecting cashless options, local businesses have widely adopted QRIS to accommodate these shifts in consumer behaviour.

Notably, businesses catering to international tourists demonstrated particularly high QRIS adoption. Cashless payments are often perceived as safer and more convenient, especially following the COVID-19 pandemic, a pattern reflected in tourism markets worldwide (UNWTO, 2021). Overall, these findings indicate that digital payment adoption is strongly shaped by both local infrastructural conditions and the international profile of the customer base.

### **3.1.2 Business Characteristics Influencing QRIS Adoption**

The adoption of QRIS tends to be more prevalent among certain types of businesses, particularly those operated by younger business owners (typically aged 25–40). This group generally displays greater comfort and familiarity with digital technologies, often having experience with mobile payment methods such as e-wallets and online booking systems. These businesses are commonly situated in high-traffic areas frequented by international tourists and are more likely to utilize various digital tools in their operations.

By contrast, older business owners and those with a longstanding reliance on informal or cash-only transactions demonstrate more resistance toward adopting QRIS. The perceived complexity of digital payment systems and the anticipated need for further training serve as notable barriers. For example, a café owner in Nusa Penida remarked, “I know about QRIS, but I don’t feel it’s necessary because my customers prefer to pay in cash.” This reluctance highlights a wider issue of digital literacy, especially among older entrepreneurs or those less exposed to digitalization. The age-related divide regarding technology adoption has also been observed in previous studies on digital payments, which underscore the role of age and previous technological experience in influencing willingness to adopt new systems (Zhou et al., 2021).

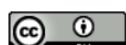
Additionally, businesses catering mainly to international tourists are more likely to adopt QRIS, as such tourists frequently expect cashless payment options due to their familiarity with mobile payment systems in their home countries. For instance, Chinese tourists often use platforms like Alipay and WeChat Pay (Zhou et al., 2021). In response to growing demand, these businesses have adopted QRIS to enhance customer experience and maintain competitiveness.

Furthermore, prior experience with other digital tools (such as e-wallets or online booking platforms) is associated with a higher likelihood of QRIS adoption. This suggests that exposure to digital systems facilitates acceptance of QRIS, aligning with findings from studies on digital transformation in small and medium-sized enterprises (SMEs) in other developing countries (Demirgürç-Kunt et al., 2022).

### **3.1.3 Benefits Experienced from QRIS Usage**

The adoption of QRIS has conferred several benefits to small tourism enterprises in Bali, particularly in terms of increasing transaction efficiency, improving customer satisfaction, and enhancing financial record-keeping.

**Transaction Efficiency and Customer Convenience:** The majority of respondents (91%) reported that QRIS significantly improved the speed and efficiency of transactions. QRIS allows for rapid payments via mobile banking applications or e-wallets, which reduces customer waiting times and eliminates the need for cash handling. Many businesses valued the interoperability of QRIS, as it enables acceptance of various e-wallets using a single QR code. A souvenir shop owner



in Ubud explained, “Before QRIS, I had to register with multiple providers like OVO and GoPay. Now one QR code works for all.”

**Increase in Customer Satisfaction:** Seventy-eight percent of surveyed businesses reported an improvement in customer satisfaction following QRIS adoption. This was particularly evident among foreign tourists, who appreciate convenient and secure cashless payment options. The shift towards contactless transactions became increasingly important during the COVID-19 pandemic (UNWTO, 2021). An accommodation provider in Seminyak stated, “Tourists often ask if we accept QR codes. When we say yes, they feel more comfortable. Some even choose us because of it.”

**Financial Record-Keeping and Access to Credit:** Over 60% of businesses indicated that QRIS contributed to more accurate financial records, aiding access to formal financial services, such as obtaining loans. As reported by a business in Ubud, “Bank officers used to reject my loan application because I didn’t have bank statements. With QRIS, I can show them daily transaction records.” This finding emphasizes the important role of QRIS in promoting financial inclusion and expanding access to credit and other formal financial products.

### **3.1.4 Barriers to QRIS Adoption**

Despite the clear advantages, the implementation of QRIS in areas like Nusa Penida remains fraught with several notable challenges. A primary barrier is digital literacy—or rather, the lack thereof—especially among older business owners and entrepreneurs in rural communities. Nearly 40% of non-users reported significant difficulty in understanding or navigating the technology. As one handicraft seller in Nusa Penida remarked, “I am afraid I will press the wrong button or lose my money. I prefer cash because I know how it works.” This specific concern underscores the necessity for training programs that particularly address digital skills among underserved and rural business operators.

In addition, obstacles stemming from infrastructure limitations cannot be overlooked. In remote regions such as Nusa Penida, unreliable internet connectivity and restricted smartphone access posed significant barriers to QRIS use. Approximately 31% of respondents experienced technical difficulties such as connectivity disruptions or app malfunctions, impeding their ability to confidently adopt QRIS in daily operations. These findings are consistent with analyses by institutions like the Asian Development Bank (2021), which emphasize that reliable infrastructure is fundamental for the successful diffusion of fintech solutions in developing areas.

Patterns of QRIS adoption are not uniform; certain business characteristics significantly influenced uptake. Younger business owners, generally aged 25–40, demonstrated noticeably higher adoption rates. Businesses serving primarily international tourists, as well as those with prior experience in digital tools such as e-wallets or online booking systems, were also more likely to integrate QRIS into their operations. Conversely, resistance was more pronounced among older entrepreneurs and firms operating predominantly as informal, cash-based businesses. As one café owner in Nusa Penida stated, “I know about QRIS, but I don’t feel it’s necessary because my customers prefer to pay in cash.” This response highlights a digital divide shaped by age, technological competency, and customer profile.

Key determinants of QRIS (Quick Response Code Indonesian Standard) adoption among small tourism businesses in Bali included the age of business owners, the customer base served, and prior exposure to digital technologies. These factors collectively shaped not only businesses’ willingness to adopt QRIS but also the overall pace of technological change. Younger and technologically engaged entrepreneurs led the trend, while older business owners with cash-only histories remained more hesitant.

QRIS adoption was notably higher among business owners aged 25–40. This demographic typically exhibits both greater comfort with technology and previous experience with digital payment systems. For these entrepreneurs, technological tools—including QRIS—are viewed as integral components of successful business management. Their tendency to swiftly integrate digital solutions into their business models reflects global trends among small and medium-sized enterprises (SMEs) (Demirgürç-Kunt et al., 2022).



This pattern was especially pronounced in major tourist hubs like Seminyak and Ubud, where younger business owners more commonly operate cafes, retail shops, and service-oriented enterprises. These areas, with their substantial volumes of international tourists, are particularly attuned to the demand for cashless transactions. As such, entrepreneurs catering to foreign clientele are typically proactive in adopting systems like QRIS.

Another key factor in predicting QRIS adoption is the primary makeup of a business's clientele. Enterprises that focus on serving international tourists are more likely to implement QRIS, a trend linked to the prevalence of mobile payment systems such as Alipay, WeChat Pay, and other e-wallets in tourists' home countries. Growing expectations for digital payment solutions among foreign visitors have driven the adoption of QRIS in popular areas including Seminyak and Ubud. As one restaurant owner in Ubud observed, "Most of our customers are from Europe, and they prefer paying with their phones, so QRIS was a natural choice."

QRIS adoption among Bali's tourism businesses is shaped by a clear interplay of owner demographics, technological familiarity, and customer expectations. While digitally literate, younger business owners and internationally oriented enterprises have led the movement toward QRIS, older business operators and cash-centric businesses tend to remain hesitant, revealing ongoing barriers both technological and cultural in nature.

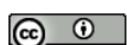
International visitors overwhelmingly prefer mobile payments during their travels, primarily because these methods are more convenient, secure, and user-friendly—especially for those navigating unfamiliar currencies or language barriers (UNWTO, 2021). This pattern is clearly evident in Bali, where businesses targeting foreign tourists exhibit higher rates of QRIS adoption, reflecting these travellers' comfort with digital payment systems.

Enterprises that had previous exposure to digital tools such as e-wallets or online booking platforms were also more inclined to implement QRIS. For many of these businesses, the shift was relatively seamless—owing to their familiarity with digital financial processes. As one business owner from Seminyak explained, "We've been using e-wallets like OVO and GoPay for a while, so QRIS was just another step in our digital transformation." These early adopters already recognized the efficiencies and organizational advantages brought by QRIS, particularly regarding transaction streamlining and record-keeping. This observation reflects broader findings (Demirguc-Kunt et al., 2022) showing that businesses familiar with digital technologies are more receptive to new payment systems, having already established both the expertise and infrastructure required.

Conversely, QRIS adoption faced greater resistance among older business owners and operators of informal, cash-based businesses. Many in this demographic, especially those in rural areas such as Nusa Penida, maintain cash-only transactions, citing their customers' preferences and their own scepticism regarding digital payments. As one café owner in Nusa Penida noted, "I know about QRIS, but I don't feel it's necessary because my customers prefer to pay in cash." This hesitancy is often linked to limited digital literacy, unfamiliarity with contemporary payment systems, and concerns about the safety and reliability of digital transactions—an issue underscored by the Asian Development Bank (2021), which highlights that older generations often struggle to transition from cash-based systems, especially in regions with limited internet access or established cash practices.

Regarding the practical benefits of QRIS, the system has produced notable improvements in transactional efficiency, customer satisfaction, and financial management for participating businesses. An overwhelming majority (91%) of surveyed respondents agreed or strongly agreed that QRIS expedited transactions, thanks to the ability to process payments swiftly through multiple e-wallets and banking applications. This efficiency minimizes delays, particularly during periods of high tourist activity. As one Ubud souvenir shop owner recounted, "Before QRIS, I had to register with multiple providers like OVO and GoPay. Now one QR code works for all." This consolidation reduces administrative burdens and streamlines operations, especially for businesses in high-traffic areas where swift turnover is essential.

QRIS implementation has also tangibly increased customer satisfaction, especially



among international tourists, with 78% of businesses reporting improved service feedback. The convenience and perceived security of cashless payments are major drivers of this trend, which has become even more pronounced in the wake of COVID-19. One accommodation provider in Seminyak observed, "Tourists often ask if we accept QR codes. When we say yes, they feel more comfortable. Some even choose us because of it." This preference aligns with the growing importance of digital payments in enhancing the tourism experience (UNWTO, 2021).

### 3.2 Discussion

This section interprets the study's findings within the context of existing literature and relevant theoretical frameworks. The focus is QRIS (Quick Response Code Indonesian Standard) and its implications for digital transformation, policy development, and small tourism business growth in Bali. The discussion addresses QRIS as a tool for digital inclusion, the critical role of institutional support, shifts in customer expectations, and a comparison with other QR payment systems worldwide.

QRIS has emerged as a highly practical and scalable approach to digitizing small tourism businesses in Bali. Its key strength lies in its affordability and minimal implementation requirements. Since most banks and fintech providers support QRIS, even micro and small enterprises with constrained financial capacity find it accessible. This is particularly significant for small and medium-sized enterprises in Bali, where limited resources often act as a barrier to adopting complex digital technologies.

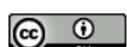
The standardization and interoperability of QRIS represent core factors behind its appeal. With QRIS, businesses can accept payments from major e-wallet platforms – GoPay, OVO, DANA – using only a single QR code, eliminating the need for multiple interfaces. This simplifies operations for both business owners and customers. Furthermore, QRIS aligns with Indonesia's National Strategy for Financial Inclusion (SNKI), which aims to empower MSMEs through user-friendly financial technology (World Bank, 2021). Far more than just a payment device, QRIS is also an entry point to an array of digital financial services, such as credit, insurance, and savings. This is especially relevant for tourism enterprises in Bali that have historically struggled to access formal financial services.

In practice, the integration of QRIS offers a pathway toward greater digital inclusion by drawing small businesses into the formal financial sector. As these businesses build digital transaction histories, they can potentially improve their reputations and unlock better access to credit facilities. Evidence from other developing economies suggests such digital financial participation correlates with increased access to loans and a wider array of financial services (Demirguc-Kunt et al., 2022). In this way, QRIS contributes to bridging the divide between informal and formal sectors, a vital step for long-term economic growth and inclusion.

While QRIS adoption trends are promising, the study clearly demonstrates that additional support measures are required to maximize its diffusion – particularly for small tourism enterprises operating in under-served or less digitally literate communities.

Digital literacy training emerges as a crucial intervention. The study reveals that older business proprietors and those with less exposure to digital tools are substantially less likely to utilize QRIS. Without targeted educational programs, these operators may remain reliant on cash, missing potential benefits of digital payments. Digital literacy initiatives – especially if tailored for business owners in rural areas like Nusa Penida – could significantly reduce these barriers. Such programming should ideally involve cooperation among local government agencies, fintech providers, and tourism boards to ensure effective outreach and learning (Zhou et al., 2021).

Another impediment concerns infrastructure, specifically mobile and digital connectivity in outlying areas. Respondents from Nusa Penida, for instance, reported persistent issues with slow or unreliable internet connections and outdated devices. Such challenges compromise the effectiveness of QRIS and lessen its attractiveness as a payment option. Cooperative efforts between government and telecommunications providers to expand and stabilize mobile internet infrastructure in these areas are essential if small businesses across Bali are to genuinely benefit from digital payment technology.



While QRIS holds substantial promise as a catalyst for digital transformation among Bali's tourism SMEs, its success ultimately depends on institutional support at both policy and practical levels. Targeted training and infrastructure investment are both vital components in realizing the full potential of this digital payment system for small businesses.

A key approach to increasing QRIS adoption is providing incentives for early adopters. These may include lower transaction fees, enhanced marketing support, or even priority access to business loans. Such incentives can encourage businesses to more readily integrate QRIS into daily operations. Local tourism boards also have an important role; QRIS education could be woven into license renewal requirements or featured in tourism promotion campaigns. Visibility matters: encouraging businesses to prominently display QRIS compatibility on signs and digital platforms can foster greater uptake.

Public-private collaboration is also pivotal in scaling QRIS usage. Partnerships between fintech companies and government agencies can facilitate access to affordable mobile payment solutions for businesses, especially in rural areas where adoption often lags. By leveraging shared resources and distinct expertise, these collaborations can extend QRIS coverage and drive digital transformation across Bali's tourism sector.

A broader shift in consumer expectations is also necessary. For QRIS to see widespread use—not just among urban residents but local and foreign tourists alike—stakeholders must promote the benefits of digital payments: speed, security, and convenience. Education and positive messaging can influence both businesses and consumers toward greater acceptance of cashless transactions.

Government initiatives—such as distributing food aid or stimulus funds via QRIS during the COVID-19 pandemic—have been instrumental in shifting public attitudes (UNWTO, 2021). These programs laid the foundation for a cultural transition to digital payments, which is especially relevant in tourism. QRIS can enhance transactional efficiency and safety by reducing the risks tied to cash handling and counterfeit currency. As tourists increasingly seek secure, contactless payment methods, QRIS stands to improve the overall Bali travel experience. Moreover, QRIS adoption offers environmental benefits: reducing waste generated by cash transactions, such as paper receipts and coinage, supports sustainable tourism objectives. As eco-friendliness becomes a greater concern for both visitors and businesses, QRIS can be a practical component in greening Bali's tourism system. Its streamlined, cashless logistics contribute to a more sustainable and effective infrastructure.

QRIS also supports financial formalization, opening access to the formal banking system and improving businesses' compliance with tax regulations. As implementation continues, more enterprises can participate in Bali's formal economy—leading to greater transparency and fostering sustainable economic growth.

When compared to developments in other regions, such as China (Alipay/WeChat Pay), India (BharatQR), and Malaysia (DuitNow), Indonesia's QRIS shows significant promise but faces persistent challenges—primarily in less-connected, rural areas. China achieved near-universal QR payment use thanks to early investment in infrastructure and user education (Zhou et al., 2021). India, with substantial government leadership, has also experienced swift sector-wide adoption. The experience of these countries underscores the importance of robust payment infrastructure and effective public education.

Indonesia may benefit from prioritizing improvements such as offline QRIS capability, offline wallet storage, and interfaces designed for users with low literacy. In areas where internet access is inconsistent, offline payment features can significantly enhance QRIS utility and adoption. Future strategic development could also target cross-border capability, allowing tourists to use QRIS seamlessly throughout ASEAN nations. Such initiatives could further position QRIS as a flexible, regionally integrated payment solution.

#### 4. Conclusion



This study set out to assess how the Quick Response Code Indonesian Standard (QRIS) is influencing the development and competitiveness of small tourism businesses in Bali. Drawing on quantitative and qualitative data from 150 businesses across Ubud, Seminyak, and Nusa Penida, this research provides a nuanced perspective on the transformation occurring within micro, small, and medium enterprises (MSMEs) operating in the local tourism sector. The evidence shows that QRIS has become a valuable driver of digital payment adoption. Thanks to its simplicity, interoperability, and support from Indonesia's national financial infrastructure, even smaller businesses with minimal tech experience have adopted cashless transactions – many for the very first time.

In the sample, businesses using QRIS reported more efficient transactions, higher customer satisfaction, and greater access to financial services. These improvements contributed to revenue growth, stronger brand presence, and increased resilience, positioning QRIS as not only a payment system, but also a tool for strategic progress. At the same time, this study identifies ongoing challenges: digital literacy among business owners – particularly those who are older or located in rural areas – remains uneven. Moreover, weak digital infrastructure in remote destinations, reluctance among customers to abandon cash, and anxiety over data privacy and technical malfunctions all undercut QRIS's full impact. The key message here is that while the digital payments infrastructure is advancing, human and institutional factors need further attention.

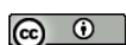
From a theoretical standpoint, the study contributes to several frameworks. Applying Rogers' Diffusion of Innovation theory (2003), the findings confirm that relative advantage, compatibility, and ease of use are significant factors shaping QRIS adoption. Businesses perceiving QRIS as beneficial and fitting their workflows were likelier to adopt, while the model's adopter categories – innovators, early adopters, the majority, and laggards – were visible in regional and demographic differences in uptake. Beyond this, Kaplan and Norton's Balanced Scorecard (1996) helps evaluate the performance impact of QRIS across financial, customer, and operational dimensions. The results suggest QRIS improves performance, especially when MSMEs incorporate digital tools into wider business strategies. Likewise, using Porter's (1985) competitive advantage framework, this study finds that QRIS-equipped businesses achieve better differentiation, customer responsiveness, and cost efficiency – crucial for survival and growth in Bali's competitive tourism market.

One crucial issue highlighted here is the uneven digital literacy among business owners. Government agencies, NGOs, and private partners (for example, banks and fintech firms) should collaborate to provide targeted training in rural and underserved communities, such as Nusa Penida. Training should be accessible – delivered in local languages, using practical and culturally familiar examples, with straightforward content. Furthermore, integrating financial education into tourism-focused vocational training and licensing could ensure new entrepreneurs have the tools needed to participate in a digital economy.

Despite adequate internet access in Bali's urban centres, remote tourism locations often lack reliable connectivity, limiting QRIS adoption. Public investment in improved digital infrastructure, particularly in high-potential tourism areas, is vital. Supplementary policies could also encourage telecom providers to expand coverage into marginalized regions, perhaps through incentives or public-private partnerships.

While QRIS is free to join, some small businesses still hesitate due to perceived risks and unfamiliarity. To promote adoption, policymakers might consider offering tax incentives, transaction fee reductions, or marketing support – specifically targeting early adopters within the MSME tourism sector. This would be especially helpful for low-income or high-potential entrepreneurs. Tourism boards could also incorporate QRIS promotion into regional marketing strategies.

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