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QRIS implementation benefits and risks: A phenomenological study of Sleman's culinary MSMEs

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ABSTRACT

This study explored the benefits and risks of Quick Response Code Indonesian Standard (QRIS) adoption among culinary MSMEs in Sleman Regency, Yogyakarta. Utilizing interviews with 216 business owners, the research followed a qualitative approach with data reduction, presentation, and conclusion stages. The findings revealed that QRIS significantly enhanced operational efficiency through faster payments, ease of use, and increased consumer trust. However, financial risks, such as administrative fees and fraud, and operational risks, including system errors and network instability, posed challenges for MSMEs. These insights provided valuable guidance for MSME actors and policymakers on optimizing QRIS benefits while mitigating its risks, emphasizing the need for improved infrastructure and adjusted cost structures.

Keywords: QRIS, Benefit, Risk

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INTRODUCTION

MSMEs play a vital role in driving the Indonesian economy. This is evidenced by their contribution to 60.5% of the national gross domestic product (Kementerian Keuangan RI Direktorat Jenderal Perbendaharaan, 2023). This sector's contribution is evident in promoting economic growth, generating employment opportunities, and alleviating poverty (Panggabean & Sandayanti, 2021; Puspitarini & Setiawina, 2022; Sagara et al., 2021; Sudarmo, 2021; Suparyati et al., 2022). Recognizing the significance of the MSME sector, the Indonesian government has demonstrated a strong commitment to supporting its development, particularly in the area of digitalization.

The MSME digitalization program focuses on two main objectives: expanding market access and enhancing the competitiveness of business actors. Bank Indonesia (BI) supports this initiative through its MSME Development Program, which prioritizes three key areas: strengthening production capacity, improving cost efficiency, and broadening market reach. Amid rapid technological advancements, the digital transformation of MSMEs represents a strategic initiative by BI to foster their growth in the digital era (Departemen Komunikasi Bank Indonesia, 2022). This digitalization initiative encompasses several dimensions, including the adoption of digital technology, the utilization of e-commerce for marketing, and the digitalization of financial systems.

The Quick Response Code Indonesian Standard (QRIS) represents a transformative innovation in the digitalization of MSME finance. Introduced by Bank Indonesia in 2019, QRIS standardizes QR codes for digital transactions, enabling access through various platforms such as server-based electronic money, digital wallets, and mobile banking services in Indonesia. Developed by the government, this system aims to establish a more

efficient, secure, and inclusive payment ecosystem for all segments of society, with a particular focus on the MSME sector (Interactive QRIS, n.d.). QRIS integrates various QR codes from multiple Payment System Service Providers (PJSP) into a single standardized system. Its key advantage lies in its ability to accept payments from all digital payment applications in Indonesia. MSME actors need only one QRIS code to process payments through various popular platforms, such as GoPay, OVO, DANA, LinkAja, ShopeePay, and mobile banking applications. This integration is highly beneficial, as it eliminates the need for multiple QR codes, thereby enhancing operational efficiency and streamlining the transaction process (cnnindonesia.com, 2023).

QRIS has proven its important role for MSMEs, not only during the pandemic period (Febriyanti & Anshori, 2024; Rahmawati et al., 2024; Sendjaja et al., 2023) but also in accelerating the overall transaction process (Aryawati et al., 2022; Azzahra et al., 2024; Listiawati et al., 2022). This system offers a fast, secure, and user-friendly payment solution for MSMEs (Wardhani, 2024). This system provides a fast, secure, and user-friendly payment solution for MSMEs (Interactive QRIS, n.d.). The transaction volume through QRIS also reached a significant figure, totaling Rp 32.86 trillion (Ayudiana, 2024).

This study focuses on analyzing the use of QRIS by MSME actors in the culinary sector of Sleman Regency, examining the benefits and risks from the perspective of business owners. In Daerah Istimewa Yogyakarta, 773,000 MSMEs have adopted QRIS, with the highest concentration in Bantul and Sleman Regencies (Radar Jogja, 2024). The Sleman Regency Government is actively supporting the sustainability of QRIS usage in the MSME sector (Harianjogja.com, 2023; mediacenter.slemankab.go.id, 2024; www.antaraneews.com, 2023). This initiative aims to reduce illegal transactions among MSMEs (slemankab.go.id, 2022). This initiative aims to curb illegal transactions among MSMEs (Tigauw, 2023).

The selection of MSMEs in the culinary sector of Sleman Regency as the focus of this research is based on several strategic considerations. First, the culinary sector experiences a high frequency of daily transactions, making the use of QRIS potentially impactful in improving operational efficiency (liputan6.com, 2024). Second, Sleman Regency, known as a culinary destination with a diverse range of food and beverage MSMEs, provides an ideal location to analyze the implementation of QRIS (*Portal Satu Data UMKM - Kabupaten Sleman*, n.d.; travel.tempo.co, 2024). Third, the transaction characteristics in the culinary sector, typically involving small to medium values, align well with the QRIS feature, which offers the convenience of digital payments (Ekawati, 2023).

Although various studies have been conducted, inconsistencies still exist in the findings regarding the effectiveness of QRIS. Some studies indicate that the use of QRIS offers significant benefits for MSMEs (Febriyanti & Anshori, 2024; Kusumaningtyas & Budiantara, 2023; Rettobjaan et al., 2023; Sendjaja et al., 2023; Syahid & Zainudin, 2024), while other studies state that the use of QRIS does not provide benefits for MSMEs (Hamdan et al., 2024; Mege et al., 2023; Rahmawati et al., 2024; Rerung, 2018). This variation in results highlights the need for further research to identify the factors influencing the effectiveness of QRIS usage for MSMEs. Factors that hinder the successful adoption of QRIS by MSMEs include risks such as data security concerns and reliance on technological infrastructure (Sendjaja et al., 2023), as well as the potential for a digital divide between MSME actors who are able to implement QRIS and those who are not yet ready to adopt it (Mege et al., 2023).

Based on the outlined issues, this study aims to analyze the perceptions of the benefits and risks of using QRIS from the perspective of MSME actors in the culinary sector of Sleman Regency. The findings are expected to provide practical insights for policymakers and business owners in optimizing QRIS usage. This study addresses two main questions: 1) What are MSME actors' perceptions of the benefits of using QRIS? and 2) What are MSME actors' perceptions of the risks associated with using QRIS?

LITERATURE REVIEWS

Financial Technology (Fintech)

Fintech is an innovation in financial services that enables consumers to access non-bank financial services. It encompasses several technological developments, including mobile banking, digital payment systems, blockchain, and cryptocurrencies (Friedline et al., 2024). The technology aims to support financial inclusion by providing affordable and convenient access to financing for unbanked consumers, particularly low-income domestic workers and minority groups (Senyo & Osabutey, 2020). Currently, in Indonesia, several types of FinTech are helping the community financially, including crowdfunding, microfinancing, P2P lending services, market comparison platforms, and digital payment systems (Kementerian Keuangan Republik Indonesia, 2023).

Fintech is a groundbreaking innovation in the financial services sector that integrates technology to enhance the efficiency of financial activities. This innovation enables consumers to access financial services beyond the traditional banking system (Paripurna & Ajija, 2019). The development of fintech encompasses several key technologies, including mobile banking for conducting transactions via mobile devices, digital payment systems for cashless transactions, blockchain technology for decentralized record-keeping, and cryptocurrencies as encrypted digital currencies (Friedline et al., 2024).

Fintech aims to promote financial inclusion by offering affordable, secure, and convenient access to financing for all segments of society, particularly for those who lack access to traditional (unbanked) banking services, such as low-income domestic workers and minority groups (Senyo & Osabutey, 2020). Fintech aims to promote financial inclusion by providing affordable, secure, and convenient access to financing for all segments of society, particularly for those without access to conventional (unbanked) banking services, such as low-income domestic workers and minority groups (Kementerian Keuangan Republik Indonesia, 2023), among them:

1. Crowdfunding: a collective fundraising platform for various projects or needs.
2. Microfinancing: a small-scale financing service to help micro businesses.
3. P2P Lending Service: a service for borrowing and borrowing money based on information technology.
4. Market Comparison: a platform for comparing financial products and services.
5. Digital Payment System: an electronic payment system for various transactions.

Benefit-Risk Framework

The Net Valence Framework, introduced by Peter and Tarpey in 1975, is a theoretical approach that integrates the perception of benefits and risks in the consumer decision-making process. This framework suggests that consumers typically conduct a thorough evaluation of the goods and services they use, considering both the positive (benefit) and negative (risk) aspects simultaneously (Peter & Tarpey, 1975).

The positive assessment of goods and services is reflected in the various benefits experienced through their use. In the context of financial technology (fintech), several positive aspects can be identified, including convenience in transactions, savings on transaction costs, speed and smoothness of transactions, economic efficiency, broader accessibility to financial services, personalized services tailored to user needs, and transparency in each transaction (Abdullah et al., 2024; Ozturk et al., 2017). Meanwhile, the assessment of negative aspects reflects the risks consumers face when using fintech (Abdul-Rahim et al., 2022).

Perceived Risk

Consumers often encounter various risks when using technology, primarily due to receiving incomplete or inaccurate information. This lack of information creates uncertainty, making it difficult for consumers to make informed decisions about adopting technology. As a result, this risk can lead to reluctance in adopting fintech. According to Abdul-Rahim et al., (2022) dan Ryu (2018), Several key risk dimensions must be considered when using technology, particularly fintech, including financial, privacy, regulatory, operational, and cybersecurity aspects.

In the context of finance, consumers who use technology, particularly fintech, may face potential financial losses when making transactions. Financial risks in fintech also include the possibility of losing funds due to transaction failures (Aisyah et al., 2023; H.-S. Ryu, 2018). Meanwhile, the privacy risks identified include significant threats to the security of personal data, such as data leakage, misuse of information, and breaches of confidentiality (Babu et al., 2024). In fintech, privacy risks are becoming increasingly critical, as they involve sensitive financial data such as bank account information, credit card details, and transaction histories, which irresponsible parties can misuse.

In terms of regulation, this risk arises from regulatory uncertainty, sudden changes in government policies, and potential inconsistencies with existing regulations (Obeng et al., 2024; Sreekala et al., 2023; Stefanie & Suherman, 2020). Especially in fintech, regulatory uncertainty can affect consumer protection, particularly in cases of disputes or service failures. Alejandra et al., (2023) and (Listiyono et al., 2024) stated that operational risks are also a significant concern, as consumers may experience system disruptions, technical errors, and infrastructure limitations. In the context of fintech, operational disruptions can lead to delays or transaction failures, directly affecting consumer financial activities. Additionally, the cybersecurity aspect presents serious risks, with threats such as hacker attacks, digital identity theft, and various forms of online fraud that can harm consumers.

Perceived Benefit

The perception of the benefits of technology plays a crucial role in the adoption of digital innovations, particularly in the context of fintech. According to Bangsa & Khumaeroh (2023) and Davis (1989) states that when a technology is perceived as improving work performance for its users, the level of trust in the technology increases. Conversely, if the technology is seen as offering little added value, users may be reluctant to adopt it. In the context of fintech, Abdul-Rahim et al., (2022) and (H. S. Ryu, 2018) identify three key benefits that consumers can gain.

First, from an economic perspective, fintech offers greater transaction cost efficiency compared to conventional methods. It streamlines transactions, providing positive benefits for its users (BABUŞCU & HAZAR, 2023). Second, fintech offers convenience by providing time and location flexibility, allowing users to make transactions anytime and anywhere (Darmawan et al., 2023). Third, fintech simplifies various financial processes, including purchases, money transfers, loans, and investments. This simplification directly reduces

transaction fees that were previously paid to third parties acting as financial service intermediaries (Novianto, 2024). The integration of these three benefits creates a more efficient financial ecosystem that is easily accessible to all segments of society.

METHODS

Using a qualitative approach, this study aims to explore the perspectives of culinary MSME actors in Sleman Regency, Daerah Istimewa Yogyakarta, regarding their experiences with adopting QRIS. During the research process, respondents were allowed to openly share their views on the advantages and challenges of using QRIS as a payment method. This methodology was chosen to provide a comprehensive and contextual understanding of QRIS implementation in the field. Through this in-depth approach, the researchers can uncover various dimensions of QRIS use, including benefits and operational constraints, which may not have been highlighted in previous studies.

This study employs three data collection methods: direct observation, surveys, and interviews with MSME actors in the culinary sector. The research instrument is designed to explore four key aspects: (1) the perception of the benefits of using QRIS, (2) the motivation for adopting QRIS in business transactions, (3) the factors causing discomfort in the use of QRIS, and (4) the identification of risks associated with QRIS implementation. The collected data is then verified through a triangulation process, where interview results are cross-validated with findings from observations and surveys to ensure the accuracy of the research outcomes. In selecting respondents, this study uses a purposive sampling technique, focusing on culinary MSMEs that have adopted QRIS in their business operations. To analyze the collected data, the researcher followed the analysis framework of Miles et al., (2014) and Alrasyid et al., (2023) which consists of three stages: (1) data reduction to filter relevant information, (2) presentation of processed data, and (3) elaboration of phenomena and drawing conclusions.

RESULTS AND DISCUSSION

Results

The data analysis in qualitative research follows three stages: data reduction, data presentation, and conclusion drawing (Miles et al., 2014). Before implementing the data analysis steps, researchers first processed the interview survey data. The processed data on the perceived benefits and risks of using QRIS in culinary MSMEs in Sleman Regency, Daerah Istimewa Yogyakarta, were collected through direct visits to MSME locations, where respondents filled out Google Forms. A total of 229 responses were gathered. Of this number, 216 MSMEs provided usable data for the study. Thirteen responses were excluded for the following reasons: 2 MSMEs were not in the culinary sector, 5 MSMEs did not complete the Google Form, and 6 MSMEs did not use QRIS. Table 1 shows the distribution of MSME data used in this study.

TABLE 1. Results of Data Dissemination

Description	Total	Percentage (%)
Data collected	229	100
Data that cannot be processed	13	5,7
Data that can be processed	216	94,3

Based on the data in Table 1, MSMEs can be categorized according to the criteria set out in UU No. 20 of 2008, which defines two main parameters for MSME classification: annual sales and net worth (Undang-Undang Republik Indonesia No 20 Tahun 2008, n.d.). Based on annual sales, the majority of respondents (191 MSMEs) are classified as micro businesses, with a turnover of less than Rp 300,000,000 per year. In terms of net worth, most respondents fall into the category of micro businesses with net assets of less than IDR 50,000,000, while some are classified as small businesses with net assets between IDR 50,000,000 and IDR 500,000,000. The dominance of micro businesses in this research sample reflects the general characteristics of MSMEs in the culinary sector in Sleman Regency, where most business owners operate on a micro scale in terms of both turnover and assets. This also indicates that the focus on developing and supporting MSMEs for digitalization programs, particularly payment systems using QRIS, needs further examination regarding the benefits and risks experienced by MSME actors. The results of these classifications are shown in Tables 2 and 3.

TABLE 2. Characteristics of MSMEs Based on Annual Sales Results

Description	Total	Percentage (%)
Micro Business (Rp 300 million/year)	191	88
Small Business (Rp 300 million/year – Rp 2.5 billion/year)	24	11

Medium Business (> Rp 2.5M/yr)	1	5
Total	216	100

TABLE 3. Characteristics of MSMEs Based on Net Assets

Description	Total	Percentage (%)
Micro Business (< Rp 50 million)	105	49
Small Business (> Rp 50 million – IDR 500 million)	105	49
Medium Business (> Rp 500 million)	6	2
Total	216	100

Data Reduction

Based on the information in Tables 2 and 3, which present the categorization of MSME characteristics, the researchers proceeded to the data reduction stage. At this stage, the researchers applied a framework of benefits and risks, integrating it with the real experiences of culinary MSMEs in Sleman Regency, Daerah Istimewa Yogyakarta. The following are the results of the data reduction regarding the perceptions of benefits and risks.

TABLE 4. Data Reduction Results

Description	Indicator	Result
Benefit	Convenience	Simplify the payment transaction process, easy to pay without preparing cash, easy to record financial and practical
	Accessibilities	QRIS is able to make transactions more efficient, safe, and fast and helps in the efficiency of financial management of business actors.
	Transparency	Make it easier to check cash receipt transactions received through QRIS.
Risk	Financial risk	Reduction of money when withdrawing funds from QRIS is in the form of discounts on administrative fees and fraud in payment transactions.
	Operational risk	The QRIS system error when receiving payments from consumers and the QR code used is blurred.

Data Representation

Furthermore, the results of the data reduction stage were used to present detailed information on the research findings related to the perceptions of benefits and risks faced by business actors. This presentation includes statements from interviews with MSME actors. The results of the data presentation stage are as follows:

Perceived Benefits Experienced by MSME Actors in the Culinary Sector of Sleman Regency, Daerah Istimewa Yogyakarta

QRIS has a positive impact on its users. The factors that make business actors comfortable using QRIS include the convenience of transactions, the speed and smoothness of transactions, and the transparency of each transaction (Abdullah et al., 2024; Ozturk et al., 2017). For MSME actors in the culinary sector, the use of QRIS has made transactions easier. This is supported by the following statements from MSME actors:

"Making it easier for customers to make payments" (MSME actors, chicken noodles pak mino).

"Because it makes it easier to make transactions and many buyers use qris instead of using cash" (MSME Actor, Kampung Mas Budi).

"It is easier to transact and reduce the level of slippage/lost money" (MSME actors).

The implementation of QRIS at MSME outlets simplifies transactions for consumers when making payments. In this digital era, consumers tend to prefer using mobile devices as a payment method over traditional wallets. This trend highlights the shift towards electronic payments rather than cash. For MSME actors, this digital payment method offers dual benefits: reducing the risk of cash loss and streamlining the process of recording and documenting transactions. This observation is supported by previous research, which indicates that QRIS helps minimize cash loss (Farhan & Shifa, 2023)

In addition to simplifying transactions, QRIS also enhances accessibility by offering flexibility, allowing transactions to be made anytime and anywhere. This statement is supported by MSME actors as follows:

"Accessibility, security, comfort" (MSME actors).

"broader access to the market" (MSME actors, warung makan bu speed).

"Because it is easy and fast to access" (MSME actors, mie ayam pak mino).

Through this experience, MSME actors have realized several benefits from using QRIS, including easier access to transaction services for consumers, which in turn makes MSME actors more comfortable in serving them. This aligns with previous research, which states that QRIS offers faster access, benefiting consumers (Fauziyah & Prajawati, 2023).

Another benefit experienced by MSME actors is the transparency provided by PJSPs, particularly in receiving payment status information from consumers.

"Easy to check when there is a transaction" (MSME actors).

The transparency of information provided to business actors has a positive impact, fostering trust in QRIS. As a result, business actors feel confident that the technology is safe for transactions. Previous research has affirmed that the use of QRIS in MSMEs has proven to be secure (Kristanty, 2024).

Risk Perception Experienced by MSME Actors in the Culinary Sector in Sleman Regency, Daerah Istimewa Yogyakarta

Abdul-Rahim et al., (2022) and Ryu (2018) stated that there are several risks associated with using fintech, including financial, privacy, regulatory, operational, and cybersecurity risks. QRIS, as a type of digital payment system within fintech, is used by MSMEs as a tool for processing payments for goods and services offered to consumers. The risks experienced by MSME actors in the culinary sector in Sleman Regency, Daerah Istimewa Yogyakarta, primarily involve financial and operational risks.

First, financial risk refers to the potential for financial losses during transactions (Fauziyah & Prajawati, 2023). The risks experienced by MSME actors when using QRIS include various costs associated with its use. These fees encompass installation fees, Merchant Discount Rate (MDR), and balance withdrawals to MSME accounts (settlement). Typically, MSME actors are charged an installation fee when they first use QRIS. This is supported by the statements from the instruments filled out by MSME actors, as follows:

"Installation at the beginning only" (MSME actors, Roti bakar donat bakar).

"Installation at the beginning" (MSME actors, All chicken ayam geprek).

"at the time of installing QRIS, the cost is not too expensive" (MSME actors, Batagor & Siomay Mang Asep).

This aligns with the information provided by the Payment System Service Provider (PJSP), which states that the installation of QRIS incurs a fee of Rp 30,000. In exchange for this fee, MSME owners receive a unique registration sequence number that enables transaction processing. Once the MSME pays the installation fee, they will receive a softcopy version of the QRIS code, which can be downloaded and printed independently by the MSME actor (*QRIS - Harga Variant InterActive QRIS*, n.d.). Once the unique code is installed at the MSME outlet, it can be used for transactions, allowing businesses to accept payments from various providers, including both e-wallets and mobile banking services.

In addition, MSME actors are also charged an administrative fee when withdrawing the QRIS balance to their personal accounts. The administrative fee varies depending on the amount of the business actor's receipts and the bank accounts they hold. This fee can be detrimental to micro businesses, as the balance received does not match the full amount of revenue earned from consumers. As a result, many micro-business actors choose to impose additional charges on consumers for the goods and services they offer. This is supported by the statement from the results of the instrument filled out by MSME actors as follows:

"At the time of withdrawal of the balance there is a deduction" (MSME actors, Soto Ayam pak gareng, Bakso&mie ayam pak Uzzan, Nasi goreng ongo, Bakso mercon pak broto, Nasi Kuning Acil Banjar).

"At the time of taking the balance, the admin fee will be deducted, so that when there is a customer who buys me, I will be charged an additional rate of 1,000" (MSME actors, Siomay Telkom Kotabaru).

"The admin fee is a deduction at the time of withdrawal of the balance of 1,000 but to cover the loss I charge the customer 1,000 " (MSME actors, Warung makan bejo joss).

"The cost of deduction per month is approximately 10,000/month" (Pelaku UMKM, IM Pokatlok).

This is in accordance with the information provided by the Payment System Service Provider Company (PJSP), which states that MSME actors are charged a settlement fee when withdrawing QRIS balances to their personal accounts. The fees that are applied depend on the bank account owned by the business actor. The fee scheme charged by PJSP QRIS to business actors is as follows: QRIS partners, such as BCA, Mandiri, BNI, and BRI, will incur a fee of IDR 2,900 per settlement, while non-QRIS partner banks will be charged a fee of IDR 5,900 (*Skema Biaya Setiap Transaksi QRIS*, n.d.).

In addition to installation and settlement fees, business actors will also be charged Merchant Discount Rate (MDR) fees. This fee is a charge levied on business actors based on the standard provisions set by Bank Indonesia. The MDR fee is typically a percentage of the transaction value and varies depending on the payment service provider used. MSME actors need to consider this cost, as it impacts their overall revenue from digital transactions.

"MDR fee is the fee charged to traders by PJSP" (MSME actors, oseng mercon tugu jogja).

"Ever, because the MDR or MDR fees charged by the provider are too high" (MSME Actors, Gudeg Pawon).

This statement aligns with the information provided by the QRIS Payment System Service Provider Company (PJSP), which specifies that an MDR fee is charged to business actors, not to consumers. The fee is applied to transaction payments made by consumers to business actors. For transactions exceeding IDR 100,000, the MDR fee is set at 0.3% of the transaction value (IndonesiaBaik.id, 2023). The experience of MSME actors, as stated through the results of the interview, is also supported by previous research, which indicates that QRIS charges MSME actors a fee for using the service. This fee typically includes installation costs, MDR charges, and settlement fees, which can add up and affect the profitability of MSMEs, particularly those in the micro-business category (Aulia et al., 2023).

Meanwhile, these business actors also experience financial risks in the form of financial losses due to fraudulent transactions carried out by consumers. This fraud occurs when consumers claim proof of payment status to business actors for successful transactions made using QRIS. This is supported by MSME actor statements, namely:

"The occurrence of fraud as if it has been paid even though it has not been done because it is not thorough" (MSME Actor, Soto Ayam).

"fraud at the time of payment" (MSME actors, Bakso dan Soto Arek).

This fraud can also be caused by negligence on the part of business actors who are not careful about payment receipt information using QRIS. This phenomenon shows that the use of QRIS requires business actors to have the necessary skills and an educational background that enables them to reconcile balances from transactions at their outlets (Fauziyah & Prajawati, 2023).

Second, this operational risk occurs to MSME actors when they want to use QRIS. This can be seen when business actors attempt to use the QR code issued by the PJSP QRIS, but they have not received a clear and high-quality QR code (it may be blurry). As a result, the QR code cannot be used for transactions. This is supported by statements from MSME actors, namely

"Sometimes the image is blurry or not rare" (MSME Actor, Iced tea Poci Giwangan).

In addition, business actors experience system disruptions when using QRIS. The disruption felt by business actors is due to technical problems related to the network. This is supported by a statement from the results of the instrument filled out by MSME actors as follows:

"An unstable network makes the transaction process fail many times" (MSME actor, BonbonJasuke).

"Constrained by the network so that it makes time wasted" (MSME actors, Mie ayam pak Samino tamsis).

Technical problems related to the network are complained about by business actors because consumers cannot use QRIS to transact. As a result, this negatively influences business actors when choosing to use QRIS, as network constraints make it neither easy nor efficient in terms of time and cost. On the other hand, business actors also complained about the systemic failure of QRIS (error). This can be seen in the information provided by business actors, who stated that QRIS errors cause money not to be received immediately (pending), even though the transaction has been marked as successful on the consumer's device. Due to this phenomenon, QRIS transactions become slow and inefficient. This is not only experienced by MSME actors in this study but also by other MSME actors who face the same issue when QRIS errors cause payment transaction failures (Pattynama et al., 2024).

"Once, the money did not enter the account even though the transaction report was successful" (MSME Actor)

"Error when using QRIS" (MSME actor, Gudeg lesehan Bu Sastro Warmindo Katineung")

On the other hand, MSME actors do not face privacy and cybersecurity risks because QRIS integrates various QR codes from different Payment System Service Providers (PJSP) into one standard and is supervised by Bank Indonesia. The following is a statement from MSME actors:

"Because it is under the authority of PJSP" (MSME actor, Es Dawet, Nogosari Snack)

"because I think QRIS is responsible for my personal data" (MSME actor)

"Because the QRIS system is monitored by Bank Indonesia" (MSME actor, PIA & COCKTAIL Salak)

The statement from this source differs from previous research, which stated that the risk of losing privacy data in digital transactions is inevitable (Sukarna, 2022)

Final Conclusion

Then, the third stage in the data analysis process in qualitative research is drawing conclusions. This stage is carried out with the source of information from the results of the data presentation that has been previously presented. Thus, researchers can draw conclusions regarding the perception of benefits and risks experienced by MSME actors in the culinary sector, Sleman Regency, Daerah Istimewa Yogyakarta. Based on the information in Table 5 regarding the inference results, the implementation of the perceptions of MSME actors regarding the perceived benefits of using QRIS aligns with the benefits and risks framework initiated by Peter & Tarpey (1975), namely convenience, accessibility, and transparency. As for risk perceptions, the indicators used are from Abdul-Rahim et al., (2022) and Ryu (2018). There are several main risk dimensions that need to be considered in the use of technology, especially fintech, including financial and operational risks. Meanwhile, other risks, namely privacy, regulation, and cybersecurity, are not felt by MSME actors when using QRIS. The following is a further explanation of the conclusion phase.

TABLE 5. Final Conclusion Results

Description	Indicator from benefit-risk framework	Implementation QRIS in MSME Culinary Sector in Sleman Regency	Appropriate or not appropriate*
Benefit	Convenience	QRIS can facilitate payment transactions in MSMEs.	√
	Accessibilities	QRIS access in MSMEs can be done quickly, efficiently, and safely. So, MSMEs feel benefited by the use of this payment system.	√
	Transparency	QRIS can help the financial management process in MSMEs well because of transparency in transaction evidence information.	√
	Saving in transaction cost	QRIS is a payment gateway to help payment methods in MSMEs.	×
	Personalization of services according to user need	QRIS is a technology that can be used by everyone.	×
Risk	Financial	Administrative costs during installation and settlement of balances from QRIS. In addition, MSME actors are not infrequently exposed to fraud from customers.	√
	Privacy	QRIS system is monitored by Bank Indonesia and PJSPs	×
	Regulatory	MSME actors use QRIS in accordance with the rules set by Bank Indonesia	×

Operational	QRIS system error.	√
Cybersecurity	QRIS system is monitored by Bank Indonesia and PJSPs	×

*appropriate = √

not appropriate = ×

Discussion

Based on the analysis of QRIS implementation in the culinary MSME sector in Sleman Regency, an interesting dynamic emerges between the benefits and risks experienced by business actors. In terms of benefits, QRIS has proven to make a significant contribution to improving business operational efficiency. MSME actors appreciate the convenience of a faster and more practical transaction process, as well as the reduction of risks associated with cash use, such as fraud and the need to provide change. The system also offers flexibility in transactions without time and location restrictions, which aligns with consumers' growing preference for digital payments. Additionally, the transparency provided by QRIS, through a clear transaction tracking system, helps MSME actors manage their finances more effectively. These findings are consistent with previous research, which indicates that QRIS benefits MSMEs that adopt it as a digital payment tool (Farhan & Shifa, 2023).

The implementation of QRIS also presents some challenges that need to be addressed. From a financial risk perspective, MSME actors face various administrative costs, including the initial installation fee, the MDR of 0.3%, and settlement fees, which can be particularly burdensome for micro-scale businesses. Additionally, they must remain vigilant about potential losses due to fraudulent transactions by consumers. In terms of operational risks, businesses encounter technical issues, such as suboptimal QR code quality and network instability, which can disrupt smooth transactions. System errors that cause delays in receiving payments are also a concern that requires attention. Similar issues have been highlighted in previous research, which noted that QRIS failures resulted in unsuccessful transaction payments from consumers (Pattynama et al., 2024).

However, the research shows that MSME actors do not experience significant concerns related to privacy and cybersecurity risks. This suggests a high level of trust in the regulation and supervision of the QRIS system by Bank Indonesia. These findings provide valuable insights for the development of future policies and strategies for QRIS implementation in the MSME sector, particularly in terms of adjusting the cost structure and enhancing technical infrastructure to optimize benefits and mitigate risks. However, the results of this study differ from previous research, which indicates that digital transactions carry data privacy risks (Sukarna, 2022). So the experience of risks related to privacy cannot be avoided even though the tool has the full support of the government.

CONCLUSIONS AND SUGGESTION

Conclusions

The analysis of QRIS adoption among culinary MSMEs in Sleman Regency reveals significant benefits alongside notable challenges in the implementation of digital payments. The research shows that QRIS enhances operational efficiency by streamlining payment processes, reducing cash-handling risks, and increasing transaction transparency. However, MSMEs also face two primary challenges: the financial burden caused by various fees (including installation costs, settlement charges, and a 0.3% MDR) and operational difficulties stemming from limitations in technical infrastructure.

The practical implications of this research are important for both MSME owners and policy stakeholders. For MSME owners, the findings underscore the need for robust frameworks to manage financial and operational risks effectively. For regulatory bodies, such as Bank Indonesia and Payment System Service Providers, the research suggests that fee structures should be reevaluated, and efforts should be made to improve the reliability of technical infrastructure to better support micro-enterprises.

The study's limitations include its geographical focus on the culinary sector in Sleman Regency and its qualitative research design. Future research could benefit from expanding the geographic scope and adopting more diverse methodological approaches, such as incorporating quantitative analysis or longitudinal studies, to explore the long-term impacts of QRIS adoption on MSME performance.

This study contributes to the growing body of knowledge on digital payment adoption within the MSME sector and highlights critical areas for future research, particularly in the context of accounting information systems.

Suggestion

Based on these findings, several recommendations can be made to optimize the use of QRIS in the MSME sector. First, it is necessary to evaluate the cost structure of QRIS, especially for micro-scale MSMEs. Further research

investigating the effect of administrative costs, MDR, and settlement fees on micro-business profit margins will provide a strong empirical basis for evaluating QRIS tariff policies that are more favorable to micro-scale MSME actors. Second, network infrastructure needs to be improved to reduce operational disruptions. Third, education and technical assistance programs for MSME actors should be enhanced to ensure optimal use of QRIS. Although there are still challenges in its implementation, QRIS remains a key technology supporting the digitalization of MSMEs in Indonesia, particularly in the Sleman Regency culinary sector.

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