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Article

Analysis of factors affecting behavioral intention to use QRIS in MSMEs: Expansion of technology acceptance model

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Abstract: This study seeks to examine the factors affecting the intention of Indonesian MSMEs to adopt QRIS. It leverages variables from the Technology Acceptance Model (TAM), customizing the TAM framework to address the unique perceptions of risk and cost among MSMEs in Indonesia. Data were gathered from 212 MSME participants in Brebes Regency through convenience sampling, a non-probability sampling technique, using Google Forms for survey distribution. The findings indicate that perceived ease of use positively and significantly influences attitudes, which, in turn, positively and significantly impact the intention to continue using QRIS. However, perceived benefits, perceived risks, and perceived costs did not significantly affect the intention to continue use.

Keywords: QRIS; intention to continue use; attitude; perceived ease of use; perceived usefulness

1. Introduction

Indonesia, as a developing country, has significant potential for growth in financial technology (Sjamsudin, 2019). One prominent development in this sector is mobile wallets, which are gradually replacing traditional leather wallets and plastic cards (Leong et al., 2013). To and Trinh (2021) describe how mobile wallets allow users to make payments through a smartphone directly connected to their bank account. This innovation simplifies online transactions, enabling users to make payments simply by entering a phone number, email, or scanning a Quick Response (QR) code over an internet connection (Dong et al., 2017; Singh et al., 2017).

In Indonesia, digital payment systems are advancing rapidly with the introduction of the Quick Response Code Indonesian Standard (QRIS) by Bank Indonesia. This unified QR code standard aims to provide a one-stop payment solution (Muchtar et al., 2024). QRIS primarily targets business operators, and as of 2022, it has been adopted by 15.7 million merchants (QRIS, 2022). However, this number remains relatively low compared to the total number of micro, small, and medium enterprises (MSMEs) in Indonesia (Ascarya, 2020). While digital payments have greatly benefited those who already use banking services, they do not necessarily guarantee the widespread adoption of digital payments, especially among MSMEs (Muchtar et al., 2024).

Previous studies have applied the Technology Acceptance Model (TAM) framework to predict technology adoption (Haryani and Pujani, 2014), particularly in the context of digital payments (Najib and Fahma, 2020). Wen et al. (2011) use the

TAM framework to explain consumer intentions and behaviors regarding technology adoption, examining factors such as perceived usefulness and ease of use. Research by Tenggino and Mauritsius (2022) similarly indicates that attitude serves as an intervening variable, where intention to use is influenced by perceptions of usefulness and ease of use.

In addition to the TAM framework, other factors influencing individuals' behavioral intentions toward digital payments include perceived risk and cost (Nurhapsari and Sholihah, 2022; Singh and Sinha, 2020). Kaur and Arora (2020) found that some customers perceive a risk in using online banking, while Narteh et al. (2017) showed that high costs could negatively impact the intention to adopt a technology. This suggests that individuals have varying perceptions of factors influencing their intention to use digital payments (Anastasia and Santoso, 2020).

Considering the context, particularly the uneven adoption of QRIS among MSMEs in Indonesia, Bank Indonesia aims to expand QRIS usage among MSMEs in Central Java. This study introduces a novel approach by examining the Technology Acceptance Model (TAM) alongside factors such as behavioral intentions, perceived risks, and perceived costs specific to MSMEs in Indonesia. Building on various findings from previous studies, this research seeks to further analyze the factors influencing the intention to use QRIS.

2. Literature review

2.1. Technology acceptance model (TAM)

The use of information and communication technology offers opportunities for research to support creativity and innovation, ultimately enhancing productivity (Adeosun, 2010). Mikre (2011) further explains that technological advancements address the community's need for better information management. However, with these advancements, careful handling of information is essential (Oviawe and Oshio, 2011).

The Technology Acceptance Model (TAM) is the most widely used framework for predicting technology adoption (Haryani et al., 2014). TAM is applied to explain consumer intentions and behaviors related to technology usage through various influencing factors (Wen et al., 2011). These factors help producers understand consumer needs concerning the technologies they create (Syaharani and Yasa, 2022). Thus, the TAM framework aids producers in explaining the behavioral intentions of users when interacting with a technology system.

Behavioral intention refers to an individual's commitment to consistently using a technology due to their access to the system (Venkatesh et al., 2012). Özbek et al. (2015) describe behavioral intention as an individual's willingness to use technology, which is shaped by perceptions of the technology's usefulness and ease of use. This intention emerges when users interact with a technology system, as they perceive the benefits it provides (Mou et al., 2017). In this way, TAM not only highlights the initial factors that encourage technology adoption but also aids in understanding sustained engagement and the role of perceived benefits in shaping long-term usage intentions.

2.2. Conceptual model and research hypothesis

2.2.1. Perceived usefulness

Perceived usefulness refers to the extent to which customers believe a service will enhance their efficiency, thereby increasing trust (Chawla and Joshi, 2019). According to Bailey et al. (2020), perceived usefulness is defined as the degree to which using technology improves the convenience and efficiency of shopping. When individuals use technology and experience its benefits, the technology is deemed effective in assisting them. Trust in a technology's ability to enhance performance is considered an indicator of perceived usefulness (Dwivedi et al., 2017; Leong et al., 2011).

Many previous studies have demonstrated a strong relationship between perceived usefulness and attitudes (Marakarkandy et al., 2017; Renny et al., 2013). Rouibah et al. (2011) explain that individuals are more likely to use technology if they believe it offers added value. Further research highlights that achieving goals through technology results in perceived benefits for the user (Rauniar et al., 2014). Additionally, recent studies have examined changes in e-wallet user behavior during the COVID-19 pandemic by integrating the Technology Acceptance Model and the Theory of Planned Behavior (Astari et al., 2022). Given these developments, understanding perceived usefulness is vital for predicting attitudes and intentions toward QRIS and similar technologies among MSMEs in Indonesia. Based on the above explanation, the following hypothesis is proposed:

H1: Perceived usefulness has a positive impact on the attitude of MSMEs in Brebes Regency

2.2.2. Perceived ease of use

Perceived ease of use reflects an individual's sense of how straightforward a technological system is to operate, particularly in terms of efficiently managing resources such as time, money, energy, and effort (Syah et al., 2022). Nuryakin et al. (2023) define perceived ease of use as the comfort level experienced by users when utilizing a technology designed to meet their specific needs. This ease emerges when technology enables individuals to perform tasks with minimal effort, helping them achieve their objectives with reduced strain (Dhingra and Mudgal, 2020; Okpala et al., 2022).

Previous studies have identified a link between perceived ease of use and attitude (Teo, 2011). Hanafizadeh et al. (2014) and Hussein (2016) explain that perceived ease of use is crucial for individuals to continue using technology over the long term. If individuals find a technology difficult to learn and time-consuming, they may seek alternative options that offer similar functionality but are easier to adopt (Usman et al., 2021). This factor is especially relevant for MSMEs in Indonesia, where business owners are highly focused on practical, accessible digital tools to streamline operations without requiring extensive technical skills.

In Indonesia, studies exploring digital payment adoption among MSMEs underscore the significance of usability. For instance, research in Bogor among small and medium-sized restaurants found that perceived ease of use was a key factor influencing the adoption of digital payments (Najib and Fahma, 2020). As MSMEs in regions like Brebes Regency increasingly adopt digital tools like QRIS, it's crucial to

understand how ease of use impacts their attitudes toward these technologies. Based on the above explanation, the following hypothesis is proposed:

H2: Perceived ease of use has a positive impact on the attitude of MSMEs in Brebes Regency

2.2.3. Attitude

Attitude is shaped by an individual's thoughts and perceptions, which influence whether they accept or reject something and lay the foundation for their actions based on established beliefs and considerations (Syah et al., 2022). According to Han et al. (2019), the evolution of technology impacts people's perceptions and views, which in turn mold their attitudes. As technology advances, individuals' attitudes shift accordingly, reflecting their experiences and interactions with these developments. Zhu et al. (2020) further note that as technology diversifies in its applications, people's attitudes evolve in response to the growing scope of technological possibilities.

Previous research has shown that a key factor motivating individuals to adopt technology is the societal need to utilize its services (Yang, 2010). Renny et al. (2013) found that individuals form intentions to use technology based on their observable behaviors. Bailey et al. (2020) discovered that millennial customers in the US exhibit attitudes that significantly impact their behavioral intentions when using mobile payment technology. Additional studies indicate that attitude influences a person's intention to use a technology platform (Prastiawan et al., 2021).

In the Indonesian context, as QRIS adoption grows among MSMEs, understanding the role of attitude is essential. The positive perceptions of QRIS can significantly impact the behavioral intention of MSMEs, encouraging broader acceptance of digital payment solutions.Based on the above explanation, the following hypothesis is proposed:

H3: Attitude has a positive impact on the behavioral intention of MSMEs in Brebes Regency

2.2.4. Perceived risk

Perceived risk is seen as a fundamental barrier that discourages users from adopting financial technology (Pontoh et al., 2022). The innovative nature of a system or technology can create uncertainty in users' minds (Wang and Lin, 2019). In their research, Nam and Quan (2019) explain that failure and security concerns are among the risks individuals consider when using technology. Additional studies suggest that the higher the expectations for using a technology, the greater the perceived risk (Al-Adwan et al., 2020; Ariffin et al., 2018).

Previous research has shown that perceived risk plays a role in individual decisions regarding purchases or the adoption of technology (Choi et al., 2013). Hanafizadeh et al. (2014) found that mobile banking users perceived it as riskier compared to other safe monetary transaction options at the time. Other research has shown that perceived risk negatively affects behavioral intentions to use mobile payments (Park et al., 2019). Although concerns around e-wallets remain, they do not necessarily prevent individuals from using them as an online payment method (Anastasia and Santoso, 2020).

In the context of QRIS adoption among MSMEs in Indonesia, perceived risk remains a crucial factor. Addressing these concerns is essential to building trust and

encouraging broader adoption among business owners who may be cautious about the potential risks involved in digital transactions. Based on the above explanation, the following hypothesis is proposed:

H4: Perceived risk has a positive impact on the behavioral intention of MSMEs in Brebes Regency

2.2.5. Perceived cost

Perceived cost refers to users' trust in a technology, balanced against the financial expenses involved in its use (Hsu et al., 2011; Phonthanukitithaworn et al., 2016). This factor has been increasingly recognized as important, especially among business owners who weigh the potential costs of adopting online payment solutions for their operations (Sinha and Singh, 2023). For MSMEs in Indonesia, the cost consideration is critical, as these businesses often operate with limited financial resources, making them more sensitive to any additional expenses related to technology adoption.

Perceived cost can play a central role in technology adoption decisions, as seen in previous studies that reveal individuals often choose financial technology solutions they perceive as more cost-effective compared to traditional options (Shanmugam et al., 2014). Cost is not only a factor in adoption but also in determining user satisfaction and continued use. For example, Wu et al. (2014) found that perceived costs affect users' evaluation of value and their intent to reuse or repurchase technology services. In Indonesia, where MSMEs play a vital role in the economy, ensuring that online payment solutions like QRIS are affordable could be key to widespread adoption. Competitive costs may encourage MSME owners to adopt digital payment methods, seeing them as advantageous without causing financial strain.

Perceived cost represents a key factor in technology adoption decisions (Sadi et al., 2010). Some individuals who adopt financial technology services perceive the cost as lower compared to alternative services (Shanmugam et al., 2014). This factor plays a critical role in shaping an individual's intention to use a technology (Tiwari, 2014). Research by Wu et al. (2014) found that different costs impact perceived value and individual intentions to repurchase.

However, findings are mixed regarding the impact of perceived cost on adoption intention. Saputro and Hati (2021) found that when digital payment technologies are priced competitively, perceived cost may not significantly deter users from adopting online payment methods. This insight suggests that for MSMEs in Brebes Regency and across Indonesia, keeping QRIS affordable could mitigate concerns about cost and promote broader adoption. Based on the above explanation, the following hypothesis is proposed:

H5: Perceived cost has a positive impact on the behavioral intention of MSMEs in Brebes Regency

The research model in **Figure 1** is based on the explained relationships between variables and the proposed hypothesis.

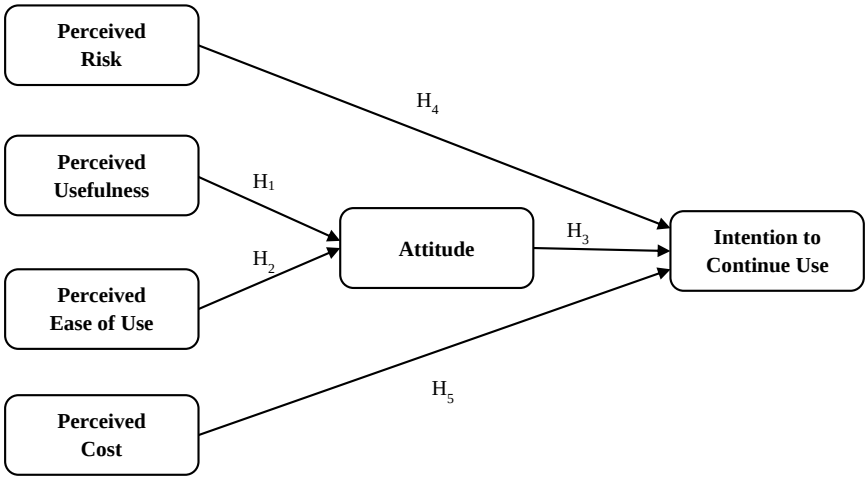

Figure 1. Research framework.

3. Research method

This research was conducted in Brebes Regency, Central Java, chosen for its role as a pilot project for the People's Economic Synergy Action Program initiated by President Jokowi. This study examines factors influencing the intention to use QRIS among MSMEs in Brebes Regency, utilizing primary data collected through surveys. Data was gathered via an online questionnaire on Google Forms, distributed to MSME actors. Distribution was facilitated by reaching out to a local resident through WhatsApp and by contacting MSME accounts via Instagram direct messages.

The study successfully involved 265 respondents, with 212 meeting the research criteria. Data analysis was conducted using the Structural Equation Model (SEM), a statistical method for developing and testing causal models.

4. Result and discussion

Based on the results of the questionnaire that met the criteria, **Table 1** presents the demographic breakdown of the respondents. The majority of respondents were male, with 116 individuals (54.7%) identifying as male. The largest age group was 26–30 years, comprising 52 individuals (24.5%) who held a D4/S1 education. A total of 86 respondents (40.6%) were business owners and managers, while 127 respondents (59.9%) were involved in micro-scale MSMEs. Additionally, 124 respondents (58.5%) were engaged in the food and beverage sector, and 86 respondents (40.6%) had been running their business for 3–5 years.

Furthermore, a Validity Test and Reliability Test were conducted in this study, as shown in **Table 2**. The validity test was measured by comparing the *r*-count value with the *r*-table. If the *r*-count > *r*-table, with a *p*-value < 0.05, it is considered valid. The *r*-table value for 212 respondents was 0.134. The results of the validity test using Pearson's bivariate correlation showed an *r*-count value greater than 0.134 and a significance level of 0.000, which is less than 0.05. This indicates that all the questions distributed are valid.

Table 1. Demographic characteristics of respondents.

Respondents Profile		Frequency	Percentage
Gender	Man	116	54.7%
	Woman	96	45.3%
Age	≤ 20 Year	23	10.8%
	21–25 Year	29	13.7%
	26–30 Year	52	24.5%
	31–35 Year	51	24.1%
	36–40 Year	27	12.7%
	> 40 Year	30	14.2%
Education	Elementary School	4	1.9%
	Junior High School	6	2.8%
	Senior High School	78	36.8%
	Diploma	22	10.4%
	Bachelor Degree	86	40.6%
	Magister or Doctoral	16	7.5%
Job Position	Owner	52	24.5%
	Manager	33	15.6%
	Owner and Manager	127	59.9%
MSME Category	Micro (Annual turnover < Rp300.000.000)	127	59.9%
	Small (Annual turnover Rp300.000.000–Rp2.500.000.000)	64	30.2%
	Intermediate (Annual turnover Rp2.500.000.000–Rp50.000.000.000)	21	9.9%
MSME Sector	Food and Beverage	124	58.5%
	Clothing	31	14.6%
	Textile	24	11.3%
	Furniture	21	9.9%
	Another	12	5.7%
MSME Age	< 3 year	49	23.1%
	3–5 year	86	40.6%
	5–10 year	58	27.4%
	> 10 year	19	9.0%

Table 2. Validity and reliability test result.

Variable	Indicators	*r*-value	Cronbach's Alpha
Perceived Usefulness	PU1	0.672	0.637
	PU2	0.630	
	PU3	0.553	
	PU4	0.657	
	PU5	0.706	

Table 2. (*Continued*).

Variable	Indicators	*r*-value	Cronbach's Alpha
Perceived Ease of Use	PEOU1	0.636	0.608
	PEOU2	0.655	
	PEOU3	0.614	
	PEOU4	0.636	
	PEOU5	0.618	
Perceived Risk	PR1	0.800	0.794
	PR2	0.800	
	PR3	0.756	
	PR4	0.617	
	PR5	0.763	
Perceived Cost	PC1	0.676	0.748
	PC2	0.646	
	PC3	0.667	
	PC4	0.755	
	PC5	0.783	
Attitude	A1	0.714	0.718
	A2	0.727	
	A3	0.679	
	A4	0.693	
	A5	0.616	
Intention to Continue Use	BITU1	0.654	0.655
	BITU2	0.656	
	BITU3	0.596	
	BITU4	0.636	
	BITU5	0.584	

The reliability test in this study was conducted for each research instrument variable and was measured using Cronbach's alpha. If the Cronbach's alpha value is greater than 0.6, the item is considered reliable. Therefore, one question item in the "Intention to Continue Use" variable, BITU2, had to be removed in order for the variable to meet the reliability requirements.

Next, the instrument test for each variable was conducted. **Table 3** presents the results of the instrument test for each variable. Perceived Usefulness, Perceived Ease of Use, Perceived Cost, and Attitude all show consistent results, with no indicators needing to be removed, as they meet the goodness of fit criteria. However, the results for Perceived Risk indicate that one of the risk perception variable indicators, PR2, must be removed in order for the model to meet the goodness of fit criteria, leaving four question items. The results for Intention to Continue Use show that the model is not a good fit, requiring modification by adding covariance between e1 and e4 to meet the goodness of fit criteria.

Table 3. Perceived usefulness, perceived ease of use, perceived risk, perceived cost, attitude and intention to continue use model feasibility test results.

Goodness of Fit	Perceived Usefulness	Perceived Ease of Use	Perceived Risk	Perceived Cost	Attitude	Intention to Continue Use
Probability	0.190	0.054	0.386	0.471	0.360	0.238
RMSEA	0.048	0.075	0.000	0.000	0.021	0.043
GFI	0.987	0.981	0.995	0.992	0.990	0.997
AGFI	0.962	0.944	0.977	0.976	0.969	0.967
CMIN/DF	1.487	2.176	0.953	0.914	1.097	1.394
TLI	0.961	0.894	1.001	1.004	0.994	0.979
CFI	0.981	0.947	1.000	1.000	0.997	0.997

Table 4 shows the results of the full model instrument test. There are six variables and 29 question items measured to determine whether the model fits and can proceed to hypothesis testing. After testing the model, it was found that the model did not meet the goodness of fit criteria. Four of the seven goodness of fit criteria had values below the cutoff value, necessitating modification and retesting. To meet the goodness of fit criteria, modifications were made by removing indicators with the highest values on the modification index, continuing until the probability value reached 0.05. During the process of obtaining a fit model, eight indicators had to be removed: PR2, PU3, PEOU1, PEOU3, PEOU4, PC1, A3, and BITU3, leaving 21 question items. After retesting the model, it finally met the goodness of fit criteria, confirming it as a fit model and allowing it to proceed to hypothesis testing.

Table 4. Full model feasibility test results.

Goodness of Fit	Cut-off Value	Result from modification	Description	Result after modification	Description	References
Probability	≥ 0.05	0.000	Poor Fit	0.139	Good Fit	Tabachnick and Dan Fidel (2007)
RMSEA	≤ 0.08	0.046	Good Fit	0.023	Good Fit	Byren (2016)
GFI	≥ 0.90	0.853	Marginal Fit	0.916	Good Fit	Hair et al. (2010)
AGFI	≥ 0.90	0.825	Marginal Fit	0.891	Marginal Fit	Hu and Bentler (1999)
CMIN/DF	≤ 3.00	1.453	Good Fit	1.115	Good Fit	Byren (2016)
TLI	≥ 0.90	0.899	Marginal Fit	0.979	Good Fit	Byren (2016)
CFI	≥ 0.90	0.909	Good Fit	0.982	Good Fit	Bentler and Dudgeon (1996)

After the model was declared fit, hypothesis testing was carried out. **Table 5** shows the results of the hypothesis testing for the research framework. Of the five hypotheses tested, only two were accepted: H2 (Najib and Fahma, 2020; Usman et al., 2021) and H3 (Bailey et al., 2020; Prastiawan et al., 2021). According to Usman et al. (2021), customers feel that the technology products they use are very easy to learn and use, which leads them to continue using them. For MSME traders using QRIS, this ease of use positively impacts their attitude toward adopting QRIS for their transaction needs. The simpler and more accessible QRIS is, the more likely traders are to adopt it as part of their business operations. Furthermore, as users find it convenient, they influence others in their network to start using the platform as well, creating a network effect that supports wider QRIS adoption among MSMEs (Prastiawan et al., 2021).

Table 5. Hypothesis test results.

Hypothesis	Variable			C.R.	*P*	Description
H1	Perceived Usefulness	→	Attitude	0.368	0.713	Rejected
H2	Perceived Ease of Use	→	Attitude	2.651	0.008	Accepted
H3	Attitude	→	Intention to Continue Use	4.904	0.000	Accepted
H4	Perceived Risk	→	Intention to Continue Use	−0.167	0.867	Rejected
H5	Perceived Cost	→	Intention to Continue Use	−0.056	0.956	Rejected

In contrast, hypotheses H1, H4, and H5 were not supported in this study. This indicates that factors like perceived risk and perceived cost do not appear to significantly influence the behavioral intention to adopt QRIS among MSMEs in Indonesia. These findings suggest that Indonesian MSMEs may prioritize factors such as ease of use and convenience over concerns about risks and costs when deciding to adopt digital payment systems like QRIS. This is somewhat different from the global perspective, where factors like perceived risk and perceived costs are often significant barriers to technology adoption. International studies, for example, have consistently shown that users in other countries are more cautious about adopting new technologies, especially when the perceived risks (e.g., security or privacy concerns) or costs (e.g., transaction fees) are high (Al-Adwan et al., 2020; Kamalul Ariffin et al., 2018).

Therefore, the results of this study highlight the importance of emphasizing QRIS's usability and practical benefits, particularly its ease of use, with implications for encouraging broader adoption among Indonesian MSMEs. For MSME owners in Indonesia, it seems that overcoming the initial hurdles of technology adoption primarily requires demonstrating how QRIS can simplify their operations and improve business efficiency, rather than focusing on cost and risk factors. In contrast, for businesses in more developed markets, where there may be a higher level of technological skepticism, a more balanced approach addressing both ease of use and security concerns could be needed.**

This expansion integrates both the local context in Indonesia and a comparison with broader international trends, highlighting differences in the factors influencing technology adoption.

The researcher also performed an indirect effects test using the Sobel test through analyticculator.com, with the results summarized in **Table 6**. The findings indicated that perceived ease of use has an indirect effect on the intention to continue using QRIS, mediated by attitude. The Sobel test showed a value of 2.336, which exceeds the critical value of 1.96, and a probability of 0.019, which is less than the significance threshold of 0.05. These results confirm that attitude plays a partial mediating role in the relationship between perceived ease of use and the intention to continue using the technology. As noted by Kasilingam (2020), convenience is a crucial element—users need a seamless and integrated system that provides easy access to essential features. This not only enhances their user experience but also positively influences their attitudes, which in turn shapes their intention to keep using the technology.

Table 6. Sobel test results.

Variable					Sobel Test Statistic	*P*	Description
Perceived Usefulness	→	Attitude	→	Intention to Continue Use	0.365	0.715	Unable to mediate
Perceived Ease of Use	→	Attitude	→	Intention to Continue Use	2.336	0.019	Able to mediate partially

On the other hand, the study found that perceived usefulness does not have an indirect influence on the intention to continue using QRIS through attitude. The Sobel test results showed a value of 0.365, which is well below the critical value of 1.96, and a probability value of 0.715, which is greater than 0.05. This suggests that for Indonesian MSMEs, the perceived usefulness of QRIS does not significantly affect their intention to continue using the platform when mediated by attitude. These results imply that, while perceived ease of use and a cohesive user experience are key drivers for the ongoing use of QRIS, the actual usefulness of the technology—such as its ability to improve business outcomes or efficiency—does not seem to play as prominent a role in shaping MSMEs' continued adoption behavior.

This finding contrasts with international studies, where perceived usefulness often plays a more critical role in the adoption of technologies, especially in developed economies. For example, in countries with a higher level of technological advancement, users tend to weigh the utility of a technology more heavily when deciding whether to continue using it (Venkatesh et al., 2003). In these contexts, users expect technologies to provide tangible benefits, such as increased productivity or cost savings. However, in Indonesia, it seems that MSMEs prioritize ease of use over the perceived benefits, suggesting that the adoption of QRIS is driven more by its user-friendly design and the convenience it offers, rather than its direct impact on business outcomes. This highlights the importance of ensuring that technologies in Indonesia, particularly those for MSMEs, are easy to implement and use, as simplicity and convenience appear to be the key factors that influence continued adoption.

This expanded version not only tailors the content to the Indonesian context but also compares the findings with international trends in technology adoption, showing how local cultural and market conditions might influence the factors that drive technology usage.

5. Conclusion

5.1. Summary findings and implications

This study aims to analyze the factors that influence the behavioral intention of MSMEs in Indonesia to use QRIS. The study adopts variables from the Technology Acceptance Model (TAM) and defines a TAM model that is compatible with the risk perception and cost perception of MSMEs in Indonesia. The study uses Structural Equation Modeling (SEM) and is processed with SPSS software version 25 and AMOS version 24. Data were collected from 212 MSMEs operating in Brebes Regency.

The study found that Perceived Ease of Use influenced Attitude, but did not affect Perceived Effectiveness. This finding aligns with research by Najib and Fahma (2020) and Usman et al. (2021), which also identified an effect of Perceived Ease of Use on

Attitude. Prastiawan et al. (2021) argue that if customers perceive the technology as easy to use, it will positively affect their attitude toward using it. Additionally, this study found an influence of Attitude on Behavioral Intention, but no significant influence from risk perception or cost perception. This is consistent with research by Bailey et al. (2020) and Prastiawan et al. (2021), which also found that Attitude influences Behavioral Intention. Bashir and Madhavaiah (2015) explained that customer attitudes toward using technology play a crucial role in shaping their behavioral intentions.

For practitioners, this study provides insights into the factors that influence the use of QRIS in Indonesia. Based on the findings, it is clear that Perceived Ease of Use and customer attitudes play a significant role in the development of QRIS in the country. Therefore, QRIS providers should focus on convincing customers that using QRIS will make transactions easier, reduce risks, and incur no additional costs. We recommend that QRIS providers conduct campaigns by engaging directly with communities to provide accurate information.

5.2. Limitation and future research

We acknowledge that there are still limitations in the research conducted. First, the sample size used is relatively small compared to the total number of MSME actors in Indonesia. Second, future research could compare QRIS with other fintech applications to better explain behavioral intentions in using various fintech platforms. Third, the lack of a direct influence of risk perception and cost perception on behavioral intentions should be explored further, as previous studies have found that these factors do influence behavioral intentions. Finally, we suggest developing a model framework for newer financial applications, particularly in developing countries and for other consumer groups.

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