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QRIS Adoption in Micro Business Actors: A Theory of Planned Behavior Review

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Abstract

This study explores the intention of micro-entrepreneurs to adopt QRIS as a digital payment tool. Although the benefits of QRIS are clear, many micro-entrepreneurs are still hesitant to adopt it due to several factors. Using an exploratory qualitative design with triangulation of data obtained from observation, documentation and semi-structured interviews with 25 micro-entrepreneurs around the ITB campus based on the Theory of Planned Behavior (TPB) with a focus on attitudes, subjective norms, and perceived behavioral control. The findings show that the majority of respondents showed an attitude of acceptance towards digital payments. The majority of respondents admitted that customers, especially students, were the main social pressure. The majority of respondents had low control over QRIS adoption due to the limited availability of adequate devices.

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1. Introduction

Digital transformation has brought significant changes in various sectors, including the financial sector. The presence of financial technology (fintech) innovations in the form of QRIS or digital wallets has become the latest phenomenon as an alternative to non-cash payments for consumers (Saffanah & Amir, 2022) . Financial Technology has a positive impact, especially for students who are accustomed to and able to adapt to the digital era (Noviyanti, 2021) . This is a challenge for Micro Business Actors around campus. Especially since the majority of payments through QRIS are made by students, as the main consumers.

The gap between the habits of students who are accustomed to using technology, and the resistance of some Micro Business Actors to non-cash payments, encourages the need for further research related to the adoption of QRIS. QRIS (Quick Response Code Indonesian Standard) is a QR code standard launched by

Bank Indonesia to facilitate digital payments (Shaid, 2023) . QRIS provides innovative solutions that ease the process of transactions, payments, and financial management (Khafidloh et al., 2021) . However, despite the clear benefits, not all Micro Business Actors are able and willing to adopt this technology (Firdayanti et al., 2024) . This is due to various factors, such as lack of digital literacy, limited access to technology, and distrust of digital financial systems.

According to data from the Ministry of Cooperatives and UKM, from around 65 million registered UMKM, only 17.2 million or 26.5% of UMKM have entered the digital realm (Firdayanti et al., 2024) . Digitalization, according to the explanation of Sukmana and Erwin (2020), is a process that cannot be avoided in this modern era. However, this process often does not run smoothly for MSME actors, especially in the micro sector. According to Law Number 9 Year (1995), Micro businesses are small scale people's economic activities with traditional and informal characteristics, namely not yet registered, not yet recorded, and not yet incorporated. The maximum annual sales revenue is Rp 100,000,000 or Rp 100 million and is owned by Indonesian citizens (Wreta,2022) . Many business actors find it difficult to keep up with technological developments, especially those related to digital payment systems (Setiawan & Mahyuni, 2020) . Improving the quality of education in schools is a process that is integrated with the process of improving the quality of human resources themselves. The process of improving the quality of human resources has currently been attempted and continues to be carried out by the government together with the private sector through various efforts to develop higher quality education, including through the development and improvement of the curriculum and evaluation system, improvement of educational facilities, development, and procurement of teaching materials.

This research was conducted by adopting and developing the Theory of Planned Behavior (TPB) according to Ajzen, (1991) which explains that trust can affect individuals' interest or desire to use technology. The version developed from Theory Reasoned Action (TRA) adds one factor, namely Perceived Behavioral Control. This refined Theory of Planned Behavior describes three factors, including: Attitude Towards the Behavior (attitude) is determined by beliefs about the consequences of a behavior. These beliefs involve an individual's subjective assessment of the world around them, understanding of themselves and their environment, then linking certain behaviors to the benefits or disadvantages that may be obtained. Subjective Norm is an individual's perception of the expectations of people who are influential in their lives and about whether they should do or not do a certain behavior. Perceived Behavioral Control is about the extent to which an individual performs a particular behavior, based on ease and difficulty (Ramdhani., 2011). Based on the three main aspects, behavioral intention will be seen and used as a supporting variable. This theory is used to analyze how the perceptions of Micro

Business Actors are formed and what are the factors driving or inhibiting their intention to use QRIS.

The scope of the research is focused on the use of TPB theory with three main variables, namely; Attitudes, Subjective Norms, Perceptions of Behavioral Control, and, Behavioral intentions as supporting variables. The limitation is limited to Micro Business Actors around the ITB campus who have not adopted QRIS or who have used it but not optimally. This research was conducted to explore how digitalization, which has become a part of student life, can affect the mindset and business practices of Micro Businesses around it. Although the scope is limited to a certain area, this research is expected to provide an overview of the challenges and opportunities faced by Micro Businesses in facing the digitalization era.

In contrast to previous research conducted (Santika et a l., 2022) by limiting the sample to MSME actors who have used QRIS, this study reveals the complexity of adoption from the perspective of non-adopters and dropout users. The role of students as digital change agents in the campus ecosystem was identified as a unique factor. Research related to the adoption of QRIS MSMEs in Indonesia has been carried out by presenting various focuses, several studies show that a small proportion of Micro Business actors are reluctant to adopt this technology; The Effect of Ease of Non-Cash Transactions (Giswandhani & Hilmi, 2020) , Perceived Ease and Perception of Risk (Firdayanti et al., 2024) , Factors that influence the ease of non-cash transactions, 2024) , Factors Affecting the Level of Trust in Use (Suyanto & Kurniawan, 2019) , and the Role of Fintech on MSME Development (Khafidloh et al., 2021) .

The purpose of this research is to identify the inhibiting and driving factors for the adoption of QRIS in Micro Business Actors around the ITB Campus. As well as making recommendations for the development of QRIS education and socialization strategies so that Micro Business Actors can be better prepared to face the demands of digital transactions.

2. Research Method

Type of Research

This research method uses a qualitative exploratory design, with interviews, observation, and documentation. The subjects of this study are 25 micro entrepreneurs around the ITB campus, selected through purposive sampling based on the criteria of not yet using or stopping the use of QRIS. This research will look at how Micro Business Owners perceive fintech adoption, including the benefits, constraints, and other things that influence their decisions. Data collection methods include: Interview techniques to extract real information about adoption intentions, as well as the importance of using QRIS as a payment method. Observation is carried out by observing the activities of Micro Business Actors regarding the payment methods used and the availability of QRIS access. The documentation method is a complementary and reinforcing method to the interview and observation methods.

Population and Sampling Techniques

Semi-structured interviews with a question guide based on the TPB theory according to Ajzen, (1991) with three main aspects, Attitude Towards the Behavior, Subjective Norm, Perceived Behavioral Control, which form Behavioral Intention). Observation of the availability of transaction facilities is carried out to provide reinforcement related to the intention to use QRIS. Data were analyzed by identifying patterns that emerged based on TPB theory, with grouping categories of Attitude Towards the Behavior, Subjective Norm, Perceived Behavioral Control, and Behavioral Intention.

3. Results

Data were obtained through in-depth interviews with 25 micro business actors who were categorized based on four aspects of Theory of Planned Behaviour (TPB), namely, Attitudes, Subjective Norms, Perceived Behavioral Control, and Behavioral Intention as supporting variables. Equipped with observations that measure aspects of perceived behavioral control with an emphasis on the sub-aspects of the availability of technological infrastructure.

Table 1 Interview Results

Theory of Planned Behavior	Hasil
Attitudes Towards Behavior	Although the majority of respondents have understood and find QRIS practical, there are some who prefer cash payments or interbank transfers.
Subjective Norms	Customers, especially students, are the main drivers of QRIS usage. Pressure from customers often influences sellers' decisions to adopt QRIS.
Perceived Behavioral Control	Availability of technology infrastructure (devices and internet network) is an important factor. Respondents who have adequate devices tend to adopt QRIS more easily, while those who do not have them consider this an obstacle.
Behavioral Intention	Respondents who have used QRIS are generally driven by external factors such as customer demand and supported by easy infrastructure, while others have not intended to due to device limitations or preference for cash payment methods.

Source of Data Findings, 2025

Based on research conducted, it is known that respondents' attitudes towards QRIS adoption vary from positive to doubtful. Customer demands are indicated as the driving factor, while infrastructure constraints and negative experiences as inhibiting factors. Behavioral intentions depend on these three aspects. However, preference for cash payment methods is also often a hindering factor for QRIS adoption. Interventions such as training, system improvements, and socialization of the benefits of QRIS are needed to increase its adoption especially for Micro Business actors.

Table 2 Interview Results

Aspek TPB	Temuan (%)	Hambatan Utama
Attitudes Towards Behavior	60	Cash preference
Subjective Norms	72	Customer pressure
Perceived Behavioral Control	52	Limited infrastructure
Behavioral Intention	32	Cash preference, infrastructure constraints, bad experiences

Source of Data Findings, 2025

The data in Table 2 shows that 60% of the 25 micro businesses have an attitude of acceptance towards QRIS, mainly due to the perceived ease of transactions. Meanwhile, others (40%) are still resistant due to their preference for cash transactions or negative experiences. This finding is in line with Ajzen's (1991) theory that a positive attitude does not always lead to adoption if there is a perception of risk. One respondent (fried food seller) stated: "I am worried that the money in QRIS will not be disbursed on time, so I still choose to use cash only." These concerns show that trust in digital payment systems plays an important role in technology acceptance.

The data in Table 2 also confirms that Subjective Norms - specifically customer pressure is the main driving factor in QRIS adoption, for the majority of respondents (72%). Some respondents admitted to losing customers if they did not provide QRIS, especially from student consumers. However, others (28%) feel unaffected as they tend to have regular customers who are used to cash transactions. This finding reinforces the research of Santika et al., (2022) on the role of social environment in technology adoption.

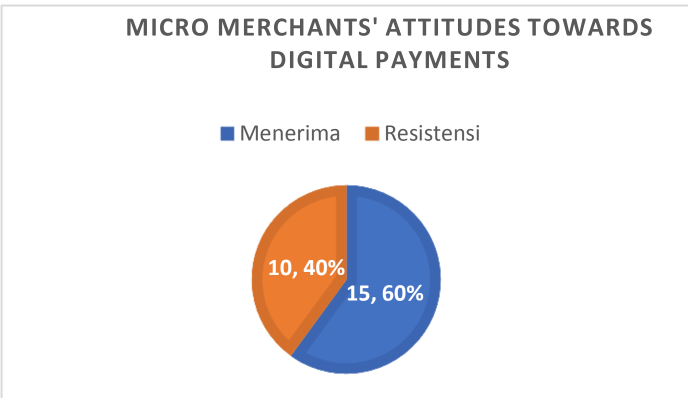
Limited technological infrastructure is also a significant obstacle in the adoption of QRIS, as complained by a number of business actors. "I want to use QRIS but my cellphone often crashes, I can't use it" (Cendol seller, 43 years old). The quote illustrates the Perceived Behavioral Control challenges that arise due to device limitations. This explains why 52% of respondents have a low level of behavioral control, even though they attitudinally accept the presence of digital payment innovations.

Discussion

Based on the data that has been collected, the results reveal that QRIS adoption among respondents is influenced in parallel by three main factors in the Theory Planned of Behavior (TPB); (1) Actual adoption of digital transaction acceptance (60%), (2) Pressure from customers in Subjective Norms (72%), (3) Limitations of behavioral control due to infrastructure (52%), thus encouraging Behavioral Intention of adoption for the majority of respondents. This finding reinforces the assumption Ajzen, (1991) that behavioral intention is not only influenced by individual attitudes, but also on social pressure and technical convenience. Santika et al., (2022) state that the use of QRIS in micro business actors, comes from customer demands (Subjective Norms) it is proven to be the dominant driving factor. In contrast to their findings, this study reveals that positive attitudes do not always lead to actual adoption when faced with the constraints of weak behavioral control. This is in line with Sukmana & Erwin's (2020) research on the digital divide as a factor inhibiting the digitalization of micro businesses.

Some micro-enterprises have experienced the benefits of QRIS, while others still face technical barriers or a preference for cash payment methods. This discussion aims to present an in-depth analysis of the factors that encourage or discourage QRIS usage, and the implications for future policy development and education. Related research outlines how individual attitudes, environmental influences, and technical capabilities interact to shape behavioral intentions. The results are expected to provide practical insights for relevant parties, such as service providers, regulators, and businesses to expand QRIS adoption more effectively and inclusively.

Interpretation and Implications: Aspects (Attitude Towards Behavior) Attitude In the context of the findings, attitudes show that understanding of QRIS benefits such as transaction speed and security is not always directly proportional to adoption. Some micro merchants still prefer to use cash transactions due to habit or technical inconvenience. This indicates that theoretical understanding of QRIS benefits is not always directly proportional to practical adoption. This is in line with research by Ajzen, (1991) that attitudes are influenced by an individual's subjective assessment of risks and benefits. However, this finding contradicts the research of Santika et al., (2022) which reveals that MSMEs using QRIS tend to have a positive attitude. This difference may be due to different sample characteristics (non-adopter vs adopter).



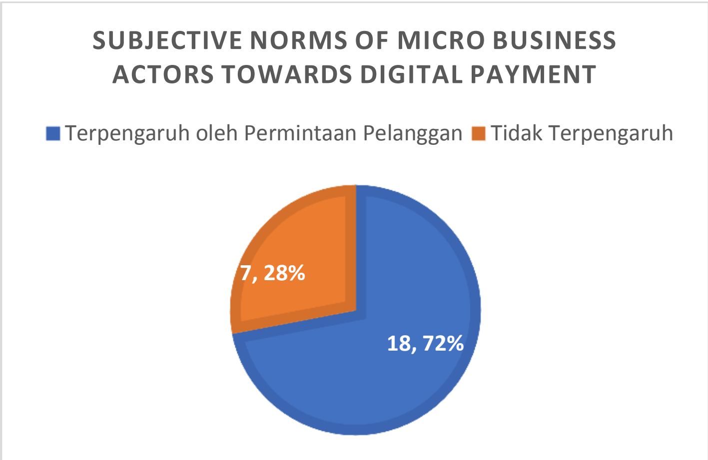
Source of Data Findings, 2025: Aspects of Attitude Towards Behavior

The findings show that out of 25 micro businesses, 60% of respondents showed acceptance of digital payment innovations. They tend to understand the benefits of

QRIS such as ease of transactions and security, supported by the availability of supporting infrastructure. In addition, some of them are driven by customer demand so that some of them have adopted QRIS or plan to use it in the future. Meanwhile, some respondents (40%) are still resistant to this innovation due to their preference for cash payments and reasons of discomfort with cashless systems. This resistance is triggered by several things such as, device limitations, bad experiences such as slow disbursement, fraud, and lack of socialization on how QRIS works. Hence the need for technical training that not only explains the benefits, but also how to overcome QRIS operational obstacles, such as disbursement procedures or handling transaction errors.

Interpretation and Implications: Aspects (**Subjective Norm**)

Subjective Norm Students as the main customers are the dominant social pressure. Indicated by Micro Business Actors who claim to 'lose buyers' if they do not provide QRIS, evidenced by the strong influence of the social environment. This finding supports Ramdhani, (2011) that Subjective Norms are based on perceived expectations of the referent group. However, some Micro Business Actors remain resistant despite pressure, indicating that Subjective Norms are not always the main determinant.

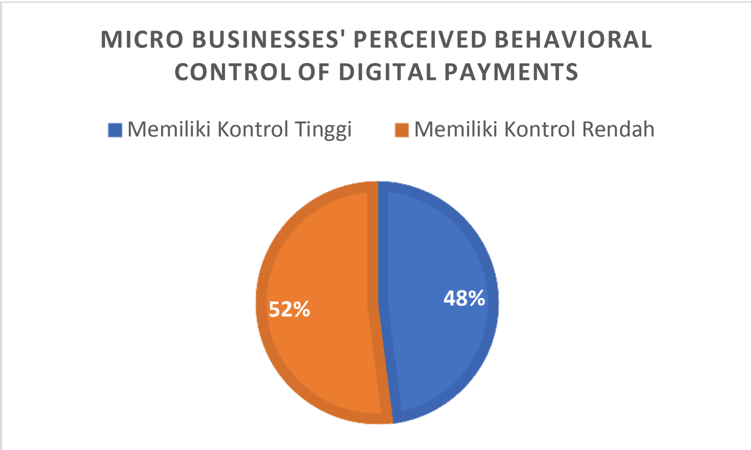


Source of Data Findings, 2025: Aspects of Subjective Norm

As many as 72% of respondents admitted that customers, especially students, are the main social pressure. The reason is because some students do not buy if the seller does not provide QRIS. This finding is in line with previous research conducted by Ramdhani, (2011) that Subjective Norms affect group expectations (customers). This finding is the main driving factor in the adoption of QRIS.

A small proportion of respondents (28%) remain unaffected by customer demand because they feel more comfortable using cash and feel that they already have regular customers. Negative experiences such as dishonest customers who claim to have paid when they have not, limited infrastructure, and supporting devices make them still resistant to this digital payment innovation. This indicates that Subjective Norms are not always determinant when faced with infrastructure barriers or user distrust. The QRIS socialization strategy needs to involve the role of students as agents of change to strengthen the influence of Subjective Norms. For example, through the "Students Care for Digital UMKM" campaign.

Interpretation and Implications: Aspects (**Perceived Behavioral Control**) Perceived Behavioral Control Limited infrastructure and dependence on third parties are the main obstacles, while Micro Business Actors with adequate tools and understanding show better adaptation. This finding reinforces Sukmana & Erwin's (2020) argument that the digitalization of Micro Business Actors is often hampered by unequal access to technology. The findings reveal that perceived behavioral control is a critical factor that mediates the influence of attitude and subjective norms on QRIS adoption. Efforts to improve access to technology can expand the acceptance of digital innovations among Micro Business Actors. In this aspect, the results showed no significant differences.



Source of Data Findings, 2025: Aspects of Perceived Behavioral Control

52% of respondents have low control over QRIS adoption due to limited availability of adequate devices. This condition causes Micro Business Actors who are at the control level to generally be resistant or delay the adoption of QRIS. This finding is in line with previous research, that technological inequality is a major barrier to QRIS adoption (Sukmana & Erwin, 2020). While the other 48% have high control over QRIS adoption because they have adequate devices to switch to digital payments. In addition, the understanding of Micro Business Actors is the cause of their delayed adoption or even resistance to digital payment innovations.

Behavioral Intention Behavioral intentions are formed based on three main aspects in this study. The role of intention is unique in this study as it acts as a mediator between external factors (such as bank policies or digital trends) and adoption decisions. Some respondents claimed to have the intention to adopt QRIS in the future when various technical barriers have been overcome. This shows that behavioral intentions are dynamic and can evolve as external conditions change. Based on this analysis, efforts to increase QRIS adoption need to be comprehensive.

First, education should include not only socializing the benefits but also solving practical problems such as disbursement procedures. Second, infrastructure intervention is needed to reach businesses with limited devices. Third, the active role of students as consumers can be optimized to create positive social pressure. Further research can expand the sample coverage to various geographical locations to understand variations in adoption patterns that may occur.

4. Conclusions

Based on data analysis and discussion in this study, it can be concluded that QRIS adoption intention among Micro Business Actors around the ITB campus is significantly influenced by three Theory of Planned Behavior (TPB) factors, namely: (1) Attitude of acceptance or understanding of QRIS because the ease of transactions does not always encourage adoption because it must be accompanied by risk perception or preference for cash payments. (2) Subjective Norms (customer / student pressure) encourage the adoption of QRIS because of the concerns of Micro Business Actors who will lose buyers if they do not use QRIS. (3) Behavioral Control of the availability of infrastructure such as smartphones, internet, and third party support that determines the smooth adoption of QRIS. Overall, behavioral intentions are driven by market demands and ease of access, while the other 40% are still reluctant due to technical barriers and cash payment preferences. This imbalance highlights the need for multidimensional interventions that not only focus on educating the benefits, but also providing supporting infrastructure. Technical training in the form of socialization of the use and ease of use of QRIS can be carried out to provide understanding and increase interest in adopting QRIS as a digital payment tool.

Conclusions

The research is limited to a sample of perspectives of Micro Business Actors. Based on the research findings, it is recommended that future research can expand the 9 Efficiency and Rentability of Islamic Banks in Indonesia Sugeng Haryanto, Yanuar Bachtiar, and Wildani Khotami scope by exploring the perceptions of students as the main users of QRIS around the campus area. The research can examine the motivations, preferences, and conveniences experienced by students, thus encouraging the use of QRIS as a payment method, especially when transacting with Micro Business Actors. This kind of research is important to understand the dynamics of interaction between students and businesses, including how social pressure from consumers affects the adoption of digital payment technology. Thus, more effective strategies can be formulated to increase literacy and inclusive use of QRIS among Micro Business Actors.

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