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UNDERSTANDING THE DRIVERS OF QRIS ADOPTION IN ISLAMIC BANKS: THE MODERATING ROLE OF KNOWLEDGE

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ABSTRACT
This study aims to analyze the influence of perceived usefulness, perceived ease of use, and habit on the decision to use QRIS in micro, Small and Medium Enterprises (MSME) consumers in Malang City, and to evaluate the role of knowledge as a moderating variable in this relationship. This study uses a quantitative approach with data collection techniques through questionnaires to 384 respondents who are users of the QRIS of Islamic Banks. Data analysis was conducted using the structural equation modeling-partial least squares (SEM-PLS) method. The results of the study showed that perceived usefulness, perceived ease of use, and habit had a significant effect on the decision to use QRIS. In addition, knowledge was proven to significantly moderate the entire relationship between perceived usefulness, and habit on the decision to use. Meanwhile, knowledge did not moderate the influence of perceived ease of use on the decision to use QRIS Islamic Banks. This study provides implications for Islamic banking and MSME actors to improve consumer understanding of the benefits and ease of use of QRIS, as well as to know the habits in adopting Islamic-based financial technology

Keywords: QRIS, Islamic Bank, Perceived Usefulness, Perceived Ease of Use, Habit, Knowledge, MSMEs, Decision to Use

INTRODUCTION

The advancement of digital technology has precipitated substantial changes (Lathifah, 2022) within the economic sector, particularly affecting Micro, Small, and Medium Enterprises (MSMEs). The digitalization of payment systems has emerged as a pivotal element in enhancing the efficiency and competitiveness of MSMEs (Raharjo & Riyadi, 2022) in the contemporary era. Since the introduction of the Quick Response Code Indonesian Standard (QRIS) by Bank Indonesia (Lu, 2022), QR code-based payment systems have gained widespread popularity due to their transactional ease and speed (Mubarok et al., 2023). According to data from the Indonesian Payment System Association (ASPI) in 2024, the number of QRIS merchants in Indonesia has surpassed 34 million, with the majority originating from the MSME sector (Setiawan, 2021).. Nonetheless, the trend of QRIS transactions has not yet achieved full stability, as challenges persist, including low digital literacy, concerns regarding data security, and a limited understanding among MSME participants in effectively utilizing digital financial technology (Ramadan, 2021; Rakhmayanti, 2023).

In the realm of Islamic banking, the Quick Response Code Indonesian Standard (QRIS) has emerged as a significant innovation that bolsters the development of a halal and efficient payment system (Abas & Puspawati, 2024; Yuliati & Handayani, 2021). As entities operating under sharia principles, Islamic banks possess substantial opportunities to integrate digital services with Islamic values, notably through the implementation of Sharia-compliant QRIS (Gunawan, et al., 2023). Nevertheless, the deployment of QRIS within Islamic banks encounters several challenges, including the level of customer trust in transaction security, limited understanding of sharia-compliant digital products, and consumer habits that have not yet fully transitioned to non-cash transactions. Consequently, it is crucial to assess the extent to which the adoption of QRIS by Islamic banks is accepted by consumers, particularly among micro, small, and medium enterprise (MSME) actors, who constitute a strategic economic sector (Menne, et al., 2022).

Consumer decisions regarding the adoption of QRIS are influenced by several factors as delineated in the Technology Acceptance Model (TAM) (Puspitasari & Salehudin, 2022). This model highlights two principal constructs: perceived usefulness and perceived ease of use, which serve as the primary determinants of technology acceptance (Rahmawati, 2023; Rahmawati & Yuliana, 2020). Consumers who perceive QRIS as offering practical benefits and being user-friendly are more likely to adopt it for transactions. However, prior research has yielded inconsistent findings; some studies have demonstrated that perceptions of usefulness and ease of use positively affect usage decisions, while other research has indicated an insignificant impact.

In addition to perception, habit serves as a significant determinant in shaping technology usage behavior (Hsu et al., 2015; Verplanken & Orbell, 2003; Raza et al., 2019). Individuals accustomed to utilizing digital payment systems are more likely to readily accept new innovations such as QRIS. Another equally important factor is consumers' knowledge of the sharia financial system and digital banking features. This knowledge has the potential to act as a moderating variable, influencing the impact of perception and habit on the decision to use QRIS.

This study seeks to examine the impact of perceived usefulness, perceived ease of use, and habit on the decision to utilize QRIS at Islamic banks, with knowledge serving as a moderating variable among MSME consumers in Malang City. The novelty of this research is underscored by the incorporation of knowledge as a moderator, a factor that has not been extensively explored within the context of Islamic banking, as well as the focus on MSMEs as prospective QRIS users. Consequently, the findings of this study are anticipated to offer empirical contributions to the advancement of digital Islamic financial literacy and to serve as a strategic reference for Islamic banks in enhancing QRIS adoption within the MSME sector.

LITERATURE REVIEW

Perceived Usefulness

According to Jogiyanto as cited in Rahmawati & Yuliana, (2020), perceived usefulness is defined as the degree to which an individual believes that the use of a particular technology can enhance job performance. Perceived usefulness reflects the belief that utilizing a certain system or program will help users accomplish tasks more efficiently. Technology use, both physically and non-physically, can lead to faster and more satisfying performance outcomes compared to not using it. Perceived Usefulness can be measured through four main indicators. First, technology enables individuals to complete their tasks more quickly. Second, it makes work easier by simplifying processes and reducing effort. Third, it improves overall job performance by enhancing efficiency and effectiveness. Finally, it increases productivity, allowing users to achieve better outcomes in less time. These indicators illustrate the extent to which the use of a particular technology is believed to provide significant benefits in supporting one’s work activities (Davis, 1989).

Perceived Ease of Use

Ease of use refers to the extent to which a system is perceived as simple and effortless to operate. Users who consider a system easy to use are more likely to adopt and utilize it, as they expect that minimal effort will be required to operate the system effectively (A. Rahmawati, 2023). According to Davis, (1989), Perceived Ease of Use can be measured through five indicators. These include being easy to learn, controllable, flexible, simple to use, and clear as well as understandable. Together, these indicators highlight the belief that a technology or system is user-friendly and does not demand excessive effort from its users

Habit

Hsu et al., (2015) define habit as an automatic behavioral response triggered by specific conditions or environments, which occurs without conscious thought or deliberate mental processing as a result of accumulated past experiences. Habits are often stimulated by environmental cues, such as place, time, or certain situations. When these cues appear, actions consistent with the habit are automatically triggered. In the current context, consumer behavior is increasingly dominated by the use of digital technology, making digital habits more prevalent. According to Verplanken & Orbell, (2003), habit can be measured through four indicators: frequency, automaticity, routine, and long-term practice.

Decision to Use

The theoretical foundation of the usage decision variable in this study is aligned with the theory of purchase decision. East, (2001) defines a decision as the selection of an action from two or more alternatives, noting that without alternatives, the decision is referred to as a Hobson's choice. According to Rahmad Surgawan & Susila, (2024), a usage decision represents the condition when a prospective consumer has decided and intends to use a product. Consumer decision-making essentially involves an integrative process that combines knowledge to evaluate two or more behavioral alternatives and to select one of them (Suryani, 2008). Furthermore, Kotler et al., (2015) identify five indicators of usage decision: recognition of needs, information search, alternative evaluation, usage decision, and post-use behavior.

Quick Response Code Indonesian Standard

The Quick Response Code Indonesian Standard (QRIS) is the unification of various types of QR codes from different Payment System Service Providers (PJSP) that utilize QR technology. Developed by Bank Indonesia, QRIS was designed to make QR code transactions simpler, faster, and more secure (Hutagalung et al., 2021).

HYPOTHESIS

Building upon the theoretical framework delineated in the preceding section and the findings of prior research, several research hypotheses have been developed to investigate the relationships among the variables employed. This study concentrates on the determinants influencing the decision to utilize QRIS at Islamic banks, specifically among MSME actors in Malang City. The primary variables under examination include Perceived Usefulness, Perceived Ease of Use, Habit, and Knowledge as a moderating variable. Each hypothesis is crafted to elucidate the direct and moderating relationships among variables, drawing from the Technology Acceptance Model (TAM) and insights from previous studies. The hypotheses in this study are as follows: H1: Perceived Usefulness (X1) has a significant effect on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City (Fauziah et al., 2024); H2: Perceived Ease of Use (X2) has a significant effect on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City (Ramadhan et al., 2023); H3: Habit (X3) has a significant effect on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City (Fajar et al., 2024); H4: Knowledge significantly moderates the influence of Perceived Usefulness on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City; H5: Knowledge significantly moderates the influence of Perceived Ease of Use on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City; H6: Knowledge significantly moderates the influence of Habit on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City.

METHODS

This study employs a quantitative research design, chosen for its capacity to yield objective, measurable, and replicable results, as well as its appropriateness for hypothesis testing through statistical analysis. The study population comprises all users of QRIS services in Islamic banks. A sample, representing a subset of this population, is utilized for research purposes. This research adopts a non-probability sampling technique, specifically purposive sampling, which was selected to enable the researcher to choose respondents based on specific criteria pertinent to the research objectives. Data were collected via a questionnaire. The data analysis method employed is Structural Equation Modelling with Partial Least Square (SEM-PLS) (Gunawan, et al., 2023; **Zahro, & Miranti, 2024;** Salsabiila & Miranti, 2024). Table 1 presents the definitions of variables and their respective indicators.

Table 1. Definition Of Variable

Variable	Indicator	Item
Knowledge (Engko et al., 2023)	Know	Consumers have a basic understanding of QRIS.
	Understanding	Consumers are able to explain what QRIS is.
	Application	Consumers are able to operate QRIS.
	Analysis	Consumers understand the components contained in QRIS.
	Evaluation	Consumers provide evaluative responses regarding QRIS.
Perceived Usefulness (Davis, 1989)	Work More Quickly	Consumers feel that QRIS makes the payment process faster.
	Makes Job Easier	Consumers feel that QRIS makes payments easier.
	Job Performance	Consumers believe that QRIS improves their performance.
	Increase Productivity	Consumers believe that QRIS increases productivity.
Perceived Ease To Use (Davis, 1989)	Easy to learn	Consumers believe that QRIS is easy to learn.
	Controllable	Consumers believe that QRIS can be easily controlled.
	Flexible	Consumers believe that QRIS can be used anytime and anywhere.
	Ease to use	Consumers believe that QRIS is easy to use.
	Clear and understandable	Consumers believe that QRIS is clear and understandable.
Habit (Verplanken & Orbell, 2003)	Frequently	Consumers frequently use QRIS.
	Automatically	Consumers automatically use QRIS when shopping.
	Routine	Using QRIS has become part of consumers' routine.
	Doing For Long time	Consumers have been using QRIS for a long time.
Decision to Use (Kotler et al., 2015)	Recognition of needs	Consumers feel the need to use QRIS.
	Information search	Consumers seek information to fulfill their needs.
	Alternative evaluation	Consumers find solutions through QRIS usage.
	Usage decision	Consumers decide to use QRIS.
	Post Use Behavior	Consumers feel either comfortable or uncomfortable when using QRIS.

Source: Processed Data (2025)

RESULTS

This section presents the results of data analysis obtained from model testing using the Structural Equation Modeling (SEM) method. The research results include tests of instrument validity and reliability, measurement model testing, as well as hypothesis testing in the structural model. All results are presented systematically to provide an overview of the relationships between the variables studied in accordance with the research objectives.

Outer Model

The measurement model (outer model) analysis was employed to evaluate convergent validity, discriminant validity, and composite reliability for each research variable. This study involved five variables with a total of 23 measurement indicators. Perceived Usefulness was measured using four indicators, Perceived Ease of Use with five indicators, Habit with four indicators, Decision to Use with five indicators, and Knowledge with five indicators.

Validity testing is performed to ensure that each indicator within the research variables accurately measures the intended construct. Table 2 presents the results of Convergent Validity, as indicated by the loading factor values of each indicator. All indicators exhibit loading factor values exceeding 0.7, thereby confirming that these indicators satisfy the criteria for convergent validity and are appropriate for subsequent analysis. Subsequently, Table 3 displays the results of Discriminant Validity, assessed using the Fornell-Larcker criterion. The square root values of the Average Variance Extracted (AVE) for each construct surpass the correlations between constructs, indicating that each variable possesses strong discriminative ability, facilitating the distinction between constructs. Furthermore, Table 4 provides the results of reliability testing, including the values of Composite Reliability (CR) and Cronbach's Alpha (CA). The test results reveal that all variables have CR and CA values above 0.7, signifying that this research instrument is reliable and consistent in measuring each construct. Consequently, all indicators in this research are deemed valid and reliable, permitting the analysis to advance to the subsequent stage, namely hypothesis testing using the structural model.

Inner Model

Inner model analysis is employed to evaluate the structural relationships among latent variables in accordance with the research hypotheses. This phase aims to ascertain the extent to which the independent variables account for the dependent variables, as indicated by the R-square (R^2) value (Table 5). A higher R^2 value signifies a stronger capacity of the model to elucidate the variability of the observed constructs. Furthermore, hypothesis testing (Table 6) is conducted to evaluate the significance of the relationships between variables by analyzing the path coefficient and p-value. The outcomes of this testing form the basis for determining whether the previously formulated hypotheses are accepted or rejected.

Discussion

Effect of Perceived Usefulness on Decision to Use

The inner model analysis shows that Perceived Usefulness has a positive and significant influence on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. This indicates that the higher the perceived benefits, the greater the consumers' intention to adopt QRIS. Consistent with the Technology Acceptance Model (Davis, 1989), users are more likely to adopt technologies they believe enhance their performance. In this study, the most dominant indicator was 'Increase Productivity,' suggesting that QRIS improves efficiency and user productivity. These results are in line with Fauziah et al. (2024), who also confirmed the significant role of Perceived Usefulness in driving QRIS adoption. Therefore, Islamic banks should highlight the practical benefits of QRIS, such as transaction speed, convenience, and security, to encourage wider adoption.The inner model analysis reveals that Perceived Usefulness significantly influences MSME consumers' decision to adopt QRIS in Islamic banks in Malang City. This finding aligns with the Technology Acceptance Model (Davis, 1989), which posits that users are more inclined to adopt technologies they perceive as beneficial to their performance. The study identifies 'Increase Productivity' as the most influential indicator, suggesting that QRIS's ability to enhance efficiency and productivity is a key driver of adoption. This outcome corroborates the findings of Fauziah et al. (2024), further emphasizing the crucial role of Perceived Usefulness in QRIS adoption.

The implications of these findings are substantial for Islamic banks seeking to promote QRIS adoption. To encourage wider acceptance, banks should focus their marketing and educational efforts on highlighting the practical advantages of QRIS. This includes emphasizing its ability to streamline transactions, enhance convenience, and provide robust security measures. By clearly communicating these benefits, Islamic banks can effectively address the factors that most strongly influence consumers' decisions to adopt QRIS. Additionally, banks could consider developing targeted strategies that demonstrate how QRIS can specifically boost productivity for MSME consumers, as this aspect appears to be particularly compelling to potential users.

Table 2. Convergent Validity

Variables	Indicator	Loading Factor	Results
Perceived Usefulness	X1.1	0,769	Valid
	X1.2	0,702	Valid
	X1.3	0,713	Valid
	X1.4	0,793	Valid
Perceived Ease of Use	X2.1	0,707	Valid
	X2.2	0,701	Valid
	X2.3	0,706	Valid
	X2.4	0,773	Valid
	X2.5	0,700	Valid
Habit	X3.1	0,811	Valid
	X3.2	0,725	Valid
	X3.3	0,778	Valid
	X3.4	0,750	Valid
Decision to Use	Y.1	0,760	Valid
	Y.2	0,705	Valid
	Y.3	0,744	Valid
	Y.4	0,763	Valid
	Y.5	0,713	Valid
Knowledge	Z.1	0,793	Valid
	Z.2	0,727	Valid
	Z.3	0,784	Valid
	Z.4	0,802	Valid
	Z.5	0,788	Valid

Source: Processed Data (2025)

Table 3. Fornell-Lecker

	H (X3)	DTU (Y)	K (Z)	PEU (X2)	PU (X1)
PU (X1)	0.745				
PEU (X2)	0.506	0.718			
H (X3)	0.701	0.645	0.767		
DTU (Y)	0.650	0.642	0.734	0.737	
K (Z)	0.600	0.606	0.724	0.721	0.779

Source: Processed Data (2025)

Table 4. Construct Reliability

Variable	Composite Reliability	Cronbach's Alpha	Results
PU (X1)	0.833	0.732	Reliabel
PEU (X2)	0.842	0.765	Reliabel
H (X3)	0.851	0.765	Reliabel
DTU (Y)	0.856	0.790	Reliabel
K (Z)	0.885	0.838	Reliabel

Source: Processed Data (2025)

Table 5. R-Square

Variable	*R-Square*	*R-Square Adjusted*
Decision to Use	0.688	0.682

Source: Processed Data (2025)

Table 6. Path Coefficient

	Original Sample (O)	Standard Deviation (STDEV)	T-statistics (|O/STDEV|)	P values
Perceived Usefulness (X1) → Decision to Use (Y)	0,237	0,053	4,487	0,000
Perceived Ease of Use (X2) → Decision to Use (Y)	0,101	0,05	2,044	0,042
Habit (X3) → Decision to Use (Y)	0,235	0,062	3,805	0,000
Knowledge x Perceived Usefulness → Decision to Use (Y)	0,217	0,071	3,036	0,003
Knowledge x Perceived Ease of Use→Decision to Use (Y)	-0,074	0,05	1,463	0,144
Knowledge x Habit →Decision to Use (Y)	-0,220	0,082	2,683	0,008

Source: Processed Data (2025)

Effect of Perceived Ease of Use on Decision to Use

The inner model analysis demonstrates that Perceived Ease of Use significantly affects the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. This indicates that consumers adopt QRIS mainly because of its user-friendly features. Consistent with the Technology Acceptance Model (Davis, 1989), ease of use encourages individuals to continue using a product, as users tend to prefer systems that are simple and efficient. In this study, the most dominant indicator was 'Controllable,' showing that consumers perceive QRIS as easy to manage and operate.The inner model analysis reveals that Perceived Ease of Use plays a crucial role in influencing MSME consumers' decision to adopt QRIS in Islamic banks in Malang City. This finding underscores the importance of user-friendly technology in driving consumer adoption. The 'Controllable' indicator emerging as the most dominant factor suggests that consumers value the ability to easily manage and operate QRIS, which aligns with their preference for systems that offer straightforward and efficient user experiences.

This result aligns with the core principles of the Technology Acceptance Model (Davis, 1989), which posits that perceived ease of use is a key determinant in technology adoption. The model suggests that when users find a system easy to use, they are more likely to incorporate it into their daily routines and continue using it over time. In the context of QRIS adoption in Islamic banks, this implies that efforts to enhance the user interface, simplify the transaction process, and provide clear instructions could significantly boost adoption rates among MSME consumers. Furthermore, the emphasis on controllability indicates that users appreciate having a sense of mastery over the technology, which could be a key factor in building trust and encouraging long-term use of QRIS in financial transactions.

Effect of Habit on Decision to Use

The inner model analysis reveals that Habit has a positive and significant effect on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. This indicates that the more QRIS usage becomes a habit, the stronger the consumers' decision to continue using it. Habits are often triggered by environmental cues such as place, time, or situation (Hsu et al., 2015), and may vary across different contexts and regions. In today's digital era, consumer behavior is increasingly shaped by digital habits, which accelerate the acceptance of new technologies. According to Rogers' Diffusion of

Innovation theory (Nareswari, 2025), innovation adoption is not only influenced by the characteristics of the innovation but also by individual behavioral patterns, including habits. Repeated use fosters familiarity and comfort, thereby strengthening the decision to adopt. These findings are consistent with (Fajar et al., 2024), who also confirmed the significant effect of Habit on technology adoption. Therefore, Islamic banks should focus on creating transaction experiences that encourage routine usage of QRIS by providing incentives, integrating QRIS into daily transactions, and improving user education to ensure sustainable adoption.The inner model analysis reveals that Habit significantly influences the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. This positive relationship suggests that as QRIS usage becomes more habitual, consumers are more likely to continue using it. Habits are often triggered by environmental cues such as place, time, or situation (Hsu et al., 2015), and can vary across different contexts and regions. In the digital era, consumer behavior is increasingly shaped by digital habits, accelerating the acceptance of new technologies. Rogers' Diffusion of Innovation theory (Nareswari, 2025) posits that innovation adoption is influenced not only by the characteristics of the innovation but also by individual behavioral patterns, including habits. Repeated use fosters familiarity and comfort, strengthening the decision to adopt.

These findings align with research by Fajar et al. (2024), who also confirmed the significant effect of Habit on technology adoption. The implications for Islamic banks are clear: they should focus on creating transaction experiences that encourage routine usage of QRIS. This can be achieved through various strategies, such as providing incentives for regular use, integrating QRIS into daily transactions, and improving user education. By doing so, banks can ensure sustainable adoption of QRIS among MSME consumers. Furthermore, understanding the role of habit in technology adoption can help financial institutions design more effective marketing and user engagement strategies, ultimately leading to increased acceptance and use of digital payment systems like QRIS in Islamic banking contexts.

Moderation Effect of Knowledge to Perceived Usefulness on Decision to Use

The inner model analysis shows that Knowledge significantly strengthens the effect of Perceived Usefulness on the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. According to the Technology Acceptance Model (Davis, 1989), individuals' decisions to adopt a technology are influenced by its perceived usefulness. When users possess higher knowledge about a technology, they are better able to understand its benefits, thereby reinforcing its perceived usefulness and increasing the likelihood of adoption. This finding suggests that greater user knowledge regarding the advantages of QRIS such as efficiency, functionality, and Sharia compliance enhances their intention to adopt the system. Hence, Islamic banks should focus on educational and awareness programs to strengthen consumer perceptions of QRIS benefits, which in turn can accelerate Sharia financial inclusion through wider adoption.The analysis reveals that knowledge plays a crucial role in strengthening the relationship between how useful people think QRIS (Quick Response Code Indonesian Standard) is and their decision to use it in Islamic banks. This applies to small and medium-sized business owners in Malang City. According to a model from 1989, people's choice to use new technology depends on how useful they think it is. When users know more about a technology, they can better understand its benefits. This makes the technology seem even more useful, increasing the chances they'll use it. This finding suggests that when users have more knowledge about QRIS advantages (like efficiency, how it works, and its compliance with Islamic law), they're more likely to want to use it. Based on this, Islamic banks should focus on educating customers and raising awareness about QRIS benefits. This could help more people adopt the system, which in turn could increase the use of Islamic financial services among a wider group of people.

Moderation Effect of Knowledge to Perceived Ease of Use on Decision to Use

The inner model results indicate that Knowledge significantly moderates the relationship between Perceived Ease of Use and the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. This implies that when consumers possess higher knowledge, the perceived ease of using QRIS becomes more impactful in shaping their adoption decision. Users with better understanding and familiarity are likely to perceive the system as simpler, more controllable, and more efficient, thereby strengthening their intention to use it. These findings highlight the importance of consumer education in enhancing perceptions of ease of use. For Islamic banks, improving digital literacy and providing practical guidance on QRIS operations can strengthen user confidence, leading to greater acceptance and continued use.The inner model results reveal a significant moderating effect of Knowledge on the relationship between Perceived Ease of Use and the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. This finding underscores the critical role of consumer knowledge in amplifying the impact of perceived ease of use on technology adoption decisions. When consumers possess a higher level of knowledge about QRIS and its functionalities, they are better equipped to recognize and appreciate the system's user-friendly features. This enhanced understanding translates into a stronger perception of ease of use, which in turn more powerfully influences their decision to adopt and utilize QRIS in their financial transactions with Islamic banks.

The implications of this moderating effect extend beyond individual user experiences to broader strategies for technology implementation in the banking sector. For Islamic banks seeking to promote QRIS adoption among MSME consumers, these findings emphasize the importance of comprehensive consumer education initiatives. By focusing on improving digital literacy and providing detailed, practical guidance on QRIS operations, banks can effectively enhance users' knowledge base. This increased knowledge not only strengthens consumers' confidence in their ability to use the system but also amplifies their perception of its ease of use. Consequently, this leads to a more robust relationship between perceived ease of use and the decision to adopt QRIS, potentially resulting in higher acceptance rates and sustained usage among the target consumer base in Malang City.

Moderation Effect of Knowledge to Habit Decision to Use

The inner model analysis demonstrates that Knowledge significantly moderates the relationship between Habit and the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. This finding suggests that consumers with higher levels of knowledge are more likely to reinforce habitual behaviors in adopting QRIS. Knowledgeable users can better recognize the advantages of integrating QRIS into their daily routines, thereby strengthening their consistent use of the system. In line with the view that repeated behavior combined with informed awareness enhances technology adoption, this result emphasizes the role of consumer education in sustaining QRIS usage. For Islamic banks, strategies such as continuous user training, digital awareness campaigns, and the promotion of Sharia compliant benefits can help transform QRIS usage from a simple routine into a conscious and sustainable habit.The inner model analysis reveals a significant moderating effect of Knowledge on the relationship between Habit and the Decision to Use QRIS in Islamic banks among MSME consumers in Malang City. This finding underscores the importance of consumer education in driving technology adoption, particularly for financial services like QRIS. Consumers with higher levels of knowledge about QRIS and its benefits are more likely to integrate the system into their daily routines, reinforcing habitual usage. This synergy between informed awareness and repeated behavior creates a powerful driver for sustained QRIS adoption, as knowledgeable users can better appreciate the system's advantages and align them with their regular financial activities.

For Islamic banks, this insight presents a valuable opportunity to enhance QRIS adoption through targeted educational initiatives. By implementing strategies such as ongoing user training programs, digital awareness campaigns, and highlighting the Sharia-compliant aspects of QRIS, banks can effectively transform QRIS usage from a simple routine into a conscious and sustainable habit among MSME consumers. These efforts not only promote the technical understanding of QRIS but also emphasize its alignment with Islamic financial principles, potentially increasing its appeal to the target demographic. As consumers become more knowledgeable about QRIS, they are likely to develop stronger habits of use, creating a self-reinforcing cycle that supports long-term adoption and integration of the system into their business operations.

CONCLUSION

This study examines the influence of Perceived Usefulness, Perceived Ease of Use, and Habit on the decision to utilize QRIS in Islamic banks, with Knowledge acting as a moderating variable, among MSME consumers in Malang City. The findings demonstrate that Perceived Usefulness, Perceived Ease of Use, and Habit each have a positive and significant impact on the decision to adopt QRIS. This suggests that consumers are inclined to adopt QRIS due to its perceived advantages, ease of use, and compatibility with their digital payment habits. Furthermore, Knowledge significantly strengthens the relationships between Perceived Usefulness, Perceived Ease of Use, and Habit with the Decision to Use. Consumers with greater knowledge about QRIS are better positioned to recognize its usefulness, perceive it as easier to operate, and integrate it more effectively into their daily routines. These results highlight the importance of digital literacy and consumer awareness in promoting QRIS adoption. Overall, the study suggests that Islamic banks should not only emphasize the functional benefits and ease of QRIS but also invest in consumer education and awareness programs. By doing so, they can increase adoption rates, foster habitual use, and contribute to broader Sharia financial inclusion.

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