The Impact of the Technology Acceptance Model on the Use of QR Code Payment as a Digital Payment Method among MSME Entrepreneurs in the Culinary Tourism Center of Surabaya

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ABSTRACT

Bank Indonesia introduced Quick Response Indonesian Standard (QRIS) to enhance digital transaction convenience, security, and efficiency, particularly to support MSMEs in boosting Indonesia's economy, although its adoption in the food and beverage industry remains limited. This research concentrates on the aspects that impact the willingness to use QRIS among MSME business owners in the Culinary Tourism Center of Surabaya, Indonesia through the lens of the Technology Acceptance Model (TAM). This causal study collected data from 50 MSME merchants over the age of 50 who had used QRIS as a payment method for more than a month. Using SEM-PLS analysis on SmartPLS 4.1, the research found that perceived usefulness significantly impacts the intention to use QRIS, leading to increased business productivity by enhancing transaction efficiency, reducing direct contact with clients, and improving payment security. The study also revealed that perceived ease of use does not directly influence the intention to use QRIS but affects it indirectly by enhancing perceived usefulness. The findings highlight the crucial role of perceived ease of use in shaping utility perception. The research contributes to the understanding of digital payment adoption among MSMEs in Indonesia, particularly in the food and beverage sector, by providing insights into the relationship between TAM variables. It emphasizes the need for targeted training and support to boost QRIS adoption, enabling MSME merchants to remain competitive in the digital economy. The study offers valuable recommendations for policymakers, financial institutions, and technological stakeholders to facilitate Indonesia's economic digitalization through increased QRIS usage.

Keywords: *Digital Payment, MSMEs, Quick Response Indonesian Standard, Technology Acceptance Model*

INTRODUCTION

The rapid development of information technology, attributable to the world's constant embrace of the internet, has facilitated huge achievement in wide areas as well as in finance. Technological development is adopted by companies to improve the processes, irrespective products or services are involved (Kwabena et al., 2019). Moreover, the development of technology has allowed for the development of digital applications, broadly in the form of payments, which have become increasingly innovative (Mustapha, 2018). This emphasis gained focus after the pandemic due to increased adoption of digital payments (Ramayanti et al., 2024). The value of these payment systems lies in their ease of use and ability to improve financial transaction efficiencies. But, the adoption and effective use of the payment methods rely on the users (Ramayanti et al., 2024). In order to continue operating and address the expectations of their stakeholders such as trade partners, Businesses have embraced digital payment solutions (Kwabena et al., 2019). This move indicates that businesses appreciate the gaps in consumer expectations and the exploitation of the available technology. One of the recent developments is the QR Code payment systems which facilitate the carrying out of cashless transactions via the scanning of barcodes (Ramayanti et al., 2024). In Indonesia, the central bank, Bank Indonesia, has set out the Quick Response Indonesia Standard (QRIS) to help ease the country to a digitalized payment system. Not only aiding economic change, but Industry 4.0 entrenched technologies are also transforming business into innovative and vibrant ecosystems (Hendrawan et al., 2023). This transformation is evidenced by the increased number of merchants using QRIS as a payments option in efforts to adopt technology. It has become very important to understand the factors that determine merchants' willingness to cater for QRIS payments.

Micro enterprises which comprise a large chunk of the economy tend to consider QRIS as a relatively new phenomenon (Wardhani et al., 2023). Even though incorporation of QRIS in micro, small, and medium enterprises (MSMEs) has emerged as a major practice, there are still significant discrepancies that many merchants face in effective utilization of the QRIS. Merchant adoption of QRIS has no expiration limit, however, merely adopting it without any activity participation can hurt the average transaction size and indeed reduce the potential to grow (ASPI, 2023). Having competitive markets business in context must increase their technology know how to do business effectively (Najib & Fahma, 2020). In addressing these problems, the Technology Acceptance Model (TAM), developed by Davis in 1989 serves as a renowned model and helps focus on the user's intention bias while trying to assess new technology. The framework of TAM helps to estimate users' perception of the technology, particularly on usefulness and ease of use, which are crucial factors of evaluation (Davis, 1989; Suebtimrat & Vonguai, 2021). Over the years, the model has evolved with the introduction of behavioral

intention to use and has expanded the range of applicability to many industries including more modified versions of the model.

Past studies have been inconsistent in their findings regarding the connection between perceived usefulness, ease of use, and intention to use QRIS. Sholihah & Nurhapsari (2023) confirmed the effectiveness of QRIS among traditional market merchants in performing transactions. On the other hand, Rafferty & Fajar (2022) claimed that perceived usefulness does not have any significant power in affecting the intention of MSMEs in adopting QRIS within the retail industry. At the same time, Wardhani et al. (2023) and Kusumayani et al. (2023) noted the intention to use and ease of use of QRIS among MSMEs to be positively related which is a different point of view from that of Husrizal Syah et al. (2022), who found no significant relationships. These gaps and differences in the focus of previous studies show that more research is needed in particular to MSMEs in the food and beverage industry in Surabaya, especially in its Culinary Tourism Center. This study focusses on the impact of the Technology Acceptance Model on the Use of QR Code Payment as a Digital Payment Method among MSME Entrepreneurs in the Culinary Tourism Center of Surabaya.

Perceived Usefulness (X_1) Has a Direct Influence on Intention to Use (Y) in the Adoption of QRIS

Perceived usefulness has been proven as a critical factor in the adoption of technology. The more useful a system is perceived to be, the stronger an individual's intention to use it without forming any specific attitude beforehand (Davis, 1989). In the context of QR code payment among MSME merchants, perceived usefulness is reflected in the belief that using QRIS for payment can improve business performance and sustainability (Morosan, 2014; Suebtimrat & Vonguai, 2021). Supporting digitalization in Indonesia, perceived usefulness has a significant impact on strengthening the intention to adopt QRIS (Wardhani et al., 2023). Previous research has confirmed the direct influence of perceived usefulness on intention to use from the perspective of merchants using QR code payment in commercial banks (Suebtimrat & Vonguai, 2021). However, there has been limited explanation regarding the relationship between perceived usefulness and the intention to adopt QR code payments based on QRIS specifically among MSME merchants in the food and beverage sector. Thus, the following hypothesis is proposed:

H_1: Perceived Usefulness (X_1) has a direct influence on Intention to Use (Y) in the adoption of QRIS as a digital payment system among MSME merchants.

Perceived Ease of Use (X_2) Has a Direct Influence on Intention to Use (Y) in the Adoption of QRIS

Perceived ease of use refers to the belief that a technology can be utilized effortlessly and without complications (Taylor & Todd, 1995). Ease of use can also

be influenced by the interaction between users and their level of familiarity with the technology (Priambodo & Prabawani, 2016). The simpler the technology is to use, the stronger the intention to adopt it (Wicaksono, 2022). The availability of digital payment methods like QRIS allows users to complete transactions quickly and easily (Mahyuni & Setiawan, 2021). Similarly, MSME entrepreneurs are more inclined to adopt QRIS payments when they perceive the system as user-friendly, particularly in terms of ease of payment and comprehension (Venkatesh & Davis, 2000). Previous studies have confirmed the direct influence of perceived ease of use on intention to use, particularly among merchants utilizing QR code payments (Kusumayani et al., 2023; Sholihah & Nurhapsari, 2023). However, Altwairesh & Aloud (2021) found that an increased intention to adopt QRIS could also be driven by consumer demand, rather than ease of use alone. Based on this, the following hypothesis is proposed for further discussion:

> H_2: Perceived Ease of Use (X_2) has a direct influence on Intention to Use (Y) in the adoption of QRIS as a digital payment system among MSME merchants.

Perceived Ease of Use (X_2) Has a Direct Influence on Perceived Usefulness (X_1) in the Adoption of QRIS

Although the relationship between perceived ease of use and perceived usefulness is not explicitly detailed in the Technology Acceptance Model (TAM), ease of use is believed to directly impact the perceived usefulness of a system. A technology that is easy to use tends to enhance performance and satisfaction with minimal effort (de Luna et al., 2019; Syafika & Antonio, 2024). This relationship highlights that when adopting a new system, the ease of use should be emphasized, as it supports the perception of the system's usefulness (Alsyouf et al., 2023). In the context of QR code payments, the perceived ease of use of QRIS indicates its potential to provide value and improve performance. Previous studies have confirmed the direct influence of perceived ease of use on perceived usefulness in the context of QR code payments from a merchant's perspective (Husrizal Syah et al., 2022; Wardhani et al., 2023). However, earlier research does not specifically address the MSME sector. Therefore, further exploration of the following hypothesis is necessary:

> H_3: Perceived Ease of Use (X_2) has a direct influence on Perceived Usefulness (X_1) in the adoption of QRIS as a digital payment system among MSME merchants.

Perceived Ease of Use (X_2) Has an Indirect Influence on Intention to Use (Y) Through Perceived Usefulness (X_1) in the Adoption of QRIS

In the TAM, there is an indirect relationship between perceived ease of use and intention to use, mediated by perceived usefulness. This suggests that any change in the perception of ease of use will enhance the perceived usefulness of

adopting QRIS, which, in turn, positively impacts the intention to use it (Najib & Fahma, 2020). Similarly, Marangunić & Granić (2015) noted that ease of use indirectly affects users' intention by improving the perceived usefulness of a system. Based on these considerations, the following hypothesis is proposed:

H_4: Perceived Ease of Use (X_2) has an indirect influence on Intention to Use (Y) through Perceived Usefulness (X_1) in the adoption of QRIS as a digital payment system among MSME merchants.

LITERATURE REVIEW

Technology Acceptance Model (TAM)

The digital transformation of today has made the adoption of technology an important aspect for organizations which is why understanding factors that affect users' acceptance of technology is vital in facilitating the implementation of information systems towards meeting business goals (Sholihah & Nurhapsari, 2023). One of the most popular models in this area of studies is the Technology Acceptance Model (TAM) proposed by Davis in 1989. This model is developed based on the social psychological Theory of Reasoned Action (TRA) which depicts the relationship between the beliefs and the attitudes and behaviors of individuals (Montano & Kasprzyk, 2015).

TAM consists of two primaries of the model which influence with the acceptance of technology: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Perceived Usefulness (PU) defines as the degree to which a person believes that using a particular system would enhance their job performance within an organizational context. In simpler terms, if technology meets a person's needs and goals, they are more likely to accept it. To cite an example, users are likely to positively accept the use of Enterprise Resource Planning (ERP) software if they expect to improve data management and business processing. Perceived ease of use is the second component of the model. It is the degree to which users believe that a particular technology is easy to use and does not require much effort. Intuitive technologies are more likely to be adopted willingly. For instance, cloud-based applications tend to be more readily accepted when they have a user-friendly interface and ease to use (Davis, 1989).

Within the context of TAM, PU and PEOU can hamper the attitude toward use, which later contributes to the development of behavioral intention to use the technology. This behavioral intention can further predict the actual system use. Yet some studies suggest that this isn't entirely true as PU can directly influence behavioral intention on its own without modulating attitude. This shows that perceived value of technology is preeminent and as such, attitude is neither here, nor there when it comes to technology adoption (King & He, 2006).

TAM has been altered and improved over the years in order to be able to account for technology acceptance in all situations, and this is one of the changes

made to the model. Additional modification is the addition of the variable, intention to use, which depends upon both perceived usefulness and perceived ease of use. Other changes include adding new independent variables such as social norms, institutional trust, organizational trust (Venkatesh & Davis, 2000).
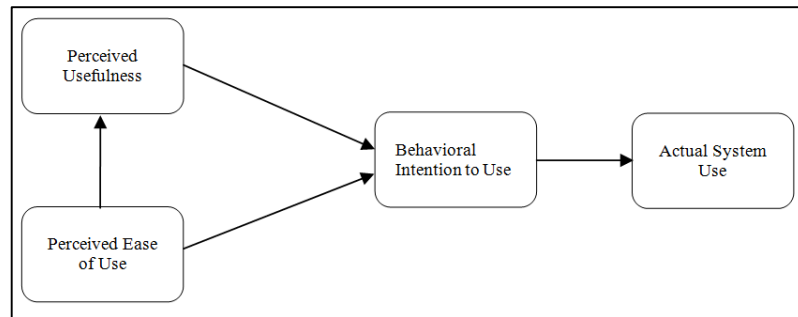

Figure 1. Technology Acceptance Model (TAM)
Source: Davis (1989)

According to Marangunić & Granić (2015), modifications to TAM can be made to explain user behavior for modern and more complex technologies, such as learning systems or AI-based applications. For example, the Unified Theory of Acceptance and Use of Technology (UTAUT) is a modified version of TAM that adds new factors, such as performance expectancy, effort expectancy, and social influence, to illustrate the more complex relations of technology acceptance.

Implications of TAM for Technology Implementation

In practice, the application of TAM has relevant consequences with respect to the design and implementation of technology. It is the responsibility of those organizations that adopt new technologies to ensure that they do not only provide some benefits but that they are also relatively simple to use by the intended users. For instance, in the case of ERP software implementation, adequate training and simplification of user interfaces is likely to improve an individual's perceived ease of use. Moreover, people's communication about the technology's advantages can improve perceived usefulness and increase intention to use the technology (Amin et al., 2015). Likewise, while intention to behave in a certain manner serves as predictor of usage behavior, a number of other issues such as users' technical assistance, adequate infrastructure, and supportive organizational culture for technology adoption may serve to influence real behavioral intention (King & He, 2006). Or simply put, whereas it is necessary to consider various factors, not only those that pertains to staff readiness, but also those that blind the organization, TAM offers a relevant approach for technology to be integrated.

Digital Payment Adoption

Altwairesh & Aloud (2021) explained that digital payment refers to a technology in the payment sector that can be utilized through the internet or

software applications. Its implementation allows financial transactions to be easily tracked and monitored. The shift from traditional payment methods to digital payments represents a transformation in users' behavior in managing and interacting with money (Hendrawan et al., 2023). The Fourth Industrial Revolution has driven the development of digital technology, which has extended to the payment sector, leading society into the era of digital payments (Tarantang et al., 2019). The advantages of digital payments are not only limited to ease of use but also include offering diverse payment options. Although traditional payment methods remain available, they do not hinder the continuous growth of digital payments, which aligns with the changing consumer behavior (Hendrawan et al., 2023).

QR Code Payment

In the recent payment environment, several popular payment methods have emerged, such as card payments, mobile payments using devices and the internet, and QR code payments (Puspita, 2019). QR code payment is a cashless transaction mechanism that only requires scanning a barcode. This system uses a two-dimensional barcode format that can be read by scanners on mobile devices (Liébana-Cabanillas et al., 2015). QR code payments have become a noteworthy phenomenon, leveraging mobile devices as digital wallets with extensive reach (Pham & Ho, 2015).

At present, QR codes come in various types depending on their issuers, raising concerns about potential fragmentation. To address this issue, Bank Indonesia, in collaboration with the Indonesian Payment System Association, developed the Quick Response Indonesian Standard (QRIS) as a standardized approach to all QR-based non-cash payments. By using QR codes, QRIS simplifies the payment process across various applications and enables users to utilize a single code for transactions with different digital payment service providers. This initiative enhances platform interoperability, increases efficiency, and improves the ease of conducting transactions (Sihaloho et al., 2020).

RESEARCH METHODOLOGY

This research adopts a quantitative research approach that measures phenomena and observable symptoms based on a predetermined sample to test hypotheses, with a focus on numerical calculations (Neuman, 2014). This study explores a causal relationship by investigating cause-and-effect connections, characterized by the presence of an independent variable (the influencing factor) and a dependent variable (the influenced factor) (Neuman, 2014). Furthermore, this research falls under the category of basic research, aiming to contribute to the development of existing theories (Nazir, 2014).

The primary data for this study were collected through a structured questionnaire containing statements related to the indicators of the research variables. These questionnaires were distributed to MSME merchants in the

Culinary Tourism Center in Surabaya, selected based on specific criteria as the research subjects. Additionally, unstructured interviews were conducted to enrich and validate the information obtained. The sampling method employed was non-probability sampling, which does not provide equal chances for all elements of the population to be selected. Instead, purposive sampling was used, involving deliberate selection based on predetermined criteria (Neuman, 2014). The criteria for selecting respondents included the following:

1. Being MSME merchants in the culinary sector who are part of the Culinary Tourism Center in Surabaya.
2. Owning a business categorized as a microenterprise with annual sales below IDR 300,000,000.
3. Offering QRIS payment options, which have been in use for at least the past month.

RESULT AND DISCUSSION

Consistency Convergent Validity

In the measurement model, an evaluation of the reflective measurement model, also known as internal consistency reliability, is conducted. This includes assessing reliability through Outer Loadings, which aim to measure the relationship between indicators and their constructs. The acceptable threshold for outer loadings is > 0.70 (Hair et al., 2019). Furthermore, Composite Reliability (CR) > 0.70 serves as a measure indicating a higher level of reliability. In other words, it is used to assess the consistency among indicators of the same variable (Hair et al., 2019). In addition, a similar measure, Cronbach's Alpha, with a value > 0.70, serves the same purpose of measuring the consistency of reliability across indicators of the same variable (Hair et al., 2021). To evaluate convergent validity for each variable, the Average Variance Extracted (AVE) is required, with an acceptable value of > 0.50. This is used to determine the extent to which variables are related in explaining their indicator items (Hair et al., 2019).

Table 1. Outer Loading, Composite Reliability, Cronbach's Alpha, and Average Variance Extracted (AVE)

Variable	Measurement Item	Outer Loading	Conbach's Alpha	Composite Reliability	AVE
Perceived Usefulness	$X_1.1$	0.714	0.798	0.860	0.553
	$X_1.2$	0.794			
	$X_1.3$	0.747			
	$X_1.5$	0.725			
	$X_1.6$	0.734			
	$X_2.1$	0.783	0.821	0.875	0.583

Perceived Ease of Use	X₂.2	0.780			
	X₂.3	0.728			
	X₂.6	0.768			
	X₂.7	0.755			
Intention to Use	Y₁.1	0.514	0.822	0.883	0.657
	Y₁.2	0.579			
	Y₁.4	0.847			
	Y₁.5	0.829			

Source: Processed Data by Researchers

Table 1 illustrates that the variable Perceived Usefulness comprises five measurement items included in the model, as their outer loading values range between 0.714 and 0.794 (≥ 0.70), indicating strong relationships with the variable. Conversely, the measurement item $X_1.4$ was excluded from the model due to its outer loading value of 0.358, rendering it invalid (Hair et al., 2021). Furthermore, the consistency of the measurement items was assessed using Cronbach's alpha, which yielded a value of 0.798 (≥ 0.70), and composite reliability, which was 0.860 (≥ 0.70), both demonstrating acceptable reliability. Convergent validity was confirmed with an AVE value of 0.553 (≥ 0.50). Among the retained measurement items, $X_1.2$ (outer loading = 0.794), representing "QRIS payment minimizes physical contact," and $X_1.3$ (outer loading = 0.747), representing "QRIS payment security," were identified as the strongest indicators. These findings suggest that utilizing QR Code-based payments, which leverage mobile technology and internet connectivity, effectively minimizes physical contact and enhances security for both parties involved (Su et al., 2018).

The variable Perceived Ease of Use also consists of five measurement items retained in the model, as their outer loading values range between 0.728 and 0.783 (≥ 0.70), indicating strong relationships with the variable. However, measurement items $X_2.4$ and $X_2.5$ were excluded due to their respective outer loading values of 0.271 and 0.495 (≤ 0.70), as these items were deemed inadequate in representing all aspects of the variable (Hair et al., 2021).

The internal consistency of the retained items was demonstrated by a Cronbach's alpha value of 0.821 (≥ 0.70) and composite reliability of 0.875 (≥ 0.70), both of which were deemed satisfactory. Convergent validity was established with an AVE value of 0.583 (≥ 0.50). Among the retained items, $X_2.1$ (outer loading = 0.783), which represents "ease of learning to operate QRIS," and $X_2.2$ (outer loading = 0.780), which represents "clarity and simplicity of QRIS use," were the strongest indicators. These findings highlight that comprehensive features and the availability of user tutorials significantly enhance the ease of adopting the technology (Widowati & Khusaini, 2022).

The variable Intention to Use retained four measurement items in the model, with outer loading values ranging from 0.709 to 0.914 (≥ 0.70), indicating strong

relationships with the variable. However, measurement item $Y_1.3$ was excluded due to its outer loading value of 0.538, as it failed to adequately represent the variable's dimensions (Hair et al., 2021).

The reliability of the retained items was confirmed by Cronbach's alpha (0.822, $\geq$ 0.70) and composite reliability (0.883, $\geq$ 0.70), both of which were deemed acceptable. Convergent validity was verified with an AVE value of 0.657 ($\geq$ 0.50). Among the retained items, $Y_1.1$ (outer loading = 0.914), representing "interest in using QRIS," and $Y_1.2$ (outer loading = 0.780), representing "consistent use of QRIS," emerged as the strongest indicators. These results suggest that a strong interest in adopting a technology typically leads to consistent use over time (Wicaksono, 2022).

Discriminant Validity Measurement

Discriminant validity was assessed using the method proposed by Fornell & Larcker (1981), which compares the correlation between a given variable and other variables, ensuring that these correlations are lower than the AVE value of each variable. Additionally, Henseler et al. (2015) recommend the Heterotrait-Monotrait (HTMT) ratio for measuring discriminant validity, where an HTMT value below 0.90 indicates acceptable discriminant validity. Cross-loading analysis was also conducted as a complementary method to assess discriminant validity by comparing the association of each indicator with its corresponding variable against other variables (Hair et al., 2021).

Table 2. Fornell-Larcker Test

	Intention to Use	Perceived Usefulness	Perceived Ease of Use
Intention to Use	**0.810**		
Perceived Usefulness	0.837	**0.743**	
Perceived Ease of Use	0.627	0.738	**0.763**

Source: Processed Data by Researchers

This test involves calculating the correlation between variables compared to the square root of the AVE for each variable (Hair et al., 2019). Based on Table 2, the variable Perceived Usefulness has a value of 0.730, and the variable Perceived Ease of Use has a value of 0.628, both of which are lower than the variable Intention to Use, with a square root of AVE of 0.810. Similarly, the variable Perceived Ease of Use shows a correlation of 0.730, which is lower than its square root of AVE of 0.743. Therefore, the Fornell and Larcker test demonstrates that the variables are theoretically and empirically distinct.

Table 3. Heteroit Monotrait Ratio (HTMT) Test

	Intention to Use	Perceived Usefulness
Perceived Usefulness	0.862	
Perceived Ease of Use	0.748	0.887

Source: Processed Data by Researchers

Validity is achieved when the HTMT value is ≤ 0.90 for each pair of variables (Hair et al., 2019). Based on Table 3, it can be stated that the relationship between the variables Intention to Use and Perceived Usefulness shows an HTMT value of 0.862. The relationship between Intention to Use and Perceived Ease of Use indicates an HTMT value of 0.748. Additionally, the relationship between Perceived Ease of Use and Perceived Usefulness shows an HTMT value of 0.887. All related variables demonstrate HTMT values ≤ 0.90, confirming that each variable is distinct from the others.

Table 4. Cross Loading Test

Variable	Indicator	X_1	X_2	Y
Perceived Usefulness	$X_1.1$	**0.719**	0.670	0.647
	$X_1.2$	**0.788**	0.443	0.472
	$X_1.3$	**0.728**	0.446	0.587
	$X_1.5$	**0.738**	0.571	0.480
	$X_1.6$	**0.742**	0.556	0.471
Perceived Ease of Use	$X_2.1$	0.515	**0.785**	0.448
	$X_2.2$	0.626	**0.788**	0.486
	$X_2.3$	0.496	**0.725**	0.428
	$X_2.6$	0.578	**0.760**	0.531
	$X_2.7$	0.586	**0.757**	0.489
Intention to Use	$Y_1.1$	0.702	0.614	**0.914**
	$Y_1.2$	0.679	0.572	**0.885**
	$Y_1.4$	0.409	0.423	**0.711**
	$Y_1.5$	0.508	0.382	**0.709**

Source: Processed Data by Researchers

Discriminant validity can be assessed through cross-loading analysis for each indicator. This test measures the degree of correlation between a construct and its indicators. The greater the cross-loading value of an indicator for its construct, the stronger the evidence of good discriminant validity (Hair et al., 2021). Based on

Table 4, if the cross-loading value of an indicator for its construct is greater than its value for other constructs, the indicator is considered to exhibit good discriminant validity. Conversely, cross-loading values ≤ 0.50 are deemed invalid (Hair et al., 2019). The results demonstrate that all items exhibit appropriate cross-loading values, indicating high-quality measurement items.

Hypothesis Testing

For hypothesis testing in this study, data were processed using the bootstrapping feature with a 95% confidence interval. Parameter estimates for path coefficients and f-square values were used to evaluate the magnitude and significance of structural relationships between variables.

Table 5. Hypothesis Testing

Hypothesis	Path Coefficient	p-value	95% Confidence Interval		f-square
			Lower Bound (5.0%)	Upper Bound (95.0%)	
H_1: Perceived Usefulness $(X_1) \rightarrow$ Intention to Use (Y)	0.581	**0.000**	0.258	0.783	0.353 (high)
H_2: Perceived Ease of Use $(X_2) \rightarrow$ Intention to Use (Y)	0.198	**0.151**	-0.123	0.493	0.040 (low)
H_3: Perceived Ease of Use $(X_2) \rightarrow$ Perceived Usefulness (X_1)	0.738	**0.000**	0.622	0.855	1.195 (high)
H_4: Perceived Ease of Use $(X_2) \rightarrow$ Intention to Use (Y) using Perceived Usefulness (X_1)	0.429	**0.000**	0.273	0.664	-

Source: Processed Data by Researchers

Hypothesis 1 is accepted as it demonstrates a direct influence of perceived usefulness on intention to use, with a path coefficient of 0.581 and a p-value of 0.000 (≤ 0.05). This indicates that any improvement in perceived usefulness will enhance the intention to use QRIS among MSME entrepreneurs. At a 95% confidence interval, the impact of perceived usefulness on intention to use lies within the range of 0.258 to 0.783. This finding is relevant to the significant role of perceived usefulness in increasing intention to use, as reflected in the f-square value of 0.353 (≥ 0.350 = high). With the increasing promotion of QRIS programs by Bank Indonesia, particularly targeting MSME entrepreneurs, the perceived benefits of QRIS for business sustainability are driving the intention to use it, potentially up to 0.783. These results are consistent with previous studies by Altwairesh & Aloud (2021), Singh & Sinha (2020), and Altounjy et al. (2020).

Hypothesis 2 is rejected as it shows no significant direct influence of perceived ease of use on intention to use, with a path coefficient of 0.198 and a p-value of 0.125 ($\geq$ 0.05). This indicates that changes in perceived ease of use are insufficient to significantly enhance the intention to use QRIS among MSME entrepreneurs. At a 95% confidence interval, the influence of perceived ease of use on intention to use ranges from -0.123 to 0.493. This finding is supported by an f-square value of 0.040 (< 0.15 = low), suggesting a weak relationship between perceived ease of use and intention to use. While most MSME entrepreneurs are willing to adopt QRIS due to consumer demand and the opportunity to meet market needs, ease of use is not a decisive factor in improving their intention to use QRIS. Thus, perceived ease of use alone cannot guarantee an increased intention to use QRIS among MSME entrepreneurs, with its influence reaching only up to 0.493. These findings are aligned with prior studies by Husrizal Syah et al. (2022), Liébana-Cabanillas et al. (2015), Altounjy et al. (2020), and Altwairesh & Aloud (2021).

Hypothesis 3 is accepted as it reveals a direct influence of perceived ease of use on perceived usefulness, with a path coefficient of 0.738 and a p-value of 0.000 ($\leq$ 0.05). This indicates that any improvement in perceived ease of use will enhance the perceived usefulness of QRIS for MSME entrepreneurs. At a 95% confidence interval, the impact of perceived ease of use on perceived usefulness lies within the range of 0.622 to 0.855. The significant role of perceived ease of use in increasing perceived usefulness is further confirmed by an f-square value of 1.195 ($\geq$ 0.350 = high). This suggests that MSME entrepreneurs who perceive QRIS as easy to use are also likely to perceive it as beneficial for their business sustainability, with the potential impact reaching 0.855. These findings align with studies by Mufarih et al. (2020), Wardhani et al. (2023), and Syafika & Antonio (2024).

Hypothesis 4 is accepted as it demonstrates an indirect influence of perceived ease of use on intention to use through the mediating variable of perceived usefulness, with a path coefficient of 0.429 and a p-value of 0.000 ($\leq$ 0.05). This indicates that improvements in perceived ease of use will enhance the perceived usefulness of QRIS, subsequently leading to a positive influence on the intention to use QRIS among MSME entrepreneurs. At a 95% confidence interval, the substantial indirect influence lies within the range of 0.273 to 0.664. While the f-square value cannot be determined for indirect effects, these findings suggest that MSME entrepreneurs who become accustomed to using QRIS, recognizing its ease and usefulness, will develop stronger intentions to adopt QRIS for their business sustainability. These results are consistent with prior studies by Moslehpour et al. (2018) and Sindarta & Santoso (2022).

CONCLUSION

MSME entrepreneurs' perceptions of the usefulness of QRIS have a direct influence on their intention to use it, while their perceptions of ease of use do not have a direct influence on their intention to use QRIS. However, perceived ease of use indirectly influences their decision through perceived usefulness. Moreover, perceived ease of use directly influences perceived usefulness in adopting QRIS. This research delivers insightful details concerning the acceptance of payment technology, particularly digital payment systems, in Indonesia. The practical implications of this research are expected to contribute to fostering new habits among MSME entrepreneurs in adopting QR Code-based digital payments. This adaptation is particularly relevant in encouraging a broader acceptance of QRIS as part of digital transformation efforts.

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