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The Impact of QRIS Convenience on Non-Cash Transaction Satisfaction: The Role of Usage as an Intervening Factor

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ABSTRACT

This research aims to analyze the impact of QRIS (Quick Response Code Indonesian Standard) convenience on non-cash transaction satisfaction among Bank Muamalat customers, with usage as an intervening factor. Employing a quantitative approach, primary data were collected via questionnaires. The data analysis utilized the Structural Equation Model (SEM) based on Partial Least Square (PLS) and path analysis techniques. The findings reveal a significant positive relationship between the convenience of QRIS and customer satisfaction with non-cash transactions at Bank Muamalat. Additionally, the study demonstrates that usage partially mediates the effect of QRIS convenience on customer satisfaction. This research contributes to the literature by examining the influence of QRIS convenience on non-cash transaction satisfaction, with a particular focus on the mediating role of usage. Understanding the pivotal role of perceived convenience in fostering customer satisfaction and loyalty allows Bank Muamalat to tailor its strategies to better meet customer expectations, thereby promoting continued use of QRIS for non-cash transactions.

KEYWORDS
Convenience
Satisfaction
Usage
QRIS
Non-cash transaction

Introduction

Technological advances in today's digital era have spread to almost all aspects of life, including fintech. Fintech is an innovation in finance that refers to modern technology (Ansori, 2019). Transaction activities are an integral part of daily life, and while Automated Teller Machines (ATMs) were once satisfactory, customers now find little difference between using them and going to the bank in person, often having to wait in queues either way (Irawan, 2004). However, the current reality is different. The bank offers numerous services to facilitate customers' non-cash transactions electronically, thereby eliminating the need for direct physical contact.

Bank Indonesia introduced QRIS (Quick Response Code Indonesian Standard), a national standard Quick Response Code system for non-cash transactions, combining multiple payment methods into one code. This initiative, initiated in 2016 through the National Non-Cash Movement, aims to boost non-cash payment usage in Indonesia. Starting January 1, 2020, all non-cash payment service providers must adopt QRIS to enhance payment efficiency, promote greater financial access, support small and medium enterprises, and foster economic expansion. Bank Indonesia itself carries a theme named "*UNGGUL*" spirit from the existence of QRIS, namely, *Universal*, *GampanG* (easy), *Untung* (benefit), *Langsung* (direct).

Bank Muamalat Indonesia is part of the Islamic banking sector. It prioritizes financial management through an intermediary role utilizing a profit-sharing system (Aviva et al., 2020). Operating without applying interest or *usury* (*riba*) (Dewi & Hakim, 2022). Bank Muamalat Indonesia, established on November 1, 1991, by the Indonesian Ulema Council (MUI) and the Government of Indonesia, operates according to Sharia principles. It actively provides non-cash transaction services, significantly enhancing efficiency and productivity, particularly in bustling urban areas. Some researchers say that using non-cash transaction services with QRIS has benefits such as more accessible and faster transactions, customers not

needing to carry cash, and improved performance and productivity (Dwijayant et al., 2022). On January 13, 2023, As per the official website of Bank Muamalat Indonesia's report, Wahyu Avianto, the Director of operations and digital at Bank Muamalat, stated that the trend of digital payments using the QR code feature is currently increasing rapidly with the presence of regulations from Bank Indonesia which establishes QRIS. Bank Muamalat Indonesia is expanding the use of QR code scanning features for transactions at tens of millions of merchants using QRIS, with permission as an acquirer from Bank Indonesia. The public can also use the QR code from Bank Muamalat (Bank Muamalat, 2023). Then he also said, "Bank Muamalat recorded significant growth in the use of QRIS services yearly. Total transactions via QRIS as of March 31, 2023, were recorded as many as 195,048 times or grew 296% on an annual basis (year on year (yoy); the total transaction growth was in line with the increase in transaction volume in the same period of 333% (yoy). The value increased more than four times from IDR8.98 billion as of March 31, 2022, to IDR38.92 billion as of March 31, 2023" (Avianto, 2023). The researchers chose Bank Muamalat as the research site because of the significant growth of non-cash transactions following the introduction of the trend in non-cash payment technology with QRIS.

However, the success of QRIS implementation in meeting customer needs and expectations needs to be evaluated. One indicator that can be used to measure the success of QRIS implementation is customer satisfaction with non-cash transactions. Based on previous research, there are several variables tested to measure non-cash transaction satisfaction for customers, including perceived benefits (Hady et al. 2020; Silalahi et al., 2022; Nainggolan et al., 2022; Rahmawati & Murtanto, 2023); security (Hady et al., 2020; Silalahi et al., 2022), convenience (Hady et al., 2020; Nainggolan et al., 2022; Juan & Indrawati, 2023; Akhyar & Sisilia, 2023; Rachmacandrani et al., 2023), service quality (Sari & Raya, 2022; Rachmacandrani et al., 2023), and risk perception (Silalahi et al., 2022; Nainggolan et al., 2022). The findings indicated that every tested variable had a noteworthy and favorable impact on QRIS transaction satisfaction. Customer contentment is significant in maintaining customer loyalty and creating a positive transaction experience. Based on previous studies, several variables, namely the convenience variable, are the same in measuring the satisfaction of non-cash transactions with QRIS in this study.

This is in line with the TAM (Technology Acceptance Model) theory, which says that TAM is a technology system that provides benefits and convenience for its users, which can influence user behavior. This theory was developed by Davis (1989) and has added the primary constructs of perceived benefits and perceived ease of use. TAM theory explains that these two primary constructs determine user acceptance of information systems (Wahyu & Fitriyani, 2021). The connection between the TAM theory and this research lies in the ease of use for the users, as it is the most widely used by researchers and positively influences measuring individuals' confidence that using a particular technology will be effortless and free of effort, like in using QRIS services, which can provide convenience for its users. This aligns with the research conducted by Rahmawati and Murtanto (2023), which found that the ease of using QRIS is excellent; users do not encounter difficulties simply by scanning QR codes without needing multiple payment applications. Thus, consumers can quickly implement it in payment transactions (Rahmawati & Murtanto, 2023). Suppose QRIS is perceived as easy to use. In that case, customers will likely accept and utilize the service, which can enhance users' satisfaction with their non-cash transaction experiences. Therefore, based on the ease of use referring to QRIS ease, researchers attempt to reassess whether it remains the same or relevant when researching Bank Muamalat customers in Palangka Raya. However, this research focuses on determining whether factors can connect or mediate the influence of ease of use on satisfaction with non-cash transactions. Therefore, the researcher utilizes the usage variable, which refers to QRIS services. If more customers use QRIS services, they will assume that QRIS is easy to use and will increase its users' satisfaction. However, the lingering question is whether usage can mediate the influence of ease of use on satisfaction with non-cash transactions.

Based on preliminary observations, one of the Islamic banking institutions that participates in adopting QRIS in its operation is Bank Muamalat KCU Palangka Raya, which is located on Jl. Diponegoro No.17,

Langkai, Kec. Pahandut, Palangka Raya City, Central Kalimantan. The bank adopts QRIS as a non-cash payment method. In addition, Bank Muamalat KCU Palangka Raya has implemented QRIS in its banking services. However, with that being said, further examination is still necessary because even though Bank Muamalat KCU Palangka Raya has adopted QRIS as a non-cash payment method and has implemented it in banking services, there is still uncertainty as to whether the implementation of QRIS significantly increases user satisfaction in non-cash transactions, particularly among Bank Muamalat customers. This is because the use of QRIS may be due to the trend of increasingly advanced technology or because of the ease of use of QRIS itself. This study aims to analyze and understand the influence of QRIS ease on non-cash transaction satisfaction among Bank Muamalat customers through usage factors. It contributes to examining the extent to which customers perceive ease and what drives them to use QRIS, ultimately leading to satisfaction with its usage. Consequently, it will provide valuable insights for the public, other researchers, and relevant institutions, particularly Bank Muamalat. In practical terms, this research contribution can assist Bank Muamalat in devising more effective marketing strategies to increase QRIS adoption among their customers and improve features still suboptimal in their QRIS application, thereby enhancing customer satisfaction and loyalty.

Literature Review

Quick Response Code Indonesian Standard (QRIS)

QRIS, or Quick Response Code Indonesian Standard, consolidates QR codes from multiple payment service providers, facilitating quicker, safer transactions through collaboration with Bank Indonesia (Nurdin et al., 2021). QRIS, a payment system utilizing a common delivery channel, aims to standardize QR code-based payment transactions. It was introduced by the Central Bank of Indonesia and the Indonesian Association of Payment Systems (ASPI). The international standard EMV Co (European MasterCard Visa) is the basic standard for preparing QRIS. The standard is used to support interconnection and interoperability between providers, between instruments, and between countries so that it can be open source (Carera et al., 2022). According to Paramitha and Kusumaningtyas (2020), QRIS has characteristics called UNGGUL, where these QRIS characteristics are used by researchers as indicators of QRIS usage, including *Universal*, QRIS is inclusive, Utilized across all strata of society and applicable for both domestic and international payment transactions; *GampanG* (easy), where individuals can conduct transactions conveniently and securely with just the touch of their hand; *Untung* (benefit), Transactions utilizing QRIS are advantageous for both purchasers and vendors, as they facilitate efficient transactions via a single QR code accepted across various mobile payment applications; *Langsung* (direct), transactions conducted using QRIS are promptly completed thanks to its rapid and instantaneous process, thereby facilitating a seamless payment system.

Technology Acceptance Model (TAM) Theory

The study utilizes the Technology Acceptance Model (TAM) to understand technology acceptance. TAM theory was initiated by Davis (1989). The theory was adapted from The Theory of Reasoned Action (TRA) initially formulated by Ajzen and Fishbein. The TAM model was developed to explain behavioral decisions in using technology systems, which are based on the characteristics of technology systems that affect interest in using them (Rahman & Supriyanto, 2022). Davis (1989) explains that the TAM theory consists of two main components, namely perceived usefulness and perceived ease of use, which influence behavioral decisions on use (Davis, 1989). TAM forecasts how individuals, as users, perceive, utilize, and exploit technology to enhance their performance (Prastyatini & Gala, 2023). Alternatively, it delineates how technology users perceive and employ it in tasks (Putri & Rahardjo, 2023).

Convenience

Davis (1989) explains that perceived ease relates to how much a person thinks using a particular system can reduce the effort needed to complete a task. Perceived ease refers to the extent to which an individual believes technology can be comprehended and utilized effortlessly. Perceived ease refers to the degree to

which an individual perceives using a technology as effortless. Ease of use means freedom from complexity and problems (Huddin & Masitoh, 2021). So, if someone feels confident that QRIS technology is easy to use, they will surely use it. Conversely, if someone believes QRIS technology is not easy to use, they will not use it. The relationship between the convenience variable and ease of use in this research is emphasized by Davis (1989) as the extent to which a person believes that using a particular system can reduce the effort required to complete a task, such as the ease of use of QRIS technology. This refers to how easily individuals consider QRIS technology to use, influencing their decision to adopt it. Therefore, Davis (1989) developed several indicators related to the perceived ease of use of technology, which consisted of easy to learn, clear and understandable, easy to become proficient, easy to use, controllable, flexible (Maharama & Kholis, 2018).

Satisfaction

Satisfaction is a condition of assessment of the level of pleasure felt from a service he gets (Dewa & Safitri, 2020). Satisfaction is seen as a choice influenced by users' impressions and experiences, and it involves emotional or cognitive reactions to expectations and consumption experiences (Khaliq, 2018). Satisfaction is a condition when users are satisfied, both with the quality of the product/service and the overall interaction felt by the user (Selvia, 2022). Non-cash transaction satisfaction refers to the level of customer or user satisfaction with their experience in making transactions using non-cash methods (Nasrida & Nanda, 2023). Indicators that determine satisfaction are needed to determine customer satisfaction. According to Irawan (2004) satisfaction indicators are feeling satisfied (in the sense of being satisfied with the product and service), always buying/using the product, recommending it to others, and fulfilling customer expectations after buying/using it.

The framework that is expected to become a hypothesis in this study is presented in Figure 1.

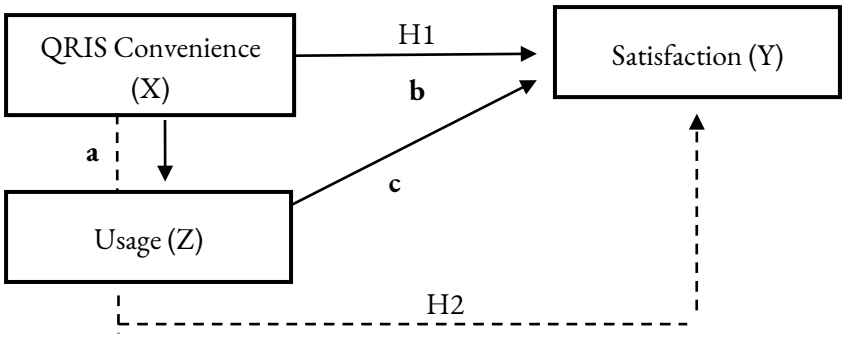

Figure 1. Research Model

Hypothesis Development

The effect of QRIS convenience on non-cash transaction satisfaction

The ease of use refers to how much a person perceives that using a technology will require minimal effort (Jogiyanto, 2007). Davis (1989) delineates perceived ease of use as the conviction regarding ease of operation, signifying the extent to which users perceive the technology/system as effortless and devoid of complications. The frequency and quality of interaction between users and the system can also indicate ease of use (Davis, 1989). Therefore, in this study, the relationship is that when someone is confident that QRIS technology is easy to use, they will use it. Conversely, if someone believes QRIS technology is challenging to use, they will not use it, and if the QRIS technology becomes more accessible, it will increase user satisfaction.

Several studies have confirmed that convenience can influence satisfaction, such as the research results conducted by Hady et al. (2020) asserted that the convenience level partially impacts customer satisfaction when utilizing QRIS at Bank Syariah Indonesia. Furthermore, Nainggolan et al. (2022) came across comparable findings, indicating the significant ease of use of QRIS and demonstrating that the ease of use

of QRIS partially influences user satisfaction. Then it is also in line with the research found by Basyar and Sanaji (2016). The findings indicated that there is a direct and meaningful correlation between perceived convenience and satisfaction, indicating that the higher the perceived convenience, the more satisfaction will also increase (Basyar & Sanaji, 2016). This can also be explained based on the TAM theory, which states that ease of use can determine the acceptance of technology usage. Suppose QRIS is perceived as easy to use. In that case, customers will likely accept and utilize the service, which can enhance users' satisfaction with their non-cash transaction experiences. Therefore, the initial hypothesis of this research is stated as follows:
H1. The convenience of QRIS has a positive and significant effect on non-cash transaction satisfaction.

The effect of QRIS convenience through use as an intervening variable on non-cash transaction satisfaction

In the Big Indonesian Dictionary (KBBI), use is defined as the process, the act of using something, the use of (KBBI, 2001). Use is an activity of using or buying something for goods and services. Buyers and users can also be referred to as consumers of goods and services. In this study, usage is the use of QRIS services. Usage can also describe a change from a negative state or trait to a positive one. Meanwhile, the results of a use can be in the form of quantity and quality. The result of a use is also characterized by achieving goals at a certain point. When an effort or process has reached that point, there will be satisfaction with the expected achievement.

One factor that influences someone to use something is perceived convenience. One of the factors influencing individuals to use something is perceived ease of use. The influence of QRIS ease on satisfaction with non-cash transactions mediated by usage can be explained through two stages: first, the influence of QRIS ease itself on QRIS service usage, the easier the QRIS technology, the higher the number of customers who will use QRIS. This means that the ease of QRIS technology will encourage more people to use the system for non-cash transactions. Second, the influence of QRIS service usage on satisfaction with non-cash transactions: the more frequently someone uses QRIS service in non-cash transactions, the higher the level of satisfaction they experience. This means the more active and numerous users use QRIS services, the greater their satisfaction. Therefore, usage is used here as an intervening variable to measure the influence of QRIS ease on satisfaction with non-cash transactions. If more Bank Muamalat customers use QRIS, they will likely experience increased transaction ease. This can also enhance customer satisfaction. Therefore, The second hypothesis of this investigation is articulated in the following manner:
H2. Usage can mediate the effect of QRIS convenience on non-cash transaction satisfaction

Research Method

This research employs quantitative approaches utilizing primary data gathered via questionnaires employing a Likert scale ranging from 1 to 5. The sampling method used is non-random, employing an incidental sampling technique where individuals encountered by the researcher are chosen as samples based on suitability as data sources (Nugraha et al., 2023).

The population of this research is all Bank Muamalat customers who use non-cash transaction services using QRIS. The sample of this research is Bank Muamalat customers in Palangka Raya City who use non-cash transaction services with QRIS. The sample size in this study is determined using the Lemeshow formula (Saputra et al., 2023) due to an unknown or infinite population. According to the findings of the Lemeshow formula, a sample size of 96.04 individuals was acquired and rounded to 100. Therefore, the study will utilize 100 respondents of Bank Muamalat customers who use non-cash transaction services with QRIS. The research was conducted from November 21, 2023, to January 21, 2024.

The analysis techniques employed in the study involve assessing both the outer model (measurement model) and the inner model (structural model) utilizing a Partial Least Square (PLS) based Structural Equation Model (SEM) analysis model using path analysis techniques (Ghodang, 2020). Therefore, researchers use an application called Smart-PLS in the data analysis process. The variables in this study are QRIS convenience (X), satisfaction (Y), and usage (Z). Usage acts as an intervening variable between

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exogenous variables and endogenous variables that connect the effect of QRIS convenience on non-cash transaction satisfaction for Bank Muamalat customers.

Results and Discussion

The attributes of participants considered in this research comprise gender, age, occupation, and the number of uses of QRIS services distributed to 100 respondents through questionnaires. Respondents consisted of 40 men and 60 women who were all customers of Bank Muamalat and had used non-cash transactions with QRIS.

Table 1. Characteristics of Respondents

No	Description	Classification	Number of Respondents	Percentage
1.	Gender	Male	40	40%
		Female	60	60%
	Total		100	100%
2.	Age	19-22 Years	86	86%
		23-26 Years	11	11%
		27-30 Years	3	3%
	Total		100	100%
3.	Jobs	Self-employed	3	3%
		Employee	11	11%
		Student	79	79%
		Other Occupations	7	7%
	Total		100	100%
4.	Number of QRIS Usage	1 Time	14	14%
		2 Times	6	6%
		> 3 Times	80	80%
	Total		100	100

Source: Primary Data Processed (2024)

Based on Table 1, 14 people have used QRIS 1 time, 6 people have used QRIS 2 times, and 80 people have used QRIS >3 times while being a customer of Bank Muamalat. The respondents' ages are 86, 19-22 years, 11, 23-26 years, and 3, 27-30 years. There are 79 people with student status, 11 working as employees, three working as self-employed, and seven working other jobs. The questionnaire distribution in this research shows that most respondents are Bank Muamalat customers in Palangka Raya who are still students. Students are more open to new technologies, including non-cash payment methods like QRIS. Therefore, they are more interested in participating in this research.

Evaluation of the Measurement Model (Outer Model)

The study's measurement model includes tests for validity and reliability, where validity is assessed through convergent and discriminant tests. The strength of the correlation between each measurement item and its underlying construct is evaluated through the outer loading value (λ), determining convergent validity. Hair et al. (2021) suggest that an outer loading value exceeding 0.7 is considered optimal, signifying the significance of the indicator as a measure of the latent variable. In the meantime, the discriminant validity test can be observed through the cross-loading value. The discriminant validity test examines if indicators of a construct correlate more with its measurement items than with those of other constructs, indicating the construct's predictive strength within its block.

The reliability assessment in this research can be evaluated through the Cronbach's alpha value, composite reliability, and average variance extracted (AVE). Composite reliability is determined by examining the coefficients of the latent variables. These coefficients are assessed based on Cronbach's alpha and composite reliability. A value greater than 0.70 for composite reliability and Cronbach's alpha indicates reliability and validity (Hair et al., 2011). Meeting these criteria implies that the construct is reliable and

consistent within the research instrument. Additionally, the average variance extracted (AVE), commonly utilized, should be at least 0.50 (Hair et al., 2011). Based on this explanation, the results of the measurement model evaluation (outer model) are shown in Table 2, which displays the research findings.

Table 2. Evaluation of the Measurement Model (Outer Model)

Variable	Indikator	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE	Description
QRIS Convenience (X)	X1.1	0.800	0.954	0.955	0.688	Valid and Realible
	X1.2	0.837				
	X1.3	0.861				
	X1.4	0.880				
	X1.5	0.894				
	X1.6	0.824				
	X1.7	0.856				
	X1.8	0.810				
	X1.9	0.813				
	X1.11	0.802				
	X1.12	0.739				
Satisfaction (Y)	Y1.1	0.725	0.932	0.936	0.625	Valid and Realible
	Y1.2	0.856				
	Y1.3	0.706				
	Y1.4	0.856				
	Y1.5	0.799				
	Y1.6	0.702				
	Y1.7	0.724				
	Y1.8	0.828				
	Y1.9	0.799				
	Y1.10	0.881				
Usage (Z)	Z1.1	0.721	0.901	0.902	0.628	Valid and Realible
	Z1.4	0.800				
	Z1.5	0.835				
	Z1.6	0.809				
	Z1.7	0.797				
	Z1.9	0.807				
	Z1.10	0.773				

Source: Primary Data Processed (2024)

Based on the results of Table 2, the researcher conducted two runs of data to obtain the outer loading value of valid variable indicators. In the first run, there are several variable indicators whose outer loading value is below 0.7, namely, X1.10 (0.646), Z1.2 (0.613), Z1.3 (0.654), and Z1.8 (0.650). Then, the second run gets all the outer loading values per the standard above 0.7, so all data is valid. The Cronbach's alpha and composite reliability values for each variable exceed 0.7, and the AVE value for all variables surpasses 0.5, indicating that all variables meet the reliability criteria and are deemed valid for further structural model evaluation.

The findings presented in Table 3 show that all the indicators satisfy the criteria for discriminant validity. The table illustrates that the cross-loading values for indicators within their respective constructs/variables exceed those of other indicators.

Table 3. Cross Loading Value

Indicator	QRIS Convenience (X)	Satisfaction (Y)	Usage (Z)
X1.1	0.800	0.623	0.704
X1.2	0.837	0.637	0.624
X1.3	0.861	0.605	0.676
X1.4	0.880	0.684	0.752
X1.5	0.894	0.726	0.682
X1.6	0.824	0.744	0.626
X1.7	0.856	0.702	0.770
X1.8	0.810	0.649	0.679
X1.9	0.813	0.750	0.615
X1.11	0.802	0.716	0.598
X1.12	0.739	0.676	0.564
Y1.1	0.507	0.725	0.570
Y1.2	0.645	0.856	0.658
Y1.3	0.552	0.706	0.546
Y1.4	0.645	0.856	0.658
Y1.5	0.684	0.799	0.583
Y1.6	0.635	0.702	0.607
Y1.7	0.616	0.724	0.473
Y1.8	0.687	0.828	0.547
Y1.9	0.743	0.799	0.671
Y1.10	0.748	0.881	0.661
Z1.1	0.597	0.515	0.721
Z1.4	0.607	0.616	0.800
Z1.5	0.634	0.585	0.835
Z1.6	0.707	0.600	0.809
Z1.7	0.622	0.596	0.797
Z1.9	0.626	0.614	0.807
Z1.10	0.643	0.691	0.773

Source: Primary Data Processed (2024)

Structural Model Evaluation (Inner Model)

In evaluating the structural model (Inner Model), two ways can be used to assess the relationship between constructs or latent variables, which can be seen using the Coefficient of Determination (R2) or Adjusted R-Square. The researchers looked at the Adjusted R-square value because, according to Latan and Ramli, the Adjusted R-square has a predictive solid ability. The greater the adjusted R-square value, the stronger the predictor model to explain the variance of the endogenous variables. The adjusted R-square values of 0.25, 0.40, and 0.75 signify the model's weakness, moderate strength, and robustness, respectively (Latan & Ramli, 2013). The Adjusted R-Square value for this investigation is provided in Table 4.

Table 4. Adjusted R-Square Value

Variable	Adjusted R-Square
Satisfaction (Y)	0.701
Usage (Z)	0.638

Source: Primary Data Processed (2024)

Based on the results of Table 4 shows the Adjusted R-Square value of the satisfaction variable of 0.701, which means that the ability of the QRIS convenience variable (X) through use (Z) in explaining the satisfaction of non-cash transactions (Y) is 70.1%, this is included in the goodness of fit category (close to high). Meanwhile, the Adjusted R Square value of the usage variable (Z) is 0.638, which means that the

ability of the QRIS convenience variable (X) to explain usage (Z) is 63.8%, so it is included in the goodness of fit category (Moderate).

The effect of QRIS convenience on non-cash transaction satisfaction

Table 5. Path Coefficients Results (Direct Effect)

Hypothesis	Original Sample	T Statistics	P Value	Description
X ⟶ Y	0.603	4.426	0.000	H1 is supported

Source: Primary Data Processed (2024)

Based on the results of Table 5, this research hypothesis test uses a two-tailed test to accept the hypothesis if the t-statistics value >1.66 with p-values <0.05. The test results on the first hypothesis show that the t-statistics value is 4.426> 1.66, and the p-value is 0.000 <0.05. Thus, hypothesis 1 is supported. Convenience is critical in boosting customer satisfaction with non-cash transactions, as easier processes lead to higher satisfaction levels. This study is backed by research conducted by Hady et al. (2020) stated that the convenience factor partially affects customer satisfaction when using QRIS at Bank Syariah Indonesia. Furthermore Nainggolan et al. (2022) also discovered similar results, indicating the significant ease of use of QRIS (0.003) <0.05 and t count 3.003 >t table 1.985, demonstrating that the ease of use of QRIS partially influences user satisfaction. Juan and Indrawati (2023) discovered similar findings that backed the previous research. Their study revealed that perceived ease of use significantly influences satisfaction, as evidenced by a t-value of 3.793, exceeding the critical value of 1.99394, with a significance level of 0.000<0.05. This underscores the significant impact of perceived ease of use on customer satisfaction (Juan & Indrawati, 2023).

The researcher examines customer sentiments alongside supportive findings to show how convenience positively affects satisfaction in non-cash transactions. So, in this convenience variable, researchers use six indicators, including easy to learn, clear and understandable, easy to become proficient, easy to use, controllable, and flexible with 12 statements. According to the findings of this conjecture, the researcher analyzes the respondents' answers. That of the 12 statements that have the highest positive value in influencing convenience on non-cash transaction satisfaction is the indicator of easy to become proficient (X1. 5), which is seen from the highest outer loading value of 0.894, with the statement "QRIS makes it easy to become proficient in non-cash transactions because of its simple and practical use" this is the most felt by Bank Muamalat customers in Palangka Raya when using QRIS for non-cash transactions because its use is simple and practical so that it can facilitate its users, just scanning the QR code, users can make payments without the need to remember account numbers or carry out complicated manual processes, so that customers become proficient or expert and satisfied in making non-cash transactions.

The effect of QRIS convenience through use as an intervening variable on non-cash transaction satisfaction

Table 6. Path Coefficients Results

Hypothesis	Original Sample	T Statistics	P Value	Description
X ⟶ Z	0.801	17,561	0.000	Significant
Z ⟶ Y	0.277	2,107	0.035	Significant

Source: Primary Data Processed (2024)

According to the data presented in Table 6, it is evident that the QRIS convenience factor has a notable positive impact on the usage variable, as indicated by a t-statistic value of 17,561, exceeding the critical threshold of 1.66, and a p-value of 0.000, which is lower than 0.05. Moreover, the usage variable exhibits a significant positive association with the satisfaction variable, with a t-statistic value of 2,107, surpassing the threshold of 1.66, and a p-value of 0.035, below the 0.05-significance level. Thus, this value met the two-tailed test criteria.

Table 7. Path Coefficients Results (Indirect Effect)

Hypothesis	Original Sample	T Statistics	P Value	Description
X⟶Z⟶Y	0.222	2,004	0.045	H2 is supported

Source: Primary Data Processed (2024)

According to the data in Table 7, the test outcomes indicate that the initial sample value is 0.222. With a t-statistic value of 2,004 and a p-value of 0.045, this value demonstrates a noteworthy and favorable impact, given that the t-statistic value exceeds 1.66 and the p-value is less than 0.05. Thus, hypothesis 2 is supported. Hence, usage moderates the impact of QRIS convenience on non-cash transaction satisfaction, showing partial rather than full mediation. The intervening test results indicate a positive effect of QRIS convenience, suggesting that intervening variables influence the relationship between QRIS convenience and satisfaction: higher intervening variable values amplify the effect, while lower values diminish it.

It is insufficient to acknowledge the presence of a meaningful mediating effect merely. Hence, the researcher analyzes how QRIS mediates non-cash transaction satisfaction. Effect size mediation gauges the influence of an external variable on an internal variable through an intermediary. Referring to the recommendations written by Lachowicz et al. (2018), that the mediation effect size can be calculated manually from the upsilon v mediation effect size, namely the multiplication of the square of direct effect 1 by the square of direct effect 2, with the formula: Effect size mediation = $\beta^2 MX\beta^2$ YM. X. Meanwhile, the interpretation of the statistical value of upsilon (v) refers to Cohen's recommendation which is 0.02 – 0.15 (weak mediation effect), meaning mediation only has a slight impact in explaining the relationship between the exogenous and endogenous variables. 0.15 – 0.35 (moderate mediation effect) means mediation within this range can be considered to have a substantial impact in explaining the relationship between the exogenous and endogenous variables. And > 0.35 (strong mediation effect) means mediation is considered to have a substantial impact in explaining the relationship between the exogenous and endogenous variables (Lachowicz et al., 2018).

Table 8. Effect Size Mediation Results

Influence	Upsilon Statistics (V)	Description
X⟶Z⟶Y	$((0.801)^2 x\ (0.277)^2 = 0.049$	Weak mediating influence

Source: Primary Data Processed (2024)

Based on the calculation of table 8 above, the role of use in mediating the convenience of QRIS on non-cash transaction satisfaction shows a structural level classified as a low mediation effect. So, the findings obtained by researchers show that usage can mediate the impact of QRIS convenience on non-cash transaction satisfaction by Bank Muamalat customers in Palangka Raya, but does not mediate fully, but only as partial mediation, and the effect given shows a structural level that is classified as a low mediating influence.

Conclusion

Based on the findings derived from analyzing the test results using Structural Equation Modeling (SEM) employing the Partial Least Squares (PLS) method and path analysis techniques, it can be concluded that the convenience of QRIS has a positive and significant effect on the satisfaction of non-cash transactions of Bank Muamalat customers and the usage can mediate the impact of QRIS convenience on non-cash transaction satisfaction. So, the ease of QRIS can directly affect non-cash transaction satisfaction and can also be mediated by the usage variable. However, the effect size of mediation or the role of use in mediating the ease of QRIS on non-cash transaction satisfaction shows a structural level of 0,049, meaning that use as an intervening variable is classified as a low mediating influence.

Based on these conclusions, this research has implications and contributions to QRIS service policymakers and Bank Muamalat. They should be able to maintain and even enhance all the convenience features in QRIS services. Thus, with the perceived convenience, customers will become more satisfied and ultimately be able to foster customer loyalty by continuing to use QRIS for non-cash transactions at Bank

Muamalat. Additionally, one of the contributions of this research to theory is strengthening technology acceptance theories, such as the Technology Acceptance Model (TAM), as evidenced by the findings of this study.

As for recommendations for relevant institutions, especially Bank Muamalat, they should be able to accommodate, maintain, and further enhance the convenience features of QRIS services. It is crucial to ensure that customers do not encounter difficulties in its usage, thus enhancing customer satisfaction. This is highly beneficial as by maintaining and improving the ease of QRIS features; banks can ensure that their customers can conduct transactions smoothly without obstacles, thereby increasing customer trust and satisfaction and expanding market share by attracting more users seeking transactional convenience. As for the limitations of this study, which could serve as suggestions for future research, it could involve adding or using other variables in the study. Additionally, to improve the quality of results, it is essential to have a balanced and diverse sample of respondents from all demographics, as the majority of respondents in this study were still students.

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