Unlocking Merchant Loyalty in the QRIS Ecosystem: Mediating Effects of Trust and Satisfaction

Helda Yosintha[1], Ahmad Ikhwan Setiawan[2]

[1]Sebelas Maret University, Faculty of Economics and Business,
Jl. Ir Sutami No. 36, Kentingan, Kec. Jebres, Surakarta City, Central Java 57126, Indonesia
[2]Sebelas Maret University, Faculty of Economics and Business,
Jl. Ir Sutami No. 36, Kentingan, Kec. Jebres, Surakarta City, Central Java 57126, Indonesia

Abstract

This study investigates the influence of service quality on merchant loyalty through the mediating roles of customer satisfaction and trust among QRIS users at PT Bank Negara Indonesia (BNI) Surakarta Branch. Using a quantitative approach, data were collected through questionnaires distributed to 100 merchants registered as QRIS BNI users. The analysis was conducted using Structural Equation Modeling (SEM) with the SmartPLS 4.0 software. Service quality was measured through five key dimensions: assurance, security, convenience, responsiveness, and system reliability. The results demonstrate that service quality has a significant and positive effect on both customer satisfaction and trust. However, it does not directly influence merchant loyalty. Instead, satisfaction and trust act as significant mediators in the relationship between service quality and loyalty. This indicates that a positive perception of service quality alone is insufficient to generate merchant loyalty unless it leads to a sense of satisfaction and trust. These findings underscore the importance of managing merchant experience holistically by ensuring service consistency, reliability, and emotional engagement. The implications suggest that BNI should focus not only on enhancing service features but also on building long-term relational factors that foster satisfaction and trust. Future research may extend this model by incorporating other variables such as perceived value or technological readiness to understand merchant behavior in digital payment systems more comprehensively.

Keywords: service quality, customer satisfaction, trust, loyalty, QRIS, digital payment, BNI

1. Introduction

The development of digital payment systems in Indonesia has progressed rapidly in line with the increasing demand for fast, efficient, and secure transactions. One of the major breakthroughs in this digital transformation is the implementation of the Quick Response Code Indonesian Standard (QRIS), officially regulated by Bank Indonesia through PADG No. 21/18/PADG/2019. QRIS was designed as an integrated, inclusive, and universal non-cash payment solution for the public and business actors. Data from Bank Indonesia show that from January 2020 to December 2022, the number of QRIS transactions increased by 25.6 times, while the transaction value grew

by 33.42 times (Bank Indonesia, 2023). These figures indicate a high level of public enthusiasm for this QR code-based digital payment system.

However, despite this massive growth, several challenges still hinder the optimal use of QRIS. These include limitations in digital infrastructure, low financial and digital literacy among MSME actors and the public, as well as concerns over user data security (Firmansyah & Yuliana, 2020; Purnamasari et al., 2022). In the context of financial institutions such as PT Bank Negara Indonesia (Persero) Tbk., some customers have complained about technical transaction issues, inconsistent additional fees, and a lack of customer service support. Moreover, intense competition among banks, digital wallets, and fintech startups demands that banks continuously improve service quality to maintain customer loyalty (Nurjanah & Haryono, 2021).

Service quality is widely recognized as one of the key determinants in creating a positive customer experience. The SERVQUAL model developed by Parasuraman, Zeithaml, and Berry (1988) emphasizes five main dimensions—reliability, responsiveness, assurance, empathy, and tangibles—as indicators to measure consumers' perceptions of service. Previous studies have shown that service quality can drive customer satisfaction (Oliver, 1997) and customer trust (Morgan & Hunt, 1994), which ultimately lead to increased customer loyalty (Srinivasan et al., 2002).

Service quality has been proven to positively influence customer satisfaction, as supported by Chao, Yu, and Sun (2023), who found that satisfaction mediates the relationship between service quality and loyalty. Other studies by Pengurusan, Dhabi, and Dhabi (2022) in the airline industry and Saputra and Djumarno (2021) in the hospitality sector further support this finding. SERVQUAL dimensions such as reliability, empathy, and responsiveness consistently contribute significantly to satisfaction (Fauzi & Suryani, 2019; Eresia-Eke, Ngcongo, & Ntsoane, 2020; Fida et al., 2020; Gopi & Samat, 2020; Myo, Khalifa, & Aye, 2019; Surahman, Yasa, & Wahyuni, 2020).

In addition to satisfaction, service quality is also found to influence customer trust. Wahyoedi et al. (2021) noted that in the context of Islamic banking, service quality enhances trust, which in turn impacts loyalty. This finding is reinforced by Chao, Yu, and Sun (2023), who emphasize the mediating role of trust in the relationship between service quality and loyalty. Boonlertvanich (2019) also stated that service quality is a major predictor of trust in banking, while Pasaribu et al. (2022) reported similar results in e-commerce. Shie et al. (2022) highlighted the importance of reliability and empathy in building trust within healthcare services.

Service quality also directly affects customer loyalty. Studies by Chao, Yu, and Sun (2023), Pengurusan, Dhabi, and Dhabi (2022), as well as Saputra and Djumarno (2021), show that good service quality can significantly enhance loyalty. Reliability, empathy, and responsiveness are key aspects in this regard (Fida et al., 2020; Myo et al., 2019; Surahman et al., 2020). However, exceptions exist, such as the study by Lesmana, Sutarman, and Sunardi (2021), which found that the influence of service quality on loyalty is indirect and mediated by satisfaction.

Customer satisfaction itself is a strong predictor of loyalty. Fauzi and Suryani (2019), Chao et al. (2023), and Supriyanto, Wiyono, and Burhanuddin (2021) confirm that satisfied customers tend to be more loyal. In addition to its direct effect, satisfaction can also act as a mediator or work through commitment and trust (Chikazhe, Makanyeza, & Chigunhah, 2021; Cakici, Akgunduz, & Yildirim, 2019). More broadly, Liu et al. (2018), through a meta-analysis, concluded that the influence of satisfaction on loyalty is universal across various industries.

Finally, customer trust also serves as an important mediator in the relationship between service quality and loyalty. Chao et al. (2023) and Alnaim, Sobaih, and Elshaer (2022) highlight the role of trust in digital and e-service contexts. Haron, Abdul Subar, and Ibrahim (2020) also support this finding in Islamic banking. Zhang, Jun, and Palacios (2023) further reinforce that trust acts as a bridge linking service quality to loyalty in m-shopping platforms. Thus, this study affirms that satisfaction and trust serve as key mediators in strengthening the influence of service quality on customer loyalty.

However, the findings regarding the direct relationship between service quality and customer loyalty remain inconsistent. Some studies report that the effect of service quality on loyalty is indirect, mediated by customer satisfaction and trust (Dagger & O'Brien, 2010; Ladhari, 2009). Therefore, this study is necessary to further examine whether service quality has a direct or indirect impact on customer loyalty in the context of QRIS users at PT Bank Negara Indonesia, by considering the mediating variables of customer satisfaction and trust.

Based on the literature review, the seven hypotheses tested in this study are as follows:

H1: Service quality has a positive effect on customer satisfaction.
H2: Service quality has a positive effect on customer trust.
H3: Service quality significantly affects customer loyalty.
H4: Customer satisfaction significantly affects customer loyalty.
H5: Customer trust significantly affects customer loyalty.
H6: Customer satisfaction mediates the effect of service quality on customer loyalty.
H7: Customer trust mediates the effect of service quality on customer loyalty.

The urgency of this research becomes even more relevant when linked to the competitive landscape of the digital financial industry, marked by rising customer expectations regarding the reliability and security of services (Wijaya & Astuti, 2022). This study contributes not only theoretically by re-examining the model linking service quality, satisfaction, trust, and loyalty in the digital payment context but also practically by offering insights to the banking sector on how to formulate more effective service enhancement strategies to retain customers. Therefore, the objective of this research is to analyze the influence of service quality on customer loyalty in the use of QRIS at BNI and to examine the mediating roles of customer satisfaction and trust in this relationship. This study is expected to enrich the literature in the field of service marketing management and provide strategic input for the banking sector in the digital era.

2. Method

This study employs a quantitative explanatory approach, which aims to explain causal relationships between variables by testing predefined hypotheses. The research focuses on the influence of service quality on customer loyalty to BNI's QRIS, with customer satisfaction and trust serving as mediating variables. A survey method was used, with data collected through an online questionnaire.

2.1 Operational Definition of Variables

Operational definitions are used to explain how each variable in this study is measured. The variables include service quality (X), satisfaction (M1), trust (M2), and customer loyalty (Y). These four variables are measured using indicators validated by previous theories and studies, adjusted to the context of BNI's QRIS services.

Table 1. Operational Definitions of Research Variables

Variable	Definition	Measurement Indicators	Source
Service Quality	The ability of the service provider to consistently meet customer needs, both functionally and emotionally.	- Reliability - Responsiveness Responsiveness - Assurance Assurance - Empathy Empathy - Tangibles	Parasuraman et al. (1988)
Satisfaction	The degree to which merchants' experiences meet or exceed their expectations regarding BNI's QRIS services.	- Expectation-service alignment - Experience using the service - Comparison between expectations and reality	Oliver (1980)
Trust	The belief merchants have in the service provider's ability, integrity, and goodwill to deliver ongoing value without misusing information.	- Service provider integrity - Service credibility Service credibility - Service consistencyService consistency	Morgan & Hunt (1994)
Loyalty	The merchants' commitment to continue using BNI's QRIS services, even when faced with competitive alternatives.	- Intention to reuse - Willingness to recommend - Resistance to switching	Zeithaml et al. (1996)

2.2 Population and Sample

The population of this study consists of all BNI merchants in the Surakarta Branch Office area who use QRIS as a payment method at their business locations. According to BNI's internal data, the number of active QRIS merchants is recorded at 22,514.

The sampling technique used is purposive sampling, which selects respondents based on specific criteria—namely, merchants who actively use BNI's QRIS service. This method was chosen for its effectiveness in reaching respondents relevant to the research objectives.

The sample size was determined using the Krejcie and Morgan (1970) formula for large populations, with a 95% confidence level and 5% margin of error, resulting in a minimum of 378 respondents. To enhance reliability, the researcher selected a sample of 400 merchants.

Data was collected using an online questionnaire via Google Forms. The questions were constructed based on the previously defined indicators and presented in a 5-point Likert scale. The questionnaire was distributed directly to merchants through official BNI communication channels or active merchant communication networks.

3. Results

3.1 Measurement Model Evaluation (Outer Model)

The evaluation of the outer model aims to assess the validity and reliability of the research instruments through convergent validity, construct validity, discriminant validity, and composite reliability.

Table 1. Outer Model Analysis Results

Indicator	Loading Factor	Validity	AVE	Cronbach's Alpha	Composite Reliability
CL1	0.858	Valid	0.562	0.601	0.793
CL2	0.681	Valid			
CL3	0.832	Valid			
CS1	0.841	Valid	0.595	0.665	0.814
CS2	0.669	Valid			
CS3	0.794	Valid			
SQ1	0.819	Valid	0.520	0.765	0.843
SQ2	0.623	Valid			
SQ3	0.722	Valid			
SQ4	0.672	Valid			
SQ5	0.753	Valid			
TR1	0.770	Valid	0.631	0.708	0.835
TR2	0.678	Valid			
TR3	0.796	Valid			

Convergent Validity: Convergent Validity

The loading factors for all indicators measuring latent variables are statistically valid, with values exceeding 0.6 (Hair et al., 2011). This indicates that each indicator adequately represents its construct.

Construct Validity and Composite Reliability:

The Average Variance Extracted (AVE) values for all constructs exceed the threshold of 0.5, demonstrating good construct validity. Cronbach's Alpha and Composite Reliability values meet the reliability criteria with thresholds of ≥ 0.6 and ≥ 0.7, respectively (Jogiyanto, 2016).

Discriminant Validity:

The assessment of discriminant validity using cross-loadings confirms that each indicator has the highest loading on its intended construct compared to others, thereby fulfilling the requirement for discriminant validity.
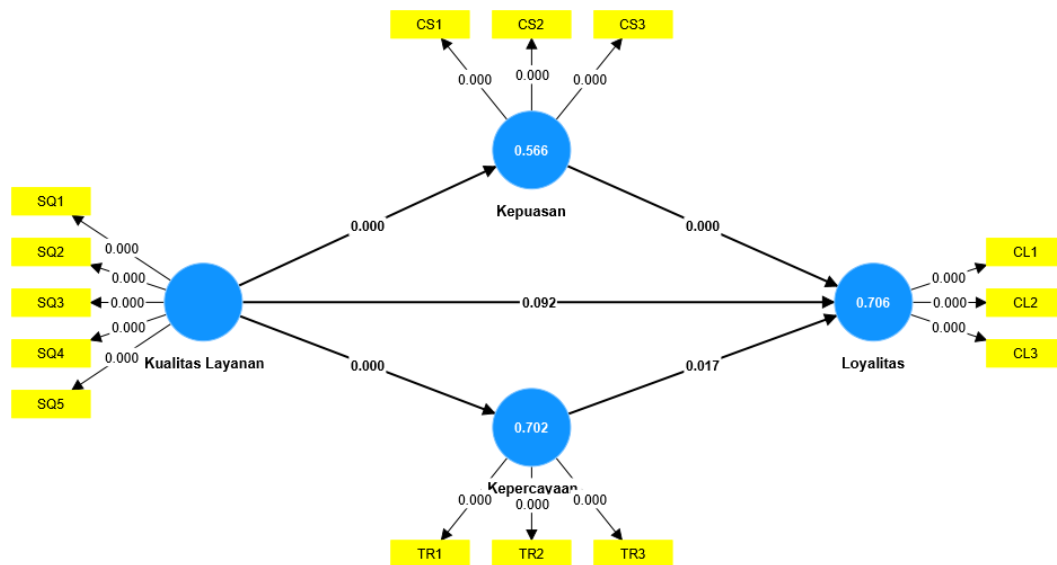
4.2 Structural Model Evaluation (Inner Model)

Figure 1. Inner Model Analysis

Coefficient of Determination (R^2):

The R^2 values indicate the model's ability to explain the endogenous variables. Trust ($R^2 = 0.702$), Satisfaction ($R^2 = 0.564$), and Loyalty ($R^2 = 0.704$) reflect high levels of predictive power, suggesting that the structural model explains a significant proportion of variance in these variables.

Hypothesis Testing and Path Analysis:

Hypothesis testing was conducted using the bootstrapping method in PLS with a one-tailed test approach (T-statistics > 1.64 and p-value < 0.05). The results are presented in the following table:

Table 2. Hypothesis Testing Results

Relationship	Original Sample	T-Statistics	P-Values	Decision
Service Quality → Satisfaction	0.752	21.251	0.000	H1 Supported
Service Quality → Trust	0.838	34.461	0.000	H2 Supported
Service Quality → Loyalty	0.140	1.329	0.092	H3 Not Supported
Satisfaction → Loyalty	0.602	7.584	0.000	H4 Supported
Trust → Loyalty	0.158	2.126	0.017	H5 Supported
SQ → Satisfaction → Loyalty	0.453	7.226	0.000	H6 Supported
SQ → Trust → Loyalty	0.132	2.115	0.017	H7 Supported

Based on the analysis using PLS, service quality has a significant effect on both merchant satisfaction and trust toward BNI's QRIS. This is evidenced by p-values of 0.000 (< 0.05) and T-statistics greater than 1.96 for both relationships (H1 and H2 supported). However, service quality does not have a direct effect on merchant loyalty (H3 not supported), as indicated by a p-value of 0.092 (> 0.05). This implies that service quality needs mediating variables such as satisfaction and trust to enhance loyalty.

On the other hand, both satisfaction (H4) and trust (H5) significantly influence merchant loyalty, with p-values of 0.000 and 0.017, respectively. Furthermore, there is an indirect effect of service quality on loyalty through satisfaction (H6 supported, p-value 0.000) and through trust (H7 supported, p-value 0.017). These findings indicate that satisfaction and trust serve as effective mediators linking service quality to merchant loyalty toward BNI's QRIS. Therefore, efforts to improve loyalty should focus on enhancing service quality that leads to higher levels of satisfaction and trust among merchants.

4. Discussion

This study analyzes the influence of QRIS BNI service quality—comprising assurance and security, convenience, efficiency, ease of use, and reliability—on merchant satisfaction and the subsequent effect of satisfaction on their loyalty. The analysis was conducted at the BNI Surakarta Branch Office using the structural equation modeling (SEM) method with SmartPLS. The results show that out of the proposed hypotheses, six were supported while one was not. The detailed results are explained as follows:

4.1 The Influence of Service Quality on Customer Satisfaction

The findings of this study reinforce the theoretical framework which asserts that service quality is a key predictor of customer satisfaction. This supports the use of service quality models such as SERVQUAL and CARTER in the context of digital financial services, particularly QRIS, and emphasizes the importance of specific service quality dimensions—such as reliability, responsiveness, and assurance—in shaping customer satisfaction.

The study also confirms the findings of previous research by Fauzi and Suryani (2019), Eresia-Eke, Ngcongo, and Ntsoane (2020), and Fida et al. (2020), which used various service quality models. The results demonstrate that service quality dimensions, including tangible evidence, empathy, and assurance, positively impact customer satisfaction. This is particularly relevant to the QRIS BNI context, where merchants who perceive the service as easy to use, secure, and responsive to their needs tend to report higher satisfaction. These findings are also supported by Gopi and Samat (2020), Myo, Khalifa, and Aye (2019), and Surahman, Yasa, and Wahyuni (2020), who highlight the importance of service quality aspects such as reliability, empathy, and responsiveness, along with the mediating role of satisfaction, in enhancing customer experience. Based on these findings, BNI should focus on improving and maintaining QRIS service quality to boost merchant satisfaction. Priority should be given to aspects such as system reliability, responsiveness to complaints, and transaction security. Training staff to enhance empathy and improve complaint handling is also essential. BNI must actively maintain and improve its service quality—including ensuring secure transactions and excellent merchant service—to sustain and enhance merchant satisfaction. This, in turn, can foster stronger relationships with merchants and increase their loyalty toward QRIS services.

4.2 The Influence of Service Quality on Customer Trust

This study confirms that service quality has a significant positive effect on customer trust, supporting hypothesis H2. The findings align with prior studies emphasizing that service quality is a foundational element in building customer trust. Research by Wahyoedi et al. (2021) in Islamic banking, Chao, Yu, and Sun (2023) in the maritime shipping industry, and Boonlertvanich (2019) in general banking all support the notion that good service quality enhances customer trust. In the context of QRIS BNI, this implies that merchants perceiving high service quality—such as transaction reliability, data security, and responsiveness to issues—are more likely to trust the service.

The study also supports findings by Pasaribu et al. (2022) in e-commerce and Shie et al. (2022) in healthcare services, which showed that customer trust is built through consistent, high-quality service experiences. Service quality dimensions such as reliability and empathy, emphasized in Shie et al. (2022), are relevant to the QRIS BNI context. Merchants who feel the service is reliable and that BNI understands their needs will be more trusting. This trust becomes the foundation for long-term relationships between BNI and its merchants.

Theoretically, this study reinforces the idea that service quality is a primary driver of customer trust—not only through direct interactions but also through consistent and high-quality experiences, with reliability and empathy playing a crucial role. From a managerial perspective, BNI must prioritize service quality improvement and consistency, focusing on system reliability, data security, responsiveness, and staff empathy to foster and maintain merchant trust.

4.3 The Influence of Service Quality on Customer Loyalty

The results reveal that service quality does not have a direct significant effect on customer loyalty, contradicting hypothesis H3. This finding is consistent with previous studies suggesting that service quality may not directly impact customer loyalty but instead operates through mediating factors such as customer satisfaction. For example, Lesmana, Sutarman, and Sunardi (2021) found that service quality does not directly influence customer loyalty, but the effect is fully mediated by satisfaction. This suggests that while service quality is important, its impact on loyalty may be indirect and contingent on mediating factors like satisfaction.

This study highlights the complex relationship between service quality and loyalty. Although some studies have found a direct link between the two (e.g., Chao, Yu, and Sun (2023), Pengurusan, Dhabi, and Dhabi (2022), and Saputra and Djumarno (2021)), other studies such as Fida et al. (2020), Myo, Khalifa, and Aye (2019), and Surahman, Yasa, and Wahyuni (2020) show that satisfaction often mediates this relationship.

Service quality may not directly affect merchant loyalty in using QRIS BNI because loyalty is not formed solely through technical or operational quality. Instead, it is influenced by a consistent and satisfying experience, along with a sense of trust in BNI's ability to deliver reliable and beneficial services over time. Therefore, satisfaction and trust play crucial mediating roles between service quality and merchant loyalty.

Theoretically, this implies that customer loyalty models should incorporate mediating factors like satisfaction to better explain the relationship between service quality and loyalty. Managerially, BNI should focus on enhancing customer satisfaction as a strategy to boost loyalty, since service quality alone may not directly lead to loyalty without the presence of satisfaction.

4.4 The Influence of Satisfaction on Customer Loyalty

The study supports hypothesis H4, stating that customer satisfaction significantly affects loyalty. This is consistent with numerous previous studies which identify satisfaction as a key predictor of loyalty. Research by Fauzi and Suryani (2019), Chao, Yu, and Sun (2023), and Supriyanto, Wiyono, and Burhanuddin (2021) found that satisfied customers are more likely to remain loyal and engage in repeat purchases. In the context of QRIS BNI, this suggests that merchants who are satisfied with the convenience, speed, and security of transactions are more loyal to the service.

Previous literature also highlights that satisfaction not only directly impacts loyalty but may also be mediated by factors such as trust and commitment, as shown by Chikazhe, Makanyeza, and Chigunhah (2021). Research by Cakici, Akgunduz, and Yildirim (2019) demonstrated that satisfaction increases loyalty through mechanisms such as repurchase intentions. Liu et al.'s (2018) meta-analysis supports this by showing that satisfaction consistently and significantly impacts loyalty across various industries.

Theoretically, the findings underscore that customer satisfaction is a universal determinant of loyalty across different contexts. Managerially, BNI must prioritize enhancing merchant satisfaction as a core strategy for loyalty-building. This can be achieved by ensuring that QRIS BNI is easy to use, secure, and responsive to merchants' needs. Ensuring high merchant satisfaction is key to sustaining and growing their loyalty.

4.5 The Influence of Trust on Customer Loyalty

The findings support hypothesis H5, indicating that customer trust significantly influences loyalty. This aligns with previous studies that emphasize the critical role of trust in forming long-term relationships between service providers and customers. Studies by Fauzi and Suryani (2019), Chao, Yu, and Sun (2023), and Yum and Kim (2024) highlight that customer trust is a key factor driving loyalty, especially in digital and online service platforms. In the QRIS BNI context, this means that merchants who trust the service's security and reliability are more likely to remain loyal.

In the broader literature, customer trust is often considered a mediator between service quality and loyalty, as shown by Chao, Yu, and Sun (2023). Yum and Kim (2024) also demonstrated that trust, alongside perceived value and satisfaction, significantly influences loyalty in entertainment platforms. However, contrasting views also exist—for instance, Wahyoedi et al. (2021) found that trust might not always have a direct effect, but may be mediated by satisfaction.

Theoretically, this study confirms that customer trust is a critical factor in building loyalty, especially in digital services like QRIS. From a managerial standpoint, BNI should prioritize fostering and maintaining merchant trust through secure, transparent, and reliable services. Ensuring that merchants feel safe and confident using the service is essential for sustaining and increasing their loyalty.

4.6 The Mediating Role of Customer Satisfaction

The study supports hypothesis H6, stating that customer satisfaction mediates the effect of service quality on loyalty. This result provides an explanation for the unsupported H3 hypothesis, which proposed a direct effect of service quality on loyalty. The findings are consistent with previous studies that identify satisfaction as a key mechanism linking service quality to customer loyalty. Research by Lesmana, Sutarman, and Sunardi (2021), Chao, Yu, and

Sun (2023), Gopi and Samat (2020), and Surahman, Yasa, and Wahyuni (2020) confirm that high service quality enhances customer satisfaction, which in turn drives loyalty.

This emphasizes the need to include satisfaction as a mediating variable in models exploring the relationship between service quality and loyalty. In the QRIS BNI context, improvements in service quality contribute to merchant loyalty primarily through increased satisfaction, explaining why the direct relationship was not significant.

Theoretically, this supports the inclusion of customer satisfaction as a mediator to accurately model the service quality-loyalty relationship. From a managerial perspective, BNI should prioritize improving merchant satisfaction to build loyalty, ensuring that QRIS is user-friendly, secure, and responsive to merchant needs.

4.7 The Mediating Role of Trust

The study supports hypothesis H7, stating that customer trust mediates the effect of service quality on loyalty. This finding also helps explain the unsupported H3 hypothesis. Research by Chao, Yu, and Sun (2023), Alnaim, Sobaih, and Elshaer (2022), Haron, Abdul Subar, and Ibrahim (2020), and Zhang, Jun, and Palacios (2023) confirms that high service quality builds customer trust, which then fosters loyalty. In the QRIS BNI context, this indicates that improving service quality enhances merchant loyalty by first strengthening trust, explaining the lack of a direct effect.

The literature consistently supports the role of trust as a mediator between service quality perceptions and customer loyalty, particularly in digital environments. This highlights that the impact of service quality on loyalty is not direct, but channeled through customer trust.

Theoretically, these results suggest that customer trust should be included as a mediating variable to better explain the service quality-loyalty relationship. Managerially, BNI should focus on building and maintaining merchant trust as a key strategy for loyalty enhancement. Ensuring QRIS services are secure, transparent, and reliable will help foster this trust, which in turn promotes greater loyalty among merchants.

4.8 Qualitative Findings: Merchant Experiences and Perceptions

To enrich the quantitative findings, this study incorporated qualitative insights through interviews with 40 merchant users of QRIS provided by PT Bank Negara Indonesia (Persero) Tbk in the Surakarta branch. The interviews revealed practical issues and strategic expectations from the merchants regarding the use of QRIS services. One recurring concern was transaction failure, where customers' balances were deducted without the payment being reflected in the merchant's account. Although the system eventually returns the funds, the manual reporting process—either through physical visits or digital complaint channels—was perceived as inefficient, highlighting the need for a real-time transaction monitoring system and more responsive customer support services.

Additionally, merchants with low QRIS activity often received QRIS as part of a bundled credit facility without prior request. While this approach aims to broaden adoption, it is not always effective, as many merchants lack adequate understanding of QRIS benefits and usage. Therefore, a more targeted bundling strategy, along with post-distribution education and support, is recommended to enhance merchant readiness in managing digital transactions.

Smaller-scale merchants expressed a strong preference for promotional programs offering incentives such as cashback or transaction fee waivers, which they viewed as essential for encouraging early adoption. In contrast, larger-scale merchants (e.g., registered businesses or institutions) voiced concerns over the unequal application of fee waivers, which are currently reserved for MSMEs. They suggested alternative loyalty incentives, such as advanced financial management features, detailed transaction reporting, and volume-based loyalty programs. Open communication between banks and merchants was also deemed crucial to foster mutual understanding and strengthen strategic partnerships.

These qualitative findings support the earlier SEM-PLS results, affirming the role of service quality in influencing satisfaction, trust, and loyalty. By gaining a deeper understanding of merchant experiences and expectations, financial institutions can design more responsive and targeted QRIS strategies to enhance user satisfaction and long-term engagement.

5. Conclussions

This study aims to analyze the influence of service quality on the satisfaction, trust, and loyalty of QRIS merchant users at PT Bank Negara Indonesia (BNI), Surakarta Branch Office, using the Structural Equation Modeling (SEM) method based on Partial Least Squares (SmartPLS). The results show that service quality significantly affects merchant satisfaction and trust, but does not directly influence their loyalty.

1. First, QRIS service quality—covering assurance, security, convenience, efficiency, ease of use, and reliability—is proven to be an important predictor of merchant satisfaction. This finding reinforces the relevance of the SERVQUAL and CARTER models in the context of digital financial services and highlights the importance of dimensions such as reliability, empathy, and assurance in shaping merchants' positive perceptions of QRIS.
2. Second, service quality also has a significant effect on merchant trust. Merchants who perceive QRIS services as reliable, secure, and responsive tend to have high trust in BNI. This indicates that consistent and high-quality service experiences can strengthen long-term relationships between the bank and its merchants.
3. Third, the findings reveal that service quality does not have a direct significant effect on merchant loyalty, suggesting that merchants do not automatically become loyal solely due to good service. Loyalty is more strongly influenced by an overall experience that includes both satisfaction and trust.
4. Fourth, customer satisfaction is proven to have a significant effect on merchant loyalty. Merchants who are satisfied with QRIS services tend to show an intention to continue using them. This confirms the role of satisfaction as a key determinant of loyalty within the digital

financial services ecosystem.

5. Fifth, trust also has a significant impact on loyalty. Merchants who trust the security and reliability of QRIS services are more likely to be loyal. Trust serves as a crucial foundation for building long-term relationships between merchants and BNI.

6. Sixth, this study shows that satisfaction mediates the relationship between service quality and merchant loyalty. In other words, service quality impacts loyalty primarily when it first generates satisfaction.

7. Seventh, trust is also found to mediate the effect of service quality on loyalty. Improved service quality fosters greater trust, which in turn strengthens merchant loyalty toward QRIS BNI.

8. Eighth, the qualitative findings highlight the importance of enhancing technical support systems, refining QRIS bundling strategies, and tailoring promotional programs based on merchant scale. Addressing transaction errors through real-time monitoring and dedicated QRIS complaint channels is essential to improving merchant trust and satisfaction. Furthermore, selective QRIS distribution aligned with business types, coupled with post-bundling education, can boost adoption and effective usage. Inclusive incentives for small-scale merchants and added-value services for larger merchants—such as advanced financial features and loyalty programs—are also necessary to foster broader and more sustainable QRIS usage. An open, two-way communication channel between the bank and merchants remains crucial to strengthen engagement and long-term loyalty.

Overall, this study emphasizes that merchant loyalty is not built solely through service quality but through a comprehensive experience—particularly satisfaction and trust. Therefore, in practical terms, BNI should prioritize strategies to improve service quality in ways that consistently foster both satisfaction and trust.

References

Akdere, M., Top, M., & Tekingündüz, S. (2020). Examining patient perceptions of service quality in Turkish hospitals: The SERVQUAL model. *Total Quality Management & Business Excellence, 31*(3-4), 342-353. https://doi.org/10.1080/14783363.2018.1427501

Alnaim, A. F., Sobaih, A. E. E., & Elshaer, I. A. (2022). Measuring the Mediating Roles of E-Trust and E-Satisfaction in the Relationship between E-Service Quality and E-Loyalty: A Structural Modeling Approach. *Mathematics, 10*(13), 2328.

Alzaydi, Z. M., Al-Hajla, A., & Nguyen, B. (2018). The integration of SERVQUAL model and customer relationship management in the hotel industry. *Journal of Strategic Marketing, 26*(6), 511-528. https://doi.org/10.1080/0965254X.2017.1299789

Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing, 56*(2), 57-71. https://doi.org/10.2307/1252042

Boonlertvanich, K. (2019). Service quality, satisfaction, trust, and loyalty: the moderating role of main-bank and wealth status. *International Journal of Bank Marketing*, *37*(1), 278-302.

Buttle, F. (1996). SERVQUAL: Review, critique, research agenda. *European Journal of Marketing, 30*(1), 8-32. https://doi.org/10.1108/03090569610105762

Cakici, A. C., Akgunduz, Y., & Yildirim, O. (2019). The impact of perceived price justice and satisfaction on loyalty: the mediating effect of revisit intention. *Tourism Review*, *74*(3), 443-462.

Chao, S. L., Yu, M. M., & Sun, Y. H. (2023). Ascertaining the effects of service quality on customer loyalty in the context of ocean freight forwarders: An integration of structural equation modeling and network data envelopment analysis. *Research in Transportation Business & Management, 47*, 100955.

Chikazhe, L., Makanyeza, C., & Chigunhah, B. (2021). Understanding mediators and moderators of the effect of customer satisfaction on loyalty. *Cogent Business & Management*, *8*(1), 1922127.

Engelka, L. (2023). *Pengaruh Kualitas Layanan Elektronik dan Nilai yang Dirasakan terhadap Kepuasan Konsumen dengan Kepercayaan sebagai Pemediasi*. Tesis S2, Universitas Atma Jaya Yogyakarta.

Eresia-Eke, C., Ngcongo, N., & Ntsoane, T. (2020). The nexus of service quality, student satisfaction and student retention in small private colleges in South Africa. *Education Sciences, 10*(7), 179. https://doi.org/10.3390/educsci10070179

Fauzi, A. A., & Suryani, T. (2019). Measuring the effects of service quality by using CARTER model towards customer satisfaction, trust and loyalty in Indonesian Islamic banking. *Journal of Islamic Marketing, 10*(1), 269-289.

Fida, B. A., Ahmed, U., Al-Balushi, Y., & Singh, D. (2020). Impact of service quality on customer loyalty and customer satisfaction in Islamic banks in the Sultanate of Oman. *Sage Open, 10*(2), 2158244020919517.

Gopi, B., & Samat, N. (2020). The influence of food trucks' service quality on customer satisfaction and its impact toward customer loyalty. *British Food Journal, 122*(10), 3213-3226. https://doi.org/10.1108/BFJ-01-2020-0071

Gunawan, A., Fatikasari, A. F., & Putri, S. A. (2023). The effect of using cashless (QRIS) on daily payment transactions using the technology acceptance model. *Procedia Computer Science, 227*, 548-556.

Haron, R., Abdul Subar, N., & Ibrahim, K. (2020). Service quality of Islamic banks: satisfaction, loyalty and the mediating role of trust. *Islamic Economic Studies*, *28*(1), 3-23.

Herlian, D. R. (2024). *Hubungan antara Kepercayaan Konsumen dengan Kepuasan Konsumen dalam Berbelanja Online pada Mahasiswa Fakultas Informatika Universitas Mikroskil*. Universitas Medan Area.

Jacoby, J., & Chestnut, R. W. (1978). *Brand loyalty: Measurement and management*. John Wiley & Sons.

Johnston, R. (1995). The determinants of service quality: Satisfiers and dissatisfiers. *International Journal of Service Industry Management, 6*(5), 53-71. https://doi.org/10.1108/09564239510101536

Khan, M. A., & Fasih, M. (2018). Impact of service quality on customer satisfaction and customer loyalty: Evidence from banking sector. *Pakistan Journal of Commerce and Social Sciences, 12*(2), 331-354.

Kotler, P., & Keller, K. L. (2016). *Marketing Management* (15th ed.). Pearson.

Kusuma, N. R., & Nuryana, H. (2024). Application of Principles and Rules for Non-Cash Transactions Using QRIS Services Maqāṣid Al-Sharīʿah Perspective. *Journal of Islamic Economics and Business Ethics, 1(3)*, 176-188.

Ladhari, R. (2009). A review of twenty years of SERVQUAL research. *International Journal of Quality and Service Sciences, 1*(2), 172-198. https://doi.org/10.1108/17566690910971445

Lesmana, R., Sutarman, A., & Sunardi, N. (2021). Building a customer loyalty through service quality mediated by customer satisfaction. *American Journal of Humanities and Social Sciences Research (AJHSSR), 5*(3), 38-45.

Liando, T. A. O., & Umiyati, H. (2024). Pengaruh Kualitas Pelayanan dan Harga terhadap Kepuasan Konsumen di Toko Fanattic High. *Jurnal Penelitian Manajemen*, 2(2), 34–43.

Liu, H., Chen, Y., Zha, Y., Ling, L., & Wang, D. (2018). The effect of satisfaction on loyalty in consumption and service industry based on meta-analysis and it's algorithm. *Wireless Personal Communications*, *103*, 963-982.

Morgan, R. M. and Hunt, S. D. (1994). The Commitment-Trust Theory of Relationship Marketing, *Journal of Marketing*, 58 (July):20-38.

Myo, Y. N., Khalifa, G. S., & Aye, T. T. (2019). The impact of service quality on customer loyalty of Myanmar hospitality industry: The mediating role of customer satisfaction. *International Journal of Management and Human Science, 3*(3), 1-11.

Nuswantoro, S. A., Ulfi, M., & Rafli, M. (2024). Identification of Factors Influencing the Use of QRIS Using TAM and UTAUT 2 Methods. *Scientific Journal of Informatics, 11(2)*, 451-466.

Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing, 63*(4_suppl1), 33-44. https://doi.org/10.2307/1252099

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing, 49*(4), 41-50. https://doi.org/10.2307/1251430

Park, J., & Kim, R. B. (2022). Importance of offline service quality in building loyalty of OC service brand. *Journal of Retailing and Consumer Services, 65*, 102493.

Pasaribu, F., Sari, W., Bulan, T., & Astuty, W. (2022). The effect of e-commerce service quality on customer satisfaction, trust and loyalty. *International Journal of Data and Network Science*, *6*(4), 1077-1084.

Pengurusan, J. F., Dhabi, A., & Dhabi, Z. C. A. (2022). Impact Of Airline Service Quality On Passenger Satisfaction And Loyalty: Moderating Influence Of Price Sensitivity And Quality Seekers. *Transformations in Business & Economics, 21*(3), 57.

Permadi, Y. A., & Wilandari, A. (2021). Preferences of Using Quick Response Code Indonesian Standard (QRIS) Among Students As a Means of Digital Payment. *Journal of Enterprise and Development (JED), 3(1)*, 31-41.

Rachman, A., & Hidayat, R. (2024). Pengaruh Persepsi Kegunaan terhadap Loyalitas Konsumen melalui Kepuasan Konsumen di Indonesia. *Modus*, 36(2).

Rama, R. A., & Anhary, A. S. (2024). Pengaruh Kualitas Pelayanan dan Harga terhadap Kepuasan Konsumen pada Bengkel Doel Motor di Depok. *Jurnal Ilmiah PERKUSI*, 4(2), 208–221.

Saputra, A. J., & Djumarno, D. (2021). Effect of price and service quality on customer satisfaction and its implications for customer loyalty at Aston pluit hotel & residence Jakarta. *Dinasti International Journal of Economics, Finance & Accounting, 2*(1), 71-84.

Shie, A. J., Huang, Y. F., Li, G. Y., Lyu, W. Y., Yang, M., Dai, Y. Y., ... & Wu, Y. J. (2022). Exploring the relationship between hospital service quality, patient trust, and loyalty from a service encounter perspective in elderly with chronic diseases. *Frontiers in public health*, *10*, 876266.

Supriyanto, A., Wiyono, B. B., & Burhanuddin, B. (2021). Effects of service quality and customer satisfaction on loyalty of bank customers. *Cogent Business & Management*, *8*(1), 1937847.

Surahman, I. G. N., Yasa, P. N. S., & Wahyuni, N. M. (2020). The effect of service quality on customer loyalty mediated by customer satisfaction in tourism villages in Badung Regency. *Jurnal Ekonomi dan Bisnis Jagaditha, 7*(1), 46-52.

Suryani, I. I., Ismunandar, & Hamidah, N. K. (2023). *Analisis Kepercayaan Konsumen pada JNE Cabang Padolo Talabiu Kabupaten Bima*. *Lembaga Kita: Jurnal Ilmiah*, 1(1), 1–10.

Susanti, M., & Reza, H. K. (2022). Added Value and Ease of Using Quick Responses QRIS Indonesian Standard (QRIS). *International Journal of Science, Technology & Management, 3(3)*, 715-723.

Tsoukatos, E., & Rand, G. K. (2006). Path analysis of perceived service quality, satisfaction and loyalty in Greek insurance. *Managing Service Quality, 16*(5), 501-519. https://doi.org/10.1108/09604520610686118

Wahyoedi, S., Sudiro, A., Sunaryo, S., & Sudjatno, S. (2021). The effect of religiosity and service quality on customer loyalty of Islamic banks mediated by customer trust and satisfaction. *Management Science Letters, 11*(1), 187-194.

Widawati, D. N. (2023). *Hubungan antara Kepercayaan Konsumen terhadap Keputusan Pembelian pada Pelanggan E-commerce*. *Character: Jurnal Penelitian Psikologi*, 10(2), 1001–1012.

Yum, K., & Kim, J. (2024). The Influence of perceived value, customer satisfaction, and trust on loyalty in entertainment platforms. *Applied Sciences*, *14*(13), 5763.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1988). Communication and control processes in the delivery of service quality. *Journal of Marketing, 52*(2), 35-48. https://doi.org/10.2307/1251263

Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1985). Problems and strategies in services marketing. *Journal of Marketing, 49*(2), 33-46. https://doi.org/10.2307/1251563

Zhang, R., Jun, M., & Palacios, S. (2023). M-shopping service quality dimensions and their effects on customer trust and loyalty: an empirical study. *International Journal of Quality & Reliability Management*, *40*(1), 169-191.