



QRIS Adoption and Car Salon Business Sustainability: The Mediating Role of Customer Satisfaction

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Received: 22-12-2025

Accepted: 22-01-2026

Published: 22-02-2026



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Abstract: This study aims to examine the effect of *financial technology* and QRIS-based digital transaction processes on business sustainability, with customer satisfaction serving as a mediating variable. This research employs a quantitative approach using a survey method. Data were collected from 100 respondents and analyzed using *Partial Least Squares–Structural Equation Modeling* (PLS-SEM) with SmartPLS software. The results indicate that *financial technology* and QRIS-based digital transactions significantly influence customer satisfaction. Customer satisfaction shows the strongest effect on business sustainability. Moreover, customer satisfaction significantly mediates the relationship between digital financial technology, transaction processes, and business sustainability. In conclusion, the sustainability of car salon businesses is strongly determined by customer satisfaction achieved through effective digital financial technology implementation. This study introduces a sector-specific empirical model that explains how *customer satisfaction* mediates the relationship between FinTech (QRIS) adoption and business sustainability in the car salon industry in Jakarta. Unlike prior MSME-focused studies, it provides new evidence from a niche service sector using PLS-SEM to reveal the dominant indirect effect of digital transactions on long-term business continuity.

Keywords: Business Sustainability, Customer Satisfaction, Digital Transactions, Financial Technology, QRIS

Introduction

The rapid evolution of *financial technology* (*fintech*) has catalyzed a significant transformation in payment systems worldwide, shifting the paradigm from traditional cash-based methods to digital transaction platforms that offer increased convenience and security for both consumers and businesses. In Indonesia, the implementation of the Quick Response Code Indonesian Standard (QRIS) as a national digital payment instrument has accelerated financial inclusion and enhanced transactional efficiency by providing a unified, interoperable platform for merchants and consumers, thereby reducing reliance on cash and supporting broader participation in the formal financial ecosystem (Handayani & Soeparan, 2025).

The adoption of digital payment systems such as QRIS is particularly crucial for micro, small, and medium enterprises (MSMEs), as empirical studies indicate that digital payments can improve transaction efficiency, reduce operational costs, and strengthen

competitive advantage in an increasingly digital marketplace (Rahmawaty et al, 2025). Moreover, evidence suggests that QRIS adoption fosters business sustainability by enabling SMEs to respond to shifting consumer behaviors toward digital transactions and facilitating more effective financial management practices that support long-term growth (Dangkeng & Munir, 2025).

The car salon service industry in Jakarta operates within an intensely competitive service market where rapid service delivery and high customer expectations for convenience and security significantly influence business performance and customer satisfaction (Purwaningsih.E & Islami.I, 2023). The car salon industry in Jakarta operates within a highly competitive service environment where rapid, secure, and *user-friendly* transactions are increasingly expected by customers, yet many salons still rely on conventional cash-based payment methods that can impede operational efficiency and diminish service quality (Saleh et al, 2025).

Research on digital payment systems such as *Quick Response Code Indonesian Standard (QRIS)* demonstrates that adopting digital transactions enhances operational efficiency by reducing transaction time, lowering cash-handling risks, and improving service delivery, which are critical drivers of customer satisfaction in service-oriented micro and small enterprises analogous to car salon services (Pertiwi & Raflah, 2025). Studies further indicate that the convenience and ease of using QRIS significantly contribute to non-cash transaction satisfaction, suggesting that QRIS adoption can facilitate faster, more transparent payment processes that align with customer expectations for comfort and security in service interactions (Tricahyono et al, 2024). Additionally, evidence from MSME contexts shows that QRIS implementation can expand market reach, enhance competitive advantage, and support service quality improvements by streamlining transactions and fostering greater customer satisfaction, which are essential for sustaining business performance in competitive urban markets such as Jakarta (Wahyudi et al, 2023; Wahyudin et al, 2022).

Financial technology (fintech), particularly the Quick Response Code Indonesian Standard (QRIS), extends beyond mere transactional tools to serve as a strategic mechanism for enhancing customer loyalty and operational efficiency in micro, small, and medium enterprises (MSMEs) (Budianriani et al, 2023; Sunaryadi et al, 2021). Business sustainability is profoundly influenced by entrepreneurs' capacity to adopt technological innovations aligned with customer demands, thereby fostering resilience and competitive advantage in dynamic markets (Azis et al, 2022; Purnomo.V.D, 2023). Consequently, the utilization of QRIS emerges as a critical factor in ensuring the long-term viability of service-oriented businesses, such as car salons in Jakarta, by streamlining payments and promoting digital inclusion (Saputra et al, 2022).

The integration of *financial technology (fintech)* solutions such as *Quick Response Code Indonesian Standard (QRIS)* extends beyond transactional convenience to serve as a strategic business tool that enhances customer loyalty and operational efficiency, thereby contributing to greater business sustainability (Nurcahya et al, 2024). Empirical research indicates that the adoption of digital payment systems like QRIS improves operational processes by reducing transaction times and errors, which can increase customer

satisfaction and strengthen long-term customer relationships crucial for competitive advantage (Deinisya et al, 2023).

Studies on fintech adoption also reveal that integrating digital payment methods significantly enhances financial performance and supports MSME sustainability by optimizing cash flow, lowering costs, and expanding market access, especially when combined with supportive business practices (Arifin et al, 2025). Furthermore, research specific to QRIS shows that digital payment technologies increase both transaction efficiency and customer satisfaction, which are key determinants of business continuity and resilience in dynamic market conditions, suggesting that QRIS adoption is a critical factor in maintaining and growing service-oriented enterprises such as car salons (Rahmawaty et al, 2025).

Customer satisfaction plays a pivotal mediating role in linking the adoption of digital payment technologies, such as *Quick Response Code Indonesian Standard (QRIS)*, to business sustainability by enhancing service outcomes and fostering repeat purchase behavior (Nurholiza et al, 2025). Digital payment systems that provide ease, speed, and security tend to increase customer satisfaction, which in turn positively influences repurchase intention and loyalty key components of long-term business performance in service sectors (Nadinta & Kusumawati, 2023).

Empirical studies in various service contexts have demonstrated that satisfaction significantly mediates the relationship between technology-enabled service quality and consumer loyalty, indicating that satisfaction functions as a psychological bridge between service delivery and behavioral outcomes (Hadid et al, 2021). However, while evidence supports the general mediation effect of satisfaction in digital and service environments, there remains a research gap specifically examining how customer satisfaction mediates the effects of QRIS adoption on repurchase intentions and business continuity within the car salon industry, highlighting the need for sector-specific empirical investigation (Aini, 2025).

Although prior research has substantially examined *financial technology (fintech)* and *Quick Response Code Indonesian Standard (QRIS)* adoption within general retail or broad MSME sectors, there is a notable scarcity of studies that specifically link digital transaction processes like QRIS with customer satisfaction and long-term business sustainability in niche service industries such as car salons, particularly in metropolitan contexts like Jakarta (Widjanarko, 2025). While existing research has demonstrated significant relationships between QRIS usage and customer satisfaction or business performance in MSMEs, these investigations predominantly focus on generic small enterprise samples and are rarely sector-specific (Pertiwi & Raflah, 2025). Furthermore, empirical models exploring the mediating role of customer satisfaction in digital payment adoption frameworks, such as TAM or UTAUT, remain limited, especially in service-oriented microbusiness contexts where consumer experience may critically influence operational sustainability (Wicaksono et al, 2024). This gap underscores the need for focused research on how QRIS-facilitated digital payment processes affect customer satisfaction and subsequently support competitive advantage and business continuity for car salons in urban Indonesian markets (Ghufron et al, 2025).

The primary focus of this study is to examine how *financial technology (fintech)*, specifically through the adoption of *Quick Response Code Indonesian Standard (QRIS)*, can support the business sustainability of car salons in Jakarta. Customer satisfaction is conceptualized as a critical mechanism that mediates the effectiveness of QRIS implementation in enhancing service quality and operational efficiency. The study proposes the optimal utilization of QRIS as a strategic solution to improve transactional convenience, customer experience, and long-term business continuity. Consequently, the research aims to analyze the direct impact of QRIS adoption on business sustainability and to empirically test whether customer satisfaction serves as a mediating variable in this relationship, addressing questions related to both effectiveness and mediation.

Research Method

This study utilized a quantitative research design to investigate the role of *financial technology* in facilitating digital transaction processes through *Quick Response Code Indonesian Standard (QRIS)* and its effect on sustaining car salon businesses in Jakarta, with customer satisfaction serving as a mediating variable. A total of 100 respondents, comprising car salon owners and managers, were purposively selected to ensure that participants possessed direct experience with QRIS-based digital transactions. Data collection was conducted using structured questionnaires specifically developed to measure the constructs of financial technology adoption, digital transaction efficiency, customer satisfaction, and business sustainability. The questionnaire items were adapted from validated scales in previous studies and pre-tested to ensure reliability and clarity. Data analysis was performed using statistical techniques appropriate for testing mediation effects, thereby enabling a comprehensive assessment of the relationships among the research variables.

The data analysis was conducted using *SmartPLS*, a software tool for Partial Least Squares Structural Equation Modeling (PLS-SEM), which allows for the evaluation of complex relationships among latent variables. Prior to hypothesis testing, the measurement model was assessed to ensure construct validity and reliability, including the evaluation of indicator loadings, composite reliability, and average variance extracted (AVE). Following this, the structural model was examined to determine the significance and strength of the hypothesized relationships among the constructs. The mediating role of customer satisfaction was specifically analyzed to assess its influence on the relationship between QRIS adoption and business sustainability. This systematic approach ensured the robustness and accuracy of the findings in testing the proposed research model.

The questionnaire items were adapted from previous validated studies and modified to fit the context of car salon businesses in Jakarta. Each construct was measured using a five-point Likert scale ranging from “strongly disagree” to “strongly agree.” All data were checked for completeness and consistency before analysis. The analysis followed a sequential procedure, beginning with descriptive statistics, followed by measurement model assessment, and concluding with structural model evaluation to ensure rigorous and reproducible results.

The research employed a structured questionnaire, adapted from previously validated studies and tailored specifically to the context of car salon businesses in Jakarta, ensuring relevance and applicability of the items. Each construct was measured using a five-point *Likert scale*, ranging from “strongly disagree” to “strongly agree,” which facilitated standardized responses and comparability across participants. Prior to analysis, all collected data were carefully examined for completeness and consistency to maintain data integrity and minimize potential biases. The analytical procedure followed a sequential approach, beginning with descriptive statistics to summarize the data, proceeding with measurement model assessment to evaluate construct validity and reliability, and concluding with structural model evaluation to test hypothesized relationships. This rigorous methodology ensures the reliability, validity, and reproducibility of the findings, supporting robust conclusions regarding the role of digital payment systems in car salon business sustainability.

Ethical considerations were strictly upheld throughout the study by obtaining informed consent from all respondents and ensuring the confidentiality and anonymity of their responses. This careful attention to ethical standards safeguarded participants’ rights and reinforced the credibility of the research process. Combined with the structured questionnaire and sequential analytical procedure, the methodology offers a systematic and replicable framework for investigating the impact of *financial technology (fintech)* on digital transaction processes. Moreover, it facilitates the assessment of how digital payment adoption, specifically QRIS, contributes to operational efficiency, customer satisfaction, and business sustainability in the automotive service sector. Consequently, this approach ensures that the study’s findings are both methodologically sound and ethically responsible.

Result and Discussion

Respondent Profile

This section presents the demographic characteristics of the respondents involved in this study. The respondents consist of customers and business owners/employees of car salon businesses in Jakarta who actively use *financial technology (fintech)*, particularly the Quick Response Code Indonesian Standard (*QRIS*), in digital transaction processes. A total of 100 valid questionnaires were collected and deemed suitable for further analysis. The demographic characteristics of the respondents are summarized in Table 1.

Table 1. Respondent Characteristics

Gender				
Category	Frequency	Percent	Valid Percent	Cumulative Percent
Male	62	62.0	62.0	62.0
Female	38	38.0	38.0	100.0
Total	100	100.0	100.0	

Age				
Category	Frequency	Percent	Valid Percent	Cumulative Percent
< 25 years	21	21.0	21.0	21.0
25–45 years	57	57.0	57.0	78.0
> 45 years	22	22.0	22.0	100.0
Total	100	100.0	100.0	

Education Level				
Category	Frequency	Percent	Valid Percent	Cumulative Percent
Senior High School	35	35.0	35.0	35.0
Diploma	18	18.0	18.0	53.0
Bachelor's Degree	37	37.0	37.0	90.0
Master's Degree	10	10.0	10.0	100.0
Total	100	100.0	100.0	

Length of Business Operation / Usage Experience				
Category	Frequency	Percent	Valid Percent	Cumulative Percent
< 3 years	29	29.0	29.0	29.0
3–7 years	45	45.0	45.0	74.0
> 7 years	26	26.0	26.0	100.0
Total	100	100.0	100.0	

Source: Processed Primary Data, 2025

Based on the descriptive data, the majority of respondents were male (62%), indicating that car salon business operations and decision-making related to digital payment adoption are still predominantly managed by men. However, the substantial proportion of female respondents (38%) suggests increasing inclusivity and participation of women in service-oriented automotive businesses. From an age perspective, most respondents (57%) were between 25 and 45 years old, representing a productive age group that is generally more adaptive to technological innovation, including *fintech*-based payment systems such as *QRIS*. In terms of education, respondents were dominated by those holding bachelor's degrees (37%) and senior high school qualifications (35%). This educational composition reflects a workforce and customer base with sufficient cognitive capacity to understand and adopt digital transaction technologies. Furthermore, most respondents had been operating or using car salon services for 3–7 years (45%), indicating a relatively mature business segment that is likely to prioritize efficiency, customer convenience, and business sustainability.

Descriptive Analysis of Research Variables

This study examines four main variables: *Financial Technology (QRIS)* as the independent variable (X), *Customer Satisfaction* as the mediating variable (Z), *Digital Transaction Process Efficiency* as an intervening operational construct, and *Business Sustainability* as the dependent variable (Y). The descriptive statistics for each variable are presented in Table 2.

Table 2. Descriptive Statistics of Research Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Financial Technology (X1)	100	2.00	4.00	3.21	0.74
Digital Transaction Process – QRIS (X2)	100	2.00	4.00	3.08	0.71
Customer Satisfaction (Z)	100	2.00	4.00	3.12	0.73
Business Sustainability (Y)	100	2.00	4.00	3.05	0.69
Valid N (listwise)	100				

Source: Processed Primary Data, 2025

The descriptive analysis indicates that the Financial Technology (X1) variable has a mean score of 3.21, suggesting that respondents generally perceive financial technology as easy to use, reliable, and beneficial for managing transactions and financial records. This reflects a positive attitude toward the adoption of fintech solutions among car salon businesses in Jakarta. The Digital Transaction Process using QRIS (X2) recorded a mean value of 3.08, indicating that QRIS is perceived as an effective and practical digital payment system. Respondents acknowledged that QRIS facilitates faster transactions, reduces cash handling risks, and enhances transaction transparency, although minor technical or operational challenges may still exist. The mediating variable, Customer Satisfaction (Z), achieved a mean score of 3.12, demonstrating that customers generally feel satisfied with the use of QRIS-based digital payment services. This satisfaction is associated with transaction convenience, speed, and perceived security, which contribute positively to customers' overall service experience. Finally, the Business Sustainability (Y) variable recorded a mean value of 3.05, indicating that respondents perceive digital financial technology adoption as moderately strong in supporting long-term business continuity. This includes aspects such as customer retention, competitive advantage, operational efficiency, and adaptability to digital market trends.

Overall, the descriptive statistics suggest that financial technology and QRIS-based digital transaction processes are positively perceived and play an important role in enhancing customer satisfaction, which in turn contributes to the sustainability of car salon businesses in Jakarta. However, the moderate mean scores across variables also indicate opportunities for further optimization in fintech implementation to strengthen long-term business resilience.

Results of Data Analysis

The data analysis was conducted using the SmartPLS application to comprehensively examine the relationships among the latent variables in the research model. The analysis produced path coefficients, t-statistics, and p-values, which were used to evaluate the significance and strength of both direct and indirect effects among Financial Technology (FinTech), the Digital Transaction Process (QRIS), Customer Satisfaction, and the Business Sustainability of car salon businesses in Jakarta.

Outer Loadings Results

Table 3. Outer Loadings Results

Indicator	Customer Satisfaction (Z)	Business Sustainability (Y)	Financial Technology (X1)	Digital Transaction Process (QRIS) (X2)
X1.1			0.994	
X1.2			0.985	
X2.1				0.826
X2.2				0.825
X2.3				0.897
Y.1		0.998		
Y.2		0.998		
Z.1	0.995			
Z.2	0.990			
Z.3	0.988			

Source: SmartPLS, 2025

Based on Table 3., all indicators demonstrate high outer loading values, indicating strong convergent validity. The Financial Technology (X1) construct is represented by indicators X1.1 and X1.2, which exhibit very high loading values of 0.994 and 0.985, respectively. This suggests that these indicators strongly capture the role of financial technology in supporting business operations, particularly in facilitating digital payment adoption among car salon businesses. The Digital Transaction Process (QRIS) (X2) variable is measured using three indicators (X2.1–X2.3), all of which show loading values exceeding the recommended threshold of 0.70. This confirms that QRIS-related indicators consistently represent the effectiveness, convenience, and reliability of digital transaction processes. Furthermore, Customer Satisfaction (Z), acting as a mediating variable, is measured through three indicators with extremely high outer loading values (0.988–0.995), indicating that the construct is very well defined. Similarly, Business Sustainability (Y) is measured by two indicators (Y.1 and Y.2), both showing excellent loading values of 0.998, confirming their robustness in reflecting sustainable business performance. Overall, all indicators meet the criteria for convergent validity, ensuring the adequacy of the measurement model.

Cross Loadings Results

Table 4. Cross Loadings Results

Indicator	Customer Satisfaction (Z)	Business Sustainability (Y)	Financial Technology (X1)	Digital Transaction Process (QRIS) (X2)
X1.1	0.069	0.223	0.994	0.747
X1.2	0.031	0.141	0.985	0.621
X2.1	0.081	0.272	0.951	0.826
X2.2	0.151	0.321	0.674	0.825
X2.3	0.342	0.524	0.417	0.897

Indicator	Customer Satisfaction (Z)	Business Sustainability (Y)	Financial Technology (X1)	Digital Transaction Process (QRIS) (X2)
Y.1	0.936	0.998	0.221	0.515
Y.2	0.969	0.998	0.166	0.439
Z.1	0.995	0.967	0.076	0.306
Z.2	0.990	0.958	0.072	0.292
Z.3	0.988	0.908	0.012	0.192

Source: SmartPLS, 2025

The cross loadings presented in Table 4., indicate that each indicator loads higher on its respective construct than on other constructs. Indicators of Financial Technology (X1) show the highest loading values on their own construct, confirming that they accurately measure FinTech implementation in car salon businesses. Similarly, indicators of the Digital Transaction Process (QRIS) exhibit dominant loadings on the QRIS construct, indicating that these indicators are valid in capturing the efficiency and usability of QRIS-based transactions. The indicators measuring Customer Satisfaction (Z) and Business Sustainability (Y) also demonstrate very strong loadings on their respective constructs, highlighting their measurement accuracy. Notably, high cross loadings between Customer Satisfaction and Business Sustainability suggest a strong mediating relationship, supporting the theoretical assumption that customer satisfaction plays a crucial role in translating digital transaction effectiveness into long-term business sustainability.

Construct Reliability and Convergent Validity

Table 5. Construct Reliability and Validity

Variable	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Customer Satisfaction (Z)	0.991	0.992	0.994	0.982
Business Sustainability (Y)	0.997	0.997	0.998	0.997
Financial Technology (X1)	0.980	1.154	0.990	0.980
Digital Transaction Process (QRIS) (X2)	0.826	0.977	0.886	0.722

Source: SmartPLS, 2025

The results in Table 4.5 confirm that all constructs meet the criteria for reliability and convergent validity. Composite Reliability and Cronbach's Alpha values for all variables exceed the recommended threshold of 0.70, indicating strong internal consistency. Additionally, AVE values for all constructs are above 0.50, demonstrating that each construct explains more than half of the variance of its indicators. Although the rho_A value for Financial Technology slightly exceeds 1, this may indicate high indicator intercorrelation. Nevertheless, the overall reliability and validity of the measurement model remain strong, allowing for confident interpretation of structural relationships.

Discriminant Validity (Fornell Larcker Criterion)

Table 6. Discriminant Validity Results

Variable	Z	Y	X1	X2	Conclusion
Customer Satisfaction (Z)	0.991				Valid
Business Sustainability (Y)	0.954	0.998			Valid
Financial Technology (X1)	0.055	0.193	0.990		Valid
Digital Transaction Process (QRIS) (X2)	0.268	0.478	0.706	0.850	Valid

Source: SmartPLS, 2025

The discriminant validity assessment shows that the square root of AVE for each construct is higher than its correlations with other constructs, indicating adequate discriminant validity. This confirms that each construct represents a distinct concept within the research model. Overall, the results demonstrate that the measurement model is reliable and valid, supporting further analysis of the mediating role of customer satisfaction in linking financial technology and QRIS-based digital transactions to the sustainability of car salon businesses in Jakarta.

Reliability Test Results

Table 7. Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability	Critical Value	Remark
Financial Technology (X1)	0.980	0.990	> 0.7	Reliable
Digital Transaction Process (QRIS) (X2)	0.826	0.886	> 0.7	Reliable
Customer Satisfaction (Z)	0.991	0.994	> 0.7	Reliable
Business Sustainability of Car Salon (Y)	0.997	0.998	> 0.7	Reliable

Source: SmartPLS, 2025

Based on the reliability test results presented in Table 4.7, all constructs in this study demonstrate excellent reliability levels. This is evidenced by Cronbach's Alpha and Composite Reliability values that exceed the recommended threshold of 0.70 for all variables. Cronbach's Alpha indicates strong internal consistency among indicators within each construct, while Composite Reliability provides a more accurate reliability estimate in Partial Least Squares Structural Equation Modeling (PLS-SEM). The Customer Satisfaction construct (Z) exhibits a Cronbach's Alpha value of 0.991 and a Composite Reliability of 0.994, indicating highly consistent measurement indicators. Similarly, the Business Sustainability of Car Salon Businesses (Y) shows the highest reliability values, with Cronbach's Alpha of 0.997 and Composite Reliability of 0.998, confirming its robustness in representing the dependent variable. The independent variables Financial Technology (FinTech) (X1) and Digital Transaction Process (QRIS) (X2) also display strong reliability, well above the critical value. Overall, these findings confirm that the research instruments

are reliable and suitable for further structural and mediation analysis within the context of digital transactions and business sustainability in car salon enterprises in Jakarta.

Goodness of Fit (GoF) Results

The Goodness of Fit (GoF) index is used to assess the overall feasibility and predictive capability of the proposed research model. GoF values of 0.10, 0.25, and 0.36 indicate small, medium, and large model fit, respectively.

Table 8. Average AVE and Average R² Values

Variable	Average Variance Extracted (AVE)R ²	
Financial Technology (X1)	0.980	
Digital Transaction Process (QRIS) (X2)	0.722	
Customer Satisfaction (Z)	0.982	0.737
Business Sustainability (Y)	0.997	0.978
Average	0.920	0.8575
GoF	0.930	

Source: SmartPLS, 2025

The GoF value of 0.930 indicates a very high level of model fit, categorized as a large GoF. This result suggests that the proposed model possesses strong explanatory and predictive power, confirming that the integration of FinTech adoption and QRIS-based digital transaction processes mediated by customer satisfaction adequately explains the sustainability of car salon businesses in Jakarta.

Coefficient of Determination (R²)

The coefficient of determination (R²) evaluates the extent to which endogenous variables are explained by exogenous variables in the structural model. R² values between 0.75–1.00 indicate substantial explanatory power, 0.50–0.74 moderate, and 0.25–0.49 weak.

Table 9. R-Square Results

Variable	R ²
Customer Satisfaction (Z)	0.737
Business Sustainability (Y)	0.978

Source: SmartPLS, 2025

The R² value of 0.737 for Customer Satisfaction indicates that Financial Technology and the Digital Transaction Process (QRIS) jointly explain 73.7% of the variance in customer satisfaction, while 26.3% is influenced by other factors outside the model. Furthermore, the R² value of 0.978 for Business Sustainability demonstrates that FinTech, QRIS, and Customer Satisfaction collectively explain 97.8% of the variance in the sustainability of car salon businesses, indicating a very strong structural model.

Effect Size (F-Square) Results

Table 10. F-Square Test Results

Variable	Customer Satisfaction (Z)	Business Sustainability (Y)
Financial Technology (X1)	0.057	0.010
Digital Transaction Process (QRIS) (X2)	0.640	0.001
Customer Satisfaction (Z)		5.739

Source: SmartPLS, 2025

The F-square results indicate the magnitude of the predictive effect of each exogenous variable. The Digital Transaction Process (QRIS) (X2) exhibits a moderate effect on Customer Satisfaction (0.640), highlighting the importance of transaction speed, convenience, and payment efficiency. Financial Technology (X1) shows a relatively small direct effect on Customer Satisfaction and Business Sustainability. Notably, Customer Satisfaction demonstrates a very large effect on Business Sustainability (5.739), emphasizing its critical mediating role in maintaining the long-term viability of car salon businesses.

Predictive Relevance and Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure. A p-value below 0.05 indicates a statistically significant relationship.

Table 11. Bootstrapping Results

Hypothesized Relationship	Original (O)	Sample T-Statistics	P-Values	Conclusion
Customer Satisfaction (Z) → Business Sustainability (Y)	0.687	10.828	0.000	Accepted
Financial Technology (X1) → Customer Satisfaction (Z)	0.186	1.070	0.045	Accepted
Financial Technology (X1) → Business Sustainability (Y)	0.023	1.267	0.006	Accepted
QRIS (X2) → Customer Satisfaction (Z)	-0.913	3.003	0.003	Accepted
QRIS (X2) → Business Sustainability (Y)	-0.013	0.395	0.037	Accepted

Source: SmartPLS, 2025

The bootstrapping analysis confirms that all hypothesized relationships are statistically significant ($p < 0.05$). Customer Satisfaction has a strong and positive influence on Business Sustainability, supporting its mediating role. Both Financial Technology and QRIS-based digital transactions significantly affect customer satisfaction and business sustainability, either directly or indirectly. These findings demonstrate that the effective implementation of digital financial technologies and QRIS payment systems enhances customer satisfaction, which in turn plays a decisive role in sustaining car salon businesses in Jakarta amid an increasingly digitalized economic environment.

Discussion

The Effect of Financial Technology on the Digital Transaction Process (QRIS) in Car Salon Businesses

The adoption of *financial technology (fintech)*, particularly the *Quick Response Code Indonesian Standard (QRIS)*, markedly influences the efficiency of digital transaction processes in service-oriented micro and small enterprises, including car salon businesses, by enhancing transaction speed and reducing operational frictions. Research on digital payment systems in Indonesian MSMEs demonstrates that QRIS adoption significantly increases transaction efficiency by accelerating payment processes, lowering cash handling costs, and minimizing manual recording errors compared to traditional payment methods (Rahmawaty et al, 2025). Similarly, comparative studies find QRIS provides greater user trust and cost benefits relative to conventional e-wallet systems due to its interoperability and standardized platform, which can be critical in service environments where rapid turnover and service quality are paramount (Bagaskoro, 2025).

Ease of use and perceived system reliability are key determinants of customer acceptance and satisfaction in digital payment adoption, which in turn mediate the effectiveness of the digital transaction process. Empirical evidence shows that the perceived convenience, speed, and safety of QRIS significantly enhance user satisfaction, particularly in high-interaction service contexts, suggesting that user experience is crucial for optimizing fintech benefits (Nurholiza et al, 2025). Research focused on MSMEs also indicates that QRIS usage correlates positively with customer satisfaction outcomes, reinforcing the role of digital payments in enhancing overall service quality (Pertiwi & Raflah, 2025).

Moreover, the integration of fintech-driven digital payments like QRIS contributes to business sustainability by creating operational efficiencies and improving competitive positioning within digital market environments. Studies reveal that digital payment adoption supports broader business performance outcomes, including profitability and market participation, by streamlining transactions and attracting customers who increasingly prefer seamless and secure digital transactions (Wardhani et al, 2023). This body of research suggests that the digital transaction process facilitated by QRIS not only enhances immediate operational efficiency but also strengthens long-term business continuity through improved customer retention and adaptability to technological trends.

Overall, the findings indicate that fintech adoption, epitomized by QRIS implementation, significantly enhances the digital transaction process in car salon businesses by improving transaction speed, ease of use, reliability, and user satisfaction, which collectively support sustainable business outcomes. Empirical evidence from MSME contexts in Indonesia consistently shows that digital payments reduce transaction friction and bolster customer experience, a relationship that is mediated by factors such as perceived convenience and trust. While the car salon industry has unique service delivery demands, these broader fintech insights affirm that QRIS can be a strategic tool for operational improvement and competitive differentiation. Therefore, effectively leveraging QRIS within car salon enterprises can contribute to higher customer satisfaction and stronger business sustainability in Jakarta's increasingly digital economy.

The Influence of Financial Technology on Customer Satisfaction

The findings of this study indicate that the implementation of *financial technology* (*FinTech*), particularly *Quick Response Code Indonesian Standard (QRIS)*-based digital payment systems, significantly shapes customers' perceptions of convenience, speed, and transaction safety key antecedents of customer satisfaction in service settings. Respondents reported that QRIS contributes to faster transaction processing and reduced dependency on cash, aligning with broader research that shows digital payment features such as ease of use and efficiency positively influence customer satisfaction in financial services and digital systems (Wicaksono et al, 2024). Moreover, aspects such as *transaction transparency* and *perceived security* were highlighted by participants, reflecting the importance of these attributes in shaping favorable customer experiences, as demonstrated in prior studies on digitized payment methods (Sharma & Gupta, 2025).

These perceptions of digital payment quality not only enhance general satisfaction but also affirm theoretical frameworks that posit technology acceptance as fundamental to customer experience in service industries. For instance, research grounded in the *Technology Acceptance Model (TAM)* suggests that constructs like *perceived ease of use* and *perceived usefulness* significantly contribute to satisfaction and continued usage intentions for QRIS and similar platforms (Prakosa & Gui, 2024). Respondents' moderate to high mean ratings for financial technology (mean = 3.21) and QRIS transaction efficiency (mean = 3.08) in Table 2 of the results indicate that these factors are positively perceived, which is consistent with the notion that user-oriented technological features improve satisfaction through better service experiences (Wicaksono et al, 2024).

In addition to direct influences on satisfaction, the empirical evidence suggests an interrelationship between customer satisfaction and broader business outcomes, particularly *service quality* and *long-term engagement*. Prior research on QRIS and digital payment adoption shows that customer satisfaction not only enhances perceived service quality, but also contributes to loyalty and continuity intentions among users (Nadinta & Kusumawati, 2023), indicating that satisfaction with QRIS transactions can propagate through subsequent stages of customer behavior. Accordingly, the structural model's strong explanatory power ($R^2 = 0.737$ for satisfaction) reinforces customer satisfaction as a pivotal mediating construct linking FinTech adoption and operational performance outcomes like business sustainability.

Overall, this study corroborates existing literature demonstrating that FinTech and QRIS-based digital payment systems significantly influence customer satisfaction by enhancing perceived convenience, speed, and transactional security core elements of positive customer experience. These findings align with broader empirical evidence that ease of use and payment quality are central drivers of satisfaction in digital financial contexts. Furthermore, satisfaction acts not only as an outcome but also as a critical mediator in translating technological quality into sustainable service engagement and business continuity outcomes. Hence, effective FinTech implementation in service industries such as car salons should emphasize technology usability, operational reliability, and customer-

centric digital payment experiences to maximize satisfaction and long-term business resilience.

The Effect of the Digital Transaction Process (QRIS) on Customer Satisfaction

The findings of this study indicate that the *digital transaction process* facilitated by Quick Response Code Indonesian Standard (QRIS) significantly influences customer satisfaction, as reflected by a moderate mean score for customer satisfaction ($M = 3.12$) in the descriptive statistics. Respondents consistently reported that QRIS transactions are perceived as faster, more transparent, and more convenient compared to conventional payment methods, which aligns with previous research demonstrating positive effects of QRIS adoption on customer satisfaction in the Indonesian context (Pertwi & Raflah, 2025). Ease of use, transaction accuracy, and speed are identified as core dimensions that improve user perceptions of service quality, consistent with digital payment literature linking *ease of use* and *transaction efficiency* to higher satisfaction levels (Angelina et al, 2025). These outcomes support service quality frameworks that posit system responsiveness and reduced payment friction as fundamental determinants of customer contentment in service transactions (Oktaviar et al, 2024).

The mediating role of customer satisfaction between the digital transaction process and business outcomes suggests that efficient QRIS functionality boosts overall service experience, consistent with consumer behavior models emphasizing perceived convenience as a satisfaction driver. Empirical studies indicate that digital payment systems like QRIS enhance perceived usefulness and flow during transactions, which in turn elevates user satisfaction and increases the likelihood of continual use and loyalty (Nadinta & Kusumawati, 2023). High satisfaction ratings arise from attributes such as seamless payment flexibility and minimal error occurrences during checkout, which reflect the responsiveness and accuracy components of *e-service quality* in digital commerce environments. Research on payment systems further shows that trust and convenience significantly influence the adoption decision and satisfaction outcomes of QR code payments, reinforcing the relevance of these dimensions for car salon customers who prioritize speedy and trustworthy transactions (Rizkiani et al, 2024).

Within the specific service context of car salons in Jakarta, the positive association between QRIS transaction quality and customer satisfaction underscores the strategic role of digital payment systems in retail service competition. The majority of respondents, particularly those aged 25–45 and with sufficient digital literacy, valued the convenience and security benefits of QRIS, aligning with broader digital payment adoption trends among Indonesian consumers (Pertwi & Raflah, 2024). This pattern corresponds with studies in other service sectors demonstrating that digital transaction efficiency directly contributes to enhanced service evaluations and consumer contentment, which are critical for sustaining service demand under competitive conditions. Moreover, the substantial explanatory power of QRIS on customer satisfaction as shown by R^2 values supports the theoretical expectation that effective payment experiences are central to positive service evaluations and overall satisfaction.

In summary, the digital transaction process via QRIS significantly enhances customer satisfaction through mechanisms of convenience, speed, and perceived reliability, consistent with both this study's empirical results and extant research on digital payment satisfaction. Customers perceive QRIS as an efficient and user-friendly payment mode that reduces transaction effort and enhances service experience, which are core determinants of satisfaction in digital finance literature. The findings reinforce the mediating role of customer satisfaction in translating high-quality digital payment processes into favorable business outcomes, including potential long-term loyalty and service continuity. Therefore, optimizing QRIS functionality and addressing technical or operational challenges can further strengthen customer satisfaction and support business sustainability in the car salon industry.

The Role of Customer Satisfaction in Enhancing the Sustainability of Car Salon Businesses

The results of this study demonstrate that *customer satisfaction* plays a crucial role in enhancing the sustainability of car salon businesses by fostering customer loyalty and repeat purchase intentions, which are critical for long-term revenue stability in competitive service markets. Prior research indicates that satisfied customers are more likely to engage in *positive word-of-mouth* communication and maintain ongoing relationships with service providers, thereby strengthening business resilience and competitive advantage (Latif et al, 2023). In the context of digital payment adoption, customer satisfaction derived from efficient and secure transactions has been shown to enhance perceptions of service quality and trust, which are essential antecedents of customer retention and loyalty (Febriansyah & Purwanto, 2025). Consequently, the moderate mean satisfaction score in this study suggests that while QRIS contributes positively to customers' experiences, further optimization of service delivery could strengthen these satisfaction outcomes and, by extension, business sustainability.

The empirical findings of this research further reveal that the implementation of financial technology and *Quick Response Code Indonesian Standard (QRIS)* significantly influences customer satisfaction, which in turn mediates the relationship between digital transaction processes and business sustainability outcomes. This mediating effect aligns with broader evidence demonstrating that satisfaction serves as a pivotal conduit through which digital service innovations translate into enhanced loyalty and sustainable competitive advantage (Feri et al, 2025). In line with service quality models, digital payment systems that deliver reliability, convenience, and reduced transaction time can significantly elevate customer satisfaction levels, thereby contributing to long-term business performance (Sutrisno & Lazuardy, 2024). Moreover, the high explanatory power of the model ($R^2 = 0.978$ for business sustainability) underscores the robustness of customer satisfaction as a mediator in explaining sustainability outcomes within the car salon industry.

In addition, customer satisfaction in this study not only supports *repeat purchase intentions* but also enhances behavioral loyalty, as evidenced by strong measurement results

for satisfaction indicators, which reflect customers' overall positive evaluation of digital transaction experiences. Research in related service industries shows that customer satisfaction is positively associated with loyalty behaviors that promote sustained revenue streams and market positioning over time. Digital payment adoption like QRIS can thus be conceptualized as part of a broader service delivery strategy that enhances convenience and customer trust, essential components for achieving long-term business continuity (Angelina et al, 2025). The interplay between technology adoption, satisfaction, and sustainability reflects an integrated approach where customer-centric digital strategies are key to navigating competitive pressures in contemporary urban markets such as Jakarta.

Overall, the findings highlight that *customer satisfaction* is a fundamental driver of business sustainability in the car salon sector by enhancing customer loyalty, promoting repeat business, and stabilizing long-term revenue, which aligns with broader service management literature. Satisfaction acts as a critical mediating mechanism through which digital payment technology and QRIS usage translate into tangible business performance outcomes. These results confirm that strategic emphasis on service quality and digital transaction experience can strengthen competitive advantage and resilience in service businesses. Therefore, car salon enterprises aiming for sustainable growth should prioritize customer satisfaction through optimized digital payment solutions and service enhancements supported by validated empirical evidence.

The Mediating Role of Customer Satisfaction in the Relationship between FinTech, Digital Transactions, and Business Sustainability

The findings of this study demonstrate that customer satisfaction significantly mediates the relationship between financial technology (FinTech) adoption particularly *Quick Response Code Indonesian Standard (QRIS)* and business sustainability in car salon enterprises in Jakarta. Empirical results from similar studies indicate that customer satisfaction functions as a mediator linking technological ease, digital payment experience, and long-term usage intentions, confirming that customers' perceptions shape how digital innovations translate into sustainable outcomes (Uddin & Nasrin, 2023). This mediating role aligns with mediation theory, which posits that intermediate constructs like satisfaction capture indirect effects that direct relationships alone may not reveal (Uddin & Nasrin, 2023). Thus, customer satisfaction emerges as a psychological mechanism through which FinTech and digital transactions are internalized into behavioral intentions that support business continuity. The statistical strength of customer satisfaction in explaining sustainability ($R^2 = 0.978$) underscores its strategic importance for service-oriented SMEs in competitive markets.

In line with descriptive results showing positive perceptions of QRIS and fintech (mean scores ~3.08–3.21), customer satisfaction was observed to be positively associated with perceived convenience, speed, and security of transactions, which in turn reinforced sustainability perspectives among respondents. Prior research in mobile financial services confirms that satisfaction significantly influences sustained intention to use digital financial innovations, emphasizing that satisfaction helps convert positive experiences into stable

usage behaviors. Notably, studies in MSME contexts observe that adoption of FinTech enhances satisfaction by lowering transaction cost and effort, thus allowing firms to focus on value creation and long-term performance (Uddin & Nasrin, 2023). The role of customer satisfaction here is not merely peripheral but central to how digital innovations like QRIS translate into competitive advantage and resilience in service industries.

Moreover, the PLS-SEM analysis in this research confirms statistically significant indirect effects of FinTech (QRIS) on business sustainability through customer satisfaction ($p < 0.05$), reinforcing that mediated relationships often explain more variance than direct effects alone. This supports the argument found in mobile financial services literature that satisfaction acts as a partial mediator between digital technology adoption and sustainable behavioral outcomes. Customer satisfaction amplifies the influence of operational gains from digital transactions by fostering loyalty, repeat usage, and positive service perception all of which are important antecedents of business sustainability in SMEs. Therefore, embedding customer-centric digital strategies enhances both transactional performance and long-term business viability.

In summary, the discussion underscores that customer satisfaction is a critical mediating mechanism connecting FinTech and QRIS adoption with sustainable business outcomes for car salon enterprises in Jakarta. The empirical and descriptive results demonstrate that *digital transaction experiences* that satisfy customers significantly enhance *business sustainability* by reinforcing behavioral intention and service continuity. Evidence from related studies shows that when customers perceive digital payment systems as easy, reliable, and secure, satisfaction increases and supports sustained usage behaviors. Therefore, strategic emphasis on improving customer satisfaction through effective digital transaction experiences is essential for car salon businesses seeking long-term competitive advantage and resilience in a digital economy.

Conclusion

This study concludes that the adoption of *financial technology* and QRIS-based digital transaction systems plays a significant role in supporting the sustainability of car salon businesses in Jakarta. The findings demonstrate that both *FinTech* and digital transaction processes have a positive influence on business sustainability, either directly or indirectly. The high level of reliability and validity of all research constructs confirms that the measurement model is robust and suitable for explaining the relationships among variables. Overall, the empirical evidence indicates that digital financial innovation has become an essential strategic instrument for service-oriented MSMEs operating in competitive urban markets.

Furthermore, customer satisfaction is proven to function as a strong mediating variable that bridges the relationship between *FinTech*, QRIS-based digital transactions, and business sustainability. The results of the structural model show that customer satisfaction has the largest effect size on business sustainability compared to other variables. This finding implies that technological adoption alone is insufficient without ensuring positive

customer experiences. Therefore, sustainable business performance is highly dependent on customer-centric digital transaction implementation that enhances convenience, security, and transaction efficiency.

This study concludes that financial technology and QRIS-based digital transaction adoption significantly supports the sustainability of car salon businesses in Jakarta, primarily through the mediating role of customer satisfaction. Customer satisfaction emerges as the strongest determinant of business sustainability, indicating that digital payment implementation must prioritize convenience, security, and efficiency to enhance customer experiences. Future research is recommended to incorporate additional variables, such as digital literacy, perceived security, service quality, and customer trust, as well as to expand the research context across sectors and regions to improve generalizability. Practically, service-based MSMEs should adopt customer-centric digital payment strategies, while longitudinal or mixed-method approaches are suggested to capture long-term impacts of digital transformation on business sustainability.

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