

Factors that Influence the Quality of the Tring by Pegadaian Application Service and its Relationship with Customer Satisfaction and Loyalty: A Case Study at the Purus Baru Syariah Pawnshop Unit (UPS) in Padang City

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Abstract

This study was conducted to analyze and identify the factors influencing the service quality of the Tring by Pegadaian app and their relationship with customer satisfaction and loyalty at the Purus Baru Sharia Pegadaian Unit in Padang. This study is a quantitative study. The population of this study consists of users of the Tring by Pegadaian app at the Purus Baru Sharia Pegadaian Unit in Padang, with a sample size of 100 respondents. In this study, analysis was performed using PLS-SEM with SmartPLS 4.0 software. The results of this study indicate that (1) Agility has a significant positive effect on Service Quality. (2) Assurance of Service has a significant positive effect on Service Quality. (3) Reliability has a significant positive effect on Service Quality. (4) Scalability has a significant positive effect on Service Quality. (5) Security has a significant positive effect on Service Quality. (6) Service Responsiveness has a significant positive effect on Service Quality. (7) Usability has a significant positive effect on Service Quality. (8) Service Quality has a significant positive effect on Customer Satisfaction. (9) Customer Satisfaction has a significant positive effect on Customer Loyalty. (10) Service Quality has a significant positive effect on Customer Loyalty.

Introduction

Digital transformation has transformed the way the financial services industry serves its customers, including non-bank financial institutions like PT Pegadaian (Persero). The development of cloud computing technology and application-based services provides convenience, efficiency, and high accessibility for users (Buyya et al., 2019). Financial services companies are required to provide reliable digital services to meet evolving customer expectations, given that service quality is a key differentiator between service providers in a competitive environment (Garg et al., 2013). Pegadaian presents the Tring by Pegadaian application, a combination of Pegadaian Digital Service (PDS) and Pegadaian Syariah Digital Service (PSDS) into a single platform, launched on October 8, 2025. This application allows customers to access pawn, financing, and digital gold investment services through the concept of "One User ID, All Needs."

Although the app has been downloaded more than 10 million times with an average rating of 3.7 from 126,000 reviews, field data at UPS Purus Baru, Padang City shows a gap between the target and the actual usage: of the target of 1,765 Tring users by 2026, only 1,183 (67.02%) have registered, while transactions have only reached 34.94% of the target of 12,352 transactions. Furthermore, 37 customers have complained directly to outlets due to issues with the app, as well as several negative reviews related to login errors, failure to link bank accounts, and facial verification failures. This indicates a gap between customer expectations regarding digital service quality and perceived reality, potentially impacting customer satisfaction and loyalty. Agarwal & Dhingra (2023), in their study of 419 cloud service users in India, found that seven factors agility, service assurance, reliability, scalability, security, service

responsiveness, and usability had a positive and significant impact on overall service quality, which in turn influenced customer satisfaction and loyalty through the mediating role of satisfaction. This relationship between service quality, satisfaction, and customer loyalty is also supported by various previous studies (Caruana, 2002; Slack & Singh, 2020; Iqbal et al., 2018; Rahim, 2016). However, several other studies have shown inconsistent results. In the context of mobile payment services in developing countries, Liana et al. (2023) found that technical quality had no significant effect on attitudinal customer loyalty, while Colorado & Tavera (2022) found that service quality had a negative effect on customer loyalty in the telecommunications sector in Colombia. This inconsistency indicates that the relationship between service quality dimensions and customer loyalty is contextual, requiring re-examination in the context of digital financial services in Indonesia, specifically the Tring by Pegadaian application (Gupta et al., 2023; Zhang et al., 2023; Amerta & Madhavi, 2023). Based on this description, this study aims to analyze the influence of seven digital service quality factors on the service quality of the Tring by Pegadaian application, as well as the influence of service quality on customer satisfaction and loyalty at UPS Purus Baru in Padang City.

This study provides a theoretical contribution by testing the Agarwal & Dhingra (2023) model in the context of non-bank digital financial services in Indonesia, as well as a practical contribution by recommending service quality improvement strategies for Pegadaian management. Service quality refers to users' overall evaluation of the excellence of a service and the extent to which its performance meets their expectations (Parasuraman et al., 1985). In digital financial services, service quality is increasingly determined by the performance of the technological system through which customers access and complete transactions. Agarwal & Dhingra (2023) identified seven dimensions that shape digital service quality, namely agility, assurance of service, reliability, scalability, security, service responsiveness, and usability. These dimensions are relevant to the Tring by Pegadaian application because the platform integrates various financial services and requires users to complete transactions independently through a digital interface (Alfian & Siregar, 2023; Anisa et al., 2024; Putri & Sutjipto, 2026).

Agility refers to the ability of an application to respond rapidly to technological changes, develop and deploy new features, correct system problems, and adapt efficiently to emerging user needs (Buyya et al., 2019; Fonstad & Ross, 2015). In the context of Tring by Pegadaian, agility reflects the application's capacity to improve its features and resolve technical disruptions that may hinder customer transactions. Agarwal & Dhingra (2023) demonstrated that agility contributes positively to perceived service quality. Therefore, this study proposes that agility has a positive and significant effect on the service quality of the Tring by Pegadaian application. Assurance of service reflects the provider's ability to guarantee an acceptable level of service, communicate competence, and strengthen customer confidence through credible and accountable service delivery (Kochovski et al., 2019; Garg et al., 2013).

Digital financial services, assurance is not limited to employee knowledge and courtesy but also includes clear transaction information, transparent procedures, and confidence that customer problems will be handled appropriately. Accordingly, this study proposes that assurance of service has a positive and significant effect on the service quality of the Tring by Pegadaian application. Reliability concerns the system's ability to operate consistently and provide services without failure under specified conditions. It includes transaction accuracy, continuity of access, resilience to disruption, and the capacity to complete customer requests as intended (Buyya et al., 2019; Gupta et al., 2013). Reliability is particularly important in financial applications because failed transactions, inaccurate information, or repeated system errors may reduce customers' confidence in the platform. Therefore, reliability is expected to have a positive and significant effect on the service quality of the Tring by Pegadaian

application. Scalability refers to the system's capacity to adjust its technological resources dynamically in response to changes in the number of users and transaction volumes (David & Anbuselvi, 2015; Garg et al., 2013). A scalable application should maintain stable performance even when customer demand increases. This dimension is particularly relevant to Tring by Pegadaian because the application is expected to accommodate continued growth in users and transactions without experiencing slower response times or service interruption. Thus, scalability is proposed to have a positive and significant effect on the service quality of the Tring by Pegadaian application. Security relates to the protection of customer data and transactions from data theft, cyberattacks, unauthorized access, and other forms of digital risk (Fernando et al., 2019; Jouini & Rabai, 2016). Because Tring by Pegadaian processes personal identification, financial information, bank-account data, and transaction records, customers must perceive the application as secure before they are willing to use it continuously. Strong security mechanisms can strengthen customer confidence and reduce perceived risk. Therefore, security is expected to have a positive and significant effect on the service quality of the Tring by Pegadaian application.

Service responsiveness reflects the provider's readiness and ability to assist users quickly and appropriately when they encounter difficulties (Meehan & Dawson, 2002; Shatnawi et al., 2018). In digital services, responsiveness may be reflected in the availability of customer support, the speed of complaint resolution, the clarity of technical assistance, and the application's ability to provide timely feedback. These capabilities are essential when users experience login errors, failed verification, or unsuccessful transactions. Accordingly, service responsiveness is proposed to have a positive and significant effect on the service quality of the Tring by Pegadaian application. Usability refers to the extent to which a digital service is easy to understand, navigate, learn, and operate. High usability reduces the time and effort required by customers to complete transactions and allows them to access services efficiently at any time (Yadav & Goraya, 2018; Gupta et al., 2013). For Tring by Pegadaian, usability is reflected in the clarity of instructions, simplicity of navigation, accessibility of features, and ease of completing registration, verification, and financial transactions. Therefore, usability is expected to have a positive and significant effect on the service quality of the Tring by Pegadaian application.

Beyond the seven dimensions, service quality is also closely related to customer satisfaction and loyalty. Customer satisfaction develops when customers perceive that service performance meets or exceeds their expectations. Smith and Swinehart (2001) and Kim et al. (2004) identified a strong relationship between service quality and customer satisfaction, while Gorondutse & Hilman (2014) emphasized that satisfaction may transmit the effect of service quality to loyalty. Caruana (2002), Liat et al. (2014), and Iqbal et al. (2018) further demonstrated that service quality can influence customer loyalty both directly and indirectly through customer satisfaction. On this basis, the service quality of the Tring by Pegadaian application is expected to have a positive and significant effect on customer satisfaction, customer satisfaction is expected to have a positive and significant effect on customer loyalty, and service quality is also expected to have a positive and significant direct effect on customer loyalty.

Taken together, the relationships examined in this study follow the model developed by Agarwal & Dhingra (2023), in which agility, assurance of service, reliability, scalability, security, service responsiveness, and usability contribute to overall service quality. Service quality subsequently influences customer satisfaction and customer loyalty, while satisfaction is also expected to strengthen loyalty. By incorporating these relationships into the introduction, the study establishes a clear basis for examining how the technological and

service characteristics of the Tring by Pegadaian application shape customers' evaluations and continued use of the platform.

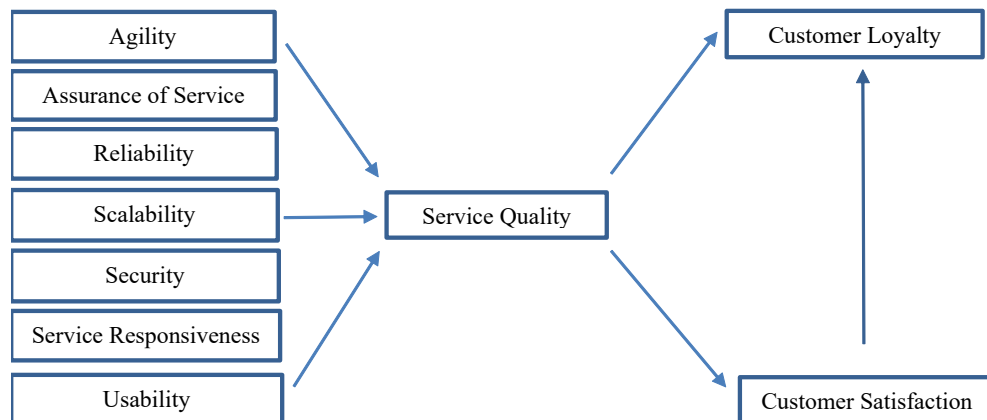


Figure 1. Conceptual Framework of the Research

Methods

Research Design and Setting

This study employed a quantitative approach with a causal research design to examine the direct and indirect relationships among the variables included in the proposed model. The design was selected because the study sought to determine whether agility, assurance of service, reliability, scalability, security, service responsiveness, and usability influenced the perceived service quality of the Tring by Pegadaian application, as well as whether service quality affected customer satisfaction and customer loyalty. A survey method was used to obtain standardized responses from application users through a structured, closed-ended questionnaire. The study was conducted in 2026 at the Purus Baru Sharia Pawnshop Unit (UPS Purus Baru), Padang City, West Sumatra. This setting was selected because the unit had an identifiable population of active Tring by Pegadaian users and showed a gap between application registration and transaction achievement, making it relevant for evaluating customers' digital service experiences.

Population, Sample, and Sampling Technique

The population consisted of all active customers of UPS Purus Baru who had registered for and used the Tring by Pegadaian application. Based on eVHa administrative data recorded on April 12, 2026, the population comprised 1,183 active users. Because the study focused specifically on customers with actual experience using the application, the sample was selected using a non-probability sampling approach with purposive sampling. This technique enabled the researchers to include only respondents who met the requirements necessary to evaluate the application's service quality meaningfully.

Respondents were required to satisfy three inclusion criteria. First, they had to be at least 17 years old to ensure that they were able to provide independent responses and had reached the minimum age considered appropriate for conducting financial transactions. Second, they had to own an account and be registered users of the Tring by Pegadaian application. Third, they had to have completed at least one transaction through the application. The third criterion was essential because registered customers who had never conducted a transaction might not have sufficient experience to evaluate the application's agility, reliability, security, usability,

responsiveness, and overall service quality. The final sample consisted of 100 respondents. The sample size was determined by referring to Hair et al. (2014), who state that a minimum sample of approximately 100 respondents may be used for structural equation modeling under appropriate model conditions. The selected sample size was therefore considered adequate for estimating the proposed relationships using Partial Least Squares Structural Equation Modeling. Nevertheless, the findings were interpreted within the context of UPS Purus Baru because the use of purposive sampling did not provide every population member with an equal probability of selection.

Research Variables and Instrument

The study examined seven exogenous constructs, namely agility, assurance of service, reliability, scalability, security, service responsiveness, and usability. Service quality was positioned as an endogenous construct influenced by the seven digital service dimensions. Customer satisfaction and customer loyalty were also treated as endogenous constructs, with service quality expected to influence both variables and customer satisfaction expected to influence customer loyalty. The model therefore enabled the examination of both direct relationships and the proposed indirect relationship between service quality and customer loyalty through customer satisfaction.

Data were collected using a structured, closed-ended questionnaire developed by adapting the measurement indicators proposed by Agarwal & Dhingra (2023). The original indicators were adjusted to reflect the characteristics, features, and customer experience of the Tring by Pegadaian application. This adaptation was necessary because the original model was developed in the context of cloud services, whereas the present study focused on an integrated digital financial application operated by a non-bank financial institution.

All questionnaire items were measured using a five-point Likert scale. Respondents indicated their level of agreement with each statement using the following response categories: 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree. Higher scores indicated stronger perceptions of the construct being measured. The use of a standardized response scale made it possible to quantify customer perceptions and compare the relative strength of each variable across respondents.

The agility items measured the application's ability to adapt, introduce improvements, and respond to changing user needs. Assurance of service assessed customers' confidence in the provider's competence and service commitments. Reliability measured the consistency and dependability of application performance. Scalability assessed the system's ability to maintain service performance as user and transaction demand increased. Security captured perceptions of personal-data and transaction protection. Service responsiveness measured the speed and appropriateness of assistance provided when users experienced problems. Usability assessed the ease with which customers could learn, navigate, and complete transactions through the application. Service quality, customer satisfaction, and customer loyalty were measured through indicators reflecting customers' overall evaluations, fulfillment of expectations, continued-use intentions, and willingness to recommend the application.

Data Collection Procedure

The questionnaire was administered to customers who met the predetermined inclusion criteria. Before respondents completed the instrument, their eligibility was confirmed based on age, application registration status, and previous transaction experience. Only questionnaires completed by respondents who satisfied all three criteria were included in the analysis. This screening procedure was intended to ensure that all responses were based on actual experience

with the Tring by Pegadaian application rather than expectations or perceptions formed without direct use. The completed questionnaires were subsequently examined for completeness before data processing. Responses that did not meet the inclusion criteria or contained incomplete information were not considered suitable for further analysis. The eligible responses were coded numerically according to the five-point Likert scale and organized into a dataset for descriptive and inferential analysis.

Data Analysis Technique

Data analysis was conducted in two stages: descriptive analysis and inferential analysis. Descriptive analysis was used to summarize respondents' characteristics and describe their perceptions of each research variable. Frequency and percentage distributions were used to present respondent characteristics, while the mean score and Respondent Achievement Level, also referred to as the Respondent Achievement Rate, were calculated for each construct. These values were used to determine the general strength of respondents' perceptions of agility, assurance of service, reliability, scalability, security, service responsiveness, usability, service quality, customer satisfaction, and customer loyalty.

Inferential analysis was performed using Partial Least Squares Structural Equation Modeling with SmartPLS version 4.1.1.8. PLS-SEM was selected because it is appropriate for predictive and explanatory models involving multiple latent constructs, can be used with relatively limited sample sizes, and does not require strict multivariate normality assumptions (Hair et al., 2011; Ghozali, 2016). The method was also suitable because the study examined several simultaneous relationships among reflective latent variables and sought to estimate both direct and indirect effects within a single structural model.

The PLS-SEM analysis began with an evaluation of the measurement model, or outer model, to determine whether the indicators measured their respective constructs adequately. Convergent validity was assessed through the indicator outer loadings and Average Variance Extracted. Indicators were expected to have outer-loading values greater than 0.70, while each construct was expected to achieve an AVE value above 0.50. An AVE value above 0.50 indicates that a construct explains more than half of the variance in its indicators (Hair et al., 2011; Hair et al., 2014).

Discriminant validity was evaluated using cross-loading values. Each indicator was expected to demonstrate a stronger loading on its assigned construct than on the other constructs included in the model. This assessment was conducted to ensure that conceptually different constructs were empirically distinguishable. Internal consistency reliability was evaluated using Cronbach's Alpha and Composite Reliability. Cronbach's Alpha values above 0.60 and Composite Reliability values above 0.70 were used as the recommended criteria for construct reliability (Hair et al., 2011; Hair et al., 2014; Hussein, 2015).

After evaluating the measurement model, the structural model, or inner model, was assessed to examine the explanatory capacity and hypothesized relationships among the constructs. The coefficient of determination, or R-Square value, was used to identify the proportion of variance in each endogenous construct explained by its antecedent variables. In this study, R-Square values were evaluated for service quality, customer satisfaction, and customer loyalty. A higher R-Square value indicated that the predictor variables included in the model provided greater explanatory power for the corresponding endogenous construct.

Hypothesis testing was conducted through the bootstrapping procedure available in SmartPLS. Bootstrapping generates repeated subsamples from the original dataset to estimate the stability and statistical significance of the path coefficients. Each proposed relationship was assessed

using its path coefficient, t-statistic, and p-value. A hypothesis was accepted when the t-statistic exceeded 1.96 and the p-value was below 0.05 at the 5% significance level (Hussein, 2015). The direction of the path coefficient was also examined to determine whether each relationship was positive or negative. This procedure was applied to evaluate the effects of the seven digital service dimensions on service quality and the relationships among service quality, customer satisfaction, and customer loyalty.

Results and Discussion

Respondent Characteristics

Questions were distributed via Google Forms for one week in June 2026 to active UPS Purus Baru customers in Padang City. All 100 participating respondents met three purposive sampling criteria: being at least 17 years old (100%), registered users of the Tring by Pegadaian application (100%), and having made at least one transaction through the application (100%), making all respondent data suitable for further analysis.

Descriptive Analysis

Descriptive analysis was conducted by calculating the average (mean) value and Respondent Achievement Rate (TCR) for each research variable.

Table 2. Descriptive Analysis of Research Variables

Variable	Mean	TCR (%)	Criteria
Agility (X1)	4.1	82	Very Strong
Assurance of Service (X2)	4.14	83	Very Strong
Reliability (X3)	4.12	83	Very Strong
Scalability (X4)	4.15	83	Very Strong
Security (X5)	4.15	83	Very Strong
Service Responsiveness (X6)	4.17	84	Very Strong
Usability (X7)	4.21	84	Very Strong
Service Quality (Y1)	4.06	81	Very Strong
Customer Satisfaction (Y2)	4.17	83	Very Strong
Customer Loyalty (Y3)	3.24	65	Strong

Table 2 shows that, in general, respondents' perceptions of the seven factors of service quality, service quality, and customer satisfaction were in the very strong category, while customer loyalty was in the strong category with the lowest TCR value (65%). This indicates that although customers positively assess the app's service quality, their loyalty levels are relatively weak compared to their perceptions of service quality. The comparatively lower customer loyalty score deserves particular attention. Although respondents generally evaluated the application's service quality and expressed satisfaction positively, these evaluations have not necessarily developed into a strong commitment to continue using or recommending the application. This descriptive gap suggests that positive service experiences alone may be insufficient to establish customer loyalty. Other considerations that were not examined in this study, such as perceived value, customer habits, trust in the institution, switching barriers, product characteristics, and the availability of alternative financial services, may also influence customers' loyalty decisions.

Measurement Model Evaluation (Outer Model)

Initial convergent validity testing revealed that most indicators had outer loadings below 0.70, requiring model purification by removing invalid indicators. After purification, the final model remained with the two indicators with the highest loadings on each construct.

Table 3. Second Stage Outer Loading

Indicator	Construct	Outer Loading	Decision
A1	Agility	0.587	Invalid
A3	Agility	0.915	Valid
AoS1	Assurance of Service	0.667	Invalid
AoS4	Assurance of Service	0.897	Valid
R2	Reliability	0.804	Valid
R4	Reliability	0.720	Valid
S1	Scalability	0.762	Valid
S2	Scalability	0.768	Valid
SC2	Security	0.680	Invalid
SC3	Security	0.860	Valid
SR1	Service Responsiveness	0.812	Valid
SR2	Service Responsiveness	0.697	Invalid
U2	Usability	0.785	Valid
U4	Usability	0.708	Valid
SQ2	Service Quality	0.697	Invalid
SQ3	Service Quality	0.753	Valid
SQ4	Service Quality	0.727	Valid
CS2	Customer Satisfaction	0.790	Valid
CS3	Customer Satisfaction	0.782	Valid
CL2	Customer Loyalty	0.783	Valid
CL3	Customer Loyalty	0.676	Invalid

Source: Primary Data Processed with SmartPLS (2026)

The results of the discriminant validity test using cross-loading showed that each indicator had the highest loading value on its own construct compared to other constructs, thus the measurement model was declared to meet the discriminant validity criteria.

Table 4. Cronbach's Alpha, Composite Reliability, and AVE Values

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Agility	0.349	0.453	0.591
Assurance of Service	0.423	0.495	0.625
Reliability	0.284	0.288	0.582
Scalability	0.269	0.269	0.578
Security	0.348	0.375	0.601
Service Responsiveness	0.257	0.263	0.573
Usability	0.342	0.342	0.603

Service Quality	0.553	0.556	0.528
Customer Satisfaction	0.380	0.380	0.617
Customer Loyalty	0.131	0.133	0.535

Source: Primary Data Processed with SmartPLS (2026)

Table 4 shows that all constructs have met the convergent validity criteria with AVE values above 0.50 (Hair et al., 2014). However, the Cronbach's Alpha and Composite Reliability values for all constructs are still below the recommended threshold (0.60 and 0.70). This condition is caused by the reduced number of indicators per construct due to the model purification process at the convergent validity stage, resulting in limited internal consistency between the remaining indicators (generally only two items per construct). This finding is an important note for instrument development in further research, particularly the need to increase the number of initial indicators per construct. Nevertheless, the achievement of AVE values above 0.50 does not fully compensate for the weak internal consistency indicated by the reliability results.

Structural Model Evaluation (Inner Model) and Hypothesis Testing

Table 5. R-Square Value

Dependent Variable	R-Square	Adjusted R-Square
Service Quality	0.387	0.340
Customer Satisfaction	0.130	0.121
Customer Loyalty	0.193	0.177

Source: Primary Data Processed with SmartPLS (2026)

The R-Square value of 0.387 for Service Quality indicates that the seven exogenous factors collectively explain 38.7% of the variation in service quality in the Tring by Pegadaian application, while Customer Satisfaction and Customer Loyalty are explained by their antecedent variables in the model by 13.0% and 19.3%, respectively. Hypothesis testing was conducted using a bootstrapping procedure, with acceptance criteria of a t-statistic > 1.96 and a p-value < 0.05. The results of the path coefficient test are presented in Table 6 and illustrated in Figure 2. These values indicate that the model has limited to moderate explanatory power. The seven digital service quality dimensions explain 38.7% of the variance in service quality, leaving 61.3% attributable to factors outside the proposed model. More importantly, only 13.0% of customer satisfaction and 19.3% of customer loyalty are explained by their respective antecedents.

Table 6. Path Coefficient and Hypothesis Test Results

Variable	Original Sample (O)	T statistic	P values	Hypothesis Test Results
Agility (X1) -> Service Quality (Y1)	0.235	2. 539	0.006	Hypothesis accepted
Assurance of Service (X2) -> Service Quality (Y1)	-0.059	0.581	0.281	Hypothesis rejected
Reliability (X3) -> Service Quality (Y1)	0.160	1.366	0.086	Hypothesis rejected

The PLS-SEM model shows that the seven digital service dimensions explain 38.7% of the variance in service quality. Usability has the strongest positive relationship with service quality ($\beta = 0.381$), followed by agility ($\beta = 0.235$), reliability ($\beta = 0.184$), and scalability ($\beta = 0.114$), while assurance of service, security, and service responsiveness have weak negative relationships. Service quality positively influences customer satisfaction ($\beta = 0.360$) and customer loyalty ($\beta = 0.356$), whereas customer satisfaction has a weaker influence on loyalty ($\beta = 0.160$). Overall, the model explains 13.0% of customer satisfaction and 19.3% of customer loyalty.

The Effect of Agility on Service Quality

The importance of agility indicates that customers evaluate the Tring by Pegadaian application partly through its capacity to respond to changing operational and user requirements. In a digital financial environment, agility is not simply the speed with which a provider launches new features. It also concerns the institution's ability to correct technical errors, simplify problematic procedures, adapt interfaces to user behavior, and maintain continuity when regulatory or market conditions change. This interpretation is consistent with Buyya et al. (2019), who positioned technological flexibility as a central requirement for contemporary cloud-based systems, and with Fonstad & Ross (2015), who argued that modular and adaptable digital architectures improve organizational responsiveness.

For Tring by Pegadaian, agility has particular importance because the application combines services that were previously delivered through separate conventional and sharia digital platforms. Integration increases convenience, but it also increases technical and organizational complexity. Customers expect the combined platform to function as a coherent service rather than as several partially connected systems. Encounter login failures, unsuccessful account linking, or facial-verification problems, their evaluation is shaped not only by the occurrence of the problem but also by how quickly the system is corrected. A digitally agile institution limits the duration and recurrence of such failures. It converts customer complaints into system improvements rather than treating them as isolated service incidents.

The broader implication is that application development must be managed as a continuous service-improvement process. Pegadaian should not regard the launch of Tring as the completion of digital transformation. Digital platforms require permanent monitoring, iterative testing, and frequent refinement. Customer feedback, transaction-abandonment data, application error logs, and complaint patterns should be integrated into a rapid-response development cycle. Agarwal & Dhingra (2023) similarly emphasized agility as an important antecedent of cloud service quality. The present findings extend that argument by showing that agility remains relevant in an integrated non-bank financial application where service interruptions can directly influence customers' willingness to replace outlet-based transactions with digital transactions.

The Effect of Assurance of Service-on-Service Quality

The absence of a distinct effect of assurance of service suggests that conventional signals of institutional competence may not be sufficient to shape customers' evaluations of application quality. In face-to-face services, assurance is often conveyed through employee knowledge, courtesy, professionalism, and the ability to provide convincing explanations. In a self-service application, however, these human signals are less visible. Customers assess the system through what it allows them to accomplish. A polite employee or a strong institutional reputation cannot fully compensate for an application that fails during authentication or transaction processing. This finding should not be interpreted as evidence that assurance is

irrelevant. Rather, assurance may function as a baseline expectation. Customers use an application issued by Pegadaian with the assumption that the provider is legitimate, competent, and accountable. When this assumption is already established, variations in perceived assurance may contribute little to the differentiation of service quality. Kochovski et al. (2019) explained that service assurance operates through commitments regarding acceptable service standards.

Commitments may only become meaningful when they are translated into observable outcomes, including successful transactions, accurate information, transparent charges, clear complaint procedures, and timely problem resolution. The implication for Pegadaian is that assurance should be embedded in the application rather than communicated only through institutional claims. Users need visible confirmation that transactions have been processed, personal data are handled appropriately, complaints are traceable, and failures will be corrected. Assurance can be strengthened through clear transaction histories, real-time status notifications, transparent service-level commitments, and accessible explanations of verification procedures. The finding is consistent with Liana et al. (2023), who demonstrated that relational service dimensions do not always determine customers' evaluations in technology-mediated environments. Digital assurance must therefore be operationalized through system transparency and accountability, not merely through the reputation or courtesy of the provider.

The Effect of Reliability on Service Quality

The non-significant role of reliability requires careful interpretation because reliability is conventionally regarded as a fundamental component of service quality. It would be incorrect to conclude that users do not care whether the Tring application works consistently (Lawrence, 2023; Koch et al., 2023; Banerjee et al., 2025). A more plausible interpretation is that reliability functions as a minimum requirement rather than a source of superior evaluation. Customers may regard successful login, accurate transaction processing, and uninterrupted access as basic obligations of a financial application. When reliability is present, it may receive little explicit recognition; when it fails, however, dissatisfaction can emerge immediately. This asymmetry is important. Reliability may have a stronger effect as a failure-prevention condition than as a positive differentiator.

Users rarely praise a financial application for correctly recording a transaction because accuracy is assumed. In contrast, a single failed payment, delayed update, or incorrect balance can damage confidence in the entire platform. Gupta et al. (2013) highlighted the importance of dependable system performance in the adoption of cloud services, while Buyya et al. (2019) emphasized resilience and continuity as central properties of advanced digital infrastructure. In the Tring context, reliability may therefore operate indirectly by protecting trust and preventing dissatisfaction rather than by independently increasing perceived service quality. The finding may also reflect limited variation in users' experiences or limitations in construct measurement. If respondents encountered similar levels of system performance, reliability would have little capacity to explain differences in their service-quality evaluations.

The reduction of indicators during measurement-model refinement may have narrowed the conceptual coverage of reliability. Reliability involves more than freedom from complete system failure; it includes transaction accuracy, response consistency, recovery capability, information integrity, and service availability. A restricted set of indicators may not fully capture these dimensions. From a managerial standpoint, reliability remains non-negotiable. Pegadaian should track transaction-success rates, authentication failures, system downtime, recovery time, and repeated complaints as operational performance indicators. The practical

lesson is not to deprioritize reliability, but to recognize that customers may treat it as an expected foundation on which other visible benefits, particularly usability and agility, are judged.

The Effect of Scalability on Service Quality

The relevance of scalability shows that users' perceptions of service quality are connected to the application's ability to maintain performance as demand increases. Scalability is often treated as a technical infrastructure issue, yet its consequences are directly experienced by customers. Slow response times, delayed verification, failed transactions, and temporary unavailability during periods of high demand are manifestations of insufficient capacity. Customers may not use the term "scalability," but they recognize its absence when application performance deteriorates as more users access the system.

This result is especially meaningful for UPS Purus Baru because the number of registered users remains below the institutional target. Increasing adoption without increasing system capacity would create a contradiction: a successful customer-acquisition strategy could produce poorer service performance if the digital infrastructure cannot accommodate additional users and transactions. Scalability must therefore be treated as a precondition for growth rather than as a response implemented after performance declines. David and Anbuselvi (2015) described scalability as the ability of a system to adjust resources dynamically according to demand, while Jatoth et al. (2019) emphasized capacity-related considerations in evaluating cloud services. Agarwal & Dhingra (2023) likewise found that scalability contributes to service-quality perceptions.

The managerial implication extends beyond server capacity. Organizational scalability is also required. As the user base grows, Pegadaian must expand customer support, complaint handling, fraud monitoring, system maintenance, and user education. A technically scalable application supported by an understaffed service structure will still produce poor customer experiences. Pegadaian should therefore forecast growth at the application level and at the service-unit level, conduct stress testing, and prepare support resources before promotional programs increase usage. The value of scalability lies in maintaining consistent service quality while the application becomes more widely used.

The Effect of Security on Service Quality

The absence of an independent security effect may indicate that users rely heavily on Pegadaian's institutional legitimacy when assessing digital risk. As a recognized financial institution operating under formal regulatory supervision, Pegadaian may benefit from a high level of inherited trust. Customers can therefore assume that security protections are already in place without actively evaluating the technical mechanisms behind them. Under such circumstances, security becomes a taken-for-granted attribute rather than a dimension that differentiates service quality (Chang & Chiu, 2023; Van et al., 2024). This interpretation must be treated cautiously. A non-significant relationship does not demonstrate that security is unimportant, nor does it justify reducing investment in cybersecurity. Security often becomes salient only after a breach, suspicious transaction, identity-theft incident, or unauthorized account access.

Users may have limited knowledge of encryption, authentication architecture, access controls, or data-governance procedures. Their survey responses may therefore reflect perceived security rather than the actual strength of the system. Fernando et al. (2019) and Jouini & Rabai (2016) emphasized that secure digital services depend on systematic protection against unauthorized access, data loss, and cyber threats. These obligations remain central regardless of whether

users explicitly recognize them. The practical implication is that Pegadaian must maintain strong security while communicating it in a manner that improves confidence without increasing user burden. Excessively complicated verification may protect the system but reduce usability, particularly among customers with limited digital literacy. Security and usability should therefore be designed jointly. Facial recognition, password recovery, bank-account linking, and transaction confirmation must be secure but also understandable and reliable. Security failures can destroy trust rapidly, whereas invisible security protections may produce little immediate appreciation.

The appropriate managerial response is therefore not to seek customer recognition for security, but to ensure that security safeguards operate effectively and are explained clearly when they affect customer actions. The alignment with Henao & Tavera (2022) should also be interpreted in contextual terms. Their findings suggest that service-quality dimensions do not produce uniform loyalty outcomes across industries and countries. In the Tring context, security may be indirectly embedded in institutional trust rather than functioning as a separate evaluative dimension.

The Effect of Service Responsiveness on Service Quality

The limited influence of service responsiveness reflects the self-service character of the Tring application. Customers primarily use the platform to complete transactions independently. When the system functions properly, they may have little need to interact with employees. Consequently, the speed of staff assistance may remain peripheral to their routine evaluation of the application. Service quality is then judged mainly through interface performance, transaction completion, and ease of navigation. However, responsiveness becomes crucial when self-service fails. The absence of a direct effect should not be interpreted as permission to weaken customer support. Instead, it suggests that responsiveness is episodic. It may not shape every user's evaluation, but it becomes decisive for customers experiencing login errors, verification failure, account-linking problems, or unsuccessful transactions.

The quality of recovery may determine whether the customer continues using the application or returns permanently to outlet-based services. According to Meehan & Dawson (2002) associated responsiveness with the provider's willingness and readiness to help customers, while Shatnawi et al. (2018) emphasized responsiveness as an important property of cloud-based service environments. Liana et al. (2023) similarly showed that relational dimensions may have a weaker role in self-service technologies than technical performance. The implication is that Pegadaian should redesign responsiveness around digital failure points.

General customer-service availability is insufficient. Users need assistance that is immediate, issue-specific, and integrated into the application. In-app help, automated diagnostic guidance, live-chat escalation, complaint tracking, and clear service timelines would make responsiveness more relevant to the digital experience. Outlet employees should also receive access to standardized troubleshooting procedures so that customers do not receive inconsistent explanations. Responsiveness should function as a recovery mechanism that restores customer control. The strategic objective is not simply to answer quickly but to resolve problems with minimal repetition, uncertainty, and effort.

The Effect of Usability on Service Quality

Usability appears to be the most influential practical dimension in the formation of service quality. This result is theoretically coherent because customers cannot benefit from a digital service that they cannot understand or operate. The value of integrated pawn, financing, payment, and gold-investment services is realized only when users can locate features, interpret

instructions, complete verification, and confirm transactions without excessive assistance (Nungki et al., 2024; Purnama & Haryono, 2025; Nugroho & Aryani, 2026). Usability therefore translates technological capability into actual customer value. The importance of usability is amplified in a customer population with varying levels of digital literacy. Some customers may be familiar with mobile banking and digital wallets, while others may be using an integrated financial application for the first time. A design that appears intuitive to experienced users may remain confusing to customers who are unfamiliar with digital identity verification, account linking, or investment interfaces.

The Research Yadav and Goraya (2018) demonstrated that ease of use contributes substantially to cloud service quality, while Gupta et al. (2013) linked usability-related considerations with technology adoption. Agarwal & Dhingra (2023) similarly identified usability as a central determinant of overall service quality. For Pegadaian, usability must be understood as more than visual attractiveness. The logical organization of features, the clarity of language, the number of steps required for a transaction, the visibility of system status, the quality of error messages, and the ease of recovering from mistakes. An application that presents many services on a single platform may create cognitive overload unless the information architecture is carefully designed. The “One User ID, All Needs” proposition will produce value only when integration reduces customer effort rather than merely concentrating multiple services in one interface.

The managerial priority should therefore be to simplify high-friction customer journeys. Pegadaian should identify the stages at which users abandon registration, fail verification, cancel account linking, or return to outlet transactions. Usability testing should include older customers, first-time users, customers with limited digital experience, and users with different types of mobile devices. Improvements should be based on observed user behavior rather than internal assumptions about what customers understand. Usability is not a cosmetic concern; it is the operational mechanism through which digital inclusion, transaction growth, and application adoption are achieved.

The Effect of Service Quality on Customer Satisfaction

The relationship between service quality and customer satisfaction confirms that satisfaction is grounded in the customer’s overall experience of using the application. Customers become satisfied not because the application exists, but because it enables them to accomplish financial tasks with acceptable levels of convenience, control, and confidence. Service quality therefore operates as an evaluative foundation: users compare their expectations with their actual interaction with the platform and form satisfaction judgments accordingly. This finding is consistent with Smith and Swinehart (2001), Kim et al. (2004), Gorondutse & Hilman (2014), and Agarwal & Dhingra (2023), all of whom linked favorable service evaluations with customer satisfaction.

The composition of service quality deserves attention. Because agility, scalability, and usability are the dimensions most closely associated with service-quality perceptions, customer satisfaction is likely to depend heavily on functional experience. Customers value an application that adapts, remains accessible under changing demand, and allows them to complete transactions without unnecessary difficulty. The implication is that satisfaction cannot be increased through promotional communication alone. Pegadaian may encourage customers to register, but satisfaction will depend on whether the promised convenience is experienced after registration. A gap between promotional claims and application performance can intensify dissatisfaction because customers interpret failure as a violation of expectations. Management should therefore align marketing promises with actual system capability.

Satisfaction monitoring should also move beyond general ratings by identifying which transaction stages create positive or negative experiences. Customer satisfaction remains important, but it should not be treated as an end. High satisfaction ratings may coexist with limited transaction frequency or weak recommendation behavior. Pegadaian must therefore connect satisfaction metrics with behavioral indicators, such as repeated use, successful transaction completion, application retention, and reduced dependence on outlet-based services.

The Effect of Customer Satisfaction on Customer Loyalty

The absence of a significant relationship between satisfaction and loyalty challenges the conventional assumption that satisfied customers will automatically become loyal customers. In this setting, satisfaction may represent a positive evaluation of a particular experience without producing a strong commitment to continued application use. Customers can be satisfied with the Tring application yet continue to transact manually, use competing digital financial platforms, or use Tring only when specific Pegadaian products are required. This distinction between satisfaction and loyalty is theoretically important. Satisfaction is primarily evaluative, whereas loyalty involves commitment, repeated behavior, recommendation, and resistance to alternatives. A customer may acknowledge that the application performs adequately without developing emotional attachment or habitual usage.

According to Kim et al. (2004) showed that loyalty can also depend on switching barriers, while Mbawuni and Nimako (2016) demonstrated that satisfaction is not always a sufficient predictor of loyalty in developing-market service contexts. Henao & Tavera (2022) similarly reported that service relationships can operate differently across institutional and national settings. For Pegadaian, loyalty may be connected more strongly to the characteristics of its core products than to satisfaction with the application. Pawn services and gold investment products may generate continued patronage because of perceived institutional trust, product suitability, regulatory legitimacy, or limited substitutes. In that situation, customers remain with Pegadaian but do not necessarily become loyal users of Tring. Institutional loyalty and application loyalty should therefore be distinguished. A customer can be loyal to Pegadaian while preferring to transact at an outlet. The managerial implication is that satisfaction must be converted into habit and perceived value.

Pegadaian should provide customers with clear reasons to continue using the application, such as shorter transaction time, easier repayment, better transaction tracking, relevant reminders, integrated financial information, and consistent advantages over manual service. Loyalty will not emerge merely because customers report being satisfied. It requires repeated reinforcement of the application's usefulness within their financial routines. This result also requires methodological caution. A non-significant satisfaction-to-loyalty path does not, by itself, establish the complete absence of mediation. Such a conclusion requires explicit testing of the indirect effect between service quality and loyalty through satisfaction. The current evidence more appropriately indicates that the proposed satisfaction-based mechanism was not supported in the observed relationship.

The Effect of Service Quality on Customer Loyalty

The direct relationship between service quality and customer loyalty suggests that customers' continued engagement with Tring is influenced by the practical value of the application. When the platform is accessible, adaptable, and easy to use, customers may continue using it even when their general satisfaction does not develop into a separate psychological mechanism. Loyalty in this context may therefore be behaviorally pragmatic rather than affectively driven.

Customers remain because the application works, reduces effort, and supports transactions that matter to them. This interpretation is consistent with Liat et al. (2014), Iqbal et al. (2018), and Agarwal & Dhingra (2023), who demonstrated that service quality can contribute directly to loyalty. Nevertheless, the result should not be interpreted as evidence that satisfaction is irrelevant in all circumstances. Rather, it indicates that service performance has a more immediate relationship with loyalty than satisfaction within this context. Customers may prioritize dependable utility over emotional attachment when using a financial application.

The practical implication is that Pegadaian should build loyalty through repeated service success. Each successful login, verification, payment, financing transaction, or gold-investment activity reinforces the application's position in the customer's routine. Conversely, recurring technical difficulty encourages customers to preserve alternative channels. Loyalty is therefore accumulated through consistent reduction of customer effort. Improvements in usability, agility, and scalability are likely to contribute more directly to continued use than generalized loyalty campaigns that do not address the actual digital experience. Pegadaian should also distinguish between registration, occasional use, and genuine loyalty. Registration figures can overstate digital adoption when many users remain inactive or continue using outlets. More meaningful indicators include transaction frequency, retention, repeat use of different features, recommendation behavior, and the proportion of customers who shift from manual to digital transactions. Loyalty strategy should therefore be based on behavioral evidence rather than download or registration totals alone.

Integrated Implications for Digital Service Quality

Taken together, the findings show that service quality in an integrated non-bank financial application is formed mainly through technological experience. Customers appear to privilege what the application enables them to do over what the institution claims to guarantee. Agility, scalability, and usability represent visible performance capabilities: the application must adapt, maintain capacity, and remain easy to operate. Assurance, reliability, security, and responsiveness remain important, but they may function as foundational or conditional attributes whose effects become most visible when they fail. This pattern refines the model proposed by Agarwal & Dhingra (2023). The seven dimensions should not be assumed to have equal or universal influence across all digital-service settings. Their relevance depends on the nature of the platform, the institutional context, customer expectations, digital literacy, and the maturity of the service. In Tring by Pegadaian, application quality is evaluated within a hybrid environment where customers can still return to physical outlets.

Digital service failure therefore does not necessarily end the relationship with Pegadaian; it may simply prevent customers from migrating to the digital channel. This distinction helps explain why service quality can influence application loyalty while satisfaction does not independently predict loyalty. The findings also require disciplined interpretation because several constructs demonstrated weak internal consistency after indicator removal. Low reliability increases measurement error and may weaken or destabilize structural relationships. The significant and non-significant paths should therefore be treated as context-specific evidence rather than definitive proof that some dimensions matter and others do not. Future research should retain broader and theoretically representative indicators, refine item wording, and distinguish between loyalty to the institution, loyalty to the application, and loyalty to financial products.

Despite this limitation, the practical direction is clear. Pegadaian should prioritize user-centered interface redesign, rapid correction of recurring problems, capacity planning, and seamless transaction journeys. Reliability, security, assurance, and customer support should remain

protected as essential service foundations. Digital transformation will be successful only when customers not only register for the application but also trust it sufficiently to complete transactions repeatedly. The central managerial challenge is therefore to convert Tring from an available digital channel into the customer's preferred channel for interacting with Pegadaian.

Conclusion

This study concludes that the perceived service quality of the Tring by Pegadaian application is primarily shaped by agility, scalability, and usability, whereas assurance of service, reliability, security, and service responsiveness do not exert significant independent effects in this research context. Service quality positively influences both customer satisfaction and customer loyalty, while customer satisfaction does not significantly determine loyalty, indicating that customers continued use of the application depends more directly on its functional performance than on satisfaction alone. These findings confirm that digital financial service quality is context-dependent and that not all service-quality dimensions operate uniformly across platforms and customer groups. Accordingly, Pegadaian should prioritize improving application usability, system adaptability, and capacity while maintaining reliability, security, and responsive support as essential service foundations. Nevertheless, the findings should be interpreted cautiously because the study was limited to one service unit and several constructs demonstrated weak internal consistency, highlighting the need for broader samples and more robust measurement instruments in future research.

References

- Agarwal, R., & Dhingra, S. (2023). Factors influencing cloud service quality and their relationship with customer satisfaction and loyalty. *Heliyon*, 9(4), Article e15177. <https://doi.org/10.1016/j.heliyon.2023.e15177>
- Alfian, I. I., & Siregar, E. (2023). Effectiveness of Digital Sharia Pawnshop Services in Increasing The Number of Customers Pegadaian Syariah. *Journal of Islamic Financial Technology*, 2(2).
- Amerta, L., & Madhavi, I. (2023). Exploring service quality and customer satisfaction in the service industry: A mixed-methods analysis. *Journal on Economics, Management and Business Technology*, 2(1), 1-16. <https://doi.org/10.35335/jembut.v2i1.184>
- Anisa, H., Supriyaningsih, O., Kurniati, E., & Cahyani, A. B. (2024). Effectiveness Of Using Pegadaian Sharia Digital Application Services (PSD) At PT. Pegadaian Syariah Branch Radin Intan Lampung. *Al-Mashrof: Islamic Banking and Finance*, 5(1), 42-62. <https://doi.org/10.24042/al-mashrof.v5i1.21988>
- Banerjee, S., Agarwal, A., & Singla, S. (2025, August). Llms will always hallucinate, and we need to live with this. In *Intelligent Systems Conference* (pp. 624-648). Cham: Springer Nature Switzerland.
- Buyya, R., Srirama, S. N., Casale, G., Calheiros, R., Simmhan, Y., Varghese, B., Gelenbe, E., Javadi, B., Vaquero, L. M., Netto, M. A. S., Toosi, A. N., Rodriguez, M. A., Llorente, I. M., De Capitani di Vimercati, S., Samarati, P., Milojevic, D., Varela, C., Bahsoon, R., Dias de Assunção, M., . . . Shen, H. (2019). A manifesto for future generation cloud computing: Research directions for the next decade. *ACM Computing Surveys*, 51(5), Article 105. <https://doi.org/10.1145/3241737>
- Caruana, A. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction. *European Journal of Marketing*, 36(7/8), 811–828. <https://doi.org/10.1108/03090560210430818>

- Chang, T. Y., & Chiu, Y. C. (2023). Exploiting service design in service quality: Escorting the customer's experiential value in the journey of a star-rated hotel. *Systems*, 11(4), 206. <https://doi.org/10.3390/systems11040206>
- Fonstad, N. O., & Ross, J. W. (2015). Agility and enterprise architecture: Innovating through modularity. *MIT Sloan CISR Research Briefing*, 15(3), 1–4.
- Garg, S. K., Versteeg, S., & Buyya, R. (2013). A framework for ranking of cloud computing services. *Future Generation Computer Systems*, 29(4), 1012–1023. <https://doi.org/10.1016/j.future.2012.06.006>
- Ghozali, I. (2016). *Aplikasi analisis multivariete dengan program IBM SPSS 23* (8th ed.). Badan Penerbit Universitas Diponegoro.
- Gorondutse, A. H., & Hilman, H. (2014). Mediation effect of customer satisfaction on the relationships between service quality and customer loyalty in the Nigerian foods and beverages industry: Sobel test approach. *International Journal of Management Science and Engineering Management*, 9(1), 1–8. <https://doi.org/10.1080/17509653.2013.812337>
- Gupta, A., Singh, R. K., Mathiyazhagan, K., Suri, P. K., & Dwivedi, Y. K. (2023). Exploring relationships between service quality dimensions and customers satisfaction: empirical study in context to Indian logistics service providers. *The international Journal of logistics management*, 34(6), 1858–1889. <https://doi.org/10.1108/IJLM-02-2022-0084>
- Gupta, P., Seetharaman, A., & Raj, J. R. (2013). The usage and adoption of cloud computing by small and medium businesses. *International Journal of Information Management*, 33(5), 861–874. <https://doi.org/10.1016/j.ijinfomgt.2013.07.001>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. SAGE Publications.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–151. <https://doi.org/10.2753/MTP1069-6679190202>
- Henao Colorado, L. C., & Tavera-Mesías, J. F. (2022). Understanding antecedents of consumer loyalty toward an emerging country's telecommunications companies. *Journal of International Consumer Marketing*, 34(3), 270–297. <https://doi.org/10.1080/08961530.2021.1951917>
- Hussein, A. S. (2015). *Penelitian bisnis dan manajemen menggunakan partial least squares (PLS) dengan SmartPLS 3.0*. Universitas Brawijaya.
- Iqbal, M. S., Ul Hassan, M., & Habibah, U. (2018). Impact of self-service technology (SST) service quality on customer loyalty and behavioral intention: The mediating role of customer satisfaction. *Cogent Business & Management*, 5(1), Article 1423770. <https://doi.org/10.1080/23311975.2018.1423770>
- Jatoth, C., Gangadharan, G. R., Fiore, U., & Buyya, R. (2019). SELCLOUD: A hybrid multi-criteria decision-making model for selection of cloud services. *Soft Computing*, 23(13), 4701–4715. <https://doi.org/10.1007/s00500-018-3120-2>

- Jouini, M., & Rabai, L. B. A. (2016). A security framework for secure cloud computing environments. *International Journal of Cloud Applications and Computing*, 6(3), 32–44. <https://doi.org/10.4018/IJCAC.2016070103>
- Kim, M.-K., Park, M.-C., & Jeong, D.-H. (2004). The effects of customer satisfaction and switching barrier on customer loyalty in Korean mobile telecommunication services. *Telecommunications Policy*, 28(2), 145–159. <https://doi.org/10.1016/j.telpol.2003.12.003>
- Koch, S., Altpeter, B., & Johns, M. (2023). The {OK} is not enough: A large scale study of consent dialogs in smartphone applications. In *32nd USENIX Security Symposium (USENIX Security 23)* (pp. 5467-5484).
- Lawrence, S. (2023). Remote Data. In *Introducing. NET MAUI: Build and Deploy Cross-platform Applications Using C# and. NET Multi-platform App UI* (pp. 299-332). Berkeley, CA: Apress.
- Liana, P., Jaensson, J.-E., & Mmari, G. (2023). Service quality dimensions as predictors of customer loyalty in mobile payment services: Moderating effect of gender. *Future Business Journal*, 9, Article 94. <https://doi.org/10.1186/s43093-023-00277-2>
- Liat, C. B., Mansori, S., & Huei, C. T. (2014). The associations between service quality, corporate image, customer satisfaction, and loyalty: Evidence from the Malaysian hotel industry. *Journal of Hospitality Marketing & Management*, 23(3), 314–326. <https://doi.org/10.1080/19368623.2013.796867>
- Mbawuni, J., & Nimako, S. G. (2016). Why dissatisfied mobile subscribers stay: Role of service use experience, commitment and corporate reputation. *International Business Research*, 9(6), 112–119. <https://doi.org/10.5539/ibr.v9n6p112>
- Meehan, S., & Dawson, C. (2002, December 1). *Customer responsiveness: Getting it fast and right through impatience and intolerance*. London Business School.
- Nugroho, H. W., & Aryani, Z. U. (2026). The role of digital pawn and bullion markets in strengthening financial inclusion. *Environmental, Social, Governance and Sustainable Business*, 3(1), 83-99.
- Nungki, N. P., Nana, N. H., & Yoyok, Y. P. (2024). Application of the Concept of Hybrid Contracts Pawning and Gold Investment in Sharia Banking (Case Study of Indonesian Sharia Bank KCP Majalengka Duchy). *Zona Law And Public Administration Indonesia*, 2(1), 257-270.
- 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/10.1177/002224298504900403>
- Purnama Sari, D., & Haryono, S. (2025). Understanding the intentions of Indonesian millennials using sharia digital pawnshops to save gold: expanding meta-UTAUT with perceived risk, security attitude and trust. *Journal of Science and Technology Policy Management*. <https://doi.org/10.1108/JSTPM-05-2024-0180>
- Putri, N. C., & Sutjipto, M. R. (2026). Analyzing User Adoption of the Pegadaian Digital Service Mobile Application Using the Extended Technology Acceptance Model (ETAM) in Indonesia's Financial Sector. In *Strategic Decision-Making in Dynamic Business Environments: Systems and Control Perspectives* (pp. 519-530). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-032-07220-7_47

- Rahim, A. G. (2016). Perceived service quality and customer loyalty: The mediating effect of passenger satisfaction in the Nigerian airline industry. *International Journal of Management and Economics*, 52(1), 94–117. <https://doi.org/10.1515/ijme-2016-0029>
- Satzinger, J. W., & Olfman, L. (1998). User interface consistency across end-user applications: the effects on mental models. *Journal of Management Information Systems*, 14(4), 167-193.
- Slack, N., & Singh, G. (2020). The effect of service quality on customer satisfaction and loyalty and the mediating role of customer satisfaction: Supermarkets in Fiji. *The TQM Journal*, 32(3), 543–558. <https://doi.org/10.1108/TQM-07-2019-0187>
- Smith, A. K., & Swinehart, K. D. (2001). Integrated systems design for customer-focused health care performance measurement: A strategic service unit approach. *International Journal of Health Care Quality Assurance*, 14(1), 21–28.
- Van Helden, J., & Steccolini, I. (2024). Reflecting on the ‘ethos’ of public sector accounting: From ‘taken-for-granted’ to ‘plural’ values?. In *Handbook of accounting in society* (pp. 91-106). Edward Elgar Publishing. <https://doi.org/10.4337/9781803922003.00017>
- 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. <https://doi.org/10.1108/IJQRM-11-2020-0374>