# Building Loyalty in E-Commerce: The Role of Service Quality Factors in Indonesian Online Shopping Platforms

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**ABSTRACT**

This research explores the impact of five key service quality factors—reliability, security, app design, customer service, and customer satisfaction—on customer loyalty within the Indonesian e-commerce sector. The study aims to understand how these factors influence customer behavior, particularly in shaping loyalty toward e-commerce platforms. A survey was conducted with a sample of 210 Indonesian e-commerce users, focusing on individuals who frequently engage with online shopping platforms. Data analysis was performed using SPSS 20.0 to test the proposed hypotheses regarding the relationships between service quality dimensions and customer loyalty. The results show that customer satisfaction is the most significant determinant of customer loyalty, confirming that satisfied customers are more likely to remain loyal to the platform and engage in repeat purchases. Reliability and security were also found to significantly impact customer satisfaction, while app design plays a smaller, yet meaningful role. Surprisingly, customer service was not found to have a significant impact on satisfaction, suggesting that in the context of e-commerce, platform functionality and security are prioritized over direct customer service interactions. These findings offer valuable insights for e-commerce businesses seeking to improve customer retention and loyalty. The study also highlights the importance of understanding service quality from the customer perspective, providing actionable recommendations for enhancing platform performance. Future research could explore additional factors, such as digital payment trends, user experience innovations, and evolving customer expectations, to offer a more comprehensive view of loyalty drivers in e-commerce.
*Keywords*: *Customer Satisfaction, Customer Loyalty, E-Commerce, Service Quality, Reliability, Security, App Design, Indonesia.*

## 1. INTRODUCTION

Customer satisfaction has become a pivotal factor in the competitive landscape of e-commerce, particularly in Indonesia's rapidly expanding digital economy. One major determinant of customer satisfaction is reliability, which refers to the consistent and accurate performance of an e-commerce platform in delivering services as promised. Reliability builds consumer trust, reduces uncertainty in online transactions, and significantly enhances satisfaction levels (Parasuraman, Zeithaml, & Berry, 1988). In the highly competitive Indonesian e-commerce market, platforms that consistently meet customer expectations are better positioned to foster long-term loyalty and positive word-of-mouth (Chinomona & Sandada, 2013).

Security is another critical factor that shapes customer satisfaction in e-commerce environments. As online transactions inherently involve sensitive personal and financial information, consumers place high importance on robust security measures. A perceived lack of security can trigger concerns about data breaches and fraud, thereby undermining satisfaction and discouraging future engagement (Kim, Ferrin, & Rao, 2008). In contrast, platforms that emphasize strong data protection protocols create a sense of safety and trust, leading to higher customer satisfaction and retention rates.

App design, including user interface, ease of navigation, and visual appeal, also plays a significant role in influencing customer satisfaction within e-commerce platforms. An intuitive, aesthetically pleasing, and responsive app design enhances the overall shopping experience, making it easier for customers to browse, select, and purchase products (Aladwani, 2006). Conversely, poorly designed apps can frustrate users, cause transactional errors, and ultimately diminish customer satisfaction. Prior studies have consistently highlighted the centrality of app usability

and aesthetics in shaping positive customer perceptions and behavioral intentions (Zarouali, Poels, Walrave, & Ponnet, 2017).

Customer service quality remains a crucial dimension of e-commerce success, despite the technological mediation of service interactions. Prompt responses to inquiries, effective problem resolution, and empathetic communication contribute significantly to customers' evaluations of service quality (Zeithaml, Bitner, & Gremler, 2018). In online retail contexts, where physical interactions are absent, the role of digital customer service becomes even more prominent in influencing satisfaction and encouraging loyalty.

Beyond individual service attributes, customer satisfaction itself functions as a vital predictor of customer loyalty. Satisfied customers are more likely to engage in repeat purchases, advocate for the brand, and demonstrate resilience against competitor offerings (Anderson & Sullivan, 1993). Numerous studies have established a strong positive relationship between satisfaction and loyalty, affirming the importance of prioritizing customer satisfaction in strategic e-commerce management (Oliver, 1999).

A key reference for this study is the research conducted by Lee and Lin (2005), which examines the determinants of online customer satisfaction and their impact on loyalty intentions. Their study evaluates factors such as website design, reliability, responsiveness, and security in the context of e-commerce. Using a survey method, data were collected from 391 online shoppers, revealing that reliability, security, and design quality significantly influence customer satisfaction, which in turn positively affects customer loyalty. Similarly, another study by Kassim and Abdullah (2010) investigates e-commerce service quality dimensions among Malaysian consumers, finding that service quality attributes significantly drive satisfaction and subsequent loyalty behaviors.

However, contrasting findings emerge from research conducted by Fang, Chiu, and Wang (2011), which explores online shopping behavior in a multi-country setting. While reliability and security were found to be significant predictors of satisfaction in some regions, app design and customer service showed inconsistent effects across different cultural contexts. These discrepancies underscore the complexity of factors influencing e-commerce satisfaction and loyalty, suggesting the need for continued empirical research across diverse markets, including Indonesia's distinct digital environment.

Finally, the dynamics of customer satisfaction and loyalty in e-commerce warrant close examination, especially in emerging markets like Indonesia. By investigating the roles of reliability, security, app design, and customer service, this study aims to provide deeper insights into how these factors collectively influence customer satisfaction and loyalty among Indonesian online shoppers. Through this analysis, the study seeks to contribute to the refinement of theoretical models and offer practical recommendations for enhancing customer experiences in Indonesia's burgeoning e-commerce sector.

Previous research indicates that reliability is one of the strongest predictors of satisfaction in online shopping environments. Inconsistent or unreliable service can lead to customer frustration, negative word-of-mouth, and ultimately customer attrition (Kuo, Wu, & Deng, 2009). Particularly in Indonesia's competitive e-commerce market, where consumers have a variety of choices, platform reliability becomes a key differentiator in maintaining customer loyalty.

H1: Reliability has a significant effect on Customer Satisfaction.

Empirical studies have consistently shown that consumers are more likely to engage with e-commerce platforms they perceive as secure (Bélanger, Hiller, & Smith, 2002). A lack of adequate security measures not only undermines customer confidence but also directly impacts overall satisfaction. The importance of security is particularly pronounced in emerging markets, where consumers may have lower baseline trust in digital transactions (Hajli, 2015). Enhancing security features such as secure payment gateways, encryption technologies, and transparent privacy policies can significantly boost customer satisfaction and subsequent loyalty intentions.

H2: Security has a significant effect on Customer Satisfaction.

Research by Cyr, Head, and Ivanov (2006) finds that design elements such as interface quality, information structure, and visual attractiveness are positively associated with trust and satisfaction in e-commerce settings. Poorly designed applications can frustrate users, complicate transactions, and lead to abandonment of shopping carts (Flavián, Guinalíu, & Gurrea, 2006).

In Indonesia, where mobile commerce is rapidly growing, app design becomes even more critical. Users expect intuitive and visually appealing interfaces that allow quick, hassle-free transactions. Therefore, investing in superior app design is essential for enhancing user satisfaction and competitive advantage.

H3: App Design has a significant effect on Customer Satisfaction.

High-quality customer service positively influences customer satisfaction by resolving problems efficiently and reinforcing customer trust in the platform (Lin & Sun, 2009). Conversely, poor service experiences can quickly escalate dissatisfaction and increase customer churn rates.

The importance of customer service is magnified in online contexts where face-to-face interaction is absent, making digital communication the sole channel for resolving issues. In Indonesia, competitive e-commerce firms often differentiate themselves by offering 24/7 support and personalized services to enhance customer satisfaction.

H4: Customer Service has a significant effect on Customer Satisfaction.

Satisfied customers are more likely to engage in positive behaviors such as repeat purchasing, brand advocacy, and favorable online reviews (Anderson & Sullivan, 1993). Conversely, dissatisfaction can lead to negative word-of-mouth and customer attrition.

Customer satisfaction is therefore both an end goal and a mediator, linking service attributes to customer loyalty. Maintaining high satisfaction levels is critical for sustainable growth in the competitive Indonesian e-commerce market.

H5: Customer Satisfaction has a significant effect on Customer Loyalty.

## 2. RESEARCH METHODS

This research examines the influence of four key service quality factors as independent variables: reliability, security, app design, and customer service. These service attributes are expected to significantly affect customer satisfaction, which in turn impacts customer loyalty. In this study, customer satisfaction acts as a mediating variable, while customer loyalty serves as the dependent variable, reflecting customers' intention to continue using an e-commerce platform over time.

The target population for this research consists of Indonesian consumers who have experience shopping online through e-commerce platforms. The respondents must have made at least one online purchase within the last six months to ensure that their experiences are recent and relevant. There are no restrictions on the specific e-commerce platforms used, allowing for a broader and more representative sample of Indonesian online shoppers.

To determine an adequate sample size, the study refers to guidelines proposed by Hair et al. (2014), suggesting a minimum of 5–10 respondents per estimated parameter in a structural equation model. Based on this standard, and considering the number of variables and hypotheses tested, a total sample size of 210 respondents is targeted.

Data collection will be carried out through an online questionnaire distributed via social media platforms and e-commerce communities. The questionnaire will utilize a five-point Likert scale to measure respondents' perceptions regarding reliability, security, app design, customer service, customer satisfaction, and customer loyalty.

Data analysis will be conducted using SPSS 22.0 to perform validity tests, reliability tests, descriptive statistics, and regression analysis. This method ensures comprehensive statistical processing to accurately examine the proposed relationships between service quality attributes, customer satisfaction, and customer loyalty in Indonesia's e-commerce sector.
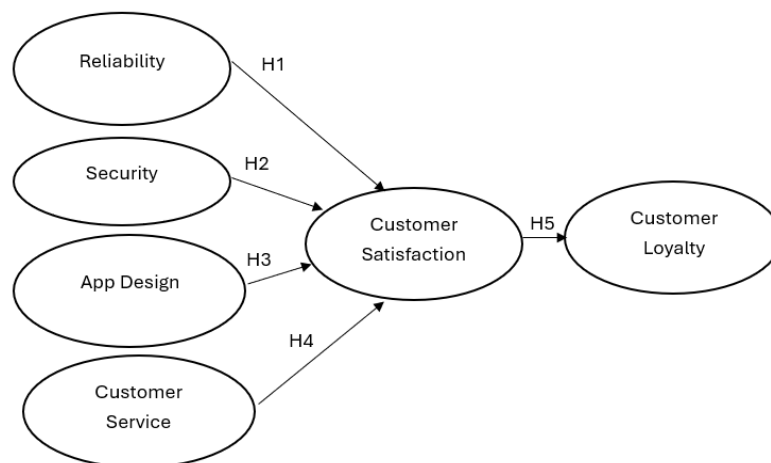


Figure 1. Research Model

## 3. RESULTS AND DISCUSSIONS

### 3.1. Validity and Reliability Test

Based on the tests in table 1, it is known that the total corrected item value of all variable indicators is greater than 0.196 and the reliability test is above 0.6. Therefore, it can be concluded that all research indicators are valid and reliable.

**Table 1. Validity and Reliability Test**

| Variable | Item Code | r_count | Cronbach Alpha | Criterion |
|---|---|---|---|---|
| Reliability (RL) | RL1 | .732 | .884 | Valid |
| | RL2 | .751 | | Valid |
| | RL3 | .774 | | Valid |
| Security (SC) | SC1 | .708 | .871 | Valid |
| | SC2 | .728 | | Valid |
| | SC3 | .715 | | Valid |
| App Design (AD) | AD1 | .793 | .894 | Valid |
| | AD2 | .816 | | Valid |
| | AD3 | .808 | | Valid |
| Customer Service (CS) | CS1 | .701 | .860 | Valid |
| | CS2 | .736 | | Valid |
| | CS3 | .749 | | Valid |
| Customer Satisfaction (SAT) | SAT1 | .822 | .909 | Valid |
| | SAT2 | .850 | | Valid |
| | SAT3 | .817 | | Valid |
| Customer Loyalty (LOY) | LOY1 | .764 | .902 | Valid |
| | LOY2 | .795 | | Valid |
| | LOY3 | .832 | | Valid |

### 3.2 T-Test and Coefficient Regression

The results from the t-test in Table 2 indicate that four out of five tested hypotheses are supported. Specifically, the influences of reliability, security, app design, and customer satisfaction are statistically significant (Sig < 0.05). However, the effect of customer service on customer satisfaction is not significant (Sig > 0.05), leading to the rejection of that particular hypothesis.

From the regression coefficients, it is evident that customer satisfaction has the strongest positive influence on customer loyalty, with a coefficient of 0.528. Meanwhile, app design has the smallest but still significant positive influence on customer satisfaction, with a coefficient of 0.116. The findings underline the critical importance of ensuring customer satisfaction through strong reliability, secure transactions, and good user interface design to foster long-term customer loyalty in e-commerce platforms.

**Table 2. T-Test**

| Variable | Sig. | Coefficient Regression | Information |
|---|---|---|---|
| RL → SAT | .002 | .192 | Hypothesis accepted |
| SC → SAT | .001 | .235 | Hypothesis accepted |
| AD → SAT | .045 | .116 | Hypothesis accepted |
| CS → SAT | .076 | .097 | Hypothesis rejected |
| SAT → LOY | .000 | .528 | Hypothesis accepted |

Source: Researcher, 2025

## 4. CONCLUSION

This research explores the key service quality factors that influence customer satisfaction and loyalty in Indonesia's e-commerce sector. The study examined five primary variables—reliability, security, app design, customer service, and customer satisfaction—to assess their impact on customer loyalty. The findings suggest that while reliability, security, and app design significantly influence customer satisfaction, customer service was found to have a minor effect on satisfaction.

Reliability is identified as a significant determinant of customer satisfaction (coefficient = 0.192, sig. = 0.002), emphasizing the importance of consistent and dependable service delivery in online platforms. Reliable services foster trust and improve the customer experience by ensuring smooth, predictable transactions. Recommendation for

Improvement: To improve reliability, e-commerce platforms should prioritize the optimization of backend systems to minimize service downtime and delays. Regular testing, quality control measures, and transparent communication with customers regarding service status can further enhance reliability. Additionally, maintaining operational consistency across all channels is essential to reinforcing customer trust.

Security plays a substantial role in shaping customer satisfaction (coefficient = 0.235, sig. = 0.001). Given the rise of online fraud and data breaches, customers place a high premium on the security of their personal information and payment details. Recommendation for Improvement: To enhance security, e-commerce platforms must implement advanced encryption technologies, conduct regular security audits, and ensure compliance with privacy regulations. Educating customers about security measures through clear communication can also help build trust, reassuring them about the safety of their transactions. Regular updates and alerts about new security features can further reinforce confidence in the platform.

App design significantly influences customer satisfaction (coefficient = 0.116, sig. = 0.045), although its impact is smaller compared to reliability and security. A user-friendly and aesthetically pleasing interface enhances the overall customer experience by reducing friction and promoting engagement. Recommendation for Improvement: E-commerce platforms should focus on creating seamless, intuitive app interfaces that enhance ease of navigation and usability. Regular user experience (UX) testing and updates to keep up with technological advancements can improve app design. Incorporating customer feedback to identify pain points in the user journey will also contribute to more engaging and efficient app design.

Despite its importance, customer service was found to have a statistically insignificant effect on customer satisfaction (coefficient = 0.097, sig. = 0.076), leading to the rejection of the hypothesis. This suggests that, in the context of Indonesia's e-commerce sector, factors like reliability, security, and app design outweigh the influence of customer service interactions. Recommendation for Improvement: Although customer service was not a major determinant of satisfaction, it still plays a role in customer retention. To improve customer service, e-commerce platforms should focus on providing self-service options (e.g., comprehensive FAQs, chatbots) and automated solutions for quick issue resolution. When human intervention is required, it should be efficient and empathetic. Platforms should continuously train customer service teams and incorporate AI technologies to enhance response time and service quality.

Customer satisfaction itself emerged as the most significant predictor of customer loyalty (coefficient = 0.528, sig. = 0.000), demonstrating that customers who are satisfied with their experience are more likely to remain loyal to the platform. Recommendation for Improvement: E-commerce platforms should prioritize customer satisfaction by continually enhancing the key factors identified—reliability, security, and app design. Providing personalized experiences, fostering emotional connections through loyalty programs, and soliciting regular feedback can further increase customer satisfaction. A strong focus on building long-term customer relationships is essential for sustaining customer loyalty in an increasingly competitive market.

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