The Influence of E-Service Quality and E-Trust on E-Satisfaction and E-Loyalty among Shopee Users

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Abstract

This study investigates the relationships between electronic service quality, electronic trust, electronic satisfaction, and electronic loyalty among Shopee users in Surabaya, Indonesia, addressing ongoing inconsistencies in e-commerce loyalty research. While prior studies often assume electronic satisfaction as a key mediator, this research offers novel empirical evidence challenging that assumption in the context of highly competitive electronic marketplaces. Using a quantitative causal design, data were collected from 248 Shopee users who had made purchases within the past six months and analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS version 4.1.1.5. The findings demonstrate that website security, convenience, and electronic trust significantly enhance electronic satisfaction, whereas reliability and responsiveness do not. In contrast, electronic loyalty is directly influenced by website security, reliability, and electronic trust, while electronic satisfaction shows no mediating effect. These results contribute theoretically by repositioning electronic trust and security as more central drivers of loyalty than satisfaction in mature e-commerce platforms, thereby extending existing electronic service quality and loyalty models. From a managerial perspective, the study highlights the strategic importance of strengthening transaction security, system reliability, and trust-building mechanisms to sustain user loyalty in increasingly saturated digital commerce environments.

Keywords: Electronic Service Quality; Electronic Trust; Electronic Satisfaction; Electronic Loyalty; Shopee

Introduction

The rapid growth of the internet and technology has changed the way humans live, communicate, and shop. The presence of the internet has made information easier to search for by consumers, compared products, and make purchases without having to visit physical stores. This change in lifestyle has encouraged the growth of electronic shopping websites as one of the most significant business trends in the digital era. In Indonesia, the electronic shopping websites industry continues to grow rapidly every year, driven by increasing internet penetration and smartphone usage. According to (1), the total users of the internet have reached 79.5 percent of the total population equal to more than 221 million people, showing that electronic shopping websites have become a routine aspect of everyday living.

Shopee is one of the most widely adopted and widely used electronic shopping websites in Indonesia, which offers a wide variety of products and attractive features such as free shipping, discount vouchers, and flexible payment methods. Shopee is also known for its interactive features like Shopee Live and Shopee Guarantee, which help build consumer trust and engagement. Based on (2), Shopee ranks among the top electronic shopping websites with more than 120 million website visits between September and November 2024. However, even with this success, Shopee still faces challenges in maintaining satisfaction and loyalty to their users, as competition in the electronic shopping websites industry continues to increase and consumer expectations grow higher.

In the electronic shopping websites, consumer satisfaction and consumer loyalty are primarily influenced by consumers' perceptions of the service quality provided by the website. It refers to customers' overall evaluation of the quality and performance of online services in meeting their expectations. The key dimensions of electronic service quality consist of website security, the reliability of the website, responsiveness of the website, and website convenience, which together determine consumers' sense of satisfaction and their continuous loyalty toward an electronic shopping websites (3).

Another important factor that affects satisfaction and loyalty in the online environment is electronic trust, which refers to consumers' belief that an electronic shopping website is credible, reliable, and capable of protecting their personal and financial data (3). In online transactions, trust serves as a critical element, given that consumers are unable to personally inspect product quality or authenticate sellers' credibility. Therefore, when users trust a platform, they tend to continue purchasing from it, recommend it to others, and remain loyal over time.

Electronic satisfaction can be described as a positive affective response that occurs when shoppers feel that the quality of the electronic shopping websites fulfills their wants. Consumers who are satisfied tend to display favorable behavioral intentions by making repurchases and recommending the platform, which in turn enhances electronic loyalty(4). According to (5)electronic loyalty reflects consumers consistent behavior to revisit and repurchase from the same electronic shopping website due to perceived trust and satisfaction. Therefore, sustaining strong customer satisfaction and trust has an important role in building a long-term loyalty within the electronic shopping websites.

Several researchers investigated the relationships between electronic service quality, electronic trust, electronic satisfaction, and electronic loyalty. According to (6), electronic service quality plays a vital role in increasing satisfaction among customers and strengthening their loyalty. Some research by (3) found that responsiveness does not significantly affect electronic satisfaction, while (7) reported a significant relationship between the two variables. Meanwhile, (8) showed that electronic trust has a positive and significant effect on electronic loyalty. These differences in research results indicate that the influence of electronic service quality and electronic trust on customer satisfaction and loyalty may vary depending on the context of the study. Therefore, further investigation is needed, especially in Surabaya, one of the most populous cities in Indonesia, where consumer behavior and cultural characteristics may differ from those in other city and countries.

Based on the above discussion, this research examines the influence of Electronic Service Quality and Electronic Trust on Electronic Satisfaction and Electronic Loyalty among Shopee users in Surabaya. Moreover, this study explores the mediating effect of Electronic Satisfaction on the relationship between Electronic Service Quality and Electronic Loyalty, as well as between Electronic Trust and Electronic Loyalty. The results are expected to deliver both theoretical and practical contributions. From a theoretical standpoint, this research broadens the understanding of consumer behavior within digital business contexts, particularly in emerging markets such as Surabaya. Practically, the results can be used by Shopee and electronic shopping websites as a reference to improve their online service quality, strengthen consumer trust, and maintain user loyalty in the increasingly electronic shopping websites.

Research Methods

Quantitative causal research was adopted in this research to investigate cause and effect relationships between the variables. A cross-sectional approach was utilized, in which data was collected using an online questionnaire distributed using Google Forms. to active Shopee users in Surabaya. The research is based on a model developed in previous research, focusing on relationships among. This research examines the relationships between Electronic Trust, Electronic Loyalty, Electronic Service Quality, and Electronic Satisfaction. The research model includes seven variables. The independent variables are Electronic Trust and Electronic Service Quality, which is measured by four aspects including reliability, security, responsiveness, and convenience. Electronic Satisfaction acts as the mediating variable, while Electronic Loyalty serves as the dependent variable.

The population consists of Shopee users in Surabaya. Samples were obtained using a non-probability purposive sampling technique, focusing on users aged 17–50 years who had made at least one purchase on Shopee within the last six months and had interacted with Shopee's customer service through chat, email, or social media. These criteria ensured that respondents had relevant experience and understanding of the platform's services.

Result

This study applied the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach using SmartPLS version 4.1.1.5 for data analysis. The analysis covered both the measurement model (outer model) and the structural model (inner model), including assessments of outer loadings, reliability and validity testing, collinearity (VIF), coefficient of determination (R^2), discriminant validity (HTMT), and hypothesis testing using the bootstrapping procedure with 5,000 resamples.

Respondent Description

This research involved active Shopee users residing in Surabaya. From the questionnaire, 253 responses were collected, which consisted of 248 valid respondents and 5 invalids. Most respondents were between 18–30 years old, consisting primarily of students and young professionals who shop online regularly. Over half of the respondents purchase through electronic shopping websites at least one to three times a month. These characteristics indicate that the sample represents active digital consumers in Indonesia.

Outer Loadings

The value of the outer loadings must be above 0.7 or higher (9) The Outer Loadings results indicate that all indicators for of electronic trust, electronic loyalty, electronic satisfaction, and electronic service quality, which consists of four key dimensions: reliability, security, responsiveness, and convenience have outer loading values above 0.7. It shows that all of the respondents are reading the questionnaire truly before answering.

Reliability and Validity Testing

The value of Cronbach's Alpha and Composite Reliability (CR) must be above 0.7 or equal which indicates the levels of the reliability. The value of Average Variance Extracted (AVE) must be above or equal to 0.5, which shows that the construct is capable of explaining at least 50% of the variance in its indicators (9)

The reliability test results show that Cronbach's Alpha and Composite Reliability (CR) values for all constructs are above 0.7, while Average Variance Extracted (AVE) values were all above 0.5.

Collinearity (VIF) and Coefficient of Determination (R^2)

The Variance Inflation Factor (VIF) is used to check whether there is a collinearity problem among the indicators in a model. A VIF coefficient exceeding 5 indicates the presence of severe multicollinearity among the indicators within the formative constructs (9).

The VIF value should fall between 1 and 5. When the VIF is close to 1, it indicates no multicollinearity, and VIF values between 1 and 5 are considered acceptable. VIF values equal to or greater than 5 indicate problematic multicollinearity among the predictor variables. Accordingly, this study found no evidence of serious multicollinearity, suggesting that all predictor variables are statistically sound and suitable for the next stage of analysis.
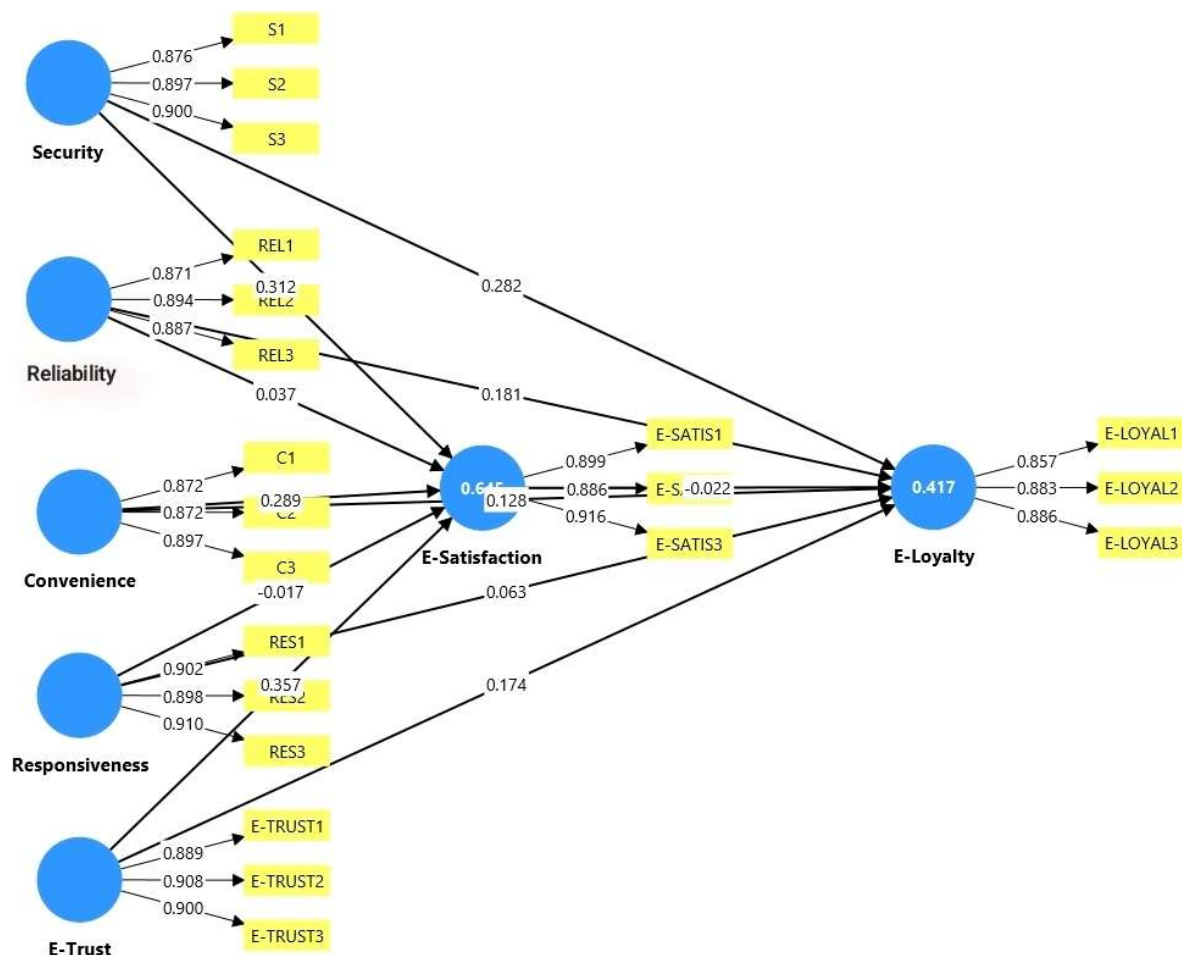

Figure 1 PLS-SEM Algorithm results

Source: SmartPLS 4, 2025

Table 1 Construct Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Convenience	0.855	0.860	0.912	0.775
E-Loyalty	0.848	0.849	0.908	0.767
E-Satisfaction	0.883	0.885	0.928	0.811
E-Trust	0.881	0.882	0.927	0.808
Reliability	0.861	0.865	0.915	0.782
Responsiveness	0.887	0.887	0.930	0.816
Security	0.870	0.874	0.920	0.794

Source: SmartPLS 4, 2025

Table 2 Collinearity (VIF)

	VIF
C1	2.174
C2	1.983
C3	2.279
E-LOYAL1	1.877
E-LOYAL2	2.220
E-LOYAL3	2.152
E-SATIS1	2.572
E-SATIS 2	2.265
E-SATIS 3	2.764
E-TRUST1	2.288
E-TRUST2	2.723
E-TRUST3	2.460
REL1	2.071
REL2	2.195
REL3	2.314
RES1	2.496
RES2	2.499
RES3	2.664
S1	2.159
S2	2.483
S3	2.314

Source: SmartPLS 4, 2025

Table 3 Coefficient of Determination (R^2)

	R-Square	R-Square adjusted
E-Loyalty	0.417	**0.402**
E-Satisfaction	0.645	**0.637**

Source: SmartPLS 4, 2025

The coefficient of determination (R^2) indicates the proportion of variance in the dependent variable that can be explained by the independent variables. Generally, an R^2 coefficient between 0.50 and 1.00 signifies that the model possesses strong explanatory power with a low prediction error. Conversely, an R^2 coefficient below 0.50 suggests moderate to weak explanatory capability, implying greater differences between predicted and observed outcomes (9).

As presented in Table 3, the R^2 coefficient for e-satisfaction is 0.645, indicating that 64.5% of the variation in e-satisfaction is explained by its predictors. This suggests that the model demonstrates a reasonably high explanatory capability, showing that the independent variables have a considerable influence on e-satisfaction. In contrast, the R^2 coefficient for e-loyalty is 0.417, meaning that 41.7% of its variance is explained by the predictors. This indicates a moderate level

of explanatory strength, which remains acceptable within behavioral research using the PLS-SEM approach.

Discriminant Validity (HTMT)

The Heterotrait–Monotrait (HTMT) ratio is used to check whether the constructs in a model are truly different from another construct (9). The HTMT ratio evaluates discriminant validity by comparing the average correlations between items of different constructs with those within the same construct. A higher HTMT coefficient indicates that the constructs are highly similar, which may signal a lack of discriminant validity. The acceptable threshold varies depending on the conceptual closeness of the constructs being measured.

Table 4 Discriminant Validity

	Convenience	E-Loyalty	E-Satisfaction	E-Trust	Reliability	Responsiveness	Security
Convenience							
E-Loyalty	0.545						
E-Satisfaction	0.720	0.569					
E-Trust	0.558	0.590	0.773				
Reliability	0.579	0.599	0.609	0.624			
Responsiveness	0.641	0.542	0.590	0.609	0.678		
Security	0.574	0.645	0.757	0.637	0.613	0.597	

Source: Smart PLS 4, 2025

For discriminant validity to be confirmed, the HTMT value should range between 0 and 1 ($0 < HTMT < 1$). For most research contexts, HTMT values below 0.85 indicate good discriminant validity. However, for constructs that are conceptually similar, a slightly higher threshold of 0.90 may still be acceptable. Values within this range indicate that the constructs are clearly different and that the measurement model is valid.

The HTMT result from table 4 shows values between 0.54 and 0.77, all below the recommended limit of 0.85. This indicates that the constructs are distinct from one another, and the model has good discriminant validity.

Hypothesis Testing

Once validity, reliability, and HTMT were confirmed, the hypothesis testing was conducted using the bootstrapping procedure with 5,000 resamples to examine the significance of path relationships among constructs. The hypothesis testing in this study was performed using inferential statistics, specifically t-statistics and p-values. The p-value reflects the likelihood that an observed result arises at a given confidence level (commonly 95% or a 0.05 significance level). When $p < 0.05$, the alternative hypothesis is accepted, it indicates that the observed phenomenon is considered statistically significant or valid.

Table 5 Path coefficients

Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	t-statistics (|O/STDEV|)	P-Values	Decisions
H1 : Security → E-Satisfaction	0.312	0.312	0.056	5.585	0.000	**Supported**
H2 : Reliability → E-Satisfaction	0.037	0.036	0.061	0.615	0.539	**Not supported**
H3 : Responsiveness → E-Satisfaction	-0.017	-0.015	0.058	0.284	0.776	**Not supported**
H4 : Convenience → E-Satisfaction	0.289	0.289	0.054	5.398	0.000	**Supported**
H5 : E-Trust → E-Satisfaction	0.357	0.358	0.053	6.709	0.000	**Supported**
H6 : Security → E-Loyalty	0.282	0.280	0.062	4.508	0.000	**Supported**
H7 : Reliability → E-Loyalty	0.181	0.181	0.070	2.574	0.010	**Supported**
H8 : Responsiveness → E-Loyalty	0.063	0.060	0.070	0.895	0.371	**Not supported**
H9 : Convenience → E-Loyalty	0.128	0.129	0.074	1.730	0.084	**Not supported**
H10 : E-Trust → E-Loyalty	0.174	0.175	0.077	2.246	0.025	**Supported**
H11 : E-Satisfaction → E-Loyalty	-0.022	-0.021	0.089	0.249	0.803	**Not supported**

Source: Smart PLS 4, 2025

Table 5 presents the results of the hypothesis testing, including path coefficients, t-statistics, and p-values for each relationship between variables. The analysis examines the influence of e-service quality which consists of four dimensions of e-service quality that are security, reliability, convenience, responsiveness, and e-trust as an independent variable on e-satisfaction as a mediating variable and e-loyalty as a dependent variable.

The hypothesis testing outcomes indicate that security exerts a positive and statistically significant influence on e satisfaction (p = 0.000 < 0.05), confirming that H1 is supported. Reliability shows a positive but insignificant influence on e satisfaction (p = 0.539 > 0.05), so H2 is not supported. Responsiveness demonstrates a negative and insignificant relationship with e satisfaction (p = 0.776 > 0.05), leading to the rejection of H3. Convenience exhibits a positive and statistically significant effect on e satisfaction (p = 0.000 < 0.05), confirming that H4 is supported. E trust also shows a positive and statistically significant relationship with e satisfaction (p = 0.000 < 0.05), supporting H5. Security further reveals a positive and significant influence on e loyalty (p = 0.000 < 0.05), indicating that H6 is supported. Reliability demonstrates a positive and statistically significant association with e loyalty (p = 0.010 < 0.05), confirming that H7 is supported. Responsiveness presents a positive but statistically insignificant influence on e loyalty (p = 0.371 > 0.05), so H8 is not supported. Convenience has a positive yet insignificant effect on e loyalty (p = 0.084 > 0.05), indicating that H9 is not supported. E trust exerts a positive and statistically significant effect on e loyalty (p = 0.025 < 0.05), confirming the acceptance of H10. Finally, e satisfaction demonstrates a negative and statistically insignificant relationship with e loyalty (p = 0.803 > 0.05), meaning that H11 is not supported.

Table 6 Specific indirect effects

Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	t-statistics (|O/STDEV|)	P-Values	Decisions
H12 : E-Trust → E-Satisfaction → E-Loyalty	-0.008	-0.007	0.032	0.246	0.806	Not supported
H13 : Reliability → E-Satisfaction → E-Loyalty	-0.001	-0.000	0.007	0.127	0.899	Not supported
H14 : Responsiveness → E-Satisfaction → E-Loyalty	0.000	0.001	0.006	0.066	0.947	Not supported
H15 : Security → E-Satisfaction → E-Loyalty	-0.007	-0.006	0.028	0.246	0.805	Not supported
H16 : Convenience → E-Satisfaction → E-Loyalty	-0.006	-0.007	0.027	0.242	0.809	Not supported

Source: Smart PLS 4, 2025

Table 6 reports the outcomes of the hypothesis testing, presenting the path coefficients, t-statistics, and p values for the specific indirect effects. The analysis evaluates the impact of e-service quality, comprising four key dimensions (security, reliability, convenience, and responsiveness), together with e-trust as an independent variable, on e-loyalty through e-satisfaction as a mediating construct.

Findings from the indirect effect analysis indicate that e-trust exerts a negative and statistically insignificant influence on e-loyalty through e-satisfaction (p = 0.806 > 0.05), leading to the rejection of H12. Reliability also demonstrates a negative and insignificant indirect relationship with e loyalty via e-satisfaction (p = 0.899 > 0.05), thus H13 is not supported. Responsiveness shows a positive but insignificant indirect influence on e-loyalty through-e satisfaction (p = 0.947 > 0.05), resulting in the rejection of H14. Similarly, security presents a negative and insignificant indirect influence on e-loyalty via e-satisfaction (p = 0.805 > 0.05), confirming that H15 is not supported. Finally, convenience displays a negative and statistically insignificant indirect effect on e-loyalty through e-satisfaction (p = 0.809 > 0.05), therefore H16 is not supported.
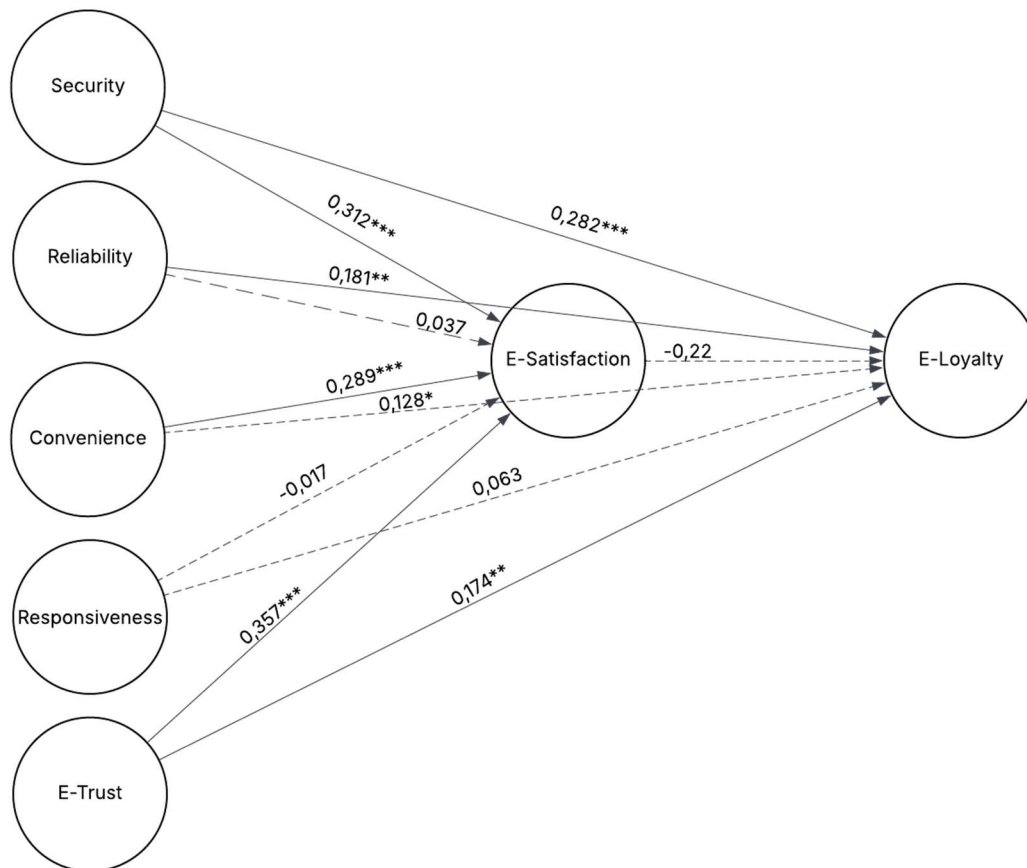
Figure 2 Final Structural Model with Significant and Non-significant Paths
Source: Lucidchart, 2025

Discussion

The results of this research show that several aspects of electronic service quality and electronic trust have a significant influence on user satisfaction and loyalty toward Shopee. Security, convenience, and e-trust were found to positively and significantly affect e-satisfaction, while security, reliability, and e-trust had significant effects on e-loyalty. These findings indicate that Shopee users place strong emphasis on feeling safe, trusting the platform, and experiencing convenient and dependable service performance. When users perceive that their transactions and personal data are secure, they feel more comfortable and confident using the platform. This sense of safety contributes to a more satisfying online shopping experience and encourages continued use. Similar findings have been reported by (10–13), who also emphasized the importance of transaction security in driving satisfaction and loyalty. The significant effect of convenience reflects users' appreciation of efficiency and simplicity during transactions, consistent with the results of (13,14). Additionally, trust emerged as one of the most influential factors for both satisfaction and loyalty, showing that users' confidence in Shopee's credibility and integrity is central to their overall experience. This result is in line with (10,15–17), who highlighted trust as a core determinant of positive user behavior in online commerce. The role of reliability in enhancing loyalty also proved to be significant, suggesting that users who perceive Shopee as dependable and accurate in delivering information tend to maintain their loyalty, like the findings of (3,18).

In contrast, several variables were found to be insignificant, offering deeper insights into user behavior. Reliability and responsiveness did not significantly affect e-satisfaction, indicating that accurate information and quick customer service responses are perceived as basic expectations rather than factors that create additional satisfaction. These results are consistent with

(3,12,19,20) for responsiveness. Furthermore, responsiveness and convenience did not significantly influence e-loyalty. This suggests that a fast response or simple transaction process alone does not guarantee users' long-term commitment to the platform. In this case, users may appreciate efficiency and responsiveness during individual transactions, but they are likely to switch to other platforms that offer better deals, faster delivery, or more appealing features. The insignificant relationship between responsiveness and loyalty differs from the findings of (3), who found that quick responses can enhance customer loyalty, possibly due to differing user expectations or service quality perceptions. Likewise, the insignificant effect of convenience on loyalty aligns with (3), who argued that convenience functions as a basic requirement rather than a differentiating factor in user retention. Finally, the lack of influence of e-satisfaction on e-loyalty indicates that satisfaction itself does not ensure long-term engagement. Users who feel satisfied with their transactions may still explore other e-commerce options that provide better promotions or advantages. This outcome supports the results of (21,22), who also found that e-satisfaction does not necessarily translate into loyalty.

The mediating analysis further proves that electronic satisfaction does not have a significant role in linking electronic service quality and electronic trust to electronic loyalty. This implies that satisfaction functions more as an outcome of users' perceptions rather than as a channel that converts satisfaction into loyalty. Shopee users' loyalty appears to depend more on trust and perceived security than on temporary feelings of satisfaction. In competitive digital markets, users often base their loyalty decisions on emotional confidence and perceived reliability instead of short-term satisfaction. Therefore, maintaining a high level of trustworthiness, data protection, and consistent service reliability is more effective in fostering long term user loyalty than focusing solely on improving transactional satisfaction.

Conclusion

This research examined how electronic trust and electronic service quality, which consists of reliability, security, convenience, and responsiveness, influence electronic satisfaction and electronic loyalty among Shopee users. The results indicate that electronic trust, along with security and convenience, has a strong positive impact on user satisfaction, while responsiveness and reliability do not show a significant effect. For electronic loyalty, the most influencing factors are reliability, security, and electronic trust. Meanwhile, electronic satisfaction alone does not have a significant impact on electronic loyalty, meaning that being satisfied with a service does not always make users loyal. From these findings indicate that users tend to value trust, safety, and reliable information more than speed or convenience when deciding whether to remain loyal to an electronic shopping website

This research has several limitations. It focused on a single e-commerce platform and was geographically limited to users in Indonesia. Studies conducted in other countries or using different e-commerce platforms may have different results. For future research, it is recommended to include additional variables beyond those analyzed in this study, such as perceived value, efficiency, and personal needs, to provide a more comprehensive explanation of shoppers' loyalty and satisfaction. These factors can capture how users evaluate the overall worth of services, how efficiently they complete transactions, and how well the platform fulfills their individual expectations. Incorporating these aspects in future studies may lead to a deeper understanding of consumer behavior in the electronic shopping website.

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