



DETERMINANTS OF CUSTOMER SATISFACTION IN GENERATION Z'S USE OF E-COMMERCE SERVICES IN INDONESIA

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E-ISSN : 3109-9777

Received: August 2026

Accepted: August 2026

Published: August 2026

Abstract:

This study aims to analyze the factors influencing customer satisfaction in e-commerce services in Indonesia, focusing on Generation Z as the dominant user segment of digital shopping platforms. Using an explanatory quantitative approach, data were collected from 100 respondents who actively transact on Shopee and TikTok Shop, selected through purposive sampling, and analyzed using multiple linear regression in SPSS. The independent variables examined were E-Service Quality, Perceived Ease of Use, Live Shopping Engagement, and Perceived Security, while Customer Satisfaction served as the dependent variable. The results show that all four variables have a positive and significant effect on customer satisfaction, both partially and simultaneously ($F = 27.956$; $\text{Sig.} = 0.000$), explaining 52.1% of the variance in customer satisfaction ($\text{Adjusted } R^2 = 0.521$). Perceived Ease of Use emerged as the most dominant factor ($\beta = 0.299$), followed by E-Service Quality ($\beta = 0.260$), Perceived Security ($\beta = 0.219$), and Live Shopping Engagement ($\beta = 0.176$). These findings suggest that e-commerce platforms should prioritize simplifying navigation and improving system usability to strengthen customer satisfaction, while continuing to enhance service quality, transaction security, and live shopping features as complementary strategies for retaining Generation Z consumers.

Keywords: E-Service Quality, Perceived Ease of Use, Live Shopping Engagement, Perceived Security, Customer Satisfaction

INTRODUCTION

Electronic commerce (e-commerce) has become a central pillar of Indonesia's digital economic transformation. The number of e-commerce businesses in Indonesia reached 4.4 million units in 2024, an increase of 15.30% from the previous year (Badan Pusat Statistik, 2024), while the Gross Merchandise Value (GMV) of the sector is projected to reach US\$71 billion in 2025, contributing more than 70% of the national digital economy (DataSatu, 2026).

Despite this growth, consumer complaints have risen sharply. The Indonesian Consumers Foundation (Yayasan Lembaga Konsumen Indonesia, 2025) recorded more than 20,942 cumulative complaints related to online shopping services since 2022, dominated by product mismatches, complicated refund processes, and personal data security issues. At the same time, the



average transaction value per purchase decreased by 13%, from IDR 543,000 to IDR 470,000 (Katadata Insight Center, 2025), indicating that although shopping frequency has increased, consumers have become more selective and critical of the value they receive from a platform.

Customer satisfaction in the e-commerce context is a complex construct shaped by both technical and psychological factors. This study draws on four theoretical foundations. First, the updated E-Service Quality (E-ServQual) framework by Parasuraman et al. (2024) emphasizes that system efficiency, fulfillment of service promises, and privacy are fundamental dimensions shaping quality perceptions in the artificial-intelligence era. Second, Technology Acceptance Model 3 (TAM 3) developed by Venkatesh et al. (2023) explains that perceived ease of use is a key predictor of user acceptance and satisfaction toward digital platforms. Third, the concept of Customer Experience Management (CXM) 4.0 (Kotler & Keller, 2024) underlines the importance of service personalization through omni-channel integration and video commerce as a key strategy for retaining customer loyalty amid intense competition; live shopping engagement is a concrete manifestation of this concept that is now widely adopted by Indonesian e-commerce platforms. Fourth, Perceived Security, as developed by Aditya and Mahyuni (2022), positions security as a necessary condition rather than a mere supporting factor for the adoption of digital financial services, particularly among Generation Z.

Leading Indonesian e-commerce platforms such as Shopee and TikTok Shop dominate market share but continue to face challenges in maintaining consistent service quality, including complicated return processes and slow customer service response, particularly during high-volume promotional periods. Based on a national survey by the Indonesian Internet Service Providers Association (APJII) involving 8,700 respondents across 38 provinces, Shopee (47.5%) and TikTok Shop (33.4%) are the two most widely used e-commerce platforms in Indonesia, followed by Tokopedia (11.2%) and Lazada (6.2%).

Prior studies provide partial explanations of these dynamics. Sinarta and Haryani (2024) found that responsiveness and reliability are the main determinants of e-commerce user satisfaction, but did not account for video commerce and digital trust, which have become dominant trends in 2025–2026. Meanwhile, Nur and Garamba (2024) analyzed customer satisfaction in general without an in-depth focus on service quality and transaction security dimensions arising from technological development and changing consumer behavior. The novelty of the present study lies in the integration of Live Shopping Engagement and Perceived Security into a customer satisfaction model tailored to Generation Z as the dominant and most active segment of Indonesia's digital economy, whose online shopping behavior exhibits distinctive characteristics.

Given the rapid growth of e-commerce, intensifying platform competition, and the high volume of consumer complaints regarding service quality, transaction security, and online shopping experience, alongside the emergence of live shopping trends and shifting Generation Z behavior, this study aims to empirically examine (1) the effect of E-Service Quality, (2) Live Shopping

Engagement, and (4) Perceived Security on customer satisfaction in Indonesian e-commerce services, and (3) to identify the most dominant factor influencing customer satisfaction amid the national decline in average shopping value.

RESEARCH METHOD

This study adopts a quantitative paradigm using an explanatory research design, aimed at verifying previously formulated hypotheses and quantifying the relationships among variables through statistical analysis (Sugiyono, 2023). The research focuses on explaining the causal relationship between the independent variables (E-Service Quality, Perceived Ease of Use, Live Shopping Engagement, and Perceived Security) and the dependent variable (Customer Satisfaction), using a cross-sectional time horizon in which data were collected from respondents at a single point in time (Bougie & Sekaran, 2020).

The unit of analysis is the individual, namely Indonesian e-commerce users who meet the sample criteria: Indonesian citizens aged 14–29 years (Generation Z), who have transacted on Shopee or TikTok Shop, and have actively transacted within the last six months. The sampling technique used was non-probability purposive sampling. Referring to the guideline that a feasible regression sample size is at least ten times the number of independent variables (Sugiyono, 2023), and with four independent variables in this study, the minimum required sample was 40 respondents; the researcher set a target of 100 respondents to obtain a more stable and representative result. Data were collected nationally through an online questionnaire using a 5-point Likert scale, supplemented by secondary data from BPS, YLKI, and relevant e-commerce industry reports for 2025–2026.

Data were analyzed using IBM SPSS through multiple linear regression, preceded by descriptive statistics, validity testing (comparing r-count with r-table at $n = 100$, $r\text{-table} = 0.1966$), and reliability testing (Cronbach's Alpha > 0.70), as well as classical assumption tests covering normality (Kolmogorov-Smirnov), multicollinearity (Tolerance > 0.10 and VIF < 10), and heteroscedasticity (Glejser test). The regression equation used is $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$, where Y is Customer Satisfaction, X1 is E-Service Quality, X2 is Perceived Ease of Use, X3 is Live Shopping Engagement, and X4 is Perceived Security. Model fit was evaluated through the coefficient of determination (R^2), the F-test for simultaneous significance, and the t-test for partial significance, while the dominant factor was determined by comparing the Standardized Coefficients Beta (β) values of each independent variable.

FINDINGS AND DISCUSSION

This study involved 100 respondents who are Generation Z users of Indonesian e-commerce platforms, actively transacting on Shopee and TikTok Shop. The respondent profile, summarized by age, gender, and platform used, is presented in Table 1.

Table 1. Respondent Profile

Characteristic	Category	Frequency	Percentage (%)
Age	15–19 years	7	7.0
Age	20–24 years	73	73.0
Age	25–29 years	20	20.0
Gender	Male	45	45.0
Gender	Female	55	55.0
Platform	Shopee	53	53.0
Platform	TikTok Shop	47	47.0
Total	–	100	100.0

Source: Processed SPSS output, 2026.

Most respondents (73%) are aged 20–24 years, confirming that active e-commerce users in this study predominantly belong to the young-adult segment of Generation Z who are highly familiar with digital technology. Female respondents (55%) slightly outnumber male respondents (45%), and the sample is fairly evenly split between Shopee (53%) and TikTok Shop (47%) users, indicating that both platforms are equally relevant objects for examining live shopping features.

Descriptive analysis shows that respondents' perceptions of all study variables fall within the high category. E-Service Quality obtained a mean of 3.91, Perceived Ease of Use 4.11, Live Shopping Engagement 3.77, Perceived Security 3.82, and Customer Satisfaction 4.03. Perceived Ease of Use recorded the highest mean among the independent variables, while Live Shopping Engagement recorded the lowest, indicating that respondents still perceive greater value in the ease of navigating and operating e-commerce platforms than in live-streaming shopping interactions.

All 30 questionnaire items were declared valid, as the r-count value of every item exceeded the r-table value of 0.1966. Reliability testing produced Cronbach's Alpha values above 0.70 for all variables (E-Service Quality = 0.708; Perceived Ease of Use = 0.707; Live Shopping Engagement = 0.767; Perceived Security = 0.876; Customer Satisfaction = 0.733), confirming that the research instrument is reliable. The classical assumption tests further confirmed that the regression model is normally distributed (Kolmogorov-Smirnov Asymp. Sig. = 0.152 > 0.05), free from multicollinearity (Tolerance > 0.10 and VIF < 10 for all variables), and free from heteroscedasticity (Glejser Sig. > 0.05 for all variables), so that the model satisfies the requirements for multiple linear regression analysis.

The regression model produced an Adjusted R² of 0.521, indicating that the four independent variables jointly explain 52.1% of the variance in Customer Satisfaction, while the remaining 47.9% is explained by variables outside this research model. The F-test confirmed the model's overall significance (F = 27.956; Sig. = 0.000), and the results of the partial t-test and standardized Beta coefficients are presented in Table 2.

Table 2. Multiple Linear Regression Results

Variable	B	Beta	t	Sig.	Rank
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(Constant)	6.056	–	3.465	0.001	–
E-Service Quality (X1)	0.232	0.260	2.884	0.005	2
Perceived Ease of Use (X2)	0.268	0.299	2.982	0.004	1
Live Shopping Engagement (X3)	0.123	0.176	2.109	0.038	4
Perceived Security (X4)	0.143	0.219	2.465	0.016	3

Source: Processed SPSS output, 2026.

Based on Table 2, the regression equation obtained is $Y = 6.056 + 0.232X_1 + 0.268X_2 + 0.123X_3 + 0.143X_4$. All regression coefficients are positive with significance values below 0.05, meaning that E-Service Quality, Perceived Ease of Use, Live Shopping Engagement, and Perceived Security each have a positive and significant effect on Customer Satisfaction, so that hypotheses H1 through H4 are all accepted. Comparing the standardized Beta coefficients, Perceived Ease of Use is the most dominant factor ($\beta = 0.299$), followed by E-Service Quality ($\beta = 0.260$), Perceived Security ($\beta = 0.219$), and Live Shopping Engagement as the weakest, though still significant, predictor ($\beta = 0.176$). The conceptual relationship among these variables is illustrated in Figure 1.

Figure 1. Conceptual Framework of the Study

The framework in Figure 1 depicts E-Service Quality, Perceived Ease of Use, Live Shopping Engagement, and Perceived Security as antecedents that jointly and partially shape Customer Satisfaction, consistent with the regression results reported above.

Discussion

Effect of E-Service Quality on Customer Satisfaction

The results confirm that E-Service Quality has a positive and significant effect on Customer Satisfaction ($B = 0.232$; $\text{Sig.} = 0.005$), so hypothesis H1 is accepted. This finding indicates that the better the electronic service quality provided by an e-commerce platform – in terms of system efficiency, response speed, and delivery accuracy – the higher the customer satisfaction it generates. This is consistent with Parasuraman et al. (2024), who argue that efficiency, fulfillment, and privacy are fundamental dimensions of service-quality perception in the artificial-intelligence era, and with Yanto and Anjarsari (2021) and Isalman (2024), who found that fulfillment, reliability, and security significantly shape customer satisfaction on Shopee and BRI Mobile, respectively. In contrast, Firdaus and Rusdianto (2025) found that perceived quality did not significantly affect user satisfaction on the Flip application, a discrepancy likely attributable to differences between fintech and e-commerce contexts, where the latter involves more complex interactions such as product search, price comparison, and checkout. Practically, this implies that Indonesian e-commerce platforms need to continuously improve access speed, navigation ease, and delivery accuracy.

Effect of Perceived Ease of Use on Customer Satisfaction

Perceived Ease of Use also has a positive and significant effect on Customer Satisfaction ($B = 0.268$; $\text{Sig.} = 0.004$), confirming hypothesis H2. Notably, this variable recorded both the largest regression coefficient and the

highest standardized Beta (0.299) among the four predictors, indicating that ease of use is the most dominant factor shaping customer satisfaction among Indonesian e-commerce users. This finding is consistent with Technology Acceptance Model 3 (Venkatesh et al., 2023), which positions perceived ease of use as the primary predictor of technology acceptance and satisfaction, and is corroborated by Wilson et al. (2021) and Firdaus and Rusdianto (2025), who reported that ease of use significantly and strongly influences satisfaction in B2C e-commerce and fintech applications. Manalu (2022) similarly found that ease of use and data security jointly shape satisfaction and repurchase intention. These results suggest that Generation Z, being highly familiar with technology, places strong value on frictionless digital experiences; e-commerce platforms should therefore continue to simplify user interfaces, accelerate transaction processes, and provide intuitive navigation to maintain customer satisfaction.

Effect of Live Shopping Engagement on Customer Satisfaction

Live Shopping Engagement was found to have a positive and significant, though comparatively weaker, effect on Customer Satisfaction ($B = 0.123$; Sig. = 0.038; $\beta = 0.176$), supporting hypothesis H3. This weaker influence may be attributed to respondents' still-limited experience with live shopping features or a continuing preference for conventional, self-directed browsing. Nonetheless, this result aligns with the Customer Experience Management (CXM) 4.0 concept (Kotler & Keller, 2024), which emphasizes personalization through omni-channel integration and video commerce, and is supported by Tanumiharja and Keni (2026), who found that live streaming positively affects customer satisfaction on Indonesian social commerce platforms, as well as by Listianayanti et al. (2023), who showed that core and peripheral service quality build trust that subsequently enhances satisfaction in live shopping. Fajriah and Sarma (2025), however, noted that live streaming remains less dominant than trust and product quality in shaping repurchase intention, which mirrors the pattern found here. Practically, live shopping should be viewed as a complementary value-adding feature rather than the primary determinant of satisfaction, while remaining strategically important amid the growth of social commerce in Indonesia.

Effect of Perceived Security on Customer Satisfaction

Perceived Security has a positive and significant effect on Customer Satisfaction ($B = 0.143$; Sig. = 0.016; $\beta = 0.219$), confirming hypothesis H4 and placing this variable third in order of influence. This finding is consistent with Aditya and Mahyuni (2022), who define perceived security as users' confidence that their personal data will not be misused during online transactions, and is reinforced by Wilson et al. (2021), who found perceived security to be the strongest predictor of satisfaction among B2C e-commerce users in Indonesia, and by Firdaus and Rusdianto (2025), who reported a significant effect of perceived transaction security on user satisfaction amid rising cybercrime concerns among Generation Z and Millennial users. Isalman (2024) similarly confirmed that reliability and security consistently shape customer trust and satisfaction in digital banking. These findings are particularly relevant to Indonesia's current context, where data breaches and online fraud remain major

consumer concerns (Yayasan Lembaga Konsumen Indonesia, 2025); e-commerce platforms are therefore encouraged to strengthen payment security, data-protection guarantees, and encryption, supported by transparent privacy policies.

Taken together, the four independent variables jointly explain 52.1% of the variance in Customer Satisfaction (Adjusted $R^2 = 0.521$), with Perceived Ease of Use as the most dominant factor, followed by E-Service Quality, Perceived Security, and Live Shopping Engagement. This ordering indicates that for Generation Z consumers, the ease of operating an e-commerce platform is the primary consideration shaping their satisfaction: platforms that are complicated or difficult to use are likely to be quickly abandoned in favor of competitors, even when other service aspects are adequate.

CONCLUSION

This study set out to examine the factors influencing customer satisfaction among Generation Z users of e-commerce services in Indonesia. The findings confirm that E-Service Quality, Perceived Ease of Use, Live Shopping Engagement, and Perceived Security each exert a positive and significant effect on Customer Satisfaction, both partially and simultaneously, with the four variables jointly explaining 52.1% of the variance in satisfaction. Among these, Perceived Ease of Use stands out as the most dominant determinant, followed by E-Service Quality, Perceived Security, and Live Shopping Engagement as the comparatively weakest, though still significant, predictor.

These results imply that e-commerce platforms seeking to strengthen customer satisfaction should prioritize simplifying navigation, accelerating product search, and clarifying application instructions, while continuing to invest in system efficiency, transaction security, and the quality of live shopping interactions as complementary strategies, particularly given Generation Z's growing role as the backbone of Indonesia's digital economy. Future research is encouraged to extend this model by incorporating additional constructs such as digital trust and price perception, and to widen the scope and diversity of respondents to improve the generalizability of the findings.

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