

The Influence of Service Quality Dimensions and E-Commerce Image on User Satisfaction Levels

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Abstract: This study investigates how service quality and brand image influence user satisfaction on Shopee, Indonesia's leading e-commerce platform, amid persistent operational challenges like delivery delays and inefficient return processes. Using a quantitative approach, data was collected via validated questionnaires and analysed through multiple regression, with diagnostic tests ensuring model reliability. Results show both service quality and brand image significantly boost satisfaction, with brand image having nearly twice the impact. The model's high explanatory power, with adjusted R² is 0.943, confirms their dominant role in shaping user experiences. These findings align with prior retail and hospitality studies but challenge traditional service-dominant logic by highlighting brand perception as the stronger driver in digital commerce. For practitioners, this underscores the need to prioritize brand-building strategies, such as trust signals and influencer partnerships, while maintaining service standards. However, the study's exclusive focus on Shopee limits generalizability, calling for future cross-platform comparisons. Additional research should employ longitudinal designs, examine cultural moderators, and apply advanced analytics to uncover deeper satisfaction dynamics. By validating the interplay of service quality and brand equity in e-commerce, this study advances theoretical discourse while offering actionable insights for platforms seeking to enhance customer satisfaction in competitive digital marketplaces.

Keywords: Quality; Service; Image; E-Commerce; Satisfaction

INTRODUCTION

The rapid advancement of information technology has profoundly influenced various aspects of modern life, including individual, social, and business activities (D'Cruz et al., 2022). Notably, innovations in mobile phones and the internet have not only streamlined communication but also revolutionized commercial practices (Bhandari & Vikhe, 2025). Tools such as telephones, fax machines, SMS, email, and websites have become integral to business operations, paving the way for the emergence of e-commerce, a transactional framework that leverages electronic platforms like the internet (Alwendi, 2020; Yulistia, 2017).

The competitive landscape of Indonesia's digital marketplace necessitates robust marketing strategies for business sustainability, driving widespread adoption of online sales channels (Nurakhmawati et al., 2022). However, persistent user complaints reveal significant operational challenges within e-commerce platforms, with Shopee being a prominent case (Masita et al., 2022). User interviews identify recurring pain points, such as delivery delays exceeding estimated timelines, eroding consumer trust; inefficient return and refund processes marked by perceived platform unresponsiveness, suboptimal customer service that inadequately resolves disputes or ensures shopping convenience; and restricted accessibility to promotional benefits like free shipping vouchers (Meradi et al., 2025). These issues collectively hinder user experience and satisfaction, underscoring the need for systemic improvements in service delivery (Harsono et al., 2022).

This study examines how service quality dimensions and e-commerce brand image collectively influence user satisfaction on Shopee (A. Manurung et al., 2024; R. Y. Manurung et al., 2024; Nurhadi et al., 2019). As competition intensifies, service quality has become a key differentiator for customer retention. To attract and retain

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users, Shopee must prioritize product quality, competitive pricing, and reliable logistics to ensure timely deliveries (Zainah et al., 2023). Superior service quality not only enhances satisfaction but also delivers strategic profitability (Sabila & Kusumaningrum, 2020).

Brand image is a consumer's perception shaped by cumulative experiences and external information, directly impacts purchasing decisions. A positive brand image increases the likelihood of repeat transactions (Binendra & Prayoga, 2022). Customer satisfaction, defined as the alignment between expectations and actual consumption experiences, reflects the perceived value delivered by a provider (Andrika et al., 2024; Maryati et al., 2020). It is a comparative measure of pre-purchase expectations versus post-purchase evaluations (Gultom et al., 2020).



Figure 1. Shopee Live Connect Brands and Sellers Especially in Gen-Z (Shopee Malaysia, 2024)

Prior research consistently demonstrates the interdependent relationship between service quality, brand image, and customer satisfaction across diverse industries. A hospitality sector study of Grand Setiabudi Hotel & Apartments, established that superior service quality (evidenced by mean scores exceeding 4.01) directly corresponds to favorable consumer evaluations (Saputra & Sudarsa, 2019). This finding aligns with e-commerce-specific research on Shopee, which empirically validated the significant positive correlation between platform service quality and user satisfaction (Wijaya & Susanto, 2022). Further reinforcing this paradigm, studies in the banking sector (Bank Danamon) and retail commerce (PD. Sumber Rezeki Singapura) corroborated that the synergistic effect of service excellence and strong corporate image substantially elevates customer satisfaction levels (Triyadi et al., 2021). Collectively, these studies underscore service quality and brand perception as universal drivers of consumer contentment, transcending industry boundaries.

This study bridges gaps in existing literature by analyzing Shopee-specific dynamics. Findings will inform strategies to optimize service quality, strengthen brand image, and elevate user satisfaction in Indonesia's e-commerce sector.

LITERATURE REVIEW

E-Commerce

E-commerce, or electronic commerce, refers to the process of conducting business transactions such as distribution, purchasing, selling, and services through electronic means via computer networks, particularly the internet (Albshaiyer et al., 2024). This definition encompasses a wide range of digital business activities, including marketing, promotion, payment, and product delivery, which may occur either online or offline. E-commerce involves interactions among companies, individuals, households, governments, and other organizations through digital platforms. According to Laudon, e-commerce includes the process of buying and selling goods electronically between consumers and companies. Meanwhile, David Baum emphasizes that e-commerce constitutes a set of dynamic technologies, applications, and business processes that connect parties in electronic transactions involving goods, services, and information.

Common types of e-commerce in Indonesia include classifieds (online advertisements), consumer-to-consumer (C2C) marketplaces such as Shopee and Tokopedia, digital shopping malls that cater to well-established brands, business-to-consumer (B2C) online stores selling their own products, and social media shops that utilize platforms such as Facebook and Instagram (Fahrudi et al., 2022). Each type of e-commerce employs different transactional systems and business models, varying in terms of responsibilities, payment methods, and consumer engagement

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approaches. The key characteristics of e-commerce include broader market reach, operational efficiency, effective communication, cost reduction, and more secure cash flow. E-commerce allows businesses to operate without a physical presence, supported by digital systems that are efficient and responsive to consumer needs in the era of information technology.

Shopee

Shopee is a leading mobile-based e-commerce platform in Southeast Asia, designed primarily as a Consumer-to-Consumer (C2C) marketplace to facilitate seamless transactions via smartphones (Septianingsih et al., 2024). According to its director, Chris Feng, Shopee aims to support Indonesia's retail e-commerce growth by integrating online shopping with social media features, enabling interactive engagement between buyers and sellers. Shopee's brand awareness is notably high due to aggressive marketing strategies and attractive consumer offers such as Harbolnas (National Online Shopping Day), during which it recorded over 12 million transactions across seven countries. The platform offers various promotions, including free shipping, flash sales, and in-app games that reward users with redeemable points.

In terms of user security, Shopee provides a Seller Center and Shopee Guarantee to protect both parties during transactions (Attamimi et al., 2024). Shopee has become the most downloaded e-commerce application and holds the highest number of monthly active users in Indonesia. Its services have expanded beyond traditional e-commerce to include food delivery (Shopee Food) and logistics. Introduced in 2020, Shopee Food rapidly gained popularity during the COVID-19 pandemic, supporting small and medium enterprises (SMEs) with features like free delivery and discounts. With diverse product categories and integrated services, Shopee continues to strengthen its position in Indonesia's digital economy.

Service Quality

In the modern era marked by rapid technological advancement, companies face increasingly intense competition to acquire and retain customers. Service quality has become a fundamental necessity for businesses seeking to maintain consumer trust and market relevance (Ashiq & Hussain, 2023). It is defined as the degree to which customer expectations align with their actual experiences. A high-quality service meets or exceeds these expectations, while a lower-than-expected service is perceived as poor. Service quality is customer-centered, starting from their needs and ending with their perceptions, rather than being defined by the service provider's view.

Several experts have introduced different dimensions to measure service quality. One model highlights aspect such as performance, employee interaction, reliability, durability, timeliness, aesthetics, and brand awareness (Kim & Yang, 2025). Another widely recognized framework outlines five essential dimensions, namely tangibles as physical evidence, reliability as the ability to provide consistent and accurate service, responsiveness as the promptness and willingness to help customers, assurance as the effort to build trust and confidence, and empathy as the act of offering personalized attention to each customer (Taylor, 2024). Other scholars emphasize dimensions such as technical and functional quality, as well as corporate image. Overall, service quality plays a pivotal role in influencing customer satisfaction and is considered a key factor in shaping business success and sustainability in highly competitive environments.

METHOD

This study employs a quantitative research approach utilizing both primary and secondary data sources. Primary data were collected directly from research subjects through structured questionnaires measuring three key variables: service quality, e-commerce brand image, and user satisfaction. Secondary data were obtained from supplementary sources including scholarly journals, academic publications, and relevant supporting literature (Erlyana et al., 2024).

The target population for this investigation comprises individuals who have engaged in transactions through the Shopee e-commerce platform. A purposive sampling technique was implemented for participant selection, with a sample size of 100 respondents. This non-probability sampling method was selected based on its appropriateness for quantitative studies that do not intend to generalize findings (Triyadi et al., 2021). Purposive sampling allows researchers to select participants who possess specific characteristics or experiences relevant to the study objectives, in this case, firsthand knowledge of Shopee's platform and services (Devi & Suwirmayanti, 2023).

The rationale for employing purposive sampling methodology stems from the need to gather targeted insights from experienced Shopee users who can provide meaningful data regarding the platform's service quality dimensions and brand perception. This approach ensures that collected data directly addresses the research questions while maintaining methodological rigor appropriate for quantitative analysis.

The research methodology employed in this study follows a systematic procedure. The data collection process was conducted through two primary methods: questionnaire distribution and comprehensive literature review.

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Structured questionnaires were administered to collect primary data, while secondary data were gathered through an extensive review of scholarly journals, articles, and other relevant printed and electronic sources (Enjellika & Ratnasari, 2023).

To ensure research instrument quality, rigorous validity and reliability analyses were performed. The study utilized multiple regression analysis as the primary analytical technique, implemented through SPSS statistical software. Following the completion of all statistical testing, the process proceeded to the research reporting phase.

The methodological flowchart serves as a schematic representation of the research process, outlining each sequential step from initial design to final analysis. This visual framework was developed to facilitate researcher navigation through the study's various stages and to ensure methodological transparency. The flowchart provides a clear, standardized reference for replicating the research protocol and verifying procedural integrity.

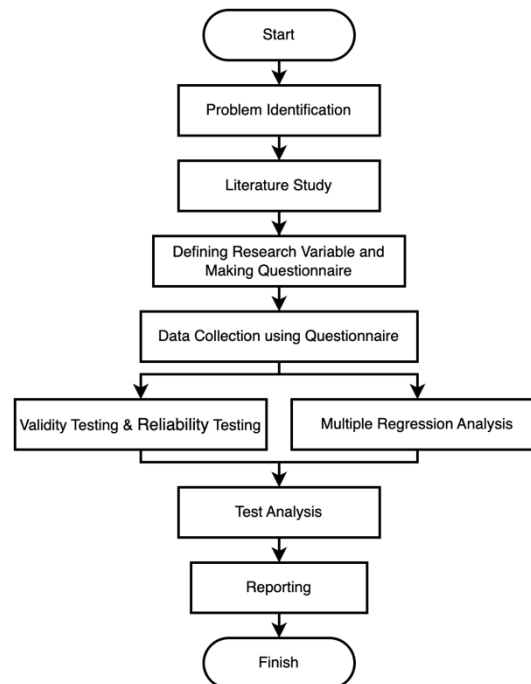


Figure 2. Research Methodology Flowchart

Figure 2 presents the research methodology flowchart, which systematically outlines the study's procedural framework. The process commences with problem formulation, followed by a comprehensive literature review involving the identification and evaluation of relevant academic references. Subsequently, the research progresses to variable identification and the development of a structured questionnaire.

Upon finalization of the research instrument, the study advances to the data collection phase. The collected data then undergoes rigorous validity and reliability testing to ensure measurement accuracy and consistency. This is followed by multiple regression analysis to examine the relationships between variables. Upon completion of these analytical procedures, the final stage entails data interpretation and research report compilation.

For hypothesis evaluation, this study employs statistical hypothesis testing to assess the significance of each variable's influence. The research instruments are subjected to validity and reliability analyses to verify their psychometric properties. The primary analytical technique consists of multiple linear regression, conducted using SPSS statistical software, to quantify the predictive relationships between the independent and dependent variables.

Figure 3 illustrates the study's conceptual framework, which delineates the relationships between the defined research variables. This investigation incorporates three principal variables: Service Quality (X_1), E-Commerce Brand Image (X_2), and user satisfaction (Y). The framework establishes service quality and e-commerce brand image as independent variables hypothesized to influence the dependent variable of user satisfaction.

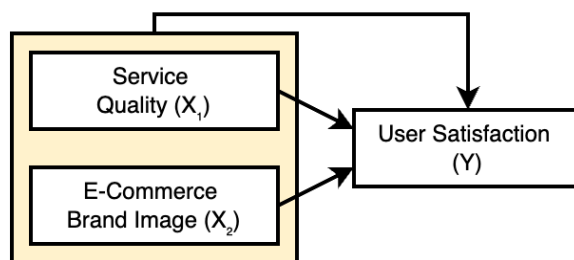


Figure 3. Research Concept Framework

To empirically examine these relationships, the study employs multiple regression analysis. This statistical approach will quantify both the individual and collective effects of the independent variables (X_1 and X_2) on the dependent variable (Y), enabling a robust assessment of their predictive power and significance within the e-commerce context.

RESULT

Validity Testing & Reliability Testing Result

Prior to measuring public perceptions regarding service quality, e-commerce brand image, and user satisfaction, the research instruments were subjected to rigorous validity and reliability testing. Validity testing was conducted to assess whether the indicators employed as measurement tools for each variable were statistically valid. The analysis utilized bivariate correlation, examining the relationship between individual item scores and the total variable score. An indicator was deemed valid if it met two criteria: (1) a Pearson product-moment correlation coefficient (r) > 0.3, and (2) a significance value (p) < 0.05.

The results demonstrated that all indicators for service quality dimensions, brand image, and user satisfaction exhibited statistically significant correlations with their respective construct total scores ($\text{sig.} < 0.05$). Furthermore, all Pearson correlation coefficients exceeded the 0.3 threshold, confirming that the questionnaire items for each variable dimension satisfied the criteria for good data quality and were statistically valid.

Reliability testing was performed to determine the consistency and dependability of the measurement instruments. The assessment employed Cronbach's alpha (α), with the following benchmarks, if $\alpha \geq 0.60$: Indicators were considered reliable and if $\alpha < 0.60$: Indicators were deemed unreliable. The reliability test outcomes are presented in Table 2, which displays the Cronbach's alpha coefficients for each variable, verifying the internal consistency of the measurement scales used in this study.

Table 1. Instrument Reliability Test Results

Variable	Cronbach's Alpha Value	Description
Service Quality (X_1)	0.930	Reliable
E-Commerce Brand Image (X_2)	0.897	Reliable
User Satisfaction (Y)	0.797	Reliable

As presented in Table 1, the reliability analysis yielded Cronbach's alpha coefficients exceeding the threshold of 0.60 for all measured variables. These results demonstrate that all measurement constructs within the questionnaire - encompassing service quality dimensions, e-commerce brand image, and user satisfaction - exhibit satisfactory internal consistency. Consequently, the measurement items for each conceptual variable meet the established criteria for reliability and are statistically appropriate for subsequent analytical procedures.

The consistently robust reliability coefficients ($\alpha > 0.60$) across all variables confirm the instrument's psychometric soundness, thereby validating its employment as a dependable measurement tool in this research context. These findings support the methodological rigor of the study and justify the continued use of these measurement items for further data analysis.

Multiple Regression Analysis Result

Classical assumption testing constitutes a prerequisite for conducting multiple regression analysis, encompassing evaluations of data normality, multicollinearity, linearity, and autocorrelation. The results of these diagnostic tests are presented sequentially below.

1. Normality Test

The normality test was performed to verify whether the data distribution follows a normal pattern, as this represents a fundamental requirement for parametric statistical analysis. The Kolmogorov-Smirnov test was employed to assess the distribution normality of the variables: Service Quality (X_1), E-Commerce Brand Image

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(X₂), and user satisfaction (Y). The analysis, conducted using SPSS 20.0 for Windows, yielded the following results:

Table 2. Results of Data Distribution Normality Test

Variable	Kolmogorov–Smirnov Value	Sig.	Description
Service Quality (X ₁)	0.101	0.072	Normally distributed
E-Commerce Brand Image (X ₂)	0.102	0.085	Normally distributed
User Satisfaction (Y)	0.130	0.079	Normally distributed

As indicated in Table 2, the Kolmogorov-Smirnov significance values for all variables exceeded 0.05 ($p > 0.05$), leading to the acceptance of the null hypothesis. This confirms that the score distributions for Service Quality (X₁), E-Commerce Brand Image (X₂), and user satisfaction (Y) adhere to a normal distribution pattern.

Since the sample data will be analyzed using parametric statistics, with findings generalized to the population level, it was essential to statistically verify that the data distribution conforms to the normal curve. This validation ensures the appropriateness of employing parametric statistical methods for subsequent analyses.

2. Multicollinearity Test

The multicollinearity test was conducted to examine the correlation between independent variables in the regression model. In multiple regression analysis, independent variables must not exhibit significant intercorrelation, as the presence of multicollinearity can compromise the validity of the statistical results. The detection of multicollinearity was performed using collinearity statistics, with the following diagnostic criteria, such as a tolerance value > 0.1 for each independent variable, and a variance inflation factor (VIF) < 10 for each independent variable. The results of the multicollinearity test, presented in Table 3, demonstrate that all independent variables, Service Quality (X₁) and E-Commerce Brand Image (X₂), met the established criteria. Specifically:

Table 3. Multicollinearity Test Results

Variable	Collinearity Variable Statistics		Description
	Tolerance	VIF	
Service Quality (X ₁)	0.168	5.936	Free from multicollinearity
E-Commerce Brand Image (X ₂)	0.168	5.936	Free from multicollinearity

Dependent Variable: User Satisfaction (Y)

The tolerance values for both variables exceeded 0.1. The VIF values for both variables remained below 10. These findings confirm the absence of multicollinearity among the independent variables, thereby validating the appropriateness of the multiple regression model for analyzing their respective relationships with the dependent variable, user satisfaction (Y). The results suggest that each independent variable contributes unique explanatory power to the model without significant overlap or redundancy.

3. Heteroskedasticity Test

The detection of heteroskedasticity was conducted through scatterplot graphical analysis. The presence of heteroskedasticity would be indicated by the formation of discernible patterns in the plot. The results of the heteroskedasticity test are presented in Figure 4.

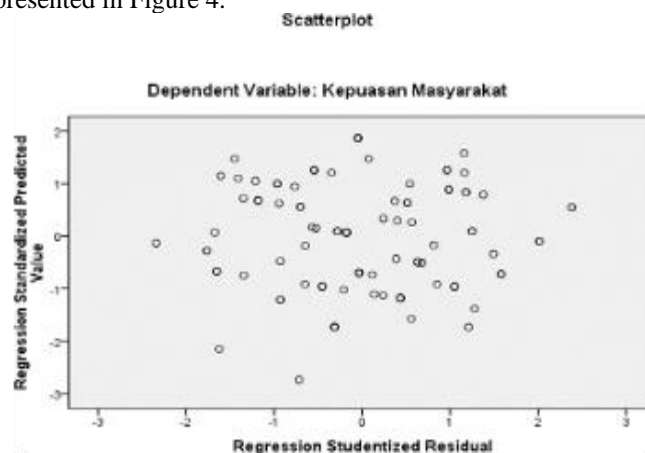


Figure 4. Results of Heteroscedasticity Test Using Scatter Plots

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As illustrated in Figure 4, the scatterplot demonstrates a random dispersion of data points both above and below zero on the Y-axis, without forming any systematic or identifiable pattern. This random distribution suggests that the variance of residuals remains constant across the range of predicted values. Consequently, the graphical analysis provides no evidence of heteroskedasticity in the regression model, thereby satisfying one of the fundamental assumptions of linear regression analysis.

The absence of heteroskedasticity indicates that the error terms exhibit homoskedasticity, meaning the variance of the residuals is consistent throughout the data. This finding validates the reliability of the regression coefficients and confirms that the model meets the necessary assumptions for proper statistical inference.

4. Autocorrelation Test

The autocorrelation test was conducted to examine whether a linear regression model exhibits correlation between error terms at time *t* and time *t-1* (previous period). The Durbin-Watson test (DW test) was employed to detect the presence of autocorrelation, with the following decision criteria at a 95% confidence level: $du < d < (4 - du) = 1.681 < d < 2.319$. The results of the Durbin-Watson test are presented in Table 4.

Table 4. Autocorrelation Test Results

Model	R	R Square	Adjusted Square	R	Std. Error of the Durbin-Watson Estimate
1	0.950	0.903	0.900	1.530	2.112

a. Predictors: (Constant), Service Quality, E-Commerce Brand Image

b. Dependent Variable: User Satisfaction

The analysis yielded a DW statistic, at a 5% significance level, with a sample size of 100 observations and two independent variables (X_1 and X_2) predicting one dependent variable (Y). The obtained DW value fell within the acceptable range ($1.681 < d < 2.319$), specifically being greater than the lower critical value ($du = 1.681$) and less than the upper threshold ($4 - du = 2.319$).

This statistical evidence allows us to conclude that the regression model demonstrates no significant autocorrelation among residuals. The absence of autocorrelation satisfies a critical assumption of ordinary least squares regression, indicating that the error terms are independently distributed and not serially correlated. Consequently, the parameter estimates remain efficient and unbiased, validating the appropriateness of the regression model for hypothesis testing.

Classical assumption testing constitutes a prerequisite for conducting multiple regression analysis, encompassing evaluations of data normality, multicollinearity, linearity, and autocorrelation. The results of these diagnostic tests are presented sequentially below.

Table 5. Multiple Linear Regression Analysis Results

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.468	0.504		0.928	0.356
	Service Quality	0.131	0.020	0.376	6.438	0.000
	E-Commerce Brand Image	0.295	0.028	0.616	10.548	0.000

a. Dependent Variable: User Satisfaction

This study employs multiple linear regression analysis to examine the influence of service quality and e-commerce brand image on user satisfaction in digital marketplaces. The analytical framework tests three substantive hypotheses:

- H₁: Service quality significantly affects e-commerce user satisfaction
- H₂: Brand image significantly influences e-commerce user satisfaction
- H₃: Service quality and brand image collectively impact user satisfaction

The regression analysis yielded the following estimated equation $\hat{Y} = 0.468 + 0.131X_1 + 0.295X_2 + \varepsilon$

This equation reveals three key findings. The baseline satisfaction level (constant = 0.468) represents the predicted satisfaction score when both Service Quality (X_1) and E-Commerce Brand Image (X_2) equal zero. A one-unit improvement in service quality corresponds to a 0.131-unit increase in user satisfaction, holding other factors

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constant. A one-unit enhancement in brand image predicts a 0.295-unit elevation in satisfaction scores, *ceteris paribus*

Test Analysis Result

1. Partial Hypothesis Testing Results

Table 6. T-Test Results

Variable	T-Count	Significant	Description
Service Quality	6,438	0,000	Significant
E-Commerce Brand Image	10,548	0,000	Significant

The t-test analysis yielded the following statistically significant findings:

- a. Service Quality (X₁) on User Satisfaction (Y)
The calculated t-value of 6.438 (p = 0.000) indicates statistical significance at the 0.05 level (6.438 > t-critical; p < 0.05). Consequently, we reject the null hypothesis (H₀) and accept the alternative hypothesis (H₁). This confirms that service quality exerts a positive and statistically significant effect on user satisfaction in e-commerce platforms.
- b. E-Commerce Brand Image (X₂) on User Satisfaction (Y)
The analysis produced a t-value of 10.548 (p = 0.000), which exceeds the critical threshold at the 0.05 significance level (10.548 > t-critical; p < 0.05). Thus, we reject H₀ and accept H₁, substantiating that e-commerce brand image has a positive and significant influence on user satisfaction.

The analysis reveals three critical insights regarding the relationships between service quality, brand image, and user satisfaction. First, the substantially higher t-value for brand image (10.548) compared to service quality (6.438) suggests that brand perception exerts a stronger influence on user satisfaction within the e-commerce context. Second, the extreme statistical significance of both relationships (p = 0.000 for each) indicates less than 0.1% probability that these effects occurred randomly, providing robust empirical support for the hypothesized connections. Third, the positive direction of all coefficients demonstrates that enhancements in either service quality or brand image consistently led to measurable improvements in user satisfaction levels. These findings collectively underscore the importance of both operational service dimensions and perceptual brand factors in cultivating positive user experiences, while suggesting that brand-related initiatives may yield proportionally greater satisfaction returns than service improvements alone. These results validate the theoretical model and provide empirical support for prioritizing both service excellence and brand management in e-commerce strategy.

Simultaneous Hypothesis Testing

Table 7. F-Test Results

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	740.741	2	370.370	820.802	.000 ^b
Residual	43.769	97	.451		
Total	784.510	99			

- a. Dependent Variable: User Satisfaction
- b. Predictors: (Constant) Service Quality, E-Commerce Brand Image

The joint influence of independent variables on the dependent variable was examined through F-test analysis. The statistical results yielded a calculated F-value of 820.802. At the 0.05 significance threshold, the obtained p-value (0.000) was substantially lower than the critical level (0.000 < 0.05), leading to the rejection of the null hypothesis (H₀) and acceptance of the alternative hypothesis (H₃). This confirms that service quality and e-commerce brand image collectively exert a statistically significant positive effect on user satisfaction.

Table 8. Results of Determination Coefficient Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,972 ^a	0,944	0,943	0,6720

- a. Predictors: (Constant) Service Quality, E-Commerce Brand Image
- b. Dependent Variable: User Satisfaction

To quantify the explanatory power of the independent variables, a coefficient of determination test was conducted. The analysis revealed an adjusted R² value of 0.943, indicating that 94.3% of the variance in user satisfaction is accounted for by the combined effect of service quality dimensions and e-commerce brand image. The remaining 5.7% of variance is attributable to factors beyond the scope of this study. These results, presented

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in Table 9, demonstrate the strong predictive capacity of the proposed model in explaining user satisfaction within e-commerce contexts.

The statistical analysis yields three particularly noteworthy findings that collectively demonstrate the robustness of the research model. First, the remarkably high F-statistic of 820.802 provides conclusive evidence of the model's overall statistical significance, firmly establishing that the combined effect of service quality and brand image substantially impacts user satisfaction. Second, the adjusted R^2 value of 0.943 indicates an exceptionally strong model fit, with the selected independent variables explaining approximately 94.3% of the variance in user satisfaction. Third, the minimal unexplained variance (merely 5.7%) suggests that the model incorporates nearly all major determinants of user satisfaction within the studied e-commerce context. These results offer compelling empirical support for the theoretical framework, demonstrating that service quality and brand image collectively account for virtually all measurable factors influencing user satisfaction, while implying that potential additional variables would contribute only negligibly to the explanatory power of the model. The findings underscore the comprehensive nature of the current investigation and validate the research design's effectiveness in capturing the key drivers of e-commerce satisfaction.

DISCUSSIONS

The findings of this study provide strong empirical support for the significant role of both service quality and e-commerce brand image in determining user satisfaction within digital marketplaces. These results corroborate established theories from Parasuraman et al. (1988) and Aaker (1996), while introducing new understanding about their relative impact in online retail environments (Aaker, 1996; Parasuraman et al., 1988). A particularly noteworthy discovery is that brand image ($\beta = 0.295$, $t = 10.548$) exerts a substantially stronger influence on user satisfaction than service quality ($\beta = 0.131$, $t = 6.438$), suggesting that in digital commerce contexts, intangible brand perceptions may carry more weight than functional service elements in shaping customer satisfaction. This insight challenges and extends traditional service-dominant logic by highlighting the growing importance of brand equity in digital transactions.

From a theoretical perspective, these results carry several important implications. The dominant effect of brand image over service quality in digital environments questions conventional assumptions about customer satisfaction drivers, indicating that intangible factors like brand trust, reputation, and emotional connections may be particularly influential in low-touch digital shopping experiences. The model's exceptionally high explanatory power (adjusted $R^2 = 0.943$) confirms that these two variables serve as comprehensive predictors of e-commerce satisfaction, though the remaining 5.7% unexplained variance hints at potential minor contributions from unexamined factors such as pricing strategies or platform usability. Methodologically, the study's rigorous approach, validated through comprehensive diagnostic testing for normality, autocorrelation, and multicollinearity, reinforces the reliability of multiple regression analysis for investigating satisfaction determinants.

For e-commerce practitioners, these findings offer actionable strategic insights. They suggest that investments in brand-building initiatives, including trust signals and influencer partnerships, may deliver greater satisfaction returns than marginal service improvements. While maintaining service quality remains essential, the results indicate it should be paired with distinctive brand differentiation strategies. The implementation of real-time analytics could further help platforms monitor how changes in these variables dynamically influence satisfaction levels.

Several limitations of the current study point to valuable directions for future research. The exclusive focus on Shopee users restricts the findings' generalizability, suggesting the need for comparative studies across platforms like Lazada or Amazon. The cross-sectional design could be enhanced through longitudinal approaches to track satisfaction driver evolution over time. Additional research could examine potential moderating factors such as cultural differences or product categories (utilitarian versus hedonic). Alternative analytical methods, including Structural Equation Modeling for latent construct analysis or machine learning techniques to detect nonlinear relationships, might provide deeper insights into the complex dynamics of e-commerce satisfaction. These future research directions would help refine and expand upon the current study's contributions to our understanding of digital consumer behavior.

CONCLUSION

This research establishes compelling empirical support for the significant impact of service quality and e-commerce brand image on user satisfaction in digital marketplaces. Through rigorous regression analysis, the study demonstrates that both factors exert statistically significant positive influences, with brand image ($t = 10.548$) showing notably stronger effects than service quality ($t = 6.438$). The model's exceptional explanatory power is evidenced by an F-statistic of 820.802 ($p < 0.001$) and an adjusted R^2 value of 0.943, indicating that these two variables account for 94.3% of the variance in user satisfaction. These findings offer valuable practical insights for e-commerce platforms, highlighting the particular importance of brand perception management in driving

customer satisfaction, while also contributing to theoretical understanding by validating and extending existing literature on service quality and brand equity in digital commerce contexts. The study's methodological strength lies in its use of validated measurement instruments, comprehensive validity/reliability assessments, and thorough regression diagnostics. However, several limitations suggest directions for future research, including the need to expand beyond the current focus on Shopee users to multiple platforms for greater generalizability, investigate additional factors that might explain the remaining 5.7% of satisfaction variance, employ longitudinal designs to track satisfaction dynamics over time, and incorporate more diverse demographic samples to enhance the findings' representativeness and applicability across different user segments.

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