



HOW SERVICE, SYSTEM, AND INFORMATION QUALITY SHAPE SHOPEE CUSTOMER SATISFACTION THROUGH OVERALL PERCEIVED SERVICE QUALITY

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Abstract

This research aims to analyze the influence of service quality, system quality, and information quality on Shopee application user satisfaction through overall perceived service quality in Indonesia. In the current digital era, e-commerce such as Shopee has become a platform that is often used by Indonesian people for online shopping. And customer satisfaction is the main factor influencing the success of the Shopee application. This research uses a quantitative method with a survey approach, where the data collected is through a questionnaire distributed to Shopee application users in Indonesia. Then the data obtained will be analyzed using the SEM-PLS method to test the relationship between the variables studied. The results of this research show that service quality, system quality, and information quality have a significant effect on overall perceived service quality. Overall perceived service quality has a significant effect on customer satisfaction. And overall perceived service quality has a positive effect in mediating the relationship between service quality, system quality, and information quality on customer satisfaction.

Keywords : Service Quality, System Quality, Information Quality, Customer Satisfaction, Overall Perceived Service Quality, Shopee, E-commerce

A. INTRODUCTION

Information Technology (IT) refers to the application of information and communication technology, including computer networks, software, and hardware necessary for internet connectivity (Victor et al., 2017). Its rapid development has significantly transformed human behavior, particularly in shopping activities. The shift from offline to online shopping has contributed to the rise of e-commerce in Indonesia, making it one of the largest e-commerce markets globally, with projected growth exceeding USD 75 billion by 2025 (Afifa, 2024).

According to Compound Annual Growth Rate (CAGR) data, Indonesia ranks as the 12th largest e-commerce market globally, with a growth rate of 9.57%, surpassing the global average of 9.49%. It is estimated that by 2028, the Indonesian e-commerce market will reach USD 86.81 billion, with a projected CAGR of 10.4% (International Trade Administration, 2024).

One of the fastest-growing e-commerce platforms in Indonesia is Shopee, owned by the Singapore-based SEA Group. Initially adopting a Consumer-to-Consumer (C2C) business model, Shopee later integrated Business-to-Consumer (B2C) elements through Shopee Mall. Shopee has established itself as a market leader through aggressive marketing strategies, including advertisements, social media promotions, free shipping campaigns, a Cash on Delivery (COD) system, and competitive pricing (Fitri & Purwantoro, 2024). However, despite its success, Shopee has faced several criticisms, such as ineffective consumer complaint handling and dissatisfaction with its complaint resolution system (Aminah & Purwantoro, 2022).

Given the rapid expansion of the e-commerce industry in Indonesia, it is crucial for Shopee to understand the factors influencing customer satisfaction, which plays a key role in customer loyalty. This study examines five key variables: service quality, system quality, information quality, overall perceived service quality, and customer satisfaction.

Service quality in e-commerce encompasses aspects such as ease of navigation, transaction speed, data security, and product information accuracy, all of which contribute to customer satisfaction (Lin et al., 2016). System quality, which includes technical efficiency, security, and user-friendliness, significantly impacts the user experience (Stefani & Xenos, 2008). Information quality pertains to the relevance, clarity, accuracy, and completeness of information provided to consumers, which enhances trust and satisfaction (Al-Mamary et al., 2014). Overall perceived service quality reflects customers' assessments of service excellence, including factors such as delivery speed and order accuracy, which shape their overall satisfaction (Kasim & Abdullah, 2010; Lin et al., 2016). Customer satisfaction is ultimately determined by how well a product or service meets consumer expectations, directly influencing loyalty and long-term business sustainability (Gajewska et al., 2019).

As competition in the Indonesian e-commerce industry intensifies, enhancing service quality has become a critical strategy for retaining customers and strengthening Shopee's competitive advantage. Accordingly, this study aims to examine the impact of service quality, system quality, and information quality on customer satisfaction, mediated by overall perceived service quality in Shopee.

Building upon the preceding background, this study seeks to address several interrelated research questions, namely: 1) the effect of service quality on overall perceived service quality; 2) the effect of system quality on overall perceived service quality; 3) the effect of information quality on overall perceived service quality; 4) the influence of overall perceived service quality on customer satisfaction; 5) the mediating role of overall perceived service quality in the relationship between service quality and customer satisfaction; 6) the mediating role of overall perceived service quality in the relationship between system quality and customer satisfaction; and 7) the mediating role of overall perceived service quality in the relationship between information quality and customer satisfaction.

B. LITERATURE REVIEW

1. The Effect of Service Quality on Overall Perceived Service Quality

A research conducted by Phuong and Trang in 2018, has produced a discovery that is that service quality is one of the factors that greatly influences the overall perceived service quality. In other research conducted by Cheng and Rashid in 2015, on the hotel industry in Malaysia, a discovery was made, namely that service quality directly influences overall perceived service quality, which then also influences customer satisfaction and loyalty. Research conducted by Ali et al., 2021, regarding the impact of service quality on customer satisfaction in hotel service quality, shows that service quality greatly influences overall perceived service quality and customer satisfaction, which then influences customer loyalty. The results of these findings strengthen the statement that service quality is a very important factor in determining whether overall service quality is good. Therefore, from the discussion above, this research will test this hypothesis.

H₁: Service quality has a positive effect on overall perceived service quality

2. The Effect of System Quality on Overall Perceived Service Quality

A research conducted by Phuong and Trang in 2018, has produced a discovery that is that system quality is one of the factors that greatly influences the overall perceived service quality. In another study conducted by Kim and Lee in 2014, which examined the behavior of accepting personal robot services that are everywhere in Korea, it resulted in a discovery that the quality of the system greatly impacts the benefits felt by customers, which automatically influences customer satisfaction. on overall service quality. Another research conducted by

Nirwanto and Andarwati in 2019, was about how system quality, information and top management support directly influence user satisfaction by increasing the perception of technology usefulness. The results of these findings strengthen the statement that system quality is a very important factor in determining whether overall service quality is good. Therefore, from the discussion above, this research will test this hypothesis.

H₂: System quality has a positive effect on overall perceived service quality

3. The Effect of Information Quality on Overall Perceived Service Quality

A research conducted by Phuong and Trang in 2018, has produced a discovery that is that the quality of information is one of the factors that greatly influences the overall perceived quality of service. In other research conducted by Patma, et al., in 2021, which examined the impact of information quality on customer perceived value, quality of experience, and customer satisfaction from using the GoFood application, it has resulted that information quality has a positive effect and significant to overall service quality, which then also has an impact on customer satisfaction. Apart from that, the results of research conducted by Nirwanto and Andarwati, 2019, show that information quality has an impact and influence on overall perceived service quality. The results of these findings strengthen the statement that information quality is a very important factor in determining whether overall service quality is good. Therefore, from the discussion above, this research will test this hypothesis.

H₃: Information quality has a positive effect on overall perceived service quality

4. The Effect of Overall Perceived Service Quality on Customer Satisfaction

A research conducted by Phuong and Trang in 2018, has produced a discovery that is that there is a positive and significant impact on customer satisfaction by overall perceived service quality. In another study conducted by Ge et al., 2021, regarding the relationship between perceived service quality, perceived value, and customer satisfaction in Starbucks Reserve Coffee Shops in Shanghai, China, has resulted in the discovery that perceived service quality significantly influences customer satisfaction, which then has an effect on repurchase intention, thereby proving that there is a positive relationship between perceived service quality and customer satisfaction. Therefore, from the discussion above, this research will test this hypothesis.

H₄: Overall perceived service quality has a positive effect on customer satisfaction

5. The Mediating Role of Overall Perceived Service Quality in the Relationship between Service Quality and Customer Satisfaction

A research conducted by Phuong and Trang in 2018, has produced a discovery, namely that overall service quality can positively mediate the relationship between service quality and customer satisfaction. Research conducted by Karim and Baset, 2016, regarding perceived service quality which is a mediator in the relationship between servicescape and customer loyalty, shows that perceived service quality, apart from having a direct effect on customer satisfaction, can also act as a mediator between various dimensions of service quality and customer satisfaction. Other research also conducted by Hapsari et al., 2016, regarding the role of perceived value on the relationship of service quality and customer satisfaction in the context of Indonesian Airline Passengers, has resulted in the discovery that perceived service quality can have a direct on customer satisfaction, thus supporting the statement that perceived service quality can mediate the relationship between service quality and customer satisfaction. Therefore, from the discussion above, this research will test this hypothesis.

H₅: Overall perceived service quality has a positive relationship in mediating the relationship

between service quality and customer satisfaction

6. The Mediating Role of Overall Perceived Service Quality in the Relationship between System Quality and Customer Satisfaction

A research conducted by Phuong and Trang in 2018, has produced a discovery that is that overall perceived service quality can positively mediate the relationship between system quality and customer satisfaction. In other research conducted by. In research conducted by Kumar and Lata in 2021, it also resulted in the discovery that service quality can act as a mediator in the relationship between system quality and customer satisfaction. The results of this research indicate that overall perceived service quality has a positive influence in mediating the relationship between system quality and customer satisfaction. Therefore, from the discussion above, this research will test this hypothesis.

H₆: Overall perceived service quality has a positive relationship in mediating the relationship between system quality and customer satisfaction

7. The Mediating Role of Overall Perceived Service Quality in the Relationship between Information Quality and Customer Satisfaction

A research conducted by Phuong and Trang in 2018, has produced a discovery that is that overall perceived service quality can positively mediate the relationship between information quality and customer satisfaction. In other research conducted by Henseler, et al., in 2015, which examined advances in variance-based structural equation modeling (SEM), it has proven that overall service quality can mediate the relationship between information quality and customer satisfaction in the context of m- ride-hailing service in Vietnam. Another research conducted by Patma et al., 2021, resulted in the discovery that perceived service quality can mediate the relationship between information quality and customer satisfaction in the context of e-commerce. Therefore, from the discussion above, this research will test this hypothesis.

H₇: Overall perceived service quality has a positive relationship in mediating the relationship between information quality and customer satisfaction

8. Conceptual Framework

There are three variables that will be tested in this research, to see their effect on other variables, namely service quality, system quality, and information quality. These three variables will be manipulated to see their impact on the overall perceived service quality variable. Based on this framework, service quality, system quality, and information quality, directly affect the overall perceived service quality. Then overall perceived service quality also directly affects customer satisfaction. And customer satisfaction will be directly affected by overall perceived service quality. Meanwhile, overall perceived service quality also plays a direct role as a mediator in the relationship between service quality, system quality and information quality on customer satisfaction.

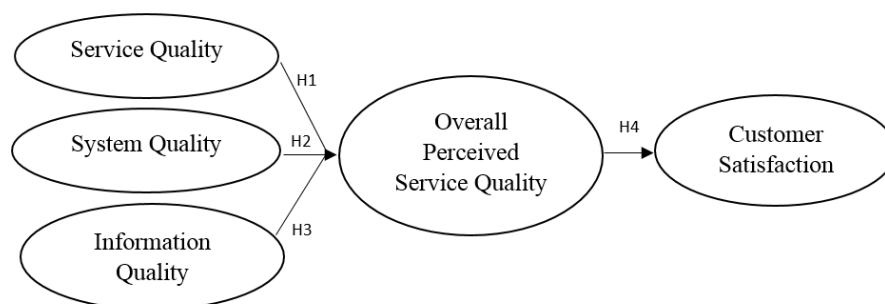


Figure 1: Research Framework

C. METHODS

This study adopts a quantitative research design to examine the causal relationships between service quality, system quality, and information quality on overall perceived service quality, and their subsequent effects on customer satisfaction in a digital service context. While prior studies frequently treat these quality dimensions as independent predictors, such an approach may overlook the integrative nature of user evaluations. To address this limitation, this study proposes a more comprehensive framework by positioning overall perceived service quality (OPSQ) as a mediating construct that captures users' cumulative evaluative judgments. This mediating structure reflects the assumption that the effects of service quality, system quality, and information quality on customer satisfaction are not solely direct, but are transmitted through users' overall perceptions of service quality. Accordingly, service quality (SEQ), system quality (SQ), and information quality (IQ) are specified as exogenous variables, OPSQ as the mediating variable, and customer satisfaction (CS) as the endogenous variable. The proposed model therefore enables the simultaneous examination of both direct and indirect effects among the constructs.

The operationalization of constructs is grounded in prior literature while being adapted to reflect the characteristics of digital service environments. Service quality is conceptualized as the organization's ability to deliver services that meet or exceed user expectations, encompassing both functional and experiential aspects of service delivery. It is reflected through several indicators, namely: 1) the absence of service interruptions; 2) fast and responsive service; 3) a sense of safety and comfort during service use; 4) alignment with user requirements; and 5) a professional service image (Risanty et al., 2020).

System quality is defined as the extent to which a technological platform effectively supports user interaction and task completion. In digital contexts, system performance plays a critical role in shaping user perceptions and subsequent evaluations. This construct captures both technical robustness and user-oriented design, including usability, reliability, response time, and system sophistication (Fitriati et al., 2020). It is measured using indicators such as: 1) adequate system design; 2) responsiveness and speed; 3) availability of sufficient information support; 4) system sophistication; 5) ease of navigation; 6) system security; 7) accessibility; 8) functional relevance; and 9) error-free operation (Risanty et al., 2020).

Information quality refers to the degree to which the information provided by the system is useful, meaningful, and supports user decision-making. In online environments characterized by information asymmetry, high-quality information reduces uncertainty and strengthens user confidence. This construct is operationalized through the following indicators: 1) accuracy of information; 2) relevance to user needs; 3) timeliness or up-to-date information; and 4) completeness and level of detail (Lillrank, 2003; Risanty et al., 2020).

Overall perceived service quality is conceptualized as a higher-order evaluative construct that integrates users' perceptions across multiple quality dimensions. Rather than assuming that individual quality attributes independently affect customer satisfaction, this study posits that users form a holistic judgment that mediates these relationships. This construct is measured through: 1) service responsiveness; 2) reliability of service performance; and 3) perceived trustworthiness of the service and information provided (Sudjianto & Japariato, 2017).

Customer satisfaction is defined as a post-consumption evaluative response resulting from the comparison between prior expectations and actual service performance. In this study, customer satisfaction is treated as the ultimate outcome variable influenced both directly and indirectly through overall perceived service quality. It is measured using indicators such as: 1) responsiveness in handling complaints; 2) timeliness in service processing and delivery; and 3) adequacy of the system's security (Kasim & Abdullah, 2010; Risanty et al., 2020).

All constructs are measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), which is widely used to capture subjective perceptions and attitudes (Joshi et al., 2015). This scaling approach enables the transformation of qualitative judgments into quantitative data suitable for multivariate analysis while maintaining consistency across responses.

Data were collected using a structured online questionnaire distributed via Google Forms. The use of an online survey is appropriate given the digital nature of the research context and enables efficient data collection from geographically dispersed respondents. The target population consists of individuals in Indonesia aged 17 years or older who have conducted online transactions via the Shopee platform within the last three months. This criterion ensures that respondents possess recent and relevant experience, thereby enhancing the validity of their evaluations (Creswell, 2018).

A purposive sampling technique was employed to select respondents who meet specific criteria aligned with the research objectives. This approach is particularly suitable for ensuring that participants have sufficient experience to evaluate the constructs under investigation (Showkat & Parveen, 2017). The sample size follows recommended guidelines for Partial Least Squares Structural Equation Modeling (PLS-SEM), with a range of 100–200 respondents considered adequate to achieve statistical power and model stability (Kock & Hadaya, 2016).

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), a variance-based technique appropriate for examining complex causal relationships involving latent constructs. Compared to covariance-based SEM, PLS-SEM offers greater flexibility in handling non-normal data distributions and relatively small sample sizes, while emphasizing predictive accuracy. It enables the simultaneous assessment of measurement and structural models, thereby allowing for a comprehensive evaluation of both construct validity and hypothesized relationships.

Furthermore, PLS-SEM supports advanced analytical procedures such as bootstrapping for hypothesis testing and the examination of indirect (mediating) effects, which are central to this study. Its ability to model both direct and indirect relationships makes it particularly suitable for testing the proposed hypotheses (H1–H7), including the mediating role of overall perceived service quality. As widely recognized in the literature, PLS-SEM has become a robust and versatile analytical approach in contemporary research across business and social science disciplines (Memon et al., 2021).

D. RESULT AND DISCUSSION

1. Research Objective

Primary data was collected through a questionnaire that had been packaged in a Google Form that had been distributed to obtain respondents' assessments related to the questions contained in the questionnaire. The data that had been collected was then filtered for data processing needs and analyzed. Several analyzes or tests that researchers conducted on this data included Validity Test, Reliability Test, Inner Model Test, Hypothesis Tests: P-value, T-test.

In this study, the characteristics of respondents who could fill out the questionnaire were as follows: 1) Have used the Shopee application for shopping/transactions, at least in the last 3 months; 2) Aged > 17 years (assuming that at this age the respondent can assess services that are considered satisfactory); 3) Domiciled in Indonesia

In table 1 below, it explains that out of 133 respondents, there are 46 male respondents, and 87 female respondents, with an average age of over 17 years. The occupations of each respondent are different, consisting of students, office workers, entrepreneurs, housewives,

teachers, lecturers, retirees, architects, florists, fresh graduates, self-employed, and property agents. All respondents are domiciled in Indonesia, and have made purchases at Shopee. However, 16 respondents have not made purchases at Shopee in the last 3 months.

Table 1: Respondent Characteristics

Number	Characteristic	Description	Total	Percentage
1	Gender	Male	46	34.6%
		Female	87	65.4%
2	Age	> 17 years old	133	99.2%
3	Job	Student	69	51.9%
		Office worker	30	22.6%
		Entrepreneur	18	13.5%
		Housewife	6	4.5%
		Teacher	2	1.5%
		Lecturer	1	0.8%
		Retiree	3	2.3%
		Architect, Florist	1	0.8%
		Fresh-graduate	1	0.8%
		Self-employed	1	0.8%
		Property Agent	1	0.8%
3	Domicile	Indonesia	133	100%
		Outside Indonesia	0	
4	Ever shopped through the Shopee application?	Yes	133	100%
		No	0	0%
5	Ever purchased anything through Shopee Application on the last 3 months?	Yes	117	88%
		No	16	12%

Source: Processed data (2024)

2. Measurement Model (Outer Model)

The purpose of the outer model test is to assess the validity and reliability of the model. The following is the outer model of the current study.

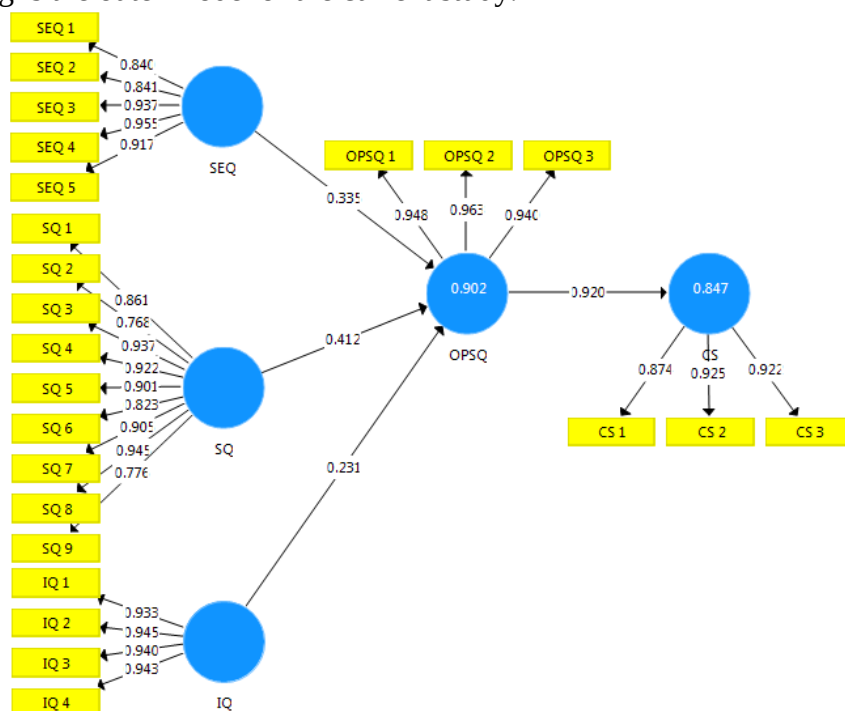


Figure 2 Outer Model SmartPLS 4.0

Source: Processed data (2024)

3. Convergent Validity Test

The first stage in conducting a validation test is to conduct a convergent validity test. A good convergent validity test is when the loading factor value has a value equal to or more than 0.7, then the outer loading value can be declared valid. The higher the outer loading value, indicates that there are many similarities between the relationships between the indicators, which are responded to by the construct (Maryono and Ghazali, 2017:716).

From Table 2, it can be seen that the results of the loading factor values of all indicators from all indicators are more than 0.7, so it can be stated that all indicators from all variables used are valid.

Table 2: Outer Loading Value

Variable	Indicator	Loading factor	Result
Service Quality	SEQ1	0.840	Valid
	SEQ2	0.841	Valid
	SEQ3	0.937	Valid
	SEQ4	0.955	Valid
	SEQ5	0.917	Valid
System Quality	SQ1	0.861	Valid
	SQ2	0.768	Valid
	SQ3	0.937	Valid
	SQ4	0.922	Valid
	SQ5	0.901	Valid
	SQ6	0.823	Valid
	SQ7	0.905	Valid
	SQ8	0.945	Valid
	SQ9	0.776	Valid
Information Quality	IQ1	0.933	Valid
	IQ2	0.945	Valid
	IQ3	0.940	Valid
	IQ4	0.943	Valid
Overall Perceived Service Quality	OPSQ1	0.948	Valid
	OPSQ2	0.963	Valid
	OPSQ3	0.940	Valid
Customer Satisfaction	CS1	0.874	Valid
	CS2	0.925	Valid
	CS3	0.922	Valid

Source: Processed data (2024)

In addition to looking at the outer loading or loading factor value, the convergent validity test can also be seen from the Average Variance Extracted (AVE) value. AVE is the grand mean value of the square of the loading of indicators related to the construct (Maryono and Ghazali, 2017:716). A good AVE value is if the value is more than 0.5, then it can be declared valid.

Based on the results in Table 3, it shows that the AVE value of all five variables exceeds 0.5, then it can be stated that all variables are valid.

Table 3: Average Variance Extracted Value

Variable	Nilai AVE	Result
Service Quality (SEQ)	0.809	Valid
System Quality (SQ)	0.763	Valid
Information Quality (IQ)	0.884	Valid
Overall Perceived Service Quality (OPSQ)	0.903	Valid
Customer Satisfaction (CS)	0.824	Valid

Source: Processed data (2024)

4. Discriminant Validity Test

Discriminant validity test is a testing technique used to ensure that a construct is unique in the sense that each concept of the latent model is different from other variables (Maryono and Ghazali, 2017:716). Discriminant validity can be tested or evaluated, namely the first through cross loading.

Table 4: Discriminant Validity Test – Cross Loading

	SEQ	SQ	IQ	OPSQ	CS
SEQ 1	0.840	0.764	0.696	0.753	0.707
SEQ 2	0.841	0.750	0.713	0.741	0.778
SEQ 3	0.937	0.868	0.841	0.871	0.851
SEQ 4	0.955	0.883	0.870	0.888	0.873
SEQ 5	0.917	0.867	0.866	0.869	0.851
SQ 1	0.826	0.861	0.825	0.837	0.797
SQ 2	0.667	0.768	0.651	0.686	0.635
SQ 3	0.870	0.937	0.880	0.890	0.849
SQ 4	0.850	0.922	0.858	0.880	0.839
SQ 5	0.783	0.901	0.785	0.799	0.749
SQ 6	0.732	0.823	0.788	0.788	0.813
SQ 7	0.838	0.905	0.814	0.807	0.790
SQ 8	0.912	0.945	0.912	0.905	0.889
SQ 9	0.728	0.776	0.730	0.715	0.702
IQ 1	0.803	0.838	0.933	0.843	0.835
IQ 2	0.831	0.871	0.945	0.839	0.839
IQ 3	0.867	0.888	0.940	0.870	0.848
IQ 4	0.845	0.885	0.943	0.871	0.840
OPSQ 1	0.878	0.881	0.858	0.948	0.894
OPSQ 2	0.894	0.906	0.884	0.963	0.890
OPSQ 3	0.848	0.876	0.852	0.940	0.839
CS 1	0.785	0.730	0.738	0.782	0.874
CS 2	0.849	0.864	0.841	0.846	0.925
CS 3	0.829	0.857	0.850	0.874	0.922

Source: Processed data (2024)

In addition, discriminant validity can also be tested or evaluated through Fornell-Larcker's Criterion. The data can be seen in Table 5

Table 5: Fornell-Larcker's Criterion

	Customer Satisfaction	Information Quality	Overall Perceived Service Quality	Service Quality	System Quality
Customer Satisfaction	0.908				
Information Quality	0.894	0.940			
Overall Perceived Service Quality	0.920	0.910	0.950		
Service Quality	0.905	0.890	0.919	0.899	
System Quality	0.903	0.926	0.934	0.921	0.873

Source: Processed data (2024)

5. Composite Reliability and Cronbach's Alpha

Reliability testing is done by measuring the extent to which the same object will produce the same data, or whether a test can produce consistent results. This is done to ensure that the results obtained are reliable and not influenced by other factors. Reliability testing can be done by looking at the results of composite reliability and Cronbach's Alpha. Where composite

reliability can be declared valid or reliable if it exceeds 0.7. While Cronbach's Alpha can be declared valid when it also exceeds 0.7.

In Table 6, it can be seen that the results of the composite reliability and Cronbach's Alpha tests on the five variables exceed 0.7, so they can be declared valid or reliable.

Table 6: Composite Reliability and Cronbach's Alpha

Variable	Cronbach's Coefficient Alpha	Composite Reliability	Result
Service Quality	0.940	0.955	Valid
System Quality	0.960	0.966	Valid
Information Quality	0.956	0.968	Valid
Overall Perceived Service Quality	0.946	0.965	Valid
Customer Satisfaction	0.893	0.933	Valid

Source: Processed data (2024)

6. Structural Model (Inner Model)

Evaluation of the Inner Structural Model was carried out to determine the relationship between variables in the research. To measure the inner model, there are several criteria consisting of R-square, F-square value, Predictive Relevance (Q²), and testing the hypothesis.

7. R-Square Test

From Table 7, it shows that the R-square result of the variable overall perceived service quality is 0.902, which means it has a strong significance level, which is above 0.75 (Hair et al., 2011). While the R-square result of the customer satisfaction variable shows a figure of 0.847, which means it also has a strong significance level.

Table 7: R-Square Results

Indicator	R ²	R ² Adjusted	Significance Level
Overall Perceived Service Quality	0.902	0.900	Strong
Customer Satisfaction	0.847	0.846	Strong

Source: Processed data (2024)

8. Model Fit Test Results

From the results of Table 4.14, it shows that the Standardized Root Mean Square (SRMR) value <0.08, namely 0.044, which means that this research model is fit or reliable.

Table 8: Model Fit Results

	Saturated Model	Estimated Model
SRMR	0.044	0.047
d_ULS	0.577	0.666
d_G	0.992	1.038
Chi-Square	599.204	616.457
NFI	0.857	0.853

Source: Processed data (2024)

9. Hypothesis Test

Hypothesis testing is used to see whether a hypothesis or statement about a variable or its relationship can be accepted or rejected. Because this study tests a mediation model, what is tested is not only its direct effect, but also its indirect effect. In order for the hypothesis to be said to be accepted, the t-statistic value must be >1.96 and the p-values must be <0.05 (Harahap and Ferine, 2023)

Table 9: Hypothesis Test (Direct Effect)

Hypothesis	Original Sample (O)	Standard Deviation (STDEV)	T-Statistic (O/STDEV)	P-Values
SEQ -> OPSQ	0.335	0.073	4.575	0.000
SQ -> OPSQ	0.412	0.107	3.837	0.000
IQ -> OPSQ	0.231	0.095	2.427	0.016
OPSQ -> CS	0.920	0.016	56.116	0.000

Source: Processed data (2024)

Table 10: Hypothesis Test (Indirect Effect)

Hypothesis	Original Sample (O)	Standard Deviation (STDEV)	T-Statistic (O/STDEV)	P-Values
SEQ -> OPSQ -> CS	0.308	0.068	4.512	0.000
SQ -> OPSQ -> CS	0.379	0.098	3.848	0.000
IQ -> OPSQ -> CS	0.213	0.088	2.425	0.016

Source: Processed data (2025)

Table 10 presents the results of the hypothesis testing, demonstrating that all proposed relationships are statistically significant. First, service quality exhibits a positive and significant effect on overall perceived service quality, as indicated by a path coefficient of 0.381, a T-statistic of 4.100 (exceeding the threshold of 1.96), and a P-value of 0.000 (below 0.05). This finding supports the acceptance of H₁. Second, system quality also shows a positive and significant effect on overall perceived service quality, with a coefficient of 0.544, a T-statistic of 5.928, and a P-value of 0.000. These results confirm the acceptance of H₂. Third, information quality is found to have a positive and significant effect on overall perceived service quality, as reflected by a coefficient of 0.340, a T-statistic of 3.399, and a P-value of 0.001. Accordingly, H₃ is accepted.

Furthermore, overall perceived service quality has a positive and significant direct effect on customer satisfaction, with a coefficient of 0.276, a T-statistic of 2.704, and a P-value of 0.007. This result supports H₄. In addition to direct effects, the mediation analysis reveals that overall perceived service quality plays a significant mediating role. Specifically, it mediates the relationship between service quality and customer satisfaction, as indicated by a coefficient of 0.295, a T-statistic of 2.381, and a P-value of 0.018, leading to the acceptance of H₅.

Similarly, overall perceived service quality significantly mediates the relationship between system quality and customer satisfaction, with a mediated coefficient of 0.130, a T-statistic of 2.658, and a P-value of 0.008. Thus, H₆ is accepted. Finally, the mediating role of overall perceived service quality is also confirmed in the relationship between information quality and customer satisfaction, as evidenced by a coefficient of 0.185, a T-statistic of 2.736, and a P-value of 0.006. Therefore, H₇ is accepted.

10. Discussion

The findings of this study indicate that Hypothesis 1, which states that service quality has a positive effect on overall perceived service quality, is accepted. This suggests that the higher the quality of service provided by Shopee, the higher the overall perceived service quality, and vice versa. In practical terms, improvements in service attributes such as responsiveness, reliability, and alignment with user expectations contribute significantly to shaping users' overall evaluations. This result is consistent with prior studies, such as Phuong and Trang (2018), which highlighted that service quality strongly impacts overall perceived service quality. Similarly, Ali et al. (2021) found that service quality significantly influences both

perceived service quality and customer satisfaction, reinforcing the importance of service performance in digital environments.

Building on this, the findings also confirm that Hypothesis 2, which states that system quality has a positive effect on overall perceived service quality, is accepted. This implies that the higher the quality of the system provided by Shopee, the higher the overall perceived service quality, and vice versa. The statistical results indicate that system quality has a significant influence on overall perceived service quality, suggesting that aspects such as usability, responsiveness, and system reliability play a crucial role in shaping user perceptions. These findings are consistent with the research of Phuong and Trang (2018), who identified system quality as a key determinant of overall perceived service quality. Likewise, Kim and Lee (2014) demonstrated that system quality significantly influences the benefits perceived by customers, which ultimately affects overall service evaluation.

Extending this perspective, the results further confirm that Hypothesis 3, which states that information quality has a positive effect on overall perceived service quality, is accepted. This indicates that the higher the quality of information provided by Shopee, the higher the overall perceived service quality, and vice versa. The statistical findings highlight that information quality significantly affects overall perceived service quality, emphasizing the importance of accurate, relevant, timely, and complete information in reducing uncertainty and enhancing user confidence. These findings are supported by Patma et al. (2021), who found that information quality significantly affects perceived service quality and subsequently customer satisfaction. Similarly, Nirwanto and Andarwati (2019) reported that information quality plays a critical role in shaping users' overall evaluation of service quality.

Turning to the outcome variable, the findings confirm that Hypothesis 4, which states that overall perceived service quality has a positive effect on customer satisfaction, is accepted. This suggests that the higher the overall perceived service quality provided by Shopee, the higher the level of customer satisfaction, and vice versa. The statistical results demonstrate that overall perceived service quality has a significant positive effect on customer satisfaction, indicating that users' cumulative evaluation of service quality plays a decisive role in determining satisfaction levels. These findings are consistent with Phuong and Trang (2018), who found that perceived service quality significantly influences customer satisfaction. Similarly, Ge et al. (2021) emphasized that perceived service quality is a key determinant of customer satisfaction and behavioral intentions.

Beyond the direct relationships, the analysis also demonstrates that Hypothesis 5, which states that overall perceived service quality has a positive effect in mediating the relationship between service quality and customer satisfaction, is accepted. This implies that the higher the quality of service provided by Shopee, the higher the overall perceived service quality, and ultimately the higher the level of customer satisfaction. The findings indicate that overall perceived service quality plays a significant mediating role, suggesting that the effect of service quality on customer satisfaction operates not only directly but also indirectly through users' overall perceptions. These results are consistent with Phuong and Trang (2018), as well as Hapsari et al. (2016) and Cheng and Rashid (2013), who emphasized the dual role of perceived service quality as both a direct determinant and a mediating mechanism.

In a similar vein, the findings reveal that Hypothesis 6, which states that overall perceived service quality has a positive effect in mediating the relationship between system quality and customer satisfaction, is accepted. This indicates that the higher the quality of the system provided by Shopee, the higher the overall perceived service quality, and ultimately the higher the level of customer satisfaction. The statistical evidence confirms that overall perceived service quality significantly mediates this relationship, suggesting that the influence of system

quality on satisfaction is transmitted through users' holistic evaluation of the service. These findings are in line with Kumar and Lata (2021), who demonstrated that service-related perceptions can act as a mediator between system quality and customer satisfaction.

Finally, the findings show that Hypothesis 7, which states that overall perceived service quality has a positive effect in mediating the relationship between information quality and customer satisfaction, is accepted. This indicates that the higher the quality of information provided by Shopee, the higher the overall perceived service quality, and ultimately the higher the level of customer satisfaction. The results confirm that overall perceived service quality plays a significant mediating role in this relationship, suggesting that information quality influences customer satisfaction primarily through its impact on users' overall perception of service quality. This result is consistent with Henseler et al. (2015), as well as Patma et al. (2021), who found that perceived service quality mediates the relationship between information quality and customer satisfaction in digital service contexts.

Overall, these findings highlight that service quality, system quality, and information quality do not operate independently, but collectively influence customer satisfaction through overall perceived service quality as a central mediating mechanism. This integrated perspective provides a more comprehensive understanding of how user perceptions are formed and how they translate into satisfaction in digital platform environments.

E. CONCLUSIONS AND RECOMMENDATIONS

This study examines the influence of service quality, system quality, and information quality on customer satisfaction, with overall perceived service quality acting as a mediating variable. Data were collected through a questionnaire-based survey and analyzed using SmartPLS 4.0. The findings indicate that service quality has a significant effect on overall perceived service quality, suggesting that factors such as application smoothness, responsiveness, security, alignment with user needs, and company image play an important role in shaping user perceptions. Similarly, system quality significantly influences overall perceived service quality, highlighting the importance of user-friendly design, system responsiveness, reliability, accessibility, and error-free performance. In addition, information quality is also found to have a significant effect, emphasizing that accurate, relevant, up-to-date, and comprehensive information contributes to better overall service evaluations.

Furthermore, overall perceived service quality significantly affects customer satisfaction, indicating that users' holistic evaluations of service—such as responsiveness, reliability, and trustworthiness—are key determinants of satisfaction. The results also confirm that overall perceived service quality positively mediates the relationships between service quality, system quality, and information quality and customer satisfaction. This implies that improvements in these dimensions enhance overall perceptions, which subsequently lead to higher satisfaction levels.

Despite these contributions, several limitations should be acknowledged. First, the availability of literature specifically addressing perceived service quality is relatively limited, requiring additional effort to identify relevant sources. Second, the researcher has limited control over the accuracy of respondents' answers, as it cannot be fully ensured whether responses reflect actual experiences or are provided randomly.

Based on these limitations, several recommendations are proposed. Academically, future research is encouraged to explore more comprehensive literature and consider incorporating alternative or additional variables, such as customer loyalty, to enrich the research model. Practically, Shopee is advised to improve service quality by enhancing customer support responsiveness, optimize system quality by increasing application stability and reducing errors,

and strengthen information quality by ensuring accuracy and completeness. Additionally, improving overall perceived service quality through better feature alignment and reducing waiting time, as well as enhancing delivery speed and real-time notifications, can further increase customer satisfaction.

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