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Analysis of the Gap in E-Commerce Service Quality on the Shopee Platform Using the E-Servqual Dimensions with the Servqual Method and Importance-Performance Analysis (IPA)

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Abstract

The rapid development of e-commerce in Indonesia has intensified competition among platforms, including Shopee, which continues to face various service-related challenges that may create gaps between users' perceptions and expectations. This study aimed to analyze the electronic service quality (e-service quality) of the Shopee platform using the E-S-QUAL framework and Importance–Performance Analysis (IPA) to measure service quality gaps and identify priority areas for improvement. The results showed a grand mean perception score of 4.19 and a grand mean expectation score of 4.70, resulting in an average SERVQUAL gap of −0.51, indicating that service performance had not fully met user expectations. The largest gaps were identified in promotional price consistency (P7; gap = −0.93), access to customer service (CS) communication channels (P20; gap = −0.75), and problem resolution by customer service (P12; gap = −0.73). Based on the dimensional analysis, the Contact and Fulfillment dimensions required the greatest attention for improvement. Meanwhile, the IPA matrix placed indicators P5 (free shipping), P10 (clear product descriptions), P14 (personal data protection), and P20 (access to customer service communication channels) in Quadrant I, indicating that these indicators represented the most urgent priorities for service improvement.

INTRODUCTION

The development of information technology has brought significant changes to various aspects of daily life, including economic and commercial activities. The internet is no longer used solely as a means of obtaining information but has also become an important component of business activities through the implementation of e-business and e-commerce. The presence of e-commerce enables consumers to search for products, conduct transactions, select payment methods, and obtain services without visiting physical stores. This convenience has increased the popularity of e-commerce because it offers greater efficiency, convenience, and flexibility throughout the purchasing process. In Indonesia, the development of e-commerce has accelerated alongside the increasing use of the internet and digital devices in everyday life (Agia & Nurjannah, 2022).

The growth of e-commerce in Indonesia is reflected in the increasing volume and value of digital trade transactions. According to the e-Conomy SEA 2025 report, the gross merchandise value (GMV) of Indonesia's e-commerce sector was estimated to reach USD 71 billion, or approximately IDR 1,187 trillion, representing a 14% increase compared with USD 65 billion in the previous year. This growth indicates increasing public participation in online

purchasing activities. In addition, the e-commerce seller and merchant ecosystem has continued to expand, demonstrating that digital commerce has become an important component of Indonesia's economic activities. This development has intensified competition among e-commerce platforms, requiring companies to provide services that are capable of meeting consumers' needs and expectations.

One of the e-commerce platforms with a large user base in Indonesia is Shopee. Based on a 2025 survey conducted by the Indonesian Internet Service Providers Association (APJII), Shopee was the most frequently accessed e-commerce platform in Indonesia, accounting for 53.22% of users, followed by TikTok Shop at 27.37%, Tokopedia at 9.57%, and Lazada at 9.09%. Shopee's high level of usage is supported by various features and services, including convenient product searches, multiple payment methods, promotional programs, free-shipping offers, delivery services, and customer service. The large number of users indicates that Shopee's service quality is an important aspect that requires continuous attention because consumers' experiences may influence their satisfaction and trust when conducting transactions.

Despite its high level of usage, e-commerce services continue to face various challenges. Consumers may encounter delayed customer service responses, inconsistencies in product information or descriptions, payment-related problems, delivery delays, difficulties in returning goods or obtaining refunds, and obstacles when submitting complaints. These issues demonstrate that the popularity of an e-commerce platform does not necessarily indicate that all aspects of its service meet consumer expectations. Differences between expected service and perceived service may create service quality gaps that can ultimately influence consumer satisfaction and trust in the platform.

Therefore, service quality needs to be assessed by comparing consumer expectations with perceived performance. One approach used for this purpose is electronic service quality (E-S-QUAL), which evaluates electronic service quality through dimensions related to efficiency, fulfillment, system availability, and privacy. In broader electronic service recovery contexts, dimensions such as responsiveness, compensation, and contact are also commonly examined. These dimensions capture various aspects of the consumer experience when using Shopee, including application usability, service fulfillment, system reliability, data protection, responsiveness, compensation, and access to service providers.

In this study, the SERVQUAL method was employed to measure the gap between consumers' expectations and perceptions of Shopee's service quality. The gap was calculated by subtracting the expectation score from the perception score; a negative gap indicated that perceived service had not met consumer expectations, whereas a positive gap indicated that perceived service had exceeded expectations (Tjiptono, 2020). Furthermore, Importance–Performance Analysis (IPA) was applied to determine improvement priorities by mapping service attributes according to their perceived importance and performance (Damayanti & Palupi, 2023). This combined analytical approach enabled the identification of attributes requiring immediate attention, those that should be maintained, and those considered lower priorities. By integrating SERVQUAL and IPA, the study provided a systematic framework for evaluating service quality and identifying areas for improvement.

Based on this background, the study was conducted to analyze Shopee's service quality based on consumer expectations and perceptions and to identify service gaps across individual

attributes. The study also aimed to prioritize service quality improvements using Importance–Performance Analysis (IPA). The findings were expected to provide a comprehensive overview of Shopee's service quality from the consumer perspective and to support service evaluation, particularly for attributes characterized by substantial gaps and high levels of importance. The study focused on Shopee users in Indonesia who had completed at least one transaction using a personal account and were at least 17 years old. Service quality was assessed using electronic service quality dimensions, with data obtained from primary and secondary sources. This scope was intended to ensure that the findings were relevant to improving the user experience on the Shopee platform.

Based on this background, the research problem concerned the gap between users' expectations of desired service quality and their perceptions of the service quality received on the Shopee e-commerce platform.

The study was limited to Shopee users in Indonesia who had completed at least one transaction using a personal account and were at least 17 years old. Service quality was assessed using dimensions related to efficiency, fulfillment, reliability, privacy, responsiveness, compensation, and contact. The data consisted of primary data collected through questionnaires and secondary data obtained from journals, books, previous studies, and relevant official sources. The study focused on service quality in the use of the Shopee application and did not address the company's broader business strategy.

The study assumed that respondents understood and were able to assess Shopee's service quality based on their personal experiences of using the application and conducting transactions. Respondents were also assumed to provide honest responses based on their actual experiences and perceptions. In addition, the questionnaire was assumed to adequately represent Shopee's service quality through the indicators used in the study, while service conditions during the research period were assumed to remain sufficiently stable to support consistent respondent assessments.

This study aimed to measure the gap between consumers' expectations and perceptions of Shopee's service quality, analyze service quality across the selected electronic service quality dimensions, and determine priorities for service improvement using Importance–Performance Analysis (IPA).

Theoretically, this study was expected to contribute to the literature on service quality management, particularly regarding the application of electronic service quality, SERVQUAL, and IPA in evaluating service quality on e-commerce platforms. Practically, the study was expected to provide Shopee with information regarding service quality based on consumers' expectations and perceptions. The findings could support the identification of service attributes that should be maintained and those that require priority improvement.

METHOD

Research Location and Time

The study was conducted by distributing questionnaires to users who had made purchases through the Shopee application. Data were collected in March 2026 until the required sample size was achieved.

Determination of Number of Respondents

The research population is users of the Shopee application. The sample count was

determined using the Slovin formula with an error rate of 10%. Based on APJII 2025 data, an estimated Shopee user population of 18,244,695 people is obtained. The calculation using the Slovin formula resulted in a sample of 99.99 so that it was rounded up to 100 respondents.

Variable Identification

The study used two main variables, namely:

1. Expectation, which is the level of service expected by consumers when making transactions through Shopee.
2. Perception, which is a consumer's assessment of the services received when making transactions through Shopee.

E-Servqual Dimensions and Indicators

Service quality is measured using seven dimensions of E-Service Quality (E-Servqual), namely Efficiency, Fulfillment, Reliability, Privacy, Responsiveness, Compensation, and Contact. The seven dimensions are described into 20 indicators that are used as the basis for the preparation of the questionnaire.

Table 1. E-Servqual Dimensions and Indicators

No.	Dimensions	Number of Indicators
1	*Efficiency*	4
2	*Fulfillment*	4
3	*Reliability*	4
4	*Privacy*	3
5	*Responsiveness*	2
6	*Compensation*	2
7	*Contact* (Contact)	1
Total		20

Data Collection

The data used consists of primary data and secondary data. Primary data was obtained through the distribution of online questionnaires to respondents who had made purchases through Shopee at least once. Secondary data was obtained from books, journals, previous research, and online sources relevant to the research.

The questionnaire was compiled based on 20 E-Servqual indicators and was used to measure respondents' expectations and perceptions. The assessment is carried out using the Likert scale.

Research Steps

The research begins with a field study and a literature study to identify problems and determine research theories and indicators. Furthermore, problem formulation was carried out, determination of the seven dimensions of E-Servqual and 20 indicators, preparation and distribution of questionnaires to a minimum of 100 Shopee user respondents, then a data adequacy and feasibility test was carried out. The data was analyzed using the SERVQUAL method to calculate the gap between perception and expectations with the formula Gap = P − E, then continued with the Importance Performance Analysis (IPA) method to determine the priority of service improvement. The results of the analysis are discussed to obtain conclusions and suggestions as recommendations for improving the quality of Shopee's services.

RESULTS AND DISCUSSION

Data Processing

Data processing is a stage that contains data that is processed systematically. The data that has been collected through the data collection process will be processed using the SERVQUAL method and importance performance analysis to find out the gap between user expectations of the desired quality and user perception of the quality of services received on the Shopee platform.

Data Testing

After recapitulating respondent data, tests were carried out on the data in the form of Data Adequacy Test, Validity Test, and Reliability Test as follows.**Data Sufficiency Test**

The respondent population in this study is Shopee application users, while the sample is part of the number and characteristics possessed by the population. In this study, the Slovin formula was used:

$$n = N / (1 + N(e)^2) \quad (3.1)$$

Where: n = number of samples; N = total population; e = error tolerance limit (10%).

Based on the APJII 2025 survey, around 53.22% of Indonesian internet users access Shopee as an online shopping platform, and internet usage for online transactions (e-commerce) is 14.95%. The calculation is carried out using the following approach:

1. Indonesia's internet user population ± 229,428,417 people
2. E-commerce users = 14.95%
   N = 229,428,417 × 14.95% = 34,292,549 e-commerce users
3. Shopee e-commerce users = 53.22%
   N = 34,292,549 × 53.22% = 18,244,695

   With a tolerance limit of 10% (0.1):

   n = 18,244,695 / (1 + 18,244,695 × (0.1)²) = 18,244,695 / (1 + 182,446) = 99.99

   So, the minimum sample number required is ± 100 respondents.

Respondent Analysis

To provide an overview of the characteristics of the research subjects, a descriptive analysis was carried out on respondent identity data obtained from the distribution of the questionnaire. The characteristics of the respondents analyzed in this study included age and gender.

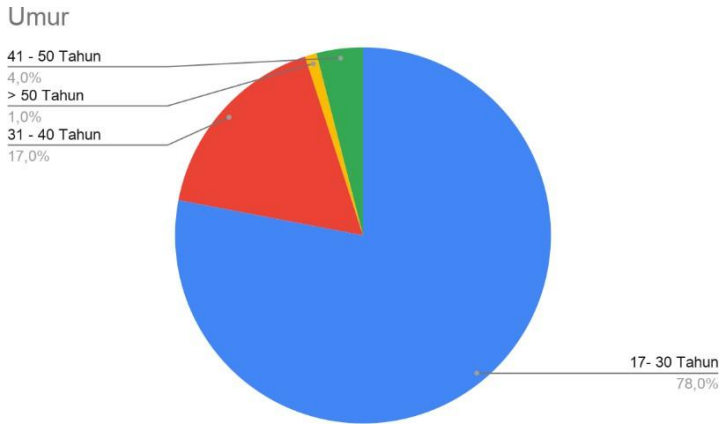

Figure 1. Respondent Age Range (Source: Excel Data Processing, 2026)

Based on Figure 1, it can be seen that the majority of respondents are in the age range of 17–30 years (most of the sample percentage). Respondents with the age group of 31–40 years contributed 17.0%, followed by the age group of 41–50 years old at 4.0%, and the age group of > 50 years at 1.0%. This shows that the target demographic of users/customers is dominated by the young productive age group (young adults), who tend to be more active, adaptive to service/technology developments, and have high flexibility in assessing the services received.

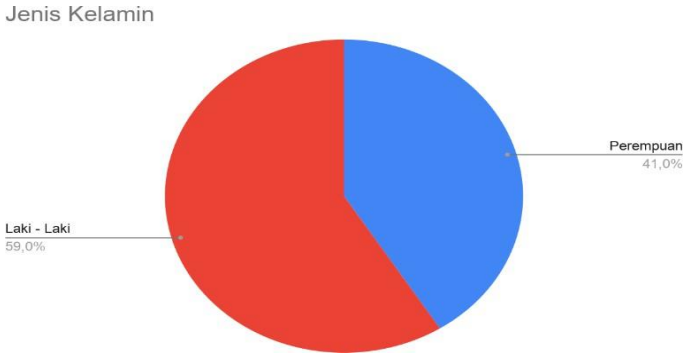

Figure 2. Respondent Gender (Source: Excel Data Processing, 2026)

Based on Figure 2, the distribution of respondents by gender shows that the study sample includes both male and female groups. Male respondents tend to be more dominant than female respondents, with a percentage of 59%. This composition shows that the perception and assessment of the performance and expectations of the studied services represent the perspectives of both gender groups, so that the results of the subsequent SERVQUAL and IPA analyses have adequate objectivity.

Validity Test

The validity test was carried out with the help of IBM SPSS Statistics 22 software. With a total of 100 respondents, it was obtained: N = 100; α = 0,05; r-table = 0.197. Here are the results of the validity test.

Table 2. Expectation Level Validity Test Results

Indicator	Attributes	R Count	R Table	Results
P1	The application interface is easy to understand (Pranitasari and Sidqi, 2021).	0,658	0,197	Valid
P2	Payments are made easily and quickly (Jeehad et al., 2022).	0,544	0,197	Valid
P3	The search and category features are easy to use (Pranitasari and Sidqi, 2021).	0,757	0,197	Valid
P4	Shopee's features are very complete (Pranitasari and Sidqi, 2021).	0,713	0,197	Valid
P5	Provision of free shipping (Pranitasari and Sidqi, 2021).	0,726	0,197	Valid
P6	Always provide promo offers (Pranitasari and Sidqi, 2021).	0,658	0,197	Valid
P7	The promo price offered is appropriate when making the payment (Pranitasari and Sidqi, 2021).	0,607	0,197	Valid
P8	The products received corresponded to the description (Pranitasari and Sidqi, 2021).	0,819	0,197	Valid
P9	The system works well (Pranitasari and Sidqi, 2021).	0,727	0,197	Valid
P10	The product description is clearly displayed (Jeehad et al., 2022).	0,785	0,197	Valid
P11	It is easy to make transactions because there are many choices of payment methods (Pranitasari and Sidqi, 2021).	0,724	0,197	Valid
P12	Shopee's CS can solve transaction problems well	0,798	0,197	Valid

Indicator	Attributes	R Count	R Table	Results
	(Pranitasari and Sidqi, 2021).			
P13	The payment system feels secure (Pranitasari and Sidqi, 2021).	0,666	0,197	Valid
P14	Personal data is well protected (Pranitasari and Sidqi, 2021).	0,719	0,197	Valid
P15	It is easy to delete an account (Pranitasari and Sidqi, 2021).	0,622	0,197	Valid
P16	Customer service for the Shopee application is fast in responding to calls (Pranitasari and Sidqi, 2021).	0,755	0,197	Valid
P17	Shopee removed stores that were not actively selling (Pranitasari and Sidqi, 2021).	0,509	0,197	Valid
P18	The Shopee application provides a 100% refund guarantee if the transaction fails (Pranitasari and Sidqi, 2021).	0,665	0,197	Valid
P19	Shopee offers returns if the goods that arrive are not suitable or damaged (Pranitasari and Sidqi, 2021).	0,710	0,197	Valid
P20	Shopee provides customers with communication access (phone, email, and others) to address customer shopping complaints (Pranitasari and Sidqi, 2021).	0,781	0,197	Valid

Data Processing Sources 2026

Based on Table 2, all attributes listed on the E-SERVQUAL questionnaire are declared valid with r-count. This is in accordance with the validity test criteria, i.e. the attribute is said to be valid if r-calculates ≥ r-table.

Table 3. Results of the Perception Level Validity Test

Indicator	Attributes	R Count	R Table	Results
P1	The application interface is easy to understand (Pranitasari and Sidqi, 2021).	0,479	0,197	Valid
P2	Payments are made easily and quickly (Jeehad et al., 2022).	0,589	0,197	Valid
P3	The search and category features are easy to use (Pranitasari and Sidqi, 2021).	0,420	0,197	Valid
P4	Shopee's features are very complete (Pranitasari and Sidqi, 2021).	0,627	0,197	Valid
P5	Provision of free shipping (Pranitasari and Sidqi, 2021).	0,329	0,197	Valid
P6	Always provide promo offers (Pranitasari and Sidqi, 2021).	0,446	0,197	Valid
P7	The promo price offered is appropriate when making the payment (Pranitasari and Sidqi, 2021).	0,727	0,197	Valid
P8	The products received corresponded to the description (Pranitasari and Sidqi, 2021).	0,695	0,197	Valid
P9	The system works well (Pranitasari and Sidqi, 2021).	0,667	0,197	Valid
P10	The product description is clearly displayed (Jeehad et al., 2022).	0,781	0,197	Valid
P11	It is easy to make transactions because there are many choices of payment methods (Pranitasari and Sidqi, 2021).	0,548	0,197	Valid
P12	Shopee's CS can solve transaction problems well (Pranitasari and Sidqi, 2021).	0,817	0,197	Valid
P13	The payment system feels secure (Pranitasari and Sidqi, 2021).	0,685	0,197	Valid
P14	Personal data is well protected (Pranitasari and Sidqi, 2021).	0,672	0,197	Valid
P15	It is easy to delete an account (Pranitasari and Sidqi, 2021).	0,502	0,197	Valid
P16	Customer service for the Shopee application is fast in responding to calls (Pranitasari and Sidqi, 2021).	0,772	0,197	Valid
P17	Shopee removed stores that were not actively selling (Pranitasari and Sidqi, 2021).	0,558	0,197	Valid
P18	The Shopee application provides a 100% refund guarantee if the transaction fails (Pranitasari and Sidqi, 2021).	0,552	0,197	Valid
P19	Shopee offers returns if the goods that arrive are not suitable or damaged (Pranitasari and Sidqi, 2021).	0,648	0,197	Valid

Indicator	Attributes	R Count	R Table	Results
P20	Shopee provides customers with communication access (phone, email, and others) to address customer shopping complaints (Pranitasari and Sidqi, 2021).	0,799	0,197	Valid

Data Processing Sources 2026

Based on Table 3, all attributes listed on the E-SERVQUAL perception questionnaire are declared valid with r-calculus. This is in accordance with the validity test criteria, i.e. the attribute is said to be valid if r-calculates ≥ r-table.

Reliability Test

Table 4. Reliability Test Results Expected Level

Case Processing Summary

Cases	Keterangan	N	%
Cases	Valid	100	100.0
	Excluded[a]	0	.0
	Total	100	100.0

Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.941	20

Based on Table 4, the results of the reliability test at the expected level with a total of 100 respondents and a total of 20 attributes have a value of Cronbach's Alpha ≥ r-table. Cronbach's Alpha is 0.941 with an r-table of 0.197, so the data is declared reliable or consistent.

Table 5. Perception Level Reliability Test Results

Case Processing Summary

Cases	Keterangan	N	%
Cases	Valid	100	100.0
	Excluded[a]	0	.0
	Total	100	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.914	20

Based on Table 5, the results of the reliability test at the perception level with a total of 100 respondents and a total of 20 attributes have a Cronbach's Alpha ≥ r-table value. Cronbach's Alpha is 0.914 with an r-table of 0.197, so the data is declared reliable or consistent.

E-SERVQUAL Calculation

After testing the questionnaire and all attributes were declared valid and reliable, then an analysis was carried out using the E-SERVQUAL approach, which calculates the gap between the level of perception and the level of user expectations.

Calculation of E-SERVQUAL Perception Questionnaire Results

The gap value in the E-SERVQUAL method was obtained from the average results of the perception level questionnaire. Example calculation for the P1 attribute:

$$\overline{P}_1 = \Sigma P_1 / n = 437 / 100 = 4.37$$

Remarks: $\overline{P}_1$ = the average value of the level of perception P1; ΣP_1 = total perceived value

of P1; n = number of respondents.

Table 6. Average Score of Perception E-SERVQUAL Questionnaire Results

Code	Indicator	Average Perception
P1	The app interface is easy to understand	4,37
P2	Payments are made easily and quickly	4,57
P3	Easy-to-use search and category features	4,32
P4	Shopee's features are very complete	4,49
P5	Free shipping	4,04
P6	Always provide promo offers	4,25
P7	The promo price offered is appropriate when making the payment	3,76
P8	Products received according to the description	4,11
P9	The system works well	4,22
P10	Product descriptions are clearly displayed	4,06
P11	Easy to make transactions with a wide selection of payment methods	4,61
P12	Shopee CS can solve transaction problems well	3,83
P13	The payment system feels secure	4,44
P14	Personal data is well protected	4,14
P15	Easy to delete accounts	4,40
P16	Shopee application customer service is fast in responding to calls	3,94
P17	Shopee removes stores that are not actively selling	3,93
P18	The Shopee app provides a 100% refund guarantee if the transaction fails	4,18
P19	Shopee offers returns if the incoming item is not suitable or damaged	4,15
P20	Shopee provides communication access (phone, email, etc.) to address customer complaints	4,01

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Calculation of Results of the E-SERVQUAL Questionnaire Hope

The gap value also requires the average results of the expectation level questionnaire. Example calculation for the P1 attribute:

$$\bar{H}_1 = \Sigma H_1 / n = 480 / 100 = 4.80$$

Remarks: $\bar{H}_1$ = the average value of the expectation level P1; ΣH_1 = total expected value P1; n = number of respondents.

Table 7. Average Score of Expectations e-SERVQUAL Questionnaire Results

Code	Indicator	Average Expectations
P1	The app interface is easy to understand	4,80
P2	Payments are made easily and quickly	4,84
P3	Easy-to-use search and category features	4,64
P4	Shopee's features are very complete	4,78
P5	Free shipping	4,75
P6	Always provide promo offers	4,72
P7	The promo price offered is appropriate when making the payment	4,69
P8	Products received according to the description	4,63
P9	The system works well	4,75
P10	Product descriptions are clearly displayed	4,73
P11	Easy to make transactions with a wide selection of payment methods	4,78
P12	Shopee CS can solve transaction problems well	4,56
P13	The payment system feels secure	4,73
P14	Personal data is well protected	4,75
P15	Easy to delete accounts	4,68
P16	Shopee application customer service is fast in responding to calls	4,52
P17	Shopee removes stores that are not actively selling	4,63
P18	The Shopee app provides a 100% refund guarantee if the transaction fails	4,65

Code	Indicator	Average Expectations
P19	Shopee offers returns if the incoming item is not suitable or damaged	4,67
P20	Shopee provides communication access (phone, email, etc.) to address customer complaints	4,76

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Attribute Gap Calculation Analysis

The gap value is calculated by the formula: Gap = Average Perception − Average Expectation. Example for P1:

$$\text{E-SERVQUAL P1} = \bar{P}_1 - \bar{H}_1 = 4.37 - 4.80 = -0.43$$

Table 8. Calculation of E-SERVQUAL (Gap) Value of Each Attribute

Code	Average Perception	Average Expectations	Gap
P1	4,37	4,80	-0,43
P2	4,57	4,84	-0,27
P3	4,32	4,64	-0,32
P4	4,49	4,78	-0,29
P5	4,04	4,75	-0,71
P6	4,25	4,72	-0,47
P7	3,76	4,69	-0,93
P8	4,11	4,63	-0,52
P9	4,22	4,75	-0,53
P10	4,06	4,73	-0,67
P11	4,61	4,78	-0,17
P12	3,83	4,56	-0,73
P13	4,44	4,73	-0,29
P14	4,14	4,75	-0,61
P15	4,40	4,68	-0,28
P16	3,94	4,52	-0,58
P17	3,93	4,63	-0,70
P18	4,18	4,65	-0,47
P19	4,15	4,67	-0,52
P20	4,01	4,76	-0,75

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All 20 attributes resulted in a negative gap value, which means that in all aspects measured, there is still a gap between the perceived service and the service expected by the user. The largest gap is found in P7 regarding the suitability of the promo price at checkout (perception 3.76; expectation 4.69; gap −0.93; suitability rate 80.17%), so this aspect is the main priority for improvement. The smallest gap is found in P11 regarding ease of transaction due to the large choice of payment methods (perception 4.61; expectation 4.78; gap −0.17; suitability rate 96.44%), which means that this aspect is closest to the user's expectations. Other attributes are spread between the two values with gaps ranging from −0.27 to −0.75, as detailed in Table 8.

Table 9. Ranking of E-SERVQUAL Values

Code	Indicator	Gap	Rank
P7	The promo price offered is appropriate when making the payment	-0,93	1
P20	Shopee provides communication access (phone, email, etc.) to address customer complaints	-0,75	2
P12	Shopee CS can solve transaction problems well	-0,73	3

Code	Indicator	Gap	Rank
P5	Free shipping	-0,71	4
P17	Shopee removes stores that are not actively selling	-0,70	5
P10	Product descriptions are clearly displayed	-0,67	6
P14	Personal data is well protected	-0,61	7
P16	Shopee application customer service is fast in responding to calls	-0,58	8
P9	The system works well	-0,53	9
P8	Products received according to the description	-0,52	10
P19	Shopee offers returns if the incoming item is not suitable or damaged	-0,52	11
P6	Always provide promo offers	-0,47	12
P18	The Shopee app provides a 100% refund guarantee if the transaction fails	-0,47	13
P1	The app interface is easy to understand	-0,43	14
P3	Easy-to-use search and category features	-0,32	15
P4	Shopee's features are very complete	-0,29	16
P13	The payment system feels secure	-0,29	17
P15	Easy to delete accounts	-0,28	18
P2	Payments are made easily and quickly	-0,27	19
P11	Easy to make transactions with a wide selection of payment methods	-0,17	20

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Based on Table 9, all 20 attributes require improvement and improvement of service quality because their values are negative. However, the top priority is given to the attributes with the largest to smallest negative gap values.

Dimension Gap Calculation

After obtaining the average value of perception and expectations per attribute, the E-Service Quality gap value for each dimension is then calculated to find out which dimensions need to be prioritized in improving service quality.

Table 10. Calculation of E-SERVQUAL (Gap) Value of Each Dimension

Dimensions	Average Perception	Average Expectations	Gap
Efficiency	4,4375	4,7650	-0,3275
Fulfillment	4,0400	4,6975	-0,6575
Reliability	4,1800	4,7050	-0,5250
Privacy	4,3267	4,7200	-0,3933
Responsiveness (Daya Tanggap)	3,9350	4,5750	-0,6400
Compensation	4,1650	4,6600	-0,4950
Contact (Contact)	4,0100	4,7600	-0,7500

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The seven dimensions — efficiency, fulfillment, reliability, privacy, responsiveness, compensation, and contact — are all negative gaps, so they are all priorities for improving service quality.

Table 11. Ranking of E-SERVQUAL Values for Each Dimension

Dimensions	Gap	Rank
Contact (Contact)	-0,75	1
Fulfillment	-0,6575	2
Responsiveness (Daya Tanggap)	-0,64	3
Reliability	-0,525	4
Compensation	-0,495	5
Privacy	-0,3933	6
Efficiency	-0,3275	7

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The Contact dimension occupies the lowest gap position (−0.75) so it is the top priority for improvement, followed by Fulfillment, Responsiveness, Reliability, Compensation, Privacy, and finally Efficiency.

Fit Levels and Grand Mean

The level of conformity is used to see how much the perceived service is able to meet the expectations of users. The grand mean is the average value used as a cut-off line in the Importance Performance Analysis (IPA) method.

Table 12. Results of Conformity Level and Grand Mean

Code	Average Perception (x)	Average Expectation (Y)	Compatibility Level
P1	4,37	4,80	91,04%
P2	4,57	4,84	94,42%
P3	4,32	4,64	93,10%
P4	4,49	4,78	93,93%
P5	4,04	4,75	85,05%
P6	4,25	4,72	90,04%
P7	3,76	4,69	80,17%
P8	4,11	4,63	88,77%
P9	4,22	4,75	88,84%
P10	4,06	4,73	85,84%
P11	4,61	4,78	96,44%
P12	3,83	4,56	83,99%
P13	4,44	4,73	93,87%
P14	4,14	4,75	87,16%
P15	4,40	4,68	94,02%
P16	3,94	4,52	87,17%
P17	3,93	4,63	84,88%
P18	4,18	4,65	89,89%
P19	4,15	4,67	88,87%
P20	4,01	4,76	84,24%
Grand Mean	4,19	4,70	89,09%

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The highest level of conformity is found at P11 (ease of transaction due to many choices of payment methods) at 96.44%, while the lowest level of conformity is found at P7 (conformity of promo price at checkout) at 80.17%. The average conformity rate of all attributes is 89.09%, which is quite good. However, because the value has not reached 100%, improvements are still needed so that the Shopee application service is more in line with user expectations.

Mapping Importance Performance Analysis (IPA)

This data processing maps each attribute into quadrants based on the average value of perception and expectation, in order to determine which attributes are top priorities for improvement (see Figure 4.3). The quadrant cut-off line is determined from the perceived average value of 4.19 and the expected average of 4.70.

1. Quadrant I – Top Priorities

It consists of attributes with a perception below average but expectations above average, namely P5, P10, P14, and P20. All four are considered important by users but their performance has not met expectations, making them a top priority for improvement — especially the P20 which has the lowest perception value in this quadrant.

2. Quadrant II – Maintain Performance

It consists of attributes with perceptions and expectations that are both above average, namely P1, P2, P4, P6, P9, P11, and P13. P2 and P11 show the strongest performance. All attributes in this quadrant need to be consistent.

3. Quadrant III – Low Priority

It consists of attributes with perceptions and expectations that are both below average, namely P7, P8, P12, P16, P17, P18, and P19. Although the performance is limited, the improvements are not a major short-term priority as users' expectations of this aspect are also relatively low.

4. Quadrant IV – Excessive

It consists of attributes with above-average perceptions but below-average expectations, namely P3 and P15. This position shows excellent performance, exceeding the level of interest that users feel for that aspect — not that it is bad service.

Proposed Improvements

Based on the results of data processing using the SERVQUAL method and importance performance analysis, the author can provide suggestions for improvements related to attributes that are the main priority for improvement as follows:

Table 13. Proposed Improvements

Already Dran	Code	Indicators/Attributes	Problems/Gaps	Proposed Improvements	Person in Charge
I (Top Priority)	P5	Free shipping	The free quota for shipping is limited and there is a high minimum shopping requirement.	1. Expanding the reach of free shipping vouchers.2. Lowering the minimum transaction limit.	Marketing & Operations Team
I (Top Priority)	P10	Product descriptions are clearly displayed	Product information from sellers is less detailed and not uniform.	1. Require a standard description template for *sellers.2*. Added an automatic verification feature of product information.	Product Development & Seller Support Team
I (Top Priority)	P14	Personal data is well protected	Users are still worried about potential data leaks and account privacy.	1. Improve security system and data encryption.2. Requires two-factor authentication (2FA).	IT Security Team
I (Top Priority)	P20	Access CS communication for shopping complaints	Users find it difficult to connect with *human agents* because they are blocked by *chatbots*.	1. Facilitate *live chat access* to *human* agents.2. Provide a more responsive helpline.	Customer Service Team
II (Pertah Performance)	P1, P2, P4, P6, P9, P11, P13	App display, fast payments, full features, promos, system, variety of payment methods, and security	The performance of the attributes is good and is above average user expectations.	Maintain consistency of service quality and conduct periodic evaluations.	IT & Operational Team
III (Low Priority)	P7, P8, P12, P16, P17,	Promo price suitability, product suitability, CS	The level of importance and performance of attributes is below	1. Conduct a gradual evaluation.2. *Auto-archiving* on stores that have been inactive for	Customer Experience & IT Team

Already Dran	Code	Indicators/Attributes	Problems/Gaps	Proposed Improvements	Person in Charge
	P18, P19	troubleshooting, CS speed, passive store, warranty, and return of goods	average.	more than 6 months.	
IV (Berle) Bihan)	P3, P15	Search feature and easy account removal	The performance of the attributes is very high and exceeds the level of user interest.	1. Maintain existing functions without adding excessive expansion.2. Redirects resources to fixing Quadrant I attributes.	Product Manager Team

Shopee Application Service Quality Based on SERVQUAL

The results of the study show that the overall quality of Shopee application service still has a gap between user perception and expectations. This is shown by the perceived Grand Mean value of 4.19, while the expected Grand Mean value is 4.7. The difference between the two values results in a SERVQUAL gap of -0.51.

The negative gap value in all indicators shows that there is no indicator that has a higher perception than expected. In other words, users still have higher expectations compared to the service they feel.

However, an overall perception value of 4.19 indicates that user ratings of application services in general are at a relatively high level. The main problem does not lie in the low level of all aspects of service, but in the gap between good service and higher user expectations.

This condition can be clearly seen in P11. The indicator of the many choices of payment methods obtained a perception value of 4.61 and an expectation of 4.78. The gap of only -0.17 shows that the service in this aspect is closest to the user's expectations.

In contrast, P7 has a gap of -0.93 which is the largest gap. This shows that the aspect of the suitability of the promo price at the time of payment is one of the biggest gaps in the user experience.

Aspects that are the strength of the service

Based on the level of suitability and gap value, the most powerful aspect is the ease of transactions through a wide selection of payment methods. P11 has a 96.44% suitability rate, which is the highest of all indicators.

This shows that the payment mechanism is one of the aspects of service that has provided a relative experience according to user expectations. In addition to P11, the ease and speed of payment (P2) has a compatibility rate of 94.42%, the ease of deleting accounts (P15) has a compatibility rate of 94.02%, the completeness of features (P4) has a compatibility rate of 93.93%, and the security of the payment system (P13) has a compatibility rate of 93.87%, which has a high compatibility rate.

These results indicate that services related to the basic functions of the application, especially transactions and payments, have been relatively able to provide a good experience to users.

Aspects That Are Weaknesses and Need to Be Improved

The aspect that needs the most attention is the suitability of the promo price at the time of payment. P7 has the lowest perception value, which is 3.76, while the expected value reaches

4.69. This condition resulted in a gap of -0.93 and an accuracy rate of 80.17%.

In addition to P7, P12 and P20 also have relatively large gaps, -0.73 and -0.75, respectively. P12 is related to the ability of Customer Service to resolve transaction issues, while P20 is related to communication access to resolve complaints.

The findings show that aspects of handling complaints, solving problems, and communicating with customers are still areas that need attention. Users not only expect the application to be able to make transactions, but also expect support when problems occur.

Improvement Priorities Based on Science Analysis

The results of the IPA provide a more specific picture of the indicators that should be prioritized. Based on the division of quadrants, P5, P10, P14, and P20 are in Quadrant I or the main priority.

P5 shows that users have high expectations of the clarity of the product description at 4.75, but the perception of aspects is 4.04 which is still below average. Therefore, the provision of free shipping is one of the aspects that need to be met.

P10 shows that users have high expectations of the clarity of the product description at 4.73, but perception of aspects is 4.06 which is still below average. Therefore, increasing the clarity of product information is one of the aspects that need to be considered.

P14 shows that personal data protection has a high expectation value, which is 4.75, while user perception is 4.14. This shows that the security and protection of personal information is an important aspect for users and needs to be paid attention to in improving the quality of services.

P20 is the most prominent indicator in Quadrant I because it has the highest expected value, which is 4.76, while the perception is only 4.01. Thus, access to communication to handle complaints is one of the top priorities based on the results of the study.

Implications of Research Results

Based on the overall results of the analysis, improving the quality of Shopee application services should not be carried out evenly across all indicators, but focused first on indicators that have large gaps and strategic positions based on IPA analysis.

The first priority is to improve the aspects in Quadrant I, namely the provision of free shipping (P5), clarity of product descriptions (P10), personal data protection (P14), and communication access for complaint handling (P20). All four indicators have above-average expectations, but their perceptions are still below average.

The next priority is to maintain the aspects that have shown good performance, especially the P11 which has the highest level of suitability. Services in the payment aspect, payment system security, completeness of features, and ease of transactions need to be maintained because they have received relatively high ratings from users.

On the other hand, P7, even though it is in Quadrant III, still needs attention because it has the largest SERVQUAL gap, which is -0.93. Thus, the improvement decision should consider two pieces of information at once, namely the position of the indicators in the science matrix and the magnitude of the SERVQUAL gap.

CONCLUSION

Based on the results of the SERVQUAL gap analysis, it can be concluded that the overall service quality of the Shopee application had not fully met user expectations. This was

indicated by an average perception score of 4.19 and an average expectation score of 4.70, resulting in a SERVQUAL gap of −0.51 and a service conformity level of 89.09%. All indicators showed negative gap values, with the largest gap identified for P7 (promotional price consistency at the time of payment) at −0.93, followed by P20 (access to customer service communication for complaint resolution) at −0.75 and P12 (customer service effectiveness in resolving transaction problems) at −0.73. Based on the seven electronic service quality dimensions used in this study, Efficiency showed the smallest gap at −0.3275, whereas the largest gaps were found in Contact at −0.75 and Fulfillment at −0.6575. The Importance–Performance Analysis (IPA) results indicated that P5, P10, P14, and P20 were located in Quadrant I, meaning that these indicators had high importance but below-average performance and therefore represented the main priorities for improvement.

Based on these findings, Shopee management should prioritize service quality improvements in indicators with the largest gap values and those located in Quadrant I, particularly those related to free shipping, clarity of product information, personal data protection, and access to customer service communication. Improvements should also focus on strengthening coordination with merchants, logistics service providers, and payment gateways to ensure consistent service quality throughout the transaction process until users receive their orders. Future research could expand the geographical scope and sample size, compare Shopee's electronic service quality with that of other e-commerce platforms, and incorporate additional variables such as customer satisfaction and loyalty.

Shopee management is also advised to improve coordination and integration with merchants, logistics service providers, and payment gateways to create a more consistent user experience from transaction initiation to order receipt. Future researchers are encouraged to broaden the geographical coverage of the sample, conduct comparative analyses with competing e-commerce platforms, and incorporate additional constructs such as customer satisfaction and customer loyalty to provide a more comprehensive understanding of electronic service quality.

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