

The Effect of Service Quality and Operational Efficiency on Customer Satisfaction in Freight Forwarding Companies (Case Study at PT. Yicheng Logistics)

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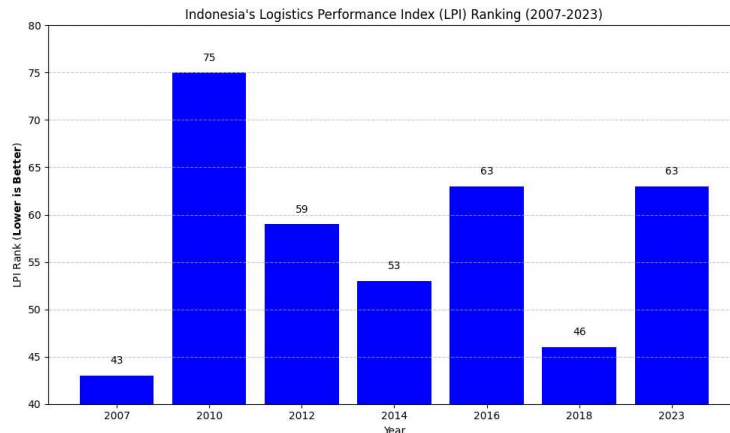
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Abstract: This study aims to examine the influence of service quality and operational efficiency on customer satisfaction at PT Yicheng Logistics, a freight forwarding company located in Jakarta. The background of the research is based on obstacles in maintaining service performance in the midst of increasingly fierce competition in the logistics industry and fluctuations in delivery volume. The research method applied is a quantitative approach, which involves collecting data through a questionnaire survey to 100 customers of PT Yicheng Logistics. The results of the analysis show that the quality of service which includes reliability, responsiveness, assurance, empathy, and physical evidence, as well as operational efficiency which includes the speed of delivery, timeliness, and accuracy of documents, have a meaningful influence on customer satisfaction both separately and simultaneously. These results confirm that the combination of improving service quality and operational efficiency plays an important role in achieving maximum customer satisfaction while maintaining the company's competitiveness in the logistics sector.

Keywords: *Service quality; operational efficiency; customer satisfaction; freight forwarding; logistics.*

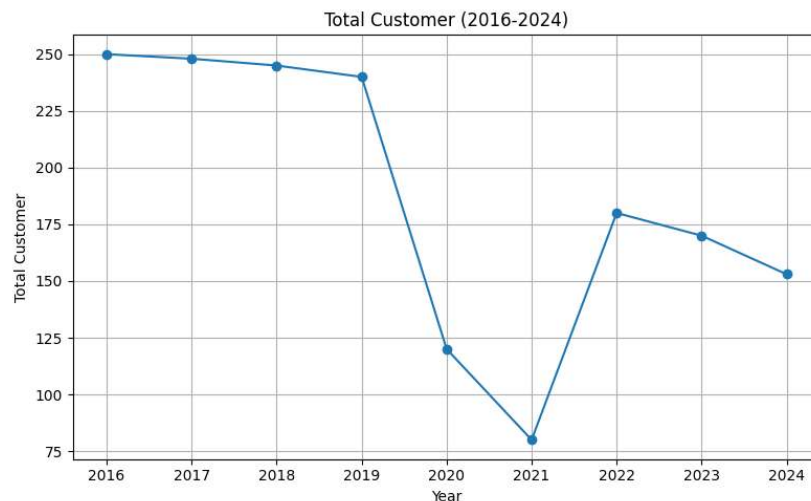
Introduction

In the current era of globalization, the freight forwarding sector functions as a critical linchpin for economic development, facilitating complex commercial flows both domestically and internationally. These companies act as essential intermediaries, and their performance directly influences the efficiency and reliability of the entire supply chain. PT Yicheng Logistics operates within this dynamic environment, offering services for a diverse range of goods, including agricultural commodities, industrial products, and textiles (Dameria, 2022). The legal foundation for such freight forwarding operations in Indonesia is outlined in Law No. 17 concerning Shipping (2008), which regulates maritime transport, port management, and business licensing. Within this regulated and highly competitive landscape, customer satisfaction is no longer just a metric but the primary differentiator that underpins a firm's market sustainability and growth. Despite favorable market opportunities driven by the expansion of e-commerce in Indonesia, the national logistics sector faces significant, documented challenges with performance and reliability. This creates an intensely competitive landscape where customer satisfaction is the primary differentiator for a firm's survival. The main evidence for this challenge comes from the World Bank's Logistics Performance Index (LPI), which shows a history of volatility and a recent, sharp decline.



After achieving rank of 46th in 2018, Indonesia's position plummeted 17 places to 63rd in the 2023 report. This significant drop is not an isolated event but the latest in a volatile trend. This volatility highlights a long-standing, systemic difficulty in maintaining consistent logistics performance, which directly impacts customer expectations and satisfaction. This study proposes that this national performance deficit is directly linked to weaknesses in the two fundamental areas: operational efficiency and service quality. An analysis of the LPI data confirms this. The 2023 decline was driven by significant drops in the exact components this paper investigates:

1. Operational Efficiency: The score for "Timeliness" (the frequency of on-time shipments) fell from 3.67 in 2018 to 3.3 in 2023.
2. Service Quality: The score for "Logistics Competence & Quality" (the quality of service from logistics providers) fell from 3.1 in 2018 to 2.9 in 2023.



PT Yicheng Logistics operates within this highly challenging context. The company must battle for customer loyalty in a market where clients are already sensitized to delays (Timeliness) and poor service (Logistics Quality). The national data on fluctuating delivery volumes further underscores this competitive pressure. In this environment, any internal inefficiencies or service failures are not just minor issues; they are critical threats to business continuity. This external market pressure is directly reflected in PT Yicheng Logistics' own performance metrics, which illustrate a significant and concerning trend in customer retention.

An analysis of the company's total active customer base from 2016 to 2024 reveals a stark decline, providing firm-level evidence of the challenges at hand. After maintaining a relatively stable base of nearly 250 customers from 2016 to 2018, the company experienced a dramatic drop, a decline that notably coincides with the global economic disruption of the 2019-2021 COVID-19 pandemic phase. During this period, the customer base fell by over half to reach a low of just 80 customers in 2021. While a partial recovery to approximately 180 customers occurred in 2022, the numbers have not returned to their previous levels and have since trended downwards again to just over 150 in 2024. This data strongly indicates that the company is struggling with significant customer attrition and retention.

This documented loss of customers provides a critical internal context for the research, moving the problem from a general industry challenge to a specific, urgent business threat. While the severe downturn from 2019 to 2021 aligns with the global COVID-19 pandemic, the company's subsequent failure to fully recover and the continued volatility strongly suggest that external shocks are not the only factor at play. It is highly probable that this customer churn is a direct symptom of underlying weaknesses in the two core functions this paper investigates: service quality and operational efficiency. In the freight forwarding sector, customers are acutely sensitive to performance failures, and the pandemic environment likely amplified the negative impact of any such lapse. A single delayed shipment (a failure of operational efficiency) or a slow response to an inquiry (a failure of service quality) during such a critical time would be sufficient to drive a client to a competitor. The precipitous drop, therefore, suggests that the pandemic may have exposed systemic failures rather than being their sole cause, making it imperative to empirically investigate the precise relationship between these internal performance variables and the resulting customer dissatisfaction.

This study, therefore, aims to conduct a focused empirical investigation into the relationship between service quality, operational efficiency, and customer satisfaction at PT Yicheng Logistics. By systematically analyzing these variables, the research seeks to move beyond anecdotal evidence to provide a data-driven understanding of how these core functions collectively shape the customer experience. The objective is to diagnose the specific factors contributing to customer dissatisfaction, thereby offering a clear, strategic basis for targeted improvements designed to enhance service delivery, foster customer loyalty, and strengthen the company's competitive footing.

This research offers a distinct contribution by focusing on a specific, local freight forwarding company, whereas much of the existing literature centers on large-scale, multinational logistics corporations. Furthermore, while many studies analyze service quality or operational efficiency in isolation, this study examines their simultaneous and combined impact on customer satisfaction. This holistic approach provides a more realistic view of the customer experience, where operational performance and service interaction are intrinsically linked. The findings are intended to generate a contextualized model that can not only guide PT Yicheng Logistics but also offer valuable insights for other small and medium-sized enterprises in the logistics sector seeking to improve customer satisfaction in a competitive market.

Literature Review

This study is anchored in the theoretical intersection of service quality, operational efficiency, and customer satisfaction, which are critical determinants of success in the service industry. Within the highly competitive freight forwarding sector, the relationship between these concepts is particularly crucial. Service quality directly shapes customer perception and is often evaluated based on how well the service delivery meets or exceeds expectations (Salwa et al., 2024). This is supported by operational efficiency, defined as an organization's ability to

deliver services in a timely and cost-effective manner by optimizing its resources (Indriyani et al., 2024). Both of these elements are fundamental in shaping customer satisfaction, which reflects a customer's overall evaluation of their experience with the company's performance (Desri et al., 2023). This review will examine the established literature for each of these variables to build the theoretical framework for this research.

Variables & Resources	Definition	Indicators	Statement
Quality of Service (Hanasta Praba, 2024)	Service quality is defined as the extent to which the services provided meet or exceed customer expectations. The quality of service encompasses various dimensions that contribute to customer satisfaction, including reliability, responsiveness, assurance, empathy, and physical evidence.	a) Reliability b) Responsiveness c) Guarantee d) Empathy e) Physical Evidence	1. PT Yicheng Logistics provides services as promised 2. PT Yicheng Logistics is quick to respond to my questions or complaints 3. I feel safe entrusting my goods to PT Yicheng Logistics 4. PT Yicheng Logistics strives to tailor services to customer needs 5. PT Yicheng Logistics' delivery fleet and equipment are in good condition
Operational Efficiency (Jange et al., 2023)	Operational efficiency refers to the ability of an organization or system to carry out activities or processes with minimal optimal use of resources while achieving maximum results.	a) Reduced Costs b) Increased Work Efficiency c) Improved Output Quality d) Resource Allocation Optimization e) Reduced Cycle Time	1. I feel that the service cost of PT Yicheng Logistics is comparable to the quality provided 2. PT Yicheng Logistics employees are able to handle more shipments without compromising the quality of service 3. The goods I send/receive through PT Yicheng Logistics are always in good condition 4. PT Yicheng Logistics is able to utilize resources such as fleet, human resources, warehouses and other facilities effectively 5. PT Yicheng Logistics is able to speed up the

Variables & Resources	Definition	Indicators	Statement
			service process without compromising quality
Customer Satisfaction (Sihombing, 2024)	Customer satisfaction is defined as the level of pleasure experienced by customers after using a product or service, in this case a Customer Relationship Management (CRM) system developed for cargo companies. This satisfaction reflects the extent to which customer expectations are met and has an effect on the company's loyalty, retention, and service recommendations.	a) Quality of Service b) Personalize Interactions c) Service Process Efficiency d) Data-Driven Decision-Making e) General Satisfaction	1. PT Yicheng Logistics' service meets my expectations as a customer 2. PT Yicheng Logistics understands my specific needs in the service process 3. Every stage in the delivery service is carried out efficiently and quickly 4. I feel that PT Yicheng Logistics uses customer information to improve service 5. I would recommend PT Yicheng Logistics to others based on my experience

Quality of Service

Service quality refers to how well the services provided by a company can meet customer expectations. According to (Niemah, 2022), High-quality services can provide a competitive advantage for service companies and are a crucial element to achieve success. The quality of service is considered satisfactory if it can meet or even exceed customer expectations. According to (Salwa et al., 2024), Good service quality will result in customer satisfaction and meet their expectations. According to (Alsalfiti & Notteboom, 2024), in addition to covering optimal product outcomes, service quality also involves effective service delivery. This can be achieved by focusing attention on customer satisfaction, improving the service experience, and adjusting the delivery process according to customer needs and expectations. According to (Lovelock & Wright, 2019), there are five dimensions that affect service quality: Tangibles, Reliability, Responsiveness, Assurance, and Empathy.

Thus, high-quality services are an important requirement for creating customer satisfaction, which can contribute to increased customer retention, expand market share through recommendations from informally dispersed customer testimonials, and strengthen the company's competitiveness in the long run. In the context of this study, service quality is considered a key variable that mediates the relationship between operational performance and customer satisfaction and loyalty levels. In the freight forwarding industry, service quality can be measured through five main dimensions based on the SERVQUAL model, namely

reliability, responsiveness, assurance, empathy, and tangible evidence. The implementation and improvement of these indicators directly contributes to the improvement of the quality of service perceived by customers, which will ultimately contribute to their increased satisfaction and loyalty.

Operational Efficiency

Good service often comes from an efficient process. By reducing wait times and increasing responsiveness, customer satisfaction levels can improve. According to (Indriyani et al., 2024), Operational efficiency refers to the ability of an organization to use resources in the best possible way, so that it is able to produce maximum results with minimal cost and time. In the context of services, operational efficiency includes improving workflows, utilizing information technology, and training human resources to work productively and responsively to customer needs. Improving operational efficiency not only impacts internal productivity, but also plays an important role in shaping the perception of service quality from a customer's perspective. When the company is able to provide services quickly and appropriately, it will be created higher levels of customer satisfaction, which ultimately has a positive impact on customer loyalty and the overall competitiveness of the company. Operational efficiency in the context of freight forwarding can be measured through several key indicators, such as reduced operational costs, increased employee productivity, and improved service quality, optimization of resource allocation, and reduction of delivery cycle time. By monitoring and improving these indicators, companies can identify areas of improvement, reduce waste, and increase service value for customers, ultimately strengthening the company's competitive position in the increasingly competitive logistics market.

Customer Satisfaction

Customer satisfaction is an emotion experienced by customers. Customers have expectations and an idea of the services they will consume. The experience gained by the customer will determine whether they feel satisfied or not. It is said to be satisfied if their expectations match what is received. What consumers feel or experience also reflects the company's performance. According to (Desri et al., 2023), In the context of service quality, the performance of the services provided by the company can be measured through the experience felt by its customers. Customer satisfaction not only reflects the quality of interaction between a company and customers, but it also shows the extent to which the company has successfully aligned its performance with consumer needs and wants. In this context, consumer experience is an important indicator in evaluating the effectiveness of the services provided. This experience includes several aspects, including service quality that reflects the reliability and consistency of service, personalization of interactions that show the company's ability to tailor services according to individual customer preferences, efficiency of service processes related to ease and speed in each stage of service, data-driven decision-making that reflects the use of customer information to improve services, and general satisfaction that describes the customer's overall perception of the service received. By paying attention to and improving these indicators, the company is able to create a positive experience for customers, which in turn will increase customer satisfaction and loyalty.

Service Quality on Customer Satisfaction

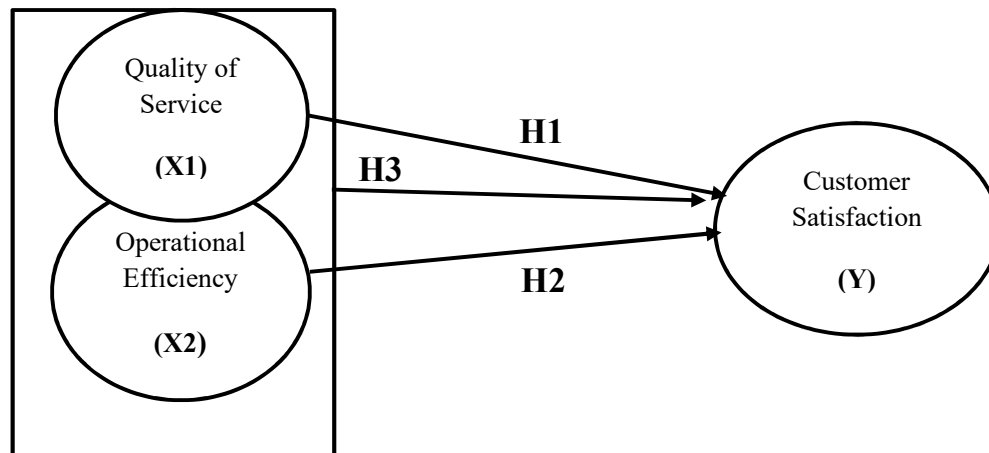
Superior service quality is often the foundation of a positive customer experience. By consistently delivering reliable and responsive service, customer satisfaction levels can be significantly enhanced. Service quality, in this context, refers to the customer's perception of how well a service meets or exceeds their expectations, which is shaped by various dimensions such as reliability, responsiveness, assurance, and empathy. Improving service quality not only impacts the customer's current perception but also plays a critical role in shaping long-term loyalty. When customers feel that a company is dependable, quick to respond, and understands

their needs, it creates higher levels of satisfaction. This direct relationship has been confirmed in the literature, which asserts that improving logistics service quality is a fundamental driver for increasing customer satisfaction (Burity, 2021). Therefore, by monitoring and enhancing these quality indicators, a company can strengthen its competitive position in the market.

Operational Efficiency on Customer Satisfaction

Good service often stems from an efficient process. By reducing wait times, minimizing errors, and increasing process speed, customer satisfaction levels can be improved. Operational efficiency refers to an organization's ability to use its resources optimally to produce maximum results with minimal cost and time. In the context of logistics services, efficiency involves optimizing shipment workflows, utilizing technology for tracking, and training human resources to work productively. Improving operational efficiency not only impacts internal productivity but also plays a vital role in shaping customer perception. When a company can provide its service quickly, accurately, and seamlessly, it creates higher satisfaction. Operational efficiency in the freight forwarding context can be measured through key indicators, such as the reduction of delivery cycle times and the optimization of resource allocation. Empirical evidence supports this relationship, showing that operational quality—as a direct result of efficiency—positively and significantly influences customer satisfaction (Lin et al., 2023). Thus, efficiency becomes a cornerstone for creating customer value and strengthening the company's market position.

Hypothesis



H1 : It is suspected that the quality of service has a positive influence on customer satisfaction at PT Yicheng Logistics.

H2 : It is suspected that operational efficiency has a positive impact on customer satisfaction at PT Yicheng Logistics.

H3 : It is suspected that the quality of service and operational efficiency have a positive impact on customer satisfaction at PT Yicheng Logistics.

Research Method

Research Design

This study applies the selected quantitative analysis method with the aim of measuring the relationship between the variables studied as well as testing the hypotheses that have been

prepared. Data was collected through the survey method by distributing questionnaires to respondents. The quantitative approach focuses on the collection and analysis of data in the form of numbers for the purpose of testing hypotheses and identifying significant relationships between research variables. This approach is designed to produce generalizable findings using standardized instruments as well as appropriate statistical analysis techniques. According to (Zyoud et al., 2024) Quantitative methods offer a high level of precision and objectivity, while also having the ability to generalize research findings to a wider population. According to (Firmansyah et al., 2021) The quantitative method provides a numerical analysis of customer satisfaction, and customer preferences, making it effective for testing the relationships that have been formulated. Data was collected through the distribution of questionnaires to respondents, to obtain data and analysis to test hypotheses.

Population and sample

The population for this study consists of all active customers of PT Yicheng Logistics. Defining the population is a critical step, as it determines the scope and generalizability of the research findings (Munandar, 2022). At the time of the study, the total customer population (N) was 133. Given that errors in determining the population and sample can lead to poor quality and unrepresentative data, a systematic approach was taken to ensure accuracy (Subhaktiyasa, 2024; Abunawas et al., 2023). The required sample size was calculated using the Slovin formula, which is appropriate for finite populations. With a margin of error set at 5% (0.05), the calculation yielded a target sample of 100 respondents, a size selected to ensure adequate representation of the population (Nalendra et al., 2022). The calculation was performed as follows:

$$n = N / (1 + Ne^2)$$

$$n = 133 / (1 + 133 * (0.05)^2)$$

$$n = 133 / 1.3325$$

$$n \approx 100 \text{ respondents}$$

A purposive sampling technique was used to select the participants. The primary criterion for inclusion was that respondents had recently used PT Yicheng Logistics' services. This non-probability sampling method was chosen specifically to ensure that the data collected would be relevant and accurately reflect the customers' current satisfaction levels, thereby enhancing the validity of the study's conclusions.

3.3 Data Collection Instrument and Measurement

Data for this study were collected using a structured questionnaire designed to measure the key variables of the research model. The questionnaire was developed based on established literature, with operational definitions for each variable adapted from previous studies.

Variable	Operational definition	Source
Service Quality	The extent to which a service is perceived to meet or exceed customer expectations, encompassing dimensions of reliability, responsiveness, assurance, empathy, and tangibles.	Salwa et al. (2024); Lovelock & Wright (2019)
Operational Efficiency	The ability of an organization to utilize its resources in the best	Indriyani et al. (2024)

possible way to produce maximum results with minimal cost and time.

Customer Satisfaction	A customer's overall feeling or judgment based on the comparison between a service's perceived performance and their prior expectations.	Desri et al. (2023)
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To quantify responses for these variables, a 5-point Likert scale was employed. This method is standard for assessing attitudes and perceptions in quantitative research (Scott, 2018; Sarwono & Handayani, 2021). The scale points and their corresponding values are detailed below

Description	Value
Strongly agree	5
Agree	4
Neutral	3
Disagree	2
Strongly disagree	1

Data Analysis Tools

The data collected through the questionnaires were processed and analyzed using the Statistical Product and Service Solutions (SPSS) software, version 26. A series of statistical tests were conducted to analyze the data and test the research hypotheses. The data analysis process included the following techniques:

1. Instrument Testing
To ensure the validity and reliability of the questionnaire, preliminary tests were conducted. Validity was assessed using the Pearson Product-Moment correlation, while reliability was tested using Cronbach's Alpha.
2. Descriptive Statistics
This technique was used to summarize the demographic characteristics of the respondents and provide an overview of the data distribution for the key variables.
3. Multiple Linear Regression Analysis
To test the research hypotheses, multiple linear regression was employed. This inferential statistical technique was chosen to determine the partial and simultaneous influence of the independent variables (Service Quality (X1) and Operational Efficiency (X2)) on the dependent variable (Customer Satisfaction (Y)). The analysis included t-tests to evaluate the significance of individual variables and an F-test to evaluate the overall significance of the model.

Result And Discussion

The collected data is then tested for validity by utilizing Statistical Product and Service Solution (SPSS) software version 26. An instrument is declared valid if the value of r-count is greater than the r-table. Conversely, if the value of r-count is lower than the r-table, then the

instrument is considered invalid. The instrument are declared based in variable and instrument table in literature review.

Table 1.
Service Quality Variables

Variable	Statement	Pearson Correlation	R Table	Information
Quality of Service (X1)	X1.1	0,819	0,195	Valid
	X1.2	0,826	0,195	Valid
	X1.3	0,843	0,195	Valid
	X1.4	0,830	0,195	Valid
	X1.5	0,851	0,195	Valid

Source : SPSS 26 data processing results

Table 1 shows that all items in the Quality of Service variable have qualified for validity, indicated by a higher r-calculated value than r-table. Thus, the statements in the Service Quality variable (X1) are declared valid and can be used in the research.

Table 2.
Operational Efficiency Variable

Variable	Statement	Pearson Correlation	R Table	Information
Operational Efficiency (X2)	X2.1	0,755	0,195	Valid
	X2.2	0,890	0,195	Valid
	X2.3	0,817	0,195	Valid
	X2.4	0,879	0,195	Valid
	X2.5	0,868	0,195	Valid

Source : SPSS 26 Data Processing Results

Table 2 above, there are no invalid statements for the Operational Efficiency variable, because all statements have a *Pearson Correlation value of* >0.195 , Thus, there are 5 valid statements that are worthy of analysis in the Operational Efficiency variable. The calculated r value ranges from the lowest to the highest, which is between 0.755 to 0.890 $> the r$ of the table is 0.195.

Table 3.
Customer Satisfaction Variables

Variable	Statement	Pearson Correlation	R Table	Information
Customer Satisfaction (Y)	Y1	0,824	0,195	Valid
	Y2	0,924	0,195	Valid
	Y3	0,866	0,195	Valid
	Y4	0,861	0,195	Valid
	Y5	0,849	0,195	Valid

Source : SPSS 26 data processing results

Table 3 shows that all statement items in the customer satisfaction variable meet the valid criteria, with the value of $r\text{-calculate} > r\text{-table}$. This means that the customer satisfaction variable (Y) is valid and can be considered feasible to use in the study.

Data Reliability Test

The data reliability test was carried out by calculating *Cronbach's Alpha* value using software SPSS version 26. The result is considered reliable if the value of $\alpha > 0.6$.

Table 4.
Data Reliability Test Results

Variable	Cronbach's Alpha	Information
Quality of Service (X1)	0,889	Reliable
Operational Efficiency (X2)	0,891	Reliable
Customer Satisfaction (Y)	0,914	Reliable

Source : SPSS 26 data processing results

Cronbach's Alpha *value* for all variables, both independent and dependent, is greater than 0.6. Therefore, it can be concluded that the questionnaire used for the variables of Service Quality and Operational Efficiency can be considered a reliable variable measurement tool for Customer Satisfaction.

Multiple linear regression

Multiple linear regression is an analysis method that describes the linear relationship between two or more independent variables and bound variables. This technique is used to determine the direction of the relationship between variables, whether positive or negative, as well as to predict the value of the bound variable when the variable is free to change. The multiple linear regression process is performed using the equation

$$\hat{Y} = a + b_1X_1 + b_2X_2 + e$$

The results of the calculation of the values are as follows:

Table 5. Regression Coefficients

	Type	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,118	1,334		0,838	0,404
	Quality of Service	0,314	0,101	0,287	3,125	0,002
	Operational Efficiency	0,620	0,096	0,592	6,455	0,000

Source : SPSS 26 data processing results

The result of this multiple linear regression equation :

$$Y = 1.118 + 0.314X_1 + 0.620X_2 + e$$

with a caption:

- X1 = Quality of Service
- X2 = Operational Efficiency
- Y = Customer Satisfaction

Which has meaning:

- a. The value of constant $a = 1.118$ indicates that if the variables of Service Quality (X1) and Operational Efficiency (X2) are not taken into account or are zero, then the Customer Satisfaction level is still at 1.118 units. This condition suggests that there are other factors outside the research model that also affect customer satisfaction.
- b. The value of the coefficient $b_1 = 0.314$ indicates that every 1 unit increase in the Service Quality variable will increase Customer Satisfaction by 0.314 units, assuming the Operational Efficiency variable is at a fixed condition. In other words, the better the quality of service, for example through friendliness, accuracy, speed, and conformity with expectations, the level of customer satisfaction will also increase.
- c. The value of the coefficient $b_2 = 0.620$ indicates that every 1 unit increase in the Operational Efficiency variable will be followed by a 0.620 unit increase in Customer Satisfaction, assuming the Service Quality variable is in a constant condition. This indicates that operational efficiency including accurate schedules, process speed, and effective operational management have a more dominant influence on customer satisfaction than service quality.

Coefficient Significant Test (Partial T Test)

Table 6. T Test Results

Type	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,118	1,334		0,838	0,404
Quality of Service	0,314	0,101	0,287	3,125	0,002
Operational Efficiency	0,620	0,096	0,592	6,455	0,000

Source : SPSS 26 data processing results

Based on the table of T test results shown above, the explanation can be arranged as follows:

1. Service quality variables have a significant influence on customer satisfaction. This is evidenced by the t-calculated value of 3.125, which is greater than the t-table value ($3.125 > 1.984$), as well as a significance value of 0.002 which is below the limit of 0.05. Thus, partially the quality of service plays a positive and significant role in increasing customer satisfaction. This means that the better the service provided, the higher the satisfaction felt by customers. Therefore, the hypothesis that the quality of service affects customer satisfaction is proven to be acceptable.
2. The Operational Efficiency variable also shows a significant effect on customer satisfaction. From the table, a t-count value of 6.455 was obtained, where the t-count was greater than the t-table ($6.455 > 1.984$) with a significance level of 0.000, which was also less than 0.05. This shows that partially, operational efficiency has a positive and significant impact on customer satisfaction. This means that the higher the company's operational efficiency, the greater the level of customer satisfaction. Therefore, the hypothesis that operational efficiency affects customer satisfaction is accepted.

Model F significance test (F test)

This test was carried out by comparing the significance of $F_{\text{calcul}} > F_{\text{tabel}}$

Table 7. F Test Results

	Type	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	889,398	2	444,699	115,410	,000b
	Residual	373,762	97	3,853		
	Total	1,263,160	99			

Source : SPSS 26 data processing results

Based on the table above, the F_{cal} value obtained is 115,410, while the F_{table} value in the significance level of 0.05 with $df_1 = 2$ and $df_2 = 97$ is 3.09. Because $F_{\text{count}} (115.410) > F_{\text{table}} (3.09)$ and significance value $0.000 < 0.05$, then H_0 is rejected and H_a is accepted. Therefore, it can be concluded that the variables of Service Quality and Operational Efficiency simultaneously have a significant effect on Customer Satisfaction. In other words, the simultaneous impact of service quality and operational efficiency will make a real contribution to improving customer satisfaction.

Discussion

This section interprets the study's findings, linking them to their practical implications for PT Yicheng Logistics and the existing academic literature.

The Effect of Service Quality on Customer Satisfaction

The analysis confirmed a significant positive relationship between service quality and customer satisfaction ($\beta = 0.314$; $p < 0.05$). This highlights that key service dimensions like reliability and responsiveness directly shape customer value, a conclusion that aligns with the findings of Ramadhaniati et al. (2020). This suggests that for PT Yicheng Logistics, customers' perception of a consistently reliable service is a primary driver of their overall satisfaction.

The Effect of Operational Efficiency on Customer Satisfaction

Similarly, operational efficiency was found to be a powerful and highly significant predictor of customer satisfaction ($\beta = 0.620$; $p < 0.001$). This result supports the work of Rido et al. (2025), indicating that tangible outcomes such as timely and error-free delivery are fundamental to the customer experience. Notably, the regression coefficient for operational efficiency was substantially larger than that for service quality. This key insight suggests that for PT Yicheng Logistics' customers, the functional performance of the service is prioritized over the interpersonal aspects of the interaction.

The Simultaneous Effect of Service Quality and Operational Efficiency

Finally, the F-test confirmed that service quality and operational efficiency also have a significant simultaneous effect on customer satisfaction ($F = 115.140$; $p < 0.001$). This underscores that the two factors are interdependent; one cannot fully compensate for a deficiency in the other, as a positive customer experience is the result of their combined strength. Therefore, achieving the highest levels of customer satisfaction requires an integrated approach that enhances both the efficiency of the delivery process and the quality of the service interaction simultaneously.

Conclusion

This study provides an empirical indication that service quality and operational efficiency have a positive and important influence on customer satisfaction in the freight forwarding industry represented by PT Yicheng Logistics. Service quality, which includes the dimensions of reliability, responsiveness, assurance, empathy, and concrete facts, has a crucial function in shaping customer perception and experience. Operational efficiency as measured through indicators of delivery timeliness, document accuracy, and optimal resource utilization has also been proven to be a determinant of customer satisfaction because it is able to ensure the smooth service process. The results of the analysis show that these two factors have a complementary effect, so the combination of high service quality with efficient operational processes is the key to maximizing customer satisfaction and maintaining competitiveness in the dynamic logistics sector. These findings confirm that in the freight forwarding business, where customer loyalty is heavily influenced by operational performance, companies are simultaneously investing in human resource development, technological innovation, and process optimization to ensure long-term growth.

Implication

The findings of this study offer important practical and theoretical implications for the freight forwarding industry. From a practical perspective, the finding that service quality and operational efficiency have a significant impact on customer satisfaction provides direction for companies to strengthen the service dimension that includes reliability, responsiveness, assurance, empathy, and real facts, while optimizing operational efficiency through punctuality, document accuracy, and the use of digital technologies such as real-time tracking systems, document automation, and Customer Relationship Management based on data. This strategy needs to be balanced with employee training, performance evaluations based on service indicators, and investments in relevant infrastructure to strengthen reputation and expand market share. From the theoretical side, this study enriches the literature on logistics management and service marketing by strengthening the SERVQUAL model and confirming the relevance of operational management theory that places efficiency as a factor that forms service value. In addition, these findings open up opportunities for the development of conceptual models that integrate service quality and operational efficiency as key factors in shaping customer loyalty in the context of Business-to-Business, business activities occur between one company and another as well as Business-to-Consumer, companies sell their products or services directly to the end consumer, not to other companies, and become a reference for further research that can be Explore the role of other variables such as price, service innovation, or technology adoption in the relationship between service quality, operational efficiency, and customer satisfaction.

Research Limitations

The limitations of this study include several aspects that need to be considered for the proper interpretation of the results. First, the research was only conducted on one company, namely PT Yicheng Logistics, so the findings cannot be fully generalized to the entire freight forwarding industry or the logistics sector at large. Second, data was collected using a questionnaire survey method that relied on respondents' perceptions so that it had the potential to cause subjective bias or social desirability bias. Third, the number of samples used as many as 100 respondents, although meeting the minimum criteria, is still limited to describe the wider diversity of customer characteristics. Fourth, this study only uses a quantitative approach so that it does not explore in depth qualitative factors such as motivation, emotional experience,

or operational context that can affect customer satisfaction. Fifth, the variables tested only include service quality and operational efficiency, while other factors such as price, brand image, or technological innovation also have the potential to have a significant impact. This limitation provides an opportunity for further research to expand the scope of objects, increase the variety of research methods, increase the sample size, and include additional variables so that the understanding of customer satisfaction in the logistics industry can be more comprehensive.

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