

## **Comparative Analysis of Service Quality in Enhancing Customer Satisfaction: A Study of ISO-Certified and Non-Certified Logistics Companies**

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**Abstract:** This study aims to analyze and compare the influence of service quality on customer satisfaction between logistics companies certified under ISO 9001:2015 (Ninja Xpress) and those not certified under ISO 9001:2015 (Pahala Express). The study employed a quantitative approach using an Independent Sample t-test. Data were collected through questionnaires involving 105 respondents who had used the delivery services of both companies. The findings indicate a significant difference in customer satisfaction levels between Ninja Xpress and Pahala Express. The sig. (2-tailed) value of < 0.001 suggests that Ninja Xpress, as an ISO 9001:2015 certified company, has a higher level of customer satisfaction compared to Pahala Express. The mean difference value of 0.19810 reflects a substantial average difference in customer satisfaction. These results confirm that ISO certification has a positive impact on service quality, which in turn contributes to increased customer satisfaction. The study recommends that logistics companies consider implementing ISO 9001:2015 standards as a strategy to enhance service quality and customer satisfaction, while also emphasizing the importance of comprehensive service quality improvement regardless of certification status.

**Keywords:** Service Quality, Customer Satisfaction, ISO 9001:2015, Logistics, Ninja Xpress, Pahala Express

### **INTRODUCTION**

In the current era, the world is confronted with global competition that demands strong competitiveness and robust strategies for managing business operations, both nationally and internationally. This condition requires business actors across various sectors to pursue innovation, whether in production, marketing, or service delivery. Innovation in multiple business aspects is essential to maintain and increase consumer demand for the products and services offered by businesses. Consequently, consumer loyalty becomes vital for a company's sustainability (Putri et al., 2021), particularly due to the heightened sensitivity of today's competitive business environment (Wahyuni & Irawan, 2018). Product innovation can enhance customer satisfaction and loyalty (Mustamu & Ngatno, 2021). Consumer loyalty is influenced by their satisfaction with the products or services they use (Nafiah & Trihudiyatmanto, 2021). At present, both manufacturing and service organizations regard customer satisfaction as an important factor in evaluating the quality of their performance (Usman et al., 2019).

According to Agarwal and Gowda (2021), understanding what customers truly expect is the most critical element in identifying and determining high-quality service. When the experience of consuming a product or service matches or exceeds expectations, consumers will be satisfied and subsequently remain loyal,

make repeat purchases, and engage in word-of-mouth promotion (Kotler et al., 2016). Customer satisfaction is not solely influenced by the quality of the products offered but is also shaped by the quality of service provided (Syapsan, 2019). Today, service quality is no longer a concern exclusive to service-based companies; manufacturers must also integrate service elements into their business operations. This is because providing quality service can increase satisfaction (Syapsan, 2019), loyalty (Nguyen-Phuoc et al., 2021), and repurchase decisions (Parawansa, 2018). Other studies even show that although product prices increase, customer satisfaction will still improve if accompanied by enhanced service quality (Mori, 2021).

In addition to service quality, the quality of the products or services themselves significantly influences consumer satisfaction (Uzir et al., 2020). According to Usman et al. (2019), a quality management system (QMS) is described as a set of operational procedures, policies, and systematic objectives that are documented, maintained, and controlled by an organization to achieve quality targets and ensure continuous improvement throughout the organizational system. One mechanism used by companies to enhance the quality of their products is aligning their quality management systems with standards established by authorized institutions, either governmental bodies or credible private organizations. One such internationally recognized standard-setting body is the International Organization for Standardization (ISO). ISO is an organization entrusted with establishing globally applicable standards, consisting of representatives from national standardization bodies worldwide. To date, ISO remains the largest standardization organization in the world.

Implementing ISO standards provides various benefits for companies, including reducing product defects, improving internal relationships, expanding market share, and increasing opportunities to become world-class enterprises (Usman et al., 2019). This indicates that ISO can serve as a benchmark for consumer decisions to use products from ISO-certified companies, thereby enhancing corporate competitiveness at both national and international levels. Implementing a quality management system in accordance with ISO standards can improve a company's operational and business performance (Nurchahyo & Habiburrahman, 2021). Moreover, the aforementioned study employs customer satisfaction as one of the parameters for evaluating operational performance influenced by ISO-based quality management systems, suggesting that ISO implementation can increase customer satisfaction.

One of the industrial sectors that significantly contributes to national economic growth is the logistics sector, comprising transportation and warehousing. As illustrated in Figure 1, data from Statistics Indonesia (2023) indicate that the transportation and warehousing sector grew by 14.74% (year-on-year) in the third quarter of 2023. This was the highest growth among all sectors during that period, followed by other services at 11.14% and accommodation and food services at 10.90%.



**Figure 1.** Distribution and Growth of GDP by Business Field, Q3-2023 (year-on-year)  
Source: Statistics Indonesia (2023)

The logistics industry is one of the fastest-growing business sectors, driven by increasing societal needs and technological advancements. Furthermore, during the Covid-19 pandemic, logistics played a crucial role in supporting business continuity across various industries (Kompasiana.com, 2020). Other sectors are closely dependent on logistics, particularly in transportation and warehousing. Over time, the services offered by logistics providers have become increasingly diverse, including land, sea, and air transportation, project cargo, open yard depot operations, customs clearance, warehousing, expedition services.

Expedition or goods delivery services represent one of the rapidly developing industries today. In addition to digital technological advancements, the expansion of e-commerce markets has accelerated the growth of this sector (Rosyada et al., 2020). However, logistics companies face increasingly complex demands, including the need to integrate their operational activities with real-time information technology systems (Cahyaningrum, 2023). Previous studies have revealed that the implementation of ISO 9001 certification has a significant influence on customer satisfaction within the logistics industry (Tomic & Spasojevic Brkic, 2019; Vasić et al., 2015; Skrifvars, 2025).

One logistics brand offering expedition services is Ninja Xpress. As a company that emphasizes quality, Ninja Xpress is certified under ISO 9001:2015 for quality management systems and ISO 45001:2018 for occupational health and safety management systems. One of its competitors, Pahala Express as a subsidiary of PT Pahala Kencana provides logistics services but is not ISO-certified, either under ISO 9001:2015 or ISO 45001:2018. These two logistics providers were selected because they offer similar services and enjoy comparable popularity in Indonesia.

This study focuses on service quality and its impact on customer satisfaction among users of goods delivery services. The research seeks to compare customer satisfaction between users of ISO 9001:2015 certified logistics companies and those of non-certified logistics companies. In this case, the research subjects are Ninja Xpress (ISO 9001:2015 certified) and Pahala Express (non-certified), both of which offer goods delivery services.

Beyond contributing to academic literature, this study is expected to offer insights for decision makers in logistics service companies to optimize service quality and customer satisfaction. The uniqueness of this research lies in its comparison between service quality in ISO 9001:2015 certified and non-certified logistics service providers. The research gap in this study lies in the absence of empirical investigations that specifically compare customer satisfaction levels between logistics companies certified with ISO 9001:2015 and those without such certification, particularly within the Indonesian context. Addressing this gap, the present study offers novelty by contributing to the academic literature and providing a more comprehensive understanding of the impact of ISO 9001:2015 implementation on customer satisfaction in the logistics industry.

## **METHODS**

This study employs a quantitative research design. Data were collected using a questionnaire as the research instrument. This research analyzes service quality attributes using the Logistic Service Quality (LSQ) framework. LSQ is frequently used by delivery service providers to assess customer expectations and perceptions as part of efforts to improve service quality (Otsetova, 2016). LSQ is a complex concept that requires significant attention from logistics service providers. It is developed based on SERVQUAL (Service Quality), which remains one of the most widely used and influential models in service marketing research (Rosyada et al., 2020). LSQ evaluate service quality based on six dimensions, namely reliability, responsiveness, assurance, empathy, tangibility, and process and procedures. meanwhile, customer satisfaction is measured using six dimensions: service quality satisfaction, delivery reliability satisfaction, communication satisfaction, price satisfaction, complaint handling satisfaction, and staff satisfaction.

The sampling method employed in this study is purposive sampling, as the exact population size is unknown, dynamic, requires specific inclusion criteria, and the study adopts a comparative design. The sample size was determined using Cochran's Formula for an infinite population, with a 95% confidence level, an estimated proportion of 0.5, and a 10% margin of error (Rashidi, 2016). Based on this calculation, the minimum required sample was 96 respondents, with at least 48 respondents in each cluster. The sampling criteria include: (1) having used Ninja Xpress or Pahala Express services at least twice, and (2) being an actual user rather than merely having brand awareness. Data analysis utilized Levene's test for equality of variances to examine whether there are significant differences in variance between the two groups, and an Independent Sample t-Test was employed to identify differences in the effects between the groups.

The selection of the comparative objects in this study is based on the similarity in characteristics between Ninja Xpress (an ISO 9001:2015 certified logistics company) and Pahala Express (a non-ISO certified logistics company). Both companies offer relatively similar service characteristics and possess a comparable level of popularity in Indonesia. Furthermore, previous studies examining customer satisfaction in non-ISO certified logistics companies remain limited, primarily because most logistics companies in Indonesia have already obtained ISO certification. Consequently, when Pahala Express was selected as the non-certified research object, it was necessary to identify an ISO certified company with comparable service characteristics and market presence. Based on field observations, Ninja Xpress was determined to be the most appropriate comparative company. The purpose of this study is to examine the effect of service quality on customer satisfaction and to analyze differences in customer satisfaction levels between ISO 9001:2015 certified and non-certified logistics companies.

## RESULTS AND DISCUSSION

Based on the results of the study, this research focuses on a comparative analysis of the effect of service quality on customer satisfaction between two logistics companies: Ninja Xpress (certified under ISO 9001:2015) and Pahala Express (not certified under ISO 9001:2015). The use of ISO 9001:2015 certification in the logistics industry has become a central point of attention, as it is widely considered to enhance overall service quality and contribute to higher levels of customer satisfaction (Humairo et al., 2023). The analysis conducted using the Independent Sample t-Test provides several important findings that either support or challenge this assumption. The results of the analysis using the Independent Sample t-Test are presented in Table 1 and Table 2.

**Table 1.** Independent Samples Test 1

		<b>F</b>	<b>Sig.</b>	<b>t</b>
Average Customer Satisfaction Score	Equal variances assumed	.022	.881	7.084
	Equal variances not assumed			7.081

**Table 2.** Independent Samples Test 2

		<b>df</b>	<b>Sig. (2-tailed)</b>	<b>Mean Difference</b>
Average Customer Satisfaction Score	Equal variances assumed	103	.000	.19810
	Equal variances not assumed	102.642	.000	.19810

### Levene's Test for Equality of Variances

The first step in this comparative analysis was to assess the equality of variances between the Ninja Xpress and Pahala Express data groups using Levene's Test for Equality of Variances. The test results show an F-value of 0.022 with a significance

value (Sig.) of 0.881. Since the Sig. value is higher than the commonly accepted threshold of 0.05, it can be concluded that there is no significant difference in the variances of the two data groups. Thus, the assumption of homogeneity of variances is met. This condition is crucial as it ensures that the subsequent comparison of means using the independent t-test is valid. In the context of this research, the result indicates that the variability of data between Ninja Xpress and Pahala Express customers is relatively uniform, allowing for an objective comparison of customer satisfaction means.

### **Independent Sample t-Test**

After confirming homogeneity of variances, the next analysis involved conducting an Independent Sample t-Test to determine whether there is a significant difference in the average customer satisfaction levels between Ninja Xpress and Pahala Express. The results show a t-value of 7.084 with 103 degrees of freedom (df), and a Sig. (2-tailed) value of  $< 0.001$ . This Sig. value is far below the 0.05 threshold, indicating a statistically significant difference in mean customer satisfaction between the two companies. Hence, the results confirm that customers of Ninja Xpress (the ISO 9001:2015–certified company) report higher satisfaction levels compared to customers of Pahala Express (the non-certified company). This difference is further demonstrated by the Mean Difference value of 0.19810, indicating that the average satisfaction level of Ninja Xpress customers is approximately 0.198 points higher than that of Pahala Express customers. The 95% Confidence Interval for this mean difference ranges from 0.14263 to 0.25356, reinforcing that there is a 95% likelihood that the true mean difference falls within this interval. These findings indicate a statistically significant and reliable difference, supporting the conclusion that Ninja Xpress provides a higher level of customer satisfaction than Pahala Express.

### **Discussion**

The findings from the Independent Sample t-Test confirm a significant difference in customer satisfaction between Ninja Xpress (ISO 9001:2015–certified) and Pahala Express (non-certified). The extremely small Sig. (2-tailed) value ( $< 0.001$ ) further underscores this significant difference. In other words, ISO 9001:2015 certification has a demonstrated positive impact on customer satisfaction in the case of Ninja Xpress compared to Pahala Express.

In the logistics industry, ISO certification is often regarded as an indicator of superior service quality (Astuti, 2015). ISO certification ensures that a company adheres to a robust quality management system aligned with international standards, ultimately enhancing overall service quality (Georgiev & Georgiev, 2015; Ismyrlis & Moschidis, 2015). ISO 9001:2015 is specifically designed to help organizations develop a consistent quality management system focused on customer satisfaction and continuous improvement of product or service quality (Mehfooz & Lodhi, 2015; Sumaedi & Rakhmawati, 2017).

In this research, the difference in customer satisfaction between Ninja Xpress and Pahala Express may stem from the implementation of ISO 9001:2015 standards at Ninja Xpress, which ensures consistency in service delivery and effective operational management. ISO 9001:2015 emphasizes structured internal

processes, quality control, and customer-focused approaches (Bayer & Vega, 2015; Sitnikov & Bocean, 2015). With adherence to these standards, Ninja Xpress is more likely to provide reliable, responsive, and expectation-aligned services.

Organizations that are ISO 9001:2015 certified typically gain several advantages that directly shape customer experience. First, such companies generally have well-defined risk management and quality control procedures (Ramphal, 2015; Sitnikov & Bocean, 2015). Operational issues such as late deliveries or damaged goods, can be quickly identified and resolved before affecting customers. For example, Ninja Xpress has more structured problem-handling procedures than Pahala Express, resulting in higher customer satisfaction. In contrast, Pahala Express may experience operational challenges due to the lack of standardized systems, leading to customer dissatisfaction in the event of service disruptions.

Furthermore, Ninja Xpress is expected to handle customer complaints more effectively, as ISO 9001:2015 requires a systematic approach to managing complaints (Fonseca, 2015; Neves et al., 2015). This includes documenting complaints, identifying root causes, implementing corrective actions, and preventing recurrence (Rogala, 2015). When customers perceive that their complaints are addressed properly, they tend to be more satisfied and loyal (Adzhigalieva et al., 2022; Fadilah et al., 2023; Saprudin & Albanna, 2023; Sari et al., 2023). Conversely, a lack of structured complaint handling at Pahala Express may leave customers feeling neglected or dissatisfied.

### **Influence of LSQ Dimensions on Customer Satisfaction**

The dimensions measured in the LSQ model also play a crucial role in shaping customer satisfaction differences. The LSQ framework evaluates service quality based on six dimensions: reliability, responsiveness, assurance, empathy, tangibility, and process and procedures. ISO 9001:2015 implementation at Ninja Xpress strengthens each of these dimensions: First, reliability: ISO 9001:2015 emphasizes operational reliability, ensuring timely deliveries, secure handling of goods, and fulfillment of service commitments (Fonseca, 2015; Ramphal, 2015). Second, responsiveness—a robust quality management system enables faster and more effective responses to customer needs (Nagy & Szentesi, 2024; Sobaih & AlSaif, 2023). Ninja Xpress is positioned to provide better responsiveness compared to Pahala Express (Alhammadi, 2023). Third is assurance. As an ISO-certified company, Ninja Xpress benefits from increased customer trust and perceived service security (Ekawati et al., 2023; Kou & Vigil, 2019).

Fourth is empathy. ISO 9001:2015-certified organizations typically provide better staff training in customer service, resulting in greater empathy toward customer needs (Fonseca, 2015; Mehfooz & Lodhi, 2015; Ramphal, 2015). Next, tangibility—certified firms tend to pay more attention to physical aspects of service operations such as cleanliness, office layout, and packaging quality (Pinet & Pinet, 2015). Lastly, process and procedures. ISO certification requires clearly defined and structured procedures across operational workflows, minimizing errors and improving efficiency.

In addition to the aforementioned service quality dimensions, ISO 9001:2015 certification also helps companies improve operational efficiency, which ultimately

enhances the customer experience (Pinet & Pinet, 2015; Sansalvador & Brotons, 2015). More efficient processes can reduce waiting times, minimize errors, and ensure that goods are delivered safely and on time (Iskanderani et al., 2023; Onaga-Nishimura et al., 2022). Ninja Xpress, as an ISO 9001:2015-certified company, benefits from a more robust internal system to support such efficiencies, whereas Pahala Express may encounter operational challenges that contribute to customer dissatisfaction.

### **Impact of ISO Certification on Customer Satisfaction**

The findings of this study provide empirical evidence that ISO 9001:2015 certification has a significant impact on customer satisfaction in the logistics industry (Tomic & Spasojevic Brkic, 2019; Vasić et al., 2015; Skrifvars, 2025). The certification helps companies establish well-structured and effective systems for managing service quality (Ferreira et al., 2015; Sansalvador & Brotons, 2015). By ensuring that organizations follow clear procedures at every operational stage, ISO-certified companies can consistently deliver reliable services that directly enhance customer satisfaction (Fonseca, 2015). However, it is important to note that although ISO 9001:2015 certification contributes positively to customer satisfaction, non-certified companies may still achieve high customer satisfaction through continuous improvements in service quality. ISO certification is not the sole determinant of excellent service quality (Fonseca, 2015; Islam et al., 2015).

## **CONCLUSION**

Based on the findings of this study, it can be concluded that there is a significant difference in customer satisfaction between the ISO-certified logistics company (Ninja Xpress) and the non-certified company (Pahala Express). The higher average level of customer satisfaction reported by Ninja Xpress indicates that ISO certification contributes to improved customer satisfaction. This study provides several practical implications for the logistics industry in Indonesia. First, for companies already certified under ISO 9001:2015, such as Ninja Xpress, the results demonstrate that investments in implementing ISO 9001:2015 standards have a positive impact on customer satisfaction. ISO 9001:2015 certification may serve as a competitive advantage that not only enhances service quality but also strengthens the company's position in the market. Ninja Xpress can continue to leverage this certification in its efforts to maintain and further improve customer satisfaction.

For companies that have not yet obtained ISO 9001:2015 certification, such as Pahala Express, these findings offer important evaluative insights. Although ISO certification has been shown to provide advantages, Pahala Express can still enhance service quality through other approaches, such as improving operational efficiency, strengthening its focus on customer satisfaction, and developing a more robust quality management system. ISO 9001:2015 certification may be considered as a long-term strategic option; however, improvements in service quality do not have to rely solely on certification.

This study has several limitations that should be acknowledged. First, the data were entirely collected through questionnaires based on respondents' perceptions, making the findings susceptible to subjective bias, social desirability bias, and potential response inconsistencies, which may affect the accuracy of the results. Second, the analysis focused only on service quality and customer satisfaction, whereas customer satisfaction in the logistics industry may also be influenced by other factors such as pricing, brand reputation, prior service experience, and technological innovation. Therefore, future research is recommended to include a broader range of variables and employ a more comprehensive analytical approach.

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