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ANALYSIS OF SERVICE QUALITY ISSUES IN J&T EXPRESS USING CHECK SHEETS, PARETO CHART, AND FISHBONE DIAGRAM

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Abstract

This study investigates the recurring service quality issues at J&T Express, a prominent logistics company in Indonesia. The rapid growth of the logistics industry, fueled by the rise in online shopping, has resulted in significant challenges in maintaining service quality. Frequent customer complaints, such as lost packages, damaged goods, wrong deliveries, and poor response to inquiries, were identified through customer feedback on various online platforms. To address these issues, the study employs quality management tools including check sheets, Pareto charts, and fishbone diagrams. Check sheets were used to systematically record customer complaints and identify the most frequent issues. The Pareto chart, based on the 80/20 principle, highlighted that a small number of issues, such as lost packages, contributed significantly to the overall complaints. The fishbone diagram helped in identifying the root causes of these problems, uncovering issues in areas such as technology, human resources, operational processes, materials, and environmental factors. Based on the analysis, the study proposes targeted recommendations for improving service quality at J&T Express. These recommendations include strengthening tracking systems, enhancing customer service responsiveness, improving package handling procedures, and implementing standardized operational processes. The findings of this study contribute to the understanding of service quality management in the logistics sector and offer practical insights for companies looking to enhance customer satisfaction.

Keywords: Logistics Industry; Service Quality; Quality Management Tools; Customer Satisfaction; Check Sheets; Pareto Chart; Fishbone Diagram

A. Introduction

Shipping goods has become a crucial factor in the increasingly globalized global economy. In today's digital era, the need for fast, safe, and efficient delivery has become more urgent, not only to meet the demands of the local market but also to support international trade. This creates significant challenges for logistics companies in maintaining service quality, given that shipping is at the heart of economic activities, especially in the e-commerce sector.

In 2026, the logistics sector in Indonesia, particularly in transportation and warehousing, is expected to show positive performance. Logistics efficiency and effectiveness are often considered key factors influencing Indonesia's competitiveness in the global arena. With the projected growing volume, this sector reflects the economic vitality of Indonesia throughout 2026. Setijadi, Founder & CEO of Supply Chain Indonesia, states that the logistics sector is predicted to contribute significantly to Indonesia's Gross Domestic Product (GDP), amounting to IDR 1,703.21 trillion, with a growth rate of 9.31% from consumer-to-consumer (c-to-c) transactions. This projection is based on data analysis from the Central Statistics Agency (BPS), further indicating that logistics will play a pivotal role in supporting Indonesia's future economic development (CNBC Indonesia, 2026).

The growth of the shipping services industry in Indonesia has been rapid, in line with the increase in online shopping activities. The shift in consumer behavior towards digital shopping has fueled demand for faster and more reliable logistics services. The e-commerce logistics industry in Indonesia is entering a golden era. According to the latest projections quoted from XPDCargo (2025), the market value of e-commerce logistics is expected to reach USD 5.27 billion by 2025, with a compound annual growth rate (CAGR) of 8.52% from 2025 to 2030. This figure shows the crucial role

of logistics in supporting digital transformation and national economic growth. However, this condition demands logistics companies to maintain service quality to continue meeting customers' growing expectations for delivery speed, package safety, and satisfaction during the shipping process. Nevertheless, the high volume of shipments often does not align with operational quality on the ground, risking a decline in service quality.

Logistics issues in Indonesia remain a significant challenge, especially in terms of infrastructure, cost, and supply chain management. One of the main issues that often arises is the limitation of infrastructure, particularly in remote areas, which hinders the smooth distribution of goods. Additionally, high logistics costs are also a barrier to Indonesia's competitiveness, where expensive transportation costs can affect product prices and complicate the business environment. Another issue that frequently occurs is inefficiency in supply chain management, often causing delayed shipments and errors in distribution. Irregularities in tracking systems and inventory management further exacerbate this situation. This indicates that although the logistics industry in Indonesia is growing rapidly, many aspects still need to be improved to ensure smoother and more efficient operational processes (Selog Astra, 2026).

J&T Express is one of the leading logistics companies in Indonesia. Given the current logistics conditions in Indonesia, J&T Express faces significant challenges in ensuring that service quality is maintained amidst high demand and operational complexity. The company plays an important role in the goods delivery ecosystem but often faces complaints that indicate weaknesses in quality management. Ongoing customer complaints on various online platforms such as X, TikTok, and Google Review show recurring service disruptions. Several issues often complained about by customers include lost packages, damaged packages, wrong deliveries, unupdated delivery statuses, and lack of response from the company regarding post-purchase complaints. These incidents show that the problems faced by logistics companies are not only concentrated at one point in the process but are spread across several stages, from sorting, transit between warehouses, to delivery by couriers. This condition indicates weaknesses in the quality control system that must be immediately addressed to maintain customer satisfaction.

To analyze these problems, research focusing on the analysis of service quality issues at J&T Express using a structured methodology is crucial to ensure sustained customer satisfaction. By applying statistical tools such as check sheets, Pareto charts, and fishbone diagrams, opportunities will arise to identify and address factors causing the decline in service quality (Pham & Do, 2023). Based on quality management principles that aim to minimize defects in processes and improve customer satisfaction, various analytical tools can support decision-making that is accurate and data-driven (Venkatesh & Sumangala, 2018). Check sheets function to collect data systematically, allowing users to understand patterns and frequencies of problems occurring (Fricker & Kazmierski, 1997). Additionally, the Pareto chart, known for the 80/20 principle, helps prioritize issues that have the most significant impact on service quality, thus making it easier to target resources efficiently (Hart et al., 2015).

In this context, it is important to recognize that service quality not only affects customer experience but also directly impacts a company's performance and reputation in the long term. An integrated approach with seven quality control tools is expected to provide a holistic approach to improving service quality at J&T Express, as well as addressing the challenges faced by the logistics industry in this digital era (Surya et al., 2025). Theoretically, this research is expected to add understanding regarding the application of quality tools in the logistics industry in Indonesia and provide insights for future studies related to customer data-driven service quality control. Practically, this study is expected to offer applicable recommendations for J&T Express and other logistics companies to improve service quality, reduce customer complaints, and enhance operational efficiency in goods delivery.

B. Method

This study employs a mixed-methods approach, combining quantitative and qualitative analyses, to examine and address service quality issues at J&T Express. The tools used for data collection and analysis include Check Sheets, Pareto Chart, and Fishbone Diagram, each playing a crucial role in identifying, categorizing, and understanding the root causes of customer complaints. Check Sheets are used as a data collection tool to systematically record the frequency of specific service issues reported by customers. In the study by Adhim et al. (2025), check sheets were used to record the frequency of product defects. This tool enables the researcher to gather structured data on recurring complaints from various online platforms such as social media and review sites. By documenting the type and number of complaints, Check Sheets provide a clear overview of the most frequent problems experienced by customers. This initial step helps in quantifying the scope of issues and in prioritizing the areas that require immediate attention.

The Pareto Chart is used to analyze the collected data and prioritize the issues based on their frequency and impact. Applying the 80/20 rule, this tool helps identify which few problems contribute most significantly to the total complaints. The Pareto Chart visually displays the most common types of complaints, such as "lost packages," "damaged goods," and "wrong deliveries," allowing the company to focus its efforts on solving the most critical issues first. This prioritization enables resource allocation to be more efficient and ensures that the company addresses the most pressing concerns that have the highest customer impact.

The Fishbone Diagram, also known as the Ishikawa Diagram or Cause-and-Effect Diagram, is utilized to analyze the root causes of the identified issues. This tool systematically categorizes potential causes into several broad areas: Man (Human Resources), Machine (Technology and Equipment), Material (Packaging and Products), Method (Processes and Procedures), Measurement (Quality Control), and Environment. Each category is examined to identify underlying factors that contribute to the problems such as package loss, delay in tracking, or misdeliveries. By identifying and visualizing the root causes, the Fishbone Diagram provides a clear understanding of where improvements are needed across various operational levels.

The data used in this study were sourced from publicly available customer complaints posted on platforms like Twitter, TikTok, and Google Reviews. These complaints were gathered over a specific period and categorized according to their nature. The Check Sheets recorded the frequency of these issues, while the Pareto Chart helped in visualizing the distribution of complaints. Finally, the Fishbone Diagram was used to conduct a root cause analysis of the dominant problems identified through the Check Sheets and Pareto Chart. This methodical approach allows for an in-depth understanding of the operational weaknesses that need to be addressed to improve service quality at J&T Express.

C. Findings and Discussion

Check Sheets Analysis

Check Sheets are used in this study to collect and record the frequency of customer complaints regarding J&T Express services. This tool functions to map various recurring issues in the package delivery process. In the table below, each category of complaints received from customers is recorded using tally symbols to indicate the frequency of occurrences, followed by the percentage contribution of each category to the total recorded complaints. The data collected through check sheets provides an initial overview of the most dominant service quality issues, which are then analyzed to find appropriate corrective solutions. Table 1 shows the recorded complaints, covering issues such as lost packages, damaged goods, wrong deliveries, and unaddressed complaints.

Table 1. Check Sheets

Category	Tally	Frequency	Percentage
Status Package Not Updated	//// ///	7	10.77%
Damaged Package	//// ////	8	12.31%
Wrong Delivery	//// //// /	9	13.85%
Lost Package	//// //// //// //// ///// //// ///////	31	47.69%
Complaints Not Responded/Resolved	//// //// //	10	15.38%
Total	65	**100%**	

***Source**: Data processed (2026)*

The check sheets reveal that the most frequent customer complaint at J&T Express is about lost packages, which accounts for 31 cases out of a total of 65 complaints. This number is significantly higher than the other categories, indicating a serious issue in the management and monitoring of package flow. The next most prominent complaints are unresponded complaints, wrong deliveries, and damaged packages, each with lower frequencies but still reflecting weaknesses in customer service and distribution accuracy. Meanwhile, the "status not updated" complaint is the least frequent, yet it still impacts the certainty of information for customers. Overall, the check sheets show that most complaints are related to core operational aspects, particularly package security and delivery accuracy.

Pareto Chart Analysis

From the complaints recorded through check sheets, it is evident that several categories of complaints or service disruptions appear more frequently than others. To identify the problem groups contributing the most to the total complaints, the data was then analyzed using the 80/20 principle through a Pareto chart. This approach helps map the most dominant complaint categories so that corrective actions can be focused on aspects that have the greatest impact on service quality.

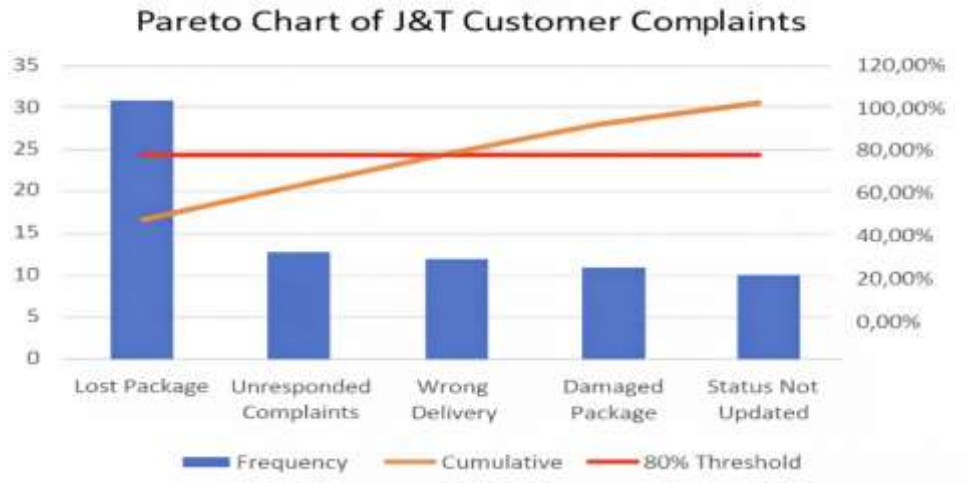


Chart 1. Pareto Chart

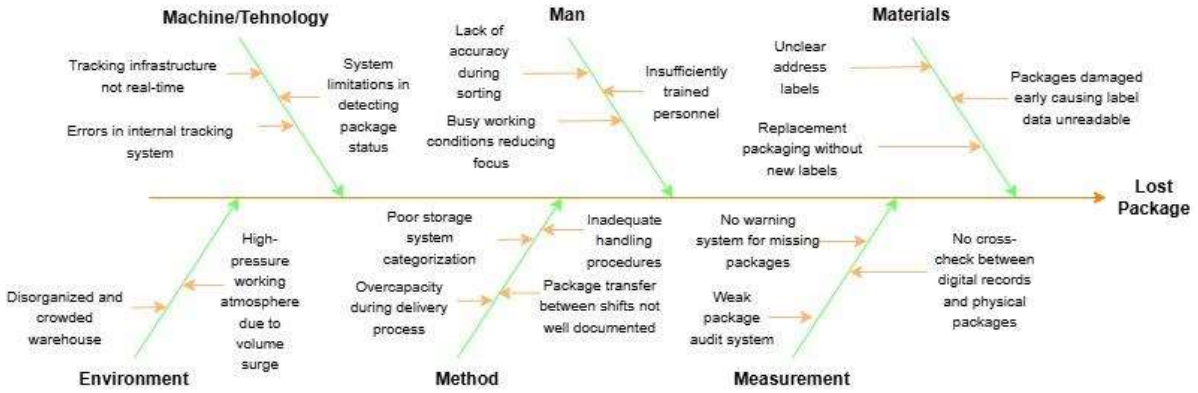
Source: Data processed (2026)

The Pareto chart shows that complaints are not evenly distributed, with the 80% threshold not being reached until only the top three categories are considered. Specifically, "lost packages" contribute 47.69%, followed by "unresponded complaints" at 15.38% and "wrong deliveries" at 13.85%, bringing the cumulative total for these three categories to 76.92%. The cumulative line only surpasses the 80%

threshold when the fourth category, "damaged packages," is included, bringing the total to 89.23%. The practical implication is that the primary focus for improvement should remain on the top three categories due to their significant contribution. However, to surpass the 80% threshold, improvement efforts must also include handling damaged packages. Therefore, the next operational actions should include strengthening package flow control to reduce losses, enhancing customer service responsiveness, improving sorting and verification processes to prevent wrong deliveries, and refining package handling procedures to minimize the risk of damage.

Fishbone Diagram Analysis

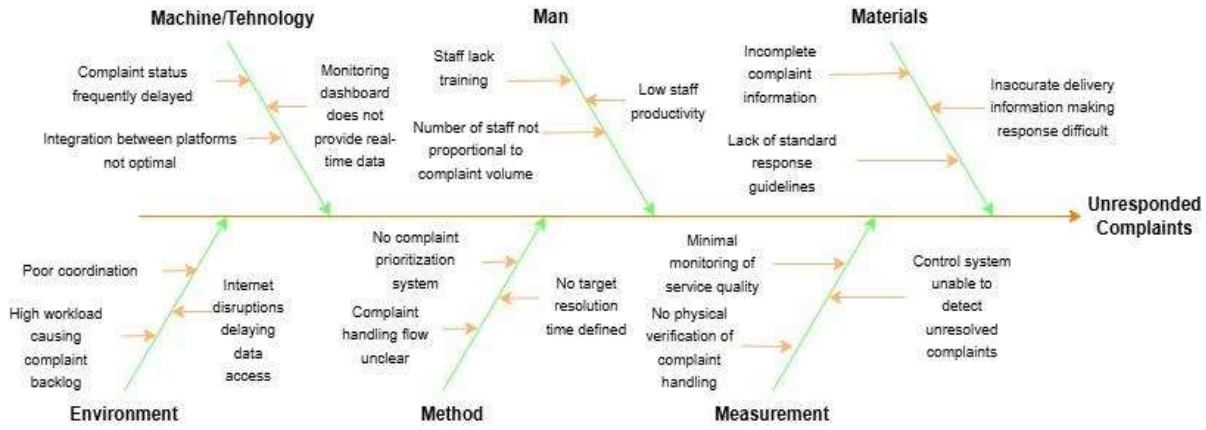
After identifying the priority complaint categories through check sheets and Pareto analysis, the next step is to trace the factors that trigger these problems. To do this, a root cause analysis is conducted using the fishbone diagram, allowing each contributing factor to be mapped more systematically. This approach helps to identify the sources of the problem from various aspects, ensuring that corrective actions can be directed at the true root causes of the issues.



Picture 1. Fishbone Diagram of Lost Package Causes

Source: Data processed (2026)

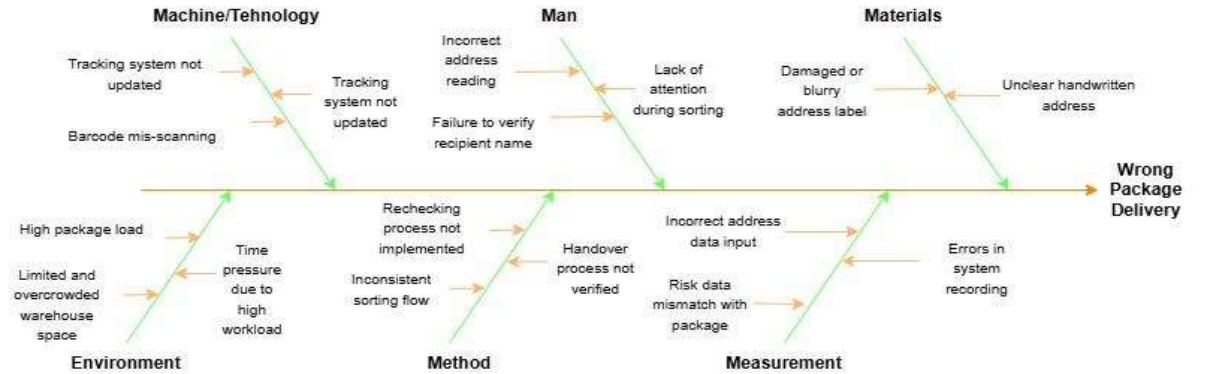
In the case of lost packages, several factors contribute to the loss of package tracking at various stages of the process. From the machine/technology perspective, the internal tracking system is often delayed in updating the status and has not yet been able to detect anomalies in package movement in real-time. From the man perspective, the accuracy of sorting staff decreases when workloads are high, compounded by uneven staff experience, which results in some packages not being checked thoroughly. From the materials category, packages arriving with damaged or unclear labels, as well as the use of packaging without re-writing addresses, make further identification difficult. The environment factor also plays a role, as crowded storage areas and poorly structured warehouse arrangements cause packages to be easily misplaced in unnoticed locations. In terms of method, the movement of packages has not been well documented, and overcapacity leads to some packages being lost from records. Meanwhile, from the measurement perspective, the lack of checks between physical data and system data, along with weak daily audits, causes discrepancies in the package count to go unnoticed.



Picture 2. Fishbone Diagram: Unresponded Complaints

Source: Data processed (2026)

For the issue of unresponded complaints, several factors appear to contribute to delays and failures in handling customer complaints. From the machine/technology perspective, complaint statuses are often updated late, and the monitoring dashboard does not provide real-time data. Integration across reporting channels is also not optimal, causing incoming information to not always synchronize. From the man perspective, the number of staff is insufficient to handle the volume of complaints, and low productivity, coupled with uneven technical skills, results in slow response times. In the materials category, many complaints are received with incomplete information, both regarding tracking numbers and issue details, and there is no standard or guideline for responding to complaints, leading to inconsistent responses. The environment factor also plays a role, especially the high work pressure and internet connectivity issues, which cause complaint backlogs and slow data access. From the method perspective, the complaint handling process is unclear, and there is no prioritization system or resolution time targets to be met, making it difficult for staff to determine which complaints should be addressed first. Meanwhile, from the measurement perspective, there is a lack of service quality oversight and physical package inspections for complaints related to goods, and weak system controls in detecting unaddressed complaints result in many cases not being handled promptly.

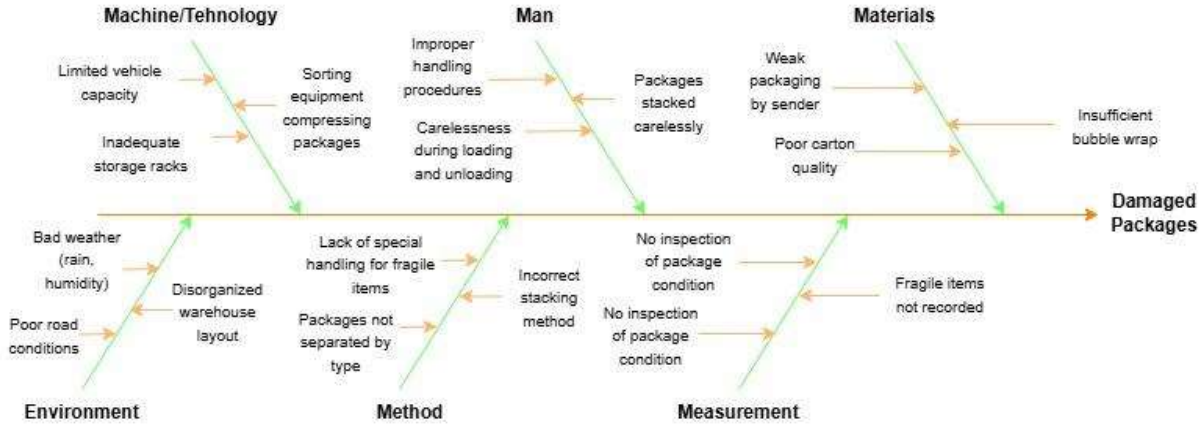


Picture 3. Fishbone Diagram: Wrong Package Delivery

Source: Data processed (2026)

In the case of wrong package deliveries, several factors from various operational aspects are interconnected and contribute to the occurrence of delivery errors. From the machine/technology perspective, issues often arise due to inaccurate barcode scanning, applications not updating locations

in a timely manner, and labels that are not clearly readable by the scanner. The man factor also plays a significant role, such as errors in reading addresses, lack of attention during the sorting process, and negligence in checking the recipient's name. In the materials category, damaged or blurry address labels and illegible handwriting can trigger misdeliveries, compounded by packages being mixed up during sorting. From the environment perspective, high package loads and warehouses that are too full or cramped make workflows more susceptible to mistakes. In terms of method, several challenges arise because the standard operating procedure (SOP) for double-checking is not consistently applied, the sorting process is inconsistent, and the handover process is poorly documented. Finally, from the measurement perspective, incorrect address input and discrepancies between the tracking number and the package received increase the likelihood of misdeliveries, along with errors in system records that hinder accurate package tracking.



Picture 4. Fishbone Diagram: Damaged Packages

Source: Data processed (2026)

In the case of damaged packages, the damage results from a combination of interrelated factors throughout the operational process. From the machine/technology perspective, damage is often triggered by inadequate vehicle storage, overcrowded storage racks, and sorting equipment that crushes the packages. The man factor also plays a role, such as handling that does not follow SOPs, careless stacking of packages, and lack of caution during loading or unloading processes. In the materials category, insufficient packaging strength by the sender, poor-quality cardboard, and minimal use of protective materials like bubble wrap make the packages more prone to damage. The environment also affects, particularly adverse weather conditions like rain or humidity that impact package quality, along with poor road conditions and disorganized warehouse layouts. From the method perspective, problems arise because SOPs for handling fragile items are not implemented, packages are not separated according to type, and improper stacking processes occur. Finally, from the measurement perspective, the lack of package condition checks, insufficient damage inspections, and poorly recorded "fragile" labels lead to undetected damage potential from the start, increasing the risk of package damage during distribution.

After identifying and analyzing the root causes of the four main complaint categories using the fishbone diagram, it becomes evident that most of the sources of the issues are not isolated but rather stem from recurring patterns across technology, human resources, procedures, environment, materials, and measurement. This finding indicates that improvements cannot focus solely on one point but should be directed toward strengthening the processes as a whole, especially the consistent application of SOPs, improving system accuracy, refining sorting and recording workflows, and enhancing staff competence and attention to detail. By understanding the relationships between these factors,

improvement steps can be more precisely formulated and aligned with the conditions on the ground, providing a foundation for formulating recommendations for enhancing service quality.

D. CONCLUSION

This study highlights that J&T Express's service quality still faces several operational challenges that directly impact customer experience. Based on complaint data collected from various online platforms and analyzed using check sheets and Pareto charts, it was found that four key issues emerged dominantly: lost packages, damaged goods, unresponded complaints, and wrong deliveries. The Pareto analysis confirmed that these four categories contributed the most to the total complaints, making them the primary focus for improvement. Root cause analysis using the fishbone diagram revealed that these issues were not caused by a single factor but resulted from a combination of insufficient procedures, poor package handling, incorrect identification, and inadequate coordination and customer service responsiveness. These findings emphasize that improving service quality requires process improvements, stronger monitoring systems, better staff competence, and enhanced information technology support. Overall, this research underscores the importance of customer complaints as a critical tool in evaluating logistics service quality. By systematically analyzing complaint data and tracing the root causes, companies can identify areas in their operational flow that require special attention. This approach provides a clearer and more structured direction for formulating relevant corrective actions to enhance service quality and operational efficiency.

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