



The Impact of Voyage Quality and Customer Experience Management on Customer Satisfaction: A Case Study of Pelindo III Tanjung Emas Port, Semarang

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ABSTRACT

Ports are integral to global trade and economic development, serving as essential hubs for maritime transport and logistics. This study explores the impact of voyage quality and customer experience management on customer satisfaction at Pelindo III Tanjung Emas Port, Semarang. Employing a structured analytical approach, the research examines critical factors such as service quality, administrative efficiency, technological support, and customer communication. Data from port users reveal significant challenges, including delays, fluctuating container traffic, and gaps in proactive communication, which adversely affect satisfaction levels. The findings demonstrate that voyage quality and customer experience management significantly influence customer satisfaction, both independently and in combination. By addressing administrative delays, enhancing technology-driven solutions, and fostering clear communication, the port can improve operational efficiency and user satisfaction. These insights underscore the importance of integrating service quality with customer-centric strategies to drive competitiveness and sustainability in the maritime industry.

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INTRODUCTION

The maritime economic sector plays a pivotal role in global trade and economic development, with ports serving as the cornerstone of this sector. Ports act as gateways for the export-import industry, facilitating a wide array of services,

including shipping, transportation, and cargo handling. These services encompass guiding, towing, mooring, and anchoring operations, alongside cargo handling activities such as loading, unloading, transshipment, and storage [1], [3]. The

effective functioning of ports, therefore, is essential to ensure smooth and efficient trade operations.

As one of Indonesia's strategic ports, PT Pelabuhan Indonesia III (Persero) Tanjung Emas Semarang Branch (Pelindo III Tanjung Emas) plays a critical role in supporting regional and national trade. The port is a key economic hub for Central Java, connecting Java Island to other Indonesian regions and international markets. Given its strategic importance, Pelindo III Tanjung Emas is tasked with continually enhancing its capacity and service quality to meet the evolving needs of its users. Despite its significance, the port has faced challenges in maintaining customer satisfaction, with recurring complaints reported from 2020 to 2022 through various channels, including WhatsApp, suggestion cards, emails, and direct correspondence [6], [10].

The COVID-19 pandemic further exacerbated these challenges, impacting passenger and freight flows and leading to restrictions that affected port productivity. However, the pandemic also underscored the need for Pelindo III Tanjung Emas to prioritize customer satisfaction as a critical performance metric. The main factors influencing customer satisfaction at the port include long waiting times, lack of information, process uncertainty, and inconsistent service quality [9], [14]. Moreover, the absence of proactive communication and limitations in customer experience management have further hindered customer satisfaction [2], [12].

Service quality and customer experience management are interrelated factors that significantly influence customer satisfaction. High-quality service, characterized by responsiveness, clarity, and efficiency, can enhance customer satisfaction and loyalty. At the same time, effective customer experience management, which includes addressing technological limitations, gathering customer feedback, and implementing innovative solutions, is crucial for improving the overall customer experience [12], [13]. As Keller and Keller (2016) emphasized, customer satisfaction is directly correlated with service quality, and businesses must focus on both to sustain competitive advantage [12].

The specific challenges at Pelindo III Tanjung Emas include administrative delays leading to prolonged container waiting times, inefficiencies in

document processing, and inadequate facilities. These issues contribute to customer dissatisfaction and hinder the port's ability to fully capitalize on its strategic location and economic potential. Addressing these challenges requires a comprehensive approach that integrates service quality improvements and customer experience enhancements.

Based on these observations, this study aims to analyze the impact of service quality and customer experience management on customer satisfaction at Pelindo III Tanjung Emas. The objectives are as follows:

1. To examine the influence of service quality on customer satisfaction.
2. To evaluate the role of customer experience management in enhancing customer satisfaction.
3. To investigate the combined effect of service quality and customer experience management on customer satisfaction.

By focusing on these objectives, this study contributes to the existing literature on maritime logistics and port management while offering practical insights for improving customer satisfaction at Pelindo III Tanjung Emas. The findings are expected to provide actionable recommendations for the port's management to address existing challenges and enhance service delivery.

The research hypotheses are as follows:

1. H1: Service quality has a significant effect on customer satisfaction at Pelindo III Tanjung Emas.
2. H2: Customer experience management has a significant effect on customer satisfaction at Pelindo III Tanjung Emas.
3. H3: Service quality and customer experience management jointly influence customer satisfaction at Pelindo III Tanjung Emas.

This study employs a mixed-methods approach, combining quantitative surveys and qualitative analysis to provide a comprehensive understanding of the factors affecting customer satisfaction. The research is conducted from March to August 2023, focusing on service users of Pelindo III Tanjung Emas, with data collected through observation, interviews, and questionnaires. The results are expected to inform

strategic initiatives for enhancing service quality and customer experience at the port, ultimately contributing to its long-term competitiveness and customer loyalty.

METHOD

This study adopts a structured approach to examine the relationship between service quality, customer experience management, and customer satisfaction at Pelindo III Tanjung Emas. The research methodology focuses on identifying and analyzing the dynamics of these factors to draw actionable insights. Customer satisfaction is influenced by the extent to which a service or product meets or exceeds consumer expectations. When consumer satisfaction exceeds expectations, it leads to positive outcomes such as repeat purchases, loyalty, and recommendations to others. Satisfaction is essentially a consumer's reaction to the fulfillment of their needs, characterized by an evaluation of whether a product or service's attributes provide comfort and meet their requirements.

Customer satisfaction also brings significant benefits to businesses, including increased customer loyalty and positive word-of-mouth communication. Loyalty, in turn, can drive revenue through repeat purchases, cross-selling, and up-selling opportunities. Positive recommendations amplify these benefits by attracting new customers and enhancing the company's reputation. In this research, five strategies were explored to enhance customer satisfaction. These include relational marketing, unconditional service guarantees, outstanding customer service, effective complaint handling, and continuous improvement strategies. Relational marketing builds long-term collaboration with customers, fostering loyalty and repeat business. Service guarantees reduce risk by offering assurances of quality, while outstanding customer service ensures differentiation from competitors. Effective complaint handling involves resolving issues promptly to restore customer trust. Continuous improvement involves refining service quality through training, education, and performance evaluations.

The factors influencing customer satisfaction include quality, consumer perception, price, company image, service provision stages, and

consumer interests. Expectations play a crucial role as they shape customer beliefs about the services they receive. Meeting or exceeding these expectations fosters commitment, repeat purchases, and loyalty. Service value, as perceived by customers, involves the evaluation of overall benefits relative to the standards set by the company. This value is reflected in consistent service excellence and quality benchmarks, which are essential for ensuring customer satisfaction.

This study employed cross-sectional research, collecting data from March to August 2023. Both primary and secondary data sources were used. Primary data were gathered through observations, structured interviews, and questionnaires, while secondary data included relevant books, journals, and corporate reports. The research population consisted of all service users at Pelindo III's Tanjung Emas Port Branch, with purposive sampling employed to ensure a representative sample. The final sample size was calculated at 97 respondents, determined using the Margin of Error formula with a 95% confidence level and a 5% margin of error. Data analysis was performed using Structural Equation Modeling (SEM) with SmartPLS software. The analysis involved coding and editing the responses for accuracy, followed by descriptive statistics to summarize the data. Reliability and validity tests ensured the robustness of the findings. SEM enabled the simultaneous evaluation of hypotheses, focusing on the relationships between service quality, customer experience management, and customer satisfaction.

RESULTS AND DISCUSSION

Descriptive Analysis

The descriptive analysis highlights significant variations in customer perceptions of service quality and customer experience management at Pelindo III Tanjung Emas. Customers acknowledged the tangible aspects of the port's infrastructure, including its modern facilities and equipment, which enhanced operational efficiency. However, notable weaknesses were identified in responsiveness and problem-solving capabilities, particularly during peak operational periods, leading to dissatisfaction.

In terms of customer experience management, gaps in proactive communication and technological support were prominent. Customers frequently expressed frustration with unclear procedures and insufficient guidance, emphasizing the need for streamlined communication and advanced technological systems to enhance their overall experience.

These findings suggest that while the port has invested in physical infrastructure, there is a pressing need to improve service delivery processes and communication mechanisms to meet customer expectations effectively.

Hypothesis Testing

The hypotheses were tested using Structural Equation Modeling (SEM), yielding the following key results:

1. **Service Quality and Customer Satisfaction:** The analysis revealed a significant positive relationship between service quality and customer satisfaction ($\beta = 0.62, p < 0.01$). This underscores the critical role of service attributes such as reliability, responsiveness, and assurance in shaping customer satisfaction levels. Customers value dependable and efficient services, and improvements in these areas directly enhance their overall satisfaction.
2. **Customer Experience Management and Customer Satisfaction:** A significant positive effect of customer experience management on customer satisfaction was observed ($\beta = 0.48, p < 0.01$). Effective use of technology, timely communication, and seamless processes emerged as essential drivers of satisfaction. Customers appreciate proactive and transparent communication, which builds trust and fosters positive experiences.
3. **Combined Effect:** The interaction between service quality and customer experience management produced a synergistic effect on customer satisfaction ($\beta = 0.73, p < 0.01$). This finding highlights the value of integrating these constructs to create a cohesive and positive customer experience. A combined focus on high-quality service delivery and exceptional customer experience management

amplifies customer satisfaction and loyalty.

The results align with existing literature, emphasizing the interdependence of service quality and customer experience management in driving satisfaction. This study highlights critical areas for improvement, including administrative delays, ineffective communication, and technological limitations. Addressing these issues is vital for enhancing customer satisfaction at Pelindo III Tanjung Emas.

- a. **Streamlining Administrative Processes:** One of the primary concerns identified in the study is the delay caused by administrative inefficiencies, particularly in documentation and customs clearance processes. Streamlining these operations through digital transformation and automated workflows can significantly reduce waiting times and enhance efficiency. For instance, implementing real-time tracking systems for documentation would allow customers to monitor their transactions, reducing uncertainty and improving satisfaction.
- b. **Enhancing Communication:** Communication emerged as a critical factor influencing customer satisfaction. Providing clear, timely information and ensuring proactive engagement with customers can alleviate frustration and build trust. Training employees in effective communication and equipping them with tools to address customer inquiries promptly can further improve service delivery.
- c. **Leveraging Advanced Technology:** Technological innovation plays a pivotal role in modern port operations. Upgrading IT infrastructure to include AI-driven chatbots, mobile applications, and predictive analytics can optimize resource allocation and improve customer interactions. These technologies enable personalized and

efficient service delivery, which is critical for maintaining customer satisfaction in competitive environments.

- d. **Employee Training and Development:** Employees are the backbone of service quality. Providing comprehensive training programs focused on customer service excellence, technical skills, and problem-solving can empower employees to deliver superior services. Regular performance evaluations and recognition for outstanding service can also motivate employees to maintain high standards.
- e. **Continuous Monitoring and Adaptation:** Regular assessments of customer satisfaction and service quality are essential for identifying emerging challenges and opportunities. Pelindo III Tanjung Emas should implement systematic feedback mechanisms, such as periodic surveys and focus groups, to capture customer insights. These insights can inform strategic initiatives aimed at addressing customer needs and enhancing service delivery.

The findings of this study extend beyond Pelindo III Tanjung Emas, offering valuable insights for the broader maritime and logistics industry. Ports worldwide face similar challenges in balancing operational efficiency with customer satisfaction. By addressing administrative inefficiencies, enhancing communication, and leveraging technology, ports can significantly improve their competitive positioning. The interplay between service quality and customer experience management underscores the need for a holistic approach to customer satisfaction. Ports that prioritize these factors are better equipped to adapt to evolving customer expectations and market dynamics, ensuring long-term sustainability and growth.

CONCLUSION

This study highlights the significant positive impact of service quality on customer satisfaction

at Pelindo III Tanjung Emas Port, while customer experience management primarily influences customer happiness by fostering emotional connections and loyalty. To address these findings, the port must streamline administrative processes, enhance communication strategies, leverage advanced technology, invest in employee training, and establish continuous feedback systems. Future research should explore additional variables like environmental sustainability and employee performance, and expand to other ports under Pelindo III to generate broader insights. These efforts will not only strengthen Pelindo III Tanjung Emas' competitive position but also advance Indonesia's maritime and logistics sector.

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