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ANALYSIS OF ADMINISTRATIVE PROCESSES IN GOODS LOADING AND UNLOADING ACTIVITIES FOR SERVICE TIME EFFICIENCY AT THE WAREHOUSE OF PT BGR LOGISTIK INDONESIA, DKI JAKARTA REGIONAL DIVISION

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Abstract

Warehouse operations are a crucial part of the service process, not only in terms of administrative process of loading-unloading activities, but also in ensuring accuracy and efficient service time. This study aims to examine in greater depth the analysis of administrative and loading-unloading processes in relation to time efficiency in service delivery, so that warehouse operations can provide benefits through improved time efficiency. This research uses a qualitative method with a descriptive-analytical approach. The data sources include primary data collected through interviews and observations, as well as secondary data obtained from company documents and relevant literature concerning administrative process of loading-unloading. Data collection techniques involved field observations, interviews, and documentation. The collected data were analyzed through data reduction, data presentation, and conclusion drawing. The results of the research show that the administrative process mechanism in loading-unloading regarding time efficiency has not fully complied with the established standard operating procedures. However, there are obstacles within these processes that affect time efficiency, particularly due to delays in the issuance of delivery orders or work orders. Optimization efforts have been carried out to improve warehouse service time efficiency by identifying types and sources of waste and minimizing them through lean management methods. These efforts successfully reduced the number of process stages from 19 to 14 by eliminating wasteful activities.

Keywords

Analysis; Administration; Loading-Unloading; Time Efficiency; Warehouse Services

INTRODUCTION

The logistics sector plays a crucial role in the global economy, serving as the backbone for the movement of goods, services, and information (Kristanto et al., 2022). In this context, operational efficiency, particularly in administrative processes and loading and unloading activities at warehousing facilities, is essential for optimizing service time. Warehousing functions as a strategic node in the supply chain, where effective management of goods flow and administrative documentation is key to ensuring timely delivery to customers. The success of logistics companies in meeting customer expectations not only reflects the internal performance of the company but also serves as an important indicator in evaluating the overall logistics performance of a country (Kusumastuti, 2020).

In the midst of a competitive global landscape, a country's logistics capabilities are often measured through the Logistics Performance Index (LPI) released by the World Bank. The LPI integrates six key indicators, including customs performance, infrastructure quality, ease of international shipping, logistics service competence, tracking capabilities, and delivery timeliness. An analysis of Indonesia's LPI data over the past five years (2018-2023) reveals concerning fluctuations, with a 0.15-point decline in 2023.

Figure 1. Indonesia's LPI Score 2012-2023

This decline specifically highlights the urgent need to improve delivery timeliness, tracking effectiveness, international delivery smoothness, service quality, and logistics staff competence, including document processing efficiency and operational expertise.

In the warehouse context, logistics performance is not only determined by transportation and infrastructure, but also by the efficiency of administrative and documentation processes. Delays in issuing work orders, delivery orders, and supporting warehouse documents may directly affect loading and unloading schedules, transporter waiting time, and service completion. Therefore, the administrative process at PT BGR Logistik Indonesia can be viewed as a micro-level reflection of broader logistics efficiency challenges, particularly in relation to timeliness and service reliability.

Although PT BGR Logistik Indonesia operates as a logistics and warehousing service provider, the company still faces various obstacles that impact service efficiency. The main issues include lengthy administrative document processing times, excessive loading and unloading wait times, suboptimal quality and availability of warehouse staff, and unpredictable schedules for goods requests, which often result in overtime (Prasetiyo et al., 2024). More specifically, delays in issuing delivery orders (DO) and work orders (WO) are significant obstacles. Ideally, DOs should be issued one day before loading and unloading, but they are often only available on the day of loading and unloading (two hours before the activity), triggering delays, miscoordination, and further operational constraints. In addition, human errors such as data entry errors exacerbate inefficiencies.

Table 1. Ideal and Actual Delivery Order Issuance Times at PT BGR Logistik Indonesia

Types of Documents	Ideal Time for Document Publication	Time of Document Issuance	Problem
Delivery Order	One day before loading and unloading	D-Day (2 hours before loading/unloading)	1. Administrative delays 2. Coordination between both parties 3. Internet network

(Source: researcher data, 2025)

The delay in Delivery Order issuance creates a chain effect in warehouse operations. When the document is received only on the day of loading or unloading, the warehouse team has limited time to prepare space, coordinate with checkers, arrange TKBM availability, and ensure that the transporter can be served according to schedule. This condition may increase waiting time, reduce coordination accuracy, and create inefficiency in the overall loading and unloading process.

Based on the urgency of this issue, this study aims to comprehensively analyze the administrative processes involved in loading and unloading activities at the PT BGR Logistik Indonesia Regional Division Warehouse in DKI Jakarta. The focus of the analysis includes identifying specific obstacles that affect service time efficiency, as well as formulating strategies for optimizing administrative processes by adopting lean management principles. The lean management approach was chosen due to its effectiveness in identifying and eliminating non-value-added activities and time wastage within a system (Purnomo, 2018).

The main contribution of this article is expected to be twofold: first, practically, the results of this study will provide measurable and applicable recommendations for PT BGR Logistik Indonesia to improve operational efficiency and warehouse service quality, particularly in the loading and unloading administration process. Second, academically, this article is expected to enrich the literature in the fields of logistics management, warehouse management, and the application of lean management in warehouse operations, offering new insights into supply chain optimization in a dynamic industrial environment.

LITERATURE REVIEW

Logistics management, as the process of planning, implementing, and controlling the flow of goods, information, and resources from the point of origin to consumption (Sugiarto & Suprayitno, 2023), has the functions of planning, budgeting, procurement, storage and distribution, maintenance, disposal, and control (Kusmayadi & Vikaliana, 2021). Its objectives include improving customer service, reducing costs, providing information, simplifying processes, managing risks, developing partnerships, and enhancing operational performance (Suprayitno et al., 2024). An integral part of logistics management is warehouse management, which focuses on managing the storage and issuance of goods to maintain stock value and availability efficiently (Handayani et al., 2023). Warehouse activities, from receiving to shipping and reporting, require Standard Operating Procedures (SOPs) as guidelines for consistency, efficiency, and quality (Nagari et al., 2024).

Administrative processes in warehousing, both in a narrow scope (document recording) and a broad scope (cooperation to achieve goals), play a vital role in ensuring the accuracy of inventory data and the smooth flow of goods (Rosmaniar et al., 2025). Loading and unloading activities, which involve the movement of goods and recording of quality/quantity, significantly affect operational efficiency and waiting time (Utami & Bachtiar, 2018). Factors such as infrastructure, administrative systems, human resources, regulations, and external conditions can influence the smoothness of loading and unloading (Prasetiyo et al., 2024). Service time efficiency is measured through indicators such as warehouse cycle time, loading and unloading waiting time, operational schedule accuracy, and material handling availability (Mustamin, 2023). To address inefficiencies, lean management methods are used, which focus on identifying and eliminating waste through five principles: identifying value, mapping the value stream, creating a smooth flow, pull system, and continuous improvement (Alam et al., 2024). The identification of waste includes seven types, such as waiting, overprocessing, and defects (Maulana, 2019).

Previous studies have examined issues related to logistics efficiency, warehouse operations, and the application of lean management. Dewi, Fifaldyovan, and Juniarti (2025), in their study on demurrage at the port of PT Krakatau Bandar Samudera, found that labor inefficiency and document delays were the main factors contributing to loading and unloading delays. This study shares similarities in discussing loading and unloading activities and operational efficiency, but its focus is on ports and ship demurrage aspects. Demilza et al. (2024) applied lean concepts to reduce lead time and transportation waste at PT. Eteris Prima Wiyasa, finding that long lead times were caused by transportation waiting times and labor shortages. The similarity with this study is the discussion of waiting time in logistics and the application of lean, but the focus is on transportation.

Pulungan and Fauzan (2024) highlight the optimization of warehouse administration recording through stock taking, showing an increase in stock accuracy. Although both discuss

warehouse administration, the study focuses on stock taking rather than loading and unloading time efficiency. Osman et al. (2024), through a comprehensive review, confirm the effectiveness of implementing Lean Warehousing in identifying and eliminating waste to improve warehouse operational efficiency and productivity. This study shares similarities in discussing warehouse efficiency and workflow optimization, but it focuses more on theoretical aspects and lean tools. Sabila and Cahyadi (2024) analyzed loading and unloading constraints at Belawan Port, identifying weather and equipment damage as the main obstacles. Meanwhile, they showed an increase in operational efficiency of loading and unloading at Makassar Container Terminal through terminal division and a late penalty system. Both studies are relevant to loading and unloading efficiency, but their focus is on ports and container terminals, not general logistics warehouses. Aziz et al. (2019) implemented lean thinking at the PT Dunia Express Transindo warehouse, identifying time wasted due to limitations in material handling and goods movement. The similarity with this study is the focus on warehouse efficiency and the application of lean thinking, but the study emphasizes improvements in physical layout and operational tools.

Research Gap Although there are many studies examining logistics efficiency, warehouse management, and lean management applications, there is still a significant gap. Most previous studies have tended to focus on specific contexts such as ports or container terminals (Dewi et al., 2025), or discuss lean aspects in the context of transportation or physical layout (Demilza et al., 2024). Some studies have also specifically examined administrative aspects such as stock taking (Pulungan & Fauzan, 2024), but have not comprehensively integrated them with the direct impact on the efficiency of loading and unloading activities in logistics warehouses in general. The empirical gap lies in the lack of research that specifically analyzes administrative process constraints in loading and unloading activities and efforts to optimize them using lean management to improve service time efficiency in the context of logistics warehouses in Indonesia.

Contribution This research aims to fill this gap by thoroughly analyzing the administrative processes and loading and unloading activities at the warehouse of PT BGR Logistik Indonesia's DKI Jakarta Regional Division, identifying the waste that occurs, and formulating optimization efforts using the lean management method. Scientifically, the contribution of this research lies in developing an understanding of the application of lean management in addressing service time inefficiencies stemming from administrative and operational loading and unloading processes in logistics warehouses. Practically, the results of this research are expected to provide concrete guidance for logistics companies to improve operational efficiency, reduce waiting times, and ultimately enhance customer satisfaction through systematic improvements to administrative workflows.

METHODS

This study adopts a qualitative approach with a case study type, which focuses on in-depth interpretation of the phenomena occurring at PT BGR Logistik Indonesia Regional Division DKI Jakarta (Renggo et al., 2022). The selection of this descriptive qualitative approach is based on the research objective to gain a detailed understanding of the administrative processes involved in loading and unloading activities, the challenges affecting service efficiency, and to formulate optimization efforts. This approach allows researchers to comprehensively describe field findings, supported by a theoretical foundation as an analytical framework (Suardi, 2019).

The research was conducted at PT BGR Logistik Indonesia Regional Division DKI Jakarta, located at Jl. Boulevard BGR No. 1 Perintis Kemerdekaan Kelapa Gading Barat, North Jakarta. The research period is not specified in the document, but the data presented was processed in 2025, indicating that the research lasted until that year.

In this qualitative study, there is no population or sample in the quantitative statistical sense. Instead, the researcher used purposive sampling techniques to determine key informants and supporting informants (Lenaini, 2021). The criteria for informants included direct involvement in administrative processes and loading/unloading activities, as well as a minimum of one year of work experience. Based on these criteria, the research informants are the Warehouse Manager (key informant), Warehouse Administrator, and Warehouse Checker (supporting informants). This selection ensures that the informants have in-depth and relevant knowledge related to the research focus.

The research tools used included interview guidelines for asking in-depth questions to informants, as well as observation checklists for recording important aspects during field observations (Ria, 2018). These tools were designed to ensure that the data collected was valid and relevant to the research topic.

The main data collection techniques used include observation, interviews, and document analysis (Ria, 2018). Observations were conducted directly in the field to observe loading and unloading activities and warehouse operations in order to obtain objective data on actual conditions (Ratnaningtyas, 2023). In-depth interviews were conducted with selected informants to gather detailed information and their perspectives (Assyakurrohim et al., 2022). Document analysis was conducted on internal company documents and related literature to support and complement the primary data (Ramli, 2023).

The collected data were analyzed using the Miles and Huberman (1992) model, which consists of four stages (Sugiyono, 2020):

1. Data Collection: Combining data from observations, interviews, and documentation.
2. Data Reduction: Filtering, simplifying, grouping, and selecting data that is most relevant to the research focus to eliminate unnecessary information (Ratnaningtyas, 2023).
3. Data Presentation: Presenting the reduced data in the form of brief descriptions, charts, flowcharts, or tables to facilitate interpretation and understanding (Ria, 2018).

4. Drawing Conclusions: Formulating interpretations based on patterns, themes, and relationships found in the data, as answers to the research questions (Ratnaningtyas, 2023).
5. To ensure data credibility, this study employs data source triangulation, which involves verifying information from interviews, observations, and supporting documents (Ratnaningtyas, 2023).

Measurement of Activity Time and Process Cycle Efficiency

The activity time in the loading and unloading administrative process was identified through field observation, interviews with warehouse personnel, and document review. Each activity was classified into Value Added, Non-Value Added, and Necessary Non-Value Added activities based on lean management principles. The total lead time was calculated by summing the duration of all activities in the process flow. Process Cycle Efficiency was calculated using the following formula:

PCE = Value Added Time / Total Lead Time × 100%

This calculation was used to compare the initial process condition with the proposed improved process based on lean management analysis.

RESULT AND DISCUSSION

This study aims to analyze the administrative processes involved in loading and unloading activities, identify obstacles that impact service efficiency, and optimize these processes using lean management methods at the warehouse of PT BGR Logistik Indonesia's DKI Jakarta Regional Division. The main findings are presented and discussed in relation to theory, previous research, and practical implications.

Research Results

The administrative process in loading and unloading activities at PT BGR Logistik Indonesia Divre DKI Jakarta follows a series of stages regulated by the Warehouse Operational Standard Operating Procedure (SOP) (Kartika et al., 2021). This flow involves coordination between the warehouse administrator, warehouse checker, warehouse manager, and operational staff. Findings indicate that activities begin with the receipt of a Work Order (WO) or Delivery Order (DO) from the customer's point of contact (PIC), which is then verified and processed for the creation of FIAT (a barcode-based fleet queueing system). After that, the goods are unloaded from the fleet to the unloading area, where quantity and quality checks are carried out, and then arranged on pallets. A similar process occurs for the release of goods, starting from the receipt of the DO, preparation of goods, to loading onto the fleet, accompanied by the issuance of a waybill and stock updates

in the WINA (Warehouse Integrated Application) system. Daily stock reports are also created, and stock taking activities are carried out periodically.

Although SOPs have been established, this study identified several significant barriers to service efficiency, namely:

1. Delays in Issuing DO/WO: These vital documents should ideally be issued one day before loading/unloading, but often they are only issued on the day itself (two hours before the activity), forcing the warehouse team to wait and sometimes work overtime.
2. Uncertainty in Delivery/Receipt Schedules: Sudden additions to the fleet outside of initial planning often occur, triggering overtime for the warehouse team.
3. Complexity of the Warehouse System Application (WINA): Although it helps with data accuracy, the workflow in the WINA system is considered too lengthy and has the potential to slow down administrative processes.
4. Availability of Loading and Unloading Labor (TKBM): A shortage of TKBM during high-volume periods results in longer waiting times for customers.
5. External Factors: Bad weather conditions (rain) can hinder loading and unloading processes because maintaining the quality of goods (plastic pellets) requires dry and clean conditions. Traffic congestion also affects the timeliness of transporter arrivals.

Table 2. Identification of Administrative Processes in Loading and Unloading Activities

No	Activity Description	Time (Minutes)	VA/NVA/ NNVA
1	A warehouse admin waits for a work order (WO) or delivery order (DO) from the customer's PIC via email.	60	NVA
2	The driver requests the WO or DO from the warehouse admin.	2	VA
3	The driver gives the WO or DO, driver's license (SIM), and vehicle registration (STNK) to the FIAT officer.	1	VA
4	The FIAT officer verifies the documents.	1	VA
5	The FIAT officer issues an Entry or Exit FIAT.	3	VA
6	The FIAT officer hands over the Entry or Exit FIAT and the WO or DO to the driver.	1	NVA
7	The driver goes to the designated warehouse.	5	NNVA
8	The driver gives the documents to the warehouse officer.	1	NNVA
9	The warehouse head checks the Entry or Exit FIAT and the WO or DO.	1	NNVA
10	The warehouse head issues a Shipping Order (SPB) or Loading Order (SPM) to the checker.	3	VA
11	The checker verifies the SPB or SPM.	1	VA

12	The checker prepares the space for loading and unloading.	10	VA
13	The checker inspects the conditions of the warehouse and the fleet.	2	VA
14	The checker documents the pre-loading/unloading process.	1	VA
15	The checker instructs the loading/unloading team (TKBM) to start unloading the goods.	100	VA
16	The checker documents the post-loading/unloading process.	2	VA
17	The checker gives the WO or DO and the Entry or Exit FIAT to the warehouse admin.	2	NNVA
18	The warehouse admin inputs the data and creates a delivery note in the WINA application.	10	VA
19	The warehouse admin hands over the WO or DO, the Entry or Exit FIAT, and the delivery note to the driver.	1	VA
Total *Lead Time*		207	
Total *Value Added Time*			137
Total Non-*Value Added Time*			61
Total Necessary Non-*Value Added Time*			9

(Source: researcher data, 2025)

Based on the identification of obstacles, lean management analysis was conducted to classify each activity into Value Added (VA), Non-Value Added (NVA), and Necessary Non-Value Added (NNVA). The initial total lead time was 207 minutes, with Value Added Time amounting to 137 minutes. The initial Process Cycle Efficiency (PCE) calculation showed an efficiency of 66.18%, with the remaining 33.82% being non-value-added activities that could be minimized or eliminated to improve process efficiency. Four main types of waste were identified: waiting (transporter waiting time, consumers waiting for TKBM, warehouse team waiting for transporter), overprocessing (long WINA system workflow), and defects (unclear FIAT barcode).

Table 3. Proposed Process Activities Based on Lean Management

No	Activity Description	Time (Minutes)	VA/NVA/ NNVA
1	Warehouse admin receives a work order (WO) or delivery order (DO) from the customer's PIC via email.	20	NNVA
2	The driver requests the WO or DO from the warehouse admin.	2	VA
3	The driver submits the WO or DO, driver's license (SIM), and vehicle registration (STNK) to the FIAT officer.	1	VA

4	The FIAT officer verifies the documents and issues an Entry or Exit FIAT (FIAT Masuk or Keluar).	3	VA
5	The FIAT officer hands over the Entry or Exit FIAT and the WO or DO to the driver.	1	NNVA
6	The driver proceeds to the designated warehouse and submits the documents to the warehouse officer.	5	NNVA
7	The warehouse head inspects the Entry or Exit FIAT and the WO or DO.	1	NNVA
8	The warehouse head issues a Shipping Order (SPB) or Loading Order (SPM) to the checker for verification.	3	VA
9	The checker prepares the space for loading and unloading.	10	VA
10	The checker inspects the warehouse and fleet conditions and documents them before the loading/unloading process.	2	VA
11	The checker instructs the loading/unloading team (TKBM) to start unloading or loading the goods.	100	VA
12	The checker documents the post-loading/unloading process.	1	VA
13	The checker submits the WO or DO and the Entry or Exit FIAT to the warehouse admin.	2	NNVA
14	The warehouse admin inputs the data and creates a delivery note (surat jalan) in the WINA application, then hands over the WO or DO, the Entry or Exit FIAT, and the delivery note to the driver.	10	VA
Total *Lead Time*		161	
Total *Value Added Time*			132
Total Necessary Non-*Value Added Time*			29

(Source: researcher data, 2025)

Table 3 presents the proposed improvement of the administrative process based on lean management analysis. The proposed process reduces the number of stages from 19 to 14 by eliminating or combining activities that do not add value to the service process. The reduction in lead time from 207 minutes to 161 minutes indicates the potential efficiency that can be achieved if the proposed process is implemented consistently, particularly through faster document flow, simplified verification, and better coordination among warehouse personnel, FIAT officers, drivers, and customer PICs.

Through optimization efforts using lean management methods, the number of administrative process steps in loading and unloading activities was successfully reduced from 19 to 14 steps. This process focused on eliminating NVA activities, such as shortening DO/WO receipt waiting times and simplifying document verification flows. After optimization, the total lead time was

reduced to 161 minutes, with Value Added Time of 132 minutes. This increased the PCE value to 81.98%, indicating a significant improvement in efficiency. A new SOP design was also developed to integrate these changes, with an emphasis on DO issuance deadlines, preventing overtime, and coordination among parties. The following table outlines the identified waste:

Table 4. Identification of Waste

No	Waste Type (*What*)	Source of Waste (*Where*)	Time of occurrence (*When*)	The reason for the occurrence (*Why*)	Parties Involved (*Who*)	Efforts Made (*How)*
Waiting						
1	*Transporter awaits issuance of delivery order*	Warehouse	Administrative process	Lack of coordination between the parties involved	Driver, PIC Customer, and Warehouse Admin	Carry out good and effective coordination and communication.
2	Consumers are waiting for the availability of TKBM	Warehouse	Loading and unloading process	The excessive number of loading and unloading activities causes TKBM to still carry out work in other warehouses for other consumers.	TKBM, Warehouse Manager	Maximizing the number of TKBM needs
3	Warehouse Team awaits the arrival of the transporter	Warehouse	The process of loading and loading goods	Unpredictable traffic conditions	Transporter, Warehouse Manager	Ensure accuracy of goods receipt and delivery plans.
Overprocessing						
4	The workflow on the system is too long	Warehouse	Administrative process and document verification	IT systems that are too complicated and numerous, thus hampering the administration process.	Building admin, customers	Simplify the administrative process stages with a coordinated system.
Defect						
5	The FIAT barcode is not clearly visible making it difficult to scan.	FIAT Loket	Administrative process and document verification	FIAT barcode is not well documented by FIAT officers	Warehouse checker, Driver, FIAT Officer	Improving FIAT barcode services.

(Source: researcher data, 2025)

The identification of waste above shows that warehouse service activities are caused by several factors, including waiting time, overly long processes that do not meet requirements, and barcode defects, thus requiring efficiency measures and service optimization.

Discussion

This finding confirms the relevance of operational management in the context of warehousing (Kristanto et al., 2022). Administrative and loading/unloading processes, as an integral part of warehouse management, greatly affect service time efficiency (Primadi et al., 2024). The fluctuating LPI data for Indonesia indicates that efficiency challenges, particularly related to timeliness and logistics competence, remain a national issue that is also reflected in the operations of PT BGR Logistik Indonesia (World Bank, 2023). This aligns with previous research highlighting efficiency constraints in loading and unloading across various contexts (Dewi et al., 2025; Sabila & Cahyadi, 2024; Prasetiyo et al., 2024).

Delays in issuing DO/WO and uncertainty in scheduling are manifestations of a lack of coordination, which in theory can be classified as waste of waiting in the principles of lean management (Maulana, 2019). This phenomenon is similar to the findings of Demilza et al. (2024) regarding long lead times due to transportation waiting times. Additionally, the complexity of the WINA system reflects waste of overprocessing, where excessive processes do not add value and slow down the process (Maulana, 2019). Although digital systems should accelerate processes, inefficient designs become obstacles, as complained by informant A-1. Limitations in TKBM and external factors (weather, traffic) also constitute waiting waste and can hinder operational smoothness (Prasetiyo et al., 2024).

The application of lean management in process optimization has proven effective, in line with the study by Osman et al. (2024) emphasizing the effectiveness of Lean Warehousing in identifying and eliminating waste. Reducing process steps from 19 to 14 and increasing PCE from 66.18% to 81.98% demonstrates the direct impact of eliminating non-value-added activities. The improvement in warehouse cycle time efficiency, reduction in loading and unloading waiting time, operational schedule accuracy, and more optimal material handling availability after the implementation of lean management underscore the practical contribution of this research. This reinforces the view that standardization through improved SOPs can enhance efficiency and service quality (Hudori, 2020).

Theoretically, this study enriches our understanding of the application of lean management in the context of logistics warehouse administration in Indonesia, particularly in measuring and improving Process Cycle Efficiency. Although many studies discuss lean in production or manufacturing, specific applications in logistics loading and unloading administration still have gaps. This study demonstrates how the identification of specific waste (e.g., related to the issuance of delivery orders and the complexity of internal systems) can be directly addressed using lean principles.

In practical terms, these findings provide concrete guidance for PT BGR Logistik Indonesia to improve operational efficiency and service quality. The new SOP design can serve as the basis for implementing continuous improvements. Improved coordination, system simplification, human resource optimization, and adaptation to external factors through more efficient

procedures will have a positive impact on customer satisfaction and the company's competitiveness.

The limitation of this study lies in its focus on a single case study location (PT BGR Logistik Indonesia Divre DKI Jakarta), which may limit the generalizability of the findings. Data was collected through interviews and qualitative observations, which, although in-depth, did not involve real-time measurement at each point of the process on an ongoing basis.

Therefore, for further research, it is recommended to:

1. Conduct a broader quantitative study in several other warehouse locations to measure the comparative impact of lean management.
2. Develop a simulation model to predict the impact of process changes on time efficiency in a more dynamic way.
3. Examine the role of automation technology and the Internet of Things (IoT) in reducing waste in warehouses in greater depth.
4. Analyzing the impact of lean management on cost aspects and customer satisfaction from a quantitative perspective.

CONCLUSION

Based on the results of the discussion of this research related to the administrative analysis process in loading and unloading activities towards the efficiency of service time at the PT BGR Logistik Indonesia Divre DKI Jakarta warehouse, the conclusions obtained are:

1. The administrative process mechanisms for loading and unloading activities at PT BGR Logistik Indonesia, Regional Division of DKI Jakarta, comply with established SOPs, but implementation is not yet fully optimized. The flow of goods receipt and delivery follows applicable standard procedures.
2. The main obstacles impacting service time efficiency include delays in the collection of delivery orders or work orders, poor delivery/receipt schedules that lead to overtime, lengthy administrative system (WINA) workflows, insufficient number of stevedoring workers (TKBM), and external factors such as weather and traffic conditions.
3. Efforts to optimize warehouse service time efficiency were carried out by identifying and eliminating waste using lean management methods. This process successfully reduced the flow stages from 19 to 14 and significantly increased Process Cycle Efficiency (PCE) from 66.18% to 81.98%.

Scientific Implications and Contributions

These findings have important theoretical and practical implications. Theoretically, this study enriches the literature on the application of lean management in the context of logistics warehousing administration in Indonesia, particularly in identifying specific wastes that affect service time efficiency and how eliminating non-value-added activities can improve Process Cycle

Efficiency. This contribution helps bridge the gap in research on lean applications in the logistics sector, which often focuses more on manufacturing.

Practically, the results of this study provide concrete guidance for PT BGR Logistik Indonesia in maintaining warehouse operations. Optimized SOP designs can serve as a reference for improving coordination between parties, directing systematic flows, and managing resources more efficiently, ultimately improving service quality and customer satisfaction.

Suggestion

Based on the conclusions above and the overall results of the discussion of this research, the suggestions given to companies are as follows:

1. Coordination and communication between PT BGR Logistik Indonesia, DKI Jakarta Regional Division, and all involved parties, both internally and externally, are ensured to ensure smooth and efficient operational activities.
2. The warehousing system is expected to provide easy access to all activities through a simpler and more focused system, thereby streamlining the loading and unloading process.
3. Evaluation and monitoring of each warehousing service process are necessary to improve the effectiveness and efficiency of loading and unloading activities. This is done by identifying issues in the service process and addressing them in future service quality improvements.
4. While external factors are an essential part of the process, despite often being obstacles, efforts to provide the best possible service according to the situation and conditions are crucial.

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