

EVALUATION OF DWELLING TIME SERVICES ON CONTAINER UNLOADING PRODUCTIVITY AT TPK KOJA

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Abstract: This study aims to analyze the relationship between dwelling time and container unloading productivity at TPK Kojā. The research method used is the interview method with the operational section of TPK Kojā and freight forwarders to analyze the effect of dwelling time services on container unloading productivity. The results showed that the current dwelling time has decreased to 3 days compared to the data 7 years ago, efficient dwelling time contributes positively to increased productivity. Factors that contribute to the decrease in dwelling time include infrastructure improvements and cooperation with parties outside the port. The implication of this research is the importance of paying attention to dwelling time services in an effort to improve the efficiency of container unloading at TPK Kojā. This research contributes in improving understanding of the importance of dwelling time services in the context of container unloading productivity.

Keywords: *Service, Dwelling Time, Productivity, Container, Unloading.*

1. Introduction

After Joko Widodo was elected president in September 2014, he asked his staff to improve the high dwelling time, which resulted in high logistics costs and goods prices. The regulation of moving goods that exceed the time limit for stacking, also known as long-stay. (Rubawangi, 2020)

According to (Rubawangi, 2020) To reduce the amount of Dwelling Time, the Minister of Transportation, E.E. Mangindaan, issued Minister of Transportation Decree Number KP 807 of 2014 concerning the Transfer of Goods that Pass the Stacking Time Limit (longstay) at Tanjung Priok Port, which was enacted on September 25, 2014. The decree set a time limit of 7 (seven) days since the goods were stacked in the stacking field. However, when President Joko Widodo revisited Tanjung Priok in 2015, he was angered and fired the official in charge as the total dwell time at Tanjung Priok Port continued to reach 5.5 days. The President expected the dwell time in Indonesia to reach 3 days. Then in 2015 the Minister of Transportation, Ignasius Jonan, made Ministerial Regulation No. 117 of 2015 regarding the Transfer of Goods that Exceeded the Stacking Time Limit at Tanjung Priok Port. In the ministerial regulation, the accumulation time limit from 7 days to 3 days, which plays a role in moving goods that exceed the accumulation time limit is the owner of the goods / his attorney and coordinates with the Tanjung Priok Main Port Authority.

According to (Safira et al., 2023) Logistics has developed into a field that requires special attention due to the history of increasingly complex economic growth. This is due to the fact that things such as the productivity of the products produced by the factory or company, the methods of distribution and storage, and the management of the overall product yield require special care.

Currently, the loading and unloading waiting time, also known as "Dwelling Time", faced by some ports in Indonesia is quite long. The average waiting time in Indonesia is approximately 4.9 days, according to the article, which is very long compared to the loading and unloading waiting time in neighboring countries such as Singapore, the Netherlands, and the United States. (Johnson Kennedy, 2019). Poor port services will adversely affect the trade and distribution of goods in Indonesia. (Safira et al., 2023).

One of Pelindo II's affiliates, Terminal Peti Kemas Koja (TPK) has a wharf length of 650 m and a container yard service facility of 21,800 m². It has considerable loading and unloading traffic and operates for 24 hours. In addition, high loading and unloading flows increase safety risks in the Koja TPK work area.

2. Literature Review

2.1 Service

According to (Nurhadi, 2020) service is the company's ability to provide services that can provide satisfaction to customers. Service consists of an activity or series of activities that are invisible (not palpable) that occur due to interactions between customers and employees or other things provided by the company to solve customer problems or problems. Service is an activity that occurs due to direct interaction between a person and another person or machine physically by producing customer satisfaction according to the opinion (Ellenlies et al., 2021)

Service is any activity that is beneficial to a group or group that provides satisfaction even though the results are not tied to a physical product. Basically everyone needs service, even at the extreme it can be said that service cannot be separated from human life. Service providers serve the needs of individuals or communities that have an interest in the organization in accordance with the main rules and procedures that have been determined.

2.2 Dwelling Time

Dwelling Time, also referred to as the waiting time for loading and unloading containers at ports, is a long-standing problem that has yet to be solved in Indonesia. The dwell time ranges between one month and one month; some are very short, and some are very long due to waiting for documents. The licensing process needs to be improved as only the administrative process is the focus. The waiting period for loading and unloading or the dwell time is influenced by many factors, but the number of licensing processes to go through is the most influential. The government will improve the flow of goods and IT systems to speed up the process of living. (Rubawangi, 2020)

One important aspect of staying at the port is the loading and unloading activities. Any problems that arise during the loading and unloading process can extend the stay time, causing losses to shipowners and goods. Any risks that arise result in time and cost losses. By calculating the time difference between the operational standard and the actual operational time of the entire loading and unloading activity, we can determine which risks have the most influence on loading and unloading operations at the port. The scheduling process, which places orders based on demand and warehouse capacity, is an important process in the dwell time control system to maximize system efficiency. According to (Ricardianto et al., 2018) in 2017 conditions, the dwelling time of 2.7 days is only for exports, because export containers almost never have problems.

The port has a deadline for containers to enter the terminal or closing time. The problem is the dwelling time for imports which is still above three days.

High dwelling time will also cause delays in the flow of goods caused by queuing containers, resulting in a domino effect on logistics distribution, and the amount of stacking costs that must be paid by exporters (Dewy et al., 2021)

In general, the procedure for determining the duration of stay in port consists of the following steps: Pre-Clearance, Custom Clearance and Post-Clearance.

Pre-Custom Clearance, which is the time required from the time the container is removed from the ship until the importer sends the administration of the Notice of Import of Goods (PIB) to Customs.

Customs Clearance, which is the stage where customs obligations are completed until the issuance of the Goods Release Approval Letter (SPPB). Before issuing the SPPB, a pathway inspection is first carried out, which consists of 4 parts.

Post Customs Clearance: This stage takes place after Customs clearance is received until leaving the port location (Customs, 2021).

Some people claim that decreasing dwell time to lower logistics costs is misplaced. Since the owner of the goods has to pay for the handling and storage of the container outside the port, limiting the container stay time may increase logistics costs. According to (Johnson Kennedy, 2019) The decrease in Dwelling Time is influenced by Infrastructure and conditions of Container Terminals, Government regulations in this case Quarantine and Customs and Excise, Road activities support around the Container Terminal, National holidays, TPS line 2 infrastructure in this case Depots as an extension of TPS line 1 field area.

2.3 Productivity

According to (Saleh & Utomo, 2018) productivity is defined as a measure of the quality and quantity of work that has been done, taking into account the cost of resources used to complete the task.

According to (Saleh & Utomo, 2018) employee work productivity is the ability to obtain the maximum benefit from available facilities and infrastructure by producing optimal output and input. "Productivity expresses how to properly utilize resources in producing goods". In this study, researchers used the following metrics to measure employee work productivity: work quantity, work quality, timeliness of work completion, and cooperative attitude.

Productivity can be described in two terms: technical and financial. The technical definition of productivity is production efficiency, especially in the use of science and technology. While financial productivity is the measurement of productivity at the port. One solution to the problem is not to build more docks or build ports in many places (Sitorus et al., 2023)

2.4 Container

According to (Safira et al., 2023) A container, also known as a container, is a specially designed package of a certain size that can be used repeatedly and is used to store and transport the goods inside. The philosophy behind containers is to wrap or carry goods in the same crate and make all vehicles transportable as one unit. This

applies to marine, rail, truck, or other freight vehicles, and if possible, transport them door-to-door.

A container is a simple example of a container for transporting goods that can be loaded and used for nautical transport. A container, according to some researchers, is a specially sized box designed to be stored at sea. According to (Samudra, 2023) A container is a mini-warehouse driven by transportation. Container cranes are commonly used in the container loading and unloading business to move specialized containers to and from ships at the dockside. It moves forward and backward via rails.

According to (Suryantoro et al., 2020), types of containers are divided into six categories: 1) Common Carrier Tanks; Common Carrier Tanks are tanks used to transport general cargo; 2) Hot Tanks; Hot Tanks are tanks equipped with temperature control for certain cargo; and 3) Tank Tanks are tanks placed in a tank frame used to transport bulk liquid or gas. Flat rack containers, which have a ground floor with walls at the ends, and platform containers, which have a ground floor only, fall under this type.

2.5 Unloading

According to (R.Aris, 2022) Unloading is one of the activities carried out in the process of forwarding (shipping) goods. The unloading process occurs after the container arrives at the Port and the container is unloaded or opened to remove the goods inside. The container unloading process is carried out by operators who have been trained or who are knowledgeable to remove the goods in the container safely and without damaging it. In this process, the first step begins with opening the door, unloading the cargo, then arranging the goods for further distribution or storage.

Loading and unloading activities), including: a) stevedoring is the work of unloading goods from ships to docks/barges/trucks or loading goods from docks/barges/trucks into ships until they are arranged in the ship's hold using ship cranes or land cranes, b) cargodoring is the work of releasing goods from ropes / nets (ex tackle) at the dock and transporting from the dock to the warehouse / stacking field and then arranging in the warehouse / stacking field or vice versa, c) receiving/delivery is the work of moving goods from the stockpile/place of accumulation in the warehouse/stacking field and handing over until arranged on the vehicle at the warehouse door/stacking field and handing over until arranged on the vehicle at the warehouse door/stacking field or vice versa (Affiat et al., 2021)

2.6 Port

A port, according to Shipping Law No. 17 of 2008, is a location consisting of land and or waters with certain boundaries where government and corporate activities take place. Ports are generally terminals and berths for ships because they physically function as places where ships dock, embark and disembark passengers, or load and unload goods. Therefore, ports are usually equipped with shipping safety and security facilities and other port support activities. The port serves as a central point of connection between countries and regions, so it has a strategic role to support the transportation system.

The port also serves as a place of movement to different levels by ship, allowing goods to be sent from one way to another (Romadhon, 2018). In addition, it serves as a connecting node between land and sea, and is a tangible illustration of the relationship between transportation modes.

The port conceptually has three strategic objectives. First, as a link or chain, the port functions as one part of the transportation chain of processes that transport goods or people from the place of origin to the place of destination. The port functions as two things: first, as an interface (meeting point), where it serves as a meeting place for two types of transportation, such as sea and land transportation; second, as a gateway, where it serves as the gateway to an area or country. Given that ports function as gateways, it is no surprise that any vessel traveling to a country must comply with the regulations and procedures that apply in that country.

Ports have a strategic and important role in industrial, economic, and trade growth, and are also a business sector that contributes to national economic growth. Thus, port management must be carried out efficiently, efficiently, and professionally, so that port services become smooth, safe, and fast at an affordable price. Ports serve ships and cargo, including passengers and goods. The port is part of the marine transportation chain and serves as an interface between two or more modes of transportation and between various interests related to each other. Ships will be unloaded and transported to land transportation routes such as trucks or trains. Conversely, goods transported by truck or train to the unloading port will be transported back to the ship. Therefore, many interests converge at the port, including banking, shipping companies, customs, immigration, quarantine, syahbandar, and other activity centers. Since ports are part of the chain of transportation and logistics systems, it can be said that as one of the transportation infrastructures, they have the ability to drive economic growth in a region.

Tanjung Priok Port is one of the main ports that serves as a gateway for national and international economic connectivity in Indonesia. Currently, it handles more than 30% of Indonesia's non-oil and gas commodities and 50% of all goods flow in and out of the country, making it the busiest port in Indonesia.

As the world's largest archipelago, a thriving and well-managed port sector is essential. The performance of the port sector greatly affects the cohesiveness and integrity of the national economy, the competitiveness of producers in domestic and international markets, and the efficiency of internal distribution. Ports have an important role and function in driving economic growth as they are the nodes of the transportation system chain and gateways especially for sea transportation of goods, containers, passengers and animals.

3. Research Method

The approach method used by the author in this research is a qualitative approach with the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) method. Qualitative research is a type of research whose results are not obtained through statistical techniques or other calculations. Instead, this research aims to reveal symptoms in a holistic-contextual manner through data collection from natural settings, with researchers using themselves as a key tool. Qualitative research is descriptive and usually uses inductive analysis. In qualitative research, process and meaning based on the subject's perspective are emphasized.

According to (Sastypratiwi & Nyoto, 2020), PRISMA is a set of evidence-based minimum standards designed to help authors report various systematic reviews and meta-analyses that assess the benefits of interventions. The focus of PRISMA is on how authors can ensure transparent and complete reporting of this type of research. The steps in the search are divided into several processes identification, screening, eligibility and

included. This step is in accordance with the guidelines in PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses).

This research collects data from a variety of sources, including interviews, field notes, personal notes, memos, and other official documents. The author seeks to construct the meaning of a phenomenon by collecting perspectives from various sources through qualitative research. Case study is the type of research used in this research. This research method is very suitable when the author wants to reveal something by focusing on how and why questions.

4. Results and Discussion

From the interviews we conducted at TPK Koja, we can find out about the factors that cause high Dwelling Time, the impact of Dwelling Time on container productivity and the current Dwelling Time Evaluation.

4.1 Factors Causing the High Dwelling Time Rate

Existing Jalur Merah

3. Pemindahan Petikemas *Behandle* Jalur Merah dari TPK Koja ke TPFT Graha Segara

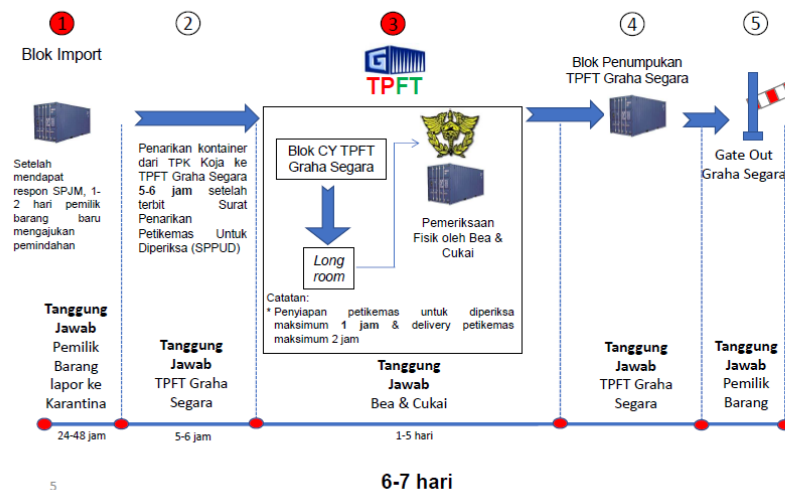


Figure 1. Dwelling Time Timeline, Role Of Each Stakeholder (TPK Koja version) For Red Line

The first factor causing the high Dwelling Time rate is due to the existence of 3 main customs lines in the process of releasing Import containers, namely the red line, yellow line, and green line.

According to (Sunarmin et al., 2019) Red lane import is the process of service and supervision of the release of imported goods through physical inspection and document research before issuing SPPB. The red lane is determined based on several criteria, including new importers, imported goods included in the high-risk category, temporary imported goods, re-imported goods, goods subject to random checks, certain imported goods determined by the government, and goods that must be quarantined.

The Yellow Line is carried out if the PIB response that has been submitted has a SPJK statement, and must submit the original document within a predetermined period to the designated customs officer.

While importing in the green lane is the process of service and supervision of the release of imported goods with no physical inspection, but research is carried out with documents after the issuance of the Goods Release Approval Letter (SPPB).

According to Figure 1, it can be seen that the cause of high Dwelling Time is on the red line, namely in the physical inspection section by Customs and Excise, on the red line the container can take 1-5 days, thus for the red line there are still obstacles because TPK Koja itself does not have detailed PIB and SPPB date data. TPK Koja's responsibility for dwelling time is very small, no significant obstacles were found at TPK Koja in dwelling time. The highest contributor to dwelling time is service users of both red, yellow and green lanes.

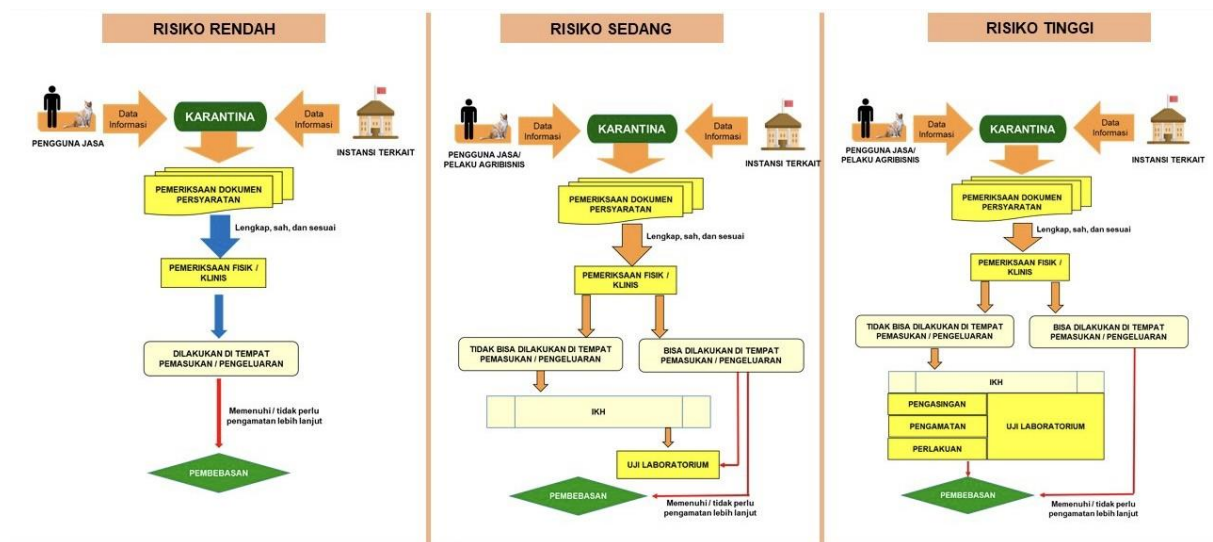


Figure 2. Flow of Inspection in Quarantine by Risk.

1. Kegiatan Karantina Pertanian dengan feeding data sebelum Kapal Bongkar

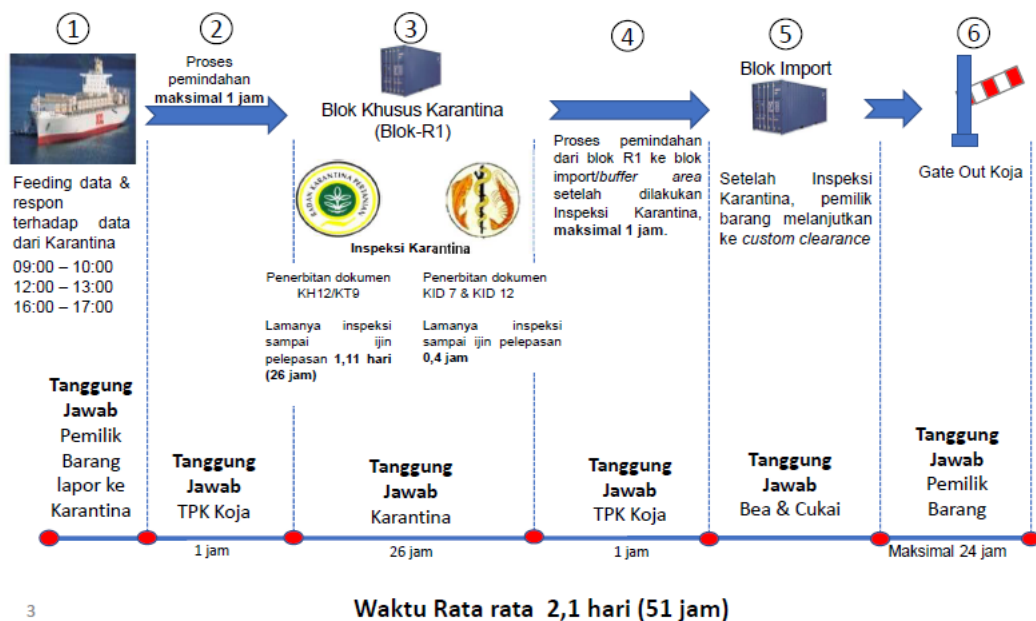


Figure 3. Agricultural Quarantine Timeline, with Data Feeding Before Ship Unloading

Source: Secondary Data (TPK Koja, 2023)

Existing

2. Kegiatan Karantina dengan feeding data setelah Kapal Bongkar

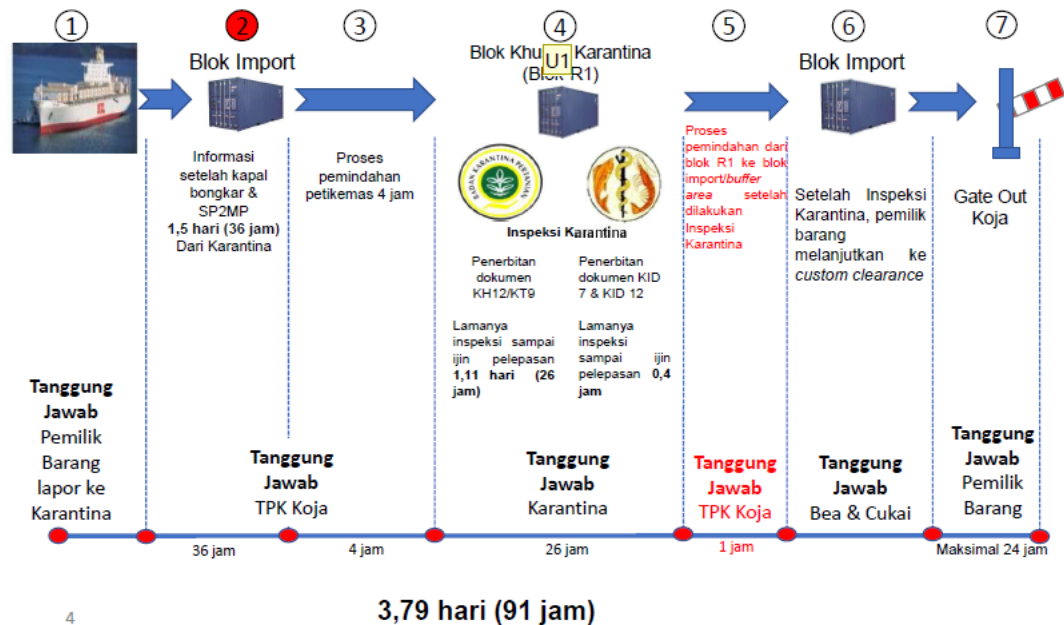


Figure 4. Agricultural Quarantine Timeline, with Data Feeding After Ship Unloading

The second is Quarantine from the Port Health Office (KKP) is a Technical Implementation Unit (UPT) within the Ministry of Health of the Republic of Indonesia that reports to the Department of Disease Prevention and Control (P2P) to determine whether the container or goods carry disease media from outside customs.

The function of the Health Office is in accordance with Permenkes RI 2008 No.356 amended by Permenkes RI 2011 concerning the organizational structure and work procedures of the port. According to (Wahyudi, 2019) Three types of carrier media for Quarantine Plant Disturbing Organisms (MPOPTK) are High Risk, Medium Risk, and Low Risk.

High Risk is used to propagate plants, such as seeds or seedlings.

Medium Risk applies to live plant MPOPTK such as grains, fruits, and layered tubers. However, they are not used as plant propagation, but as consumption materials (food or feed), or industrial raw materials.

Low Risk applies to MPOPTK in the form of dead plants used for various purposes, such as food and feed ingredients, industrial raw materials, or other processed products.

According to Figure 1, it can be seen how the quarantine inspection flow process is carried out for low, medium and high risk. And according to Figure 2 and Figure 3, it can be seen that quarantine inspection activities can take about 26 hours which consists of issuing KH12 / KT9 documents and issuing KID 7 and KID 12 documents. The quarantine inspection process according to TPK Koja cannot be deducted because

it is the maximum time for inspection of disease media from outside customs in containers.

The third is from Importers or from Customers who are less concerned and do not understand how to make or fill in the required documents so as to make the Dwelling Time rate high because the container is not taken care of the administration of the documents so that it makes a long wait at the Terminal.

According to figures 3 and 4, it can be seen that the inspection process will be faster if the importer immediately fills in the documents required for inspection in quarantine. If the importer enters the required documents before the ship unloads, the process of moving the container into quarantine will be faster for a maximum of 1 hour. Likewise, if the importer enters the required documents after the ship is unloaded, the process of moving the container into quarantine will take a longer time of around 36 hours or 1.5 days.

It proves that the role of importers is very important in accelerating Dwelling Time at Tanjung Priok port. If importers do not care, the process of moving containers to quarantine cannot be accelerated because the Koja TPK requires documents to be able to issue a Carrier Media Transfer Order (SP2MP) document before being transferred to quarantine.

Documents arising in import activities according to the book by (Supardi, 2019) are divided into three major parts, namely Main Documents is Mandatory documents in Import and Export activities, meaning that this document must always be present in import and Export activities, if it is not there, it will hamper import and export activities. These documents are *Money Order, Draft, or Bill of Exchange, Bill of Lading, Invoice, Packing List, Insurance Policy*.

Supporting Documents is documents that serve as support for the main document, meaning that this document can ensure that the goods shipped are in accordance with the buyer's request in terms of quality and quantity. or to convince the buyer that the document was made in the exporter's home country, or to convince the buyer that this document is truly halal, pest-free and others.

Common supporting documents that occur in the import process are *COO or Certificate of Origin, Certificate of Inspection, Quarantine Certificate, Certificate of Fumigation*

Additional Documents is documents that are not always requested in export-import transactions, these documents can be *COA or Certificate of Analysis, MSDS (Material Safety Data Sheet), Brochures, Leaflets, Weight Records, Measurement List, Quality Certificate*.

4.2 The Impact of High Dwelling Time Rates

The impact of the high Dwelling Time rate is dominantly felt by importers. The impact felt by importers includes the high costs that must be incurred due to the long time at the port. Currently, the government only provides 1 x 24 hours of free time after which a fine will be imposed which is quite high. In addition, trucking costs because renting trucking is quite expensive or if you have your own trucking costs for drivers, gasoline costs and others, besides that the production schedule is hampered because the imported raw materials have not left the port, because according to estimates the raw materials should have reached the factory and the factory has prepared its human

resources but it turns out that the raw materials needed to be produced have not come yet which results in increased production costs.

The cost according to (Triyawan et al., 2023) are requirements that must be met by companies or industries because costs are an important component of a smoothly running business. This total cost is obtained by adding up fixed costs and variable costs. Fixed costs are company costs that are not affected by the volume of company activities, both production and sales. Variable costs are costs whose total amount changes in proportion to changes in the volume of activities and activities of the company. Variable costs also vary according to changes in output levels, including raw material costs. According to the above understanding, it can be seen that the costs incurred due to the high number of Dwelling Time are included in variable costs.

In addition, the impact of the high number of Dwelling Time for Importers is a minus value in the eyes of customs because every few months customs will provide reports to importers regarding dwelling time at the terminal. If the importer's value is bad in the eyes of customs, it will be difficult for importers to get facilities from customs, namely MITA and AEO.

According to (Murwendah & Tsanymahdy, 2021) MITA (Mitra Utama) are importers and exporters who receive special customs services to accelerate the flow of goods, reduce logistics costs, and increase the country's competitiveness and economic growth. Companies must meet the requirements listed in the Minister of Finance Regulation Number 211/PMK.04/2016 before they can be recognized as a Customs MITA.

According to (Murwendah & Tsanymahdy, 2021)Based on the Minister of Finance Regulation Number 227 / PMK.04 / 2014, AEO (Authorized Economic Operator) Economic operators who have been recognized by the Directorate General of Customs and Excise, and they can provide certain customs services. Such services include reducing the number of document checks and physical checks to importers, or PPJK. Furthermore, it is a priority to simplify customs procedures, provide specialized services when there is a disruption in the movement of logistics supplies, and facilitate advance notification.

AEO has several benefits they are AEO companies will be recognized worldwide as safe and secure companies and as compliant and obedient business partners in international trade, Economic operators can speed up the process of releasing goods with minimal document and/or physical checks, which is expected to reduce logistics costs, DGCE can improve the efficiency of supervision, services, and resource allocation, For the country, it is recognized as a trust worthy country in international trade because it has implemented safety and security in the logistics supply chain, so that it will further have a positive impact on the national economy.

4.3 Evaluation of Current Dwelling Time

Table 1. Data on TPK Koja Dwelling Time 2014

2014														
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dwelling Time:	<i>Days</i>	4.73	5.51	4.81	4.23	4.72	4.37	4.81	5.30	4.87	4.55	5.14	4.13	4.34
Dwelling Time Import	<i>Days</i>	5.57	7.67	6.66	5.36	5.83	5.36	5.21	5.06	5.19	4.89	5.07	5.12	5.43
- Import Full	<i>Days</i>	5.60	7.81	6.69	5.44	5.86	5.39	5.24	5.07	5.19	4.90	5.08	5.15	5.44
- Import Empty	<i>Days</i>	3.11	2.60	3.31	2.02	3.05	2.66	2.69	3.31	7.19	2.48	3.30	1.48	3.21
Dwelling Time Export	<i>Days</i>	3.77	2.82	2.80	2.96	3.39	3.33	4.40	5.58	4.49	3.98	5.28	3.08	3.15
- Export Full	<i>Days</i>	3.70	2.78	2.59	2.84	3.05	3.08	4.37	5.55	4.50	3.69	5.82	2.99	3.10
- Export Empty	<i>Days</i>	3.92	2.90	3.25	3.37	3.96	3.74	4.46	5.64	4.47	4.38	4.26	3.31	3.27

Table 2. Data on TPK Koja Dwelling Time 2015

2015														
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dwelling Time:	Days	3.91	4.63	4.41	4.06	4.04	4.05	4.15	3.96	3.70	3.44	3.50	3.40	3.64
Dwelling Time Import	Days	4.76	6.14	5.44	5.18	4.92	4.98	5.17	4.52	4.35	4.12	4.08	3.90	4.31
- Import Full	Days	4.92	6.17	5.46	5.27	4.95	5.08	5.38	4.94	4.68	4.33	4.23	4.10	4.46
- Import Empty	Days	2.60	3.98	3.52	1.93	3.63	1.97	2.21	1.81	1.88	2.39	2.20	2.80	2.90
Dwelling Time Export	Days	2.91	2.69	3.11	3.05	2.93	3.03	3.06	3.39	3.03	2.66	2.80	2.70	2.51
- Export Full	Days	2.88	2.55	3.07	3.14	2.89	2.92	3.02	3.23	2.97	2.63	2.79	2.70	2.62
- Export Empty	Days	3.05	2.98	3.23	2.74	3.07	3.61	3.22	3.95	3.27	2.78	2.84	2.50	2.43

Table 3. Data on TPK Koja Dwelling Time 2016

2016														
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dwelling Time:	Days	3.42	4.13	3.54	3.37	3.11	3.57	3.47	3.77	3.50	3.27	3.00	3.00	3.27
Dwelling Time Import	Days	3.79	5.10	3.96	3.54	3.44	4.09	3.74	4.00	3.98	3.70	3.13	3.20	3.58
- Import Full	Days	3.86	5.50	4.15	3.66	3.48	4.12	3.74	4.04	4.02	3.74	3.12	3.20	3.59
- Import Empty	Days	2.49	1.63	1.72	1.70	2.04	2.00	3.59	2.67	2.08	2.56	3.49	3.67	2.71
Dwelling Time Export	Days	2.83	2.86	2.78	3.00	2.55	2.87	2.98	3.30	2.88	2.73	2.76	2.64	2.66
- Export Full	Days	2.81	2.85	2.72	3.00	2.60	2.83	3.03	2.94	2.94	2.60	2.79	2.74	2.74
- Export Empty	Days	2.85	2.91	2.99	2.99	2.40	2.98	2.87	4.23	2.73	3.13	2.62	2.13	2.27

Table 4. Data on TPK Koja Dwelling Time 2017

2017														
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dwelling Time:	Days	3.58	3.43	3.49	3.16	3.39	3.66	3.97	3.56	3.66	3.84	3.51	3.39	3.94
Dwelling Time Import	Days	3.78	3.80	3.39	3.12	3.63	4.11	3.88	3.96	3.20	4.22	3.77	3.53	4.71
- Import Full	Days	3.77	3.80	3.39	3.14	3.63	4.09	3.87	3.98	3.23	4.24	3.78	3.43	4.72
- Import Empty	Days	3.78	3.75	3.39	2.64	3.44	6.27	4.12	3.31	1.69	3.25	3.39	5.67	4.44
Dwelling Time Export	Days	3.25	2.88	3.41	3.03	3.02	3.07	3.94	2.94	4.00	3.29	3.12	3.14	3.09
- Export Full	Days	3.27	2.93	3.24	3.13	3.01	3.17	3.81	2.89	3.94	3.49	3.19	3.26	3.18
- Export Empty	Days	3.25	2.68	4.69	2.61	3.06	2.84	4.31	3.26	4.16	2.78	2.87	2.79	2.92

Table 5. Data on TPK Koja Dwelling Time 2018

2018														
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dwelling Time:	Days	3.56	4.17	3.38	3.11	3.24	3.50	4.05	3.59	3.45	3.50	4.45	3.19	3.17
Dwelling Time Import	Days	3.69	4.99	3.46	3.06	3.29	3.50	4.69	3.99	3.72	3.51	4.37	3.04	3.00
- Import Full	Days	3.70	5.01	3.43	3.02	3.31	3.50	4.73	3.98	3.74	3.54	4.39	3.04	3.02
- Import Empty	Days	3.43	2.71	4.92	5.08	2.86	3.60	3.29	4.33	2.45	2.10	2.44	3.77	2.52
Dwelling Time Export	Days	3.28	2.95	3.17	3.03	3.03	3.40	3.35	2.91	2.99	3.39	4.48	3.28	3.30
- Export Full	Days	3.18	3.11	3.11	2.97	3.02	3.40	2.85	2.81	3.09	3.43	3.54	3.43	3.28
- Export Empty	Days	3.70	2.32	3.32	3.53	3.15	3.50	5.08	3.66	2.52	3.13	8.36	2.83	3.35

Table 6. Data on TPK Koja Dwelling Time 2019

2019														
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dwelling Time:	Days	3.09	3.30	3.10	2.81	3.26	3.15	3.26	2.90	3.06	3.07	2.94	3.03	3.26
Dwelling Time Import	Days	2.92	3.43	3.10	2.75	3.36	3.11	3.11	2.65	2.54	2.80	2.77	2.57	3.10
- Import Full	Days	2.95	3.44	3.11	2.76	3.36	3.14	3.05	2.66	2.58	2.91	2.85	2.62	3.10
- Import Empty	Days	2.10	2.46	1.77	1.93	3.53	2.34	4.46	2.37	1.73	1.32	1.15	1.27	3.10
Dwelling Time Export	Days	3.17	2.97	2.87	2.82	3.09	3.15	3.36	3.05	3.54	3.15	3.12	3.56	3.34
- Export Full	Days	3.19	3.00	2.92	2.88	2.88	3.19	3.08	3.02	3.66	3.24	3.16	3.65	3.44
- Export Empty	Days	3.11	2.87	2.61	2.51	3.58	2.97	4.73	3.23	3.14	2.60	2.94	3.22	2.82

Table 7. Data on TPK Koja Dwelling Time 2020

2020														
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Dwelling Time:	Days	3.12	3.42	2.86	2.81	3.26	3.36	2.85	2.69	2.91	2.88	3.34	3.40	3.52
Dwelling Time Import	Days	2.65	3.37	2.69	2.54	3.15	3.35	2.67	2.28	2.55	2.19	2.18	2.25	2.51
- Import Full	Days	2.73	3.40	2.75	2.62	3.17	3.41	2.71	2.39	2.59	2.23	2.31	2.32	2.58
- Import Empty	Days	1.97	2.68	1.67	1.48	2.64	2.58	2.38	1.46	2.31	1.82	1.61	1.96	1.74
Dwelling Time Export	Days	3.53	3.37	3.01	3.06	3.33	3.09	3.00	2.98	3.12	3.53	4.42	4.77	4.56
- Export Full	Days	3.60	3.41	3.00	3.13	3.35	3.21	3.07	3.07	3.20	3.58	4.46	4.74	4.64
- Export Empty	Days	2.95	3.18	3.08	2.73	3.26	2.49	2.53	2.19	2.07	3.08	4.00	6.08	3.53

Table 8. Data on TPK Koja Dwelling Time 2021

2021															
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Dwelling Time:	<i>Days</i>	3.61	3.60	3.60	3.46	3.30	3.90	3.77	4.34	3.79	3.29	3.59	3.44	3.34	
Dwelling Time Import	<i>Days</i>	2.75	3.10	2.33	2.38	2.64	3.23	3.01	3.90	2.57	2.36	2.47	2.38	2.72	
- Import Full	<i>Days</i>	2.78	3.20	2.42	2.45	2.74	3.24	2.98	3.94	2.59	2.37	2.43	2.36	2.75	
- Import Empty	<i>Days</i>	2.21	2.40	1.43	1.23	1.46	2.96	3.65	2.72	1.95	2.01	2.76	3.25	2.07	
Dwelling Time Export	<i>Days</i>	4.42	4.00	4.82	4.71	4.07	4.54	4.71	4.44	4.66	4.01	4.77	4.40	3.99	
- Export Full	<i>Days</i>	4.50	3.90	4.87	4.77	4.17	4.51	4.83	4.51	4.85	4.04	4.88	4.64	4.00	
- Export Empty	<i>Days</i>	3.82	4.20	4.37	4.02	3.35	4.72	3.51	3.68	3.43	3.69	4.13	3.07	3.83	

Table 9. Data on TPK Koja Dwelling Time 2022

2022															
DWELLING TIME	Satuan	YTD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Dwelling Time:	<i>Days</i>	3.29	3.36	3.39	3.37	3.39	4.07	3.51	3.19	3.18	3.17	3.12	2.92	2.85	
Dwelling Time Import	<i>Days</i>	2.79	2.98	2.70	2.60	2.76	3.78	2.95	2.72	2.69	2.71	2.59	2.34	2.70	
- Import Full	<i>Days</i>	2.81	2.96	2.72	2.61	2.77	3.80	2.97	2.72	2.70	2.73	2.63	2.37	2.73	
- Import Empty	<i>Days</i>	2.15	4.15	2.25	2.32	1.90	2.40	1.88	2.36	1.89	1.60	1.49	1.88	1.70	
Dwelling Time Export	<i>Days</i>	3.75	3.69	4.09	4.19	3.95	4.32	4.07	3.61	3.62	3.57	3.47	3.47	2.99	
- Export Full	<i>Days</i>	3.82	3.75	4.11	4.25	4.13	4.49	4.14	3.71	3.66	3.55	3.47	3.51	3.07	
- Export Empty	<i>Days</i>	3.37	3.29	3.83	3.84	3.28	3.64	3.64	2.91	3.23	3.92	3.39	3.12	2.37	

Dwelling time in Tanjung Priok has greatly decreased, especially at TPK Koja, the average dwelling time has reached 3 days. Even according to some Freight Forwarding, they have felt a decrease in the Dwelling Time figure of around 1 to 2 days to leave the port.

According to Table 9, which is TPK Koja's Dwelling Time data in 2022, it can be seen that the Dwelling Time rate has greatly decreased compared to 2014, especially in Import Dwelling Time. The progress of Dwelling Time reduction began to be clearly seen in 2016 which has decreased to 3.79 days. Dwelling Time Import 2014 took up to 5.57 days while in Dwelling Time Import 2022 it only took 2.79 days.

A lot has been done by the government and the terminal to reduce Dwelling Time at Tanjung Priok Port. One of the ways done by the government through the Customs is to create a facility called MITA (Mitra Utama) Customs. MITA is an importer and / or exporter who gets special services in the field of customs in order to support the smooth flow of goods (speed), reduce logistics costs, which in turn is expected to increase competitiveness, and national economic growth (efficient and competitive). So by getting this MITA facility Importers can Pre-Notification (PRENOT).

PRENOT according to (Mawahibur Rowafiq, 2021) is a facility for making PIB / BC 2.0 before RKSP / BC 1.0 comes out. This prenot facility helps reduce handling costs at the port / customs area by speeding up the process of releasing goods from the port of loading. To use this facility, importers can submit a draft PIB at the Customs Office before the goods or ships arrive in the destination country. If the PIB meets the requirements, such as having paid import duties and other taxes, then the PIB must be served by Customs officials as PIB ahead of the previous announcement. So, the PIB that has been sent can be directly used for the process of releasing goods when the ship arrives at the port of unloading. Although the PIB PRENOT has been sent, the dispatch notification (SPPB, SPJK, or SPJM) is sent after the ship arrives. The purpose is to prevent time substitution, smuggling, or state revenue violations if the disbursement is announced before the vessel arrives at the destination country.

The second facility is AEO (Authorized Economic Operator) AEO according to (Mawahibur Rowafiq, 2021) is an economic operator that participates in the movement of goods in the international supply chain recognized by the national customs administration as a supply chain security standard. Based on the Minister of Finance Regulation Number 227 / PMK.04 / 2014, AEOs are economic operators recognized by the Directorate General of Customs and Excise and can provide certain customs services. Such services include reducing the number of document checks and physical checks to importers, or PPJK. Furthermore, it is a priority to simplify customs procedures, provide special services in the event of disruptions in the movement of logistics supplies, and facilitate advance notification. AEO recipients can also use company guarantees, regular payments, lost trucks, priority inclusion in new customs programs, special services for client managers, ease of customs administration of other countries, and the results of customs memoranda of understanding with related parties.

Port facilities and infrastructure are getting better by using and adding sophisticated tools and sophisticated systems. Like using RTG more than one tool to transport containers from ships. RTG itself according to (Akhbar & Darmana, 2019) is a heavy equipment called Rubber tyred Gantry (RTG) can be found in every container terminal place. Its job is to transport containers from the dock to the container stacking area or vice versa. Container Crane (CC) and RTG machines are almost identical, but CC is used at the dock and attached to the edge of the dock, while RTG is used more often and more efficiently. At the Koja container terminal in Jakarta there are 25 RTG units in operation. They use a PLC (Programmable Logic Control) system, which allows operators to move the Spreader, Gantry, Trolley, and Wheels as they wish. In each block, the RTGs can serve between five and six rows.

Technology is increasingly sophisticated so that importers can input their own data and do not need to come to the port to submit documents, causing a decrease in Dwelling Time using the Indonesia National Single Window (INSW) application. INSW according to (Simanjuntak, 2022) is a platform that connects Customs and Quarantine, allowing one submission and joint inspection. In this case, importers, exporters, or Customs Service Management Companies (PPJK) use the INSW portal to submit import applications. The INSW system sends the physical quarantine inspection reporting to the Quarantine Agency house, and the PIB data is sent to the Directorate General of Customs house, in this case CEISA, for further scrutiny.

In addition to INSW there is also another application called NLE (National Logistic Ecosystem) according to (Simanjuntak, 2022) is a logistics ecosystem that connects Customs, Quarantine, and container operator terminals. This allows all orders and information to be connected when there is a joint Customs and Quarantine inspection.

5. Conclusion

This study is about the dwelling time service and its impact on the productivity of the container unloading process at Koja Container Terminal (TPK Koja). Several factors causing slow dwelling time have been identified and analyzed in this study. Regulatory and administrative factors play a key role in influencing dwelling time, external factors from TPK Koja also contribute to slow dwelling time from Customs and Quarantine. The impact of slow dwelling time is significantly felt by importers resulting in increased operational costs, decreased service capacity, and

potentially delays in the distribution of goods. The current dwelling time evaluation compared to data from seven years ago shows an almost perfect improvement.

6. Implications

Implication is the direct result of something, such as a discovery or research result, called implication. In other words, implications are the results and consequences of implementing certain policies or activities. Based on the results of interviews at TPK Koja, it is known that the Dwelling Time rate has decreased from 7 days to 3 days within 7 years.

However, usually during Eid al-Fitr the dwelling time rate will increase because the government applies vehicle restrictions during H-7 before Eid and H+7 after Eid. However, ships continue to arrive as well as imports, but factories are closed due to Eid holidays so there is an increase in Dwelling Time where customers do not pick up their containers. Even though before Eid, the terminal had lowered the YOR to 18% so that the incoming containers still had a place to store their containers during the Eid holiday. So that it resulted in the highest YOR increase to 82% while the rules from the government YOR rules at the terminal are 65%. Every year this Dwelling Time figure always increases in the month of Eid.

7. Research Limitations

In the preparation of this research, it cannot be separated from the limitations of taking research results. Among them, researchers can only be carried out in one place, namely the TPK Koja.

References

- Affiat, M. R., Fadli, F., & Mafrudoh, L. (2021). Throughput dan Dwelling Time pada Yard Occupancy Ratio Pelabuhan Sunda Kelapa. *Jurnal Manajemen Bisnis Transportasi Dan Logistik*, 7(2), 193–198. <https://doi.org/10.54324/j.mbt.v7i2.661>
- Akhbar, M. R., & Darmana, E. (2019). Study Penanganan Kerusakan Komponen Yang Terjadi Pada Rtg Di Terminal Peti Kemas Koja Jakarta. *Jurnal Sains Dan Teknologi Maritim*, 19(2), 142–150. <https://doi.org/10.33556/jstm.v19i2.203>
- Dewy, N. K., Auliannisa, T., Zaini, M., & Tasran, C. (2021). The Integration Between Dwelling Time With Loading and Unloading At Tanjung Priok Port (Study Case At Jakarta International Container Terminal Inc 2018-2020 Period). *Jurnal Logistik Indonesia*, 5778, 444–454.
- Ellenlies, E., Siahaan, L. D., Ayutia, Y., Andarini, A., Hiero Rio Kasenda, M., & Parhusip, V. (2021). Perbaikan Kinerja Dwelling Time Di Terminal Peti Kemas KOJA di Pelabuhan Tanjung Priok. *Jurnal Sistem Transportasi & Logistik*, 1(2), 52–60. <https://journal.itltrisakti.ac.id/index.php/jstl>
- Johnson Kennedy, P. S. (2019). Analisis Tingginya Biaya Logistik Di Indonesia Ditinjau Dari Dwelling Time. *Jurnal Economic Resource*, 1(2), 136–145. <https://doi.org/10.33096/jer.v1i2.161>
- Mawahibur Rowafiq, A. (2021). *Penanganan Impor Sardinella Longiceps Milik PT. Blambangan Foodpackers Indonesia Oleh Perusahaan Pengguna Jasa Kepabeanan (PPJK) PT. Lintas Niaga Jaya Surabaya*. 8–38. <https://repository.unimar-amni.ac.id>
- Murwendah, M., & Tsanymahdy, M. R. (2021). PENERAPAN KEBIJAKAN FASILITAS MITRA UTAMAKEPABEANAN : MAMPUKAH MENURUNKAN COST OF TAXATION ? *Jurnal Vokasi Indonesia*, 9(1), 1–16. <https://doi.org/10.7454/jvi.v9i1.1184>
- Nurhadi, N. (2020). Konsep Pelayanan Perspektif Ekonomi Syariah. *Jurnal Ekonomi Dan Bisnis*, 2(2), 137. <https://doi.org/10.14421/ekbis.2018.2.2.1100>
- R.Aris, S. (2022). *Efektivitas Kegiatan Bongkar Muat Peti Kemas di Pelabuhan Batu Ampar Batam Kepulauan Riau*. 8–45. <http://repository.unimar-amni.ac.id/id/eprint/4138>
- Ricardianto, P., Suhalis, A., & Sirait, D. P. (2018). Integration Between Dwelling Time And Loading-Unloading at Tanjung Priok Port. *Jurnal Manajemen Transportasi Dan Logistik*, 05(03), 193–203. <https://journal.itltrisakti.ac.id/index.php/jmtranslog/article/view/265>
- Romadhon, Y. (2018). Optimalisasi Pelabuhan Tanjung Priok Menuju Pelabuhan Berkelas Dunia. *Jurnal Logistik Indonesia*, 2(1), 37–43. <https://doi.org/10.31334/jli.v2i1.217>
- Rubawangi, D. R. S. (2020). Implementasi tata cara pemindahan barang yang melewati batas waktu penumpukan (long stay) terhadap dwelling time di terminal petikemas surabaya. *Tugas Akhir Diploma Pelayaran*. [https://dspace.hangtuah.ac.id/xmlui/handle/dx/1103%0Ahttps://dspace.hangtuah.ac.id/xmlui/bitstream/handle/dx/1103/Implementasi Tata Cara Pemindahan Barang Yang Melewati Batas Waktu Penumpukan %28Long Stay%29 terhadap Dwelling Time di Terminal Petikemas Su](https://dspace.hangtuah.ac.id/xmlui/handle/dx/1103%0Ahttps://dspace.hangtuah.ac.id/xmlui/bitstream/handle/dx/1103/Implementasi%20Tata%20Cara%20Pemindahan%20Barang%20Yang%20Melewati%20Batas%20Waktu%20Penumpukan%20Long%20Stay%29%20terhadap%20Dwelling%20Time%20di%20Terminal%20Petikemas%20Su)
- Safira, Satrio, B. R. D., Wildiansah, M., Andini, R. A., & Sahara, S. (2023). Analisis

- Pengaruh Dwelling Time Terhadap Efisiensi Bongkar Muat Di Pelabuhan Tanjung Priok. *Majalah Ilmiah FISIP UNTAG Semarang*, 20(1), 1–14.
<https://jurnal2.untagsmg.ac.id/index.php/mia/article/view/656/616>
- Saleh, A. R., & Utomo, H. (2018). Pengaruh Disiplin Kerja, Motivasi Kerja, Etos Kerja Dan Lingkungan Kerja Terhadap Produktivitas Kerja Karyawan Bagian Produksi Di Pt. Inko Java Semarang. *Among Makarti*, 11(1), 28–50. <https://doi.org/10.52353/ama.v11i1.160>
- Sastypratiwi, H., & Nyoto, R. D. (2020). JEPIN (Jurnal Edukasi dan Penelitian Informatika) Analisis Data Artikel Sistem Pakar Menggunakan Metode Systematic Review. *Jurnal Edukasi Dan Penelitian Informatika*, 6(2), 250–257.
<http://dx.doi.org/10.26418/jp.v6i2.40914>
- Simanjuntak, P. W. Y. (2022). Evaluasi Penerapan Single Submission Dalam Kerangka Joint Inspection Bea Cukai dan Karantina Di KPPBC TMP Belawan. *Journal of Chemical Information and Modeling*, 53(9), 8–24. <http://eprints.pknstan.ac.id/id/eprint/723>
- Sitorus, P. P., Yohanes, O. P., & Handayani, S. (2023). Dampak Kegiatan Bongkar Muat, Ketepatan Distribusi dan Produktivitas Peralatan Bongkar Muat General Cargo dalam Meminimalisasi Biaya Logistik pada PT XYZ. *Ilmu Ekonomi Manajemen Dan Akuntansi*, 4(1), 64–75. <https://doi.org/10.37012/ileka.v4i1.1473>
- Sunarmin, S., Utami, N. S., & Yulianita, W. E. (2019). Analisis Efektivitas Penetapan Jalur Terkait Dengan Dwelling Time Di Kantor Pelayanan Utama Bea Dan Cukai Tipe a Tanjung Priok. *Jurnal Pajak Vokasi (JUPASI)*, 1(1), 57–69.
<https://doi.org/10.31334/jupasi.v1i1.506>
- Supardi, E. (2019). *Ekspor Impor : Teori dan Praktikum Kegiatan Ekspor Impor Untuk Praktisi Logistik Dan Bisnis* (1st ed.). Penerbit Deepublish (CV BUDI UTAMA).
- Suryantoro, B., Punama, D. W., & Haqi, M. (2020). Tenaga Kerja, Peralatan Bongkar Muat Lift on/Off, Dan Efektivitas Lapangan Penumpukan Terhadap Produktivitas Bongkar Muat Peti Kemas. *Jurnal Baruna Horizon*, 3(1), 156–169.
<https://doi.org/10.52310/jbhorizon.v3i1.41>
- Triyawan, A., Dwi Syahreni, N., & Prastyaningsih, I. (2023). *Analisis Biaya Dan Pendapatan : Studi Empiris Unit Usaha Wakaf Annisa Bakery*. 10.
<https://doi.org/10.31219/osf.io/sm58w>
- Wahyudi, I. (2019). *Optimalisasi Pelayanan Dokumen Bongkar Muat Jenis Tumbuhan di Karantina Tumbuhan Pelabuhan Tanjung Emas Semarang*. 1–8.
<http://repository.unimar-amni.ac.id/id/eprint/2231%0A>