

## ANALYSIS OF FACTORS INFLUENCING IMPORT DOCUMENT DELAYS AND THEIR IMPACT ON STORAGE AND DEMURRAGE COSTS AT PT ALSTOM GRID INDONESIA

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**Abstrak.** Penelitian ini bertujuan untuk menganalisis faktor-faktor yang menyebabkan keterlambatan dalam dokumentasi impor serta dampaknya terhadap biaya penumpukan dan demurrage di PT Alstom Grid Indonesia. Keterlambatan dalam proses customs clearance dan penyerahan dokumen sering menimbulkan kerugian finansial yang signifikan bagi perusahaan akibat adanya biaya tambahan di pelabuhan. Penelitian ini menggunakan metode kualitatif dengan pendekatan eksploratori, didukung oleh data deskriptif. Data dikumpulkan melalui kuesioner, wawancara, observasi, dan arsip dokumen perusahaan. Analisis *Fishbone Diagram* dan *5 Why Keys* digunakan untuk mengidentifikasi akar penyebab keterlambatan dokumentasi impor. Temuan penelitian menunjukkan bahwa peningkatan koordinasi antar-departemen, penguatan pelatihan karyawan, serta konsistensi dalam kepatuhan terhadap prosedur operasi standar merupakan hal yang krusial untuk meminimalkan keterlambatan dokumentasi impor. Dengan mengatasi akar penyebab tersebut, PT Alstom Grid Indonesia dapat mengurangi biaya logistik yang dapat dihindari serta meningkatkan efisiensi dalam operasi perdagangan internasional.

**Kata Kunci :** Dokumentasi Impor; Penumpukan; Demurrage; Faktor Keterlambatan; Analisis Fishbone

**Abstract.** This study aims to analyze the factors that cause delays in import documentation and their impact on storage and demurrage costs at PT Alstom Grid Indonesia. Delays in customs clearance and document submission often generate significant financial losses for the company due to additional port charges. The research employed a qualitative method with an exploratory approach, supported by descriptive data. Data were collected through questionnaires, interviews, observations, and company document archives. The Fishbone Diagram and 5 Why Keys analysis were applied to identify the root causes of import documentation delays. The findings imply that improving interdepartmental coordination, strengthening employee training, and ensuring consistent compliance with standard operating procedures are critical to minimizing import documentation delays. By addressing these root causes, PT Alstom Grid Indonesia can reduce avoidable logistics costs and improve efficiency in international trade operations.

**Keywords:** Import Documentation; Storage; Demurrage; Delay Factor; Fishbone Analysis

### INTRODUCTION

PT Alstom Grid Indonesia is a company engaged in the energy or electricity contracting sector, specializing in the construction of substations with capacities of 150 kV, 275 kV, and 500 kV. The company serves several clients both domestically and internationally, with PT PLN (PERSERO), which is responsible for

supplying electricity to the Indonesian public, being its main client. In the development of substations, PT Alstom Grid Indonesia requires a lengthy process as well as specific materials, most of which are difficult to source locally, thus making the company highly dependent on importing materials from abroad.

For the material importation process, PT Alstom Grid Indonesia employs a

freight forwarder to facilitate the import of goods into Indonesia and to reduce bureaucratic procedures with Customs authorities. In handling import activities, PT Alstom Grid Indonesia appoints PT DFI Logistics as a Customs Brokerage Company (Perusahaan Pengurus Jasa Kepabeanan/PPJK). The PPJK is responsible for reporting import activities in the form of the Import Declaration (Pemberitahuan Impor Barang/PIB) to the Directorate General of Customs and Excise (Sarumaha et al., 2022).

The preparation of a PIB requires complete documentation from various parties involved in international trade. According to Sarumaha et al. (2022), the documents that must be attached to the PIB include the Commercial Invoice, Packing List, Bill of Lading (B/L) or Airway Bill (AWB), Certificate of Origin (COO), and Insurance Policy. The completeness of these documents is a crucial factor, as any errors, data discrepancies, or delays in submission may hinder the issuance of the Goods Release Approval Letter (Surat Persetujuan Pengeluaran Barang/SPPB). Such obstacles can result in goods being held at the Temporary Storage Facility (Tempat Penimbunan Sementara/TPS), which in turn generates additional costs in the form of storage and demurrage charges (Verawati et al., 2022).

The phenomenon of import document delays is also consistent with the findings of Panggabean et al. (2023), who note that customs bureaucracy in Indonesia often remains an obstacle to the smooth flow of imported goods, mainly due to incomplete documentation and suboptimal coordination among related parties. This condition directly contributes to an increase in variable costs borne by companies, particularly in unproductive logistics expenses.

## **LITERATURE REVIEW**

### **Human Resources Management**

Human Resource Management (HRM) is a strategic approach to managing the workforce in order to align employee performance with organizational objectives. Groenewald et al. (2024) explain that HRM encompasses training, competency development, and performance evaluation to ensure operational effectiveness. In the logistics context, HRM plays a crucial role in maintaining the accuracy of import documentation. Armstrong & Taylor (2014) emphasizes that structured HRM practices, including the implementation of SOPs and cross-functional coordination, can reduce the likelihood of document delays that generate additional costs. Furthermore, research by Kwembur et al. (2024) found that employee competencies gained through customs training significantly accelerate the clearance process.

### **Freight Forwarding**

A freight forwarder acts as an intermediary responsible for shipment arrangements, documentation management, and customs clearance. Research by M & Kumari (2025) highlights that effective freight forwarding performance accelerates document processing and minimizes administrative bottlenecks. Meanwhile, a study by Subhashini & Preetha (2018) indicates that poor service quality from freight forwarders may increase logistics costs due to documentation delays. This underscores that freight forwarders play a critical role in mitigating the risk of import delays.

### **Cargo**

The characteristics of cargo directly affect the complexity of import administration. Macioszek (2020) asserts

that hazardous goods, oversized cargo, and refrigerated items require stricter and additional documentation. Failure to meet such documentation requirements can delay the clearance process. Abeyratne (2018) further note that high-technology cargo often requires additional technical certificates, which may cause delays if inter-party coordination is suboptimal.

### **Import**

Import is the process of bringing goods from international markets into a country in compliance with prevailing trade and customs regulations. As stated by Palupiningrum & Rosid (2024), import activities are not only related to the physical movement of goods but also involve administrative compliance that ensures smooth international trade. Import procedures require the preparation of complete and accurate documents as the foundation for customs clearance and tariff determination. According to Storms et al. (2023), inefficiencies in import administration such as delays in customs clearance or incomplete documentation frequently result in longer processing times and additional expenses.

### **Storage and Demurrage**

Storage refers to container storage charges at the terminal beyond the allotted free time, while demurrage is a penalty imposed by shipping lines when containers are not collected within the specified timeframe. Both function as economic instruments to maintain cargo flow efficiency at ports. Storms et al. (2023) argue that rising storage and demurrage costs have become a major burden for supply chain actors due to documentation delays and limited terminal capacity. Kołacz et al. (2024) also demonstrate that these costs are closely linked to terminal congestion and container dwell time. Thus, storage and demurrage can be regarded

both as indicators of logistics efficiency and as financial risks that companies must manage.

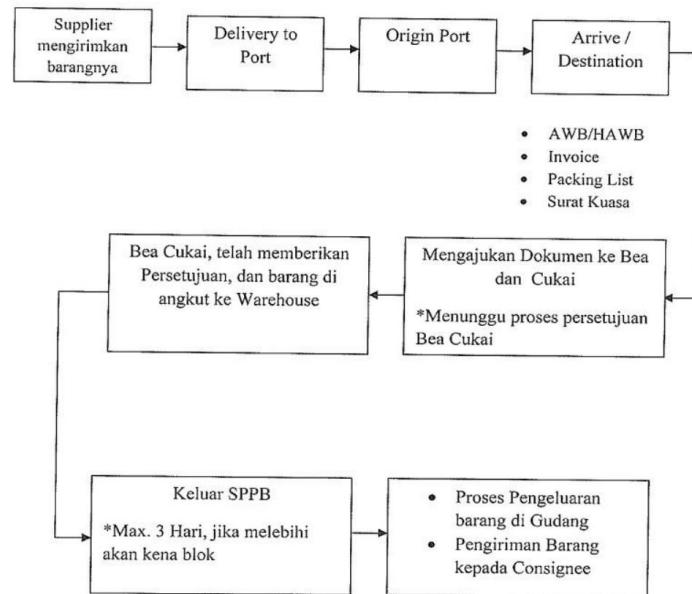
## **RESEARCH METHOD**

This research employs a qualitative method with an exploratory approach, supported by descriptive quantitative data. The analytical framework used is the Fishbone Diagram (Ishikawa) combined with the 5 Why Keys technique to identify root causes of import document delays. Such causal analysis tools are widely applied in logistics and supply chain studies to trace operational inefficiencies (Makhmudah et al., 2025). The study applies non-probability sampling, specifically purposive sampling, by selecting respondents directly involved in import documentation processes at PT Alstom Grid Indonesia. Purposive sampling is considered effective when researchers target specific individuals who possess in-depth knowledge of the studied issues (Etikan et al., 2016).

Data sources consist of both primary and secondary data. Primary data were obtained through questionnaires, direct observation, and interviews with employees of the logistics and documentation division. Secondary data were gathered from company archives, such as import documentation records, customs reports, and related operational documents. The measurement instrument used a Guttman scale, allowing responses in binary form (yes–no), which is suitable for clarity and reliability in logistic studies (Tractenberg et al., 2012). Data analysis was conducted by classifying problematic factors, ranking them according to severity, and mapping causal relationships using the Fishbone Diagram to determine the dominant factors influencing storage and demurrage costs.

## RESULTS AND DISCUSSION

### Analysis of the Impact of Import Document Delays on Storage and Demurrage Costs



**Figure 1.** Import Cargo Stages

From the above procedure, it can be explained that import documents are one of the key requirements in the release process of imported goods. If the necessary import documents are incomplete or delayed, the preparation of the Import Declaration (PIB) will be obstructed, which in turn becomes a factor hindering the issuance of the Goods

Release Approval (Surat Perintah Pengeluaran Barang/SPPB). Without the issuance of the SPPB, goods that have already arrived at the port cannot be released by Customs authorities. This situation results in additional expenses in the form of storage and demurrage costs.

**Table 1.** Storage and Demurrage Costs Due to Delays Import Documents for the Garuda Sakti Project at PT Alstom Grid Indonesia

POD	Number Container	ATA vessel/flight	SPPB Date	SPPB vs ATA	Demurrage (USD)	Storage (Rupiah)
Belawan	1 X 20' & 2 X 40'	18-Sep	3-Oct	15	420,00	3.926.811
Tj. Priok	1 X 40 HC & 1 X 40 OT	8-Nov	23-Nov	15	880,00	14.144.581
Tj. Priok	2 X 40'	5-Jul	8-Jul	3	-	4.825.700
Belawan	3 X 40'	12-Jul	19-Jul	7	540,00	2.803.891

Based on the data above, it can be concluded that the longer the issuance of the SPPB (Goods Release Approval) is delayed, the higher the storage and

demurrage costs incurred. The impact of such delays significantly affects company management, particularly by causing financial losses to customers, which may

damage the company's reputation in the eyes of its clients.

### Analysis of the Factors Causing Import Document Delays at PT Alstom Grid Indonesia

In the process of handling import cargo documentation, which includes importation procedures, several factors

contribute to delays in document processing. These factors can first be observed from internal aspects. Therefore, before conducting research on the factors causing delays in import documents, the author carried out an initial observation to identify the problems occurring within the company.

**Table 2.** Problematic and Non-Problematic Factors

No	Indicator	Statement	Percentage
1	Work Procedures	Timeliness in handling import documents.	67%
2	Employee	There is a sense of responsibility among employees regarding handling delays in import documents.	53%
3		Good coordination to avoid delays in receiving import documents which can affect the goods release process.	70%
4	Document	There are corrections or improvements to documents that are carried out quickly, so that the import document process can run well and smoothly.	63%
5	Motivation	Provide training to employees to improve performance effectiveness in handling import documents	57%

All of these issues will be examined by the author in the following discussion using the

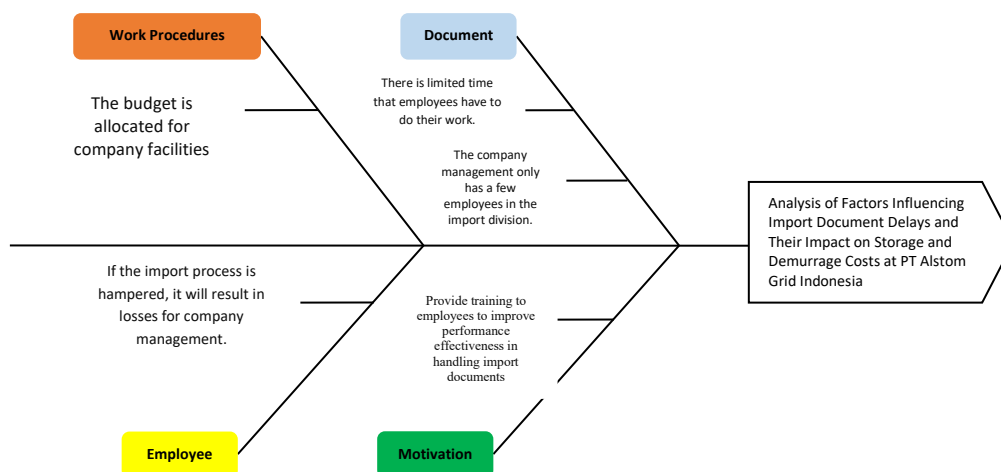
Five Whys method (to identify the root causes of the problem).

**Table 3.** Root Causes of Import Document Delays

Main Category	Main Category Type	Root Cause
Document	Coordination	<ol style="list-style-type: none"> <li>1. Employees lack communication in handling documents.</li> <li>2. Employees feel capable of doing their jobs.</li> <li>3. Employees feel that they have a lot of work to do and have to do it quickly.</li> <li>4. Employees feel they have little time for their work.</li> </ol>
Work Procedures	On Time Performance	<ol style="list-style-type: none"> <li>1. Lack of sense of responsibility among employees in carrying out their work.</li> <li>2. Employees are not enthusiastic about doing their work.</li> <li>3. Employees feel that the bonuses distributed by the company management are still insufficient..</li> <li>4. Company management does not allocate more budget for its</li> </ol>

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		employees.
Document	Document Correction	<ol style="list-style-type: none"> <li>1. The level of employee accuracy in processing documents is still minimal.</li> <li>2. Employees have limited time to do their work.</li> <li>3. The work handled by employees is quite a lot.</li> <li>4. There are limited employees who work in the import sector</li> </ol>
Motivation	Training	<ol style="list-style-type: none"> <li>1. lack of education and training provided to employees.</li> <li>2. High costs of education and training for employees.</li> <li>3. Education and training costs for employees are very minimal in the company budget.</li> <li>4. Management prioritizes the budget for the company's operational activities.</li> </ol>
Employee	Employee's Responsibility	<ol style="list-style-type: none"> <li>1. Employees must be quick and responsive in handling late documents.</li> <li>2. If employees are not quick in handling late documents, it will impact the import process.</li> <li>3. The import process must run according to existing procedures and be responded to quickly.</li> <li>4. If it is not responded to quickly, the import process will be hampered.</li> </ol>



**Figure 2. Fishbone Analysis**

After identifying the factors and the root causes of the problem, the author attempted to formulate effective solutions

through brainstorming sessions with the employees, which are presented in Table 4.

**Table 4.** Effective Actions/Solutions to the Root Causes of the Main Problem

Main Category	Main Category Type	Root Cause	Effective Solution
Document	Coordination	Because of the limited time employees have to do their work	a) It is recommended that company management conduct evaluations of employees to provide better direction in carrying out each of their jobs. b) It is recommended that every employee try to use the time available for document handling as effectively as possible.
Work Procedure	On Time Performance	Because the company management allocates its budget for company facilities.	a) It is recommended that companies provide welfare for their employees. b) It is recommended that company management strive to provide security for its employees.
Document	Document Correction	Because the company management only has a few employees in the import division.	a) The company management is advised to add employees to the import division. b) It is recommended that company management try to compare the actual performance of employees with the expected work performance to find out whether employees can complete their work well.
Motivation	Training	Because company management prioritizes the business activities it carries out	a) It is recommended that company management allocate a budget to hold training for employees.. b) It is recommended that company management carry out organizational development to increase company productivity.
Employee	Employee Responsibilities	Because if the import process is hampered, it will result in losses for company management.	a) It is recommended that management guarantee the consistency of the employees' work so that they maintain good consistency in carrying out each of their jobs. b) It is recommended that employees increase the effectiveness of their performance in carrying out their work for the company..

So based on the table above on Self Check-in Machines, the f-square value is 0.264, indicating that self check-in machines have quite a large impact in explaining the variability in passenger satisfaction. This really shows the importance of self check-in machines in increasing passenger satisfaction.

Meanwhile, based on the table above on Baggage Check-in, the f-square value is 0.218, indicating that baggage check-in also greatly contributes to passenger satisfaction, although the impact is smaller than that of self check-in machines.

## **CONCLUSION**

This study concludes that delays in import documentation at PT Alstom Grid Indonesia have a direct and significant impact on increasing storage and demurrage costs. The analysis revealed that the main contributing factors are weak document coordination (70%), procedural timeliness (66.7%), document correction delays (63.3%), limited training and motivation (56.7%), and lack of employee responsibility (53.3%). These factors are interconnected and reflect both human resource management and procedural inefficiencies.

The use of the Fishbone Diagram and 5 Why Keys analysis confirmed that the root causes of the problem include insufficient inter-departmental communication, inadequate monitoring of standard operating procedures, and limited employee competence in handling customs documentation. These conditions lead to delays in customs clearance and higher operational costs, as evidenced by additional expenses such as USD 880 in demurrage and IDR 14,225,000 in storage charges during one import case.

Overall, the findings emphasize the importance of strengthening internal coordination, improving employee training, and enhancing procedural compliance to reduce document delays. By addressing these root causes, PT Alstom Grid Indonesia can minimize avoidable storage and demurrage costs, improve operational efficiency, and strengthen its competitiveness in international logistics operations.

## **IMPLICATIONS**

This study highlights both theoretical and practical implications. Theoretically, it confirms that delays in import documentation are closely linked to

increased storage and demurrage costs, reinforcing the role of human resources, coordination, and procedural compliance as key factors in logistics efficiency. Practically, the findings suggest that PT Alstom Grid Indonesia and similar firms should strengthen interdepartmental coordination, enhance employee training in customs documentation, and enforce stricter monitoring of procedures to reduce delays and avoid unnecessary costs.

## **RESEARCH LIMITATIONS**

This study has several limitations. First, the research was conducted within a single case company, PT Alstom Grid Indonesia, which may limit the generalizability of the findings to other organizations or industries. Second, the data were obtained primarily from internal reports, questionnaires, and interviews, which may contain subjective responses from employees. Third, the analysis was focused on qualitative and descriptive methods, particularly the Fishbone Diagram and 5 Why Keys, without incorporating broader quantitative validation. These limitations suggest that future research should include multiple companies, apply more diverse sampling methods, and integrate advanced quantitative models to strengthen the reliability and applicability of the results.

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