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Identifying Critical Factors Contributing to Export Logistics Disruptions: A 6M Fishbone Analysis of Freight Forwarder Operations in Seaborne Shipping at PT. Q Logs Indonesia

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Abstract

The export logistics process in seaborne shipping is highly complex, influenced by numerous factors that can affect efficiency, timeliness, and safety of shipments. Freight forwarders, such as PT. Q Logs Indonesia, play a crucial role in managing and ensuring the smooth movement of export shipments across borders. This study aims to identify and analyze key factors that contribute to disruptions in the shipping process, using the Fishbone (Ishikawa) diagram as a tool. The diagram categorizes potential causes into six main areas: Man (Human Resources), Method (Work Methods), Machine (Equipment and Systems), Materials (Documents and Goods), Mother Nature (Environmental and Regulatory Factors), and Management (Policy and Coordination). Data was collected through interviews, observations, and document analysis. The research identifies several root causes of logistical inefficiencies, including inadequate training, inefficient procedures, outdated systems, document errors, regulatory changes, and mismanagement. By mapping these issues using the Fishbone diagram, the study provides valuable insights into the underlying causes of delays and disruptions in the export logistics process. The findings offer practical recommendations for PT. Q Logs Indonesia to address operational bottlenecks, streamline procedures, and improve the overall reliability and efficiency of seaborne export logistics. These insights are expected to help the company optimize its export operations, reduce delays, and enhance service delivery to customers.

Keywords*: Export Logistics, Freight Forwarder, Seaborne Shipping, Fishbone Diagram, PT. Q Logs Indonesia*

1. Introduction

The logistics industry, especially the delivery of export goods via sea transportation, plays an important role in the global economy [1]. PT. Q Logs Indonesia, as a freight forwarder, holds a crucial responsibility in ensuring the efficient and seamless movement of goods across international borders. Acting as the vital link between exporters and maritime transportation providers, the company plays a pivotal role in coordinating the flow of goods from the point of origin to their destination. This involves a complex series of tasks, including managing the logistics of freight shipments, coordinating with multiple parties, and ensuring compliance with a host of international regulations. Freight forwarders like PT. Q Logs Indonesia are responsible for handling various logistical challenges, which range from arranging port delivery and ensuring timely cargo handling to managing the intricate details of documentation.

The coordination between different stakeholders, such as shipping lines, customs authorities, and port operators, adds another layer of complexity to their operations. Additionally, freight forwarders must navigate the diverse regulatory landscapes across different countries, ensuring that all legal and compliance requirements are met to prevent delays or penalties. This includes proper handling of shipping documents such as bills of lading, customs declarations, and export licenses, each of which must be accurate and processed on time. Moreover, freight forwarders must also be equipped to manage unexpected challenges, such as changes in international trade laws, fluctuations in shipping rates, and delays due to weather conditions or port congestion. In sum, PT. Q Logs Indonesia's role is multifaceted, requiring careful planning, coordination, and problem-solving skills to ensure that goods reach their destinations safely, efficiently, and on schedule.

Shipping of goods by sea is often hampered by various technical, administrative and external factors that affect the smoothness of shipping [2]. One effective and widely used method for analyzing complex problems in various industries, including logistics, is the Fishbone (Ishikawa) diagram. This diagram, also known as the cause-and-effect diagram, provides a visual representation that helps identify, categorize, and map the underlying causes contributing to a particular issue or problem. By breaking down a problem into its root causes, the Fishbone diagram helps organizations gain a deeper understanding of the factors that contribute to inefficiencies, delays, or failures within their processes. In the context of shipping export goods, the Fishbone diagram is particularly useful in identifying the various factors affecting the smooth operation of sea transportation.

This study specifically focuses on applying the Fishbone approach to analyze the challenges faced by PT. Q Logs Indonesia in managing the export of goods via sea transportation. By utilizing this tool, the research aims to systematically explore the different elements that impact on the efficiency, timeliness, and safety of maritime logistics at the company. The Fishbone diagram will be used to categorize potential causes of disruptions into key areas such as human resources, work methods, equipment, documentation, environmental factors, and management practices. By mapping these contributing factors, this study intends to uncover the root causes of issues in the shipping process, offering valuable insights that can help PT. Q Logs Indonesia optimize its operations and improve overall performance in export logistics.

2. Research Methods

The research methodology used in this study is a descriptive qualitative approach with a case study strategy at PT. Q Logs Indonesia. This qualitative approach was chosen because this study focuses on an in-depth understanding of the processes, constraints, and factors causing problems in export shipping [3], This study adopts a qualitative approach, focusing not on numerical measurements or statistical relationships, but on providing a comprehensive, descriptive analysis of the actual conditions surrounding the export goods delivery flow at PT. Q Logs Indonesia. The descriptive approach was chosen because it allows for a detailed, systematic, and factual portrayal of the company's operational practices, capturing the complexities and challenges involved in the export logistics process. By taking this approach, the research aims to provide an accurate and thorough understanding of the existing processes, identifying both the strengths and obstacles that affect the efficiency of goods delivery. Rather than focusing on quantitative data, this research seeks to explore the nuances and real-world issues that impact PT. Q Logs Indonesia’s operations, offering insights that can help the company enhance its performance.

The case study was conducted with PT. Q Logs Indonesia as the primary unit of analysis because of its central role in logistics and export goods delivery. The company serves as a critical intermediary between exporters and international markets, directly handling the coordination and management of export shipments via sea transportation. To gather detailed and relevant information, the research involved several internal stakeholders who play a vital role in the goods delivery process. These stakeholders included:

- Operational Managers, who are responsible for planning, monitoring, and overall control of the shipping flow, ensuring that all logistics operations proceed smoothly and efficiently.
- Documentation Staff/Officers, who manage the preparation and verification of export documents, such as invoices, packing lists, bills of lading, and customs documents. These documents are essential for ensuring compliance with regulations and smooth customs clearance.
- Logistics Staff, who are directly involved in the practical aspects of shipping, such as scheduling shipments, coordinating with shipping companies and freight forwarders, and overseeing the flow of goods from the point of origin to their destination.

To ensure that the information gathered was both relevant and in-depth, informants were selected using purposive sampling. This method involved intentionally choosing individuals based on their position, responsibilities, and level of involvement in the export shipping process. By selecting key personnel directly engaged in these operations, the research aimed to obtain a comprehensive and insightful perspective on the challenges and processes within PT. Q Logs Indonesia’s export logistics. The resulting data will provide a thorough analysis of the company's operational practices, identifying areas for improvement and offering actionable recommendations.

The primary data collection techniques in this study were in-depth interviews and direct observation. The in-depth interviews were conducted using a pre-designed interview guide to ensure that all key topics related to the shipping process, emerging obstacles, and efforts to address them were systematically captured. Interviews were conducted face-to-face and/or through other agreed-upon communication channels, with sufficient duration, to allow the researcher to obtain comprehensive explanations from each informant. Open-ended questions allowed informants to elaborate on their experiences, perspectives, and perceptions regarding export shipping issues [4].

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In addition to interviews, this study also utilized direct observation of the export shipping process at PT. Q Logs Indonesia. Observations were conducted in a non-participatory manner, where the researcher observed the workflow without being directly involved in operational activities. Observations included: the flow of receiving shipping orders, the process of preparing and checking documents, coordination with shipping companies/forwarders and other related parties, the process of stuffing goods into containers, and delivery to the port [5]. Through observation, researchers can identify procedural inconsistencies, potential bottlenecks, delays, and technical and administrative obstacles that may not be fully uncovered through interviews.

To enhance the credibility of the data, this research can also be supplemented with documentation studies, such as a review of shipping SOPs (Standard Operating Procedures), internal reports regarding shipping delays, emails or minutes of coordination with external parties, and shipping data records for a specific period. The use of several data collection techniques (interviews, observation, and documentation) simultaneously allows for triangulation, both source triangulation and technical triangulation, thus ensuring the validity of the data obtained [6].

Data analysis in this study was conducted in stages, starting with data reduction, data presentation, and drawing conclusions. Interview data was transcribed, then coded and grouped into main themes related to the export shipping process and issues. Observational data were recorded in the form of field notes, which were then compared with the interview results to determine consistency. The organized data was then analyzed using a Fishbone (Ishikawa) diagram to identify and map the factors causing the problems [7].

In applying the Fishbone diagram, the initial step taken is to determine the "effect" or main problem being studied [8], For example, late deliveries, inaccurate documents, or disruptions to the smooth flow of exports. Next, researchers grouped the various causes that emerged from the results of interviews, observations, and documentation into several main categories, such as: Human (HR), Method (work methods/procedures), Machine (equipment/systems), Material (documents and goods), Mother Nature (work environment and regulations), and Management (policies and coordination). Each category is filled with specific factors that are potential causes of problems, for example, lack of training, non-standard SOPs, poorly integrated information systems, delays in documents from customers, changes in regulations, and so on [9].

After all the causal factors were identified in the Fishbone diagram, the researcher conducted further analysis to determine which factors were the most dominant and most frequently appearing, both based on the frequency of their appearance in the data and based on the assessments of key informants[10]. This process was carried out by comparing findings between informants, reviewing the consistency of interview results with observation results, and assessing the impact of each factor on the smooth delivery of export goods. From this analysis, the researcher then formulated the dominant factors influencing the success or failure of the export goods delivery process at PT. Q Logs Indonesia, which then became the basis for compiling recommendations for improving procedures and enhancing the company's logistics performance.

3. Results and Discussions

3.1. Respondent Identity

Respondent Characteristics Analysis

In this study, the characteristics of the respondents were analyzed based on three primary aspects: gender, age, and education level. By examining these demographic factors, the research aimed to better understand how these characteristics might influence the respondents' perspectives, experiences, and responses to various issues related to export shipping. The data collected from the research questionnaire provided valuable insights into the respondents' backgrounds, helping to paint a clearer picture of the workforce involved in the export logistics process. Understanding the demographics of the respondents is crucial because their individual characteristics could shape their views on key operational aspects, challenges, and opportunities in the shipping process.

Respondent Identity by Gender

An analysis of respondent identity by gender revealed that the majority of the participants in this study were male, comprising 28 respondents, or 56% of the total sample. Meanwhile, 22 respondents, or 44%, were female. While there is a noticeable difference in the number of male and female respondents, the gender distribution in this study is still relatively balanced. This balance is important because it allows for a diverse range of perspectives, particularly when it comes to decision-making, problem-solving, and understanding the nuances of the export shipping process. The participation of both genders ensures that the findings reflect a more comprehensive view, encompassing the varied experiences and insights of individuals from different gender backgrounds. The varied perspectives between male and female respondents might also contribute to a more holistic understanding of the

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challenges faced in the logistics sector and could highlight gender-specific challenges or advantages in the workplace.

Table 1 Respondent identity based on gender

No.	Gender	Frequency	
		People	Percentage %
1	Male	28	56%
2	Female	22	44%

Source: *Google form "Research Questionnaire" processed by researcher, 2025*

Respondent Identity by Age

The majority of the respondents in this study, 22 individuals, accounting for 44% of the total, were between the ages of 20 and 30. This age group typically represents relatively young individuals who are likely in the early stages of their careers within the logistics or export industry. Many of these respondents may be recent graduates or individuals who have recently entered the workforce, bringing fresh perspectives and a willingness to adapt to new technologies and methodologies. As this demographic is still building their experience, their responses may highlight challenges related to learning the ropes of the industry, adapting to established practices, and understanding the intricacies of export logistics.

A significant portion of the respondents, 16 individuals or 32%, were between the ages of 31 and 40, suggesting the involvement of professionals who have accumulated more experience in the logistics and export sector. Individuals in this age group are often in mid-career stages, having spent several years working in the industry. They are likely to have a deeper understanding of the operational challenges faced in export shipping, and their insights could reflect a more strategic approach to problem-solving, as well as a better understanding of the industry's evolving trends and demands.

Meanwhile, 8 respondents, accounting for 16%, were between the ages of 41 and 50, and 4 respondents, or 8%, were over the age of 50. These respondents represent the most senior and experienced professionals in the field. With extensive careers behind them, individuals in this age group likely bring years of industry knowledge, wisdom, and leadership experience to the table. Their responses may provide valuable insights into the long-term trends and challenges in export shipping, as well as the evolution of best practices over time. They may also offer perspectives on how industry has changed and how future generations can better address emerging issues.

With such a diverse age distribution among the respondents, the results of this study reflect varying perspectives on the challenges of export shipping. These differences in experience levels and career stages mean that the study captures a wide range of insights, from those just starting their careers to seasoned professionals with decades of experience. Each group is likely to highlight distinct aspects of the export process, from foundational challenges faced by newcomers to complex issues and solutions identified by more experienced professionals.

Table 2 Respondent identity based on age level

No.	Respondent Age (Years)	Frequency	
		People	Percentage %
1	20 — 30	22	44%
2	31 — 40	2	32%
3	41 — 50	2	16%
4	> 50 Tahun	4	8%
Total		50	100%

Source: *Google form "Research Questionnaire" processed by researcher, 2025*

Respondent Identity Based on Education Level

The majority of respondents, totaling 25 individuals (50%), held a bachelor's degree (S1), suggesting that they possess a strong foundation of theoretical knowledge and a level of expertise necessary for managing and operating export shipments. This group likely brings a well-rounded understanding of logistics, international trade, and the technical aspects of shipping, equipping them with the ability to navigate the complexities of the export process. The education level of these respondents indicates that they are well-versed in industry practices and are capable of applying their knowledge to solve problems and improve operational efficiency within the company.

In addition, 11 respondents (22%) had completed their education at the high school level, which reflects a different set of skills, often more practical and hands-on in nature. While they may not have the same depth of theoretical

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knowledge as those with a bachelor's degree, these individuals likely possess valuable operational experience and a strong understanding of the practical challenges faced in day-to-day export logistics. Their hands-on expertise in handling shipments, managing documentation, and coordinating with stakeholders is crucial for the smooth operation of export activities.

Furthermore, 10 respondents (20%) had completed a diploma (D3) program, which suggests that they possess a solid mix of theoretical knowledge and technical skills relevant to the logistics and shipping industry. Diplomas typically focus on specialized knowledge and practical skills, enabling these respondents to contribute effectively to the operational aspects of export shipments.

Lastly, 4 respondents (8%) held a master's degree (S2), indicating a high level of advanced education. These individuals likely bring specialized knowledge, research skills, and a strategic perspective to the table. Their advanced qualifications may also be an asset in tackling more complex problems related to export logistics, strategic planning, or management within PT. Q Logs Indonesia.

With this variation in educational backgrounds, the study offers a comprehensive overview of the different levels of understanding, expertise, and skills that each respondent brings to the export shipping process. It highlights the diverse range of capabilities within the company, from theoretical knowledge and strategic thinking to practical experience and technical skills, which together contribute to the efficient management of export shipments.

Table 3 Respondent Identity Based on Education Level

No.	Education	Frequency	
		People	Percentage (%)
1	High School	11	22%
2	Diploma 3	10	20%
3	Bachelor's Degree	25	50%
4	Master's Degree	4	8%
Total		50	100%

Source: *Google form "Research Questionnaire" processed by researcher, 2025*

3.2. Fishbone Analysis

A fishbone diagram, or Ishikawa diagram, is a tool used to identify various factors that cause problems in a process or system. In the context of export shipping, a fishbone diagram can help analyze and map the various causes of problems that can affect efficiency, timeliness, or safety in the export process [11].

The following is an explanation of the categories of causes of problems in shipping export goods based on six aspects in the Fishbone diagram:

a. Man (Human Resource)

This aspect refers to factors related to the quality and competence of human resources involved in the export goods delivery process [12]. Some problems that may arise in this category include:

- Skills and Training: One of the primary challenges in the export shipping process is the lack of sufficient training or a comprehensive understanding of the procedures involved. Employees who are not well-trained in the intricacies of export documentation, packaging standards, or the overall logistics flow may inadvertently make mistakes. These mistakes could result in issues such as incorrect shipping documents, improper packaging that could lead to damaged goods, or missed deadlines due to inefficient handling. Proper training is essential not only to ensure compliance with international shipping regulations but also to streamline operations and reduce the risk of costly errors. Without a deep understanding of these procedures, even minor oversights can lead to significant delays and complications in the overall shipping process.
- Human Resource Availability: Another challenge is the reliance on a limited or inadequate workforce, which can severely affect the efficiency of the shipping process. When there are not enough staff members to handle the workload or when employees are not adequately trained, it can lead to delays, mistakes, or an overall breakdown in communication and coordination. An insufficient workforce can result in bottlenecks, as tasks such as managing shipments, preparing documents, or coordinating with shipping partners may not be completed on time. This can lead to backlogs, missed deadlines, and ultimately, customer dissatisfaction. Adequate staffing levels and skill diversity are crucial to ensuring that all aspects of the export process are managed effectively and efficiently.
- Fatigue or Work Stress: The nature of export shipping requires employees to maintain high levels of focus, precision, and timeliness, which can lead to stress and fatigue, especially during peak periods. Constant

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pressure to meet tight deadlines or manage a high volume of shipments can take a toll on employees' physical and mental well-being. When workers experience fatigue, their ability to concentrate and make accurate decisions diminishes, increasing the likelihood of errors. This can be particularly problematic in roles that require attention to detail, such as preparing critical shipping documents or ensuring the proper handling of goods. Addressing worker fatigue through better workload management, adequate breaks, and stress-relief measures is essential for maintaining accuracy and ensuring the timely delivery of shipments.

- Poor Communication: Ineffective communication or a lack of coordination between teams or stakeholders involved in the shipping process can lead to a series of issues, including misinterpretations, mistakes, and delays. When different teams (e.g., operational staff, documentation officers, and logistics personnel) are not in sync or fail to share important information, critical details may be missed. This can result in confusion about shipment schedules, incorrect documentation, or even the wrong goods being shipped. Clear, timely communication between all parties involved is vital for ensuring that everyone is aligned with the operational objectives, requirements, and timelines. Improving communication channels and fostering a culture of collaboration can significantly reduce the risk of errors and improve the efficiency of the overall export shipping process.

b. Method (Work Method/Procedure)

Method refers to the means or procedures used in shipping export goods. Factors that can cause problems in this category include:

- Inefficient procedures: When shipping procedures are not well-defined, standardized, or are overly complicated, they can significantly slow down the export process. Complex procedures may create confusion and inefficiencies, leading to delays and increased costs. Moreover, if procedures are not streamlined, there is a higher risk of errors occurring at different stages of the shipment process, such as incorrect documentation or improper handling of goods. These inefficiencies can have a cascading effect, causing delays in delivery, customer dissatisfaction, and increased operational costs for both the exporter and the freight forwarder.
- Lack of integrated systems: A major challenge in modern export logistics is the absence of a seamless, interconnected system between the exporting party and the transportation or shipping party. Without an integrated system, such as a comprehensive shipping management information system (SMIS), there can be breakdowns in communication, leading to errors in shipment tracking and mismanagement of goods. For example, when systems do not communicate effectively, it can lead to discrepancies in inventory records, delays in shipment updates, and difficulty in monitoring the progress of deliveries in real time. This lack of synchronization not only increases the chances of logistical errors but also hampers the ability to provide accurate and timely information to customers and stakeholders [13].
- Lack of adequate oversight: Rigid, inflexible procedural policies can create significant obstacles, particularly in times of crisis or when market conditions change unexpectedly. In the fast-paced world of logistics, the ability to adapt to new challenges and unexpected situations is crucial. For instance, inflexible policies may prevent the company from quickly responding to urgent or unforeseen circumstances, such as sudden changes in shipment requirements, customs regulations, or transportation disruptions. When procedures are too rigid, the company may struggle to find effective solutions, leading to delays, increased costs, or customer dissatisfaction. Therefore, it is essential to design flexible policies that can adapt to the dynamic nature of the logistics and shipping industry, ensuring that the company remains responsive to changes in demand and external conditions [14].

c. Machine (Equipment/System)

The equipment and systems used in export shipping are also important factors in this process. Some identifiable causes of problems in this category include:

- Condition of transportation equipment: The condition of the vehicles used for shipping, such as ships, trucks, or planes, plays a significant role in the timely and safe delivery of goods. When transportation equipment is damaged or poorly maintained, it can cause significant delays, affect the reliability of the transportation service, and in some cases, even result in damage to the goods being transported. Regular maintenance and timely repairs are essential to ensure that vehicles remain in good working order, helping to prevent unexpected breakdowns that could disrupt the shipping schedule.
- Ineffective tracking systems: An efficient tracking system is crucial for monitoring the movement of goods during transit. Without such a system, it becomes difficult for logistics teams and customers to know the exact location of goods in real time, leading to uncertainty regarding delivery times and potential delays. The lack of real-time tracking also hinders the ability to resolve issues swiftly if goods are delayed or lost in transit.

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Therefore, implementing a modern, reliable tracking system is vital for improving transparency, communication, and overall efficiency in the shipping process.

- Inadequate packaging equipment: Proper packaging is essential to protect goods from damage during transit, especially for fragile or sensitive items. If packaging equipment is malfunctioning or of poor quality, it can result in goods being inadequately protected, leading to potential damage during shipping. Faulty packaging machinery can also cause delays in the packing process, further disrupting the shipping timeline. To ensure goods arrive in optimal condition, it is crucial to invest in reliable packaging equipment and regularly check its functionality to prevent issues from arising.
- Outdated technology: In today's fast-paced logistics industry, technology plays a pivotal role in ensuring smooth and efficient operations. Shipping management systems that rely on outdated or incompatible software and hardware can create numerous problems. These issues may include data errors, system crashes, or delays in processing shipments, which can significantly hinder overall operational efficiency. To stay competitive and meet customer demands, companies must prioritize regular updates and upgrades to their technology infrastructure, ensuring that systems remain compatible with industry standards and capable of handling the demands of modern logistics management [15].

d. Material (Documents and Goods)

Materials in this case refer to the goods being exported and the documentation required for the shipment. Issues that may arise in this category include:

- Documentation errors: Export shipments require a range of critical documents, including commercial invoices, packing lists, bills of lading, delivery notes, and various customs documents. Each of these documents must be accurate, complete, and aligned with international trade regulations. Any errors in these documents, such as incorrect information, missing signatures, or incomplete details, can lead to significant delays in the shipping process. Incomplete or erroneous paperwork can result in shipments being held up at customs, as authorities often require precise documentation to clear goods for import or export. This can lead to not only delays in the shipping timeline but also additional costs, as companies may need to redo paperwork or pay fines. Moreover, if errors are discovered after goods are in transit, it can further complicate the process, requiring more time to resolve the issue and potentially leading to reputational damage.
- Damaged or non-conforming goods: Another significant issue in export logistics is the potential damage to goods during transit. This can happen due to inadequate packaging, improper handling, or exposure to unfavorable conditions, such as extreme weather or rough handling during loading and unloading. Goods that are damaged in transit not only result in direct financial losses but can also disrupt the entire shipping schedule. In addition to physical damage, non-conforming goods, those that do not meet the agreed-upon specifications or quality standards can create problems. These issues can lead to customer dissatisfaction, returns, or even legal disputes. In some cases, non-conforming goods may need to be reworked or replaced, which further delays the delivery process and adds unexpected costs to the business.
- Delayed material shipments: Delays in the supply of raw materials or intermediate goods can severely impact the flow of goods through the export supply chain. When materials or products are not delivered on time, it can create a bottleneck that delays the entire shipment process. For example, if a supplier fails to meet delivery deadlines, it can prevent the timely assembly or packaging of products, ultimately delaying the shipment to the final customer in the destination country. Such delays can have ripple effects, disrupting customer satisfaction, causing missed deadlines, and leading to potential financial penalties. Timely delivery of materials is critical to maintaining an efficient supply chain and ensuring that exports are dispatched according to schedule. Delays in material shipments can ultimately harm the company's reputation and its relationships with both suppliers and customers [16].

e. Mother Nature (Work Environment and Regulations)

This category includes external factors that are beyond the company's direct control but may affect the delivery of export goods, such as weather, natural disasters, or government regulations [17]. Some causes of problems in this category include:

- Bad weather or natural disasters: Extreme weather conditions, such as violent storms, heavy rainfall, or intense snowfall, can disrupt shipping schedules and lead to delays in transit. These weather events not only slow down the movement of goods but can also cause serious damage to transportation vehicles, such as ships or trucks, or to the infrastructure necessary for shipping, such as ports, roads, and railways. In some cases, natural disasters like earthquakes or floods can halt operations completely, leaving goods stranded or severely delayed for extended periods. [18].

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- Regulatory changes: Shifts in customs regulations, import-export procedures, or the imposition of new tariffs can create significant disruptions in the shipping process. These changes often require businesses to adapt quickly, ensuring compliance with the new rules and adjusting their logistics strategies accordingly. For instance, new documentation requirements or changes in inspection procedures can delay customs clearance, resulting in extended transit times and increased shipping costs.
- Geographical limitations or limited infrastructure: In some countries, poor road conditions, underdeveloped port facilities, or limited air and sea transportation options can severely hinder the speed and cost-efficiency of the shipping process. Goods may be delayed as they navigate difficult terrain or face bottlenecks at poorly equipped ports and terminals. In such cases, the lack of efficient infrastructure can directly impact the delivery timelines and raise the costs associated with shipping [19].
- Political or social issues: Political instability, such as protests, strikes, or changes in government, can affect the security of transportation routes and create uncertainty about the safety of shipments. Similarly, social tensions, such as conflicts or civil unrest, can force shipping companies to reroute or delay deliveries to avoid areas of risk, impacting the overall schedule and costs. These issues may not only create delays but also increase the risks involved in transporting goods, especially in regions where security is a concern [20].

f. Management (Policy and Coordination)

Management, in this case, relates to policies and coordination between relevant parties in the shipment of export goods. Factors that can cause problems in this category include:

- Unclear or inconsistent policies: When policies governing the export process are poorly coordinated or inconsistently applied, it can create confusion and ambiguity within the team. This lack of clarity often leads to overlapping responsibilities, missed tasks, and misunderstandings regarding roles. For example, without a clear division of labor, some tasks may be neglected while others are duplicated, resulting in inefficiency and delays. Inconsistent policies can also cause frustration among staff, as they may be unsure about which procedures to follow, especially when dealing with complex international shipping requirements. As a result, the overall workflow becomes disorganized, which can significantly hinder the timely and smooth execution of the export process [21].
- Lack of communication between departments: In any organization, particularly one involved in logistics, seamless communication is critical to ensure that all departments are working towards the same goal. Poor communication between key departments, such as sales, warehouse, shipping, and customs, can lead to significant delays and errors. For instance, if the sales department fails to communicate critical information regarding shipment details to the warehouse or shipping teams, goods might not be packed or delivered according to schedule. Similarly, without proper coordination with customs, documentation errors or compliance issues may arise, leading to delays at ports or even fines. This lack of interdepartmental communication can also cause confusion and frustration among employees, impacting morale and performance [22].
- Lack of risk management strategy: In the fast-paced and unpredictable world of international shipping, not having a clear and comprehensive risk management strategy can expose a company to a host of problems. Risks such as sudden increases in fuel prices, changes in tariff regulations, or political instability in key markets can disrupt the flow of goods, leading to significant financial losses. Without a proactive risk management plan, companies are ill-prepared to handle these disruptions, leaving them vulnerable to the consequences of unforeseen events. A lack of contingency plans also means that when issues arise, the response is often reactive rather than strategic, increasing the overall uncertainty and potential for operational failures [23].
- Management that is not responsive to customer requests: Effective management is key to ensuring customer satisfaction, particularly in logistics where timely delivery and the condition of goods are of utmost importance. When management fails to be responsive to customer needs or to adapt quickly to sudden changes, it can result in untimely deliveries, lost business opportunities, or goods that do not meet customer expectations. For example, if management does not promptly address urgent requests or changes in customer orders, this can lead to missed deadlines and dissatisfied clients. In the competitive field of export logistics, a lack of responsiveness can tarnish the company's reputation and erode customer trust, which may ultimately lead to a loss of business and long-term relationships.

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Figure 1 Fishbone Diagram (6M Analysis) on the Causes of Export Goods Delivery Problems by Sea at PT. Q Logs Indonesia with a focus on the role of Freight Forwarders

4. Conclusion

The conclusion of this study is that the shipping of export goods via sea transportation at PT. Q Logs Indonesia faces various complex challenges, which can be mapped using a Fishbone diagram. Through a descriptive qualitative approach, this study identifies the main factors causing problems in the shipping process, which include aspects of human resources (HR), work procedures, equipment and systems, documents and goods, the work environment and regulations, and managerial policies and coordination. Based on data analysis from interviews, observations, and documentation, factors such as lack of HR training, non-standardized procedures, poorly integrated information systems, and delays in documents and regulatory changes are the dominant causes that hinder smooth shipping. This study provides in-depth insights into the operational problems faced by the company, as well as suggesting corrective measures to increase the efficiency and effectiveness of export shipping.

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