

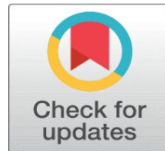
STUDY ON RISK MANAGEMENT IN SHIPPING AND LOGISTICS OPERATIONS

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ABSTRACT

Shipping and logistics activities are very important in global trade and economy, because they make sure that goods are transferred in an uninterrupted way through different domestic and international routes. In contrast, the intricate logistics chains and the engagement of a large number of intermediaries turn the industry into a place with different kinds of risks lurking around. Some of the main risks that logistics face are those regarding the correctness of documentation, postponements in operations, unproductiveness in cargo handling, fluctuations in finance, problems with technology and the impact of nature. Each of these risks is damaging the logistics operations in terms of continuity, quickness and reliability. This research tries to identify and analyze the risks in shipping and logistics through a literature review and a study on the factors that lead to supply chain disruptions. It is founded purely on secondary sources like journals, reports and logistics studies. The outcomes show that the operational risks such as delays and poor coordination tend to be most prevalent and the mistake-prone documentations still create substantial delays at customs and regulatory checkpoints. Also, cargo-handling problems, financial issues and external interference cause inefficiencies too. The paper suggests that wrong documents, unskilled manpower, lack of technology and poor monitoring are the main pillars of ineffective risk management. On the other hand, by implementing suitable risk management practices, the logistics operations can be transformed into more trustworthy, resilient and efficient ones.

Keywords: Shipping, Logistics, Risk Management, Documentation, Operational Delay, Supply Chain Efficiency



1. INTRODUCTION

Shipping and logistics operations are the most important enablers of the goods' movement across regions, countries, and the world market. The logistics industry deals with a really long list of activities which includes: the transportation of goods, the storing and managing of stocks, the handling of packages, customs clearance, freight forwarding, and distribution. Each of these activities has to be done with utmost accuracy and cooperation in order to support the timely flow of goods. In today's supply chains, logistics operations have been making their way through a greater and more complex maze that is formed by factors like globalisation, the ever-increasing customer expectations, the tightening of regulations and the opening up of more trade networks. The presence of different stakeholders like transporters, shipping lines, customs brokers, warehousing operators, and

regulatory agencies adds to the complexity and sensitivity of the logistics process, making it more prone to disruptions.

The very nature of logistics being interconnected indicates that any risks that occur in any part of the chain may disrupt the complete flow of goods. For example, a documentation delay can lead to customs keeping the cargo even if transportation is timely; poor communication may result in wrong routing of goods; bad weather can halt vessel movements; and sudden freight rate change can impact cost planning. These disruptions demonstrate the importance of having measures in place for the effective management of risks so that consistency is maintained and losses avoided. With the global supply chain scenario becoming more dynamic, uncertain, and competitive, the management of risks related to logistics operations has turned into a substantial challenge.

The primary objective of the research is to not only analyze the different risks associated with shipping and logistics activities but also to comprehend how these risks affect operations and to highlight the necessity of risk management for enhancing efficiency. This investigation is directed towards spotting out the crucial risk groups and through a comprehensive survey of the currently available secondary data, expounding their influence on logistics performance.

2. RISKS IN SHIPPING AND LOGISTICS OPERATIONS

Shipping and logistics activities are constantly facing different types of risks due to the participation of documentation, transportation, handling, regulatory processes, financial systems, and external conditions. One of the main risks is the risk related to documentation, which comes up when the required shipping documents are not accurate, not complete, or not aligned with the legal standards. Since international trade has been regulated by customs rules and formal documentation, even minor mistakes can lead to delays in clearance procedures, thus increasing costs and prolonging transit times. Incorrect HS codes, mismatched invoices or missing certificates are some of the most common documentation problems that lead to disruptions in the operations.

Besides, operational risks are another big reason for logistics delays. The main causes of such risks are poor scheduling, communication failures, vehicle breakdowns, port congestion, and misalignment between departments. Since logistics activities are so closely linked, any delay in the loading, unloading, or dispatching of goods can have a ripple effect on the entire chain. The cause of logistics inefficiency is not only the longer delivery time but also the increase in the cost and lowering of customer satisfaction level.

Risks related to cargo handling arise as a result of improper handling, packing or transportation of goods. Damage can be caused by wrong loading or unloading, careless stacking, inadequate packaging and exposure to unsuitable environmental conditions. Such risks will lead to increased claims, higher insurance costs and lower service quality. Cargo-handling risks apply particularly to fragile, temperature-sensitive or high-value goods.

Shipping and logistics operations are also affected by financial risks. The latter are derived from varying freight rates, fuel price changes, currency fluctuations and the imposition of unexpected charges like detention or demurrage. Financial risks will make it hard to budget correctly and will affect the planning of the future. Risks of the external and environmental nature such as bad weather, natural disasters, political unrest, strikes and transport restrictions add uncertainties to logistics

operations. These risks are not human controlled but definitely, they have a major influence on the movement of cargo and the timing of transit.

With the rising dependency on digital systems, the technological risks have also risen. The logistics operations are critically relying on various software platforms for tracking, scheduling, documentation, and communication. Technical failures, cyber-attacks, network interruptions, or GPS faults might cause a total halt or reduce the pace of operations considerably. Despite technology boosting productivity, it also creates a weak point if not adequately protected or kept up.

When taken together, these threats have an impact on the performance, safety, and reliability of the logistics operations. The handling of such risks draws the need for the implementation of continuous monitoring, putting forth precise planning, and the combined usage of skilled workforce and technology.

3. REVIEW OF LITERATURE

Sharma (2018), mention that there are disruptions in logistics such as port congestion, a bad weather, a machine breakdown and unplanned delays which interrupt the transportation processes. These interruptions delay logistics activities and, consequently, affect delivery schedules.

Rao and Menon (2019) study risks of human nature and observe that poor communication, scheduling mistakes and lack of coordination are the most important factors affecting logistics performance. They also indicate human error as the most important reason for delays, which still accounts for a large percentage of delays.

Patel (2020) points out the critical role of correct documentation in international logistics. The author has his by wrong HS codes, incomplete paperwork and poor understanding of regulations as the main contributors to customs delays and thus accentuating the importance of accuracy in documentation.

Kumar and Thomas (2021) deal with environmental and compliance risks, saying that logistics are to be in compliance with stringent international regulations regarding safety, pollution control and environmental protection. They report in their study that indeed environmental disturbances and stringent regulations often create obstacles for the logistics operations.

Mehta (2022) mentions that logistics activities face more and more technological risks. In his study, he indicates that the logistics operators' dependence on digital systems largely leads to their exposure to cyber-attacks, software crashes and unreliable data which in turn affect communication and processing.

D'Souza and Jain (2023) recommend an integrated risk management framework to be built up that would be backed by proper communication, digital tools, skilled manpower and standard operating procedures to fight the risks in logistics operations.

4. METHODOLOGY

The present research is solely reliant on secondary data. The sources of information included academic journals, logistics reports, research articles, and online databases associated with shipping and logistics. The study adopts a descriptive method that entails the reading and reviewing of existing literature to classify the kinds of risks related to logistics operations. There has been no

collection of primary data, surveys, or field visits. The interpretation of secondary data constitutes the foundation of the study's analysis and findings.

5. ANALYSIS AND DISCUSSION

The analysis points out that the operational risks are the principal ones that disrupt logistics operations and that they occur the most frequently. Among the problems that slow down the movement of goods are delayed pickups, poor route planning, gaps in the communication of the involved parties as well as breakdowns of equipment. Issues with documentation also lead to considerable delays with customs clearance being the place where the accuracy and completeness of documents are most crucial. Missing information, wrong entries, or non-compliance with regulations result in hold-ups, fines and longer processing times. In connection with the cargo, handling risks occur and they are usually manifested in the form of damaged goods caused by improper loading or inadequate packaging.

Financial risks are the ones that change the most with the economy globally, fuel price variations and freight rate changes being major contributors to the cost instability. External risks in the form of unexpected weather changes, political unrest or strikes are always there to further disrupt the routing of transportation and the scheduling of ships. Technological risks are the result of failure of the digital systems or when cyber-attacks taking place compromise data and communication.

6. FINDINGS

Figure 1

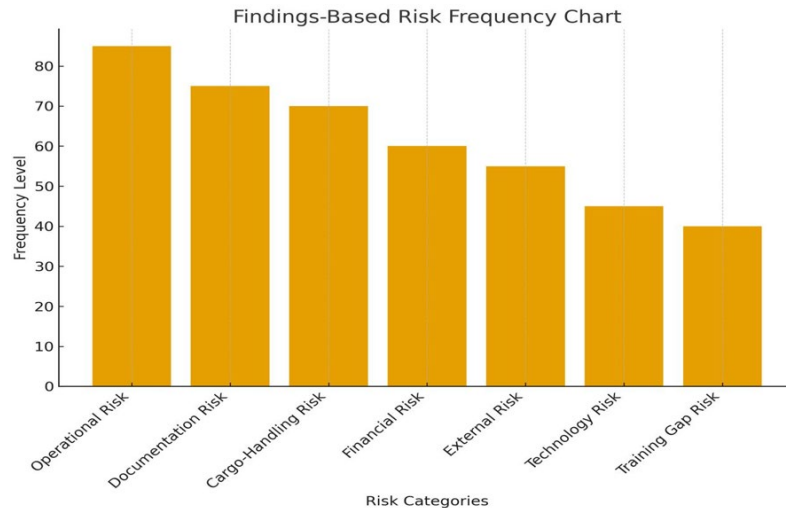


Figure 1 Based Risk Frequency Graph

- 1) The main source of risk in documentation was recognized and labeled the biggest risk, where incorrect or incomplete papers, wrong codes, and missing documents lead to severe delays in customs clearance. Such errors not only slow down the entire logistics cycle but also result in detention and penalty fees that keep escalating.
- 2) Similarly, operational risk is identified as a very high factor, mainly because of the problems in the scheduling, lack of good coordination, port saturation, and delays that are not expected in the transportation sector.

The hindrances in operation result in a slow flow of goods and thus longer overall transit time.

- 3) Cargo handling risk is found to be a significant risk, especially where practices like improper loading, unloading, and packaging are done and damage occurs to goods. Such issues in handling lead to an increase in insurance claims and the trustworthiness of the services offered is compromised.
- 4) Financial risk comes in with a moderate level, mainly due to the changes in freight rates, fuel prices, and unforeseen charges. These financial variations make it difficult for the logistics operations to predict and then manage budgets and costs.
- 5) External risk, though it appears at a low level, still has an impact on the logistics chain through, for example, weather fluctuations, road closures, and other uncontrollable factors that could be political unrest and so forth. Such events lead to unanticipated interruptions in the movement of scheduled goods.
- 6) Technical risk is seen as the least, it mostly results from, minor system failures, errors in tracking, or difficulties with the software. Although such interruptions are infrequent, they still impact communication within the organization and cause processing delays.

7. CONCLUSION

The shipping and logistics industry faces a wide range of risks, which the study identifies as coming from various areas such as documentation, operational activities, handling practices, financial uncertainties, environmental conditions and technological systems. Among the risks that affect the logistics operations, operational delays and documentation errors are the biggest ones as they are the reasons for the goods not getting to the desired place and supply-chain inefficiency. Furthermore, occurrences concerning the cargo, unexpected financial changes and external factors also contribute to uncertainties and hence the performance is affected. Another area of risk is the technology which is becoming more influential in the logistics sector. Proper risk management calls for a combination of good documentation, trained staff, orderly handling, communication, technological support, and constant checking. Preventive measures, when applied, help to make the disruptions less, the delays shorter and the whole logistics chain more reliable.

CONFLICT OF INTERESTS

None.

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