



A Study on Geopolitical Risks and Their Influence on Global Freight Forwarding Business and Operations

Venkatachalapathy R.^{1*}, Dr. R. Priyadharshini²

¹MBA (Shipping & Logistics Management), School of Management Studies, Vels Institute of Science, Technology & Advanced Studies, Chennai-117.

²Assistant Professor, Department of Management Studies, School of Management Studies, Vels Institute of Science, Technology & Advanced Studies, Chennai-117.

*Corresponding author

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Abstract

Recent global geopolitical developments pose numerous challenges for the global freight forwarding and logistics profession. Here we will look at how various geopolitical risks such as conflicts, trade war, sanctions, maritime security threats, and climate impacts are currently affecting this industry in terms of global trade and supply chain and routing of ships, shipping costs, changing shipping routes, and potential long-term impacts on supply chains. Five major disruptions examined are: Iran/Israel Conflict; Red Sea Crisis; Russia/Ukraine War; US/China Trade War; and Panama Canal Drought. All these disruptions have resulted in diversions of shipping routes, fluctuations in the price of freight rates, delays in shipments and uncertainty in booking, as well as increases in insurance and operational costs. The findings of the study support the importance of having a diverse supply chain, good risk management practices, multi-modal logistics, and increased use of digital monitoring systems, to increase resilience and maintain continuity of operations for global freight forwarding professionals.

Keywords: Geopolitical Risks, Freight Forwarding, Global Logistics, Supply Chain Disruption, Maritime Security, Trade War, Route Diversification, Operational Resilience's

1. Introduction

Global logistics and freight forwarding rely on secure maritime transport networks and stable international trade routes. Trade tensions, geopolitical conflict, environmental problems, and threats associated with maritime security are now posing massive issues/obstacles to the ability of logistics companies to meet customer demands and fulfil their part of the supply chain. Logistics operations have been severely impacted by events such as the conflict between Russia and Ukraine, the Red Sea crisis, trade tensions between the United States and China, tensions regarding the strait of Hormuz, and the drought in the Panama Canal. All these events have created route diversions, delayed shipments, increased freight rates, caused congestion,

and created increased operating costs for freight forwarding companies throughout the world. Freight forwarders are directly affected by these issues as they are responsible for coordinating the movement of goods through shipping lines, ports, customs, and inland modes of transportation.

Objectives of The Study

Primary Objectives:

- To analyse and evaluate the impact of geopolitical risks on the operational efficiency and overall business performance of global freight forwarding companies.

Secondary Objectives:

- To identify and classify key geopolitical risks affecting international freight forwarding operations
- To examine how geopolitical disruptions affect freight rates, transit times, routing options and service reliability

Need for The Study:

Over the past few years, many aspects of global trade have been impacted by geopolitical risks ranging from war and trade sanctions to geopolitical conflicts and maritime trade safety issues. Disruption of key maritime trade routes such as the Red Sea, Russia Ukraine War, Panama Canal Drought and Strait of Hormuz can create challenges for the global logistics industry. For example, these types of disruptions may cause shipping lines to reroute their vessels due to elevated fuel costs, rising insurance premiums, and delay in scheduled delivery of goods moved in containers. Freight forwarders are impacted by such disruptions because they must deal with unexpected and sudden changes in their companies' operational activities such as rising rates and the uncertainty of the schedule of goods to be shipped.

Review of Literature:

Smyrnov, I., Mylnychuk, T., Tokarchuk, O., Berezivskyi, Y., & Gron, O. (2025) Investigated the impact of global supply chain efficiency due to geopolitical risks and assessed key areas of concern for firms, then created solutions to overcome those obstacles through analysis of both academic sources such as journals or government reports, and analytical data derived from major economic research organizations.

Liu, K., & Fu, Q. (2024): The research explored how geopolitical risks are affecting the volume of foreign goods transported (moved) through the major transportation modes of air, water and land. The results of the study showed that there are very different levels of responsiveness (elasticities) between the various transportation modes. For example, the water (sea) transportation mode is significantly more responsive (greater levels of elasticity) to geopolitical risks than air or land transportation modes.

Khan, K., Su, C. W., Tao, R., & Umar, M. (2021): The research conducted on the connection between five specific factors; oil prices (OP), the Baltic Dry Index (BDI), Geopolitical Risk (GPR), the lag times between these factors and how well each affects the others within the time frame of 3 months to one year. The outcome was that the geopolitical unpredictability is an essential factor of both energy and shipping markets.

Incekara, R., & Incekara, B. (2024): Global Supply Chains have proven to be vulnerable to multiple risk factors such as: limited airspace for goods shipment; unpredictable demand; and conflicts between nations through which the goods are shipped or manufactured. I will look at

how different countries and people deal with these risks, conflicts and crisis created by disruptions in global supply chains.

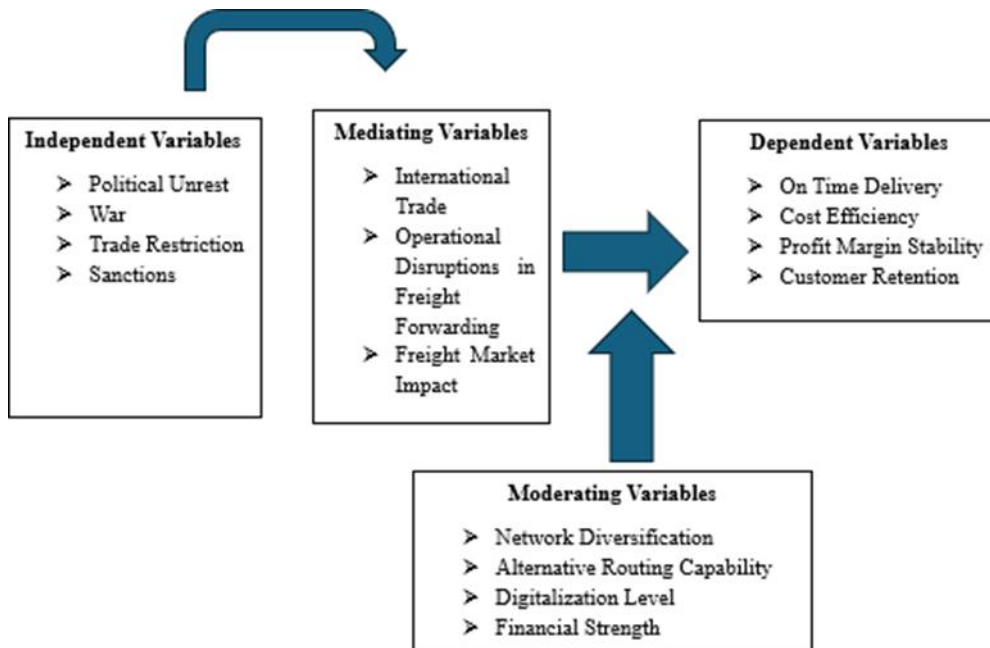
Kelmendi, J., Beqiri, A., Shuajibi, E., Talibzade, O., & Ketners, K. (2025): Utilizing qualitative comparative methods to assess how tariffs or economic sanctions, as well as political strife, have influenced the processes involved in a global supply chain by drawing on a body of historical records related to trade, as well as examining case studies related to supply chain, logistics and international trade policies.

Althaqafi, T. (2025): The study indicated that operational resilience is positively related to an effective Supply Chain Risk Management (SRM) Process. Specifically, organizations that utilize a proactive approach (i.e., preventative) to manage risks do so with greater resilience when dealing with disruptions than organizations that rely solely upon a reactive approach (i.e., responsive).

Bednarski, L., Roscoe, S., Blome, C., & Schleper, M. C. (2025): Between the years 1995 - 2022, an analysis was conducted on 50 journals regarding how geopolitical disturbances impact the global supply chain. It was suggested through this research that various reconfiguration strategies i.e. Back-Shoring, Regionalising, and New Technologies such as Artificial Intelligence and Blockchain could lessen any potentially negative effects caused by geopolitical disturbances to the global supply chains.

Wang, L., Wang, Y., & Li, N. (2025): In their report, the authors have developed an AI-based Bayesian network model that aims to help reduce systemic risk associated with global freight forwarding. They determined that the primary systemic risk driver comes from the supply and demand relationship that exists in the global marketplace, as well as the associated vulnerabilities of costs, time, and reliability.

Conceptual Framework:



3. Research Methodology:

3.1 Research Design:

The study had a descriptive research design approach to systematically describe the characteristics; behaviours and relationships associated with geopolitical risk and the effect that this risk has on freight forwarding operations. The descriptive research design allows for a detailed assessment of what exists (nature, not degree) without manipulation of the variable(s) being examined. It is a popular approach for researching executive management and business operations because of the support that it provides in understanding challenges that face operations at a given point in time, such as logistical operations and market conditions during a period of disruption.

3.2 Data Collection Method:

Primary Data:

The source of primary data for this study is a freight forwarder that provides international cargo transportation and logistics services. The primary data collection occurred through direct contact with employees, discussions with non-official staff who are involved in operations and observations of how logistics work at a daily basis within the company.

The information gained from these direct sources has provided a practical understanding of the operational issues experienced during geopolitical disruptions (i.e., shipment delay, unstable routes, lack of certainty about booking, financial strain on freight forwarding).

Secondary Data:

Industry, government and shipping/logistics journals, websites (including carriers), statistics related to logistics and market studies were the sources of my secondary data collection, which helped me get a broad perspective on how geopolitical risks can affect international shipping corridors, freight markets and the world's systems of supply chains.

The secondary/other data sources allowed me to identify and assess disruptions to primary trade routes (the Strait of Hormuz, the Red Sea, and the Panama Canal), which provided a complete picture of the global risks and operational challenges associated with forwarding freight.

3.3 Case Study Analysis:

This study utilized a case study method to assess the effects that geopolitical risks have on freight forwarding operations through a single operating case within a freight forwarding company and four well-known business cases in the world such as: the Red Sea Crisis; the Russia-Ukraine War; the US-China Trade War; and the Panama Canal Drought.

To research these issues related to route planning, shipment delays, cost increases, reliability of booking, and operational risk mitigation during these disruptions, secondary data has been used to conduct an analysis of (in addition to its analysis on how the operational response of a freight forwarding company compares to that of its global logistics peers).

The major themes for analysis are freight cost increases, route diversions, shipment delays, cargo management, and service reliability to provide an analysis of all these practical insights from actual logistics disruptions incurred by the parties involved in the study.

Case Study 1: Freight Forwarding Company — Iran Geopolitical Crisis (2026) Overview:

Disruption of Operations in February 2021 (with 30 containers stranded) and continued disruption in March 2021 (with 50 containers stranded). Total number of containers stranded is estimated to be about 100. Disruption was caused by the ongoing geopolitical conflict with Iran.

Due to the lack of physical and operational access to impacted areas, moving freight through these areas resulted in negative financial and operational impacts; prolonged shipment delays; limited visibility of cargo during transportation; and significant disruption of logistics coordination in relation to the supply chain.

Impact:

Shipment Impact:

Due to limited transport services, infrastructure and logistics operational inadequately resources; many containers are currently stuck in impacted areas and unable to reach their destination. The total number of containers that are stuck is estimated to be approximately 100. The result on business operations will include the inability to provide reliable service levels and significant disruption in overall business operations.

Additionally, extended transit times, delayed shipments, and difficulty recovering cargo from containers will all contribute negatively to fulfilling customer obligations in terms of order fulfilment performance.

Booking Impact:

The trustworthiness of customers in their shipments to/from high-risk locations diminished greatly; consequently, fewer bookings were requested, and there's now an increase in unfulfilled requests, as well as limited visibility when planning shipments. Significant challenges have resulted from continual disruption of transit schedules and an increasing number of operational challenges faced when handling cargo

Financial Impacts:

The business sustained financial loss because of stranded goods, increased costs related to re- routing of goods, increased coordination costs associated with third-party logistics providers (3PLs) and decreased operational efficiency. Increased transportation and handling costs decreased overall profit margin; and due to the inability to fully shift additional costs onto its customers, puts more financial pressure on the company.

Key Findings:

- Conflict between nations can hurt logistics by making it difficult for shipments to move through the area affected by conflict.
- A disruption in one country's supply chain could cause delays to the entire global logistics network. All parts of a shipment; trucks, containers, ports, customs and destination will be affected by a single disruption.
- Freight forwarders are especially at risk during international conflict because logistics depend on coordinating multiple service providers and transportation networks together as one cohesive unit.
- International businesses that operate in politically unstable parts of the world need to implement better risk management systems, alternatives routes and contingency plans to lessen their operational exposure during disruptions.

Case Study 2: Red Sea / Houthi Crisis (2023) Overview:

In late 2023, the Red Sea Crisis escalated very rapidly with the Houthis escalating attacks on commercial vessels transiting through the Red Sea, which handles 12% of all global trade and roughly a third of the world's container traffic. The Bab el-Mandeb Strait was given a new designation as a High-Risk Area as vessels were now experiencing drone and missile attacks. Major shipping lines like Maersk and the MSC discontinued or re-routed routes resulting in significant disruptions to the global shipping industry as well as to the stability of supply chains worldwide.

Impact

Effects on Shipping: Instead of going through the Suez Canal, carriers have diverted vessels to the Cape of Good Hope, creating an estimated ten- to twenty-day additional time and thousands of nautical miles additional distance for port-to-port trips. The loss of capacity due to reduced numbers of containers being shipped resulted in more severe congestion at several major ports and delays in re-positioning of containers. Time sensitive shipments were hit the hardest.

Financial Impact: Due to the crisis in the Red Sea, the number of containers shipped through the Suez Canal has decreased by an estimated 42-50%. There is much variation but the Drewry World Container Index estimates that the increased uncertainty of war and/or finding alternative ways to ship goods has led to freight rate increases of over 200% in many shipping lanes. War risk surcharges per TEU on some lanes are at a level of roughly \$400 to \$500. There has been a significant increase in fuel consumption due to the longer distances travelled, which has increased the carrier's overall operating costs.

Key Findings:

- Maritime trading is estimated to make use of the Suez Canal/Bab el-Mandeb Strait and there are significant impacts on global shipping networks from disruptions to either of those two routes.
- Shipping routes that have been forced to go through South Africa have longer transit times, increased costs, and less capacity, demonstrating the need for more flexibility when planning and establishing contingencies.
- Affecting all areas of commerce (including ports, commodities, and overall market facilities for energy, food and industrial cargoes) is not only the risk of disruptions faced by ocean carriers but also other geopolitical risks.

Case Study 3: Russia-Ukraine War (2022-Present) Overview:

Since early 2022, the ongoing war between Russia and Ukraine has caused significant geopolitical issues, impacting global trade and the ability to transport goods across oceans. This conflict has impacted the Black Sea area — where most of the Eastern European commodities, including grain, fertilizer, oil, and other raw materials, pass through as they are exported from Eastern Europe. As a result of the war, many ports in Ukraine have been closed, many facilities in the region were damaged, mines have created significant hazards to ships, thus causing major restrictions on moving cargo by ship globally and impacting global supply/chain. Of the Russian aggression against Ukraine, many were left without grain/other agricultural products used as food for people throughout the world.

Impact:

The ability of goods shipped between Russia and Ukraine was greatly hindered because of minimal port access located within the Black Sea, fewer vessels making calls, and having to rely more heavily on rail, truck or Inland Waterway transport – which generally are less efficient than marine transport. Consequently, increased transit times, congestion-related delays, and bottlenecks within the supply chain were seen due to these issues.

Prior to the conflict, the European Union received ~15.9% of its refined petroleum products (21.6 million tons) from Russia. As a result of the disruption caused by the conflict, sourcing of these products has shifted to South Asia, the Middle East and North America — resulting in a dramatic increase in the cost of logistics & a change in traditional trade flows. The cost of Marine Insurance to cover War risk in the Black Sea has increased from roughly 0.25% - 0.30% of the hull value to as high as 1.0% in some cases.

Sanctions on trade and the supply chain disruption caused by the conflict are leading to significant inflation for many commodities (i.e. grains, energy, fertilizers).

Key Findings:

- The dispute showed how important the strategies based on the oceans are for the success of international trade; that when there is disruption to these strategic routes it has major negative effects on all aspects of the supply chain and causes significant delays, congestion and variability in shipping networks.
- Geopolitical risk causes both disruption to ocean carriers as well as the entire upstream and downstream supply chain including the ports, commodities, freight markets and the global economy.
- These findings provide clear evidence of the crucial role freight forwarders play in helping to mitigate disruptions by providing multimodal transport solutions, multiple options in terms of routes and having the ability to adapt to changes in the global supply chain.

Case Study 4: U.S.–China Trade War:

Overview:

On July 6, 2018, the U.S.-China Trade War began with the imposition of tariffs by the U.S. on numerous products originating from China, and retaliatory tariffs by China on exports from the

U.S. Due to being among the two largest economies that engage in international trade, there has been far-reaching ramifications associated with the economic duel between the U.S. and China on supply chain management, trade patterns, and global shipping channels. Further, the trade war has hastened the transition to new supply chain processes such as multiple sources of suppliers, nearshoring, and the “China Plus One” approach.

Impact:

Cargo from China and the U.S. heavily affected by disruptions, resulting in goods being rerouted via Mexico and Vietnam leading to longer transit times, more fuel consumption and increased operational complexity.

Damage to Cargo due to Tariff Rates on Certain Chinese Goods: Tariff rate increased on some products from

China to an estimated maximum of 145% prior to temporary reductions. Freight Rates for both modes have fluctuated significantly (spot rates for Indonesia to Europe on a Westbound or Eastbound route decreased 56% and 48% respectively over the same time). The average amount of available Vessels from ASEAN to North America has decreased approximately 17%, while the number of blank sailings has increased 86%, resulting in a shortage of Freight Space Available.

Key Findings:

- There can be many consequences from the actions taken by two powerhouses economically with regards to trade policy that can impact shipping routes, freight movement across places/people and ultimately cause disruption to supply chains of many other countries respectively.
- Countries that are reliant on one supplier to supply their needs are at risk as shown by what happened when we were heavily dependent on the manufacturing capabilities of China which caused disruption of products into the USA.
- Commerce will continue to occur regardless of whether tariffs were implemented; however, commerce (trade) will be diverted to another location meaning the logistics of moving goods from a supplier/destination will be more complex than it should otherwise be, as well as increase costs associated with doing business within international freight systems.

Case Study 5: Panama Canal Drought (2023–2024) Overview:

A severe drought created major disruptions to global commerce at the Panama Canal which is critical for shipping traffic between the oceans. Low water levels in the reservoir that supply water to the canal means fewer vessels can operate through the canal which then causes

backlogs of vessels waiting to pass through the canal, increased wait times for vessels

transiting through the canal and disrupted shipping schedules. The Panama Canal Authority (PCA) has reduced the number of daily transits and placed height limits on vessels which

have caused ocean carriers to reduce their capacity by carrying lighter loads therefore creating more logistics inefficiency throughout the supply chain.

Impact:

Vessel Depth Restrictions:

Due to draft restrictions, vessel depths decreased from about 50 feet to 44 feet; this has resulted in thousands of fewer containers being done each voyage. The number of vessels transiting through the canal daily is down from around 36 - 38 vessels per day to as low as 22 - 24 vessels per day. This has created backlogs with many of the vessels taking weeks to transit through the canal, and carriers are diverting their cargo to the Suez Canal, the Cape of Good Hope, or using land bridge alternatives to move containerized cargo.

Financial Impact:

Major shipping lines are charging surcharges that range from about \$130.00 to \$500.00 per container. Slot

auctions have resulted in vessels paying around \$4 million for each transit. Longer voyages have resulted in increased fuel, increased labour, and increased overall cost for the total trip. Shipment weights that are lighter have a negative effect on economies of scale and have caused increased rates for each unit of cargo transported.

Key Findings:

- The climate-related effects can significantly impact the ocean freight industry throughout the world. When a critical maritime chokepoint is compromised, this shows a need for climate risk management as part of the logistics planning process.
- The reliance on one major shipping route leaves the supply chain vulnerable when that route's capacity is limited.
- This crisis has also demonstrated that there is a major need for developing contingency plans, increasing the use of multimodal transport options and investing in infrastructure improvements to reduce risk from climate impacts in the logistics world.

Chapter V: Findings, Recommendations, and Conclusion:

5.1 Overall Findings:

The results of this research show the negative effects that geopolitical risks have on freight forwarders' ability to keep logistics systems operating smoothly. The following key findings summarize the findings across all case studies:

- Geopolitical risks cause changes to routes, congested ports, delayed vessels, and decreased shipping capacity which negatively impacts the movement of freight internationally
- Global Routes that are disrupted result in additional cost to carriers and consumers
- such as, extended transit time, increased freight rates, increased fuel costs and greater insurance premiums.
- Freight forwarders must manage significant political and security challenges that can affect the plan for the shipment, the confirmation of the booking and the timely nature of the service.
- Freight forwarders face additional risks to their supply chain due to the use of limited trade routes and key chokepoints; this creates extensive ripple effects throughout the global network of shipping whenever there are disruptions.
- Freight forwarders are integral to managing the impact of disruptions by way of rescheduling routes, communicating with customers, and identifying alternative logistics solutions.
- The extent of resiliency, risk monitoring and diversification can mitigate the negative effects of geopolitical uncertainty within the international supply chain.

5.2 Recommendations and Suggestions:

- The reliance upon a single trade lane or interstate of geopolitical risk can be reduced by freight

forwarders using numerous routing methods as well as alternative logistical corridors.

- Facility and shipping firms must prioritize establishing robust monitoring systems related to risk and real-time access to geopolitical information in order to allow for proactive decision making on behalf of their operations in the event of disruptions.
- Increasing resources toward measures which enhance the resilience of supply chain systems should include options for multimodal transport, inventory buffers, and
- flexible sourcing strategies.
- International Maritime Security Cooperation must be enhanced to ensure the security of key shipping lanes and decrease operational risk in high-risk areas.
- Freight forwarders need to work to improve their ability to communicate and develop contingency plans with their customers so that they can better manage delays,
- fluctuations in rates, and service disruptions.
- Shipping companies must develop clear surcharge policies and implement better cost controls to reduce uncertainty for shippers and build confidence with their customers.

5.3 Conclusion

The influence of geopolitical situations such as trade conflicts, wars within regions, sanctions, and political instability strongly impacts the operational aspect of international freight forwarders. The conditions resulting from these geopolitical events will have a direct effect on typical international freight forwarding routes along with the costs associated with transportation and the dependability of supply chain logistics. Changes in the geopolitical landscape may cause disruptions to the entire transportation system which may disrupt the standard routes used to move freight, create new requirements for compliance and impose restrictions on ports that provide international freight movement, and add uncertainties with respect to transit times. Taken all together, these conditions contribute to creating very complex and intricate logistical requirements of global freight and make the planning of day-to-day operations

Because global trade is so closely linked, political tensions in each region will ultimately affect all methods of transportation for freight moving throughout the world. To keep pace with the ever-changing political climate, freight forwarders are continuously evaluating the way they conduct business. Thusly, freight forwarders must be prepared to adjust shipment methods and routes, account for changes in ever-increasing freight transportation costs, comply with varying regulations, and continue to maintain an effective level of coordination with their global supply chain.

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