NAVIGATING GEOPOLITICAL STORMS: THE IRANIAN CONFLICT'S IMPACT ON GLOBAL AND THE RESILIENCE OF SSC MODELS

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Abstract

The ongoing conflict in the Iranian region has triggered a systemic crisis within global logistics, characterized by the disruption of the Strait of Hormuz and the destabilization of transcontinental maritime and air-cargo corridors. These geopolitical shocks have exposed the inherent vulnerabilities of extended, hyper-globalized supply chains, manifesting in volatile energy prices, increased lead times, and compromised "just-in-time" delivery frameworks. This paper investigates the transition from traditional globalized logistics toward Short Supply Chain (SSC) business models as a strategic imperative for both operational resilience and sustainable development. By prioritizing geographical proximity and reducing intermediation, SSC models mitigate exposure to geopolitical volatility while simultaneously reducing the carbon intensity of transport activities. Through a systematic analysis of current trade disruptions and a conceptual evaluation of localized sourcing, this study argues that the adoption of SSCs represents a fundamental shift toward an economically and environmentally sustainable mobility framework. The research concludes that shortening supply chains is a critical mechanism for future-proofing logistics against the increasing frequency of global geopolitical and climate-driven disruptions.

Keywords: *Short Supply Chains, Geopolitical Risk Management, Supply Chain Resilience, Sustainable Mobility, Regionalization*
JEL classification: F14, L91, Q56, D81, F51

INTRODUCTION

The global logistics landscape of 2026 has been significantly influenced by escalating geopolitical tensions in the Iranian region. As the Strait of Hormuz—a critical maritime chokepoint through which approximately 20 percent of the world's liquid petroleum flows—has experienced severe disruption, the resulting effects have extended beyond market fluctuations into broader systemic challenges. According to the Stimson Center, vessel traffic through the region declined by approximately 70% following the escalation of hostilities, contributing to an increase in Brent crude prices to around 112 USD per barrel [1]. This geopolitical shock has exposed structural vulnerabilities in the highly globalized supply chain model that has dominated international trade over the past three decades.

The disruption is not limited to the Middle East but has had global implications. As maritime carriers reroute around the Cape of Good Hope to avoid heightened risks in both the Red Sea and the Persian Gulf, global logistics networks have been forced to absorb significant increases in transit time. These reroutings have added approximately 10 to 15 days to standard shipping durations, significantly challenging the viability of traditional Just-in-Time manufacturing models, particularly for industries reliant on transcontinental supply chains [2]. This development exemplifies the ripple effect described by Ivanov (2026), whereby a localized disruption in a critical node—such as the Strait of Hormuz—propagates across the global network, affecting industries ranging from automotive manufacturing in Europe to consumer electronics in North America. Industry estimates further suggest that approximately 80–85% of global trade is transported by sea, underscoring the strategic vulnerability of maritime chokepoints to global economic stability [3].

From an academic perspective, this crisis highlights a fundamental tension between efficiency and resilience in supply chains. Historically, supply chain management has emphasized cost-optimization and lean operations, often prioritizing efficiency over resilience. However, a supply chain's ability to return to a stable state after disruption is frequently inversely related to its complexity and geographical extension [4]. The Iranian conflict provides a contemporary example of this dynamic: supply chains that are highly extended and efficient under stable conditions may become increasingly vulnerable during periods of geopolitical instability. These developments suggest a potential shift away from efficiency-dominated models toward greater emphasis on security, resilience, and risk mitigation in logistics systems [5].

In this environment, the logistics industry faces a fundamental challenge regarding how mobility and trade can be maintained when global corridors are compromised. This paper explores the potential of Short Supply Chain (SSC) business models as one strategic response. While the concept of SSCs originated in the agricultural sector as a means of reducing food miles and supporting local producers [6], their underlying principles are increasingly relevant to broader industrial logistics contexts. SSCs are characterized by reduced geographical distance between production and consumption and a reduction in the number of intermediaries [7]. By localizing sourcing and regionalizing distribution, businesses can reduce their exposure to disruptions in high-risk geopolitical zones such as the Strait of Hormuz.

The transition to SSC models is not merely a defensive response to geopolitical disruption but may also represent a proactive step toward more sustainable supply chain practices. Long-haul global logistics can be carbon-intensive, particularly when reliant on fossil fuel-based maritime transport and high-emission air freight used to address structural gaps in supply chains [8]. By shortening the physical distance goods travel, SSCs have the potential to offer a dual benefit: enhancing operational resilience while potentially reducing the environmental footprint of logistics activities.

This perspective aligns with the principles of sustainable supply chain management, which emphasize the integration of environmental and social considerations into supply chain design and operations [9]. Furthermore, the shift toward regionalization may contribute to local economic stability and support the development of nearshoring hubs [10], reinforcing broader goals of social and economic sustainability through reduced exposure to volatile geopolitical conditions.

This paper aims to evaluate the specific impacts of the Iranian conflict on global logistics corridors and provide a conceptual framework for integrating SSC models into modern business strategy. Through a systematic analysis of current trade disruptions and the theoretical advantages of localization, we argue that the future of sustainable mobility lies not in the expansion of global reaches, but in the intelligent contraction and regionalization of supply nodes. In doing so, we can build a logistics framework that is not only environmentally sustainable but geographically secure against the inevitable storms of the twenty-first century.

1. METHODOLOGY

This paper employs a qualitative, exploratory research design to investigate the transition from globalized logistics to (SSC). Given the emerging nature of the 2026 geopolitical disruptions, a conceptual framework is developed to synthesize established supply chain theories with recent industry data.

1.1. RESEARCH APPROACH: EXPLORATORY-CONCEPTUAL DESIGN

The study adopts an exploratory-conceptual approach, which is particularly suited for emerging phenomena where long-term empirical data is not yet fully available (Sarkis, 2021). Rather than testing a single hypothesis, this research aims to develop a theoretically grounded framework—the Strategic Transition Framework—to explain the growing relevance of regionalization in high-risk environments.

1.2. DATA COLLECTION: DESK RESEARCH AND THEMATIC SYNTHESIS

The primary method for data collection is secondary desk research. Data was gathered from three distinct clusters:

Peer-Reviewed Academic Literature: Foundational theories on supply chain resilience (Christopher & Peck, 2004), viability (Ivanov, 2022), and sustainable supply chain management (Sarkis & Zhu, 2018).

Industry Strategic Reports: Contemporary reports (2024–2026) from organizations such as the International Energy Agency (IEA), Hill Dickinson, and SpendEdge, providing data on oil prices, insurance premiums, and logistics disruptions.

Conflict-Specific Secondary Data: Recently reported data related to the 2026 Iranian conflict, including disruptions affecting the Strait of Hormuz and rerouting via the Cape of Good Hope.

1.3. THEMATIC ANALYSIS AND COMPARATIVE FRAMEWORK

Data was analyzed using thematic synthesis, where key patterns were identified and categorized into three core variables: risk, cost, and environmental impact. A comparative analysis was then conducted to contrast efficiency-oriented global supply chains with resilience-oriented SSC models. Additionally, a gap analysis was used to identify divergences between theoretical benefits of localization and practical constraints such as raw material dependencies and infrastructure requirements.

1.4. METHODOLOGICAL JUSTIFICATION

The choice of a qualitative, integrative design reflects the complexity of the variables involved. Purely quantitative models may not fully capture the recursive nature of geopolitical disruptions and their broader economic effects [11]. By combining established theory with recent industry data, the methodology aims to provide both conceptual clarity and practical relevance.

1.5. LIMITATIONS

As this study relies on secondary data reflecting ongoing geopolitical developments in 2026, the findings are subject to uncertainty and evolving conditions. Additionally, the focus on specific regions, such as the Balkans and Middle Eastern corridors, may limit the generalizability of some conclusions to other contexts.

2. GEOPOLITICAL RISKS AND SUPPLY-CHAIN ADJUSTMENT

2.1. GEOPOLITICAL IMPACTS ON GLOBAL LOGISTICS NETWORKS

The physical geography of global trade has been significantly altered by the 2026 escalation in the Iranian region. Maritime insecurity in the Persian Gulf has led to increased avoidance of high-risk routes such as the Strait of Hormuz and segments of the Suez Canal corridor, with many vessels rerouting around the Cape of Good Hope. This rerouting is not merely a logistical inconvenience but represents a significant disruption to maritime efficiency. For vessels traveling from Asia to European ports, the diversion around the southern tip of Africa adds approximately 3,500 to 4,000 nautical miles to the journey. This detour translates into an estimated increase of 10 to 15 days in transit time, disrupting the synchronized flow of goods required for modern manufacturing systems [2]. The cumulative effect of these delays across a large number of vessels reduces available shipping capacity by increasing time spent in transit and contributes to container shortages at key export hubs.

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The resulting operational vulnerability highlights structural weaknesses in the architecture of global supply chains. The current situation can be understood as involving concurrent disruptions in key maritime corridors, including the Strait of Hormuz and the Red Sea, significantly affecting the most efficient trade routes between the East and the West. This convergence of geopolitical pressures has made traditional long-haul logistics models more challenging from both economic and operational perspectives.

When a localized shock occurs in such a critical node, it does not remain contained; instead, it triggers a systemic ripple effect that propagates through interconnected networks [11].

This propagation means that a delay in the Persian Gulf can eventually manifest as production disruptions in distant regions or stock shortages in retail markets, illustrating how the high degree of interconnectivity in global trade can increase systemic vulnerability during periods of geopolitical instability.

These developments indicate growing challenges for traditional long-haul supply chain models rather than a temporary fluctuation in global trade patterns. As geopolitical tensions remain elevated, rising insurance and fuel costs associated with traversing high-risk maritime regions are placing increasing pressure on the profit margins of globalized enterprises. Industry reports indicate that conflict-related disruptions have led to the introduction of war-risk surcharges, higher insurance premiums, and significant increases in marine fuel costs due to rerouting and energy market volatility ([8]; [2]; [1]. The fragility of these extended networks is partly a result of decades of prioritizing cost-efficiency over resilience, which may limit firms' ability to respond effectively when key maritime routes are disrupted. Consequently, disruptions across multiple critical corridors have prompted a re-evaluation of logistics strategies, shifting attention from global reach toward regional stability. In this context, sourcing components from distant regions may increasingly be viewed as a higher-risk strategy for many firms, particularly as supply chain resilience becomes a central consideration [5].

2.2. SSC MODELS AS A STRATEGIC PIVOT

In the current climate of 2026, characterized by persistent instability in the Iranian region, the short supply chain model is increasingly being considered a strategic response rather than merely a theoretical preference. This business model reflects a broader shift toward strategic regionalization, extending beyond simple localism to include near-shoring and friend-shoring strategies. Strategic regionalization seeks to maintain the benefits of industrial specialization while limiting the physical movement of goods to a more geographically secure and manageable radius. In this context, SSC can be understood as an operational manifestation of broader regionalization strategies. By restructuring logistics to favour regional proximity, enterprises can reduce their exposure to high-risk maritime corridors affected by instability in the Strait of Hormuz [1]. This shift enables a more controlled logistics architecture that reduces the number of geopolitical borders a product may cross, thereby limiting dependence on distant and volatile maritime chokepoints [7].

The move toward SSC models prioritizes operational agility and responsiveness over the economies of scale that defined the pre-conflict era. While traditional globalized logistics relied on ultra-large container vessels to reduce per-unit costs, this model has become increasingly vulnerable in the face of the 10 to 15-day delays associated with rerouting around the Cape of Good Hope [2]. Short supply chains utilize regional road, rail, and short-sea networks that are generally less exposed to disruptions affecting transcontinental corridors. This proximity allows for faster response times, as manufacturers can adjust production schedules more rapidly in response to demand fluctuations without waiting weeks for shipments to arrive. By reducing the degree of intermediation and the physical distance between supply and demand nodes, businesses gain greater visibility and control over supply chain dynamics, improving their ability to manage the ripple effects of global shocks [11]. In this way, SSC models offer a potential response to the structural limitations of traditional supply chains in an increasingly disruption-prone and security-focused trade environment [5].

The adoption of SSC models is closely aligned with the conference theme of sustainable development, offering a combined approach to environmental and economic resilience.
Long-haul logistics can be carbon-intensive, particularly when reliant on heavy fuel oil for maritime transport and high-emission air freight used to address supply chain [8]. By reducing the distance goods travel, SSC models offer a potential pathway to lowering the carbon footprint of logistics activities, particularly in disruption-prone global trade environments. This reduction in transport intensity represents an important component of supporting the environmental objectives of sustainable development while maintaining the movement of essential goods. Furthermore, industry reports suggest that the regionalization of supply nodes may contribute to local economic stability and support the development of near-shoring hubs, including emerging regions such as the Balkans [10].
In addition to environmental benefits, the SSC model reinforces the social and economic dimensions of sustainability by reducing reliance on vulnerable, distant production centers. Rather than concentrating production in a limited number of global hubs, regionalization encourages a more distributed economic landscape that supports local employment and infrastructure development. This aligns with broader supply chain sustainability principles, where resilience is enhanced through learning from and adapting to systemic shocks [13]. Ultimately, the transition toward shorter, regionalized supply chains may represent a significant shift in logistics practices, offering a framework that has the potential to be more geographically secure against ongoing disruptions while also supporting long-term economic and environmental sustainability [6].

2.3. COMPARATIVE ANALYSIS

The 2026 Iranian conflict provides a useful case study highlighting the limitations of highly globalized trade models. In such systems, localized disruptions can propagate across interconnected networks [11], prompting a re-evaluation of how mobility is structured. For decades, the globalized logistics model functioned as the industry standard, predicated on assumptions of relatively stable maritime conditions and low transport costs. This model is characterized by high transport intensity, where components cross multiple continents to take advantage of cost differentials. However, recent disruptions affecting key maritime corridors have shown that these cost advantages may be significantly reduced under conditions of geopolitical instability. In contrast, the SSC model represents a framework that emphasizes resilience, regional security, and environmental sustainability alongside cost considerations [13].

Table 3. Comparations between Globalized Logistics Model and SCC model.

Feature	**Globalized Logistics Model**	**Short Supply Chain Model**
Primary Objective	Cost and labor optimization	Resilience and supply security
Risk Profile	Higher exposure to geopolitical disruptions	Reduced exposure through regionalization
Environmental Impact	Higher carbon footprint (Scope 3 emissions)	Potentially lower emissions due to proximity
Delivery Logic	Just-in-Time (efficiency-focused)	More flexible, resilience-oriented
Transport Modes	Deep-sea maritime and air freight	Regional road, rail, and short-sea transport
Intermediaries	Multiple borders and intermediaries	Fewer nodes and more direct sourcing

As reflected in Table 1, the risk profile of the globalized model is closely linked to its geographical extension.

In a security-focused environment, the complexity of a supply chain can become a significant source of vulnerability. A supply chain's ability to return to a stable state after disruption is often inversely related to the number of nodes and the total distance between the origin and the final consumer [4].

In globalized systems, a disruption in a specific geographic region, such as the Persian Gulf, can trigger system-wide disruptions across interconnected networks, a phenomenon widely observed in recent global trade analyses [14]. This is illustrated in the 2026 crisis, where disruptions in the Strait of Hormuz have been associated with increased war-risk insurance premiums and operational constraints for maritime transport ([15]). In contrast, the SSC model leverages proximity as a form of structural risk mitigation. By localizing production and consumption, the model can create a buffer against international conflict, helping maintain operational continuity even when transcontinental corridors are disrupted.

From an environmental perspective, the comparison highlights a shift in the approach to sustainable supply chain design. The globalized model often relies on long-distance transport, which can significantly increase supply chain emissions, given that the transport sector accounts for a substantial share of global CO_2 emissions [16]. In contrast, the SSC model emphasizes reduced transport distances through regionalized production and distribution, aligning with sustainability principles in supply chain management [13]. By reducing the distance goods travel, SSC models help lower the carbon footprint of logistics activities, which is increasingly important for meeting climate targets in a context of rising transport costs and regulatory pressure on emissions [3].

The transition from a globalized to a regionalized model also necessitates a change in delivery logic. The traditional Just-in-Time (JIT) approach, while efficient under stable conditions, is more vulnerable to the ripple effect caused by localized shocks. The SSC model instead adopts a "viable supply chain" framework, which integrates agility and resilience to maintain functionality under systemic disruptions [17]. This more flexible logic prioritizes the availability of goods and the security of supply routes alongside delivery speed. While the global model may appear more cost-efficient during periods of stability, the accumulation of surcharges and the costs associated with disruptions have significantly reduced its economic advantage in the current context [3]. Ultimately, the SSC model represents an increasingly relevant framework for a logistics industry operating in an environment of persistent geopolitical disruption and growing sustainability pressures.

2.4. CHALLENGES TO LOCALIZATION

While the strategic pivot toward SSC offers a compelling response to geopolitical volatility, the transition is associated with several structural challenges that complicate the assumption of full localization. A primary constraint lies in the dependence on geographically concentrated critical resources. Global trade is not limited to the movement of finished goods but is fundamentally shaped by the uneven distribution of natural resources. In high-tech industries, such as electric vehicle manufacturing and renewable energy, key inputs—including lithium, cobalt, and rare earth elements—are concentrated in a limited number of regions. Consequently, while firms may relocate assembly operations to regional hubs, they often remain dependent on global supply chains for essential raw materials [18]. This geographic reality suggests that localization is often only partial in practice, resulting in hybrid supply chain structures that maintain critical dependencies on global networks [19]. Furthermore, the shift to regionalization requires substantial initial infrastructure investment that many industries may be ill-equipped to fund.

Over recent decades, capital has been concentrated in highly efficient global production hubs; reversing this trend necessitates the development of new regional manufacturing centers, warehouses, and transport networks. This transition represents a significant capital investment at a time when global energy prices remain elevated.

These rising energy costs can also contribute to increased prices for construction materials such as steel and concrete, as well as energy inputs required for infrastructure development [2]. This creates a financial barrier, where the cost of building more resilient supply chains may exceed the short-term investment capacity of firms facing ongoing disruptions and cash flow pressures.

Beyond the physical and financial hurdles, there is the challenge of "economies of scale." The globalized model achieved low consumer prices by concentrating production in massive volumes at single locations. Fragmenting this production into smaller regional hubs inherently increases per-unit costs, as the advantages of massive scale are lost. Organizations should reconcile the desire for security with the economic reality that shorter, safer chains are almost universally more expensive to operate in the short term [4]. Therefore, the pivot to SSC models should not be viewed as a seamless transition, but as a strategic trade-off where long-term survival is purchased at the cost of higher initial investment and a permanent increase in operational complexity.

CONCLUSION

The 2026 escalation in the Iranian region has acted as a significant catalyst for re-evaluating global logistics structures, highlighting the limitations of highly globalized, cost-driven supply chains. As key maritime corridors such as the Strait of Hormuz and the Suez Canal continue to face instability and disruption risks, the mobility sector is increasingly shifting from reactive crisis management toward longer-term structural adaptation. The transition to (SSC) models is no longer only a sustainability-oriented objective but an increasingly important strategy for enhancing resilience in a fragmented global economy. By prioritizing proximity, agility, and more flexible delivery logic, regional hubs—including those in the Balkan region—have the potential to evolve into more resilient centers of production and distribution.

The evidence presented throughout this analysis suggests that the additional transit time of 10–15 days and the significant increase in war-risk insurance premiums may represent a sustained shift in transcontinental trade conditions rather than temporary fluctuations [2]. When traditional maritime routes are significantly disrupted, the geographical advantage of the global model is diminished. The mobility sector should therefore recognize that while global sourcing offered superior unit-cost efficiency during periods of relative stability, SSC models may offer greater viability under conditions of persistent disruption [17].

To navigate this transition effectively, several strategic recommendations can be identified:

1. Diversification of Critical Nodes: Organizations should move away from single-hub manufacturing strategies. Even if full localization is constrained by the concentration of critical raw materials, firms may develop multi-regional backup production nodes capable of operating independently if key global supply routes are disrupted [18].
2. Infrastructure Investment in Intermodal Regional Systems: Governments and private actors should accelerate the development of high-capacity regional rail and short-sea shipping networks. Such infrastructure can help mitigate disruptions in long-haul maritime corridors while contributing to reduced transport-related emissions, aligning with sustainable supply chain principles [13].
3. Adoption of Viability-Oriented Supply Chain Metrics: Logistics performance evaluation should expand beyond unit-cost minimization to include resilience-oriented indicators. These may account for geopolitical exposure, energy price volatility, and environmental

impacts such as Scope 3 emissions, providing a more comprehensive assessment of supply chain performance [17].

4. Strategic Stockpiling of Critical Materials: Recognizing that certain raw materials cannot be localized due to geological constraints [19], regional hubs may establish strategic reserves of essential components. Such reserves can help maintain production continuity when global supply routes are disrupted.
5. Decoupling Energy and Logistics Systems: The sensitivity of freight costs to energy price fluctuations highlights the vulnerability of fossil-fuel-dependent logistics [3]. A transition toward electrified regional transport and alternative fuels such as green hydrogen may reduce emissions while improving resilience to energy price volatility.

In conclusion, the crisis of 2026 offers an important, albeit challenging, opportunity to re-evaluate and reshape global trade architecture. Disruptions in key maritime corridors such as the Red Sea and the Persian Gulf have highlighted the vulnerabilities of long-haul logistics models under conditions of geopolitical instability. By embracing shorter, more transparent, and environmentally responsible supply chains, the logistics industry can move toward a mobility framework that is better equipped to withstand future disruptions. An approach based on regional resilience and sustainability represents a promising pathway for developing more robust and adaptable supply chain systems [13].

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