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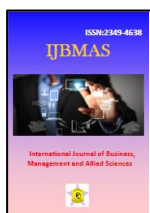
Optimizing Supplier Engagement and Risk Mitigation Strategies in Global Supply Chain Management

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ABSTRACT

Supply chains are now extremely integrated but also vulnerable networks because of globalisation, exposing businesses to new risks and uncertainties. Organisations have been pushed to reevaluate their supplier relationships and risk management strategies due to the growing complexity of global sourcing, logistics interdependence, and geopolitical issues. In order to identify the main risk categories in global supply chains – such as supply-side disruptions, quality failures, financial instability, and external shocks like natural disasters and political conflicts – this paper reviews and synthesises the literature on supplier engagement and supply chain risk management (SCRM). The study demonstrates how businesses can improve resilience by implementing proactive and cooperative engagement techniques by utilising well-known frameworks such as the Kraljic portfolio matrix, supply management alignment models, and SCRM taxonomies. In order to lower susceptibility to disruptions and create enduring partnerships, it is stressed that supplier segmentation, open communication, information sharing, and collaborative risk assessment are crucial procedures. According to the report, resilience depends on the strategic quality of supplier relationships rather than just redundancy or cost effectiveness. Lastly, the study outlines future research topics on digital integration, sustainability in risk management, and global supplier engagement, and offers managerial advice for both small and large businesses.

Keywords: Worldwide Supply Chains, Resilience, Supplier Segmentation, Supplier Engagement, Supply Chain Risk Management.

Introduction

In the modern global economy, supply chains usually span several nations, resulting in networks of suppliers that are spread geographically, culturally, and subject to different regulatory frameworks. Globalisation brings increased complexity and danger along with prospects for cost savings and market development. Businesses are particularly vulnerable to more serious disruption risks brought on by natural catastrophes, unstable political environments, cyberattacks, or supplier bankruptcy, in addition to more conventional operational risks like quality failures, delays, and cost variations (Tang, 2006). These vulnerabilities have been exacerbated by the drive towards outsourcing, lean inventories, and just-in-time production, which has increased reliance on suppliers' dependability and resilience (Christopher, 2011).

Considering this, involving suppliers becomes a key tactic for reducing risks in global supply chains. The methods by which buyers communicate, plan, and work together with suppliers to guarantee resilience and performance are referred to as supplier engagement. Businesses can enhance cooperation during crisis responses, spot early warning signs of possible disruptions, and invest in supplier development to bolster capabilities by fostering closer partnerships (Cousins et al., 2008; Monczka et al., 2009). It is becoming more widely acknowledged that engagement tactics including risk-sharing agreements, cooperative planning, supplier segmentation, and open information exchange are essential for improving supply chain stability.

In order to create a thorough grasp of how supplier involvement supports efficient supply chain risk management (SCRM), this study synthesises theoretical frameworks and practical research. By doing this, it investigates the main causes of risk in global supply chains, assesses engagement strategies that lower exposure, and provides managerial advice for businesses of all sizes. In the end, the study makes the case that proactive and cooperative supplier engagement is crucial for building robust and competitive global supply chains as well as for lowering vulnerability.

Literature Review

The dynamics of risk management and supplier interaction have been profoundly altered by supply chain globalisation, placing these topics at the forefront of current supply chain discussions. Risk exposure increases across operational, financial, geopolitical, and reputational dimensions as businesses depend more and more on globally dispersed suppliers, according to scholars (Tang, 2006). Structured engagement strategies that promote cooperation, information sharing, and long-term resilience are necessary due to the difficulty of handling such risks.

The active cooperation between purchasing companies and suppliers with the goal of enhancing performance, sustainability, and dependability is known as supplier engagement. According to Kruuse, Handfield, and Tyler (2007), it goes beyond transactional relationships to involve cooperative problem solving, sharing of innovations, and risk minimisation. According to research, suppliers who are highly engaged show a stronger dedication to responsiveness and quality, which lowers the likelihood of disruption (Wagner & Bode, 2008). Therefore, strategic risk management techniques in global supply chains are becoming more and more associated with effective engagement.

In supply chain literature, risk management frameworks have historically placed a strong emphasis on risk detection, assessment, and mitigation techniques. Supply chain resilience was first proposed by Christopher and Peck (2004), who emphasised the value of supplier cooperation in establishing adaptive capacity. Supplier engagement has been incorporated into resilience models in more recent research, which contends that strong alliances facilitate early risk identification, quicker recovery, and more crisis adaptability (Sheffi & Rice, 2005). Proactive risk management has been found to require engagement mechanisms like multi-tier visibility tools, cooperative contingency planning, and supplier development programs.

Additionally, supplier relationships in global environments are complicated by cultural and regulatory variety. According to Locke, Qin, and Brause (2007), different labour laws, moral principles, and institutional forces cause engagement practices to vary by region. As a result, businesses are better able to manage socio-political and reputational risks when they implement localised engagement methods, such as capacity-building in developing economies or compliance checks in high-risk areas. This suggests that supplier involvement is a risk governance tool as well as a relationship practice.

Technology has become a vital tool for risk reduction and supplier engagement. It has been demonstrated that digital platforms for supply chain visibility, real-time data sharing, and predictive analytics improve agility and trust (Ivanov, Dolgui, & Sokolov, 2019). Particularly, blockchain has been proposed as a means of guaranteeing traceability and transparency, which would lessen the information asymmetry that exists between suppliers and purchasers (Saber et al., 2019). According to the research, businesses are better equipped to handle disruptions when they combine relational engagement techniques with technology capabilities.

But there are also notable gaps in the literature. Although research highlights cooperation and adaptability, the difficulties of including small and medium-sized suppliers – who frequently lack the resources to meet customers' risk management requirements – have received less attention (Tachizawa & Wong, 2014). Furthermore, there has been little analysis of supplier participation in emerging markets or supply chains with low resources, with the majority of study concentrating on big, international corporations. These gaps underline the necessity of more empirical studies on inclusive risk governance frameworks and context-specific engagement strategies.

The literature currently in publication emphasises how supplier involvement and risk management are linked in global supply chains. Participation increases resilience, trust, and knowledge exchange, all of which lower the chance of disruption. However, the ever-changing intricacy of international trade, the variety of regulatory environments, and technological developments demand that engagement techniques be continuously improved. To create strong, risk-resilient networks, future research must examine how businesses may apply these principles inclusively throughout all supply chain layers.

Discussion

Effective Techniques for Global Situations

Supply chains' globalisation has increased businesses' potential and weaknesses. Global sourcing and outsourcing have given businesses access to a variety of markets and economic advantages, but they have also exposed them to serious dangers from environmental uncertainties, cultural differences, regulatory variances, and geopolitical instability. As a result, maintaining global operations now depends heavily on risk management and supplier involvement. The scholarly literature constantly highlights that proactive governance systems and strategic alliances, rather than only cost effectiveness, constitute the foundation of resilient supply chains (Christopher & Peck, 2004; Tang, 2006). Five useful tactics for managing supplier engagement and risk in global settings are covered in this section: (1) segmentation to concentrate resources; (2) developing early warning systems and information transparency; (3) working together on supplier development and resilience; (4) combining relational and contractual controls; and (5) anticipating geographic and sub-tier risks. These tactics work together to create a comprehensive framework that harmonises systemic risk governance and supplier involvement.

1. Utilise Segmentation to Concentrate Your Resources

It is unrealistic and ineffective to assume that all suppliers should be handled equally. The foundation of supply chain risk management is still Kraljic's (1983) groundbreaking portfolio model, which promotes distinct supplier strategies based on two factors: the supplier's effect on business performance and the supply risk related to that provider.

- High impact/high risk strategic suppliers require close cooperation. These vendors frequently offer specialised or unique inputs, such as cutting-edge semiconductors, innovative chemicals, or vital medical equipment. The reliance of automakers on semiconductor manufacturers, for instance, emphasises the significance of working with these suppliers through long-term contracts, coordinated investments, and cooperative risk management. Businesses run the risk of production halts in the absence of such cooperation, as was the case during the worldwide semiconductor shortage in 2020–21.
- It is possible to manage leverage suppliers (low risk/high impact) by emphasising cost competitiveness and efficiency. There are several of these vendors, and switching is inexpensive. To guarantee quality, businesses frequently employ volume-based discounts and competitive bidding while preserving baseline engagement.
- Bottleneck suppliers, who offer items with few alternatives, pose difficulties due to their low impact and high risk. Vulnerability is increased by these inputs' monopoly position or scarcity, notwithstanding their potential low value. For the management of such connections, buffer inventories, supplier diversification, and backup sourcing are essential.
- Standardised contracts, automated ordering, and transactional systems can be used to manage non-critical suppliers (low impact/low risk).

Instead of distributing procurement and engagement resources too widely, the portfolio strategy enables businesses to do so strategically. Businesses make sure that their most susceptible supply chain links are protected by concentrating risk management efforts on strategic and bottleneck suppliers. Additionally, Wagner and Bode (2008) contend that by focussing interventions where they are most important, this kind of segmentation improves the overall resilience of the supply chain.

2. Establish Early Warning and Information Transparency Systems

Information asymmetry between suppliers and purchasers is one of the main factors contributing to supply chain vulnerability. Global supply chains that span several countries are subject to a variety of concerns, including those pertaining to macroeconomic situations, labour conditions, transportation infrastructure, and regulatory changes. Delays in recognising such hazards raise operational disruptions and financial expenses, as Tang (2006) points out. Real-time data sharing about manufacturing capacity, inventory levels, quality performance, and financial stability is a component of information transparency. Buyers can integrate data from many tiers and gain network awareness with digital platforms like supply chain control towers. Global merchants such as Walmart, for instance, use advanced visibility technologies to monitor logistical flows and supplier inventory levels, allowing for proactive disruption mitigation.

Transparency must encompass early warning systems that identify subtle signs of danger in addition to operational data. These could be political unrest in the source nations, labour problems in the supplier regions, or financial strain on vendor companies. Businesses can foresee and get ready for any disruptions by incorporating external information sources into supplier monitoring systems, such as trade databases, risk indexes, and news analytics. According to Christopher (2011), digitalisation is essential for facilitating this kind of monitoring since automated warnings and standardised reporting formats shorten information exchange lag times. Businesses having early-warning awareness into logistics bottlenecks, for example, were able to redirect cargo faster than rivals during the 2010 Iceland volcano eruption, reducing the impact on operations. Early warning systems change risk management from reactive to proactive, as this example shows.

Furthermore, openness fosters trust. When suppliers participate in integrated monitoring systems, they frequently feel appreciated and held responsible, which encourages them to disclose possible issues more honestly rather than keeping them a secret. This is consistent with relational

supply chain management theories, which contend that cooperation and trust are critical to long-term resilience (Cousins et al., 2008).

3. Work together on resilience and supplier development

Monitoring is only one aspect of supplier development; another is actively investing in suppliers' capacities. International businesses frequently work in areas where suppliers might not have the necessary infrastructure, technological know-how, or compliance procedures. In these situations, increasing supplier capacity directly lowers risks for the purchasing company. According to Cousins et al. (2008), adopting sustainable practices, training in lean production methods, or co-investing in quality management systems can all be part of supplier development. For example, Toyota has long improved its suppliers' production flexibility and quality standards by offering them technical assistance and training. In addition to helping suppliers, these expenditures protect Toyota's business operations from potential hazards.

Support for regulatory compliance is a common component of supplier development in global settings. Multinational firms regularly invest in training suppliers to comply with labour standards, environmental norms, and safety requirements, as Locke, Qin, and Brause (2007) show. Businesses lower reputational risks and stay out of trouble with the law by maintaining compliance. For instance, international clothing companies have put supplier compliance initiatives into place in South Asia to address worker safety and child labour concerns. Diversifying sub-tier exposures is another way to improve supplier resilience. A supplier is naturally vulnerable if they are reliant on a single raw material source or delivery provider. Businesses can assist suppliers with implementing modular production techniques, keeping safety stocks, or finding alternate sources. These steps lessen the possibility of supply chain cascade failures. Crucially, supplier development offers a chance for innovation in addition to being a protective strategy. In addition to enhancing resilience, engaged suppliers are more likely to co-create solutions and share innovative technology.

4. Employ Relational and Contractual Controls Together

In global supply chains, where legal enforcement guarantees transparency and accountability across various jurisdictions, contracts are crucial instruments. They outline service-level agreements, performance standards, and sanctions for noncompliance. However, there are drawbacks to depending only on contracts. Contracts cannot foresee every scenario, especially in unstable international contexts, as Monczka et al. (2009) contend. By encouraging trust, communication, and cooperative problem-solving, relational governance enhances contractual controls. This dual strategy, also known as relational contracting, allows businesses to strike a balance between formal protections and adaptability. Relationships based on trust encourage suppliers to cooperate in crisis management, exchange sensitive information, and grant urgent demands.

The 2011 Japanese earthquake, which caused supply chains for electronics and automobiles to be disrupted globally, demonstrated the need of relational engagement. Compared to those that just relied on formal contracts, companies with close relationships to Japanese suppliers were able to exchange resources, organise emergency logistics, and resume production more quickly. In reality, businesses should set up tiered governance systems, with relational mechanisms to adjust to unanticipated disturbances and contracts to set baseline expectations. This balance is operationalised through mechanisms including supplier councils, collaborative steering committees, and frequent performance reviews. Because relationship controls foster trust, suppliers are less inclined to act opportunistically, which lowers transaction costs. Therefore, a best-practice strategy for engaging overseas suppliers that ensures responsibility and flexibility is to combine contractual and relational processes.

5. Prepare for Sub-tier and Geographic Risks

Managing risks that come from sources other than first-tier suppliers is one of the most difficult parts of global supply chains. Wagner and Bode (2008) point out that a lot of disruptions are caused by sub-tier-level hidden vulnerabilities, like natural disasters near transportation hubs, political unrest in resource-rich nations, or shortages of raw materials. One of the most important steps in locating these vulnerabilities is supply chain mapping. Businesses can now map suppliers across several tiers using sophisticated digital tools, giving them insight into interdependencies and geographic concentration. For instance, the COVID-19 pandemic exposed the systemic hazards posed by pharmaceutical corporations' over reliance on suppliers of active ingredients based in China and India. Businesses who had previously spread their sourcing across different regions were in a better position to keep things going.

Supply chains are stressed against fictitious events like port closures, tariff impositions, or regional wars as part of geographic risk planning. These drills highlight areas of weakness and help develop backup plans. Although they may raise prices, investments in geographic diversification, multiple sourcing, and redundancy in logistics are warranted for essential commodities. For instance, in order to maintain continuity in the face of geopolitical upheavals, companies in the aerospace sector frequently dual-source engines and avionics components across geographies. Businesses also need to consider the hazards of natural disasters. The 2011 floods in Thailand, which caused a disruption in the production of hard drives worldwide, showed how localised supplier concentration can seriously harm international industries. Businesses that invested in diversified sourcing and mapped its sub-tier suppliers recovered more quickly than those that were not aware of these interconnections. Therefore, in addition to visibility, proactive investments in redundancy and resilience are necessary for geographic and sub-tier risk management.

Resilience and efficiency must be balanced while managing global supply chains. A thorough framework for interacting with suppliers in ways that lessen vulnerability is provided by the tactics covered, which include geographic risk planning, governance, supplier development, transparency, and segmentation. While transparency and early-warning systems allow for proactive response, segmentation guarantees that resources are distributed where dangers are greatest. Supplier development builds resilience at the source by enhancing partners' skills. Geographic/sub-tier risk planning tackles systemic weaknesses outside of first-tier suppliers, and the combination of contractual and relational controls guarantees accountability without compromising flexibility. According to the literature, businesses that use such diverse strategies are better able to endure global disruptions, bounce back quickly, and maintain a competitive edge. In a more digitalised and globalised world, supply chain risks are becoming more complicated, thus supplier engagement and risk management need to go from transactional oversight to strategic cooperation.

Conclusion

Effective risk management in global supply chains is largely dependent on supplier interaction. Businesses that grow internationally are more vulnerable to operational, geopolitical, and environmental risks that jeopardise performance and continuity. Resilience can be attained by an organised approach to interaction. Businesses can invest resources where vulnerabilities are greatest by classifying suppliers based on their criticality. Additionally, establishing transparency and early-warning systems guarantees that problems are identified before they become more serious. Cooperation on supplier development builds stronger and more flexible networks by increasing capabilities and decreasing reliance on brittle sources. The harmony between relational control and contractual protections is equally crucial. While relational collaboration promotes trust and flexibility amid unforeseen disruptions, contracts offer unambiguous expectations and accountability across a variety of legal circumstances. When combined, these systems fortify the basis of international collaborations. Resilience is further increased by addressing vulnerabilities outside of first-tier

suppliers by planning for geographic and sub-tier threats. International supply chains can withstand disruption and maintain competitive performance when firms combine efficiency and collaboration, and when engagement intensity is in line with supplier importance, as historical frameworks in supply chain management and supply chain risk management (SCRM) show. In the end, supplier interaction turns risk management into a strategic tool that promotes resilience over the long run.

References

- [1]. Christopher, M. (2011). *Logistics & supply chain management* (4th ed.). Pearson.
- [2]. Christopher, M., & Peck, H. (2004). Building the resilient supply chain. *The International Journal of Logistics Management*, 15(2), 1–14. <https://doi.org/10.1108/09574090410700275>
- [3]. Cousins, P. D., Lamming, R., Lawson, B., & Squire, B. (2008). *Strategic supply management: Principles, theories and practice*. Pearson.
- [4]. Ivanov, D., Dolgui, A., & Sokolov, B. (2019). The impact of digital technology and Industry 4.0 on the ripple effect and supply chain risk analytics. *International Journal of Production Research*, 57(3), 829–846. <https://doi.org/10.1080/00207543.2018.1488086>
- [5]. Kraljic, P. (1983). Purchasing must become supply management. *Harvard Business Review*, September–October 1983.
- [6]. Locke, R. M., Qin, F., & Brause, A. (2007). Does monitoring improve labor standards? Lessons from Nike. *Industrial and Labor Relations Review*, 61(1), 3–31. <https://doi.org/10.1177/001979390706100101>
- [7]. Monczka, R. M., Handfield, R. B., Giunipero, L. C., & Patterson, J. L. (2009). *Purchasing and supply chain management* (4th ed.). Cengage Learning.
- [8]. Saberi, S., Kouhizadeh, M., Sarkis, J., & Shen, L. (2019). Blockchain technology and its relationships to sustainable supply chain management. *International Journal of Production Research*, 57(7), 2117–2135. <https://doi.org/10.1080/00207543.2018.1533261>
- [9]. Sheffi, Y., & Rice, J. B. (2005). A supply chain view of the resilient enterprise. *MIT Sloan Management Review*, 47(1), 41–48.
- [10]. Tachizawa, E. M., & Wong, C. Y. (2014). Towards a theory of multi-tier sustainable supply chains: A systematic literature review. *Supply Chain Management: An International Journal*, 19(5/6), 643–663. <https://doi.org/10.1108/SCM-02-2014-0070>
- [11]. Tang, C. S. (2006). Perspectives in supply chain risk management. *International Journal of Production Economics*, 103(2), 451–488.
- [12]. Wagner, S. M., & Bode, C. (2008). An empirical examination of supply chain performance along several dimensions of risk. *Journal of Business Logistics*, 29(1), 307–325.