

Strategies for mitigating risks in the global apparel supply chain

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Abstract: Purpose—This study aims to prioritize the vulnerabilities in the apparel supply chain and mitigate them by identifying the most significant threats and developing appropriate responses.

Design/methodology - This study will use literature reviews to pinpoint supply chain risks and solutions in the apparel industry.

Findings - The study emphasizes the need for flexible and adaptable supply chain structures and highlights the importance of proactive and reactive risk management strategies in building resilient supply chains.

Research limitations - This study explored existing literature, which may limit empirical data. Further research is needed to develop predictive models that integrate real-time data for enhanced risk management.

Practical implications - The study provides practical insights for apparel businesses to improve their risk management capabilities and prepare for supply chain disruptions and operational risks.

Originality/value - This study concentrates on apparel supply chain risks and provides strategies for risk mitigation. It highlights the need for adaptable and resilient supply chains facing global disruptions, offering insights for industry practitioners and policymakers.

Keywords: Supply Chain Management, Apparel Industry, Risk Mitigation Strategy, Supply Chain Disruption, Operational Risks

1. Introduction

Global supply chains, driven by international trade dynamics, face numerous challenges in supply chain management^[1]. The complexity and interconnectedness of these networks have increased the vulnerability of supply chain operations across various industries, especially with the forces of globalization and trade liberalization. Supply chain expenses are notably high within manufacturing organizations, emphasizing the importance of effective risk management. Specifically, supply chain risk management involves carefully organizing strategies and protocols to oversee the complex network. This includes continuous risk assessment and implementing measures to reduce vulnerabilities and strengthen supply chain resilience^[1]. Supply chain risk, which includes a range of potentially harmful incidents during operations, poses a significant threat to organizational performance.

This threat manifests vividly within the Australian apparel industry, contributing a substantial AUD 16 billion to the national economy in 2020 through its various small and medium-sized retail businesses^[2]. With over 13,552 operational entities, the industry's economic significance is undeniable. However, the fragility of its supply chains became starkly evident as supply chain disruptions exacted a heavy toll on businesses. According to a 2021 study by KPMG, approximately 34.12% of Australian retail companies encountered challenges from supply chain disruptions during the same year.

Considering these realities, enhancing the risk management capabilities of supply chains emerges as an imperative for businesses seeking to fortify their resilience against disruptions and safeguard their operational performance^[3]. This study thus endeavors to delve into strategies poised to assist the apparel industry in mitigating risks within its supply chain, thereby fortifying its competitive stance and overarching performance. The research aims to identify customized risk management solutions for the apparel sector based on recent scholarly articles and industry reports. The main focus is finding innovative approaches and best practices to address common challenges in the industry, notably supply chain disruptions and operational risks. By outlining effective measures to mitigate these risks, the study aims to provide the apparel industry with actionable insights to support sustainable growth and resilience in an ever-changing global marketplace.

2. Literature review

Ellis and his team ^[4] contended that supply chain risk is the prospective loss caused by interrupting a specific item's supply from a particular supplier. Researchers have categorized four unique types of risks linked to the supply chain: procurement, market, operational, and safety risks. Based on this, the present study seeks to analyze recent research encompassing the two crucial dimensions of supply chain disruptions and operational risks ^[5].

2.1 Supply chain disruptions

Dohale et al. ^[3] found that global supply chains are susceptible to disruptions arising from both internal and external factors. The COVID-19 pandemic is a prime example, causing unprecedented worldwide disruptions that severely affected the clothing industries and their supply chains, including those in South Asian countries. The apparel supply chain aims to efficiently deliver the right fashion products that meet market demands, focusing on cost-effectiveness, rapid transfer times, and maximized profits ^[6]. To achieve these goals, the fashion industry adopts three main strategies: time, Pricing superiority, and the equity of the brand ^[7]. Luxury brands, in particular, emphasize brand equity by focusing on style and design and using high-quality materials and craftsmanship. These brands often manage most of their manufacturing and sourcing processes in-house ^[8].

Managing disruptions in the apparel supply chain is crucial for building resilience and mitigating risks at various stages. According to Singh et al. ^[9], supply chain resilience involves preparing for and recovering from unexpected events while maintaining operational continuity. This approach is designed to develop the capability to handle and mitigate disruptions when they occur. Effective Supply Chain Risk Management is critical in achieving resilience by adopting strategies to address potential risks. In the pandemic period, Ketchen and Craighead ^[10] emphasized the significance of resilient supply chain management practices to handle and mitigate the pandemic-induced disruptions influences.

McMaster et al. ^[11] argued that although lean supply chain management presents advantages regarding efficiency and minimizing waste, it is also hindered by a critical deficiency: more transparency within the supply chain. This lack of transparency contributes to heightened demand volatility, posing a substantial risk to the apparel industry. In contrast, agile supply chains acknowledge and confront this issue by prioritizing communication and fostering robust buyer-supplier relationships to enhance information flow. Nevertheless, this approach leads to elevated inventory levels and associated costs, introducing different risks. The onset of the COVID-19 pandemic further compounds these challenges, disrupting supply and demand dynamics and profoundly impacting supply chain operations and management within the apparel industry ^[12]. Due to this, there is an urgent need to improve flexibility within supply chains to reduce the risks related to epidemics and fluctuating market demand ^[11].

Drawing from the earlier discussion, it is crucial to prioritize adaptability and flexibility within the supply chain structure to lessen the risk of disruption. Significant disruptions may significantly impact this structure and are closely linked to its dynamic nature. McMaster et al. ^[11] have introduced a methodology aimed at helping companies evaluate hidden chain reactions and the potential consequences of specific triggering events, enabling them to anticipate and prepare for potential disruptive impacts on their supply chains. This scenario modelling is essential for companies to make well-informed decisions about their supply chain structures. Considering the COVID-19 pandemic, maintaining the integrity and sustainability of interconnected supply networks (ISNs) is essential. An ISN constitutes a complex network to the integrated supply chain that ensures the continuous flow of products and services to society and various industries. Within this context, managing supply chain viability involves customizing responses to dynamic situations.

2.2 Operational risks

Operational supply risk (OSR) is the possibility of financial loss arising from inefficient or unsuccessful internal procedures, personnel, systems, or outside occurrences ^[13]. The growth of online fashion businesses has sparked interest in inventory disclosure ^[14]. Retailers can either specify the precise quantity of items available or opt to indicate their availability as "in stock," which suggests a potential risk of depleting their inventory. Aydinliyim et al. ^[15] discovered that retailers should base inventory disclosure decisions on profitability. They also highlighted the challenges of allocating inventory across multiple stores when considering markdown pricing strategies, even with predicta-

ble consumer demand⁰.

Based on the above discussion, implementing supply chain risk management systems (RMSs) can help detect and mitigate risks in inventory management. This can also be called the “push and pull approach.” These systems continuously evaluate these risks to ensure the supply chain runs smoothly, reducing vulnerability and avoiding potential risks throughout the process^[17]. There are two types of risk management strategies: proactive and reactive. Proactive strategies aim to predict and evaluate potential risk events and develop preventive remedies. Reactive strategies focus on addressing the adverse effects of risk events after they occur^[18]. Their goal is to minimize the negative consequences of risk events by identifying and tackling their harmful impacts^[19].

Trends and styles shift in the ever-changing fashion and apparel sector, reflecting the industry’s dynamic nature^[20]. Another potential risk to consider is the offshoring trend. While it offers a substantial cost advantage, it also increases geographical distances and lead times. Consequently, this leads to extended replenishment times and difficulties promptly addressing supply chain delays or market demand shifts^[21].

It seems it is impossible to eliminate the operational risks completely^[22]. However, various studies suggest strategies to help companies reduce the frequency and impact of these risks^[23]. All previous strategies can be categorized into four main types: buffer-focused, oriented towards vendor development, structured and procedure-focused, and focused on building social capital^[24]. Buffer-focus strategies involve maintaining safe stock, using dual or multiple sourcing methods, implementing vendor-managed inventory, utilizing alternative vendors, and including intermediaries in the supply chain^[25]. Oriented towards supplier development strategies focus on improving suppliers’ processes through initiatives such as training programs, quality management systems, certification, and enhancing technical capabilities^[26]. Structured and procedure-focused measures include systematically structuring sourcing processes, planning for business continuity, optimizing sourcing procedures, and enforcing strict contractual agreements to mitigate operational supply risk^[22]. Additionally, leveraging social capital by building solid relationships with key suppliers is recommended to minimize operational supply risk^[2].

3. Conclusion

The literature review thoroughly examined crucial insights into managing risks within the apparel industry’s supply chain. The discussion underscored the significance of addressing disruptions, such as the global pandemic, through implementing resilience strategies. Dohale et al.^[3] highlighted that disruptions can stem from factors both inside and outside of organizations, impacting the entire supply chain network and underscoring the vulnerability of global supply chains. Resilience involves preparing for, responding to, and recovering from unexpected events while maintaining operational continuity. Pham et al.^[13] pointed out that operational supply risk (OSR) is a significant concern, especially with the growth of online fashion businesses. Effective risk management systems, including proactive and reactive strategies, are essential for mitigating these risks. Proactive strategies aim to predict and prevent risk events, while reactive strategies address post-event consequences.

In conclusion, while the current literature provides a foundation for understanding supply chain risks and providing strategies to mitigate them, further research is essential to address the evolving challenges in global supply chain management. The future study should focus on integrating advanced technologies and creating thorough frameworks customized to meet the specific requirements of different industries, and mainly focusing on small and medium-sized enterprises in the apparel sector. This initiative aims to bolster resilience and sustain a competitive edge in an unpredictable global market.

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