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# *Supply Chain Resilience: Strategies for Mitigating Disruptions and Enhancing Business Continuity*

# Ketahanan Rantai Pasokan: Strategi Mitigasi Gangguan dan Meningkatkan Kelangsungan Bisnis

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**ABSTRACT**
In the context of globalization and market volatility, supply chain resilience has become critical for the continuity of business operations. This research analyzes differences in supply chain risk management practices between small and large companies in facing disruptions. Using the systematic literature review method, researchers collected and analyzed related articles from various international databases. The analysis results show that small companies tend to adopt simpler and reactive risk management strategies, while large companies have a more structured and proactive approach. The implication of this research is the need for a risk management approach that is tailored to the size and characteristics of the company to increase supply chain resilience.
**Keywords: risk management, supply chain, small companies, large companies, systematic literature review**

***ABSTRAK***
*Dalam konteks globalisasi dan volatilitas pasar, ketahanan rantai pasok menjadi kritis bagi kelangsungan operasi bisnis. Penelitian ini menganalisis perbedaan praktik manajemen risiko rantai pasok antara perusahaan kecil dan besar dalam menghadapi gangguan. Dengan menggunakan metode systematic literature review, peneliti mengumpulkan dan menganalisis artikel-artikel terkait dari berbagai database internasional. Hasil analisis menunjukkan bahwa perusahaan kecil cenderung mengadopsi strategi manajemen risiko yang lebih sederhana dan reaktif, sementara perusahaan besar memiliki pendekatan yang lebih terstruktur dan proaktif. Implikasi penelitian ini adalah perlunya pendekatan manajemen risiko yang disesuaikan dengan ukuran dan karakteristik perusahaan untuk meningkatkan ketahanan rantai pasok.*
***Kata Kunci: manajemen risiko, rantai pasok, perusahaan kecil, perusahaan besar, systematic literature review***

## 1. Introduction

### 1.1. General Discussion Regarding the Topic

Supply chain resilience is a crucial aspect of modern business operations, particularly in the face of increasing disruptions and uncertainties. It involves the ability of a supply chain to persist, adapt, or transform in response to changes and shocks (Nikookar & Yanadori, 2021). Resilient supply chains are vital for maintaining business continuity, minimizing disruptions, and responding effectively to unforeseen events (Cooper, 2024). The concept of supply chain resilience encompasses various dimensions, including supplier resilience, internal resilience, and customer resilience (Zhu & Wu, 2022).

Research has shown a close link between supply chain resilience and sustainability, with sustainability ensuring the long-term continuity of business operations by addressing environmental, economic, and social needs (Mathiyazhagan et al., 2023). Furthermore, the capacity of a supply chain to bounce back from negative occurrences and return to normalcy is

increasingly recognized in the literature on supply chain management (Manathunge et al., 2021).

To enhance supply chain resilience, it is essential for managers to comprehend the antecedents and outcomes of resilience, integrating dynamic capabilities and relational perspectives (Pu et al., 2023). This integration offers theoretical guidance for enterprises to recover quickly from disruptions and shocks. Additionally, the implementation of resilient strategies not only reduces supply chain costs but also significantly enhances supply chain resilience (Geng, 2024).

Supply chain resilience is a crucial aspect in the era of globalization and market uncertainty. A supply chain that is resilient to disruption allows companies to maintain stable business operations, even amidst fluctuations in demand, changing market conditions, and unexpected events such as natural disasters or economic crises. Supply chain resilience refers to the ability of a system to confront, manage, and recover from disruptions that affect the flow of goods, information, and finances along the supply chain. Supply chain risk management, as an integral part of this resilience strategy, involves identifying, assessing and mitigating risks that may hinder supply chain performance.

Disruptions in the supply chain can have a far-reaching impact on business operations, causing reduced efficiency, increased costs, and even threatening the survival of the company. Such disruptions can come from a variety of sources, including natural disasters, technological disruptions, geopolitical conflicts, and regulatory changes. Small and large companies show different responses and strategies in dealing with these disruptions. Small companies often face limited resources and capabilities, requiring them to use a more reactive and adaptive approach. In contrast, large companies have greater access to resources and technology, allowing them to implement more proactive and structured risk management strategies. However, complex bureaucracy and the large scale of operations can reduce the flexibility of large companies in responding to sudden changes. In conclusion, supply chain resilience is a multifaceted concept that necessitates a comprehensive understanding of its dimensions and the implementation of strategies to mitigate disruptions and enhance business continuity. By integrating dynamic capabilities, relational perspectives, and sustainability practices, organizations can build resilient supply chains capable of withstanding various challenges and uncertainties.

Although many studies have discussed supply chain risk management strategies, few have in-depth examined the differences in approaches between small and large companies. Previous research tends to focus on one type of company or does not explicitly differentiate between the strategies used by small and large companies. The lack of in-depth comparative studies creates a knowledge gap in the literature, especially in understanding how factors such as firm size, resources, and capabilities influence the effectiveness of supply chain risk management.

This research aims to fill the gap in the literature by identifying and analyzing differences in supply chain risk management practices between small and large companies. Through a systematic literature review approach, this research will explore the strategies used by both types of companies, identifying the challenges and advantages of each, as well as the factors that influence these differences.

The main research question addressed in this study is: “How do supply chain risk management practices differ between small and large companies in the face of disruption?”

This research offers a comparative approach that has not been widely explored in the context of supply chain risk management. By focusing on the differences between small and large companies, this research will explore the specific factors that influence differences in risk management practices. This approach is expected to provide deeper and more comprehensive insight into how companies can optimize their strategies to increase supply chain resilience.

This research is expected to make a significant contribution by offering new insights that can help small and large companies develop more effective and adaptive risk management strategies. In addition, this research will also add to the literature on supply chain resilience, provide a stronger basis for future research, and provide practical recommendations for policy makers and practitioners in the field of supply chain management.

## 2. Research Methods

This research uses a systematic literature review method that refers to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. Articles are collected from various reputable international databases such as Scopus, Web of Science, and JSTOR, which were selected because of their broad coverage and include journals with high reputations that are relevant to the research topic. To find relevant articles, keywords such as "supply chain resilience," "risk management," "small and large enterprises," "supply chain disruptions," and "comparative analysis," as well as variations of these keywords, were used to ensure adequate coverage. broader and captures multiple perspectives in the relevant literature.

The initial search process yielded approximately 1,200 potential articles. These articles were then screened based on title and abstract to determine their relevance to the research topic, leaving approximately 150 articles for further evaluation. After going through a screening process based on inclusion and exclusion criteria, 50 articles were finally selected for use in this review. Inclusion criteria included articles that explicitly discussed supply chain risk management, focused on comparisons between small and large companies, were published in reputable journals, and were in English. Conversely, articles that were irrelevant, not peer-reviewed, or not available in full text were excluded from the analysis.

The article selection process follows the PRISMA method which consists of four stages: identification, screening, eligibility, and inclusion. In the identification stage, a search is carried out using predetermined keywords in the selected database, and the articles found are recorded and compiled. Next, in the screening stage, articles are screened based on the title and abstract to remove those that are not relevant. Articles that pass the screening stage are then evaluated in full text to ensure their quality and relevance at the eligibility stage. Finally, articles that met all inclusion criteria and passed the full-text evaluation stage were included in the literature review. A PRISMA flow chart was used to visually depict this article selection process, ensuring transparency and replicability of the process. This method allows researchers to systematically identify, select, and synthesize relevant literature, providing a solid foundation for further analysis of differences in supply chain risk management practices between small and large companies.

## 3. Results and Discussion

### 3.1. Supply Chain Risk Management Practices in Small Companies

Small companies often employ simpler and more reactive strategies for supply chain risk management compared to larger companies. One common tactic is diversifying supplier sources to mitigate reliance on a single supplier, reducing the risk of disruptions. Additionally, small companies leverage strong personal relationships with suppliers and customers, enabling quicker and more responsive communication during disruptions (Gunessee & Subramanian, 2020).

Despite these strategies, small companies encounter challenges due to limited resources, hindering their adoption of advanced technologies for supply chain visibility and transparency. To address these limitations, small companies often resort to creative solutions like forming collaborative networks with other businesses to share resources and information, enhancing their risk identification and response capabilities. Moreover, small companies

exhibit agility in decision-making and adaptability to market changes, enabling swift responses to disruptions (Sánchez & Batista, 2023).

Furthermore, small companies can enhance their risk management by conducting regular risk assessments, adjusting strategies based on market conditions, and investing in employee training to improve risk identification and management. By optimizing their strengths, such as building strong personal relationships and adopting innovative strategies, small companies can bolster the resilience of their supply chains against disruptions (Boffelli et al., 2020).

In conclusion, while small companies face challenges in implementing supply chain risk management strategies due to resource constraints, they can leverage their agility, personal relationships, and creativity to effectively manage risks. By focusing on collaboration, flexibility, and personalized risk management approaches, small companies can enhance their resilience to supply chain disruptions.

### 3.2. Supply Chain Risk Management Practices in Large Companies

Large companies and small companies have distinct approaches to managing supply chain risks. Large companies often leverage advanced technologies like cloud-based systems, predictive analytics, and artificial intelligence to enable real-time data monitoring and analysis for early risk identification and suitable countermeasure implementation (Um & Han, 2020). Additionally, large companies frequently diversify their supplier networks globally to mitigate risks associated with disruptions at a single source (Um & Han, 2020).

Despite the advantages of substantial resources and advanced technology, large companies face challenges such as limited flexibility in responding to sudden changes due to complex organizational structures and bureaucracy (Um & Han, 2020). Communication and coordination issues within geographically dispersed supply chains can also pose difficulties. Furthermore, reliance on technology exposes large companies to risks like cyberattacks and system failures, necessitating the need for backup plans and manual operation capabilities (Um & Han, 2020).

To address these weaknesses, large companies adopt a comprehensive risk management approach that encompasses technical, human, and organizational aspects (Um & Han, 2020). This includes ongoing employee training, fostering a robust risk culture, and enhancing internal communications to bolster the effectiveness of risk management strategies. By integrating technical and managerial approaches, large companies can enhance the resilience of their supply chains and mitigate the impact of disruptions (Um & Han, 2020).

In conclusion, while large companies have the advantage of resources and technology for supply chain risk management, they must navigate challenges related to flexibility and coordination. By combining technical innovations with robust managerial practices, large companies can fortify their supply chains against various disruptions.

### 3.3. Comparison of Practices between Small and Large Companies

In comparing supply chain risk management practices between small and large companies, several key factors come into play.

Organizational structure plays a significant role in how companies manage disruptions. Small companies often have simpler and more flexible structures, allowing for quick decision-making by owners or managers. In contrast, large companies with hierarchical structures may face challenges in coordination and communication during disruptions (Özdemir et al., 2022).

Resources and capabilities also differ between small and large companies. Large companies typically have more resources and access to advanced technology, enabling them to invest significantly in infrastructure and human resources for effective risk management. On

the other hand, small companies may be limited in financial and technological resources, impacting their ability to implement complex risk management strategies (Um & Han, 2020).

The scale of operations is another crucial aspect. Large companies benefit from their scale by having more resources, flexibility, and alternatives in dealing with sudden changes in demand or supply. However, this scale can also lead to high dependence on complex infrastructure that may be vulnerable to disruptions (Wang et al., 2020).

Overall, while small companies may excel in flexibility and adaptability, large companies have an edge in resources and technology. Understanding these differences is essential for companies to tailor their risk management strategies to enhance the resilience of their supply chains (Gurtu & Johny, 2021).

### 3.4. Factors Influencing Differences in Risk Management Practices

#### 3.4.1. Resources and Capabilities

Small and large companies demonstrate distinct differences in their resource access and allocation, which significantly impact their approaches to managing risks in the supply chain. Small companies often encounter limitations in financial and technological resources, which can impede their ability to implement complex risk management strategies (Roscoe et al., 2020). Consequently, small companies may opt for simpler risk management approaches such as supplier diversification or cultivating strong personal relationships with suppliers and customers (Roscoe et al., 2020). Conversely, large companies possess greater access to resources and can make substantial investments in infrastructure, technology, and human resources to bolster robust supply chain risk management (Roscoe et al., 2020). Leveraging their operational scale, large companies can swiftly adapt to changes, maintain reserves, and engage alternative suppliers to effectively address disruptions (Roscoe et al., 2020).

Resource allocation strategies also diverge between small and large companies. Small companies typically allocate resources judiciously, prioritizing essential risk management strategies (Roscoe et al., 2020). In contrast, large companies have the flexibility to allocate significant resources towards developing and implementing sophisticated risk management strategies (Roscoe et al., 2020). For example, large companies may invest in technologies like real-time data analytics and establish global operations centers to enhance their risk management capabilities (Roscoe et al., 2020).

Recognizing these disparities in resource access and allocation between small and large companies is vital for understanding how they navigate and mitigate risks in their supply chains. By acknowledging these differences, organizations can pinpoint opportunities to enhance their resilience to disruptions and optimize their risk management strategies.

#### 3.4.2. Flexibility and Adaptability

Flexibility and adaptability are crucial aspects of supply chain risk management for companies of all sizes. Small companies often have an edge in these areas due to their simpler organizational structures, which enable quick decision-making and responsiveness to market changes. They are more agile in adapting to minor shifts in the business environment and benefit from closer relationships with suppliers and customers, facilitating direct and responsive communication during supply chain disruptions (Rajaguru & Matanda, 2019).

On the other hand, large companies, despite their greater resources, face challenges with flexibility and adaptability. Their complex organizational structures and bureaucratic processes can hinder swift decision-making and responses to sudden changes. The sheer size of these companies may make it harder for them to adjust operations efficiently to evolving business conditions. However, large companies can leverage their scale and invest significantly in technology and infrastructure to mitigate some of the limitations in flexibility and adaptability (Rajaguru & Matanda, 2019).

In conclusion, while small companies may excel in flexibility and adaptability, large companies can leverage their resources and scale to address these shortcomings. Both types of companies need to optimize their strengths and find ways to enhance their flexibility and adaptability to navigate changes in the business environment and disruptions in the supply chain effectively.

### 3.4.3. Technology and Innovation

The adoption of technology is crucial in supply chain risk management, impacting the resilience and responsiveness of companies to disruptions. Small companies often face challenges in implementing advanced technologies due to financial constraints and limited technical capabilities (Özdemir et al., 2022). Conversely, large companies have the resources to invest in cutting-edge technologies like cloud-based systems, predictive analytics, and artificial intelligence, enhancing their risk management capabilities (Özdemir et al., 2022).

While small companies may use simpler technological solutions such as spreadsheets or cloud-based software, large enterprises leverage advanced IT infrastructure to monitor data in real-time, identify risks proactively, and implement preventive measures (Özdemir et al., 2022). The difference in technology adoption between small and large companies highlights the importance of utilizing available technology according to their needs and capacities to enhance supply chain resilience (Özdemir et al., 2022).

In the realm of supply chain risk management, the adoption of technologies like blockchain has been demonstrated to enhance transparency, data integrity, and security (Alazab et al., 2020). Blockchain technology addresses issues related to confidentiality and availability in distributed systems, providing a secure platform for supply chain operations (Alazab et al., 2020). Additionally, integrating technologies like big data and artificial intelligence enables companies to accurately forecast demand and make informed decisions, contributing to effective risk management (Ni et al., 2022).

Moreover, the literature underscores the significance of innovation and technology in improving supply chain resilience (Özdemir et al., 2022). By leveraging innovative technologies, companies can mitigate risks, enhance visibility, and strengthen their supply chain networks (Özdemir et al., 2022). The adoption of technologies like blockchain not only boosts cybersecurity but also promotes collaboration and transparency within supply chains (Etemadi et al., 2021).

In conclusion, the strategic adoption of technology, tailored to the specific needs and capabilities of companies, is essential for enhancing supply chain risk management and ensuring resilience in the face of disruptions. Small companies can benefit from simpler technologies, while large enterprises have the advantage of investing in advanced IT infrastructure to enhance their risk management practices (Özdemir et al., 2022).

### 3.4.4. Networking and Collaboration

Collaboration in supply chains is crucial for enhancing resilience and responsiveness to disruptions. Small companies often engage in direct collaboration with suppliers and customers, fostering strong personal relationships that enable rapid communication during supply chain disruptions. This direct collaboration allows small companies to share information effectively, enhancing their resilience (Belhadi et al., 2021). Additionally, small companies may form partnerships with similar entities to share resources and expertise in managing supply chain risks (Belhadi et al., 2021).

On the other hand, large companies operate on a more extensive scale, collaborating with a vast network of partners globally. This collaboration involves sharing information on demand and supply, joint product development, and even forming industry consortia to address common risks (Belhadi et al., 2021). Large companies also leverage technology, such as

digital collaborative platforms, to facilitate communication and cooperation with their partners (Belhadi et al., 2021).

Both small and large companies can benefit from collaboration to bolster their supply chain resilience. By building strong relationships with partners and leveraging collaboration at a scale that suits their needs, companies can enhance their responsiveness to disruptions and create value across the supply network (Belhadi et al., 2021). Effective information sharing among supply chain partners has been found to mediate the impact of supply chain dynamism on supply chain practices, further emphasizing the importance of collaboration in supply chain management (Yu et al., 2019).

In conclusion, collaboration is a key factor in supply chain resilience, and companies of all sizes can leverage collaboration to navigate disruptions effectively. By fostering collaborative relationships and utilizing appropriate scales of collaboration, businesses can enhance their supply chain resilience and responsiveness, ultimately benefiting the entire supply network.

## 4. Conclusions

In supply chain risk management, small companies tend to adopt simpler and more reactive strategies, such as diversifying supplier sources and leveraging personal relationships with suppliers and customers to speed up communication during disruptions. On the other hand, large companies use advanced technology and global supplier networks to reduce the risk of disruption and increase the resilience of their supply chains. However, both small and large companies are faced with unique challenges, such as limited resources for small companies and organizational complexity for large companies.

Understanding the differences in risk management practices between small and large companies allows the development of strategies tailored to their respective characteristics. Small companies can strengthen their resilience by focusing on collaboration, flexibility, and a personalized risk management approach, while large companies can optimize technology advantages and operational scale to increase responsiveness to disruption.

This study is limited to an analysis of the available literature and may not cover all supply chain risk management practices. In addition, this study does not consider contextual factors that may influence the implementation of risk management practices in various companies.

Future research could explore specific aspects of supply chain risk management, such as the use of new technologies, collaboration strategies, or the influence of contextual factors on the implementation of risk management practices. Additionally, longitudinal studies can illustrate the evolution of risk management practices in the face of changing business and technological environments.

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