

# Approaches to Mitigate Economic and Trade Disruptions for Thai Businesses

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## Abstract

Considering the increasing frequency and severity of global disruptions, businesses must adapt their supply chain structures to remain competitive and resilient. This study examines how Thai companies implement flexibility and risk mitigation strategies in their supply chains to navigate uncertainties caused by economic shifts, trade barriers, and geopolitical challenges. Through a combination of quantitative surveys and qualitative interviews with business leaders and supply chain professionals, the study identifies key approaches such as supplier diversification, digital technology integration, and agile logistics practices. The results suggest that businesses with more robust risk management frameworks and flexible supply chains are better equipped to mitigate the impact of external disruptions. Additionally, the study emphasizes the importance of adapting supply chain models to incorporate sustainability and environmental concerns, which are becoming increasingly critical in global supply chains. The findings provide valuable insights for Thai businesses and policymakers to develop strategies that strengthen resilience against future disruptions.

**Keywords:** Mitigate Economic, Risk management, Supply chain flexibility, Trade disruptions, Thai businesses

## 1. Introduction

### 1.1 Principles and Rationale

The global economy is increasingly interconnected, with businesses heavily relying on international supply chains to source materials, manufacture products, and distribute goods worldwide. As a result, disruptions to these supply chains, whether due to economic downturns, trade conflicts, or unforeseen global events such as the COVID-19 pandemic, can have far-reaching consequences for businesses. In this context, effective risk management and supply chain flexibility have become crucial factors in ensuring business resilience and sustainability (Ivanov, 2020).

In recent years, Thai businesses have experienced various challenges stemming from economic fluctuations and trade disruptions. As a major hub for industries like automotive, electronics, and agriculture, Thailand's economy is particularly vulnerable to external factors such as trade wars, currency volatility, and the global supply chain crisis. For example, the U.S.-China trade conflict, the disruption of global shipping routes, and the effects of the COVID-19 pandemic have severely impacted Thai businesses, leading to delays, shortages, and rising costs of materials. As a result, organizations are increasingly focusing on strategies to manage and mitigate such risks to remain competitive in a volatile global marketplace (Cai et al., 2020).

Risk management involves identifying, assessing, and implementing strategies to minimize the impact of potential threats to business operations. Traditional approaches to risk management have often been focused on minimizing exposure to risks through diversification, maintaining safety stock levels, and establishing robust relationships with suppliers. However, these strategies are not always sufficient in the face of rapidly changing global dynamics. As businesses face more frequent and unpredictable disruptions, there is a growing recognition that supply chains must be flexible and adaptive to changes (Christopher & Peck, 2004). Flexibility in supply chain design involves the ability to rapidly adjust sourcing strategies, production schedules, and inventory management practices in response to unexpected events, which can significantly reduce the negative impact of disruptions on business performance (Ponomarov & Holcomb, 2009).

In the context of Thailand, industries such as automotive manufacturing, electronics, and agriculture are particularly susceptible to disruptions in their supply chains due to global economic factors and trade policies. The Thai automotive industry, for example, relies on a network of international suppliers for components, and any trade barriers or disruptions in global supply chains can result in delays and increased costs. Similarly, the electronics industry, which is highly dependent on global supply chains for raw materials and parts, faces significant risks from trade tensions and economic instability. The agricultural sector, often subject to fluctuating global demand and changes in international trade agreements, is also vulnerable to supply chain disruptions. As such, understanding the risk management strategies and flexibility measures that businesses in Thailand employ is critical for identifying best practices and ensuring long-term sustainability (Pungnirund, 2023).

This research aims to explore the approaches Thai businesses use to manage risks and enhance supply chain flexibility in response to economic and trade disruptions. By examining how companies in Thailand adapt their operations and supply chain strategies, this study seeks to provide valuable insights into the resilience of Thai businesses in a rapidly changing global environment.

## **1.2 Research Objective**

The study aims to achieve the following specific objectives:

1. To examine the risk management strategies employed by Thai businesses in response to economic and trade disruptions, and assess their effectiveness in mitigating such risks.
2. To assess the role of supply chain flexibility in enabling Thai businesses to adapt to economic and trade disruptions.
3. To evaluate the differences in risk management practices and supply chain flexibility across various industries in Thailand, including automotive, electronics, and agriculture.

## **2. Literature Review**

The increasing complexity and globalization of supply chains have heightened the importance of effective risk management and flexibility in mitigating the impacts of economic and trade disruptions. Numerous studies have explored the interplay between risk management and supply chain flexibility, highlighting the need for businesses to adapt to both predictable and unforeseen disruptions. This literature review synthesizes key findings on risk management strategies, supply chain flexibility, and their relevance to Thai businesses in the face of economic and trade challenges.

## 2.1 Risk management in supply chains

Risk management in supply chains is a vital aspect of ensuring business resilience, particularly in times of economic instability or trade disruptions. According to Christopher and Peck (2004), risk management involves identifying potential threats, evaluating their impact, and developing strategies to mitigate these risks. Traditional approaches to risk management focus on strategies such as diversification, maintaining safety stock, and developing strong relationships with suppliers. However, these methods may not always be effective in dealing with more dynamic and unpredictable challenges such as trade wars or natural disasters. A more dynamic approach to risk management, involving the continuous assessment of risks and proactive mitigation strategies, is increasingly being adopted in modern supply chains (Tang, 2006).

In the context of Thailand, businesses face unique challenges in managing supply chain risks due to their reliance on international trade and global supply networks. Studies by Pongpang (2017) and Cai et al. (2020) underscore the vulnerability of Thai industries—such as automotive manufacturing, electronics, and agriculture—to disruptions caused by shifts in international trade policies, economic fluctuations, and geopolitical tensions. Thai businesses are particularly affected by global supply chain disruptions, such as the COVID-19 pandemic, which disrupted both the supply and demand sides of industries, highlighting the importance of developing robust risk management frameworks.

## 2.2 Supply Chain Flexibility

Flexibility is defined as the ability of a supply chain to rapidly adjust to changes in the environment or disruptions without significant losses in efficiency or performance (Ponomarov & Holcomb, 2009). A flexible supply chain can adapt quickly to new circumstances, such as supplier shortages, changing market conditions, or demand fluctuations. Flexibility involves multiple aspects, including sourcing flexibility, production flexibility, and logistics flexibility (Sheffi, 2007). These characteristics are crucial for businesses looking to maintain operational efficiency during periods of economic or trade instability. Several studies highlight the significance of supply chain flexibility for business resilience. Ivanov (2020) emphasizes that flexible supply chains are better positioned to respond to external shocks, especially in industries with complex and globalized supply chains. Businesses with flexible supply chains can more easily switch suppliers, adjust production schedules, and reallocate resources in response to disruptions. This capacity to adapt is particularly important in sectors like electronics and automotive manufacturing, where supply chain networks are highly interconnected and global in scope.

For Thai businesses, supply chain flexibility is increasingly recognized as a key strategy for dealing with disruptions. According to Pongpang (2017), the Thai automotive industry, for example, relies heavily on global suppliers for critical components. A disruption in the supply of these components can lead to significant delays in production and distribution. However, businesses that have incorporated flexible strategies, such as multi-sourcing and the use of regional suppliers, are better positioned to mitigate these risks. Similarly, in the agricultural sector, supply chain flexibility enables businesses to adjust to changing international demand and the fluctuating prices of commodities.

The literature highlights that effective risk management and supply chain flexibility are crucial for Thai businesses to thrive in an environment characterized by frequent economic and trade disruptions. Businesses that adopt dynamic risk management approaches, incorporate flexibility into their supply chain design, leverage technological innovations, and foster

strategic partnerships are better positioned to mitigate the impact of such disruptions. Given the unique challenges faced by Thai businesses, particularly in industries like automotive, electronics, and agriculture, the need for resilient supply chains that can withstand global uncertainties is more pressing than ever. This research will further explore the practices and strategies that Thai businesses implement to navigate these challenges and enhance their supply chain resilience.

### **3. Research Methodology**

A mixed-methods approach will be utilized, combining both qualitative and quantitative data to provide a comprehensive understanding of the practices, challenges, and outcomes related to supply chain resilience in Thailand. To collect both qualitative and quantitative data, the following methods will be employed.

#### **3.1 Quantitative approach**

A structured survey will be distributed to a sample of Thai business leaders, supply chain managers, and operations professionals across selected industries. The survey will gather quantitative data on the risk management strategies and supply chain flexibility measures implemented by these businesses. Key variables will include Types of risk management strategies employed (e.g., diversification, inventory management, technology integration), Level of supply chain flexibility (e.g., adaptability to trade disruptions, ability to switch suppliers, agility in response to market changes). The effectiveness of these strategies in mitigating economic and trade disruptions. Survey responses will be measured on a Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), allowing for a quantitative assessment of the impact of various risk management and flexibility practices. The sample for the survey will include businesses from Thailand's automotive, electronics, and agricultural sectors. A purposive sampling technique will be used to select organizations that have experienced significant disruptions in their supply chains due to economic or trade factors in recent years. A target sample size of 100 respondents will be aimed for in the survey, ensuring a diverse representation of businesses from both large enterprises and small-to-medium-sized enterprises (SMEs).

#### **3.2 Qualitative approach**

In-depth interviews will be conducted with a selected group of key informants, including senior managers, supply chain directors, and other industry experts from the target sectors. The semi-structured interviews will allow for the exploration of participants' perceptions, experiences, and insights regarding risk management strategies and supply chain flexibility. For the interviews, approximately 15-20 key informants will be selected, ensuring a mix of industry representatives with hands-on experience in supply chain management. Qualitative data from the interviews will be analyzed using thematic analysis. This will involve coding the interview transcripts and identifying key themes and patterns that emerge across the data. The analysis will focus on understanding how Thai businesses approach risk management and supply chain flexibility, and the perceived effectiveness of these strategies in mitigating economic and trade disruptions.

## 4. Results

The findings are based on survey data collected from 150 Thai companies across various industries, including automotive, electronics, agriculture, and manufacturing. The results are presented in three key themes: risk management practices, supply chain flexibility strategies, and the role of technology in enhancing resilience.

### 4.1 Risk Management Practices

The results indicated that risk management is a critical aspect of supply chain operations for Thai businesses, with a significant focus on identifying and mitigating risks related to trade disruptions and economic volatility. The survey found that 80% of businesses implemented formal risk management frameworks, with a strong emphasis on diversification of suppliers and inventory management to reduce the risk of stockouts and supply chain interruptions. Among these businesses, 65% reported that they use multi-sourcing strategies, ensuring that they are not overly reliant on a single supplier or country for critical components. Additionally, 55% of respondents indicated that they maintained safety stock to buffer against potential disruptions in supply. Trade disruptions were cited as the most significant risk factor, particularly in the automotive and electronics industries, where global supply chains are highly interconnected. The automotive industry reported that 72% of businesses had to adjust their procurement strategies due to trade restrictions or tariff changes. On the other hand, the agriculture sector in Thailand experienced disruptions related to shifting international demand and global price fluctuations, which accounted for 58% of risk factors cited by agricultural businesses.

### 4.2 Supply Chain Flexibility Strategies

The survey results showed that flexibility in supply chain design was a key priority for Thai businesses, especially in light of the economic challenges posed by international trade disruptions. A total of 70% of respondents identified supply chain flexibility as a strategic advantage that helped them respond more effectively to external shocks. Among these, 56% focused on improving logistics flexibility, enabling them to adapt their transportation and distribution channels in response to sudden disruptions. Similarly, 48% of businesses emphasized production flexibility, allowing them to switch between suppliers or production sites in different regions depending on the situation. Furthermore, flexibility in demand management was essential for companies in the electronics and manufacturing sectors, where the ability to quickly adjust production levels based on market conditions proved crucial in minimizing losses during trade downturns. For example, 62% of electronics companies reported implementing demand-driven production models, which allow them to scale production up or down depending on the prevailing market situation. The automotive industry in Thailand, as part of its strategy to maintain flexibility, has also incorporated local sourcing into its supply chain structure. More than 55% of automotive companies reported that they have increased reliance on local suppliers as a way to mitigate the impact of international supply disruptions.

### 4.3 Role of Technology in Enhancing Resilience

A key finding of this research is the increasing role of technology in managing risks and enhancing supply chain flexibility. Approximately 65% of businesses surveyed indicated that they are actively investing in digital technologies to improve supply chain visibility and forecasting capabilities. The use of big data analytics was highlighted by 50% of businesses as a valuable tool for predicting disruptions and optimizing inventory management. In particular, cloud-based supply chain management systems were cited by 42% of businesses as essential for enhancing collaboration and communication between suppliers and stakeholders,

particularly in the context of global supply chains. These technologies enable real-time updates and allow businesses to make data-driven decisions that are essential for maintaining resilience during times of economic uncertainty.

## 5. Conclusion

The findings revealed that Thai businesses, especially those in industries such as automotive, electronics, and agriculture, have increasingly recognized the importance of robust risk management practices and supply chain adaptability in response to global uncertainties, including economic volatility and trade disruptions.

The research highlighted that Thai businesses utilize several key risk management strategies, such as diversifying suppliers, maintaining safety stock, and incorporating multi-sourcing tactics, particularly in industries reliant on global supply chains. These strategies were found to be effective in reducing vulnerabilities to disruptions and ensuring business continuity. Supply chain flexibility, including logistics and production flexibility, emerged as a crucial factor in enabling businesses to respond quickly to sudden changes in market conditions or trade policies. By adopting flexible supply chain structures, businesses were better positioned to manage fluctuating demand, changing tariffs, and supply shortages.

Technology played a pivotal role in enhancing resilience, with many Thai businesses leveraging digital tools like big data analytics, cloud-based systems, and blockchain to improve supply chain visibility, optimize inventory management, and facilitate real-time decision-making (Kshetri, 2020). Moreover, the research highlighted the growing importance of strategic partnerships and collaboration with suppliers to strengthen supply chain resilience. Many businesses emphasized the value of fostering long-term relationships with suppliers to ensure a coordinated and cooperative approach to crisis management.

However, the study also identified several areas for improvement. Despite the efforts made by businesses to enhance supply chain flexibility, some challenges remain, particularly for industries with high dependency on international trade. Furthermore, while government support, such as trade incentives and subsidies, has been helpful, businesses expressed the need for more proactive and responsive government policies to address the dynamic nature of global trade disruptions.

Finally, the study also revealed the critical role of government support in mitigating trade disruptions. Several Thai businesses highlighted the positive impact of government measures, such as trade incentives, tax reductions, and subsidies, in helping them navigate global disruptions. However, businesses expressed a desire for more proactive and adaptive policies that could respond to the rapidly changing global trade landscape. This finding resonates with research suggesting that government support can significantly impact supply chain resilience by providing businesses with financial relief and policy certainty (Mollenkopf et al., 2010). In the context of Thailand, a more agile and forward-thinking approach from the government could help businesses better prepare for and respond to future economic and trade disruptions.

Based on the findings of this study, several strategic recommendations are proposed to enhance the risk management and supply chain flexibility of Thai businesses in mitigating economic and trade disruptions:

1. **Increase Investment in Digital Technologies and Data Analytics:** Thai businesses should consider increasing their investment in technologies like big data analytics, artificial

intelligence (AI), and blockchain to improve real-time decision-making, predict risks, and manage disruptions more effectively.

2. **Diversify Supply Sources and Build Stronger Relationships with Suppliers:** Thai businesses should prioritize creating diversified supplier networks to reduce dependence on specific regions or suppliers that are vulnerable to geopolitical, trade, or environmental risks.

3. **Focus on Agility and Flexibility in Supply Chain Design:** Flexibility in supply chain structures was identified as a key enabler of resilience. Businesses should explore strategies that allow for quicker adaptation to changes in supply and demand.

4. **Enhance Risk Forecasting and Scenario Planning:** While risk management practices are essential, businesses need to develop stronger forecasting and scenario planning capabilities. By anticipating a broader range of disruptions, such as trade wars or natural disasters, organizations can proactively adjust their strategies.

5. **Focus on Sustainability and Environmental Responsibility:** Thai businesses should integrate environmental sustainability into their supply chain strategies. Emphasizing eco-friendly sourcing, green logistics, and sustainable production processes not only supports risk management efforts but also aligns with global trends and consumer preferences.

## **6. Acknowledgment**

The author would like to formally express appreciations to Suan Sunandha Rajabhat University for financial support and the Faculty of Management Sciences for providing full assistance until this research was successfully completed. The author is also grateful for suggestions from all those who kindly provide consulting advices throughout the period of this research.

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