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Risk Mitigation Methods in Supply Chain Management

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Abstract

The coordination and management of all activities involved in moving goods from suppliers to consumers are part of supply chain management. The procedure, however, may have drawbacks, including disruptions to the supply chain, poor product quality, and changes in consumer demand. Hence, in order to ensure that supply chains run smoothly, risk reduction techniques must be put into practise.

Supply chain management may employ a range of risk mitigation techniques, including inventory management, supplier selection, and contingency planning, to lessen exposure to risk. always Maintaining proper stock levels as a buffer against changes in supply or demand is a key component of inventory management. The importance of locating reliable and trustworthy suppliers cannot be overstated in order to reduce the possibility of experiencing supply disruptions or problems with product quality. Contingency planning is the process of creating backup plans to ensure the survival of a business in the event of

unforeseen circumstances, such as those brought on by natural disasters or other types of disruptive events Planning.

Numerous different risk reduction measures include having strong connections with suppliers, implementing adaptable supply chain policies, creating effective communication channels, and investing in technology to provide visibility and transparency throughout the supply chain.

The supply chain's weaknesses, possible dangers, and workable solutions must all be well understood in order to manage risk in the chain successfully. If the risk mitigation techniques are used, an organization's supply chain may become more resilient, expenses may be reduced, and customer satisfaction may increase. Supply chain managers are in charge of making decisions concerning supply chain risk in order to mitigate the impact of supply chain interruptions.

Keywords: Inventory Management, Supply Chain, Distributors, Customers, SCRM, Risk Mitigation, Research Design

Introduction

The integration of the parts it handles, such as suppliers, manufacturers, distributors, retailers, and customers, is known as a supply chain. One of the numerous aspects of a supply chain that hinders performance is the unfavourable occurrence that hazards are created. With the help of the methodologies for SCRM discussed in this paper's assessment of the literature—which place a particular focus on risk mitigation tactics—organizations may more effectively detect and reduce the risk that exists across their supply chain. The management of the supply chain has grown to be crucial to contemporary corporate operations. A supply chain is made up of all the steps used to get a good or service from a supplier to a client.

It many different parties are involved in supply chains, including suppliers, manufacturers, distributors, retailers, and customers. Several dangers can impair the movement of products and services across supply chains. Natural catastrophes, geopolitical tensions, economic conditions, or operational blunders can all contribute to these risks. Supply chain interruptions have increased in frequency and severity over the past several years, costing businesses a great deal of money. Companies must create effective risk mitigation methods in order to control the hazards in the supply chain. Identifying possible hazards and taking proactive steps to lessen their chance or effect are both parts of risk reduction. Six categories may be used to categorise risk mitigation techniques in supply chain management: risk analysis and assessment, inventory control, supplier management, working together, information sharing and visibility, and technology adoption. This review article seeks to evaluate the merits of each approach and offer managers useful suggestions for reducing risks in their supply chains.

What are the Risk in the Supply Chain?

The reliability of suppliers, as well as issues like single vs numerous sources of sourcing and centralised versus decentralised sourcing, are among the supply chain risks that arise during the transportation of products from suppliers to the company. Operational risks can arise from a breakdown in manufacturing or processing capabilities and/or changes in technology. These

risks have an impact on the organization's internal capacity to create goods and services, which ultimately has an impact on the profitability of the company. Demand risks, which include the risk of obsolescence, stock-outs, and excess inventory, are associated with the transportation of products from the company to the customers.

The variance-based perspective is the basic foundation of the way the term "risk" is used. The supply chain's consequent complexity can conceal a variety of financial, legal, and regulatory risks.

- Risk Mitigation
- Risk sharing
- Risk Pooling

Risk Mitigation: In order to prepare for anticipated dangers and lessen their effects, a company may adopt risk mitigation. Risk mitigation uses techniques to lessen risks' and disasters' negative consequences on business continuity, just like risk reduction does.

Risk sharing: Risk sharing is one strategy for reducing supply chain risk. Risk sharing refers to the distribution of risks across supply chain components.

Risk Pooling: Risk pooling is a supply chain management technique that comprises combining and sharing resources across several locations or enterprises in order to decrease the effects of volatility or uncertainty in demand or supply.

Research Methodology

This section provides an explanation of the technique for examining the SCRM Literatures for risk mitigation strategies. This entails finding the research, choosing the articles, creating categorization codes for the chosen articles, evaluating them, and drawing some insightful findings. Using a variety of methods and papers connected to the topic, risk detection, risk mitigation, and risk recovery are combined into a single operation to manage risk in the supply chain. The process of implementing risk reduction strategies consists of these actions. Tracking existing hazards, recognizing developing risks, and evaluating the effectiveness of the risk management processes are all necessary for tracking the development of risk mitigation.

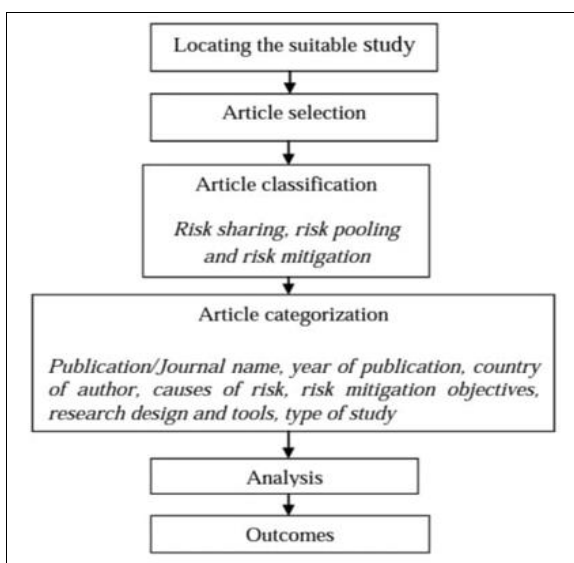


Fig 1: Flow diagram of process of research methodology

Article Selection: To evaluate risk mitigation, 49 papers were individually screened for their emphasis on risk mitigation. The paper title, abstract, and keywords of each publication were particularly searched for the terms "supply chain" and "risk". It was possible to find articles by replacing the word "risk" with words like "uncertainty," "disruption," "robust," and "vulnerability."

Classification: The following categories are used to group articles according to their publication year, place of origin, name, sources of risk, goals for risk management, methods used in the research, and type of study: the name of the publication or journal, the year it was published, the nation of the author, the causes of risk, the goals of risk reduction, the research design, and the instruments used in the study. vii. Kind of research.

Conclusion

The goal of this study is to examine and assess 49 research publications from the perspective of a risk reduction method. Seven different categories for classifying literature are chosen to be used in the literature analysis. These seven categories include study kind, author, publication year, journal name, risk objectives, risk factors, research design, and research instruments. For supply disruption risks, security risks, risks associated with international sourcing, risks associated with the economy, risks associated with natural disasters, risks associated with suppliers, risks associated with demand uncertainty, and risks associated with manufacturing, the assessment for mitigation, pooling, and sharing approaches for SCRM is addressed. According to the study, the emphasis of SCRM literature is mostly on theoretical development, with a distinct absence of practical applications (such as case studies), which are one of the most effective methods to learn about risk management approaches in a range of industries. In order to allow for the analysis of a wide variety of literature, the strategy for risk reduction is expanded to include risk pooling and risk sharing. The study shows that theoretical and mathematical modelling are the most common approaches for risk reduction research, however it is critical to build some standardised procedures and methodologies for managing the present forms of hazards in supply chains. This paper includes a comprehensive risk mitigation literature evaluation for SCRM.

These risks will be described according to how likely they are to occur and how they will affect the company. The risk manager might first evaluate these factors subjectively or qualitatively. being able to seem outside of or unrelated to the organisation. In other words, the danger exists and, as a result of the current situation, it will probably happen and have an effect. This is the starting point of risk management, which enables businesses to identify, examine, and statistically evaluate risks using the methods covered in this research.

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