

Chapter 16

Understanding Supply Chain Risk Management: An In-Depth Analysis

Sumeet Gupta

Shri Shankaracharya Institute of Technology and Management, India

Fanwen Meng

National University of Singapore, Singapore

Mark Goh

The Logistics Institute – Asia Pacific, Singapore

Robert De Souza

The Logistics Institute – Asia Pacific, Singapore

EXECUTIVE SUMMARY

Increasing globalization of the supply chains is making them increasingly vulnerable to various supply chain risks. Effective management of these risks is essential to prevent minor as well as major risks that may occur in day-to-day operations of the firm. In this chapter, an attempt is made to bring out a schema for analyzing supply chain risks faced by the firm and develop a risk management action framework that would serve as a guide for practitioners to identify the level at which they are operating and the strategies they need to employ to combat or prevent supply chain risks. The data is collected by means of an online as well as an event survey from logistics managers of various supply chain firms. Indeed Singaporean firms need to properly document these supply chain risks. Moreover, there are gaps in specific areas where Singaporean firms can improve themselves and thus become globally effective corporations.

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1. INTRODUCTION

Managing risks in supply chains in modern day times is becoming increasingly challenging because of the uncertainties of demand, globalization of supply chains, shorter production and demand cycles, and outsourcing. With the increasing globalization supply chains are becoming increasingly complex. While, on the one hand, globalization bring numerous advantages to the supply chain, such as economies of scale and global operations, on the other hand, the increasing complexity in the supply chain makes the supply chain vulnerable to various kinds of risks, such as delays and disruptions (such as natural disasters and diseases) to name a few. Risk is an expression of the probability that an event or action may adversely affect the organizations¹. Risk Management is the strategy to take preventive measures towards such risks and mitigate such risks in case they occur. Deloitte and Touche (www.deloitte.com) defines supply chain risk management as *the management of supply chain risks through coordination or collaboration among the supply chain partners so as to ensure profitability and continuity*.

In general, supply chain management deals with the management of material, information, and financial flows in a network consisting of vendors, manufacturers, distributors and customers. As such, supply chain management can involve a variety of issues ranging from product/process design, production, third party logistics and outsourcing, supplier contracting, incentives and performance measures, multi-location inventory coordination, and so forth. Today, many different disciplines such as marketing, economics, operations research, management science, and operations management, have brought to bear concepts that are commonplace throughout the supply chain management literature. Managing flows in this network is a major challenge due to the network complexity, the proliferation of products and the presence of multiple decision makers who each own and operate a piece of this network.

Before firms can devise effective means of reducing supply-chain risks, managers must first understand the universe of risk categories as well as the events and conditions that drive them. Then, armed with clear, specific knowledge about these crucial risks, companies can proceed to select and tailor mitigation strategies likely to be most effective. There are numerous studies that identify the inventory of risks that a firm's supply chain may be vulnerable to (Chopra and Sodhi, 2004). It should be noted that risk cannot be eliminated. Because of the complex nature, various tools may be used to allow business stake-holders and government bodies to build up an overall picture of the risk situation and plan a migration strategy to address critical areas.

Although, there is has been considerable research (Paulsson, 2003; Tang 2005) on identifying various types of risk faced by a supply chain firm, there is hardly any empirical study attempted to identify the specific risks faced by firm and their

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