

ESSAYS IN SUPPLY CHAIN RISK MANAGEMENT

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Abstract

Supply chain risk management has received considerable attention in recent years by both academic researchers and industry practitioners. Due to the high interconnectedness of supply chain, failure of one firm not only affects its own performance but also impacts firms in both upstream and downstream of the supply chain, making them more vulnerable to risks. While extant literature point out different driving factors that could surge the vulnerability of the supply chain to risks, only very few studies have identified mechanisms to tackle these vulnerabilities and mitigate supply chain risk. Further, to my knowledge, there have been very limited studies in supply chain risk management literature that focus on the empirical investigation of drivers of supply chain risk and the role of risk mitigation strategies in reducing the risk. Therefore, the main objective of this research is to empirically study the drivers of supply chain operational risk and the corresponding risk mitigation strategies using primary data from global manufacturing firms. In my first study, I examine the demand side factor as a risk driver and in particular I look at the relationship between a firm's market responsive strategy and supply chain risk and the role of supply chain flexibility in risk mitigation. In order to remain competitive in the market, firms in general tend to expand their product offerings and offer high levels of customization, but without the necessary capabilities to successfully implement such a strategy. As a result, firms that adopt the so called 'market responsive strategy' are increasingly facing higher risks in terms of supply disruptions, production and delivery delays that ultimately result in poor operational performance. Hence in this study, I investigate the relationships between market responsive strategy and supply chain risk, through the mediating and moderating effects of environmental uncertainty and supply chain flexibility respectively. Drawing from contingency theory, actual operational risk of firms in high LPI countries is lower, we find interestingly that LPI doesn't help in lowering operational risk when firms have significant levels of global sourcing and sales. In other words, the results show that firms cannot rely on their country's logistical capabilities when they operate globally and hence need to put risk mitigation and supply chain integration in place in order to reducing their supply chain operational risk. In my third study, I look at the manufacturing factors of risk drivers; in particular, I examine the impact of certain practices adopted under the lean manufacturing approach on supply chain operational risk. While lean manufacturing (LM) practices are considered to be resulting in superior operational and financial performance of a firm, LM is generally perceived as that which makes a firm vulnerable to supply chain risk. Since there have been conflicting views among researchers and industry practitioners on the impact of LM practices on firm performance, the focus of this study is to understand the relationship between LM practices and supply chain operational risk. In this study, I find that there are several aspects of the lean approach such as quality management practices, good labour practices and continuous improvement programs that help in reducing the operational risk of the firm and also helps firms to assess their vulnerabilities in a better way and benefit them to have effective risk mitigation efforts in place.