

Chapter 49

Supply Chain Disruptions and Best–Practice Mitigation Strategies

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ABSTRACT

This paper reviews the supply chain management literature to summarize best-practice guidelines for mitigating supply problems. Very few studies in the extant literature focused on matching a strategy for both the supply and demand perspective. Case studies of supply chain management have traditionally focused on single companies, and especially on successful organizations rather than on the demand-supply-chain relationships (which involve at least two companies). Therefore, this study considers the experiences of the author, and researchers several well-known profitable fortune 1000 supply chain companies, to determine which supply chain mitigation strategies work best in complex situations.

INTRODUCTION

Supply chain disruptions are unexpected events or unplanned events that might affect the normal, expected flow of materials, information, and components occurring in a supply chain (Svensson, 2000; Wu, Blackhurst, & O’Grady, 2007). Supply chain disruptions have become a critical issue for many firms (Hendricks, Singhal, & Zhang, 2009). Disruption risk has received increasing attention

in the last few years. The reason is undoubtedly that, with longer paths and shorter computer processing speeds, there are more opportunities for disruption of traditional plans, and a smaller margin for error if a disruption does take place (Kleindorfer & Saad, 2005).

Similarly, today’s supply chain has become more interdependent, complex and vulnerable to temporary or long-term disruptions (Blos, Wee, & Yang, 2010). This topic derives its importance due to several industry trends currently in place: increase in strategic outsourcing by firms, global-

DOI: 10.4018/978-1-4666-2625-6.ch049

izations of markets, increasing reliance on suppliers for specialized capabilities and innovation, reliance on supply networks for competitive advantage, and emergence of information technologies that make it possible to control and coordinate extended supply chains (Narasimhan & Talluri, 2009). All these factors put together have made modern supply chains seem to be more vulnerable than ever (Bode & Wagner, 2008). Because a supply chain disruption can potentially be so harmful and costly, there has been, not surprisingly, a recent surge in interest and publications from academics and practitioners alike regarding supply chain disruptions and related issues such as risk mitigation (Craighead et al., 2007; Oke & Gopalakrishnan, 2009; Braunscheidel & Suresh, 2009). The importance of effectively managing supply chain disruptions as well as the lack of preparedness of most companies has drawn more attention in both academia and industry (Wu, Blackhurst, & O'Grady, 2007).

According to Oke and Gopalakrishnan (2009), "studies that address mitigating strategies have tended to propose strategies but have not separated mitigating strategies for different types of risks." Therefore, this aspect of this study is borne in order to fill this gap by establishing a framework that addresses the types supply chain disruptions based on the supply chain mitigating strategy categorization. This idea is based on the assumption that a disruption is either caused by supply or demand uncertainties. Therefore, in order to ameliorate or totally eliminate such demand/supply disruptions, certain mitigating strategies that are adapted to address these supply/demand uncertainties should be employed. This resulted in the categorization of supply chain mitigating strategies into demand-managed or supply-managed mitigating strategies. This can be likened to supply-side and demand-side disruption-management tactics classification (Tomlin, 2009).

Demand-side and supply-side risks belong unquestionable to the most important issues in

supply chain risk management and are therefore of high relevance for practitioners (Kleindorfer & van Wassenhove, 2004). In the supply chain risk management study, there has been unison by academics on the typology of demand and supply risks (Bode & Wagner, 2006; Juttner, 2005; Tang & Tomlin, 2008; Mason-Jones & Towill, 1998). Therefore, this study researches on how the type of supply chain disruption influence the choice of mitigating strategy. The objective of the study is to develop a disruption-mitigation framework for addressing supply chain disruptions based on extant literature.

Literature Review

Managing supply chain disruption risk is recognized as an important topic in operations management research and practice (Samaddar & Nargundkar, 2010). Tang (2006) defined 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. Managing risk in supply chains has emerged as an important topic in supply chain management. Supply chain risk management can be viewed as a strategic management activity in firms given that it can affect operational, market and financial performance of firms (Narasimhan & Talluri, 2009).

Disruption management is emphasized due to the postulation that the present supply chains undergo higher risk of disruptions and associated losses as compared to those of the past (Stecke & Kumar, 2009). Recent use of certain supply chain management practices such as globalization, decentralization, outsourcing, sole sourcing and Just-in-time (JIT) are sometimes responsible for the higher risks and exposure to disruptions (Stecke & Kumar, 2009). Mitigation is assessing possible sources of crisis and identifying sets of activities to reduce and/or eliminate those sources so that crisis never happens or its impact is reduced

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