Supply Chain Risk Management
Identification, Evaluation and Mitigation Techniques
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Supply chains have expanded rapidly over the decades, with the aim to increase productivity, lower costs and fulfil demands in emerging markets. The increasing complexity in a supply chain hinders visibility and consequently reduces one’s control over the process. Cases of disruption such as the ones faced by Ericsson and Enron, have shown that a risk event occurring at one point of the supply chain can greatly affect other members, when the disruption is not properly controlled. Supply chain management thus faces a pressing need to maintain the expected yields of the system in risk situations. To achieve that, we need to both identify potential risks and evaluate their impacts, and at the same time design risk mitigation policies to locate and relocate resources to deal with risk events.

This dissertation contributes in several ways to the research field of Supply Chain Risk Management (SCRM). It plots research advancements which provide further directions of research in SCRM. In conjunction with the conceptual model, simulations and mathematical modelling, we have also provided suggestions for how a better and more robust supply chain could be designed and managed. The diversified modelling approaches and risk issues should also enrich the literature and stimulate future study in SCRM.