

Supply Chain Risk Management (SCRM)



Risk management ... should be about lessening the impact of what we don't understand - not a futile attempt to develop sophisticated techniques and stories that perpetuate our illusions of being able to understand and predict the social and economic environment, Taleb et al.



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Introduction

Effectively, SCRM is the management of supply chain risks achieved through coordination/collaboration of supply chain partners to ensure profitability and continuity (Christopher, 2004). SCR managers need to assess the risk sources for the supply chain, identify the risk concept of the supply chain by defining the most relevant risk consequences, track the risk drivers in the supply chain strategy and mitigating risks in the supply chain (Juttner et al., 2003). Risk can be defined as 'the probability of an unwanted outcome happening' (CIPS: Risk Management in Purchasing and Supply Management). In addition to supply chain coordination SCRM often requires the coordination and collaboration of processes and activities across different organisational functions, such as marketing, sales, production, product design, procurement, logistics, finance and information technology (Tang, 2006). Fast adaptation facilitated by SCRM is one of the most critical supply chain functions, as unexpected developments can bring just-in-time supply chains to an abrupt halt (IBM White Paper, 2008).

Supply-chain risk sources fall into three categories: environmental (external) risk sources, network-related risk sources, and organisational (internal) risk sources (Juttner et al., 2003). (1) External risks can be driven by events either upstream or downstream in the supply chain. They may include demand risks related to unpredictable or misunderstood customer or end-customer demand, supply risks related to any disturbances to the flow of product within the supply chain, environment risks that originate from shocks outside the supply chain, business risks related to factors such as supplier financial or management stability, physical risks related to the condition of a supplier's physical facilities. (2) Internal risks are driven by events within company control, such as manufacturing risks caused by disruptions of internal operations or processes, business risks caused by changes in key personnel, management, reporting structures, or business processes, planning and control risks caused by inadequate assessment and planning and ineffective management, mitigation and contingency risks caused by not putting contingencies in place (CIPS Australia: Risky Business; Kiser and Cantrell, 2006).

Definition

Supply chain risk management (SCRM) is a set of activities aimed at reducing supply chain risks. These activities often include identifying supply chain risks, assessing the probabilities and the severity of impacts, prioritising the risk event to be dealt with and developing actions for mitigating risks or planning backup actions (Vanany et al., 2009).

Successful application

Implementation of effective SCRM involves three key activities: risk analysis, risk assessment and risk mitigation. Risk analysis is the process of identifying issues that can potentially go wrong and estimating the probability of each happening. Risk assessment is the process of assessing the likely impact of a risk on the organisation. Highly predictable risks may have low impact and low probability risks can have a significant impact. Risk mitigation refers to the development of a contingency plan that must be drawn up. Allocation of risk should be dependent on an assessment of the likelihood of risks, its possible consequences and the identification of those most able to control it (CIPS Australia: Risky Business; Chagares, 2011).

Steps to successful application

1. Profile the supplier base.
2. Assess the supply chain vulnerability.
3. Evaluate implications.

4. Identify mitigation and contingency actions.
5. Implement actions and measures.
6. Analyse costs and benefits.

Kiser and Cantrell (2006)

Hints and tips

- Successful risk management requires a good knowledge of risk management techniques, an analytical mindset, objectivity and confidence to ask the right questions, along with a good knowledge of the employer's business and market (CIPS Australia: Risky Business).
- Before using the appropriate SCRM companies should consider IT issues: software development, information and knowledge technology, basic and advanced applied education programmes (Jaffee et al., 2008).
- Like many skills, effective SCRM improves with experience and so with practice knowing how far to analyse and assess risks will become easier, if not intuitive (CIPS: Risky Business).
- Before using the appropriate SCRM companies should consider potential investments in infrastructure, for example, investments in communication infrastructure, energy infrastructure, informatics and knowledge
- transfer infrastructure, storage and handling facilities, processing facilities and weather stations (Jaffee et al., 2008).
- It is important to consider institutional arrangements, regulatory measures, government policies, property and human rights and labour laws (Jaffee et al., 2008).

Potential advantages

- When applied effectively SCRM can help to identify changes in supply chains, implement treatment plans and reengineer cost effective procurement process to mitigate risk (CIPS Australia: Risky Business).
- The integration of best practice in SCRM can better position the procurement professional to manage stakeholder expectations and to facilitate outcomes that are within the risk tolerance of the organisation (CIPS Australia: Risky Business).
- Monitoring and managing supply chain events with attention paid to potential, predictable and uncertain risk elements generally suggests an improvement in overall supply chain performance (IBM White Paper, 2008).

Potential disadvantages

- Lack of efficient SCRM results in discontinuity in the supply of essential goods or services (CIPS Australia: Risky Business).
- Ineffective risk management can result in project cost and unit cost increases and in the unit costs of purchased inputs, in both the immediate and longer-term future (CIPS Australia: Risky Business).
- Inefficient SCRM can lead to a loss of power and influence in relationships with essential suppliers, loss of market share or revenue through an inability to meet customer demands and, in the end, cash flow problems (CIPS Australia: Risky Business).

Case studies

In 2000 a fire destroyed an electronics component plant in New Mexico which supplied Nokia and Eriksson. Nokia had a risk management programme in place and reacted promptly. Eriksson on the other hand had no contingency plans and experienced product shortages,

leading to a loss of sales estimated at US\$390m. The most significant consequence of this event may have been the subsequent loss of Eriksson's market share dominance to Nokia (IBM White Paper, 2008).

In 1997 raw material and parts shortages resulted in Boeing losing US\$2.6bln because the company had no risk management in place to promptly arrange for alternative supplies (IBM White Paper, 2008).

A fire at Evonik Industries in Germany in March 2012 caused a serious shock to car-makers' supply chains by creating a shortage of a critical resin used in car parts (Financial Times, 2012).

Similarly, in 1997 Toyota halted production for 20 days following a fire at one of its suppliers. This placed the company in a vulnerable position with regards to suppliers and/or customers and further highlighted the need for risk preventions and a choice to diversify suppliers (IBM White Paper, 2008).

Further Reading

Web Resources

[SCRM website and forum](#)

[SCRM blogspot](#)

[Industry week article on SCRM](#)

[Financial magazine article on SCRM](#)

[10 Supply Chain Risk Management Best Practices](#)

Print Resources

Supply Chain Risk Management: Vulnerability and Resilience in Logistics ISBN 978-0749463939

Single Point of Failure: The 10 Essential Laws of Supply Chain Risk Management: The 15 Laws of Supply Chain Risk Management ISBN 978-0470424964

Supply Chain Risk Management: Minimizing Disruptions in Global Sourcing ISBN 978-0849366420

Supply Chain Risk: A Handbook of Assessment, Management and Performance (International Series in Operations Research & Management Science) ISBN 978-0387799339

Supply Chain Risk 978-0754639022

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