Minimizing risk is crucial for anyone in charge of a complex system, and traditional approaches aren’t good enough (Sargut and McGrath)
Introduction

One of the main functions of supply management is to ensure smooth and uninterrupted flows of goods and materials. Today, organisations operate in increasingly complex and uncertain environments with high risks of supply disruptions making supply management an increasingly complex task. The environmental pressures and risks require companies to constantly and consequently analyse and reduce these risks (Ellis et al., 2010).

Supply disruptions can be defined as any unforeseen events that disturb the normal flow of goods and materials in a supply chain. These disruptions can have major negative consequences for the management of operations. For example, they can result in production disruptions and hampered productivity and capacity utilisation. In the longer term supply disruptions can negatively affect the shareholder price and a company’s long-term financial performance. For a purchasing organisation, a supply disruption can also mean inability to meet demand and satisfy customers (Ellis et al., 2010). Supply disruptions can come from a wide variety of sources, including physical damage at production facilities, natural disasters, strikes and labour disputes, capacity issues, inventory problems, incorrect forecasts and delays (Chopra and Sodhi, 2004). Understanding supply risks can enable purchasing organisations to take effective action in response to those risks (Zsidisin et al., 2000).

Risk management should form an integral part of good purchasing and supply practice (CIPS: Risk Management in Purchasing and Supply Management). It is essential to address the 'right' risks and use the 'right' strategies. Thus, organisations should understand the sources and drivers of risk before devising risk mitigation strategies which may require adding capacity, increasing inventories, having redundant suppliers, increasing responsiveness, increasing flexibility, aggregating or pooling demand, increasing capability, or having more customer accounts (Chopra and Sodhi, 2004). Moreover, supply risk management activities can involve process improvement, buffer strategies, forming strategic alliances and developing suppliers (Zsidisin et al., 2000).

Definition

Generally, risk can be defined as ‘the probability of an unwanted outcome happening’. Risk management involves three key activities: risk analysis, risk assessment and risk mitigation (CIPS: Risk Management in Purchasing and Supply Management).

Successful application

For optimal implementation, it is important to allocate risks to specific persons and/or departments that are best placed to manage them effectively. Risk management can generally be implemented in three phases: risk analysis, risk assessment and risk mitigation (CIPS: Risk Management in Purchasing and Supply Management).

Steps to Successful Application

1. Risk analysis: identify potential problems and estimate their probability of occurring.
2. Risk assessment: estimate the impact of a potential supply problem (glitch or disruption) on company operations.
3. Risk mitigation: design plans to prevent potential supply disruptions and allocate risks and responsibilities to people/departments that will be responsible for their management.

CIPS: Risk Management in Purchasing and Supply Management
Hints and tips
It is important to allocate responsibilities for management of risks to the individuals and departments best suited to manage them (CIPS: Risk Management in Purchasing and Supply Management).

Choosing the appropriate risk mitigation strategy is essential (Chopra and Sodhi, 2004). Risk management requires certain knowledge of risk management and risk mitigation techniques (CIPS: Risk Management in Purchasing and Supply Management).

Insurance can be one way of supply risk mitigation (CIPS: Risk Management in Purchasing and Supply Management).

Potential Advantages
Risk management can help companies ensure the smooth and successful running of purchasing and supply operations (CIPS: Risk Management in Purchasing and Supply Management).

Risk management can contribute to the resilience of a supply chain as a whole and to business continuity (Christopher and Peck, 2004).

Successful prevention and mitigation of supply chain risks can help ensure good financial performance and shareholder wealth (Hendricks and Singhal, 2003).

Potential Weaknesses
Even though many risks can be effectively addressed with risk management strategies, it is impossible to completely eliminate supply risks (Zsidisin et al., 2000).

Individual risks are often interconnected: actions that mitigate a particular type of risk can in fact increase another type of risk (Chopra and Sodhi, 2004).

Risk mitigation usually requires considerable investments and can sometimes come at the price of eroding profits (Chopra and Sodhi, 2004).

Performance Monitoring
- Probability of a supply disruption (in %) (Zsidisin, 2003).
- Impact of a disruption: can be expressed as loss in profits, or days of production lost (Zsidisin, 2003).
- Frequency of supply disruptions (Chopra and Sodhi, 2004).
- Duration of a disruption, that is, days, weeks (Chopra and Sodhi, 2004).
- Reduction of shareholder prices (Ellis, 2010).

Case Studies
Toyota suffered a major supply disruption caused by power cuts following an earthquake in March 2011. As a result Toyota (along with other car manufacturers) was forced to cut production at their plants. The company had to operate at 50% of its normal production volumes and its operating profit was reduced to £3.5b from the predicted £4.1b (SupplyManagement.com, 2011).
In 1998 Hurricane Mitch caused complete disruption of banana production at many plants in Central America resulting in a prolonged supply disruption for Dole and Chiquita, two major banana suppliers. For example, Dole lost 70% of its regional supply, suffered a 4% decline in revenues, and lost over US$100m (Tomlin, 2006). In 1997 a fire at a parts factory of Aisin Seiki Co. Ltd., one of Toyota’s key suppliers, forced Toyota to shut down production in 18 of its Japanese plants for two weeks. This cost Toyota US$195m (Chopra and Sodhi, 2004; Tomlin, 2006).

Further Reading

Web Resources
- World Economics Forum: Overview of supply chain and transport risk
  kburl.me/s7x1a
- Preparing for supply disruption
  kburl.me/rjxyo
- How global supply chains are being tested by major upheavals in the world economy
  kburl.me/zxa1c
- Supply Chain Risk Insights: Magazine
  kburl.me/libgi
- The Institute of Risk Management
  kburl.me/ajgd7

Print Resources
- Practical guide to risk-aware procurement
- Risk management in supply chain: A practitioner’s perspective
- Guide to the essential elements of managing global supply risks
- Identifying, measuring, mitigating and financing risk
- Supply chain risk: Collection of research

References

CIPS: Risk Management in Purchasing and Supply Management.


Risk Management in Purchasing and Supply Management - Key Procurement Topic


