Supply Chain
Risk Management

ZURICH®

Why leading companies are taking an interest in supply chain risk management

Contents

Welcome

The interconnectivity of today's global economy poses major financial and reputational risks to companies. Strategies such as outsourcing, offshoring and just-in-time sourcing can create corporate efficiencies, but they can also increase vulnerabilities to supply chain disruptions and expose companies to global risks irrespective of where they are operating.

Beyond the immediate loss of revenue, these disruptions can also result in long-term effects such as damage to reputation, shareholder concern and increased regulatory scrutiny. Both these short- and long-term effects underscore why it should be a high priority for risk managers to help develop a resilient program to protect an organisation's supply chain from the impact of unpredictable events. Protecting the supply chain is critical to business performance, as is knowing the location and other risks faced by key suppliers. Knowing how their failure would influence the performance of the risk manager's organisation is key.

Risk teams have a significant opportunity to work with their supply chain experts to improve the performance of their business operations in the area of supply chain risk. In this white paper we explore the growing importance of supply chain risk management in view of the impact of disruptions to an organisation as well how the steps that can should be taken to assess and mitigate supply chain risks.

Nick Wildgoose
Global Supply Chain Product Leader
Zurich

Why are leading companies taking an interest in supply chain risk management?

Numerous surveys of risk managers and senior executives for large companies have found that supply chain management has become a significant strategic challenge and financial cost. Both the frequency and impact of supply chain disruptions is high as evidenced by the BCI Annual Supply Resilience Survey. Further details on the survey are provided below. A well-managed and properly insured supply chain can be a competitive advantage. A more resilient enterprise is better able to anticipate surprises, recover from disruptions, adapt to changing conditions and leverage emerging opportunities.

Supply chain disruptions can be triggered by a number of reasons beyond just physical damage at a supplier site, including such diverse issues such as:

- natural catastrophes
- IT failures
- power failure
- labour disputes
- transportation problems
- delays at supplier's suppliers
- supplier insolvency
- piracy
- political risk
- accidents or production problems
- machinery failure at critical suppliers.

Rising business interruptions

According to the 2013 Supply Chain Resilience survey conducted by the Business Continuity Institution, 75% of their respondents had experienced a business interruption in the last 12 months. The report also found that of the causes of disruption, unplanned technology and telecoms outages were the most significant cause of disruption, with 55% reporting high or some impact from such a disruption. Adverse weather was second, with 40% of those affected acknowledging high or some impact.

Outsourcer service failure was third, with 35% of respondents reporting high or some impact. It is also important to understand that many of these disruptions (around 40%) are not caused by a company's direct supplier, but are actually the fault of suppliers lower down in the supply chain, over which a company may have limited insight or influence.






The impact of supply disruption

There are an increasing number of incidents which provide insights into the surprising nature of supply disruptions. Here are a few examples:

- An international electronics company maintained a single source of supply for a critical component. After a fire at the supplier's plant, the company lost USD400 million in sales, and subsequently had to shut-down an entire business line.
- A petrochemical company suffered a three month delay to the start of a USD2.8 billion oil project in Brazil because the delivery of the platform and rig fell behind schedule.
- Following an earthquake in Chile, both a mining site and its nearby chemical supplier were thankfully unharmed. However, the bridge between the two firms was damaged, so goods could not be transported and the mine suffered losses.
- A fire at a plant in South Korea contributed to a shortage of notebook computer batteries and slowed market growth for ultra-low cost notebook computers and ultra-mobile personal computers.
- An aerospace company had to buy out a critical supplier after they went into Chapter 11, because of the threat to their production.
- The sinking of one vessel stopped the production lines of a major automotive company.
- An international consumer electronic goods manufacturer/supplier experienced manufacturing issues at a plant producing a key system component, resulting in a three month delay in a new product launch in Europe.

When a needed supply is not received when it is expected or the quantity is less than expected... or the quality is not up to standard, the consequences are not only a loss of sales and profits. Supply chain disruptions can also have a number of other adverse consequences including:

- loss of customers and market share
- damage to image, reputation or brand
- reduced share price
- higher cost of capital
- inability to maintain customer services
- failure to meet legal or regulatory requirements
- delays in projects, products or other strategic growth plans
- lower employee morale.

These issues, together with increased demand from the end customer to ensure that the supplier they are using is resilient, has led to supply chain resilience being regarded as a potential source of competitive advantage.

Time for a focused integrated strategy

In an increasingly globally and interconnected world, companies must look beyond isolated risks to see how a problem in one area of a supply chain might affect their entire business or industry. Taking supply chains into account when formulating business strategy is critical. Assessing the likelihood and repercussions of supply chain failures before they happen is an important part of corporate planning that can also give a company a superior position versus their competitors.

In view if this, forward thinking companies are turning to supply chain management processes that take into account risk to help protect their businesses.

Supply chain risk assessment benefits

Zurich's supply chain risk assessment aims to support a company in enhancing the understanding, efficiency and reliability of its supply chain risk processes. Zurich's proven analysis offers a structured approach to delivering an improved supply chain risk management framework, and can help enable a firm to apply the skills necessary to define and communicate the most important supply chain risks within its operations. This will allow integration of a robust risk-based approach into procurement processes and provide more added value to the business.

Zurich's supply chain risk assessment:

- facilitates appropriate optimization of your supply chain activities, which are key profitability drivers
- builds a framework for on-going supply chain analysis, using a repeatable approach
- provides greater understanding of the supply chain vulnerabilities covering both likelihood and severity
- quantifies scenario-based financial impact figures for potential disruptions
- identifies and prioritizes mitigation actions
- puts risk insights into specific aspects of a supply chain, including areas of residual risk
- increases transparency and rational supply chain decisions through risk understanding
- provides benchmark information for evaluating improvements
- enables proactive alerts of the risks faced, through development of a Business Continuity Management plan
- assembles and presents supply chain exposure information in a single data model, when using supply chain risk assessment results to feed our proprietary Business Interruption Modelling software and drive continuity plans
- helps manage enterprise resilience and maximizes strategic growth opportunities.

What and how can Zurich's supply chain risk assessment help?

The objective of Zurich's supply chain risk assessment is to ensure that value chain exposure are more accurately anticipated and measured, planning and response is enhanced, and appropriate levels of business resilience can be achieved. It is useful to outline what a supply chain risk assessment might look like, so an outline of the six stages is set out below:

1. Develop a supply chain/value chain map

Using specialist mapping tools where necessary, this stage provides the foundation for subsequent assessment. It will develop a visual representation of the key value flows in the supply chain with a focus on key outputs rather than procurement spend. It will enable the definition of a clear scope for the exercise and clarify the critical points of supply. In addition it will establish the basis for evaluating potential financial impacts of certain scenarios to be defined later.

2. Gather critical supplier details

Data templates and questionnaires should be used to establish what is known about critical supplier/supply and identify information gaps. A supplier market overview will be developed, using data sources as needed, to examine external exposures related to the identified supplies/suppliers, offering potential additional insights around industry issues possibly at tier two or three in the relevant supply chain.

3. Evaluate risk factor information

You need to consider a comprehensive range of supply chain risk factors. A range of these can be used in interviews or workshops as appropriate to identify the extent to which supply chain exposures are managed within your existing management controls, covering areas including procurement, logistics, business continuity, regulatory, commercial and security. In addition, supplier management practices and relationships will be explored.

4. Define and evaluate risk scenarios

The information gathered in the previous stages should be presented back to relevant participants in a workshop with the aim of establishing a supply chain risk register. Using your own risk methodology or another established process such as Zurich's Total Risk Profiling (TRP) as required, a set of risk scenarios will be defined, profiled and prioritised and a risk tolerance established. Quantification of the scenarios (financial impact) will be generated using the outputs from stage 1.

5. Develop supply chain risk scoring and prioritisation

A supply chain framework forms the basis for reporting the outputs of the above workshop, identifying risk management gaps and possible remedial actions. It also provides a benchmark view against best practice.

6. Set out risk mitigation strategies

Development of your risk mitigation strategies will follow from the above process, allowing clear, prioritised actions to be developed.

The proposed activities will address a range of critical supply chain elements for example:

- Analysis of the tier one production facilities in terms of natural catastrophe exposures as well as other tiers where appropriate.
- Financial analysis of the key suppliers beyond tier one where this is appropriate.
- Assessment of the business continuity arrangements of critical supplier(s).
- Further insights into the landscape of the industry in which critical suppliers operate.
- Understanding of the loss implications of a key supplier failure.
- Insights into the political and other generic risks associated with your supply chain.

How can I do an initial health check on my supply chain?

The first step to optimizing your value chain may be to start taking a risk-based approach. To support you, Zurich has developed a simple initial check list on some of the things you can consider putting into place to help improve your supply chain risk management process:

	Yes	No
1. Do you know who your critical suppliers are and how much their failure would impact your company's profits?		
2. Have you fully mapped your critical supply chains downstream to the raw material level and upstream to the customer level?		
3. Have you integrated risk management processes into your supply chain management approaches?		
4. Do you have routine timely systems for measuring the financial stability of critical suppliers?		
5. Do you understand your tier 1 production facilities and logistic hub exposures to natural catastrophes?		
6. Is supply chain risk management integrated into your enterprise risk management approach?		
7. Do you record the details of supply chain incidents and the actions you have put in place to avoid future incidents?		
8. Do your tier 1 suppliers have business continuity plans that have been tested in terms of their viability?		
9. Have you provided risk training to your supply chain management team?		
10. Is risk on the agenda at performance meetings with your strategic suppliers?		

Your supply chain 'Health Indicator'

How many 'Yes' answers did you score?

8-10 You probably have a good understanding and control over the risks you face.

5-7 You may have key gaps which could impact your reputation or profitability.

3-4 You may want to do an immediate review of your supply chain.

0-2 There are some basics you may want to consider.

Further information

Visit **www.supplychainriskinsights.com** or contact:

Nick Wildgoose
Global Supply Chain
Product Leader, Zurich
nick.wildgoose@uk.zurich.com

Hassan A. Karim
Senior Global Underwriter,
Supply Chain Insurance
hassan.karim@zurich.com

Ronnie Tong
Chief Underwriting Officer,
Global Corporate, Asia Pacific
ronnie.tong@zurich.com

Mervyn Rea
Head of Customer Management
(Risk Engineering), Asia Pacific
email: mervyn.rea@zurich.com.au

138177A01 (12/14) ZCA

ZURICH®