February, 2011

Supply Chain Risk: Hidden Exposures for Your Company

Introduction

Senior leadership consistently ranks supply chain risk as one of the top 10 business risks they face. Managing supply chain risk must be part of any comprehensive risk management assessment in order to protect the integrity of a company's product-to-market process. In today's increasingly global economy and with just-in-time inventory being used by many organizations, mitigating supply chain risk is vital to an organization's survival. Surprisingly, only a small percentage of management teams completely understand how vulnerable their supply chain (and each supplier's supply chain) is to a disruption event. Your company must build a resilient supply chain to ensure the timely delivery of goods and services to the market. Additionally, you must anticipate events that could change the cost or availability of materials.

A supply chain is "[t]he network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer."[1] Increasingly, businesses are taking a comprehensive approach to identifying and managing supply chain risks. This article will help your company develop a formal process to:

1. Identify the risks at each level of your supply chain;
2. Assess how likely each risk event is to occur;
3. Assess the harm your business would suffer from each risk event;
4. Identify strategies to avoid or minimize the loss from each risk event
5. Monitor the results and review periodically.

Types of Risks to Consider

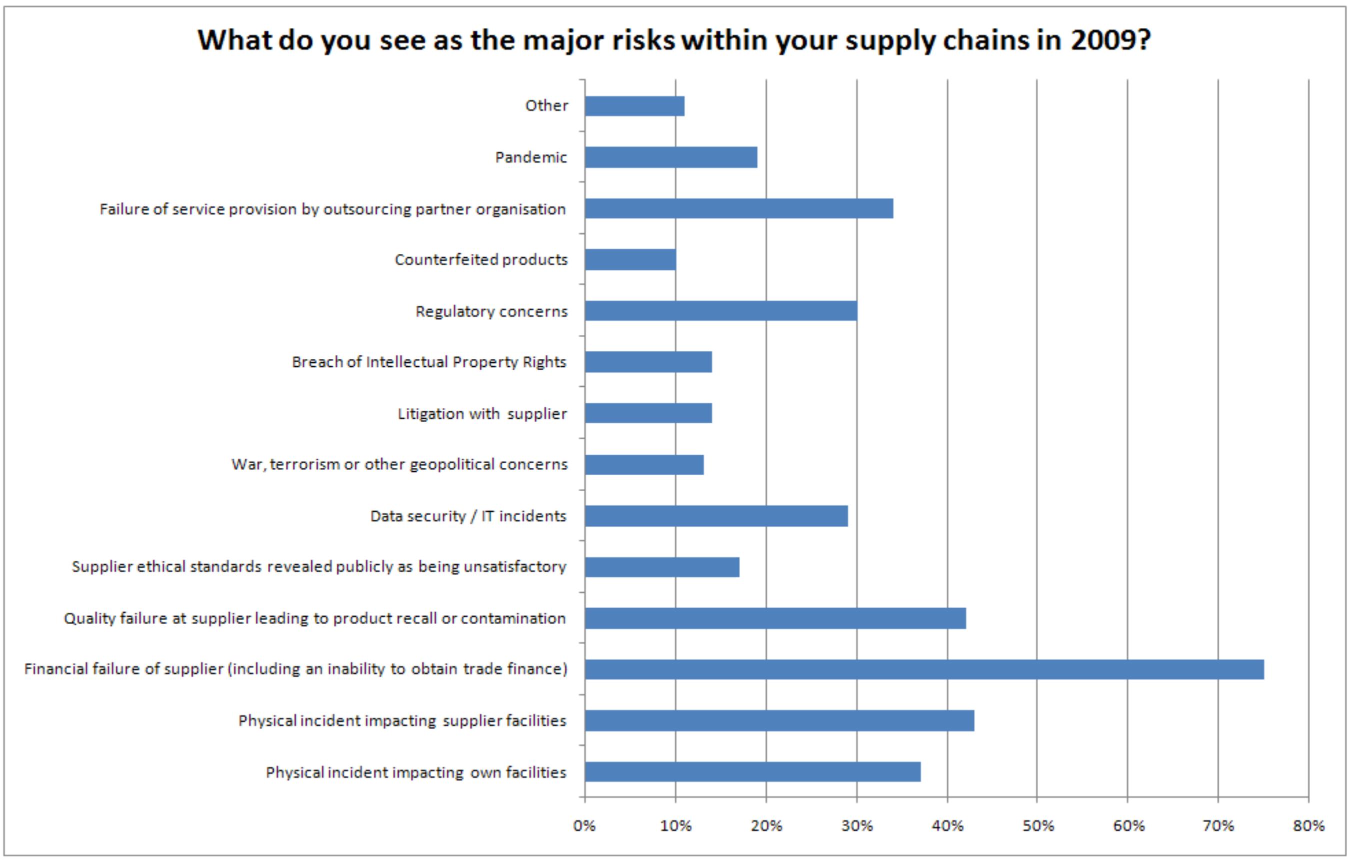
Risks to the supply chain are not just physical in nature. The Economist Intelligence Unit Survey[2] reported that some of the biggest threats to the resilience of respondents' supply chains are 1) unfavorable exchange rate movements; 2) input price increases; 3) energy price increases; 4) insolvency of suppliers; 5) labor shortages; and 6) political and social unrest. Similar concerns were outlined in Aon's 2009 survey, "Risk in 21st Century Supply Chains."[3] Seventy Five percent of the companies surveyed viewed supplier financial failure as a key risk area.

Increasing globalization brings a broad range of issues requiring increased vigilance. Political instability threatens supply chains. One need look no further than recent events in Egypt and the Middle East and their almost overnight impact on commodity prices to understand that businesses which rely on global supply chains face increasing uncertainties. Natural disasters such as the recent earthquake in New Zealand can have devastating effect on a company's ability to supply. Planning for just these sorts of events must occur in advance of the actions to ensure your supply chain remains viable. The speed in which a natural catastrophe or political event can impact the supply chain underscores the need to proactively plan for contingencies and recourse.

If properly identified and quantified, trade disruption, trade credit and contract frustration are all risks that can be mitigated through insurance. Insurance for trade disruption exposures can help prevent loss of gross earnings and extra expense caused by a delay or non-arrival of goods from foreign locations due to government action or inaction. Questions like, "What is the intended delivery route?" help determine the journey's risks and what potential, lower-risk alternatives exist. When evaluating the impact of a political disruption event, do not overlook risks such as embargos, expropriation, nationalization, third-party blockade or quarantine, piracy or the inability of the shipping party to obtain an export license.

As part of your company's sourcing practices, assess the robustness of your vendors' supply chain risk management practices to determine vulnerabilities. You may be able to work with key suppliers to help them improve the way they identify and manage risk, which in turn will reduce your supply chain risk.

In addition to the risk areas explicitly highlighted in Aon's 2009 survey results below, other reported risks include a lack of competition for supplies, theft, hijacking, robbery and fraud, security of power supplies, loss of intellectual talent, industrial actions such as labor strikes and abnormal increases or reductions in demand.



Map the Risks – Consider the Impact

You can draw your company's supply chain as a flow chart that includes your vendors and their suppliers, contractors, transporters and customers. This chart is unlikely to be linear, but rather will probably resemble a tree with multiple branches and a complex root system. Ultimately, you must examine each node of the chart (suppliers and consumers) to assess:

1. The ownership of the goods at this point;
2. How a supply chain disruption event will result in adverse financial impacts to your company.

You should consider **direct costs** (loss of goods) and **consequential losses** such as loss of income, potential cancellation of a supply contract (and loss of client), penalties for failure to supply and other risks.

With the diversity of vendor sourcing and an increase in outsourcing, supply chain risks are growing. Your company should identify all single-source suppliers throughout the company's supply chain. In each case, look for additional sources or consider some type of contingent loss-of-income expediting expense or extra-expense insurance coverage to mitigate the financial impact of risk. A risk review exercise should thoroughly assess each supply chain structure, determining how susceptible your program is to a serious disruption arising from risks within or external to the supply chain. Carefully examine supply chain processes to identify critical dependencies and the financial impact that a breach of these dependencies would have on your company. Examine the various material supply risks that threaten your vendors and insist that they have a solid risk mitigation plan as part of any commercial arrangements you have with the counterparty.

The Process

Once your company's leadership grasps the importance of supply chain disruption, senior leaders must extend the risk management process to include its entire management team, from senior managers to front-line supervisors. Executive management must champion this effort and create a cross-functional, inter-departmental team to perform the risk analysis and planning. An experienced risk management consultant can facilitate the process to ensure that it is practical, remains commercially grounded and achieves the desired results.

In order for your company to properly assess its supply chain risk and develop a sustainable risk management process, you must consider several key areas.

- Understand where your company is in the maturity curve of this process. Have you approached this subject before? If so, can employees or consultants who participated previously furnish guidance, either anecdotally or from previous documentation?
- Establish a cross-functional team including finance, procurement, risk management and potentially legal counsel to "tabletop" the exercise and develop up with management recommendations. Be sure to include supervisory personnel who have intimate knowledge of your processes and experience with your vendors.
- Understand your sources of supply and prioritize them according to their economic value to your organization.
- Review existing processes and stress test each against a disruption-event scenario to assess what the financial impact will be on the organization.
    - Assess plants, warehouses and stores for the company;
    - Assess direct suppliers;
    - Assess the critical direct suppliers of your suppliers;
    - Assess all transportation and logistics providers;

The Risk: What can happen and how it can happen	Source of Risk	Likelihood	Impact	Inherent Risk Level	Mitigation Strategy	Likelihood	Impact	Residual Risk Level
Supplier becomes insolvent	Financial	3	5	**15**	Alternate Supplier Arranged	1	2	**2**

- Build a reporting structure and risk scorecard to memorialize processes you considered and issues that were identified and mitigated.
- Establish risk management standards for new vendors. Embed risk management activities and responsibilities into existing supply chain process functions – develop a simple vetting process that allows a “go” or “no-go” decision.
- Perform periodic reassessments of your overall supply chain risk and the fundamental risk management process used for the assessment.

When analyzing your risks, it is generally thought that a divergent approach will yield more disruptive event scenarios than a convergent approach. The convergent approach asks:

> *“Here is our supply chain. What could go wrong with it and what would be the cost of the harm done?”*

The divergent approach starts with an exposure – your company’s reputation for instance — and imagines all of the supply-related events that could happen to tarnish it.

> *“Our reputation is exposed to the actions of others. How many things can we think of that will damage our reputation if they happen?”*

You can use a “risk register” to facilitate this process. This is simply a prioritized list of risks that can impact the organization. The risk register documents each risk and assigns its likelihood and impact. Multiplying these values yields the event’s inherent risk score. Next, document the proposed mitigation strategy, which should result in lowered likelihood and/or impact levels, which yields the remaining “residual risk” score. For example, insuring against an event does not change its likelihood; it simply reduces its financial impact. On the other hand, finding an alternate supplier for a key component lowers both the likelihood of supply chain disruption and its impact. The risk register provides a framework that allows your risk management team to reassess evaluations as time passes and your risk data matures.

The elements of a proper risk register begin with an assessment of the financial impact of an event to the organization. Next, consider the acceptable threshold of risk tolerance for managers, executives and the Board. How can an effective mitigation strategy make an otherwise unacceptable risk into one that the company can tolerate?

Best practices to mitigate the financial impact of certain risks include:

- Improve collaboration with suppliers and partners;
- Shift from single to multiple suppliers to minimize over-dependency and related vulnerability;
- Benchmark the performance of suppliers to allow an “early warning system” that may signal a more systemic failure;
- Conduct a risk audit of key suppliers and develop a risk/reward score to evaluate outsourcing and the use of third party providers;
- Complete a formal mapping of the supply chain including a risk register;

- Review risks and penalties in contractual agreements and use broad wording in force majeure clauses when available;
- Evaluate the intended delivery route for risk factors;
- Evaluate IT security and the ability to track/re-route goods while they are in process or in due course of transit.

Conclusion

We have shown that risks within your supply chain can pose significant and sometimes hidden risks for your company and can greatly complicate delivering your goods and services to the market. Using simple tools like the risk register, along with a rigorous analysis of your up- and downstream suppliers and their processes and associated risks, company leadership can better recognize the impact of their supply chain risks and develop strategies to mitigate them. This will help your company create more effective and harmonious business relationships with your suppliers and your customers.

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[1] Christopher, Martin, *Logistics and Supply Chain Management*, Pitman Publishing, London (1992)
[2] Survey from *The Economist Intelligence United Limited* (2009), cited in “Managing Supply Chain Risk for Reward.”
[3] Aon Global “Risk in 21st Century Supply Chain” (2009)