SUPPLY CHAIN

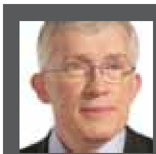
PROTECTING YOUR PROFITS FROM SUPPLY CHAIN DISRUPTIONS

Successful supply chains rely on efficient risk management, as **Nick Wildgoose** explained at a recent faculty event. Below he outlines finance's key role in conveying the potential impact of supplier failure (now so obvious, following recent events in Japan) and preparing for any necessary actions.

Most companies are seeking to reduce costs and improve working capital management while at the same time relying increasingly on their suppliers. This reliance on suppliers is likely to involve a combination of some of the following aspects:

- global sourcing;
- single sourcing;
- partnership approach; and
- just in time (JIT) operations.

These operations are being carried out against a current background of market shortages and complexities within supply chains. Hence the actions you are taking to drive out costs from a supply chain are likely to be driving risk in.



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Have you thought about the impact supply chain disruptions can have on your company performance? When PwC did some work in the US looking at 600 companies during the period 1998 to 2007, it found that for companies that had suffered a supply chain disruption the share price fell 9% against a benchmark group.

There are also academic studies which show even more significant negative effects. For example, among the key findings of Vinod Singhal and Kevin Hendricks' 2005 study 'The Effect of Supply Chain Disruptions on Long-term Shareholder Value, Profitability, and Share Price Volatility', was that companies suffering from supply chain disruptions experience 33% to 40% lower stock returns relative to their benchmarks over a three year time period (taken from one year before to two years after announcement of the disruption).

So it is clear that a supply chain disruption will have a very definite impact on your shareholder value. The next question you will be asking yourself is 'how likely is it that my business will suffer a supply chain disruption'?

The answer, unfortunately, is 'Quite likely'. (If you doubt that, take a look at Box 1, 'Effect of supply chain disruption', opposite.) A recent Business Continuity

Institute Survey in October 2010 indicated that over 70% of companies had experienced supply chain disruption over the past 12 months and many had encountered multiple disruptions.

In light of these findings it is critical that steps are taken to protect your supply chains against potential disruption. Box 2, right, is a simple health check to assess how disruption-proof your supply chain is.

Box 1 EFFECT OF SUPPLY CHAIN DISRUPTION

Zurich, working with leading academics and using publicly available data, has developed a supply chain database of over 2,400 disruption events that have occurred in recent years. This database continues to grow and show the fragility of supply chains. For example:

- following the 2010 volcanic ash incident – despite the limited timescale of the event, and the fact that its primary effect was only on one form of transport – automotive companies were among the many impacted by having to shut down production lines;
- a major aerospace company with a key dependence on a particular supplier had to buy out the supplier after it went into Chapter 11; and
- a major UK toy company suffered a significant profit hit after a supply failure caused by the IT system at a key supplier.

So it could happen to you!

Box 2 ZURICH SUPPLY CHAIN HEALTHCHECK

- Do you know who your critical suppliers are, and how much their failure would impact your company's profits? **YES / NO**
- Have you fully mapped your critical supply chains upstream to the raw material level and downstream to customer level? **YES / NO**
- Have you integrated risk management processes into your supply chain management approaches? **YES / NO**
- Do you have routine, timely systems for measuring the financial stability of critical suppliers? **YES / NO**
- Do you understand your tier 1 (ie, those supplying you directly) production facilities and logistic hub exposures to natural catastrophes? **YES / NO**
- Is supply chain risk management integrated into your enterprise risk management approach? **YES / NO**
- Do you record the details of supply chain incidents and the actions you have put in place to avoid future incidents? **YES / NO**
- Do your tier 1 suppliers have business continuity plans that have been tested in terms of their viability? **YES / NO**
- Have you provided risk training to your supply chain management team? **YES / NO**
- Is risk on the agenda at performance meetings with your strategic suppliers? **YES / NO**

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 a number of key gaps which could impact your brand or profitability.
3-4: How are you sleeping at night?
0-2: Good luck!

‘A recent survey indicates that over 70% of companies have experienced supply chain disruption over the past 12 months and many had encountered multiple disruptions’

Which suppliers should you focus on?
The diagram below was developed nearly 25 years ago by a McKinsey consultant called Kraljic. This diagram can also be used to map the risk and profit impact of a supplier failure. You need to focus your supply chain risk management efforts on suppliers in the Bottleneck and Strategic boxes. These are the suppliers that are difficult to replace and whose failure would have a significant impact on your profit and performance. You need to focus on these key suppliers by taking a top-down view of your most profitable product or service and understanding which are the suppliers that support it and would also be difficult to replace.

Once you have established the strategic suppliers on which you need to focus, you will want to know how you should go about assessing these key suppliers in terms of seeking to ensure they do not cause you a significant financial disruption. The importance here is the breadth of your risk assessment. For this article I have summarised more than 20 risk factors into five risk categories.

Supply chain risk assessment evaluates procurement and interdependency information to calculate specific potential loss scenarios. Information such as locations, transportation details, business terms and even financial statements, may be needed to identify supplier bottlenecks and optimise improvements in your risk mitigation.

This supply chain evaluation provides vital input into an overall business impact analysis, to enable you to better understand your total cost of ownership for goods and services. The recommended mitigation solutions can then help you optimise your supplier network to protect your profitability from breaks in the chain.

Figure 1 IMPACT OF SUPPLIER FAILURE

Supply market complexity \ Annual spend	Low	High
High	**Bottleneck** Bottleneck items where the cost is not great but we are tied to a particular specification or supplier	**Strategic** Critical high value items where we need to apply proper techniques and the appropriate tools
Low	**Non-critical** ‘Minimise the effort’ items where managing the spend using sophisticated approaches is not worth the time or the effort	**Leverage** Segment where the risks are low, ie there are plenty of suppliers around all anxious to bid for the work

Risk categories to consider
The individual risk factors which arise separately within each of the five supply chain risk categories are:

1. Industry – supply-specific exposures
- Geographical/economic/political, eg regulatory; fiscal; trade (embargo); raw material dependencies; pollution; natural catastrophe.
- Structural, eg generic sensitivity to disruptions; product or supply chain maturity; supply concentration or complexity; M&A activity; inventory/capacity levels; demand patterns (such as reliability, variability, life cycles, competition); supply failure record.

2. Supplier-specific exposures
- Geographical/economic/political.
- Structural, eg source of supply/routing; regulatory/fiscal; trade (embargo); raw material dependencies; pollution; natural catastrophe.

3. Management controls – supplier management
- Supplier management, selection and monitoring; supply chain management (inventory, key performance indicators (KPIs)); infrastructure.

4. Management controls – risk management
- Enterprise risk management (ERM); business continuity management (BCM); commercial risk; personnel risk (such as intellectual property (IP), skills, labour availability, industrial relations); vulnerability to accidents/errors; vulnerability to malicious intervention; obsolescence/legacy issues.

5. Suppliers’ supply chain management
- Management issues (suppliers), eg relationship (influence, maturity); BCM evaluation; capacity/capability; financial strength; health, safety and environment; corporate social responsibility (CSR), supplier’s supplier management; ‘problem’ processes.

Supply chain risk assessment challenges:
Some of the things you may need to do to complete a thorough supply chain risk assessment are:
- map the interdependencies between strategic suppliers and their own suppliers. It is not good enough for suppliers that support a significant part of your profitability to stop at your direct suppliers. You should have a good understanding down to the raw material level;

> ‘Better understanding of your supply chain is not just about risk management; it is also about performance management’

- have the right skills and tools on the team – ie finance, operations, sales, risk and supply chain;
- take a cross-functional approach;
- develop solutions for example appropriate business continuity plans, dual sourcing and appropriate supply chain finance arrangements.

In assessing your supply chain risks you should consider the following:
- information/financial flows;
- assets and infrastructure;
- organisations and inter-organisational networks; and
- macro issues including economic and political.

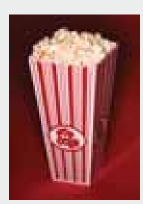
Mitigation of risk
Here are some examples of the significant benefits achieved by companies who have taken steps to protect their supply chains:
- two key suppliers at the next level in the supply chain below those suppliers directly supplying the customer were found to be in significant financial trouble; this discovery allowed the customer to take action;
- actual reliance on one supplier was revealed to be significantly greater at 70% than the direct supplies to the customer of 20% (after having mapped out the flow of critical goods in other parts of the supply chain). This enabled the customer to take active steps to reduce this reliance and manage the risk;
- exposure due to potential failure of a supplier was 900% higher than initially estimated – ie $10m vs $1m – which obviously created a change in the way in which the supplier was managed; and
- company discovered that a key component supplier and the alternative supplier were located in the same earthquake zone, having previously performed no checks on the suppliers’ production facilities in terms of exposure to natural catastrophes.

The benefits of understanding your supply chain
The benefits of understanding your supply chain better and reducing disruptions include:
- reduction in the need to incur costs to deal with disruptions;
- protection of share price;
- ability to focus cost saving and working capital improvement activity on the appropriate suppliers in your supply chain;
- protection against reputational damage;
- avoidance of impact of failure to supply a customer;
- understanding of the profit impact of a key supplier failure, enabling the making of appropriate investments to protect them;
- knowledge of the businesses’ single points of failure, so that you can set up proactive alerts and other mitigation steps to reduce the frequency and impact of disruptions.

Conclusion
Better understanding of your supply chain is not just about risk management; it is also about performance management since you are increasingly competing through your supply chains. The finance team can perform the critical role like the conductor of an orchestra bringing together the different functions of operations, supply chain, risk and sales to have a common understanding of the impact of a supplier failure and putting into place the appropriate actions. Do not miss this opportunity as a number of your competitors have already started on this journey.

FURTHER READING
For more background information on supply chain risk see www.supplychainriskinsights.com

WEBCAST – SUPPLY CHAIN DISRUPTIONS



Prepare your popcorn! A short webcast ‘Protecting your profits from supply chain disruptions’ will shortly be available on the faculty website at icaew.com/fmwebcasts. The full lecture was originally presented at Chartered Accountants’ Hall, London on 26 January 2011.