Special Report

Supply chain risks

SUPPLY CHAIN RISKS

HOW ROBUST ARE YOUR SUPPLIERS, THEIR SUPPLIERS … and the suppliers behind them? The trend to source globally has increased as corporations strive to preserve, if not improve, profitability. But cost advantage can come at a price.

Risk managers are increasingly aware of the difficulties in managing supply chain risks. Apart from quality control and intellectual property protection, they are looking harder at the aftermath of disasters like the Japanese earthquake and tsunami.

While natural catastrophes are fairly common in some less developed areas of the world, this year has shown developed countries are also vulnerable. Floods in Australia, the New Zealand earthquake and the Japanese disaster highlighted, there can be risks wherever you or your suppliers are located. Meanwhile, the Intergovernmental Panel on Climate Change warns that the economic cost of future extreme weather could run into billions.

It seems some global companies have chosen a bad time to reduce control over supply networks. How effectively they can manage and monitor the risks is questionable in the light of Japanese companies' experience. For example, major motor manufacturers and electronics businesses suffered considerably from disrupted production when the earthquake and tsunami struck earlier this year. They are now suffering again because of the floods in Thailand affecting production hubs there.

Unfortunately, the factors that drive cost cuts also tend to increase risks. For example, while it is generally cheaper to buy most products and components in bulk from a single supplier, this leads to greater dependence on a few producers – and reduced flexibility to switch sources if disaster strikes.

Further, putting pressure on suppliers to reduce price can start a chain reaction through the network, with small companies tempted – or even forced – to cut corners to save money.

Some risk managers are looking to insurers for solutions. But this is a ball that underwriters may be reluctant to catch. SR

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This special report has been produced with input from:
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LOGISTICS

As strong as the weakest link

Outsourcing overseas, just-in-time delivery and moving to single suppliers have all been factors in an increased supply chain risk. And, as recent events have shown, when things go wrong it can be devastating

"A MAJOR CONCERN FOR everybody is that supply chain issues are becoming much bigger on the radar than they used to be. From being a medium sized risk, these have grown and it is recognised that they can take catastrophic proportions." So warns AXA Matrix Risk Consultants head of R&D Bernard Laporte.

Supply Chain Resilience 2011, a survey of more than 550 organisations in over 60 countries published in November by the UK Business Continuity Institute, shows that 85% of respondents suffered at least one disruption in the last year.

Forty per cent of analysed disruptions originated below the immediate tier one supplier, while supply chain incidents led to a loss of productivity for almost half of businesses, along with increased cost of working (38%) and loss of revenue (32%). For 17% of respondents, the largest single incident cost at least €1m (£860,000). Of those with weaker supply chains, the number hit by higher costs almost doubled to 32%.

While natural catastrophes, including adverse weather, are frequently blamed for supply chain problems, the real cause lies in the way businesses are run today, says Lockton partner Ian Canham. "Companies in the last 10 years have been stretching the supply chain, moving to just-in-time deliveries, and becoming much more single supplier oriented, focusing particularly on suppliers in the developing world," he says.

'Businesses have made these changes for good economic reasons but they haven't taken into account the full extent of the risk they are taking on'

Ian Canham Lockton

"Businesses have made these changes for good economic reasons, but they haven't taken into account the full extent of the risk they are taking on," he adds. Such risk stems not only from suppliers based in catastrophe-prone regions but may also stem from regulatory issues, as quality standards may not be as high as in developed countries.

PLANNING

Learning the hard way

Natural catastrophes, such as this year's earthquakes in Japan and New Zealand and floods in Australia, have awoken risk managers to the need for business continuity planning should the worst happen

NATURAL CATASTROPHES IN 2011 – and in particular the Japanese earthquake and tsunami – have highlighted many companies' supply chain vulnerabilities. President of Ferma and Pirelli director of group risk management Jorge Luzzi describes recent events that have had the most impact for European companies' supply chains.

"Over the last two years it has been the earthquake and tsunami in Japan in March 2011, the floods in Australia during the winter, the New Zealand earthquakes and, for some Spanish companies, the earthquake in Chile in February 2010. There has been some effect from the more recent floods in Thailand. So far it is not very great – Japanese and Taiwanese companies seem to have taken the brunt – although the full picture is still emerging," he says.

Lockton partner Andrew Cornish does not rule out significant impact from the Thailand floods. "There may be some direct impact on European companies compared to problems caused by the Japanese tsunami, which tended to occur further up the supply chain," he says.

The results of natural catastrophes can be wide ranging. The Business Continuity Institute's November international survey on supply chain resilience in 2011 found that the earthquakes and tsunami experienced in Japan and New Zealand this year affected 20% of responding organisations, headquartered in 18 different countries and across 12 different industry sectors.

What are the lessons of such events? Luzzi says: "We learned that even in a first-world country that seems to be well prepared and well organised, a major natural catastrophe can be very disruptive. We need to consider this in our business continuity planning."

Ian Canham, also a Lockton partner, says that the large amount of manufacturing in Japan and many global corporations' reliance on hi-tech companies and their Japanese manufacturing businesses came as a shock to many people. "You need to understand the manufacturing spread and capabilities of any organisation you deal with now much more

Canham cites the case of Sudan Red, the food colouring banned in Europe, which a few years ago was found in imported products. "That is a classic example of someone not asking the right questions about regulatory approval. The result was a massive recall of affected products," he says.

Laporte says the term 'supply chain' is a misnomer. "It is not a chain but a network – and a very complex and constantly changing network because of the high degree of outsourcing that most large companies do now," he says. "You can have someone in a small town in an Asian country who is providing a key component without perhaps anyone realising the true potential impact of losing this supplier.

"The major risk of supply chain management is loss of control: not knowing where and what are the risks."

It is not just when supplies are being produced in far-flung regions that this loss of control can occur, warns AXA's head of marine and transport risk consulting, Alain Delcroix. "Transport is the weak link of the supply chain, and this link is getting weaker and weaker as the distance between buyers and suppliers increases. When companies relocate suppliers from local businesses to companies far afield, for example in China, at the same time working to tight just-in-time delivery times, they increase their reliance on the transportation industry," he says.

November 2011: Rising floodwaters inside a military airport, Bangkok

This is particularly relevant in view of changes within the shipping industry. "The trend for carriers to reduce their sailing speeds, so-called 'slow steaming', brings new risks. Extending marine transit time can increase inventory holding costs and expose goods to additional transhipments with many potential risks," says Delcroix.

Many containers are lost overboard due to weather conditions, high vessel speed and, more often, the way that the carrier manages ship planning. The way that cargo is secured on board is also important.

Delcroix says crew shortages and quality are also an issue, with an increased risk of casualties, particularly groundings and collisions in busy seaways such as the Channel, the North Sea and the China Sea.

The transport industry's own supply network has also become more complex. He says: "There may be a large number of subcontractors in the chain, for example road transporters, storage at the port before loading, sea transport, unloading, possibly more storage, then more road transportation. Outsourcing is not only from shipper to freight forwarder."

Laporte concludes: "In terms of impact to a supply chain from a catastrophic event, we tend to think about immediate damage, but this is not the whole corollary of bad consequences. If you lose a key supplier you may have to rely – if you find it – on another producer whose products may be inferior. There may be adverse consequences in terms of faulty products, with direct consequences on the reputation of the brand." **SR**

than in the past. This means looking inside their business and finding out where their own supplies are coming from," he says.

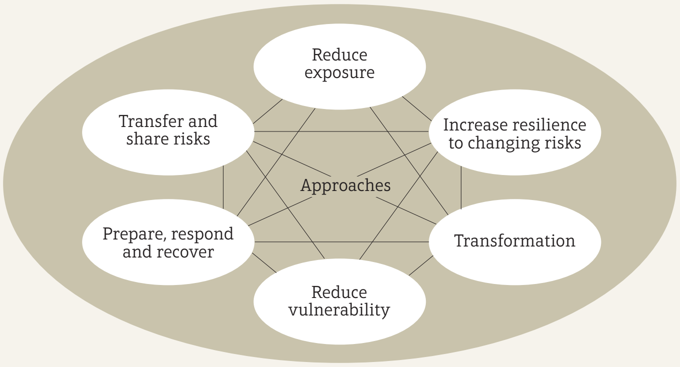
AXA Matrix Risk Consultants head of R&D Bernard Laporte believes that, in supply chain risk terms, the lessons of events such as Japan's tsunami are that whatever the causes – natural and/or technical – they can produce catastrophic results on ever-interwoven human activities and assets. "We should focus less on the causes and more on the results," he says.

Perhaps one of the most significant results of the Japanese catastrophe is growing interest in contingent business interruption (CBI). AXA head of property Tristan Huon de Kermadec says: "The first issue was the property damage and consequential loss arising directly from the Japanese event. Second was the CBI – losses owing to damage and disruption at suppliers. It seemed that this was a big surprise for everyone. It was well understood that a catastrophe can cause major disasters and losses, but less clearly understood that it is possible to have more loss as a result of CBI issues."

CLIMATE CHANGE RISKS AND APPROACHES

THE INTERGOVERNMENTAL Panel on Climate Change (IPCC) approved its special report on *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* in November. The IPCC warns that extreme weather could have a major financial as well as human cost.

The report outlines the adaptation and disaster risk management approaches for a changing climate (see diagram).



Retiring Ferma president Peter den Dekker summed up the risk management view at October's Ferma forum. "Our businesses are so complex that we cannot control every aspect of our supply chains when there is a catastrophe," he said. Den Dekker called on the insurers and reinsurers to understand and support clients' new business models by providing CBI insurance.

"To get the sort of financial protection that we need in the face of catastrophes – and to make it a worthwhile business for the insurers and reinsurers – is an issue for us working together," he said. **SR**

PROCUREMENT

Putting risk up front

The complexity of global supply chains may make it impossible to truly assess total risk to a company's business in the event of a catastrophe. But having procurement teams consider risk when awarding contracts would be a start

Entry box head

01: It may be impossible to map all your supply chain risks
02: Procurement departments need to take risk into account – risk managers should raise their awareness
03: Higher limits and wider coverage in CBI insurance will not be available without full clarity on supply chain exposures
04: Some companies may reduce their dependence on extended global supply chains
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MEASURING AND MONITORING the risks posed by all the components of today's complex global supply chains is a challenge. A truly comprehensive study may be impossible to achieve.

Lockton partner Andrew Cornish says a risk-based approach is important. "There is only so far you can go. If you try to identify every supplier of your suppliers, you will never come up with useful loss reduction techniques to help your business."

AXA head of property Tristan Huon de Kermadec says: "Some risk managers are looking to assess risk beyond their tier-one suppliers, but doing that is quite a lengthy process, and by the time they finish their study the supply chain may have changed." However, Ferma president and Pirelli group risk management director Jorge Luzzi says: "If we only looked at the first tier, we would almost certainly under-estimate the risks. Where, however, we have a strong first-tier supplier or customer, we may be able to let them manage the second- and third-tier exposures," he says.

A key problem is that appointment of suppliers is generally handled by procurement departments – and risk prevention is down the agenda. Huon de Kermadec says: "Procurement departments tend to focus on financial considerations. They need to take in the principles of risk management at the time of procurement."

However, it seems financial pressures are focusing corporations' attention more on survival than risk management. Indeed some have reduced their risk management functions to save money. The drive to push costs down ever further could rebound.

AXA Matrix Risk Consultants head of R&D Bernard Laporte says: "For financial reasons, large companies place huge pressure on their direct suppliers. In turn, these will be placing pressure on their own suppliers – tier two. So you can get a situation where everyone is trying to cut corners and gain extra time on the back of the next organisation they are outsourcing to. What happens if the business at the end of the line becomes insolvent? Loss prevention and risk management are the main losers in this equation."

He adds: "Risk managers cannot do that much because it is not within their province or responsibility – the procurement department is in charge – particularly in those companies that have gone furthest in outsourcing. Risk management is seldom on procurement's agenda, neither is what it will mean if their suppliers do not survive. However, the risk manager can and should still raise awareness in his organisation."

> *'Procurement departments tend to focus on financial considerations. They need to take in the principles of risk management'*
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> **Tristan Huon de Kermadec** AXA

He adds that contracts can be a key element as far as loss liability is concerned. "If a contract is not well written, you are paving the way for a major loss," he says.

Lockton partner Ian Canham suggests too that, where a company has a sole supplier of a key product or component, it makes sense to pre-validate another production facility elsewhere. "And, if appropriate, you might tell your suppliers they need a more robust supply chain," he says.

But not all procurement managers ignore the risk implications, say Cornish and Canham. The smart ones are starting to look at procurement in a risk-weighted way.

With the fall-out from the Japanese catastrophe, Huon de Kermadec believes risk managers are likely to want more capacity to cover the contingent business interruption (CBI) risk. "As insurers, we need them to be able to give us a clear risk assessment of the CBI risk. For example, a company may have two key suppliers for the same product in the same regional zone. If a catastrophe occurs and it loses both at the same time, it will not have a back-up. It is very difficult for clients to identify these kinds of risk."

"Further, for insurers there may be problems of accumulation of risk because one supplier can be supplying lots of clients. This may not be a tier-one supplier but may be further down the supply chain, say tier two or three. It can be very complex to assess the risk here." But only a precise assessment of exposures would optimise capital for insurance and thus coverage limits and insurance costs for clients, he stresses.

Canham says CBI cover triggered by insurable losses might be relevant to less than half of supply chain problems. "Most supply chain issues start with something that would not have been traditionally insured," he says. And he agrees with Huon de Kermadec that risk managers who cannot map and be clear about their exposures cannot expect insurers to stake their capital.

JLT Specialty partner, and global head of the communication, technology and media practice, Peter Hacker earlier this year summed up what is required for insurers to properly price CBI cover. "You need a very good understanding of the supply chain, the crisis management, the sourcing of the company, and you need models that allow you to be flexible and to consider different cash flow dependencies, or dependencies between suppliers. In a most technical and proper way, one should quantify, structure and cover the CBI exposure within a standalone and bespoke policy."

In online comments for *Foreign Policy* magazine on the downside of globalisation, US Economic Strategy Institute president Clyde Prestowitz says that, in the light of the Japanese tsunami and flooding in Thailand, "while immediate costs may be minimised by the global supply chain, there is also a greater than expected risk of breakdowns that can impose ultimate costs far greater than the immediate gains earned from global component cost arbitrage".

Re-shoring and reduced reliance on extended global supply chains rather than further globalisation may be the way ahead, he suggests. **SR**