# Supply Chain Risk Management and Contingent Business Income Insurance

### The first of a two-part series.

Each year businesses are surprised and get an expensive lesson when their supply chain is interrupted because they were complacent and assumed they were protected.

Take steps to protect your company and be prepared for the next disaster. A combination of supply chain risk management and contingent business income insurance will ensure your survival.

## Current Business Environment

- Supply chains are more complex, extending to tertiary levels and beyond.
- Demographic changes have placed more businesses in harm's way.
- We are an intertwined global economy.
- Catastrophic events have a deeper impact.

Consider the March 11, 2011 Tohoku Earthquake that measured 8.9. Japanese Prime Minister Naoto Kan said, "In the 65 years after the end of World War II, this is the toughest and most difficult crisis for Japan." Early estimates placed insured losses from the earthquake alone at US $14.5 to $34.6 billion.

Numerous major supply chains from silicon wafers to flash memory to automobiles were affected by the Japanese disaster. The Japanese car companies suffered even though most of their assembly factories are in the south of Japan. Adding to the significance of this situation is the fact that Japan is not the only global economy that is a key parts supplier. China and India are currently emerging as powerful manufacturing bases and what made them so powerful? For one, the fact that so many United States manufacturing jobs were outsourced to those countries.

As the global economy moves forward from the Japanese disaster, what risk transfer mechanisms are being developed to handle a loss of this magnitude from this source? As things stand, the supply chain and business interruption losses from the Japanese earthquake and tsunami may be immeasurable, but we do know this; never again will risk managers for global corporations look at supply chain risk in the same light.

## Supply Chain Risk Management

How likely do you think these businesses would be able to survive a disaster?

- A mattress manufacturer in Toronto purchases their spring coils from one supplier located within their city and their building is very old making it susceptible to severe damage.
- A medical equipment manufacturer relies on one supplier of specialty steel and that supplier accounts for 33% of their sales.
- A drug wholesaler receives a large portion of their products from one supplier. They are also on a quota system so if their inventory was destroyed, they would have to wait until the next quarter before they could replace it.

The obvious answer is—not very likely, because all three companies have major supply chain issues that would cause them to go out of business should disaster strike. However, with proper planning every one of the potential problems could be resolved.

Supply chain management is defined as the supervision, control, and management of raw materials and products from the source to the final end point in the fastest time possible at the least amount of expense. Each segment in the supply chain model that the company relies on for sales is a contingent exposure and by identifying the exposure, solutions can be implemented.

It impacts all organizations, not just multi-nationals. Businesses are not prepared for a supply chain interruption and consequently lose thousands, even millions, of dollars in sales while trying to recover. They are also looking at their insurance professionals and saying, "Why didn't you tell me?" Additionally, most organizations do not have a tested Business Contingency Plan, much less check on their suppliers' and customers' disaster preparedness.

The Japanese disaster is the most current example of the need for supply chain management and contingent business interruption protection. In the end, the destruction from the tsunami spawned by the Tohoku Earthquake had all the makings of a "been there, done that" event—if you knew where to look. Unfortunately, people have short memories.

A US based risk manager does not have to experience an 8.9 magnitude earthquake half a world away to suffer an interruption in a critical supply chain. It can happen because of a fire next door at a key supplier or a tornado that occurs a few miles away. Consider, too, that a break in the supply chain can occur with a key customer—not just a key component supplier. A major disaster at a customer's location can be just as cataclysmic to an organization as the loss of a critical supplier.

Today, companies source supplies and produce goods throughout the world. Customer expectations continue to rise and their satisfaction hinges in large part on the supply chain's reliability. It is imperative that if a company has the option of purchasing supplies from a secondary supplier, they must use them. Why? Because too often we find that when a company tries to switch to a back-up supplier in an emergency, they discover:

- their systems are not compatible
- they do not have the right ordering procedures, shipping information, or forms
- delivery requirements are not known

This causes almost as much delay as if they were starting from the beginning. Companies must use a secondary supplier for at least 10% of materials and products and make sure they can handle a large increase in volume if needed.

Information and communication technology continue to push the envelope. Commodity prices are highly volatile and the only constant for many organizations is change. Consequently, today's supply chain is an interconnected network of two, or even three-way relationships, with operational risks in every link because risks in one link affect the rest of the chain and its connection points. Without an overview of risks, the consequences can be costly. They range from mild customer inconvenience to a disaster that can damage the business and even bring it to a halt, jeopardizing its continuity.

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What executives miss is the importance of the entity's brand reputation and market share. As Warren Buffet said, "It takes twenty years to build a reputation and one day to lose it."

Recent tsunamis, tornadoes, and floods produced significant damage that disrupted businesses, causing many to close. Most businesses are in denial and do not believe this could happen to them. These companies take their supply chain for granted, or they assume the supplier has a good contingency plan. They do not even consider what they would do if a customer was interrupted.

We all know Hurricane Katrina caused enormous and long-lasting supply chain disruptions and recently, businesses located in the southeastern United States were not the only ones that suffered losses. While tornadoes and floods devastated local organizations across all industries, firms throughout the country also lost earnings because they incurred additional costs and/or were unable to conduct business with those directly impacted by disasters. Such losses may be covered under contingent business income insurance if it was purchased.

## Risk Assessment

Critical as it is, supply chain risk is often precariously undermanaged and even companies that make serious efforts to manage it often approach it in siloed parts. What they miss is the network-wide view that would enable them to recognize similar risks that should be managed from a company-wide perspective.

The point is not to avoid risk. All business activities have uncertainties attached to them. The key is to understand, manage, and mitigate those uncertainties and risks in the supply chain in a smarter, more informed way. The risk management process of identifying all appropriate issues related to supply chain exposure is critical. Companies hope to avoid or mitigate extended supply chain exposures by outsourcing weaknesses and forecasting shifting trade patterns.

To provide risk management assistance, underwriters and agents engage Business Interruption Consultants to work with their clients. This reduces the confusion, giving the business owner a better understanding of the risks being assumed and improving insurance-to-value. This also enhances customer relations through market differentiation and value-added services.

When Business Interruption Consultants conducts a business interruption appraisal, completes an exposure calculation worksheet, or reviews a business continuity plan, we do an operational flow analysis looking for bottlenecks and single points of failure; then try to add a little lean six sigma into the mix to improve efficiencies. Ingress, egress, and transportation must also be considered. Once identified, these exposures may be mitigated by:

- transferring the risk to another party
- establishing secondary sources
- reducing the impact of a disaster
- differentiating transportation vehicles
- creating multiple staging areas

## Suppliers Squeezed Too

At the same time, suppliers are under pressure to continuously cut costs and optimize production and delivery systems, focusing on serving niches rather than being generalists. So a company that in the past produced a specific auto part now makes one component of that part, and then passes it on to another supplier in a different country for additional assembly. One small piece can pass through six, eight, or ten suppliers in as many countries before it lands in the hands of the final assembler.

The sequential, multi-country production model is what dominates now, and it is a model where little bits of value are added here or there so it is hard to see the country of origin. A consequence of the rise of the modern, highly dispersed supply chain is that many manufacturers—let alone consumers—have little idea where their purchases originated and it can be a costly process to figure it out. Most consumers are likely not to care until they try to buy an iPod and discover they are unavailable because of a shortage of lithium-ion battery components.

A number of companies are already making investments in redundancy. Canon is considering a move to diversify its production base by expanding its under-construction Hita factory in Kyushu in southern Japan and increasing production lines at its two factories in China's Guangdong province.

According to analysts, manufacturers in mainland China, Taiwan, South Korea, and Thailand are reporting increases in orders as companies look for alternate sources. We learn in statistical process control applied to supply logistics that it is better to have fewer suppliers which results in less volatility and better quality. In economics, we learn that fewer suppliers mean higher economies of scale and lower costs. However, a disaster of the magnitude of the Tohoku Earthquake brings "the black swan" to mind and teaches us that there is no single best way of doing things and what seems the best way under given conditions, may prove wrong when conditions change.

*Look for the second part of this article in next month's newsletter and find out how contingent business income insurance can lessen the impact of a supply chain interruption.*

## GET THE FACTS!

- Overall losses in 2010 were more than three times insured losses.
- Over 50% of Fortune 500 profit comes from overseas.
- The longer the chain, the greater the likelihood of a weak link.
- In a competitive environment, we all know he who hesitates is lost.
- Even though companies are exposed to natural and manmade disasters, their ability to handle these scenarios will either put them at a disadvantage or ahead of the game.
- A global auto maker had to halt production at all its factories in one country for a week because of earthquake-induced damage at a major parts supplier.