

Securing the Supply Chain: How SCM Works in the Real World



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May 6, 2011*

How Secure is the Supply Chain?

Recent natural disasters and political upheavals around the world have shed light on the tenuous nature of our globally connected supply chain. Floods, quakes, and tsunamis; political upheavals and constantly shifting government regulations; with so many factors affecting the global supply chain these days it is difficult to prepare for every eventuality. Most companies involved in manufacturing rely, at least in part, upon products, raw materials or labor that is sourced overseas. Many companies, especially in the garment industry, have operations in literally dozens of nations spread over multiple continents. A footwear manufacturer, for example, may rely on rubber products from Asia, leather from South America, and manpower in Africa, just to bring a single product to shelves in Europe and the US. At every step of the supply chain, sewn goods makers must negotiate a dizzying array of obstacles, some predictable, others extremely unpredictable.

And the garment industry is not alone in its susceptibility to disruption by world events. The continuing saga unfolding in Japan (earthquake and tsunami followed by nuclear crisis) has served as a wake-up call to many sectors that the global supply chain is often on a very delicate footing. The ripple effects of a single unforeseeable event can impact a wide variety of businesses. And, while there is very little that can be done to prevent floods, fires and quakes, all supply chain disruptions can be mitigated, or at least prepared for, if your company takes control of its supply chain oversight.

Supply chain is a classic example of the domino effect. To keep business moving forward, every element has to be in place at the right time, otherwise there is a complete halt in forward momentum. This means lost time, lost opportunities and a big hit to profitability. Any number of uncontrollable factors can slow down or disrupt your supply chain: political upheavals and government regulations, natural disasters or climate change, economic meltdowns or financial collapse. All of these forces can affect your supply chain (especially if you source materials or labor overseas) and there is little your company can do to prevent them from happening. What you can do is prepare for the unavoidable by staying on top of your supply chain management. Knowledge is power in the world of logistics, and having as much knowledge as possible will help you fend off these attacks by market forces.

So, let's look at three case studies and examine how unforeseeable events have affected various manufacturing supply chains. In just the past few months we have seen clear examples of supply chain challenges for electronics and auto makers in Japan, for users and growers of cotton in Pakistan,

Australia and elsewhere, and for international merchants across the globe who face the threat of targeted terrorist or pirate attacks.

Japan: Quakes, Floods and Nukes

In March of this year the world gasped as one tragedy after another piled up on the island nation of Japan. First a magnitude 8.9 earthquake struck the northern part of the country resulting in a vicious tsunami and massive flooding that left thousands displaced, and many of its prime manufacturers in a state of shock. Then, after a damaged nuclear reactor was shut down, some manufacturers not directly affected by the flooding or the quake were caught without the vital resource of electric power to fuel their production.

Almost instantly the events in Japan sent shockwaves through the worldwide automotive and high-tech supply chains. <http://web.mit.edu/newsoffice/2011/japans-supply-chain.html>

According to recent reports circulating on the web, the ongoing auto parts shortage in Japan may lead to a sharp decrease in worldwide car production throughout 2011. European, Asian and American car makers rely heavily on auto parts produced in Japan, and, as with most modern manufacturing systems, they rely on just-in-time delivery to maintain rigorous production schedules. Even a temporary delay in supply delivery can have lingering effects on output.

One analyst's report, cited in *The Wall Street Journal*, predicts that auto production may be cut by 15% to 30% in the next year. This estimate would suggest that 20 million fewer vehicles will roll out of factories than expected before the recent quake tragedy and nuclear crisis in Japan.

Executive Vice President Shinichi Sasaki said Toyota will conduct a review of its system of centralized parts sourcing, including a look into whether it can use more commonly available parts and materials in the future, and a reassessment of its dependence on single-source suppliers in Japan. "Even in cases where we thought we had more than one supplier, it turned out in many cases that they procured subcomponents from just one firm," said Mr. Sasaki. "We're also looking to increase local procurement overseas as we discovered a high reliance on Japanese-made subcomponents."

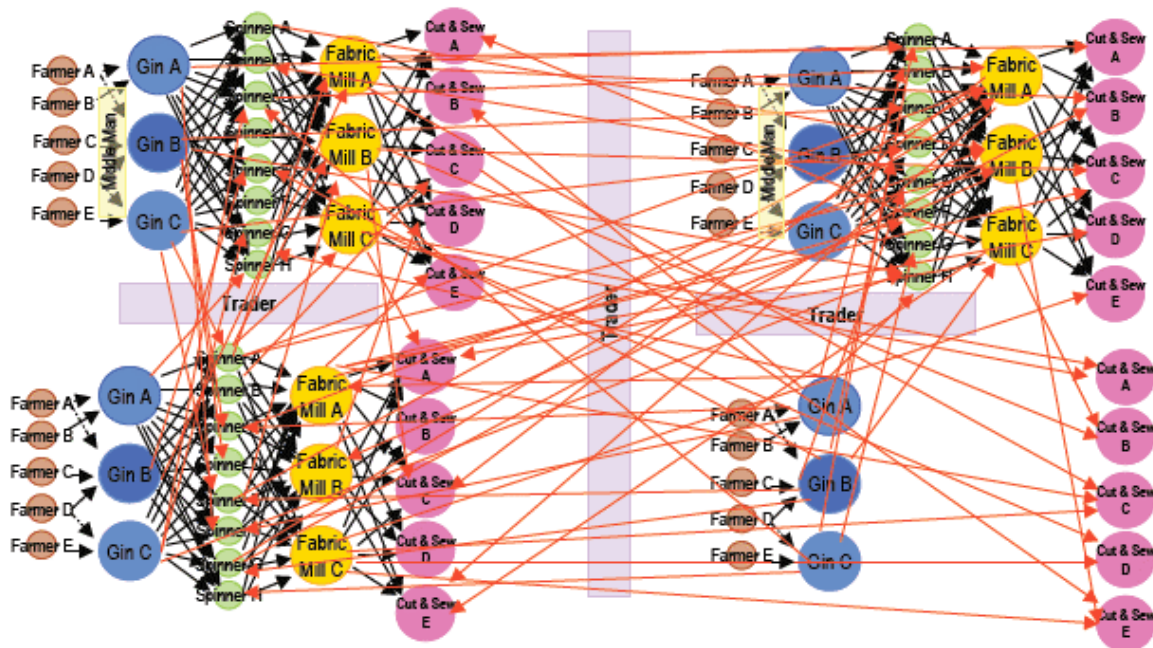
<http://operationsroom.wordpress.com/2011/04/25/layers-of-supply-chain-risk/>

Cotton in Crisis

Due to various unprecedented floods and natural disasters, the world's supply of cotton has reached a bottleneck. Devastating weather in Pakistan (world's number three producer of cotton), and continued flooding in Australia has had a marked effect on many formerly productive cotton fields and manufacturing facilities. In addition to natural events, there are also political forces at play as India, the world's number two cotton producer, has instituted export restrictions to protect its vital domestic textile industry. The result is a domino effect of scarcity, followed by price increases all along the supply chain. As the price of cotton rises, the supply of synthetic substitutes is affected, and the price of petroleum-based raw materials increases as well. Users of these products in the garment and sewn goods industry are caught scrambling for affordable, accessible fabrics to follow through on design plans.

Think the global cotton supply is easy to navigate? Check out the chart below that shows a “simplified”

Global Cotton Supply Chain (it is really a web)



When you put this in a global perspective, you realize that the cotton supply chain is really a complex web of players and processes worldwide.

liz muller, I.I.C.

depiction of the cotton supply chain.

According to Hameed Khan, director of operations at Masood Textiles in Pakistan, prices have increased 15-35% up through January. Speaking to industry newspaper WWD (Women's Wear Daily), Khan says, "My fear is that from May onward for two or three months until harvest time, there will be no more cotton in the local market, with scarcity determining the price."

No one knows how long the impending cotton crises will last, but most analysts agree the effects will be felt throughout a variety of retail and manufacturing sectors. And, with so much competition in the garment industry, it is likely that some businesses will fold due to the inability to adapt to such dramatic price increases.

Terror Attacks and Politics

Take, for instance, acts of terrorism. A recent report released by BSI Group of America, a global independent business service organization based in UK, asserts that over 600 supply chain terrorism attacks have occurred since 2004, and that these attacks were spread out over at least 32 countries.

While certain areas of the world, and certain products, are more likely than others to be targeted, the threat to some supply chains is very real.

In response to the threat of politically driven attacks on cargo and supplies, the US Transportation Safety Administration has implemented rules that will require all containers entering the United States to undergo inspection. But the rules themselves are raising the ire of some who predict that further anti-terror regulations may actually do more harm to the supply chain than the actual acts of terror.

The International Air Cargo Association (TIACA) has warned that the global supply chain will face "significant disruption" if the US enforces a proposed December 31 deadline for the 100% screening of all international inbound cargo on passenger aircraft. The organization – which represents all aspects of the supply chain from shippers and freight forwarders to airlines, airports and technology and equipment providers – is concerned at the TSA's lack of progress in certifying foreign country air cargo security programs.

Speaking at TIACA's Executive Summit in Bangkok, newly elected security sub-committee chairman and chief cargo officer for Delta Air Lines, Neel Shah, warned: "Unless TSA and, more broadly speaking, the entire US government focuses the necessary resources on reviewing the process and timeline by which foreign security programs are validated and placed into the TSA's National Cargo Security Program (NCSP), we will face some significant disruptions to the global supply chain."
<http://airport-world.com/news-articles/item/549-proposed-us-legislation-will-damage-cargo-industry>

So, if we are to understand the experts, there is a very real possibility that our supply chain may be disrupted in the near future, if not by terrorists, then by the governing regulations designed to protect us from terrorists.

Cultural Issue?

According to a study conducted by the MIT Center for Transportation and Logistics, companies can learn to cope with crises like these and minimize the disruption to their businesses. Study leader Yossi Sheffi (professor of civil and environmental engineering and engineering systems at MIT) believes the problem is not a technical one, saying "Often the issue is cultural--making sure that damage control is built into the very fabric of the organization."

Here is an example from the MIT News website:

"A few years ago the production of computer chips was halted by a fire at a large supplier. One major customer, cell phone manufacturer Nokia, reacted quickly and found alternative sources of the chips. Competitor Ericsson was much slower to react and eventually exited the cell phone business. Resilient companies also are prepared organizationally for supply chain interruptions. Part of the Nokia response was to redesign its product so components from other sources could be used. That required quickly calling cross-functional teams of managers into action to make the necessary changes." <http://web.mit.edu/newsoffice/2004/supply.html>

Supply chain management is one of the more complex aspects of running a manufacturing or retail business. Getting the right goods into the proper hands at the right time is the name of the game, and anything that disrupts the free flow of materials, products and information can jeopardize your whole operation. After all, it does no good to design a product if the necessary raw materials are out of stock, unavailable, or unaffordable. Likewise, it does no good to manufacture a product if the marketing and promotion are not in place when it hits the shelves.

Of course, most businesses of a certain scope rely on a combination of Supply Chain Management software, Product Lifecycle Management systems, and other computerized means of overseeing their supply of goods, products and materials. These tools allow you to see at a glance what is going on with your entire product development process, making useful statistics from mountains of raw numbers. In a global economy there are many uncontrollable forces challenging your supply chain. So why not take control of the factors you can manage? If knowledge is power, then accurate, instant data can be an engine for growth. Don't let uncertainty drive your supply chain. Don't wait for a political crisis, or natural disaster to discover the weak link in your system. Keep all your dominos falling in order. Stay on top of your supply chain data by any means available. In the 21st century it would seem that knowledge might be the most powerful force in business.

For most of us in the garment industry, the only thing we can do to stay on top of supply chain obstacles like terror attacks is to stay informed. The more information you can collect and analyze the stronger your supply chain security will be. As a link in the global chain, your company must keep a constant eye on the data points that affect your products and processes. You must be able to react quickly to disturbances in the case of an unforeseeable event, be it natural or manmade.

To help you analyze and protect your investments, your partners and your products, it may be necessary to implement a Supply Chain Management tool. Without the proper software in place, your company may be inundated with raw data that is too complex and scattered to be used effectively. But, with a SCM system, you will be able to collate and analyze data which may be invaluable in the case of a political event, a natural disaster, or a regulatory shift that puts pressure on your enterprise.

To find out more, please join our Fashion and Technology webinar on Tus. May 24th:
<http://www.bmsystems.com/webinar.html>

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