What is Supply Chain Disruption? Why is Supply Chain Critical to You and Your Organization? Are You Ready? If You are Not, Your Organization and You Could Lose Big Financially or Even Cease to Exist!

Supply chain disruption is becoming a serious issue for many organizations around the globe and especially in the United States. It will become more of a concern as economies change, markets shift, natural disasters take place (like we saw in Japan), geo-political instability, economic disasters, and many other reasons that not only effect nations, but companies, people, and the goods and services that support the chain to the end client.

Be Proactive Not Reactive

Take some time and review some of the statements, articles, findings, and data below. After you have done this, let this information compel you not to react, but to be proactive in your Procurement and Strategy Plan. In other words, utilize the information and begin with a plan that works within your organization so that you are not caught by surprise like many have been in the last few years (some of these companies are no longer around).

Supply Chain Disruption Defined

Before we can act, it is important to understand what supply chain disruption means. To understand this, we must start with Supply Chain Management (SCM). It is where an organization sustains a competitive advantage in the marketplace for their products and services through the integration and management of other organizations (this entire process involves activities, cooperation, relationships, effective business processes, information sharing, and high-performing value systems). In other words, there are a lot of moving parts, relationships, agreements, and components that go into the entire supply chain from the beginning of the necessary raw materials to create the product all the way to the result of the product being sold in the marketplace.

Take for example the cup of coffee I am having right now.

If I think about the Starbucks coffee cup in my hands, I realize how amazing it is, considering all the steps involved getting it to me. When any of us, stop for a moment and look at any product we are using, how it was made, where it was made, the raw materials that went into the manufacturing of the piece, how it was shipped and received, the branding of the product, pricing, and selling of the product, it is an amazing realization of how many people, steps, and processes were necessary for you to have it in your hands.

Now that we understand Supply Chain Management, if we consider the words “Supply Chain Disruption”, we understand it means that there is a disruption in the Supply Chain for any products and services expected to an organization. According to Merriam-Webster, disruption means “to break apart, rupture, to throw into disorder, to interrupt the normal course or unity of”. In other words, if one of the important parts/organizations fall apart in the chain of the supply of the products and services, there will be a cascading effect to the entire organization that provides this core to their clients. Over the last decade we have witnessed so many organizations go out of business. There is no quicker way for a company to go out of business than to not have a product to sell.

Disruption Severities and Origins

As you review the overall information, it is important to not only think in terms of “will it ever happen to us” but to understand the overall areas of severities and origins. A changing area of importance is “supply chain disruption is not covered as often” anymore according to Business Insurance. (John Dempsey). Business insurance for supply chain disruption is becoming more complex, covers less, is cumbersome, and many companies do not get the benefits of what they thought they would get when they file a claim.

Keep in mind that many companies who did not plan are no longer around. To best illustrate how one company becoming inoperative and going out of business, Timothy Mojonnier outlines the effects of a supplier to one of the largest auto manufacturers in the world – Toyota. Several years ago, a company by the name of Somic who produced 99% of Toyota’s brake valves burnt to the ground by a massive fire causing Toyota to halt all production lines. Fortunately, even though Somic was out of business at this point, they provided the blueprints to Toyota’s other suppliers. Toyota and some of their other suppliers were able to create the machines and start making brake valves. Toyota survived and learned some valuable lessons about critical mission suppliers and risk management.

Think about just this one supplier and realize that hundreds of companies in Japan became non-existent after the Tsunami disaster in 2011. (Mojonnier, Timothy)

As stated by in this article, “… Enterprise Risk Management appears at the top of many corporate agendas. Although most discussions on risk management are confined to financial reporting and internal controls risks associated with the likes of Sarbanes-Oxley, an often-overlooked risk is the probability of an undesirable event occurring that causes extensive supply chain disruption”. We can restate this as more and more supply chain disruptions have, are, and will occur, some organizations are reviewing their entire approach about how they plan and operate. Handfield, Robert, Blackhurst, Jennifer, Craighead, Christopher, and Elkins, Debra (PhD’s).

Future Supply Chain Risk

There is an old saying that “history always repeats itself”. If we think about this for a moment, we must ask ourselves why? When people do not learn from past mistakes, we repeat the same actions again, usually with the same results. To protect our supply chains, we must mitigate the risk to supply chain disruption. Again, this takes proactive and sustainable plans, contingencies, processes, and procedures we can implement in certain situations, vendor audit, and risk assessment audit, regular updates to our plan, communications, and any other steps for a healthy and sustainable organization. It requires the diligent monitoring of your strategic and critical suppliers for financial, environmental, geo-political events that impact them.

IP & Data Risk

One of our strategic partners, RDBU, outlines the supply chain risk from a technology and backup standpoint of your most asset – your data (Intellectual Property)!

Data Loss Facts and Figures

Data loss happens more often than we realize, according to many credible research groups. Again, this is a part of your Supply Chain Disruption plan. In all reality, the odds are against you if you don't back up offsite every night. Given enough time, all hardware will ultimately fail. Review the startling statistics below.

Key Causes for Unplanned Downtime (Gartner Group)

- Hardware (25%).
- Software (25%).
- Network (20%).
- Human Error (15%).
- Environmental (14%).
- Other (1%).

Cost of Recreating Your Lost Data

According to RDBU, without adequate backup it takes:

- 19 days and $17,000 to recreate just 20 MB of lost sales/marketing data.
- 21 days and $19,000 to recreate just 20 MB of lost accounting data.
- 42 days and $98,000 to recreate just 20 MB of lost engineering data.

Lack of Proper Planning Not Only Ruins Organizations – It Ruins Individuals

We have known some wonderful individuals who either lost their business and or their lives in September 2001, in New York City. We have witnessed others depend on a sole source for their core competency, and when this source was no longer available, some of these organizations were no longer around as a result. I am thinking about so many companies and individuals I have seen over the years that are no longer around because of this disruption to their supply chain of products and services. With the proper proactive planning, thorough vendor management, consistent monitoring, robust risk assessment, and on-site audits, an organization can weather many storms while many of their peers cannot.

We have helped many of our clients protect their data through simple backup procedures, best practices, disaster recovery programs, and even taking them paperless utilizing offsite data storage.

Global Procurement Study Finds that 80 Percent of Companies Are Vulnerable to a Major Supply Disruption

The article below is very impactful when considering supply chain disruption risk at 80% for companies! The interesting part of this study, by AT Kearney, outlines a movement towards long-term collaboration with suppliers on joint process improvement, value, innovation, and category management.

The goal is not simply lowest price – it is best value, which is a long-term sustainable pricing model (hard cost savings, soft cost savings, cost avoidance, cost sustainability, and customization of all needs from the client, company, and stakeholders taken into consideration). This <u>is</u> the ATS model and approach we apply with all people and organizations globally.

Do You Have a Plan?

2011 was one of the worst years in recorded history for natural disasters. The Japan earthquake and tsunami impacted tens of thousands of companies around the globe and created an estimated loss of $200 Billion in property, revenue, supply chain disruptions for other companies (products and services from Japan) and clean up so far. Does your company have contingency plans, a disaster recovery plan, and a proactive risk management solution? The catastrophic effect on Global Supply Chain Disruption with HP, GM, Toyota, Toshiba, Intel, and others can be viewed at http://www.nytimes.com/2011/03/20/business/20supply.html?pagewanted=all.

Some Specific Aftershocks of the Japan Earthquake / Tsunami

A few examples of the aftershocks and effects to countries, companies, and individuals from supply chain disruption of this natural disaster were:

- Shortages and shutdowns for several global businesses.
- The suspension of as much as 25 percent of the world's production of silicon wafers used to make semiconductors, according to research firm IHS iSuppli in El Segundo, California (big impact on the global supply of memory processors, such as Flash memory and DRAM).
- Japan's seven big automakers shutdown production due to growing concern about supply chain interruptions, power shortages and export difficulties.
- General Motors cut production at two U.S. plants due to a shortage of Japanese-made parts.
- A month after the disaster, Toyota said the number of parts at risk for shortages was shrinking, but nevertheless extended its North American production slowdown through early June, according to a Reuters report. (Ellis, Kathleen)

AT Kearney states, "the headlines of the past year have highlighted one supply chain disruption after another, but a majority of companies are not systematically managing risk to avoid disruptions to increasingly global supply chains, according to global management consulting firm A.T. Kearney's latest Assessment of Excellence in Procurement (AEP)."

As the ATS model shows above, "another key finding from the AEP Study is that supply management organizations that once were focused on cost reduction and adversarial relationships with suppliers are now developing long-term category management strategies where collaboration with suppliers on joint process improvement, innovation and new products is delivering top-line value to corporations."

It is imperative that you work with strategic partners who are experts in cost reduction and procurement for hard cost savings, soft cost savings, cost avoidance, sustainable practice, best practices, and effective risk management. In other words, it is very important to you, your core competencies, and long-term business viability that you embrace a holistic business approach. You cannot afford to take a short-term approach focusing on how much revenue an organization can produce this quarter.

Align your organization with experts who take this approach. We have worked with many clients and industries around the globe utilizing holistic best practices for overall long-term improvement and cost savings without ever increasing risk or jeopardizing quality.

Seven Leading Practices

AT Kearney identified seven important leading practices. They are:

1. Leading companies align procurement strategy with the overall goals of the company. These companies also engage more fully with other business functions to address a larger percentage (94 percent) of external spending. As a result, leaders were better prepared to react to the 2008 financial crisis, delivering greater benefits faster.
2. Leading companies consistently outperform other companies in contributions to top–and–bottom line strategies. By working closely with their suppliers these companies improve their new product development performance, reduce time-to-market for new products, and create new business opportunities—all top-line benefits for their companies.
3. Leading procurement organizations excel at risk management by anticipating, tracking and planning mitigation strategies covering a wide range of threats.
4. Leading companies use supplier relationship management (SRM) processes more consistently than followers. A structured process drives strategic value through improvements in innovation and growth, better managed risk and vastly improved supply chains.
5. Another area that distinguishes leaders from other companies is their use of more advanced approaches to tailor their category strategies to each situation.
6. Leading companies are far more advanced in their adoption of technology. They have more control over what they spend because they have technology that allows for more visibility into spending. Most leading companies are fully automated with real-time access to data and are ahead in the adoption of technology to support contract management and compliance.
7. The leading companies are more forward-looking and bolder in their approaches to recruiting and retaining top talent, including establishing relationships with universities and using a systematic approach to manage a more diverse and dispersed workforce.

Taken together, these practices helped the 13 leading companies deliver nearly 60 percent higher returns on their companies' investments in procurement assets. (AT Kearney)

From the above you should note – the deep partnerships they developed with their suppliers (vendors). We have been involved with many clients who were not practicing any vendor management, vendor tracking, vendor evaluation, vendor risk, or utilized any vendor informational data sourcing practice in their organization. We have worked with clients in diverse industries such as banks, non-profits, government, construction, tribes (gaming), and insurance establishing vendor management and relationship and assisting them to become proactive about supply chain disruption and risk management.

An example of this supplier and risk management initiative process we created and implemented together with a large non-profit client listed below, within this organization, is outlined below on the next page.

- Analyzed their supplier list from the purchasing, finance, and logistics point of view.
- Assessed what suppliers were still in business (we started with more than 3,000 and ended up with less than half – their data was outdated).
- Developed a best practice form and procedure (each supplier reviewed and signed this agreement for their understanding about how this organization's finance, logistics, purchasing, best practice, and other areas worked).
- Created a supplier evaluation process providing a balanced scorecard for each supplier.
- From the data gathered from each supplier, their products and services offerings were placed in a knowledgebase to enable future sourcing, Request for Proposals (RFPs), and all other functions within supplier relationships.
- Implemented a communication and meeting process for finance, logistics, and purchasing ensuring requisition and purchasing life cycles were effective (from this, accountability improved, process efficiency increased, the cost per Purchase Requisition (PR), Purchase Order (PO), Logistics Paperwork, and Invoices decreased, and overall improvement occurred benefiting the entire organization).
- Initiated a best practice risk management program.
- Improved bottom line cost both short and long-term (reduced costs in several categories, increased quality, reduced risk, developed a centralized RFP program meeting specification while substantially reducing the number of hours the purchasing department spent on sourcing).

<u>Note</u>: The total amount of improvement and savings we generated for our client was in the tens of millions of dollars! We shared in their success and invoiced only a small portion of this!

What does all this mean?

It brings us back to simplicity in life and business – it is all about people, relationships, strategic partners, long-term mutual beneficial business, vendor management, alignment, and doing what is right for all involved.

Supply Chain Disruption Examples & Solutions

Below are some examples of supply chain disruption that showcase those that made good changes and who did not.

The Classic Supply Chain Disruption Example

As pointed out in the article "Ericsson versus Nokia – the now classic case of supply chain disruption", a company that "when faced with a supply chain disruption, proactive and reactive supply chain risk management can in fact make or break a company's existence" is evident in the many companies that are non-existent. We encourage you to review a few highlights of this catastrophe that took place at the Philips Microchip plant in New Mexico that affected both Ericsson and Nokia.

Nokia initiated proactive efforts, while Ericsson did not, costing Ericsson $400 million. The website is http://www.husdal.com/2008/10/18/ericsson-versus-nokia-the-now-classic-case-of-supply-chain-disruption.

Dealing with Supply Chain Disruptions

Do you depend on one supplier or several for a specific product or service?

We have helped clients reduce risk by initiating a proactive supplier risk management best practice initiative.

How much did the 2011 Japan earthquake cost?

Some would estimate its overall costs at more than $200 Billion (yes, that's a "B" behind it). Risk Management Monitor brings to light some very startling statistics comparing China and Japan titled "Charting Supply Chain Risk in China – It's worse Than in Japan". You can view the data in more detail at http://www.riskmanagementmonitor.com/charting-supply-chain-risk-in-china-%E2%80%93-its-worse-that-in-japan/

Entire Countries Disappear Without Notice

On Thursday January 27, 2011, the country of Egypt completely removed itself from the Internet. It's an astonishing and unprecedented move, and one that seemed almost unimaginable for a nation that not only has a relatively strong Internet economy but also relies on its connections to the rest of the world.

Not even a month later February 18, 2011, the country of Libya unplugged itself from the Internet among domestic unrest as protesters stepped up demonstrations against longtime leader Moammar al-Qaddafi, then on August 11, 2011, the British government narrowly backed down from shutting down all social networks in Great Britain to quash civil unrest in that country. These rapid-fire events became a major wake-up-call for companies across the globe transacting commerce over these connections.

Our fragile and vast communications networks are subject to the whims of the governments that provide access to their citizens that use them, however, commerce in the modern age has become increasingly dependent on these connections remaining active. (Wade, Jared – Risk Management Monitor)

Chiquita

It is amazing how weather-related supply chain disruptions cause revenue flow disruptions. We can view Chiquita Brands International 2010 10-K report and see how severely adverse weather conditions hurt their bottom line.

"Our results of operations have been significantly impacted in the past by a variety of weather-related events. For example, because of flooding which affected some of our owned farms in Costa Rica and Panama in December 2008, we incurred approximately $33 million of higher costs, including logistics costs, related to rehabilitating the farms and procuring replacement fruit from other sources."

"From time to time, we have experienced shipping disruptions, port damage and changes in shipping routes because of weather-related disruptions. While we believe we are adequately insured and would attempt to rehabilitate the farms while procuring replacement fruit from other sources."

Sustainability Advantage outlined "seven threats to revenue if a company decides to not embrace sustainability strategies". From these 7, five were identified as reputational risks to revenue (no sustainable strategies). They calculated that any organization with $500,000,000 revenue could be jeopardizing $20,250,000 (4%) of that revenue from poor reputation:
- Energy and Carbon Management.
- Water Management.
- Materials and Waste Management.
- Eco-System Damages.
- The Risk to Revenue from Poor Reputations of the Company's Suppliers (Vendors and Partners).

They went on to find another $5,000,000 that be at risk due to the risk of revenue from less competitive prices. Their conclusion was: *"Sudden disruptions in the supply chain could threaten* *another $500,000. All told, the seven threats to revenue add up to $25,750,000 (5.2% of today's revenue)".*

The above information is very conservative from our many years' experience with clients. (Willard, Bob)

Thailand Flooding/ Effects upon Supply Chain Automotive Disruption

Thailand has been experiencing some of the worst flooding in 26 of its 90 provinces in the last 50 years. This has affected everything, not to mention the automotive industries, where their capacity was 2 million units in 2010.

Supply Chain Disruptions / Long Term Strategy Change

Supply Chain disruptions due to floods have traditionally been the main reason many OEMs stop their assembly lines. Some of the factors that are likely to be considered by OEMs in the future are:

- Analyze Just In Time (JIT) – increase auto parts for any future disruptions.
- Multi-sourcing Strategy – source parts from different suppliers and regions.
- Climatic Supply Chain De-Risking – involves OEMs investments at geographic locations that are least impacted due to natural disasters. (Vaidya, Vivek)

Hurricane Katrina Virtually Erases New Orleans from the Map

On August 23, 2005, the third strongest hurricane ever recorded made landfall in the U.S. An estimated 80% of New Orleans was under water, up to 20 feet deep in places. Hurricane Katrina caused an estimated $75 billion in physical damages. It was the costliest hurricane in history, but it has been estimated that the total economic impact in Louisiana and Mississippi may have exceeded $150 billion.

Katrina affected about 90,000 square miles. Previously, the region supported approximately one million non-farm jobs, with 600,000 of them in New Orleans, but hundreds of thousands of residents were left unemployed by the hurricane. (11 facts about hurricane Katrina)

Experian, a global information solutions company, reported in a study on the effects of Katrina on over 635,000 businesses that over $40 Billion in payables were outstanding at the time the hurricane struck. Commerce in New Orleans came to a complete halt and businesses disappeared overnight. (New Experian Study, 2006)

As you think about these natural disasters, political unrest, insolvent suppliers, and many other risk areas to your organization, risk management is about evaluating future risks, situations, events, and actions in the future and being ready with a plan. Supply Chain Disruption is a critical component of Risk Management. If the Supply Chain for your organization's products and services are disrupted, will you have the necessary components to provide the products and services you offer your clients? "Risk management is a process for identifying, assessing, and prioritizing risks of different kinds. Once the risks are identified, the risk manager will create a plan to minimize or eliminate the impact of negative events, should they occur. A variety of strategies are available, depending on the type of risk and the type of business."

An example of this would be where the city of New Orleans is located as it relates to hurricane Katrina. The city, on average, is six feet below sea level. The Mississippi River, one of the top ten most powerful rivers in the world, ends its journey at the Gulf of Mexico. If we analyze the risk for this city against future hurricanes and flooding, the risk is almost guaranteed that an event will occur again with the same magnitude or higher!

Let's apply this example to your organization.
If your servers, data, and backup systems are in a room that is under some water main pipes, you have a definite risk. By the way, one of our clients did have this risk and did not do anything about it – the result was that a water main break occurred, flooded the room, and they lost their entire system and severely impacting their business.

How do some of these examples effect your organization as you evaluate the suppliers in your supply chain?
We develop long-term relationships with our clients, being that we are a full procurement and financial services firm, we analyze your entire business, need, challenges, pain, and other areas that affect your core competencies. We start with a few steps, projects, using a solid team of experts and solutions for each area one brick at a time.

The most critical initial component is ensuring that your foundation (business, plan, strategy, processes, Standard Operating Procedures (SOPs), best practice) is solid. Once this has been established, your organization will be solid with each action and initiative taken.

Part of this process is the evaluation involves the external elements that can damage, shut down, or even put some of the best organizations out of business. As we partner with each other, this is a necessary part of the process. In other words, many organizations have never set foot at critical supplier offices, warehouses, plants, manufacturing locations, distribution centers, and any other part of the chain. How can they fairly evaluate them?

Validation and due diligence are very important to mitigate supply chain disruption and risk. We have helped many clients reduce their risk in their supply chain disruption.

Can America and Other Nations Handle a Disruption?

This article does bring out how vulnerable the U.S and other nations are in this global economy. The U.S. needs to take a closer look at the manufacturer base.

How Do Organizations Prepare?

Like it or not, each continent, country, state/province, organization, department, vendor / supplier, team, stakeholder, and individual is a part of a global manufacturing ecosystem.

Being enabled, available to participate, and adaptable to change is a vital both to an organization's short-term survival and long-term success.

"Managing Supply-Chain Risk for Reward", a recent study conducted by The Economist's Intelligence Unit, is one of many that illustrate how executives are reconsidering or revisiting the sourcing strategies in their organizations. This study produced some interesting data that we strongly encourage you to utilize in your strategies going forward. A quote from this study says it all:

> *"It is therefore surprising to discover that many companies continue to underestimate the risks of supply-chain failure. As the economic downturn has shown, the rules of effective supply-chain management can change—if labor disputes, IP protection or utility failure were concerns for companies in the past, they have been well and truly replaced by factors such as currency and energy price fluctuations, doubts about customer confidence, supplier insolvency and protectionism."*

The Economist Survey below show the disruptions global supply chain executives experienced, and how these companies are trying to avoid further disruptions. Keep in mind in the least ten years, there has been many more changes in the global economy, natural disasters, currency fluctuation, scaling of economies in entire countries, and many other areas.

Supply Chain Disruption Plan

As you have reviewed some examples, risks, organizations, and steps others are taking to deal with supply chain disruption globally, you have probably concluded that it is not a one size fits all solution. Each organization is unique and requires a customized solution to meet their core competencies and minimize risks in the supply chain for their goods and services.

It is not about creating a strategic plan for sustainable supply chain disruption. It is about a continual plan that is implemented and revised as, not only your organization changes internally, but as your external partners and the world itself changes as well.

In one instant, a natural, economic, or geo-political disaster can wipe out sources of products and services that can leave the best of the best limping or even bankrupt. Waiting another day to do something can be one day too late as many have found out the hard way.

It’s not enough to simply review your top suppliers by spend either. In many instances, especially in manufacturing, a tiny supplier will provide an inexpensive part, however that part touches every product you produce. These suppliers typically go unnoticed until they cease to exist which can bring your entire product line to a halt.

If you diversify spend among several suppliers to provide risk mitigation, have you followed the supply chain of each of these suppliers to the OEM? You may find that the several suppliers you buy from all purchase their parts from the same OEM. Have you really mitigated your risk should the OEM cease to exist?

With some of the information you have read (and there is a lot about supply chain disruption), do something, because tomorrow will be too late. There are more natural disasters, political unrest, competition, lack of resources, changes, scaling of economies, and so much more happening than has been witnessed in the history of mankind.

If we can be of any service to you, as we have helped many clients around the globe in many industries with supply chain best practice and risk management of disruption, we encourage you to contact us.

What are You Doing about Your Supply Chain and Are You Ready?
How Can We Serve You?

ATS has global experience empowering and changing the lives for many executives, leaders, and organizations in more than 100 nations, having increased profits in the tens of billions of dollars, with sustainable profit increase and cost reduction outcomes.

ATS, a dedicated and highly motivated global industry leader, has more than 30 years business, procurement cost reduction, artificial intelligence, growth, training, strategic, and leadership experience in many different industries, from small to Fortune MNC's.