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Managing Risk in the Global Supply Chain

A Report by the Supply Chain Management Faculty at the University of Tennessee
Sponsored by UPS Capital Corporation

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Introduction/Overview

A preponderance of natural disasters and huge economic swings over the past decade have caused many companies to face extreme supply chain challenges that dramatically stretched their capabilities. Supply chains, which once functioned almost on autopilot, face many dangers today in both the global and domestic market. This report covers a wide range of risks and offers practical advice for risk mitigation strategies and tactics.

Methodology

This research examines how leading executives identify, prioritize and mitigate risk in their supply chains. A questionnaire was distributed to supply chain executives across a range of companies, including retailers, manufacturers and service providers. Results are based on 150 responses. In addition, six in-depth, face-to-face interviews were conducted with senior executives from six prominent companies.

What is the risk?

A study by Hendricks and Singhal emphasizes the negative consequences of supply chain disruptions.*

Analyzing more than 800 supply chain disruptions, they found that:

Sales were down **93%**, and shareholder returns were **33-40%** lower over a three-year period

Share price volatility was **13.5%** higher

Operating income declined by **107%**, and Return On Assets (ROA) declined by **114%**

* Production and Operations Management, Vol. 14, No. 1, Spring 2005



Types of Risk

Supply chain vulnerabilities are divided into two categories of risk:

Day-to-Day Risks

- Customer demand changes
- Unexpected transit delays
- Problems at suppliers that delay critically needed components
- Theft (A much larger problem than most realize)
- Production problems
- Warehouse shortages that cause serious delays in customer shipments
- Cyber security

Catastrophic Risk

- Significant disruptions that usually cannot be predicted - serious weather incidents (tsunamis, hurricane, tornado), terrorism, epidemics, etc.

Surprising Findings

Many supply chain executives have done little to formally manage supply chain risk.

None of those surveyed use outside expertise in assessing risk for their supply chains

90% do not quantify risk when outsourcing production

66% had risk managers in their firms, either in legal or compliance, but virtually all of those internal functions ignored supply chain risk

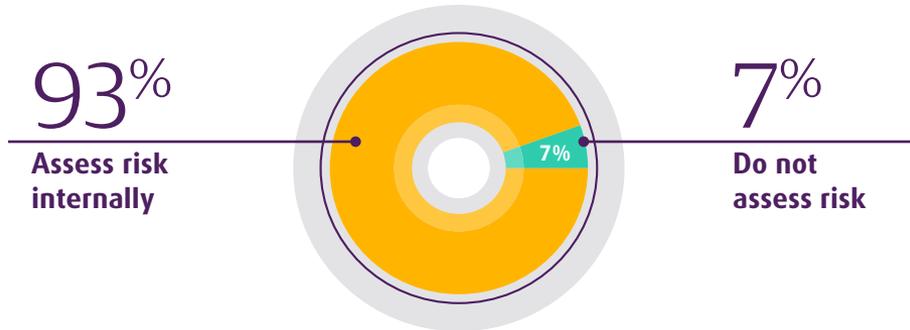
100% of supply chain executives acknowledged insurance as a highly effective risk mitigation tool, but it was either not on their radar screen or not in their purview.

Insurance

Companies can be key partners in working to minimize the financial effects of both daily supply chain risks and catastrophic disruptions.

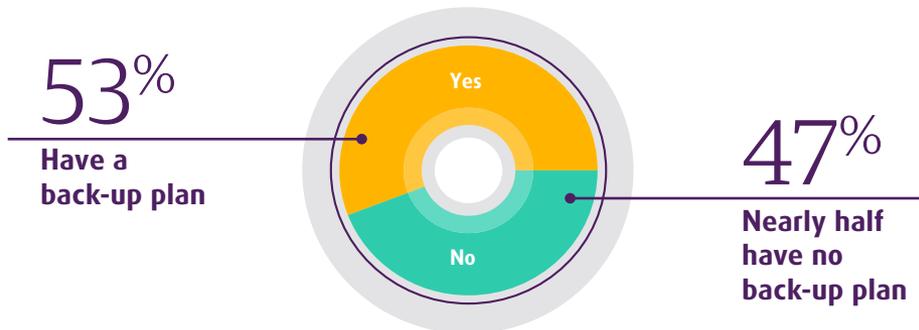
How risk is assessed

Not one of the companies surveyed used outside expertise in assessing risk for their supply chain. Virtually all (93%) do the best they can within their own departments. The majority of companies (66%) have a risk manager somewhere in the firm, most often in the legal and finance departments. Most of them focus on product liability and overall financial issues that could impact shareholder value in a material or public manner. **But virtually all of them ignore supply chain risk.**



Backup plans for factory or DC shutdown

A little more than half the companies surveyed had a back-up plan that could be implemented quickly in the event a natural disaster or major equipment failure shut down a factory or distribution facility. The bad news: **nearly half (47%) have no back-up plan.**



Just **25%**
of a typical company's
end-to-end supply chain
is being assessed in any
way for risk

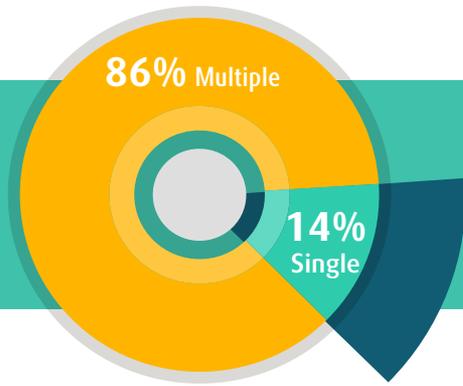
(Furthermore, not one of 110 respondents rated their company as "highly effective" at supply chain risk management.)

Source: Risk and Insurance Magazine.



Transportation Carrier Sourcing

Only **14%** of companies single-sourced their transportation carriers...



BUT...

On average, 38% of other suppliers are single-sourced, though the range for single sourcing among these firms is 13-63%. Many firms take on the risk of sole-sourcing with a relatively large number of their suppliers, citing reasons like:

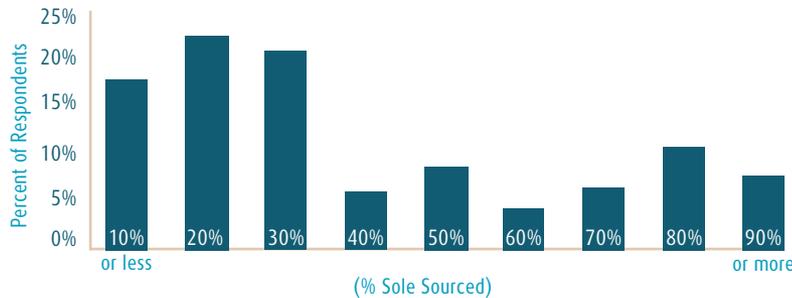
Economics One supplier has a significantly lower cost and/or higher quality

Practicality No other supplier can adequately satisfy the need

Inertia "We've always done business this way."

Sole Sourcing with Other Suppliers

Average equals **38%**



The good news:

49%

On average, of companies surveyed had back-up suppliers who could continue supplying if they suffered a disaster in one location.

The bad news:

51% could not continue supplying within a reasonable time frame.



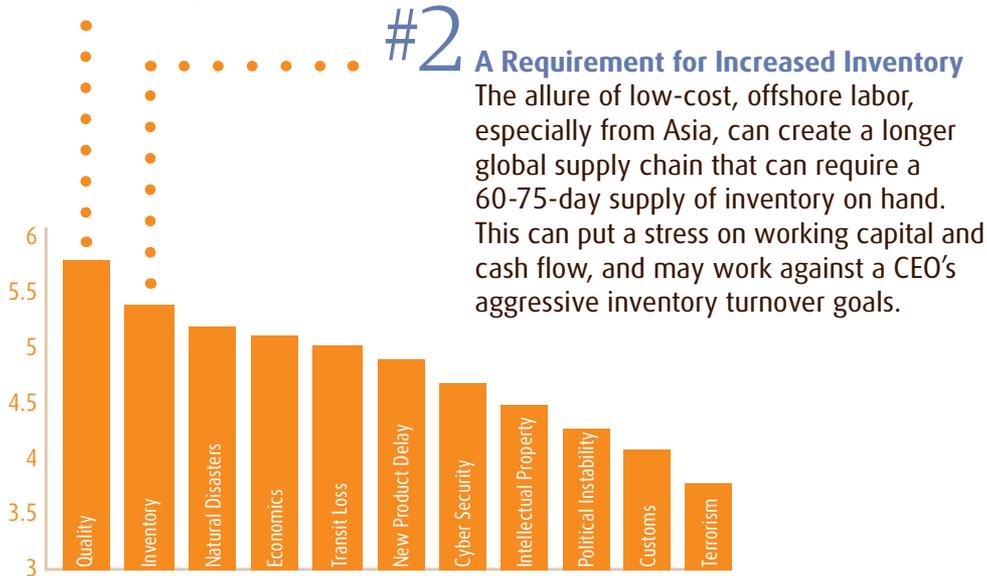
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Ranking the Risk

Rating of concern on a scale of 1-10 (10 indicating greatest concern)

#1 Quality Problems

Long, global supply chains can make it extremely difficult to recover from quality issues.



#2 A Requirement for Increased Inventory

The allure of low-cost, offshore labor, especially from Asia, can create a longer global supply chain that can require a 60-75-day supply of inventory on hand. This can put a stress on working capital and cash flow, and may work against a CEO's aggressive inventory turnover goals.

#3 Natural Disasters

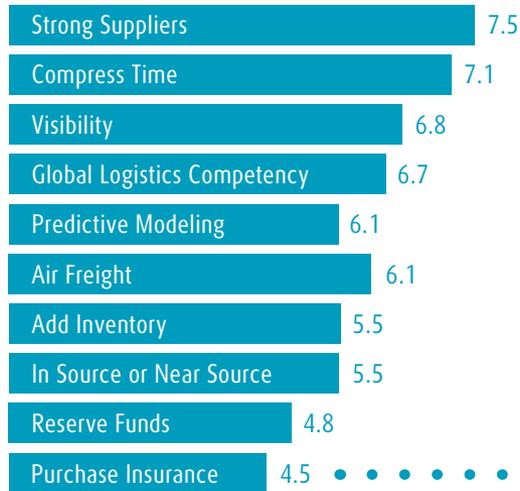
Events like the tsunami in Japan and flooding in Thailand can wreak havoc on a supply chain and a brand.

“Supply chain disasters, whether local or global, can have a devastating impact on a company's performance. That's why supply chain risk must be identified, prioritized and mitigated.”



Most Used Risk Mitigation Strategies

Preference on a scale of 1-10 (10 being most preferred)



Using insurance as a risk mitigation tool ranks dead last.

1

Choose financially strong, competent world-class suppliers. BUT, on average it takes 2 years to develop and fully certify a global supplier.

2

Compress global shipping time and cycle time variation. Using Lean principle or Six Sigma techniques, they look for ways to eliminate or reduce waste and delays at every step.

3

Using visibility tools to closely track global shipments and take action when needed.

“An inexpensive insurance solution can mitigate a wide range of problems, from a port strike to lost cargo.”



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A simple 3 step process to protect your business against supply chain risks

Step 1

Identify the risks facing your supply chain. As supply chains and related risk become more complicated, consider a permanent Risk Manager to proactively focus on preemptive risk management and solutions.

Step 2

Prioritize the risks facing your supply chain. Don't try to solve all the risks facing your supply chain at once. Just the ones that can cause the most pain.

Step 3

Mitigation plans should be developed for the highest priority risks. Don't go it alone. Consider outside help from logistics providers, vendors, insurance companies, academia and others.



Don't forget about insurance!

“We were surprised to learn that insurance is simply not on the radar screen as a risk mitigation approach. Yet when we discuss the usefulness of insurance with supply chain professionals, they quickly realize they've missed a highly effective tool.”



Why?

Most supply chain professionals have very little experience with insurance products that can help mitigate supply chain risk.

They naively rely on carrier liability programs that rarely cover the full value of lost or damaged items.

They think insurance is not part of their job, even though insurance programs are available for both parcels and freight/cargo, regardless of the transportation mode or carrier used.

They are unaware that they can actually cover high-value, time-sensitive and temperature-sensitive perishable goods against loss, damage or delay.

▶ To download the full white paper, [click here.](#)

UPS Capital Risk Mitigation Solutions

Cargo Insurance Safeguard the condition of your goods in transit anywhere in the world, no matter how they move or where they are in your supply chain.

Flexible Parcel Insurance The ultimate protection for highly sensitive shipments. Safeguard time-critical goods and other hard-to-value items in the event of loss, damage or delay.

UPS Proactive Response® Secure Safeguard the delivery of your high value, time sensitive or perishable packages with this one-of-a-kind solution that combines package intervention and remediation and proactive monitoring for your packages.

Credit Insurance Preserve and expand sales while minimizing credit risk through the protection against non-payment of your receivables.

UPS Capital Cargo Finance® Use in-transit inventory as collateral to obtain working capital for your business, so you don't have to wait weeks or months to convert that inventory into cash.

Global Asset-Based Lending Provides a revolving line of credit to ensure smooth, predictable cash flow. Funds are advanced against your offshore-warehoused or in-transit goods, giving you financial flexibility, because you aren't locked into a fixed loan or payment amount.



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