



# Can You Afford the Risk?

A Quantitative Study of Risk Management

4/24/2014

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**Supply  
Chain  
Insights™**

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# Research

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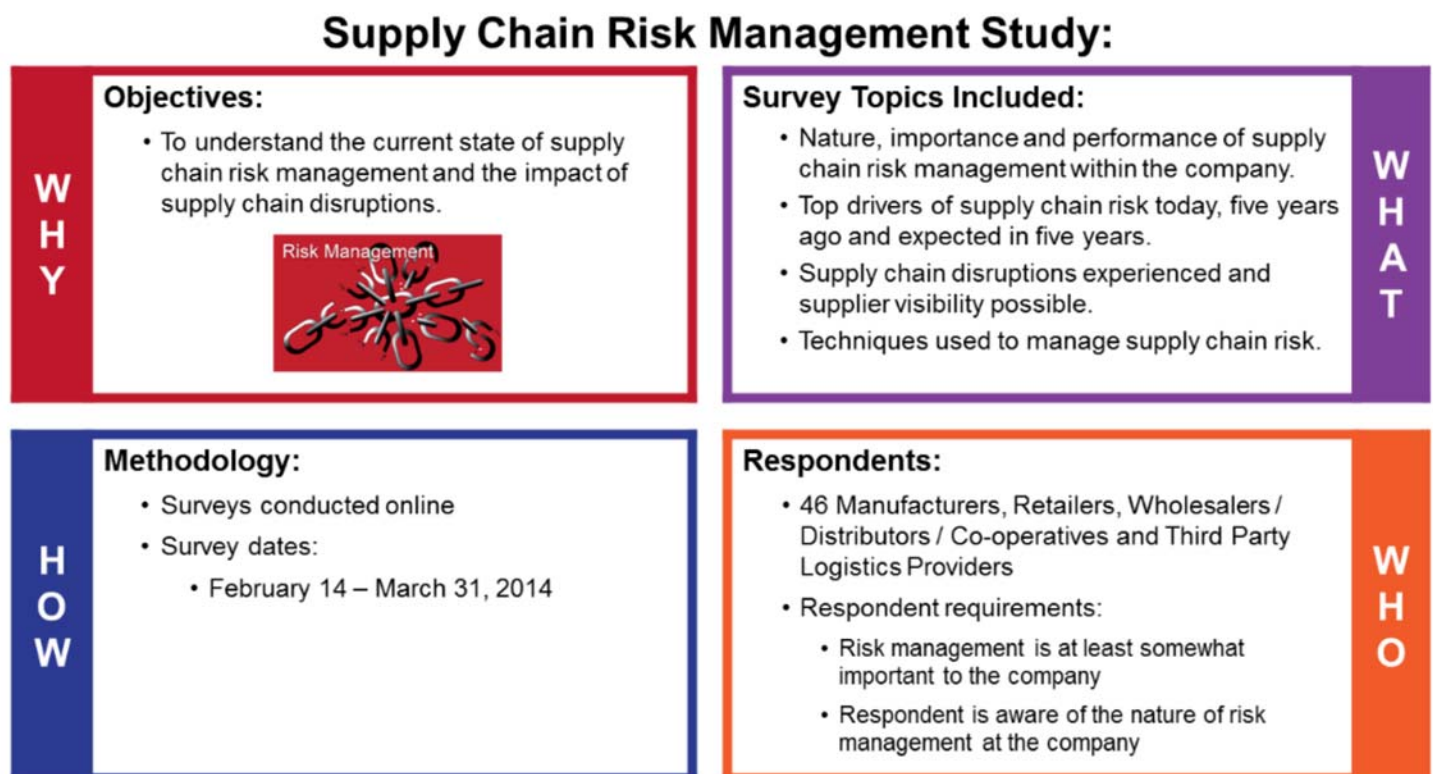
# Disclosure

Your trust is important to us. As such, we are open and transparent about our financial relationships and our research processes.

# Research Methodology and Overview

This report is based on a study completed by Supply Chain Insights in 2014. The outline of the study is shown in Figure 1. Survey demographics and information about the respondents are detailed in Figures A-G the Appendix.

Figure 1. Study Overview



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)

# Executive Overview

Today's supply chains are a risky proposition. The factors are numerous and rising. They include: outsourcing, complexity, global operations, demand volatility and supplier fragility. In our view, supply chains are not up to the challenge. They are fragile.

Supply chain risk management is a factor in business continuity planning. Over 80% of companies see risk management as an important piece of their company's strategy, but in over 50% of companies, the effort is buried in other processes. It is not top of mind.

In another 20% of companies, leaders are just getting started on a risk management program. The reason? Many of the concepts are new. The processes are evolving, and companies are unsure. However, the risks are growing and the potential consequences for companies are large. It is growing in importance.

Consider the facts:

- **Pervasive.** In 2013, 80% of companies had a material disruption. It was not one. On average, it was three. Companies are not prepared for the challenges they face.
- **False Sense of Security?** Today, 68% of companies feel that they are better prepared than five years ago, but their focus has been a narrow and traditional focus on supply. Few companies are attacking risk management holistically.
- **Foundational Gaps.** Visibility in the extended supply chain--both demand and supply--is a growing risk. Demand volatility is the largest gap to companies today; and only 18% of companies have visibility to second and third-tier suppliers. Yet, the funding for companies is tied up in multi-year ERP programs that do not address the problem.



In this report, we share the results from the study along with case studies from our client engagements to make the point that supply chains today are not able to withstand the risk. We believe that there needs to be a call to action.

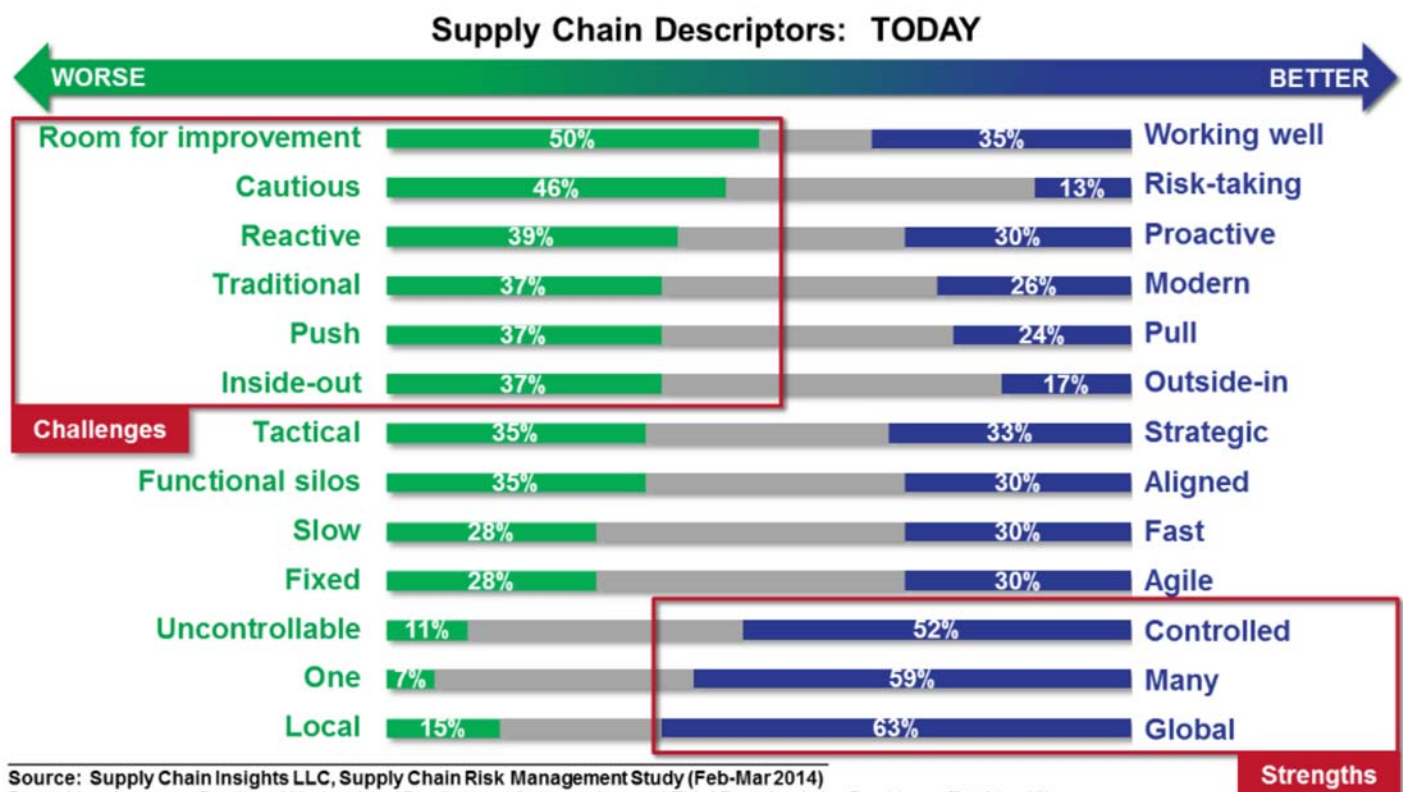
# What Is Supply Chain Risk Management?

For the purpose of this study, we defined risk management as the proactive identification of risks to the supply chain – as well as strategies to mitigate those risks. The key word to this definition is proactive. Today's supply chains are reactive. They do not sense.

The focus of this report is holistic. It is on the entire value chain. Here we examine risk management practices from the customer's customer to the supplier's supplier. We feel that it cannot be treated narrowly by looking at the supply chain as a function, or focusing on a part of the supply chain like procurement, transportation, distribution, or manufacturing. Instead, we think that it is a new way of thinking. It needs to be all-inclusive.

Today's supply chains are cautious and traditional. As shown in Figure 2, they are not proactive. As a result, many of the concepts of risk management are in conflict with traditional supply chain processes.

Figure 2. Current State of Supply Chains



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)

Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)

Q23. How would you describe your supply chain today? For each of the following pairs of words, please pick the one word or phrase that best describes your supply chain.

The challenge is how to drive proactivity and alignment. This needs to happen cross-functionally with a focus on end-to-end thinking. Yet, in our interviews with companies, only 1% of companies have a leader focused on designing the end-to-end value chain.

The impact is pervasive. The barriers are many:

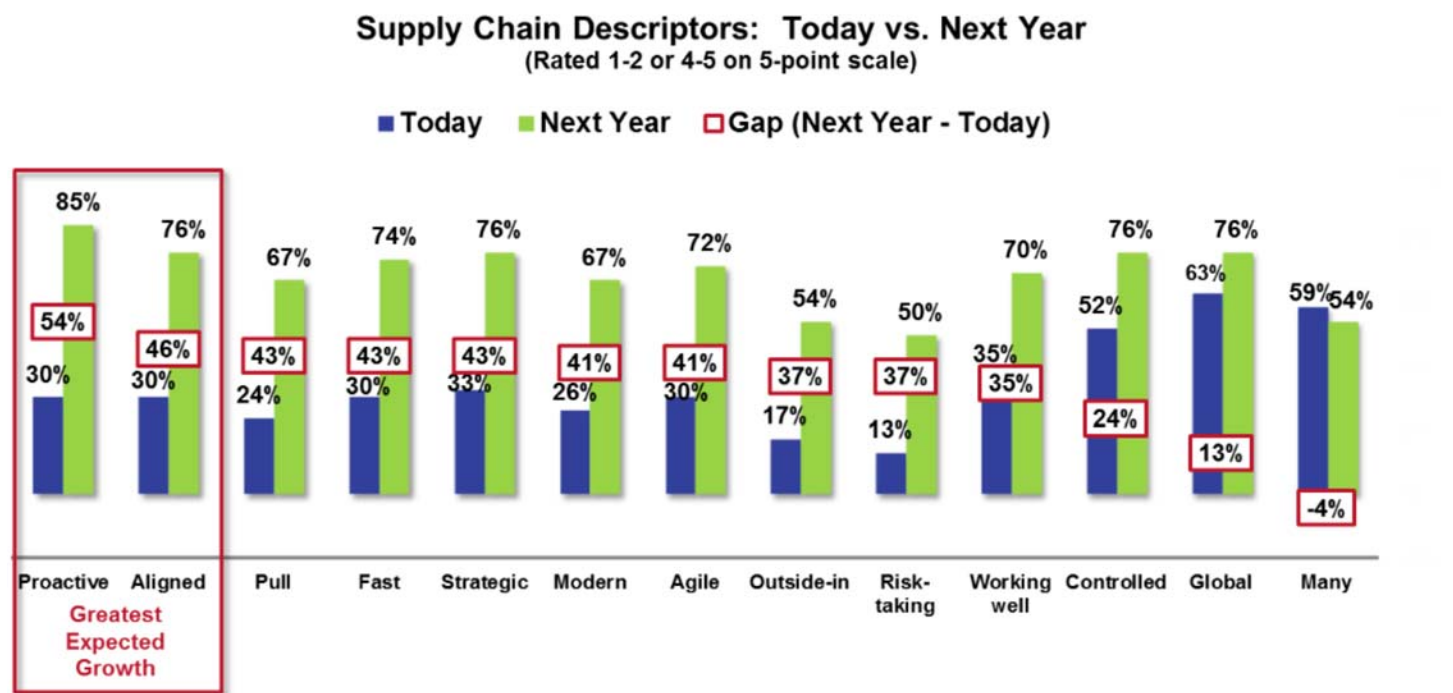
- **Understanding.** Finance teams tend to see the supply chain as a series of historic transactions while supply chain leaders see the supply chain as forward-looking flows. Risk management is forward looking to design for demand and supply risk. Many finance teams and well-intentioned consultants focus on driving the efficient supply chain with the lowest working capital and cost per unit. They do not understand that the efficient supply chain is not the most effective. It is a risk issue waiting to happen.
- **Design.** Many companies inherit the design of their supply chain and do not spend time thinking about risk mitigation strategies. This includes push-pull decoupling points, buffers, and supplier development schemes to reduce risk. In these organizations the concepts of network design are more focused on physical flows and asset locations. The use of network design simulation tools to model flows and the form and function of inventory is new to most organizations.
- **Capabilities.** Tightly integrated supply chains are inflexible. Many companies have built planning architectures that cannot model risk. In this study, only 15% of companies are modeling and simulating supply chain flows and “what-if” capabilities.
- **Focus.** Traditional leaders reward the urgent, not the important. Risk management concepts are new. It requires a focus on the important. It requires leadership and orchestration. Teams don't know what to do. The companies that are the most mature learned the hard way. They had a disruption.
- **Preparedness.** Today, supply chain systems respond, but they do not sense. Performance is measured by indicators, not by performance predictors. Too few companies are actively doing drills and preparing for supply chain risk disruptions.

It is not business as usual. In short, risk management strategies are a different way of thinking. It is about asking what could happen, and preparing for the unknown condition with an unknown impact. An analogy is a flight simulator. An airline pilot trains in a cockpit simulator to understand the potential impact and to manage his response. It improves his ability to respond in a time of danger even though the actual event may be very different than the one for which he trained.



Supply chain design and supply chain readiness is analogous. Through the modeling of the supply chain and scenario planning, companies become more aware of what could happen and better prepared for action. As shown in Figure 3, it will get worse before it gets better.

Figure 3. Gap Analysis between Current State and the Desired Future State



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
 Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)  
 Q23. How would you describe your supply chain today? For each of the following pairs of words, please pick the one word or phrase that best describes your supply chain.  
 Q24. For each of the same pairs, now pick which you hope your supply chain will be next year, in 2015?

## A Story of Why Risk Management Matters

*I was on the last flight out of Ronald Reagan airport as the skies darkened and the airport closed. Hurricane Sandy was steadily moving up the east coast. I was glad to get out of Washington, DC. I had stood at airline counters for hours to get on the last plane out of DC. Most were canceled. We knew that it was not just a normal storm. Companies had prepared for the worst.*

*At the time, many of my New York friends were in disbelief. They kept saying, “How bad could it really be?” We all now know the story: it was bad; a momentous event. Hurricane Sandy was no minor storm. The impact was severe. It killed at least 117 people in the United States leaving 7.9 million businesses and households without power. Over 9000 people in thirteen states spent the night in shelters. The New York Stock Exchange was closed for two days.*

*The next morning, I was meeting with a large food manufacturing company in the Midwest. My client, Glenn, leads a Fortune 500 supply chain. As we filled our coffee cups, Hurricane Sandy*

seemed miles away. In casual conversation, I asked him, “What was the *impact of Hurricane Sandy last night on your supply chain?*” He smiled, and said, “It was a rough one. I am happy to report that all of our manufacturing locations and employees are safe. I am relieved.” As I slid *my tray down the counter towards the cashier to pay for our coffee*, I asked, “What about the *plastics manufacturers in Newark and the flavor houses in Northern New Jersey? Are you going to be able to get production materials for your upcoming manufacturing runs?*” He turned a ghastly shade of white, and said, “I don’t know. Those are good questions. We have *only looked at it from our viewpoint. You are right. We have many critical suppliers in northern New Jersey. We do not know where their factories and distribution centers are. While they do not supply a lot in volume, they are very strategic in what they contribute. I think that I need to go ask some of my managers that question.*” He apologized and excused himself. In about an hour, his *administrative assistant found me in the cafeteria drinking my coffee. She apologized for Glenn’s absence and shared that, “Due to some major supplier issues, Glenn needs to reschedule our meeting.”* I smiled. I understood.

*Later in the day, Glenn and I reconnected. He had spent the entire day attempting to keep materials flowing into his plants. His problem was a lack of first- and second-tier supplier visibility. Glenn, like most supply chain leaders, does not know where their suppliers manufacture their supplies and source their raw materials.*

## Today, Risk Management Is More Critical

In the last decade, supply chain leaders pushed hard on suppliers. Payables were elongated on average by 30 days. Inventory was pushed backwards in the supply chain and teams negotiated hard on costs. As a result, today, there is very little slop in the supply base. Suppliers are more fragile and supply chains are more dependent on others.

We are more global. The suppliers are stretched tight. As a result, many of our assumptions of how we could run our businesses need to change. The risk that you do not know about today is probably the one that should keep you up at night.

Yet, when we look at Figure 4, we can easily see that the topic of risk management does not top the list of stay-awake issues. Instead, it is 14<sup>th</sup> out of 16 elements on the list. As you read this report, we want you to question if it should be higher and a more important business priority. We think it should be. Here, in this report, we make the argument.



Figure 4. Top Five Elements of Business Pain for the Supply Chain Leader

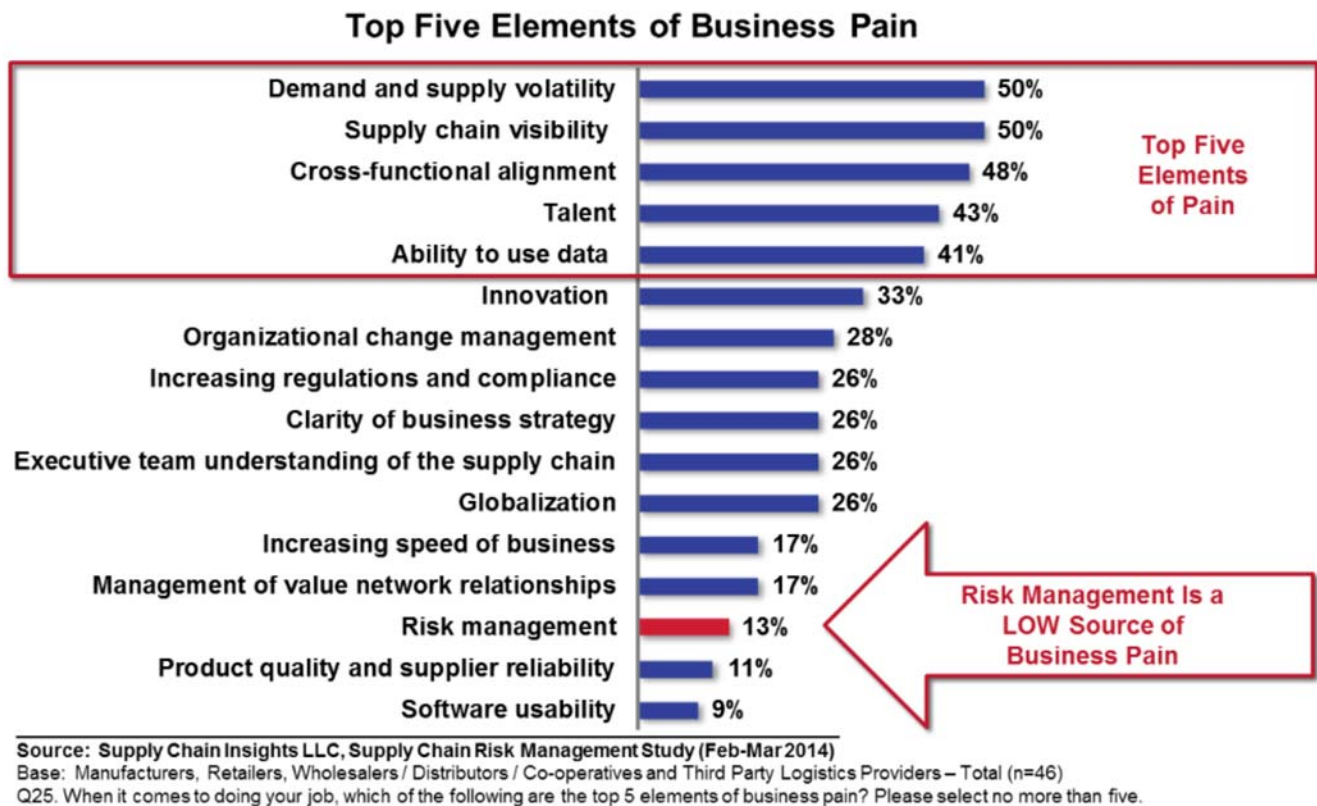
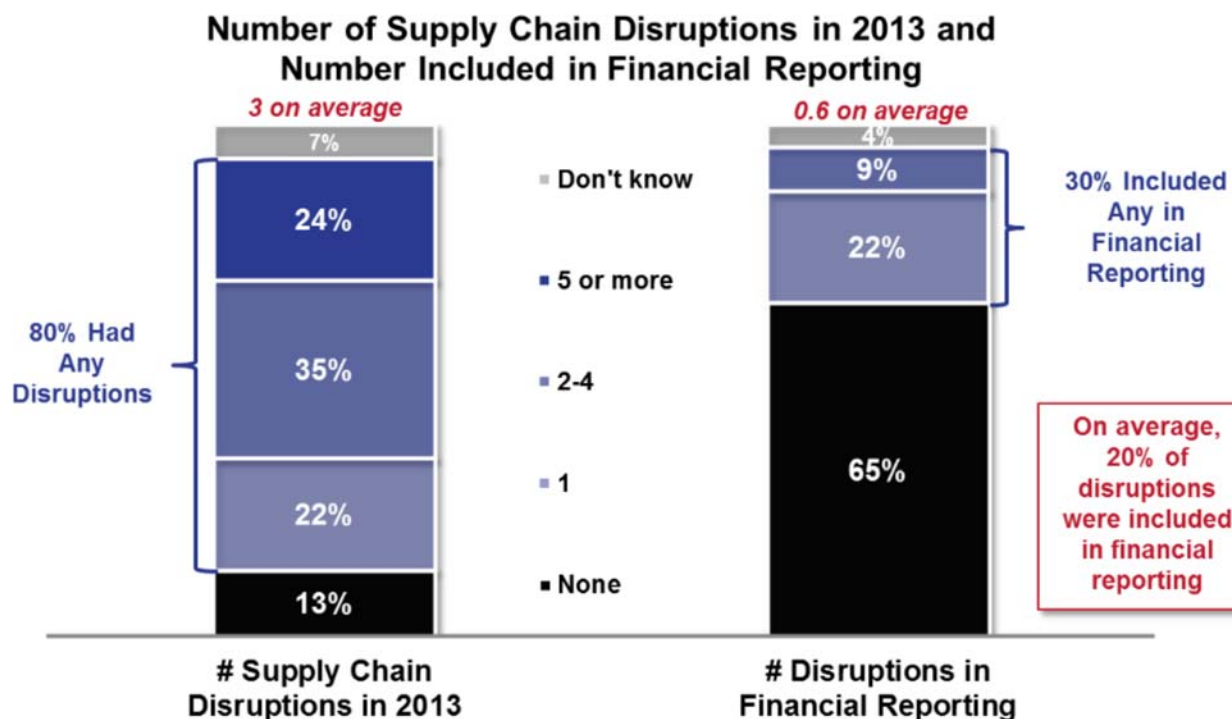


Figure 5. Number of Supply Chain Disruptions in 2013



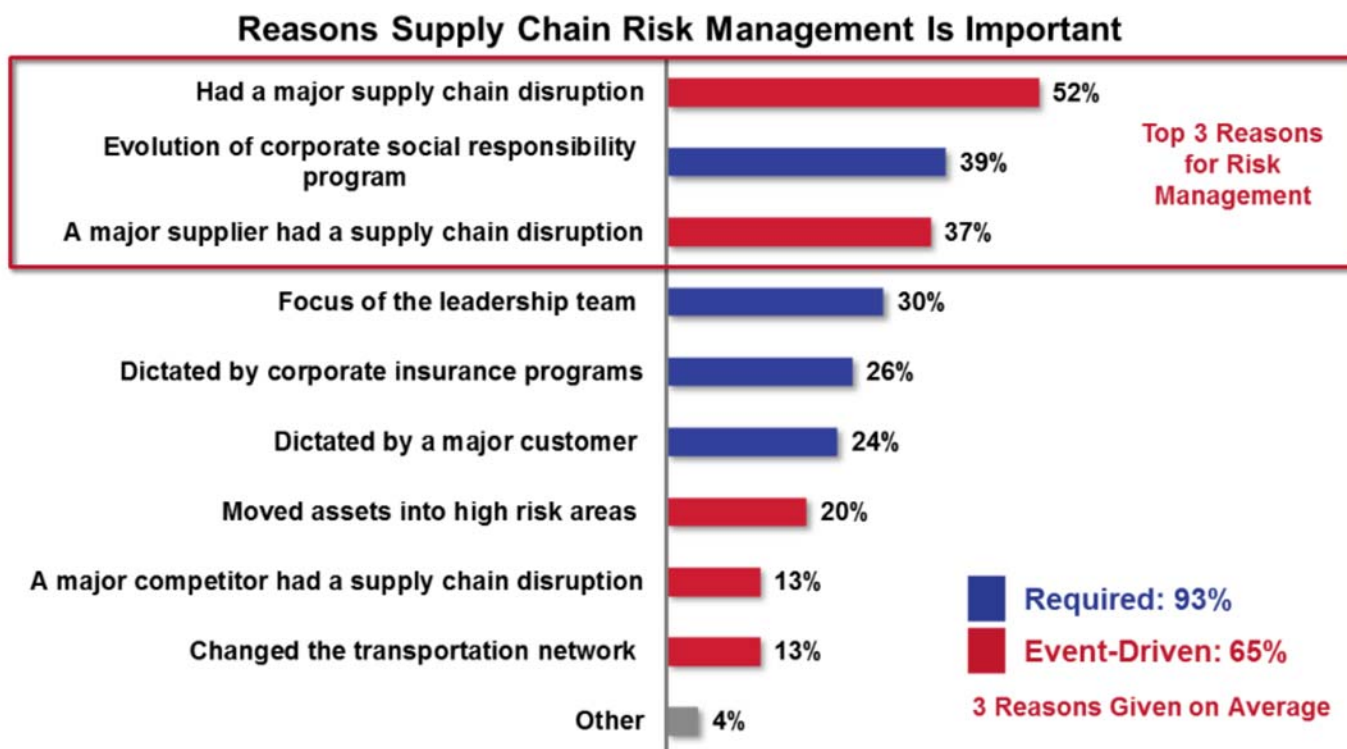
Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
 Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)  
 Q15. Now please think just about last year – 2013. How many supply chain disruptions, if any, did your company experience in 2013? A supply chain disruption is an unplanned event or an occurrence that had material consequences on your supply chain. Your best estimate is fine.  
 Q16. How many of your supply chain disruptions in 2013 were material enough to be included in your financial reporting? Your best estimate is fine.

In 2013, 80% of supply chain leaders had a material supply chain disruption. It was not just one. The average company had three. However, many of these were not reported on the balance sheet. As a result, as shown in Figure 5, the level of financial impact is under-reported.

Most companies have to fail before risk management becomes important. In our survey, 52% said that risk management is important today because they have experienced a major supply chain disruption, and 37% attributed its importance to the impact of a material event at a primary supplier. In parallel, business continuity programs are driving supply chain risk management as a boardroom issue. Corporate social responsibility, insurability, and a focus on global supply chain business practices have elevated the topic. However, many do not know what to do about it. There is a gap between concern and action.

One of the first actions that a supply chain leader should take is to educate the executive team on potential scenarios and the fragility of the links of the supply chain. While many “experts” in social responsibility and risk management discuss the issues, there is no substitute for understanding the impacts on the company’s own supply chain. Some of the issues are outlined in Figure 6.

Figure 6. Reasons Why Supply Chain Risk Management Is Rising in Importance



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)

Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)

Q6. For what reasons is supply chain risk management important to your company? Please select all that apply.

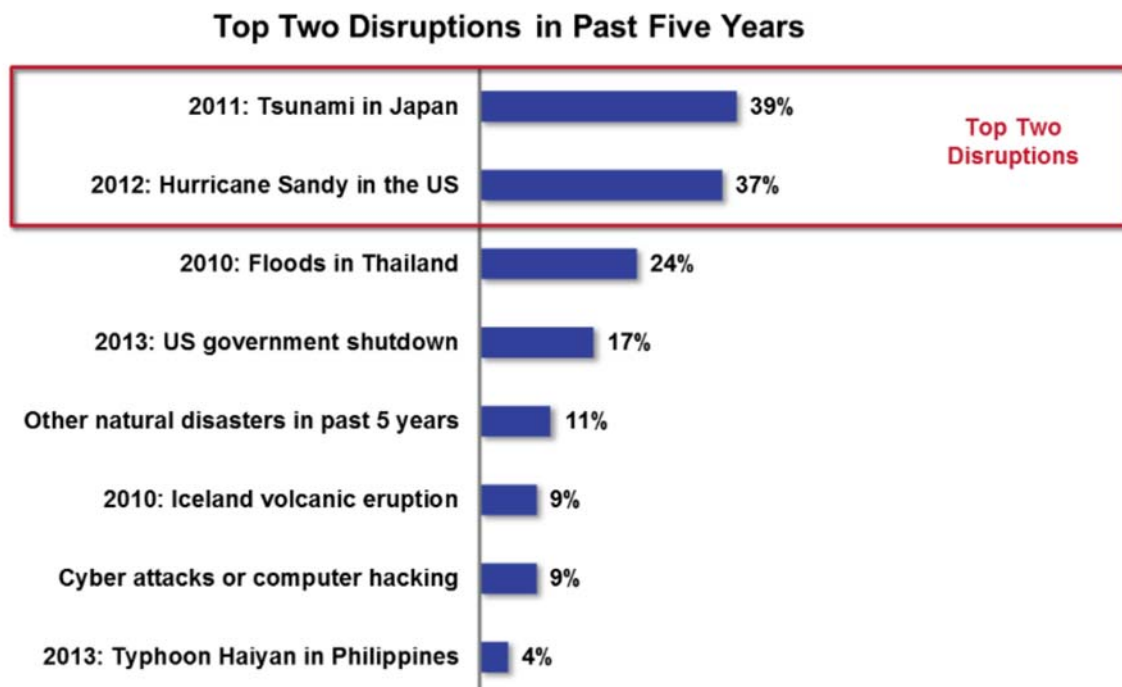
When a major event happens, like those shown in Figure 7, it serves as a lightning rod for the industry. When a tsunami hit Japan, Toyota deployed supplier development teams to aid second and third-tier suppliers. In contrast, Ford did not know the location of their second tier suppliers.

Intel, a leader in supplier development, helped nine suppliers in the tsunami to continue operations. Why can Toyota and Intel act, and Ford cannot? Three reasons:

1. **Visibility.** They know the location of factories and distribution centers in the network. Even with second and third tier providers. So, when a disaster hits they can better anticipate the impact.
2. **Focus.** These companies have supplier development programs designed to help suppliers. Many companies focus supplier development on compliance and punitive actions. The programs at Toyota and Intel are about carrots, not sticks.
3. **Bias for Action.** They know how to act. They have practiced. When an event happens, they are moving. This has happened through disaster readiness programs.

As supply chains become more global, companies can no longer depend on tribal knowledge about their value chain. The relationships are no longer regional. Instead, they are multiple-tiers and they spread across the world. As a result, when a sneeze happens in one part of the world, someone else's supply chain catches a cold. The impact is pervasive. As shown in Figure 7, the effects of natural events in the past five years impacted most supply chain leaders.

Figure 7: Impact of Events on Supply Chains



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)

Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)

Q12. Over the past five years (2009-2013), what were the 2 specific events to impact your company's supply chain the most? Please pick no more than three.

# Move to a New Level. Think Holistically

When you talk to supply chain leaders about risk management their answers tend to be hard-wired for supply. Many will wax eloquently about the work that they are doing on "control tower" or "supply chain visibility." It is not sufficient. We are only dipping our toes into turbulent waters.

I have been working as an analyst in supply chain management for the last decade. In this role, I have done a study on risk management about every five years. We seldom are surprised by study results; however, the answer to this study's question on risk drivers surprised us. As you can see in Figure 8, today it is less about supply and more about demand. The largest increase in risk expected over the next five years will be the management of global operations. Two trends hop off the page:

1. **Increasing Complexity of Operations.** With a decade of building global supply chains behind us, companies are feeling the impact. Local regulations, fair labor, variability in shipping lanes, new materials, outsourced manufacturing, and faster product development cycles are all contributing to the pain. The financial stability of contract manufacturers and third-party logistics firms is a growing risk. It is not just one factor. We are better at managing regional supply chains than tangled/knotty global ones. The organizational dynamics and politics make regional/global governance difficult.
2. **Demand Variability.** The biggest surprise for me in this research is the role of demand uncertainty on risk. The building of demand sensing capabilities requires the automation of market sensing and the use of channel data. The change management issues are high. It is difficult for the supply chain leader to accomplish this by themselves. Why? The term "supply chain" is politically charged. It has become a function, not an end-to-end process. Marketing and sales are also functions. The functional approach does not allow us to build demand processes. By and large, marketing and sales are not good at forecasting demand. They introduce bias. To combat this issue, and drive success in demand sensing, many companies have to rename the workstream so that it can truly be an end-to-end focus. For sales-driven and marketing-driven companies this is a major change management issue.



Figure 8. Supply Chain Risk Drivers



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)

Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)

Q8. What do you see as the top 3 drivers of supply chain risk at your company today? Please select no more than three.

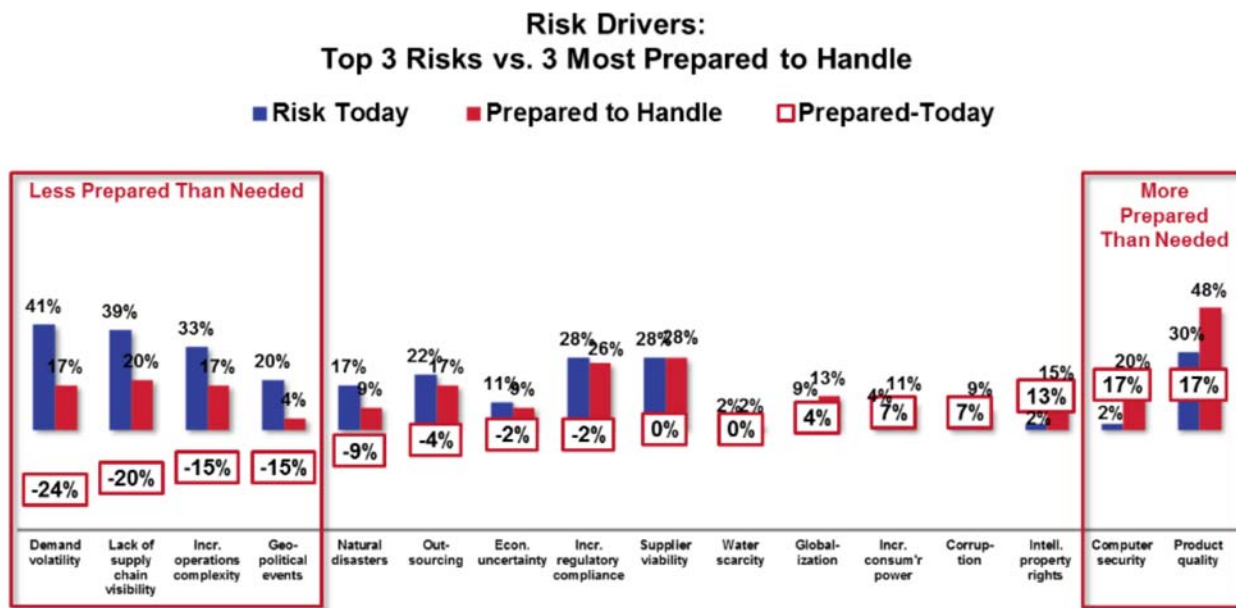
Q9. What were the top 3 drivers of supply chain risk at your company five years ago? Please select no more than three.

Q10. What do you expect will be the top 3 drivers of supply chain risk at your company in five years? Please select no more than three.

\*Others with consistent low risk not shown: Corruption, Intellectual Property Right, Water Scarcity and Computer Security

While many companies have focused on the traditional risk factors of computer security or product quality, the more cross-functional issues of risk management like demand and supply visibility and increased operations complexity are growing as risk factors. Today, as shown in Figure 9, the risks are high and growing.

Figure 9. Supply Chain Risk Drivers



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
 Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)  
 Q8. What do you see as the top 3 drivers of supply chain risk at your company today? Please select no more than three.  
 Q11. Here is the same list of possible supply chain risk. Please select the three you think your company is most prepared to handle today. Please select no more than three.

Company's programs are passive. Drills and contingency planning lack "what-if" simulations and multi-tier visibility. They are more about supply than demand. Actions that are being taken today are outlined in Figure 10.

Figure 10. Current Focus of Risk Management Programs



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
 Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)  
 Q19. What are the 3 most important techniques your company currently uses for supply chain risk management? Please select no more than three.



# Recommendations

The supply chain today is very different than the supply chain of ten years ago. While 52% of companies rate themselves as competent in risk management, we feel that many overstate their readiness. Why? More and more supply chain functions have been outsourced. There are fewer buffers. The supply chain links are more dependent. The supply chain is more complex. The answer needs to be holistic. Here are nine actions to take:

1. **Recognize the Issue. Simplify Operations.** This includes simplification of the product lines and the definition of standard ingredients and/or interchangeable parts. Our research supports that getting this on the product development agenda is a barrier. Mitigating this risk issue requires striking the right balance between global and local governance. There is less variability in the management of regional supply chains. Accountability and priorities are clearer.
2. **Use Channel Data and Build Demand Sensing Capabilities.** Reduce demand latency and automate the processes of demand. I work with many companies on the differences between marketing-driven and sales-driven processes and the journey to become market-driven. When marketing and sales operate as functions, they are not aligned to more holistic end-to-end processes. This is growing as an enterprise risk.
3. **Focus Where It Matters.** Evaluate potential points of failure and the impact on the total supply chain. At Ford, the greatest risk for a potential disaster in Japan was with a second tier supplier of O-rings that had low spend. This is a stark contrast to the conventional work on supplier development and network design. In the conventional approach, companies would look at the suppliers with the greatest spend and miss the impact on the second tier suppliers with low spend. The effort needs to be focused and deliberate. Ford has 5,000 suppliers. It is not a simple activity. It requires work.
4. **Make Your Supplier Needs Your Concern.** Many of the outsourcing activities of the last decade have created a number of trading partners that lack enterprise resiliency. As outlined in our [Supply Chain Metrics That Matter: Improving Supply Chain Resiliency](#) report, the lack of stability in contract manufacturing and third-party logistics is an increasing risk factor for most supply chains.
5. **Map the Flows.** Know the location of where the manufacturing and distribution sites are of second and third tier suppliers. Map the flows on an annual basis from the customer's

customer to the supplier's supplier including transportation networks. Gain an understanding of the extended supply chain. It changes frequently. We are surprised that few organizations have done this level of mapping.

6. **Simulate. Evaluate Risk.** Through the use of simulation technologies understand the impact of raw material flows. As with Ford, the materials with the greatest impact on risk may be a small volume. Model the ripple effect and plan disaster recoveries for areas with high risk.
7. **Build Relationships. Share Data.** After understanding the critical suppliers, build top-to-top relationships and work together on contingency plans. Also work on data-sharing programs to synchronize flows. (This is more than passive portal data sharing or passing around excel spreadsheets. It is also about more than tight integration.) Focus IT teams on synchronizing and harmonizing data flows to ensure data visibility. Actively use B2B Supply Chain Business Networks.
8. **Practice Drills.** Simulate potential scenarios and work with critical suppliers to build joint processes and procedures. While the drill that is practiced might not represent the actual event, the training will prepare the team on the process of mitigating risk in the face of a live event.
9. **Build Supply Chain Visibility Systems.** Supply chain visibility is a foundational element in a risk mitigation strategy. For more on supply chain visibility, see our series of reports on B2B connectivity listed at the end of this report.

## Conclusion

So, can you afford the risk? We don't think so. We think that supply chain risk management should be a stay-awake issue for most companies today.

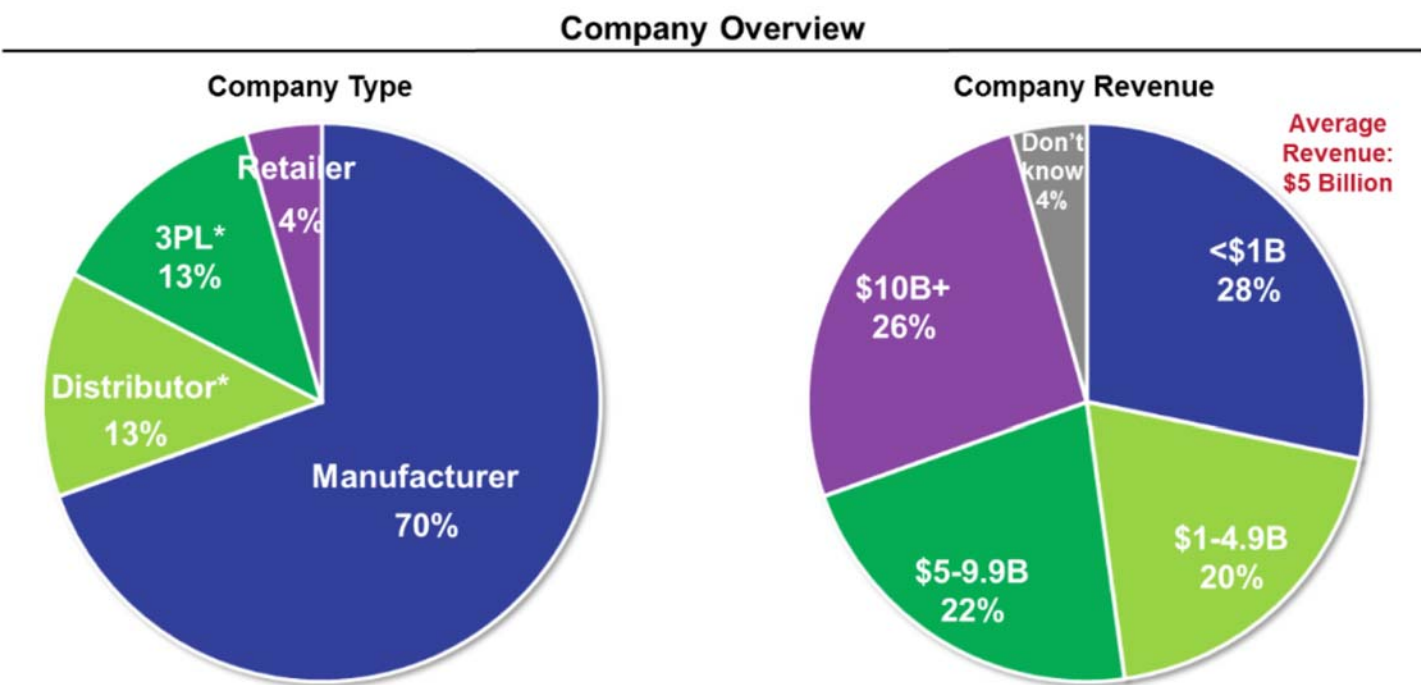
# Appendix

In this section, we share the demographic information of survey respondents as well as additional charts referenced in the report to substantiate the findings.

The participants in this research answered the surveys of their own free will. There was no exchange of currency to drive an improved response rate. The primary incentive made to stimulate the response was an offer to share and discuss the survey results in the form of Open Content research at the end of the study.

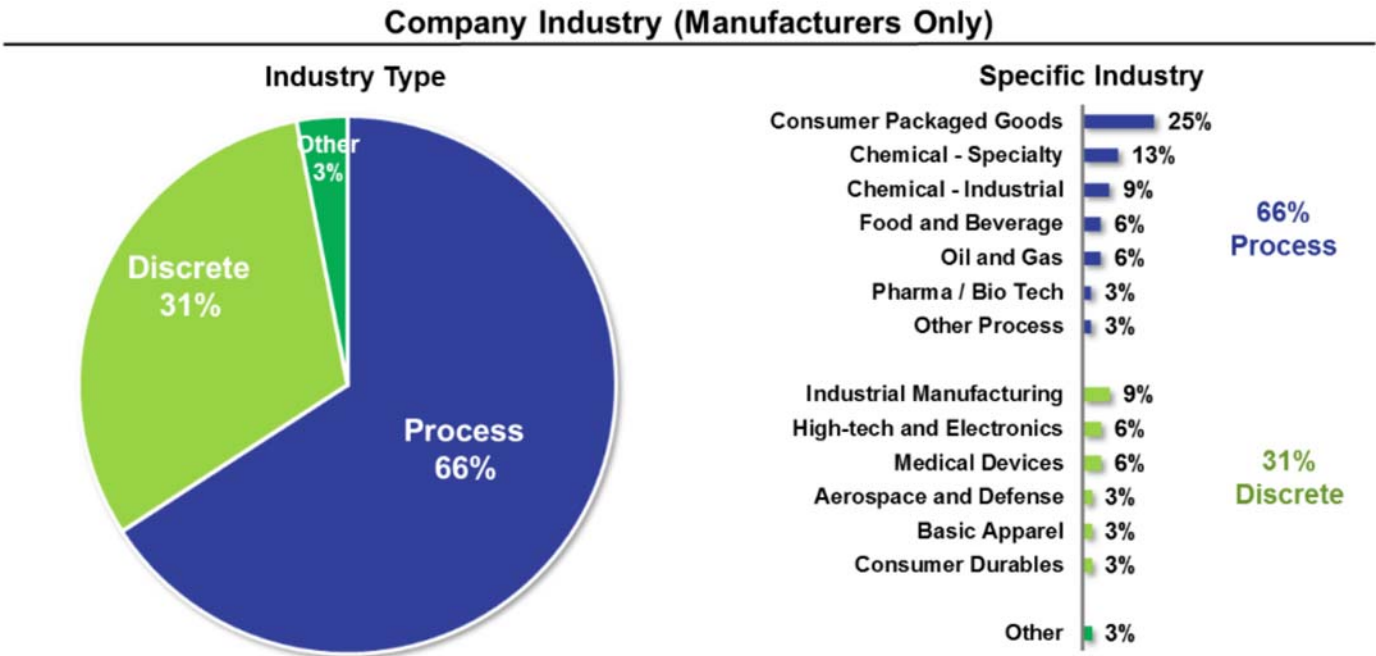
The names, both of individual respondents and companies participating, are held in confidence. The demographics are shared to help the readers of this report gain a better perspective on the results. The demographics and additional charts are found in figures A–G.

Figure A. Company Overview of Respondents



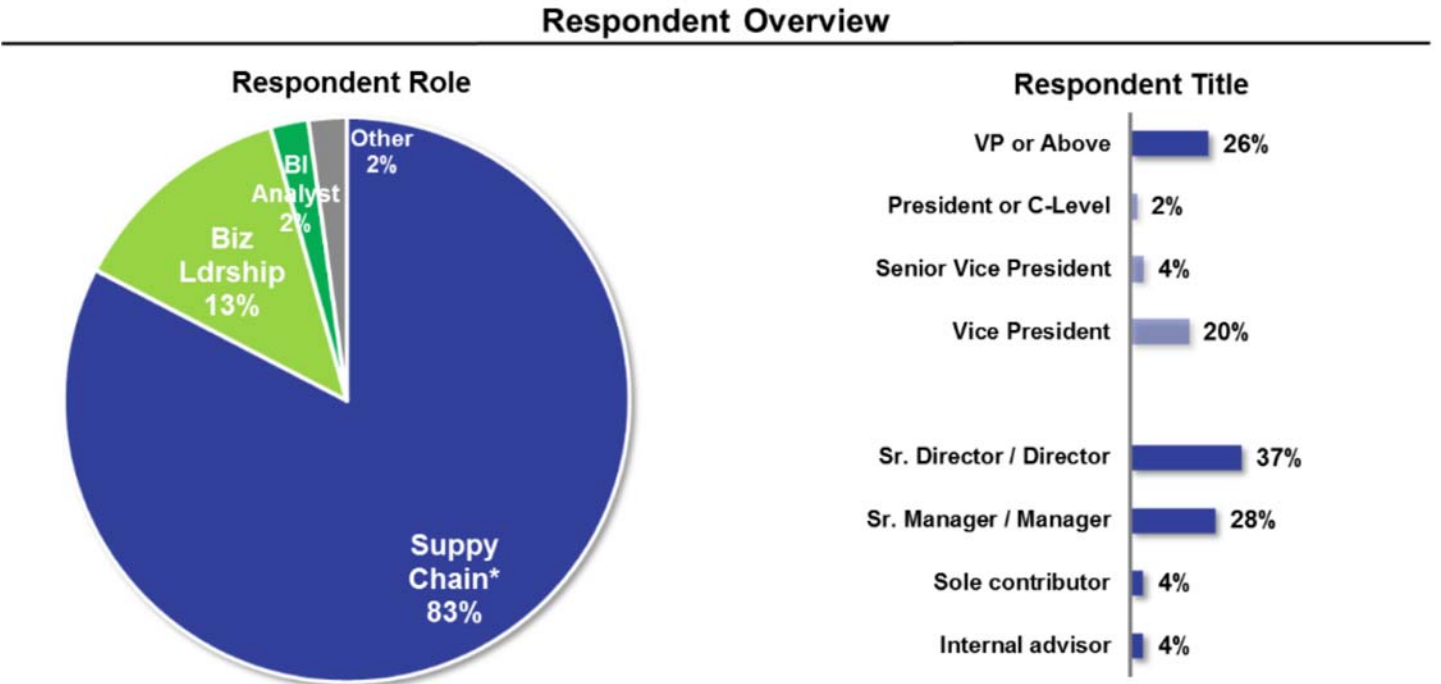
Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)  
\*Distributor = Wholesaler / Distributor / Co-operative; 3PL = Third Party Logistics Provider  
Q1. First, which of the following best describes where you work? Please select the one that fits best, even if the terminology isn't quite right.  
Q28. Approximately, what was your company's last fiscal year revenue? Your best estimate is fine.

Figure B. Industry Demographics



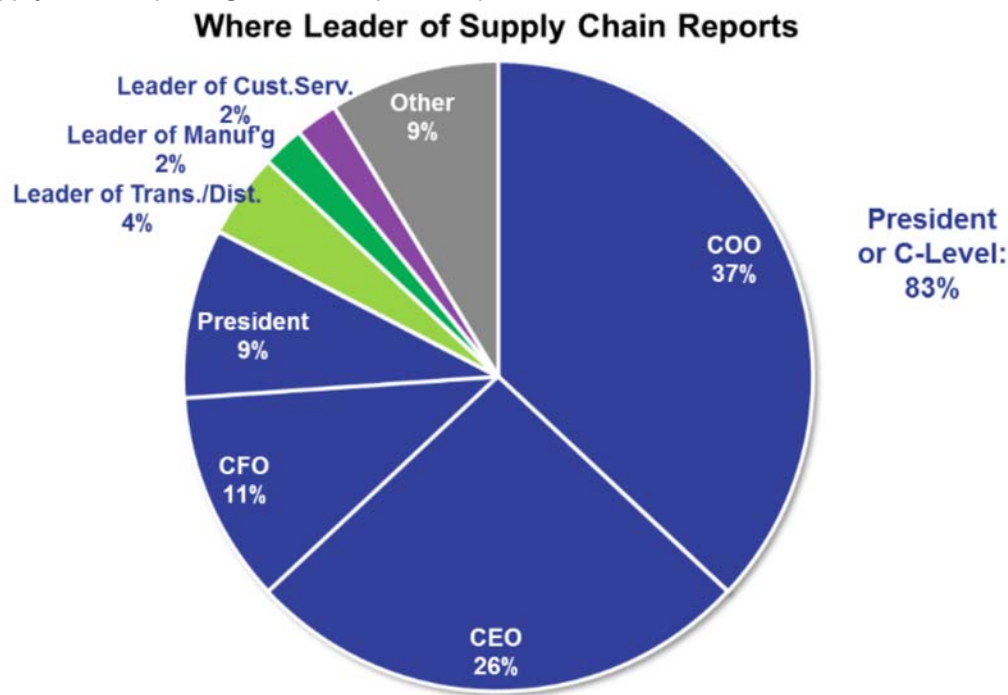
Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
Base: Manufacturers – Total (n=32)  
Q2. Which industry grouping best defines your company? Please select the one that fits best, even if the terminology isn't quite right.  
Q2a. Which of the following best describes your company's industry? Please select the one that fits best, even if the terminology isn't quite right.

Figure C. Role of Respondents



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)  
\*Supply Chain = May include Operations, Distribution, Logistics, Manufacturing, Procurement  
Q26. Which of the following best describes your current role, even if the terminology isn't quite right?  
Q27. Please indicate which of the following best describes your current level or title, even if the terminology isn't quite right?

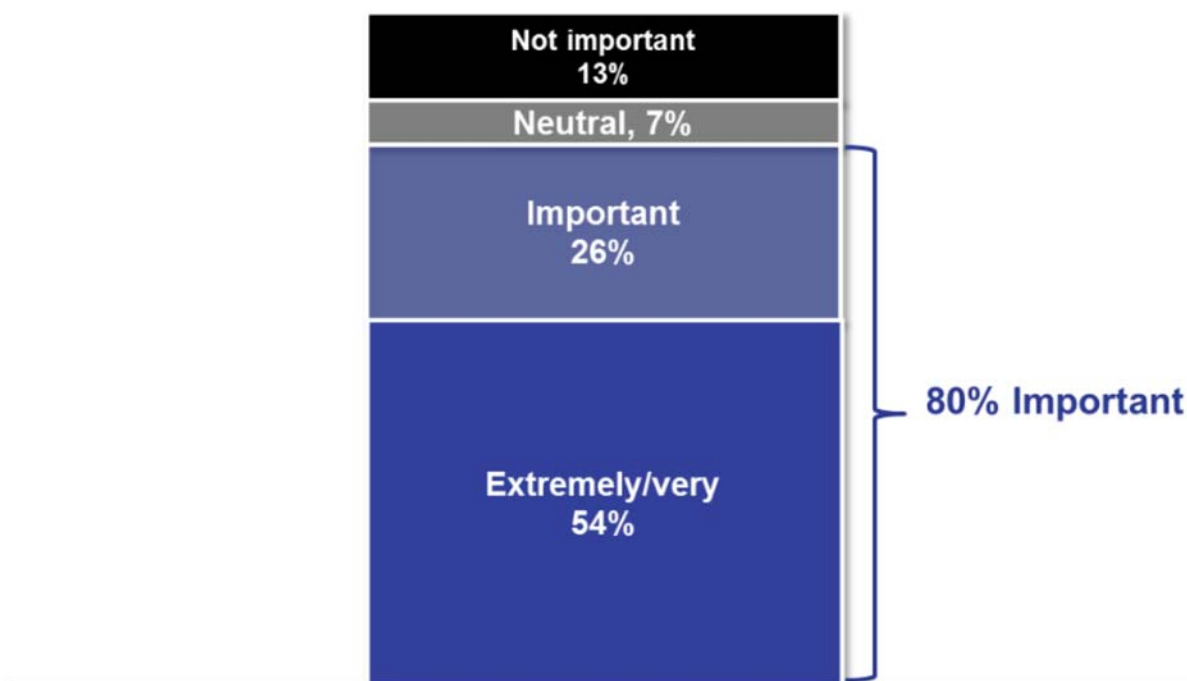
Figure D. Supply Chain Reporting Relationships of Respondents



Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
 Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)  
 Q22. At your company, to whom does the leader of your supply chain organization report?

Figure E. Importance to Corporate Strategy

### Importance of Risk Management to Supply Chain Strategy



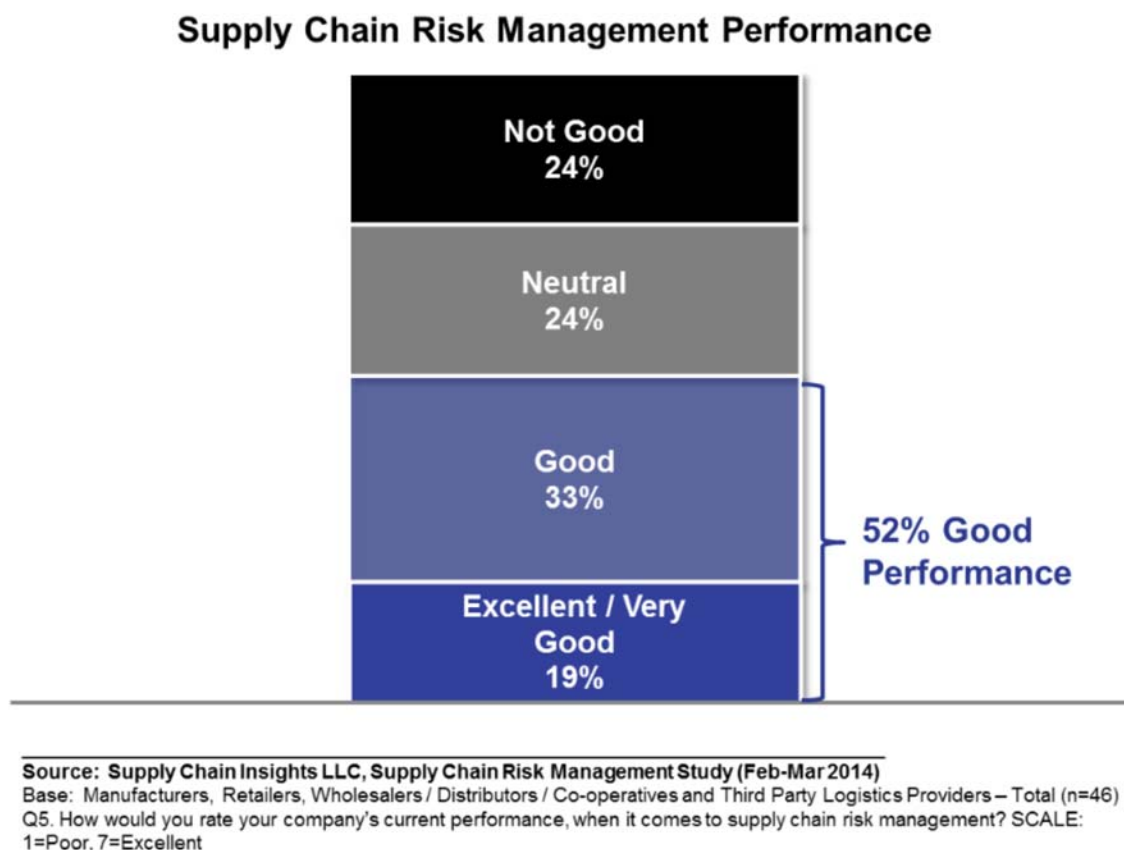
Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)  
 Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)  
 Q4. How important is risk management to your company's supply chain strategy? SCALE: 1=Not at all important, 7=Extremely important



Figure F. Responsibility for Supply Chain Risk Management



Figure G. Risk Management Performance





# Other Reports in This Series

For more on supply chain visibility, and the use of B2B connectivity to mitigate risk, see these reports.

[Supply Chain Visibility in B2B Networks, published in March 2014](#)

[EDI: Workhorse of the Supply Chain, published in February 2014](#)

[Building B2B Supply Chain Networks, published in April 2014](#)

## About Supply Chain Insights, LLC

Founded in February, 2012 by Lora Cecere, [Supply Chain Insights LLC](#) is focused on delivering **independent, actionable, and objective advice for supply chain leaders**. If you need to know which practices and technologies make the biggest difference to corporate performance, turn to us. We are a company dedicated to this research. We help you understand supply chain trends, evolving technologies and which metrics matter.

## About Lora Cecere

Lora Cecere (twitter ID [@lcecere](#)) is the Founder of [Supply Chain Insights LLC](#) and the author of popular enterprise software blog [Supply Chain Shaman](#) currently read by 5,000 supply chain professionals. She also writes as a LinkedIn Influencer and is a contributor for Forbes. Her book, [Bricks Matter](#), (co-authored with Charlie Chase) published on December 26<sup>th</sup>, 2012. She is currently working on a second book, *Metrics That Matter*, to publish in 2014.

With over nine years as a research analyst with **AMR Research, Altimeter Group, and Gartner Group** and now as a Founder of Supply Chain Insights, Lora understands supply chain. She has worked with over 600 companies on their supply chain strategy and speaks at over 50 conferences a year on the evolution of supply chain processes and technologies. Her research is designed for the early adopter seeking first mover advantage.