Research in Review

Insights from 2014 Studies

11/19/2014

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Supply Chain Insights™

Contents

Report Overview

This report captures the highlights of quantitative research conducted by Supply Chain Insights, LLC during 2014. The goal of this report is to distill our research from 2014—snippets and what we think are the best insights—into a consolidated research summary. Each section of the report gives concrete recommendations.

This report is intended for you to read, share, and use to improve your supply chain decisions. Please share this data freely within your company and across your industry. All we ask for in return is attribution when you use the materials in this report. We publish under the Creative Commons License Attribution-Noncommercial-Share Alike 3.0 United States and you will find our citation policy here.

Disclosure

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

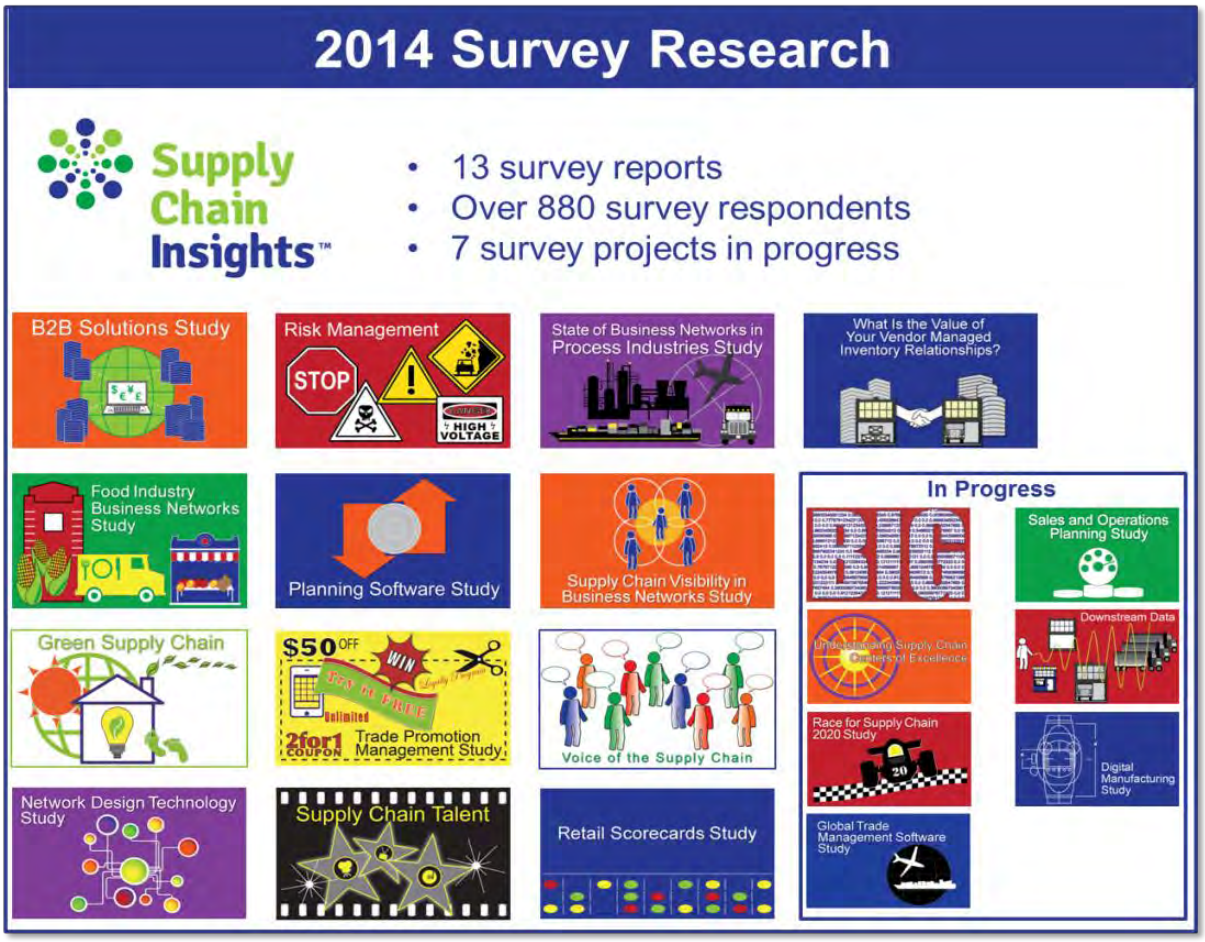
Research Methodology

The Supply Chain Insights team is focused on bringing open content research to business leaders. It is at the heart of our business. Each study is carefully designed to better understand a specific topic, and the survey findings are based on data from **known respondents**. Survey respondents are sourced from our contacts, social media (Twitter and LinkedIn contacts), and our website, through media partnerships with GreenBiz, Supply Chain Brain, Supply Chain 24/7, and Supply Chain Movement, and partnerships with organizations like the Council of Supply Chain Management (CSCMP) and Integrated Supply Chain Management. The only offer made to respondents for participating in the surveys was the sharing of results at the end of the project.

In each study, the respondents are carefully screened against established criteria. We actively monitor and filter respondents to be sure that we attract knowledgeable participants. In the management of a survey, trust is at the center of the relationship. We never share respondent information or individual responses with third parties.

To prepare this report, we pulled data from 13 studies reported on during the period of January through October, 2014. These studies are outlined in Figure 1.

Figure 1. The Individual Studies Primarily Used to Build This Report



Three of the studies in this report are based on year-over-year tracking surveys (Supply Chain Talent, Voice of the Supply Chain Leader on Technology, and the Green Supply Chain.) Where possible, and where we see significant change, we highlight year-over-year trends.

In addition, several of the sections—the focus on supply chain organization and supply chain centers of excellence—represent an aggregated response over multiple surveys. In this case, we have summarized the response of supply chain executives to the same question in multiple studies (from 2012-2014) to drive a more statistically relevant sample.

In all cases, we try to enrich the survey data with financial balance sheet information to understand which trends and process/technology choices drive the greatest value. The financial data is sourced from quarterly filings and accessed through OneSource (now renamed to Avention) and YCharts. We have included several of these charts in the study.

This effort has been vast. Over 800 respondents participated in this research. To help the reader, the survey demographics are shared at the bottom of each figure, with links for the full reports at the back of this report.

Executive Summary

No two supply chains are alike, but supply chain leaders across all industries face common challenges. The supply chain is becoming more strategic—an engine of growth and the driver of new business models—to drive new opportunities. For supply chain leaders, it is no longer just a discussion of cost and inventory management.

However, frustration abounds. Companies struggle to improve balance sheet results in the face of rising complexity and slowing growth. While all companies have improved revenue per employee, this efficiency improvement has not translated into operating margin improvements; and while cash-to-cash cycles have improved, it is not due to improvements in inventory positions. Most companies feel stuck, as if they are being held hostage by traditional supply chain practices.

Table 1. Industry Progress Across the Last Decade

Industry Snapshots (2000-2012)						
Industry		**Operating Margin**	**Inventory Turns**	**Cash-to-Cash Cycle**	**Revenue per Employee (K$)**	**SG&A Ratio**
Pharmaceutical Industry	(n=24)	**0.19** ↑12%	**3** ↓8%	**139** ↓1%	**462** ↑98%*	**27%** ↑24%*
Medical Device Industry	(n=6)	**0.16** ↓56%	**3** ↑2%	**141** ↓4%	**270** ↑59%*	**28%** ↓3%^
Retail Apparel Industry	(n=3)	**0.14** NC"	**5** ↑1%"	**9** ↑627%"	**532** ↓26%^	**19%** ↑15%^
Brand Apparel Industry	(n=3)	**0.13** ↑44%	**4** ↑5%	**91** ↓15%	**254** ↑82%*	**36%** ↑14%^
Consumer Packaged Goods	(n=14)	**0.13** ↑17%	**5** ↑4%	**45** ↓45%	**333** ↑82%*	**34%** ↓15%*
Combined Food & Beverage Industry	(n=32)	**0.11** ↑11%	**8** NC	**41** ↓26%	**455** ↑122%*	**19%** ↓30%*
Chemical Industry	(n=7)	**0.10** ↓45%	**5** ↑5%	**89** ↓16%	**458** ↑118%*	**14%** ↓32%^
Hospital Industry	(n=6)	**0.07** ↓11%"	**11** ↑53%"	**-84** ↓3215%"	**165** ↑68%*	**12%** ↓-54%*
Mass Retail Industry	(n=33)	**0.05** ↑20%	**8** ↑17%	**47** ↓17%	**482** ↑173%*	**19%** ↓4%*
Automotive Industry	(n=39)	**0.04** ↑67%	**15** ↑5%	**44** ↓37%	**616** ↑199%*	**8%** ↓30%*
Grocery Retail Industry	(n=37)	**0.04** ↓33%	**12** ↑12%	**-7** ↓88%	**358** ↑31%*	**16%** ↓16%*

Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2012
Industry Average comprised of public companies (automotive industry: NAICS 336112), (brand apparel industry: NAICS 31522% where % is any number from 0-9), (combined food & beverage industry: NAICS 3112% where % is any number from 0-9, 311320, 311520, 311821, 311941 & 312111), (chemical: NAICS 325188 & 325998), (consumer packaged goods: NAICS 3256% where % is any number from 0-9), (grocery retail industry: NAICS 44511), (hospital industry: NAICS 62211), (mass retail industry: NAICS 452% where % is any number from 0-9), (medical device industry: NAICS 339112), (pharmaceutical industry: NAICS 325412), (retail apparel industry: NAICS 44812% where % is any number from 0-9) reporting in One Source with 2012 annual sales greater than $5 billion
"Calculated from 2001-2012 due to data availability;*Calculated from 2002-2012 due to data availability; ^Calculated from 2003-2012 due to data availability; NC=no change

In this report, we highlight the current state of supply chains—the supply chain organization, technologies, and process evolution—to enable supply chain leaders to take the next step in their strategy development. This report reflects the current state of supply chains, and is designed as a foundational document for supply chain leaders to build their 2015 strategies.

Understanding the Supply Chain Organization

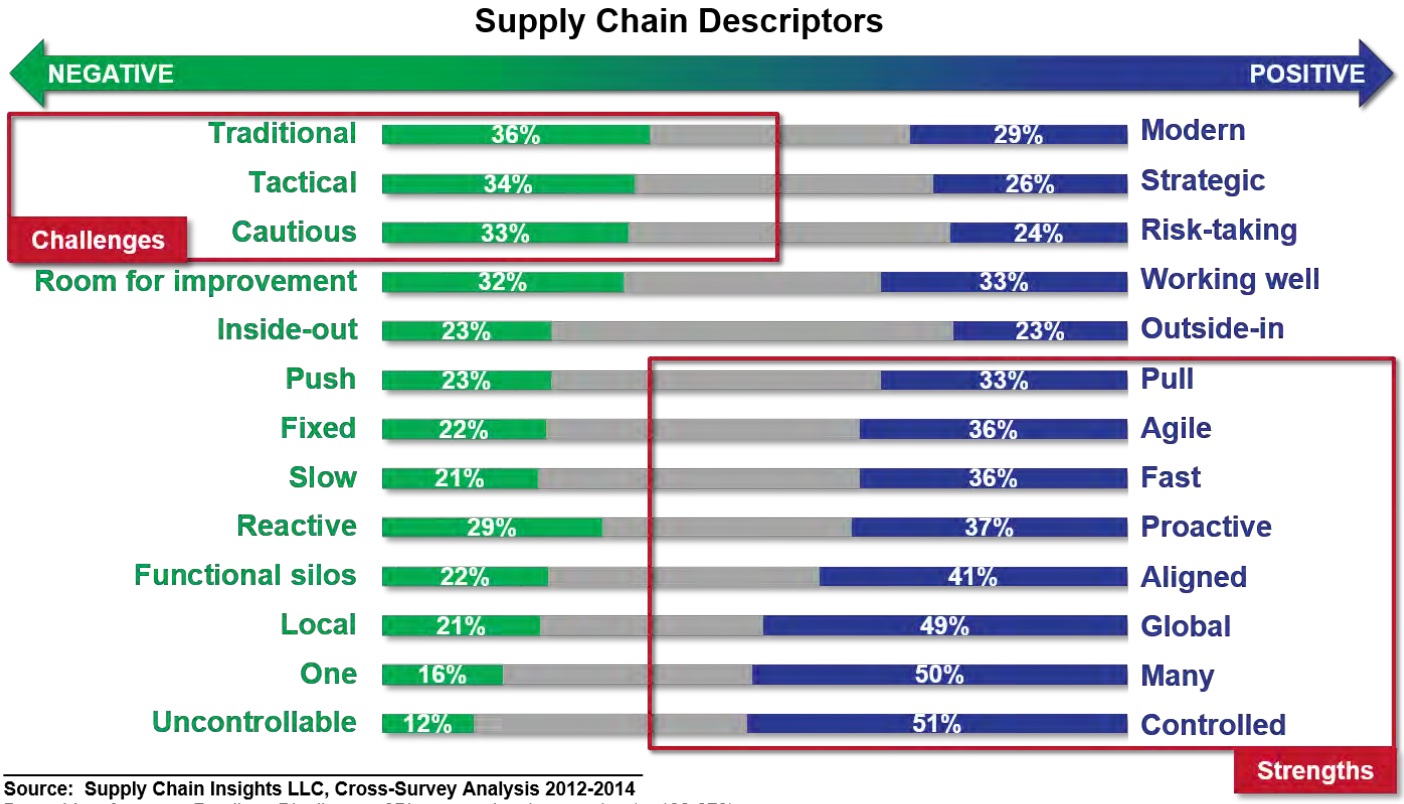
Improving corporate performance is the driver of today's supply chain organization. Increasingly, supply chain leaders are adopting new business models—ecommerce, digital business, and growth in new economies—to drive the top line.

Today, for the leader, it is about more than cost management. Instead, it is about the management of a portfolio of metrics to drive corporate performance. The supply chain is a complex system, with increasing complexity, and an increasing importance of driving balance sheet results. It is not easy. Improvement is hard work, and many are stuck. When we analyze financial balance sheet performance for the period of 2000-2013, we find that nine out of ten companies are stuck at the intersection of the two critical metrics of operating margin and inventory turns. Cash flow has been improved through elongating payables, and most companies are struggling to improve inventory in the face of complexity. This is an area of frustration and disappointment for business leaders who want to leverage supply chain technologies and processes to deliver both growth opportunities along with cash and cost savings to the organization.

The reason why? Today, the supply chain organization is traditional, tactical and cautious (see Figure 2). Most leaders would like to have a supply chain that is more agile and proactive. This is not possible with the current state of technologies and processes. To make the shift, companies need to reinvent the supply chain. The processes need to be redesigned outside-in with open sharing through business networks. These new forms of business networks, with many-to-many data models supported by canonical infrastructure, are slowly redefining business capabilities.

It starts with the design of the organization and clarity of the operating strategy. Increasingly, we see that it cannot be achieved through the management of functional silos and a linear focus on driving excellence in source, make and deliver. Excellence is rooted in alignment and conscious trade-offs. Leaders are focused on building end-to-end operating strategies while laggards are struggling to figure out why they are stuck.

Figure 2. Current State of Supply Chains

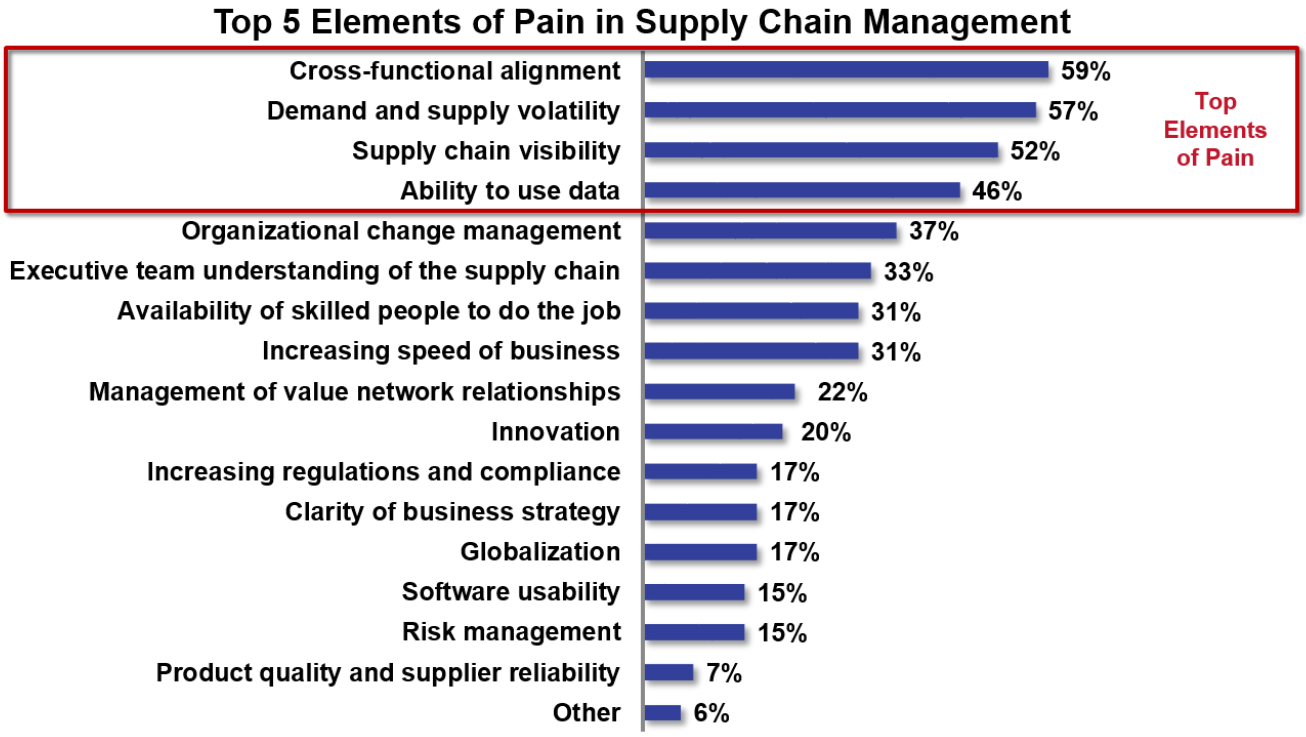


Source: Supply Chain Insights LLC, Cross-Survey Analysis 2012-2014
Base: Manufacturers, Retailers, Distributors, 3PLs answering the question (n=192-278)
For each of the following pairs of words, please pick the one word or phrase that best describes your company's supply chain. SCALE: 5-point scale with one word on either end.

Managing the supply chain has never been more complex. Today, the supply chain leader is struggling with both organizational alignment issues and rising volatility. This variability is in both demand and supply. Today's supply chains are not up to the challenge. They respond: they do not sense. Visibility is an issue and the traditional processes are about supply, not demand. Companies rate their capabilities on supply processes higher than those for demand. These pain points are outlined in Figure 3.

While an organization has many supply chain technologies, employees struggle to effectively use data. Today's systems are designed to put data into systems, but using data and driving insights remains an issue. As a result, top investments for 2015 are in-memory analytics and new forms of visualization. The focus is on enabling the line-of-business user access and easy-to-use analytics in a heterogeneous information technology (IT) environment.

Figure 3. Top Elements of Supply Chain Management Pain



Source: Supply Chain Insights LLC, Global Summit Survey 2014 (July-August 2014)
Base: Supply Chain Insights Global Summit 2014 Registrants (n=54)
Q14. When it comes to supply chain management, which of the following are the top 5 elements of business pain for [you personally][your typical client]? Please select no more than five.

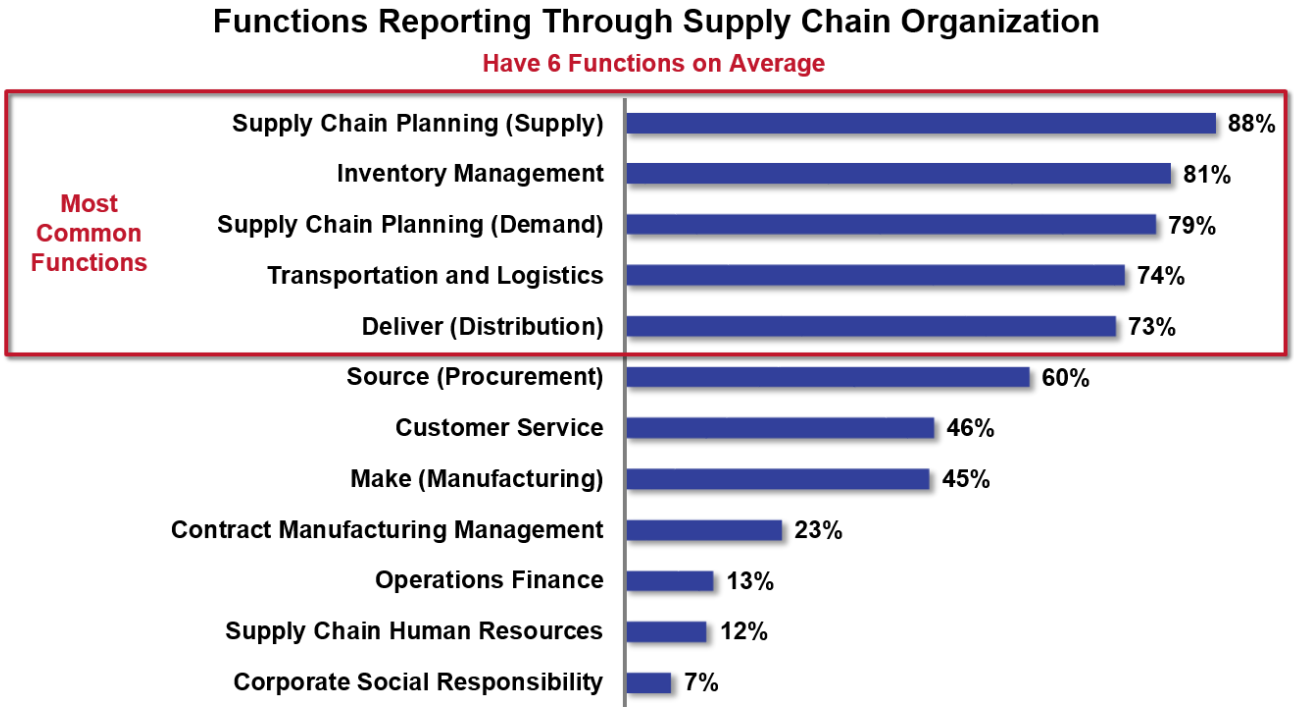
Reporting Relationships

No two companies define supply chains in the same way. Each organization defines supply chain slightly differently. When it comes to building alignment, in order to deliver on the end-to-end supply chain vision, reporting relationships matter. We think it is no accident that 78% of the companies highlighted in the report Supply Chains to Admire have had the functions of source, make and deliver reporting to a common leader since the 1980s.

For many companies, it is anything but end-to-end; instead, the term supply chain is a functionally-based view focused on a singular understanding of the processes of source, make or deliver. In many cases, the supply chain itself has become a self-serving function.

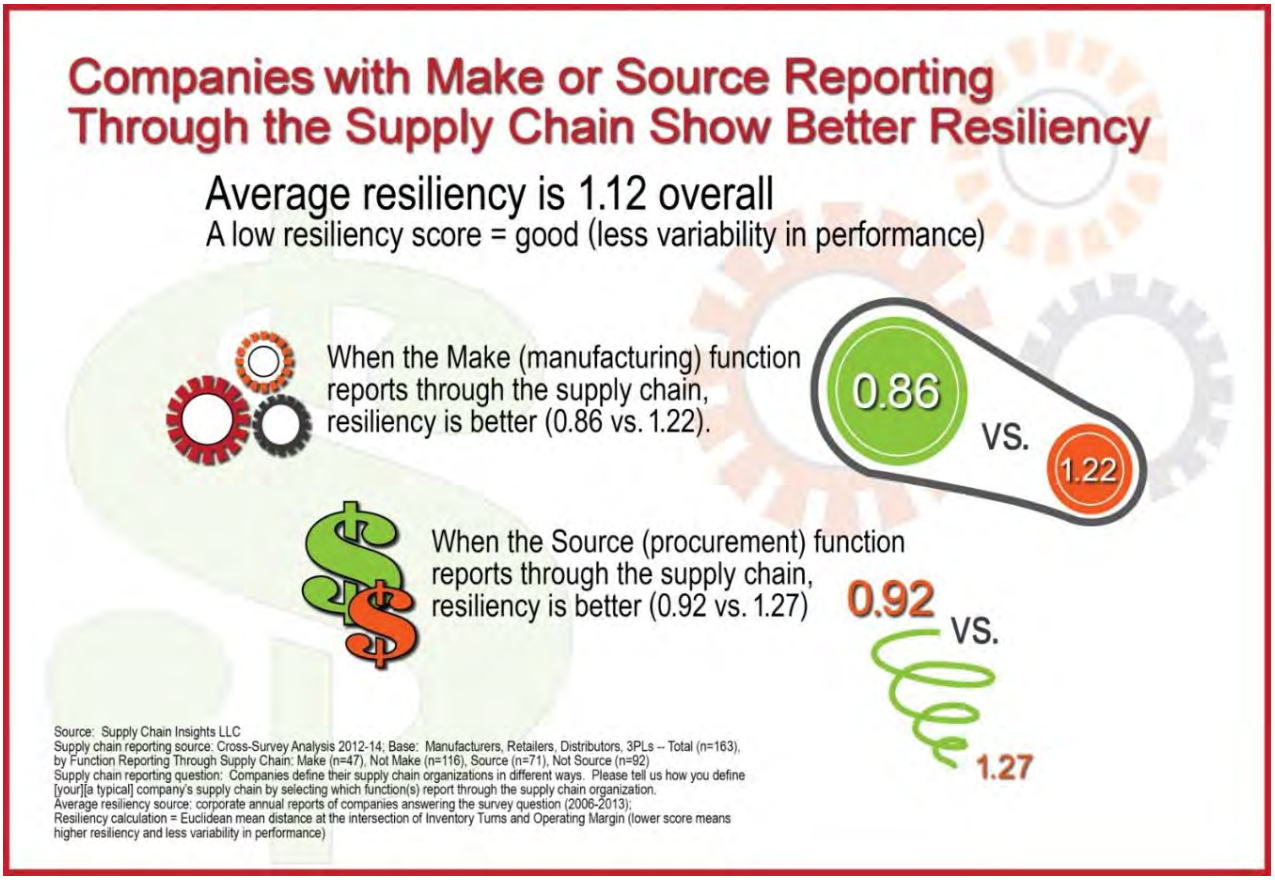
Companies struggle to make the trade-offs between the silos of the supply chain to increase performance. The lack of a common reporting structure is a barrier. When we aggregate the responses from all of our studies, sourcing has a direct reporting relationship 60% of the time and manufacturing was included 45% of the time. This definition of the supply chain organization is slow to change. The current reporting relationships are shown in Figure 4.

Figure 4. Supply Chain Reporting Relationships



Source: Supply Chain Insights LLC, Cross-Survey Analysis 2012-2014
Base: Manufacturers, Retailers, Distributors, 3PLs answering the question (n=755)
Companies define their supply chain organizations in different ways. Please tell us how you define [your][a typical] company's supply chain by selecting which function(s) report through the supply chain organization. Please select all that apply.

Figure 5. Impact of Reporting Relationships on Resiliency



When we analyze the impact of reporting relationships on supply chain performance, we find when the manufacturing and sourcing functions report to the supply chain organization, there is increased resiliency, or a tighter pattern with increased reliability, at the intersection of operating margin and inventory turns. As shown in Figure 5, the pattern is 30% more reliable when manufacturing reports to supply chain and 28% more reliable when procurement reports to supply chain.

Why is resiliency important? In our analysis of performance for the report Supply Chains to Admire, we find that the companies which outperform their peer groups on industry averages for inventory turns, operating margins, and Return on Invested Capital (ROIC) have tighter patterns characterized by small, incremental improvements.

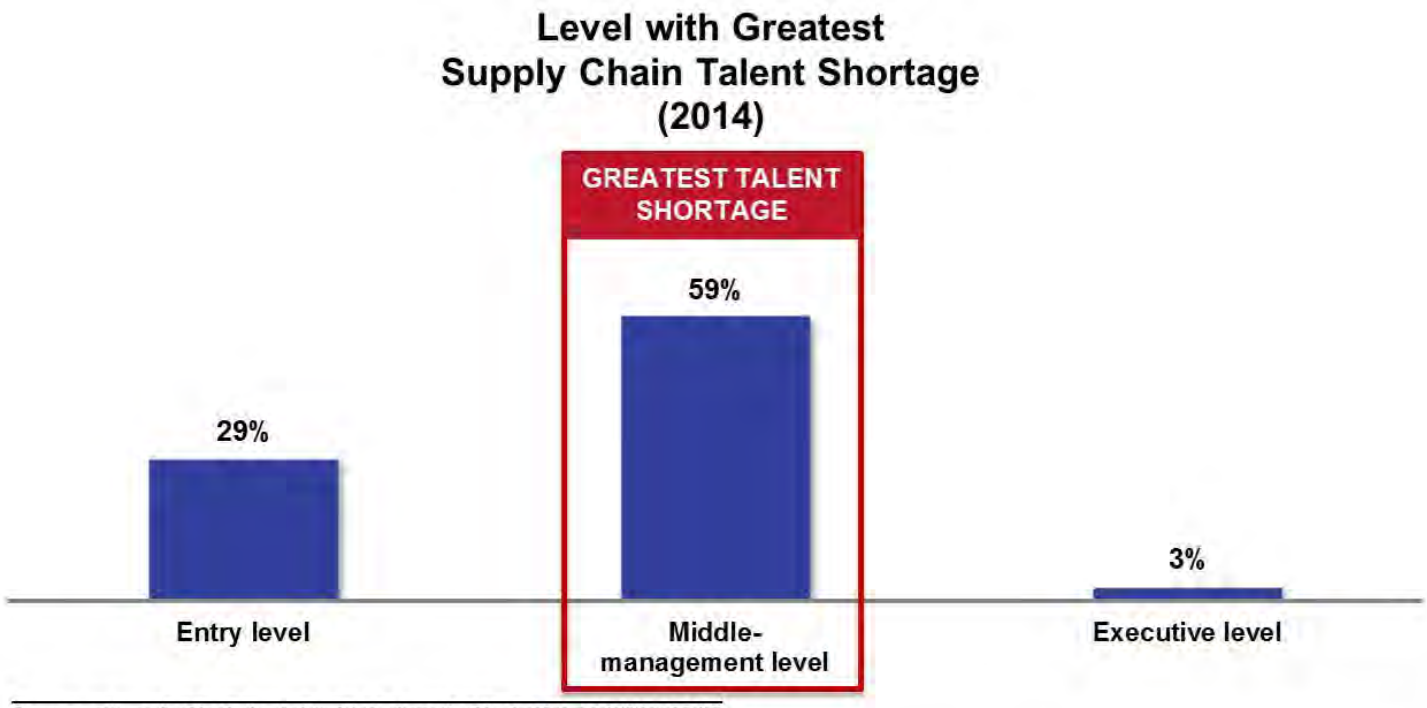
Action Item: Where possible consolidate source, make and deliver reporting relationships.

Building Supply Chain Talent

Supply chain management, as a discipline, is now over 30-years old. The career path is maturing and the opportunities have never been greater. Today, three factors are coalescing and opening up new opportunities for the second generation of supply chain professionals. This includes the retirement of the first generation of supply chain professionals, recognizing the importance of supply chain to corporate performance, and the evolution of teams in emerging markets.

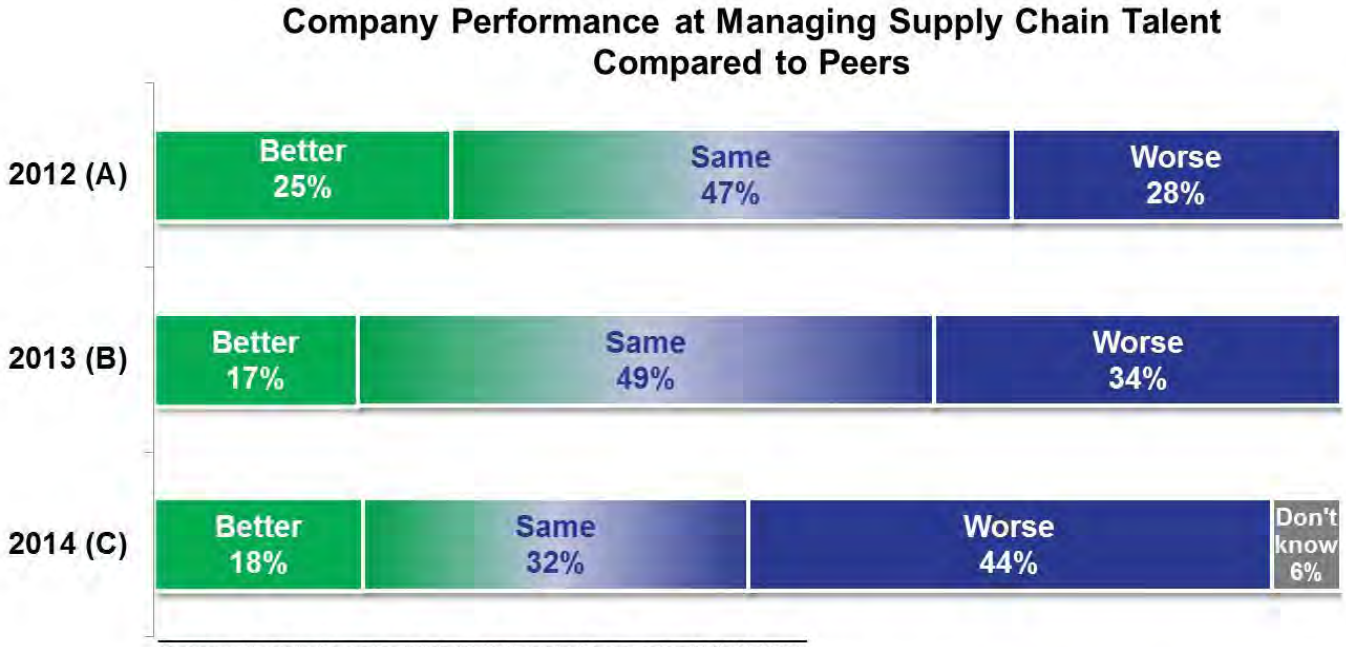
What is supply chain talent management? For the purposes of the study, we define it as the development and retention of employees in source, make and deliver organizations across the life cycle of a career. For most companies we find that talent management today is not holistic. While many companies focus on recruiting and training new graduates, the missing link in the talent supply chain is middle management. This is shown in Figure 6. Many companies learn too late that they cannot take mid-management supply chain talent for granted. Supply chain talent cannot just focus on the hiring of college graduates and the management of high potentials. The gap in mid-management supply chain talent is a gap in the supply chain. The most critical areas are where strategy, supply chain and analytics coalesce. The greatest pains for an organization are in sourcing and backfilling candidates for the roles of demand and supply planning, Sales and Operations Planning (S&OP), and supply chain finance.

Figure 6. Results from the 2014 Supply Chain Talent Study



Source: Supply Chain Insights LLC, Supply Chain Talent (2012-2014)
Base: Manufacturers in Supply Chain Management – 2014 (n=34)
Q13. To the best of your knowledge, what employee level is currently experiencing the greatest talent shortage at your company? Please answer only for supply chain management positions.
Don't know / Other not shown

Figure 7. Self-Assessment on Supply Chain Talent



Source: Supply Chain Insights LLC, Supply Chain Talent (2012-2014)
Base: Manufacturers in Supply Chain Management – 2012 (n=36), 2013 (n=35), 2014 (n=34)
Q4. Overall, how well do you think your company performs at managing supply chain talent compared to its peers? Please think about all aspects of talent management – recruiting/hiring, training, retaining, etc.
A/B/C Higher than group indicated at 90% or higher level of confidence

Solving the mid-management supply chain talent gap is tougher than training entry-level employees or managing high-potential employees fast-tracking their ways to the executive suite. As a result, mid-management talent is often taken for granted... until they submit their resignation.

Filling the holes is problematic. Most companies, as shown in Figure 7, are losing ground. The technologies and processes are changing faster than the industry consortia, and educational facilities can't keep up. In our year-over-year quantitative studies on supply chain talent, when we ask companies to self-assess how they are doing as compared to their peers, we can see that the results are discouraging. Companies are not keeping pace with the changes.

Action Item: Actively build a supply chain human resource department.

Developing Supply Chain Centers of Excellence

Today's company is in search of excellence. To accomplish this goal, as shown in Figure 8, many companies have formed a supply chain center of excellence.

Figure 8. Supply Chain Centers of Excellence

Source: Supply Chain Insights LLC, Cross-Survey Analysis 2012-2014
Base: Manufacturers, Retailers, Distributors, 3PLs answering the question (n=497)
Does your company have a supply chain center of excellence?

A common focus for a supply chain center of excellence is on: talent development and training; development and adoption of new business models; testing and acceptance of new forms of analytics; designing and assisting in the building of effective metrics and reward systems; and driving the adoption of horizontal processes like Sales and Operations Planning(S&OP); Revenue Management; Supplier Development; and Corporate Social Responsibility. They can be center-led or regionally diverse, but they need a clear mission statement and sponsorship by supply chain leadership.

For many, it is a rocky road. As shown in Figure 9, not all are successful with their supply chain center of excellence.

Figure 9. Self-Assessment of Success

In our qualitative interviews, the gap between success and failure is usually driven by five factors:

1. Confusion on the Operating Strategy. It is hard to drive excellence without a clear definition of supply chain excellence. Many organizations get stuck because of a lack of a clear operating strategy to connect the business strategy to process definitions. There is no substitute for this level of translation. It is critical to success.

2. Global/Regional Governance. Within an organization, global is not global. No two companies are alike. Each company culture has a different relationship between the global organization and the regional operating teams. Getting clear on these roles and responsibilities is paramount for the success of the center of excellence. It is important for the teams to understand how to align to drive success.

3. Focus on the Urgent with No Time for the Important. Often the focus of a center of excellence will get bogged down in day-to-day activities and lose focus on driving excellence. The center of excellence tends to be more focused on strategic and tactical design questions.

4. Ability to Serve the Organization. In our research, we find that the most successful centers of excellence measure themselves through organizational pull. Instead of pushing concepts onto the organization, they sell ideas, and measure adoption by 'pull'. If a center of excellence becomes too academic it is doomed to fail.

5. Difference between a Center of Expertise and a Center of Excellence: Many companies confuse the focus and intent of a center of expertise and a center of excellence. While a center of expertise is focused on skill development and the adoption of practices, the center of excellence is focused on a step change or the drive to a new level of excellence with a more strategic focus on change management.

Action Item: Clearly define supply chain excellence in the operating plan.

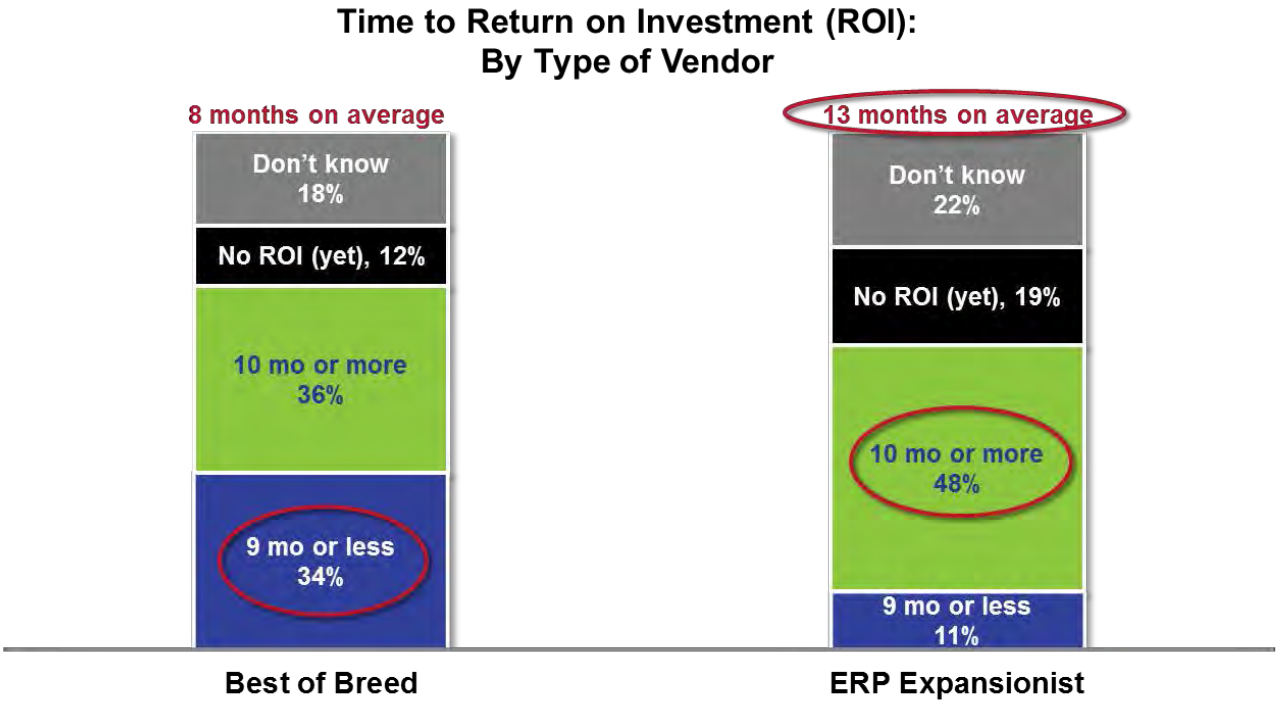
The Supply Chain Planning Technology Evolution

Within the myriad of options for technology investment, few solutions have the Return on Investment (ROI) of supply chain planning. With an average time to ROI of nine months, the value is unquestionably high. Being good at planning is becoming more and more important to the delivery of supply chain excellence. The question is typically, "What to buy?"

The first generation solutions of the 1990s were "best-of-breed" solutions. This market was overhyped and the solutions under-delivered, leading to market consolidation. The second generation of solution providers designed software as an extension of Enterprise Resource Planning (ERP) solutions. These solutions were often recommended by large consultants, and in the last decade many companies have replaced best-of-breed solutions with extended ERP solutions. The results have not been positive. The "ERP expansionist" solutions are harder to use, have less functionality and require more planners. The implementation model was better suited to large system integrators' product portfolios—the solutions were more expensive, requiring more manpower to implement, and a better fit with the skills in most major system integrators' talent sets—and as a result were often recommended over best-of-breed solutions as the better way of planning. This proved not to be the case.

Today, we are seeing a resurgence of best-of-breed solution providers that are utilizing Software-as-a-Service (SaaS) deployment options and in-memory models for concurrent planning. While not mainstream, cognitive learning—the use of artificial intelligence to learn, sense and act—is also being piloted by early adopters.

Figure 10. Return on Investment of Supply Chain Planning Solutions Based on Type of Technology



Source: Supply Chain Insights LLC, Planning Software Study (Feb – Oct 2014)
Base: Manufacturers, Retailers, Wholesalers/Distributors/Co-operatives and Third-Party Logistics Providers with Demand and/or Supply Planning Software and Know Number of Planning Instances – Best of Breed (JDA, Logility, Kinaxis, OM Partners, Aspentech, Demand Solutions, Demand Works, Quintiq, SAS, Smart Software, Terra Tech) (n=94 instances), ERP Expansionist (SAP, Oracle, QAD, Quantrix, FuturMaster) (n=63 instances)
Q12/20. How soon did your company get a return on your investment (ROI) for this [demand][supply] planning instance? Your best estimate is fine.
Higher than other group at 90% or higher level of confidence

There are two classes of solution: best-of-breed and planning solutions from extended Enterprise Resourcing Planning (ERP) solutions ("ERP expansionist"). In the selection process, companies struggle. Which to choose? The average time to ROI for a best-of-breed approach is eight months, while the average time to ROI for an ERP solution is 13 months. Solutions from an extended ERP vendor are met with lower user satisfaction as compared to the other vendor types.

Companies choosing best of breed solutions have a quicker time to value. This is especially true if the software is implemented by the software vendor as opposed to a consultant. The decisions are multi-faceted. Table 2 is designed to guide selection processes.

Table 2. Satisfaction Rates of Companies Based on Choices Made in Purchasing Supply Chain Planning

Experiences by Best of Breed vs. ERP Expansionist

		Best of Breed	ERP Expansionist
Who Implemented	Technology Provider	**49%**	14%
	Third-Party	22%	**40%**
	In-House	17%	**33%**
Time to Implement	12 Months or Less	**71%**	37%
	13 Months or More	23%	**59%**
Speed vs. Plan	Early / On Time	**56%**	37%
	Late	36%	**56%**
Cost vs. Budget	Under / On Budget	**59%**	40%
	Over Budget	32%	**49%**
Time to ROI	9 Months or Less	**34%**	11%
	10 Months or More	36%	48%
	No ROI (yet)	12%	19%
Satisfaction	Satisfied	**81%**	63%
	Neutral	9%	**21%**
	Not Satisfied	11%	16%

Source: Supply Chain Insights LLC, Planning Software Study (Feb – Oct 2014)
Base: Manufacturers, Retailers, Wholesalers/Distributors/Co-operatives and Third-Party Logistics Providers with Demand and/or Supply Planning Software and Know Number of Planning Instances – By vendor: Best of Breed (JDA, Kinaxis, Logility, OM Partners, Aspentech, Demand Solutions, Demand Works, Quintiq, SAS, Smart Software, Terra Tech) (n=94 instances), ERP Expansionist (SAP, Oracle, QAD, Quantrix, FuturMaster) (n=63 instances)
RED BOLD = Higher than other group at 90% or higher level of confidence

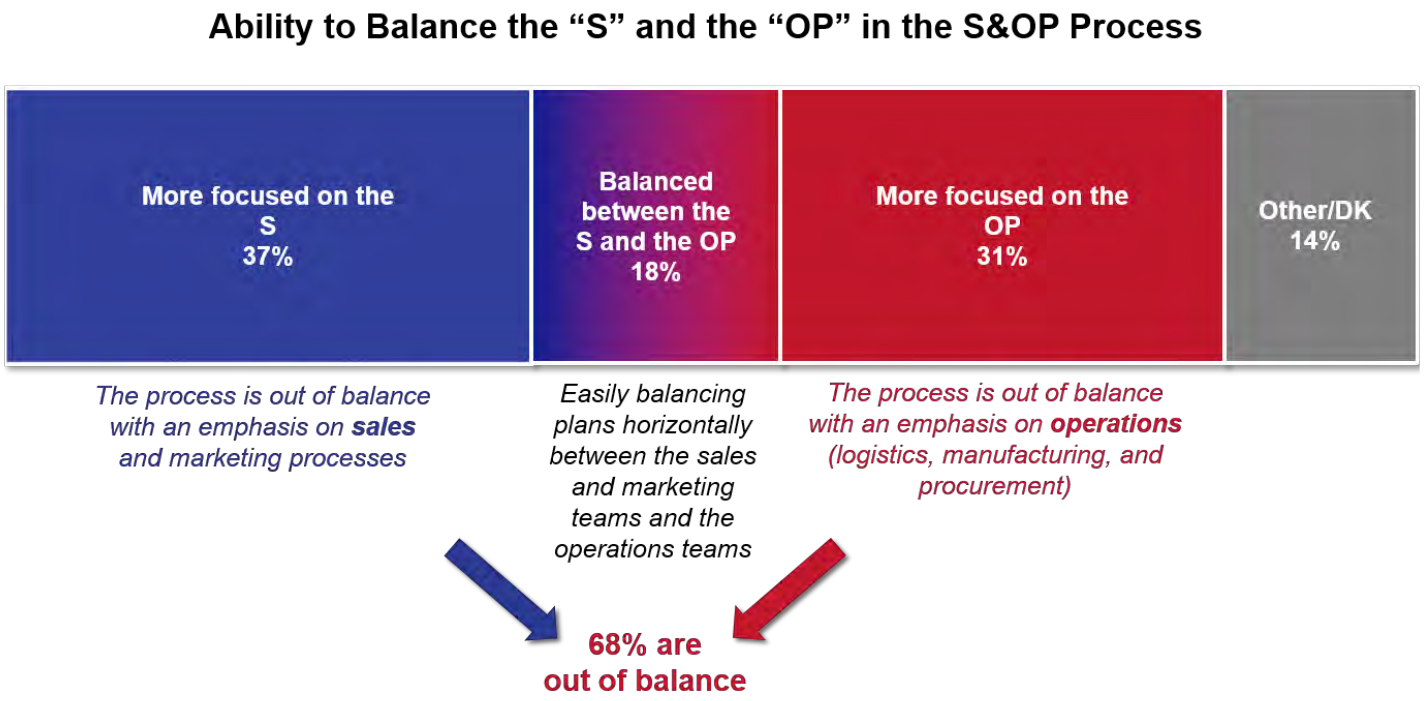
Action Item: Use the research to guide decision processes.

Sales and Operations Planning: Growing in Importance

Companies that are more mature in the delivery of the metrics that matter have a more balanced Sales and Operations Planning (S&OP) process. Balance is a characteristic of a mature process and leads to higher balance sheet performance. As can be seen in Figure 11, for the companies attending the Supply Chain Insights Global Summit in 2014, 68% are out of balance on S&OP processes with slightly more emphasis on sales/marketing.

Balance for the purposes of this report is a self-assessment of respondents based on the response to a survey question. Frequently, the lack of balance will be driven by the orientation of the project sponsor. Companies with the reporting structure to a profit-center manager have a greater likelihood of reaching balance.

Figure 11. Companies' Ability to Balance the "S" and the "OP" in the S&OP Processes



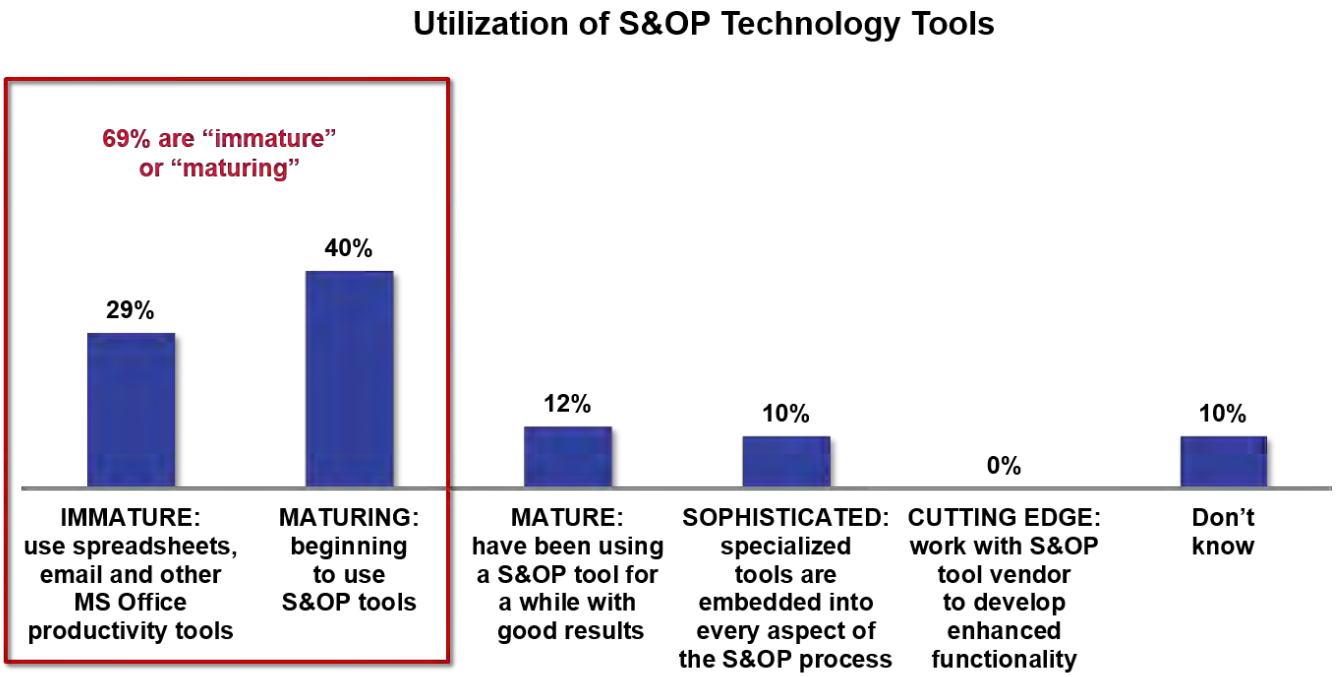
Source: Supply Chain Insights LLC, Global Summit Survey 2014 (July-August 2014)
Base: Supply Chain Insights Global Summit 2014 Registrants – and Have S&OP Process (n=51)
30B. How would you rate your [company's][typical client's] ability to balance the "S" and the "OP" in the evolution of the S&OP process?

The processes of S&OP are over 35-years old, and they are still maturing. With the great number of Merger and Acquisition (M&A) activities, IT infrastructures are complex. Many companies have five to 30 Enterprise Resource Planning systems and two to three supply chain planning systems. In addition, companies will have two to five S&OP processes working independently. This is a much more complex environment than a decade ago, giving rise to the need for a visualization layer to coordinate activities.

The market for S&OP technologies is more confusing and the requirements are more expansive. As a result, as shown in Figure 12, our conference attendees stated that their technologies for S&OP are immature or maturing, with many reporting that this is an area of investment for 2015.

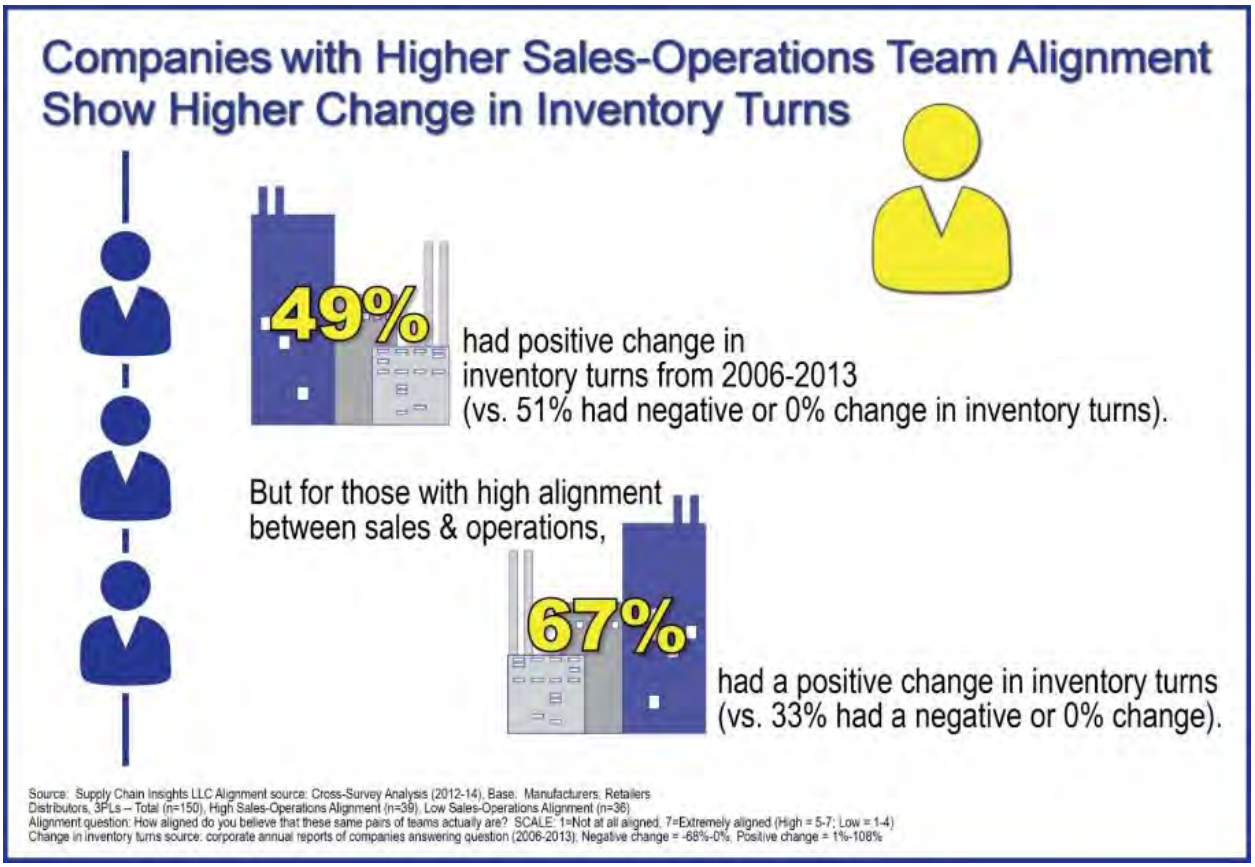
Unfortunately, this state of S&OP automation is very characteristic of the industry. There is a common, and erroneous, belief that companies can adequately manage their S&OP processes using spreadsheets. With the complexity of today's organization, with growing demand and supply volatility, this is becoming a larger gap. Today's S&OP process needs to be modeled using technologies that recognize constraints and bottlenecks and can also model volatility and demand/supply probabilities. The supply chain of today is just too complex to be modeled in a spreadsheet.

Figure 12. Current State of S&OP Technology



Source: Supply Chain Insights LLC, Global Summit Survey 2014 (July-August 2014)
Base: Supply Chain Insights Global Summit 2014 Registrants – and Using S&OP Technology (n=52)
30A. How would you rate your [company's][typical client's] utilization of S&OP technology tools?

Figure 13. Impact of Alignment on S&OP to Inventory Turns



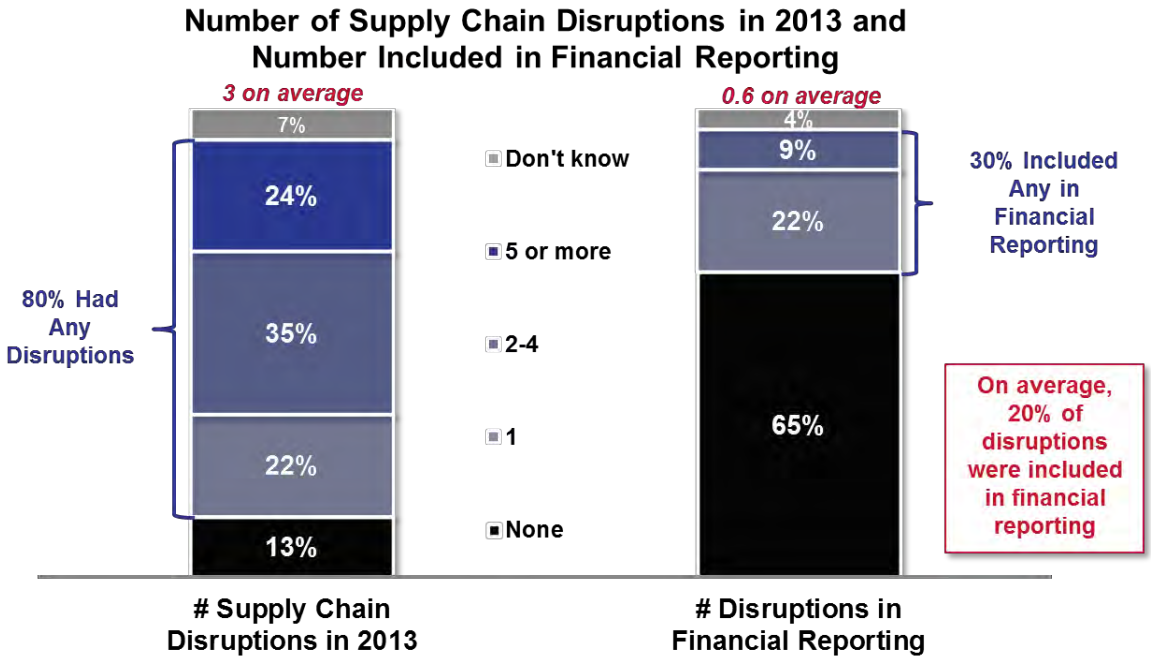
Many might look at this analysis and ask, “Why does it matter?” In our cross-survey analysis, we find that that there is a correlation between S&OP maturity and balance, and inventory turns. As shown in Figure 13, companies in our analysis overall are evenly split between increasing or decreasing inventory turns. Those with better alignment between sales and operations, however, are more likely to have a positive improvement on inventory turns (67% vs. 49%). This is a significant difference and one worth noting. Alignment and balance in S&OP makes a difference in inventory turns, and this cannot be achieved without an investment in technology to enable the visualization of options and alternatives.

Action Item: Work on aligning S&OP processes and organizational structures to drive balance.

Risk Management: Preventing Material Events

To reduce costs, supply chain leaders pushed hard on their 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, there is very little slop in the supply base today. Supply is more fragile and supply chains are more dependent on others.

Figure 14. Number of Supply Chain Disruptions in 2013



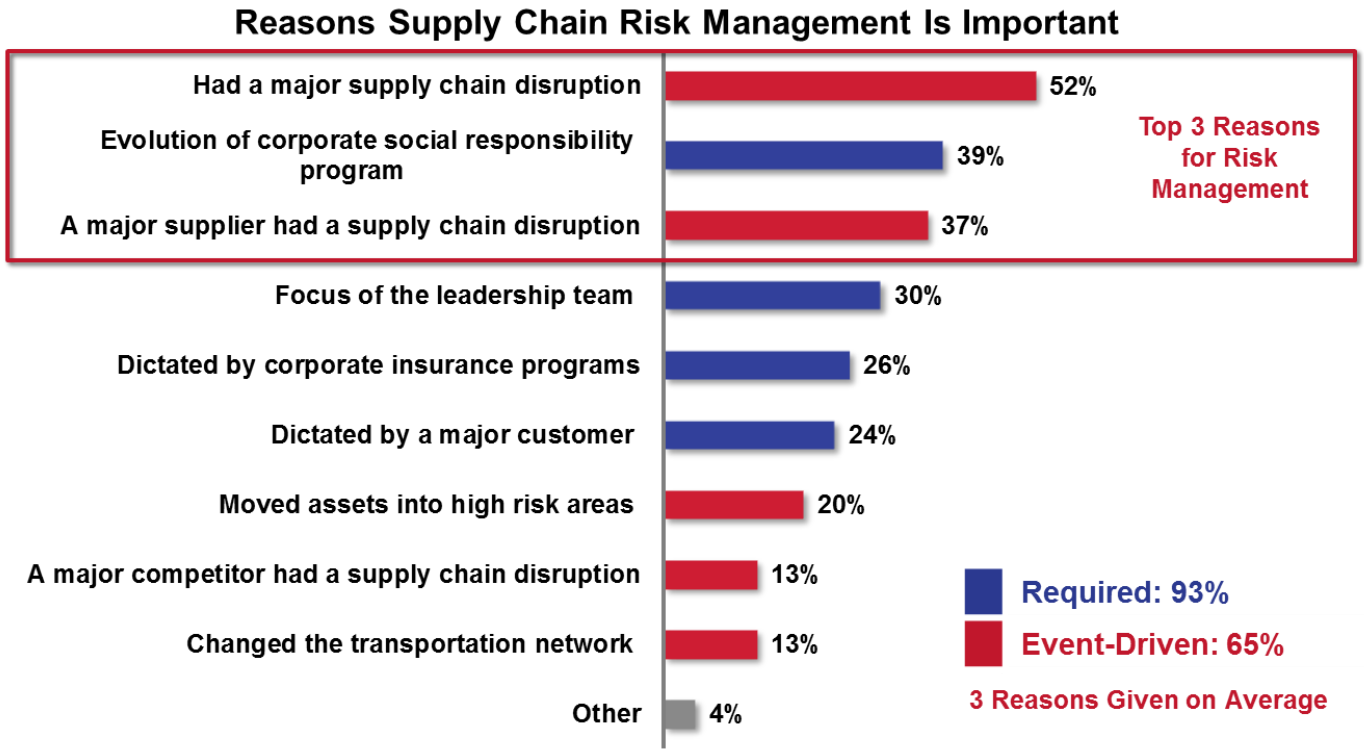
Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)
Q15. Now please think just about last year – 2013. How many supply chain disruptions, if any, 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.

Today, as shown in Figure 14, the impact of supply chain risk management to the balance sheet can be material.

In 2013, 80% of companies had a material disruption in their supply chain. It was not just one. The average company had three. However, it is a dirty little secret since many of these were not reported on the balance sheet.

Risk mitigation and supply chain visibility go hand-in-hand. When a major event happens, like those shown in Figure 15, 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.

Figure 15. 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.

Intel, a leader in supplier development, helped nine suppliers in the tsunami to continue operations and Seagate gained market share in the Thailand floods through supplier development. Why can Intel, Seagate, and Toyota take effective actions, and Ford cannot? Three reasons:

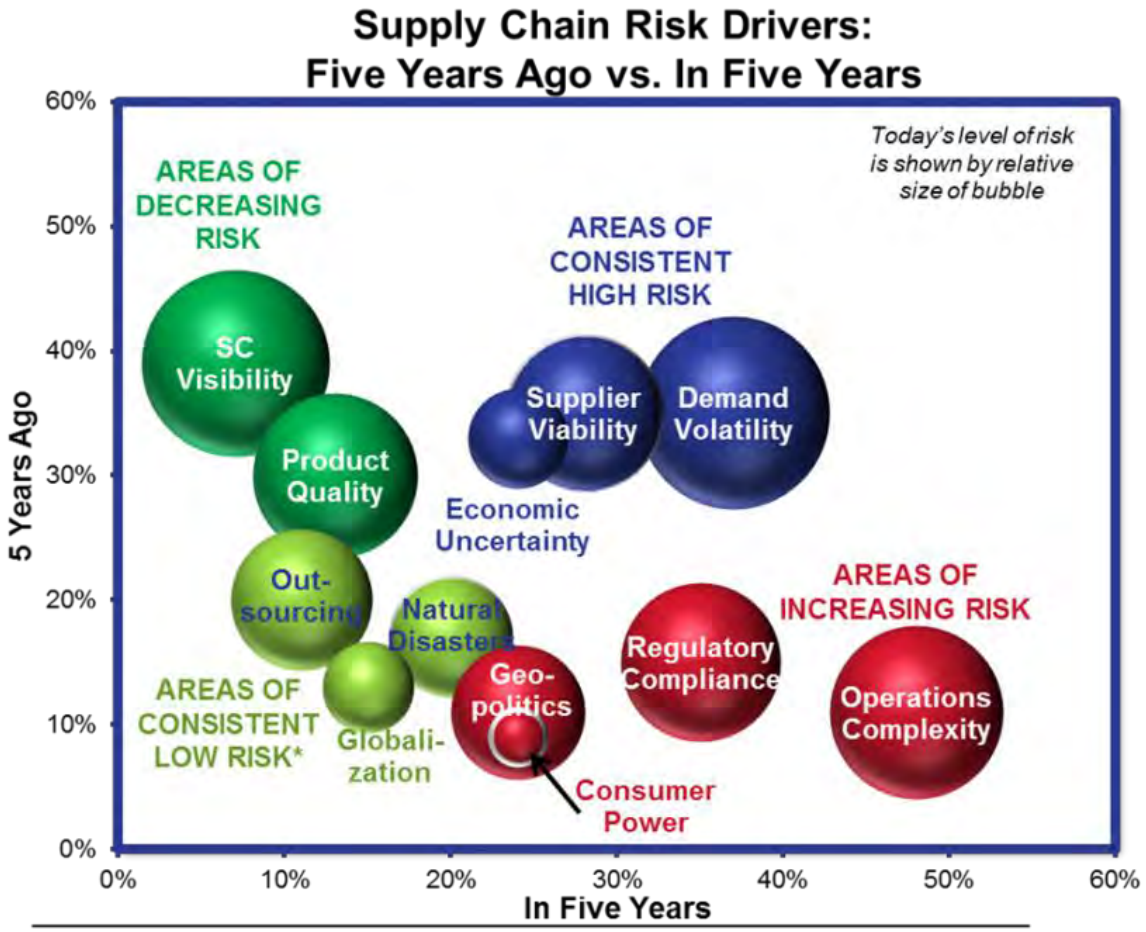
> **Visibility.** They know the location of factories and distribution centers in the network, even with second- and third-tier providers. So, when a disaster hits they can better anticipate the impact.

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.

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.

When a sneeze happens in one part of the world, someone else's supply chain catches a cold. The impact is pervasive and the focus needs to be proactive. The largest increase in risk expected over the next five years will be the management of global operations.

Figure 16. Supply Chain Risk Drivers



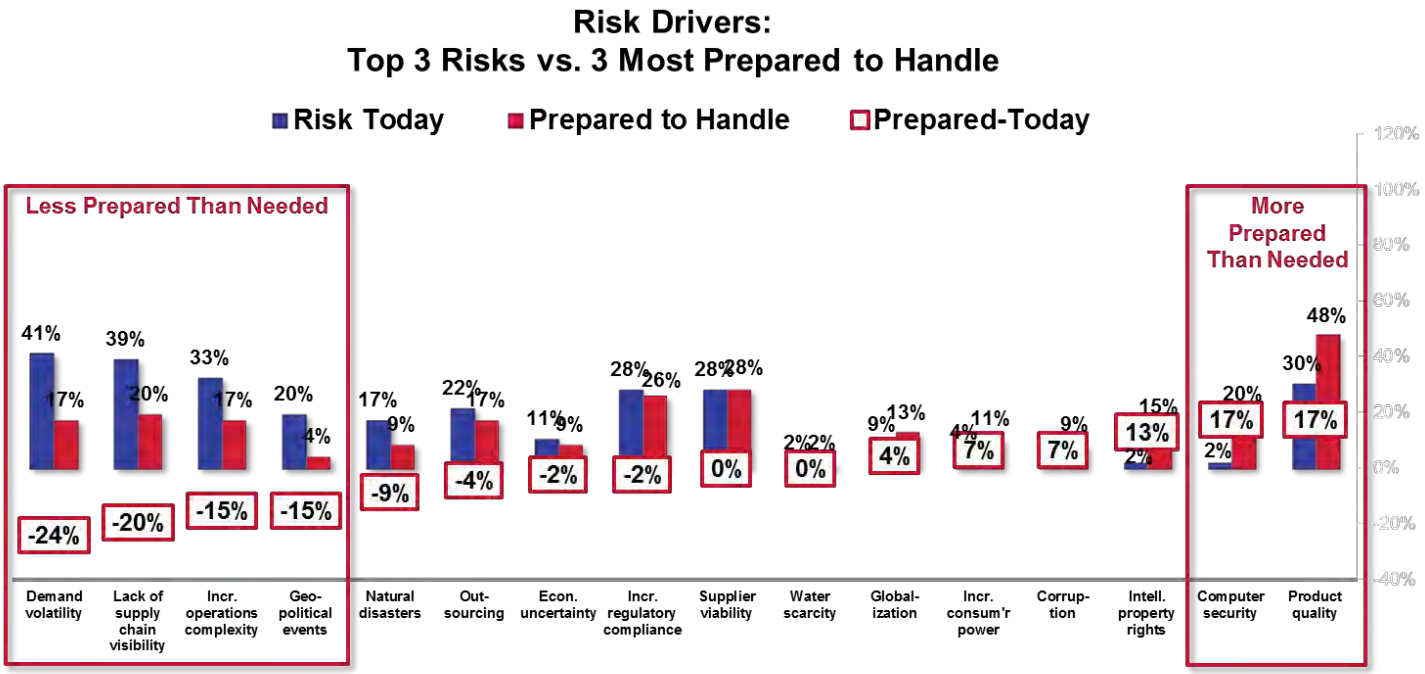
Source: Supply Chain Insights LLC, Supply Chain Risk Management Study (Feb-Mar 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=46)
Q8. What do you see as the top 3 drivers of supply chain risk at your company today? Please 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

When we asked companies to contrast today's risk with what is expected in the future, two trends are clear:

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.

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 to drive success in demand sensing, many companies have to rename the work stream 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 17. 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.

While many companies have focused on the more traditional risk factors of computer security or product quality, the more cross-functional issues of risk management, like demand visibility and increased operations complexity, are growing as risk factors. This relationship is shown in Figure 17.

Companies' programs are passive. Their drills and contingency planning lack "what-if" simulations and multi-tier visibility. They are more about supply than demand.

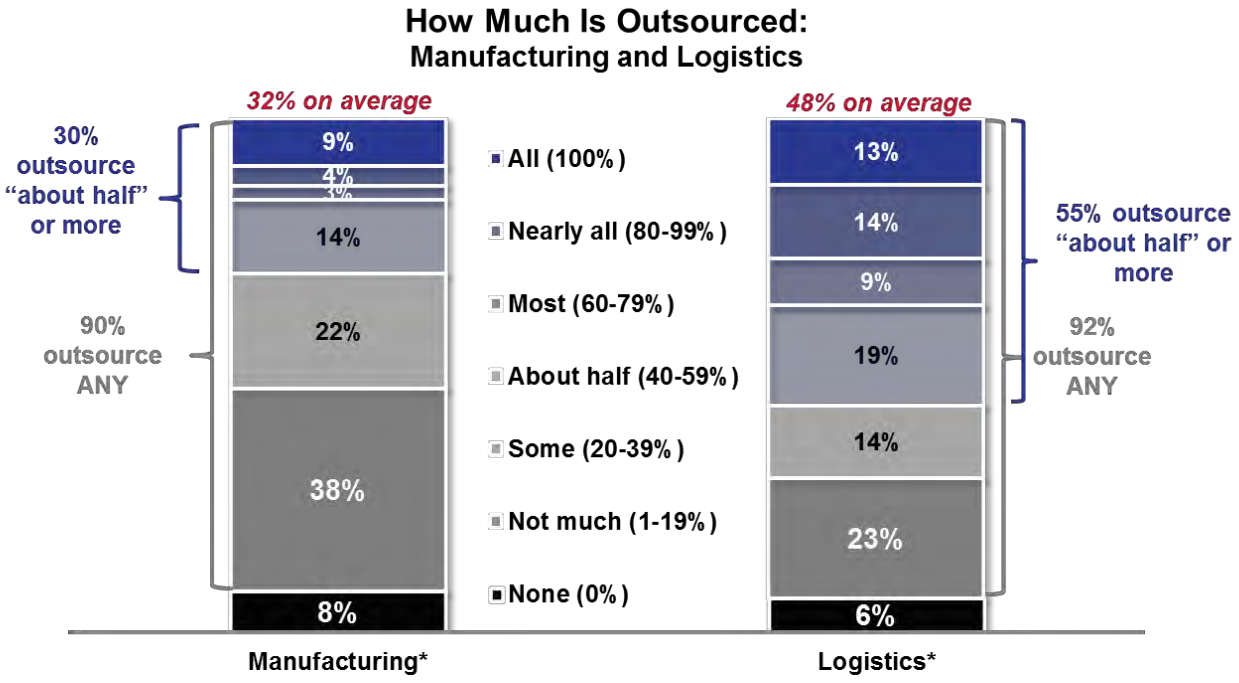
Action Item: Actively and holistically manage risk to mitigate material events.

Supply Chain Visibility: How Can We Manage If We Cannot See?

Today, manufacturing companies want better supply chain visibility. The supply chain is more dependent than ever on flows of materials, services, and products from trading partners. Today, business leaders can see flows within their own companies, but the gaps in visibility between trading partners is high and a barrier to commerce. Why is this a priority?

Outsourcing Is a Reality. It Is Here to Stay. In our study, approximately 90% of respondents report having some level of outsourcing. Additionally, 30% outsource 40% or more of their manufacturing, and 55% outsource at least 40% of their logistics on a volume basis. As a result, inter-enterprise visibility is growing in importance. Today, the extended supply chain runs on EDI and spreadsheets. In the words of one supply chain leader that we interviewed, *"Today, it is much like chewing gum, bailing wire and a shoestring. It is not adequate."*

Figure 18: Supply Chain Outsourcing

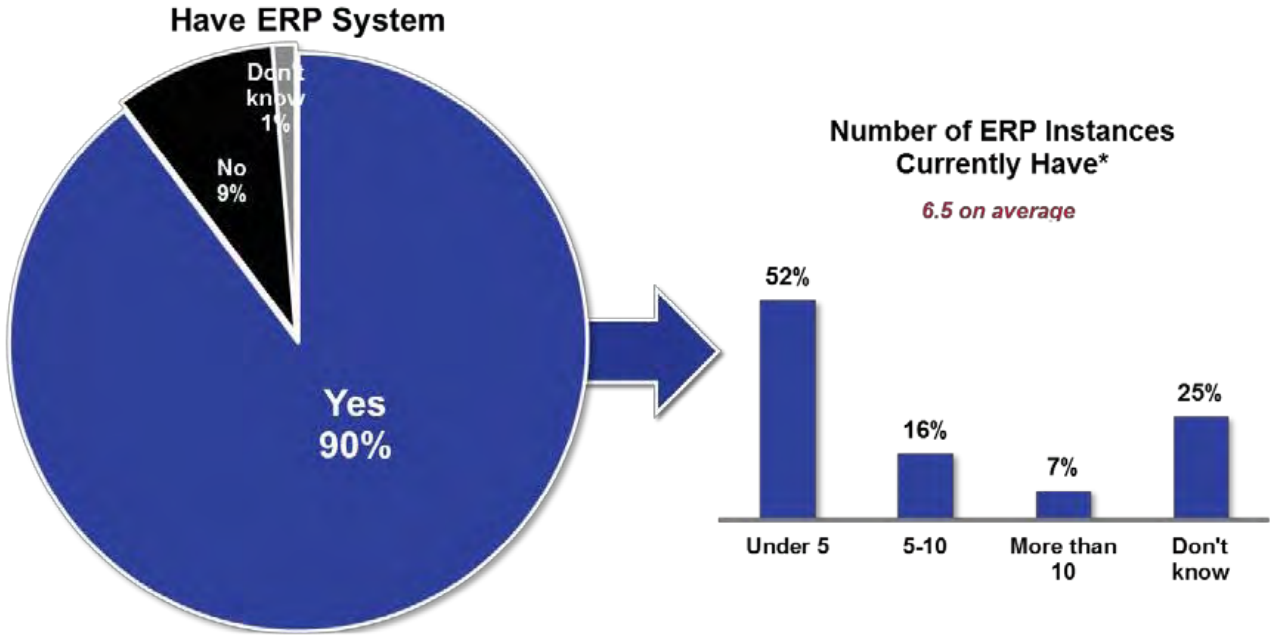


Source: Supply Chain Insights LLC, Supply Chain Visibility Study (Oct 2013- Jan 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=78)
*Manufacturing: 3% answered "don't know" (not shown on chart); Logistics: 1% answered "don't know" (not shown on chart)
Q7. In 2013, how much of your company's manufacturing is outsourced? Your best estimate is fine.
Q9. In 2013, how much of your company's logistics is outsourced to a third-party logistics (3PL) provider? Your best estimate is fine.
For the purposes of this survey, a third-party logistics provider is a company that processes orders and ships goods on your behalf.

Supply Chain Visibility Has Many Forms. Few Are Being Delivered Well. The term 'supply chain visibility' lacks a consistent definition. (If the reader were to do a web search, the search results would return many different and inconsistent definitions.) Visibility within the company is being addressed by current IT architectures, but B2B architectures to support emerging supply chain visibility for requirements with second- and third-tier suppliers are evolving. Today, there are large gaps.

The Satisfaction with EDI Is High, But It Is Brittle. The Confidence in ERP to Close the Gap Is Low. The average company is very dependent on EDI. It is the workhorse of the extended supply chain, with over 50% of orders moving through EDI, and 1/3 of orders moving hands free.[1] Companies dependent on EDI are satisfied; but the connections are brittle, often breaking with system upgrades. In a similar manner, companies with a single instance of ERP are more satisfied with supply chain visibility capabilities within their current organization. The greater the number of ERP instances, the greater the gap in enterprise visibility.

Figure 19. Number of ERP Instances



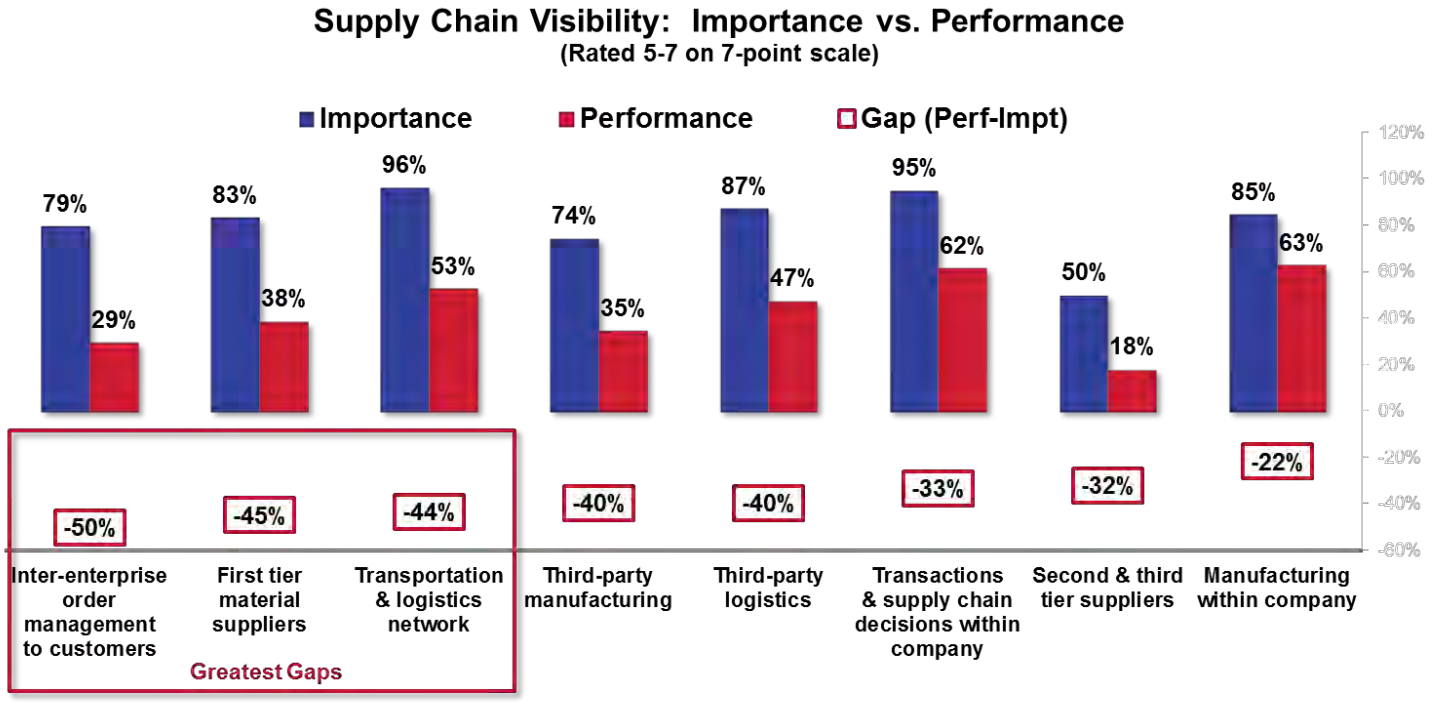
Source: Supply Chain Insights LLC, Supply Chain Visibility Study (Oct 2013- Jan 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=78) *Base: Have ERP system (n=69)
Q13. Please think about Enterprise Resource Planning (ERP) systems. For the purposes of this study, ERP is a packaged software solution that may include financials, human resource management, supply chain planning, transportation planning for process automation within the enterprise. Does your company currently have an ERP system?
Q14, How many ERP instances does your company currently manage, if any? Your best estimate is fine. NUMERIC RESPONSE

[1] Supply Chain Insights Study, B2B Solutions, 2013

Driving for a Common Definition

The term *'supply chain visibility'* is bandied about, but it lacks a consistent definition. There are many forms of visibility and companies use the term with many different definitions. As shown in Figure 20, the survey results indicated that the most important forms of visibility are transportation and logistics network interactions, and transactions and supply chain decisions within the company.

Figure 20. Current State of Supply Chain Visibility

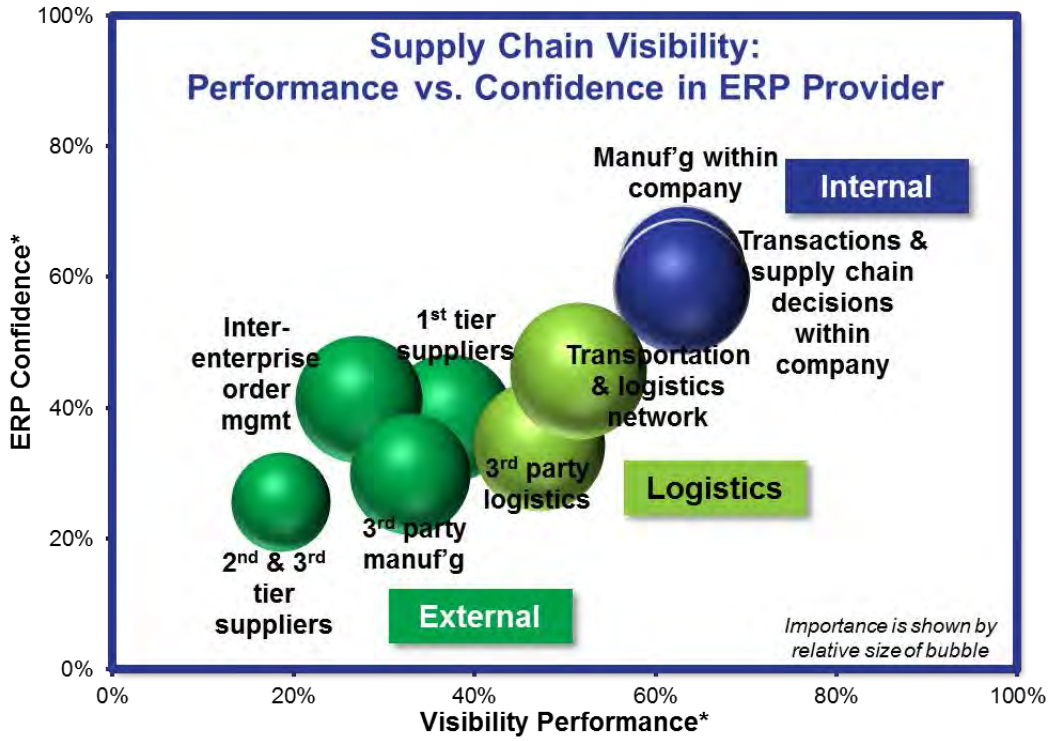


Source: Supply Chain Insights LLC, Supply Chain Visibility Study (Oct 2013- Jan 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Total (n=78)
Q15. Please think about supply chain visibility. How important is it for your company to have visibility of the supply chain in each of the following areas? SCALE: 1=Not at all important, 7=Extremely important
Q16. How well do you think your company performs on having supply chain visibility in each of these same areas? SCALE: 1=Poor, 7=Excellent

However, among the two, performance for network interaction visibility is lower, with the greatest gaps between visibility importance and performance all extending outside the walls of companies in the extended trading partner network for the coordination of orders, first-tier suppliers, and transportation and logistics networks, and the visibility gap for third-party manufacturers and logistics providers rating closely behind. While most companies have made progress in supply chain visibility within the four walls of the enterprise, today, visibility in the extended supply chain is still in its infancy.

As shown in Figure 21, the confidence of supply chain leaders to close these gaps through ERP efforts is low. The largest gaps are in the extended supply chain where ERP technologies have had little impact. While manufacturing strategies for supply chain visibility within the enterprise can be solved through ERP initiatives, the rest cannot be.

Figure 21. Confidence in the Enterprise Resource Planning to Close the Gap in Supply Chain Visibility



Source: Supply Chain Insights LLC, Supply Chain Visibility Study (Oct 2013- Jan 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives and Third Party Logistics Providers – Have ERP System (n=70)
*All measures based on those rating 5-7 on a 7-point scale
Q15. Please think about supply chain visibility. How important is it for your company to have visibility of the supply chain in each of the following areas?
SCALE: 1=Not at all important, 7=Extremely important
Q16. How well do you think your company performs on having supply chain visibility in each of these same areas? SCALE: 1=Poor, 7=Excellent
Q17. How confident are you that your ERP provider can give your company the supply chain visibility it needs in these same areas we asked about before?
SCALE: 1=Not at all confident, 7=Very confident

Some examples of the gaps include:

Collaborative Logistics: Many trucks today return empty. While many companies talk about the need and promise for collaborative logistics—the ability for companies to work together to minimize deadhead miles—the lack of inter-enterprise visibility is a barrier.

Merge In-Transit: With the growth of e-commerce, companies would like to source products from a supplier and directly ship the package from the supplier to the consumer. Sometimes, there is a need to kit the item virtually through a merge in-transit capability. Today, there is no multi-tier Available-to-Promise signal, and the ability to accurately merge goods in transit is limited by visibility capabilities.

Management of In-Transit Shipments: Today, one in three shipments has an Advanced Shipping Notification (ASN). Since the majority of information is flowing through Electronic Data Interchange (EDI) through point-to-point integration, and only 7% of volume is flowing through Business-to-Business networks, the inbound shipment status is a black hole. As a result, companies struggle with early alerting on precisely when material will arrive.

Quality of Inbound Materials: With the sourcing of many materials by contract manufacturers, the tracking of inbound quality information is problematic for second- and third-tier manufacturers. This was

one of the many issues in the 2007 recalls of over 100 brands of dog and cat food. The same issues have popped up again in the recent recalls in 2014.

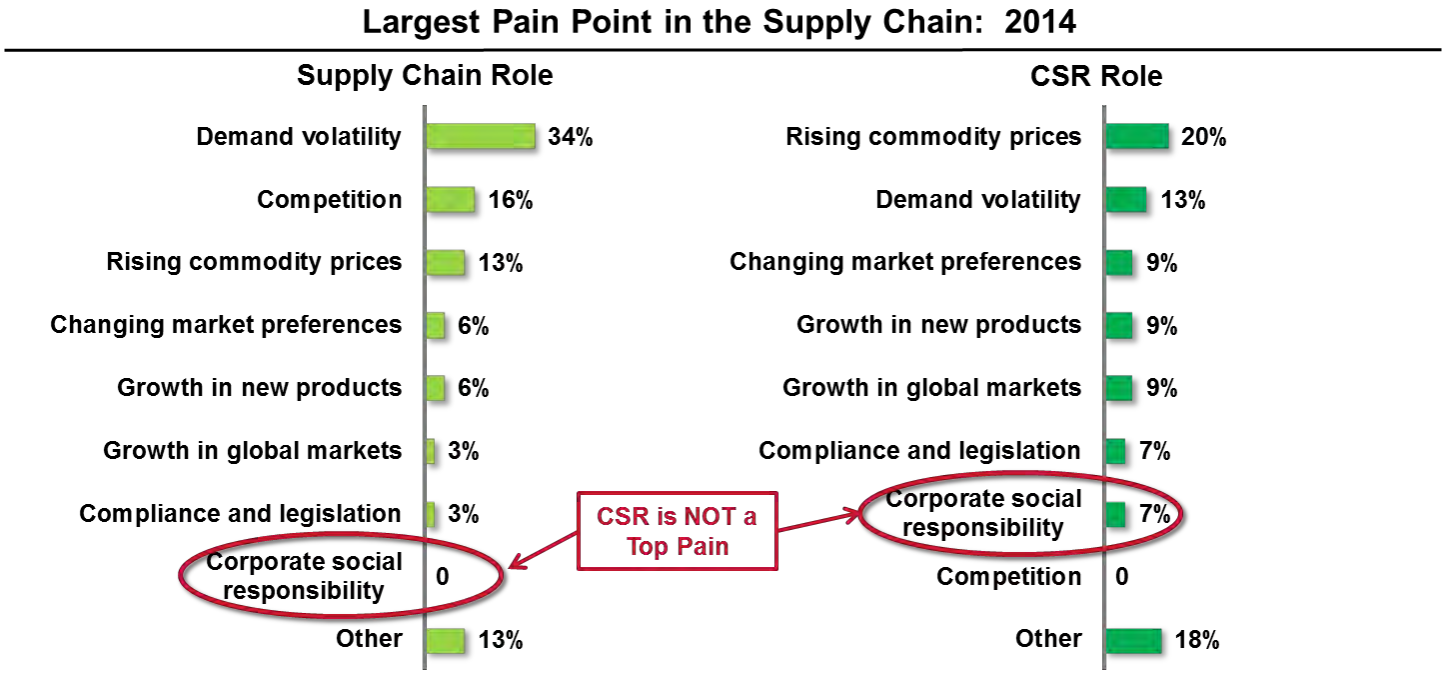
To drive forward and close the gap to improve supply chain visibility, the path forward is the use of new forms of B2B networks. These include a canonical integration capability, an application layer and a community infrastructure. A B2B network is built for a one-to-many or many-to-many companies to interact in an architecture that facilitates flows through multiple parties simultaneously while maintaining data harmonization and synchronization.

Action Item: Clearly define what supply chain visibility means for your organization.

Social Responsibility and the Sustainable Supply Chain

There are many business drivers facing today's supply chain leaders. Most of these, as shown in Figure 22, rank higher than Corporate Social Responsibility (CSR). When it comes to top-of-mind issues, it is a not a major pain point for either set of business leaders.

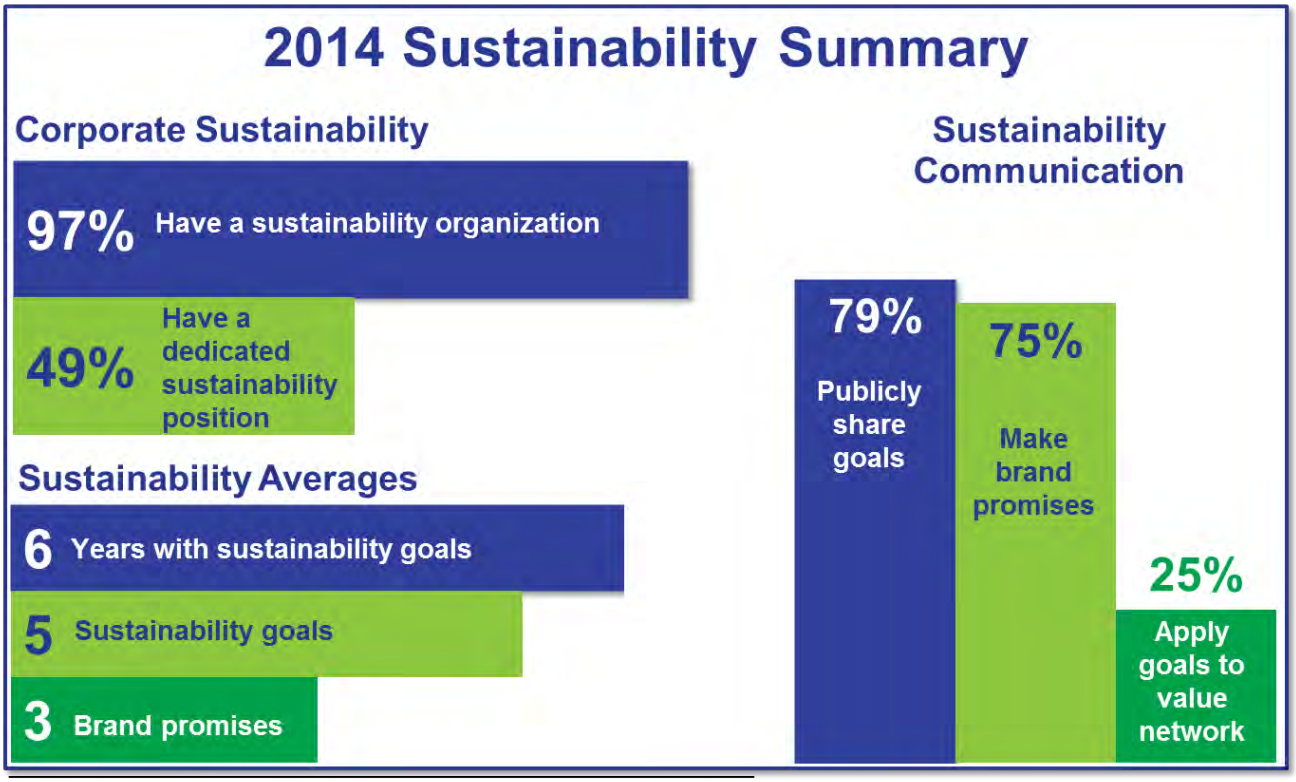
Figure 22. Business Pain Points for Supply Chain and Corporate Social Responsibility Leaders



Source: Supply Chain Insights LLC, Green Supply Chain (Jan-Feb 2013; Mar-Nov 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives with sustainability goals – 2014 Supply Chain (n=32), 2014 CSR (n=45)
Q3. What is your company's single largest pain point in the supply chain, at this point in time?

Companies answering the Corporate Social Responsibility survey are a paradox. While 79% publicly share their CSR goals, and 75% tie CSR programs to a marketing or brand promise, only 25% of companies apply their goals to the value network (see Figure 23). Instead, most are focused on the enterprise. The problem is that 65% of nonrenewable resources, on average, are in the network outside of the traditional reach of the enterprise teams. To be effective, and tackle CSR issues, the reach needs to be moved from an enterprise focus to extend and encompass the total network.

Figure 23. CSR Paradox

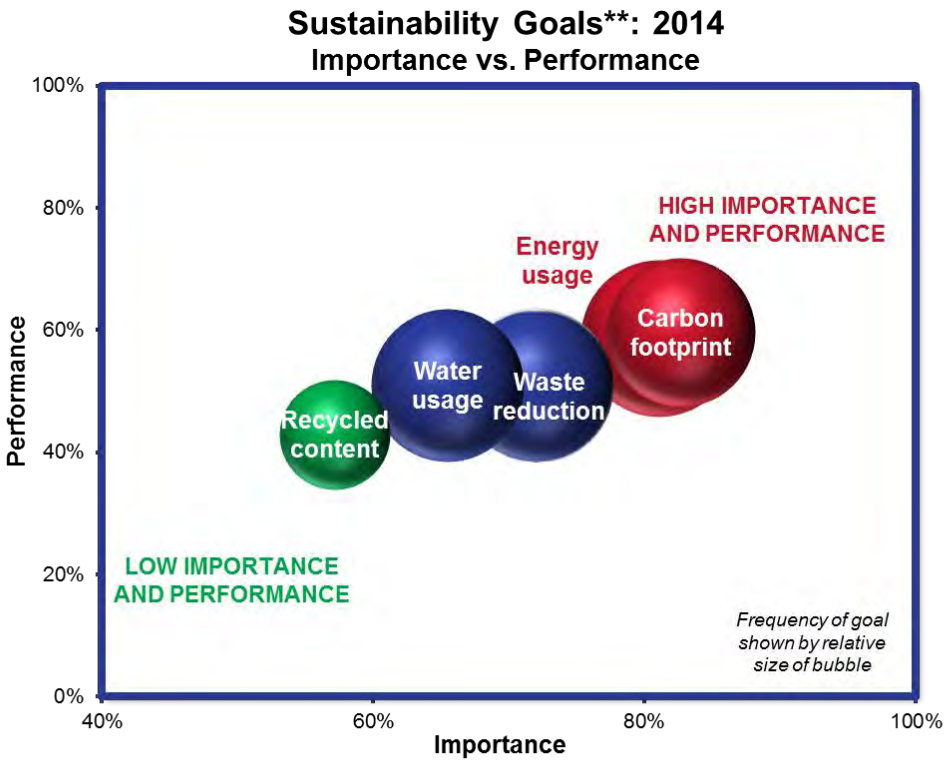


Source: Supply Chain Insights LLC, Green Supply Chain (Jan-Feb 2013; Mar-Nov 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives with sustainability goals – 2014 (n=76)

CSR programs are still new and maturing. While the average supply chain team has had a supply chain team for 14 to 20 years, the length of time for a company managing a CSR program is six years. The supply chain team is older and the processes are more mature. Companies are still trying to figure out how to make the two programs align and drive improvements.

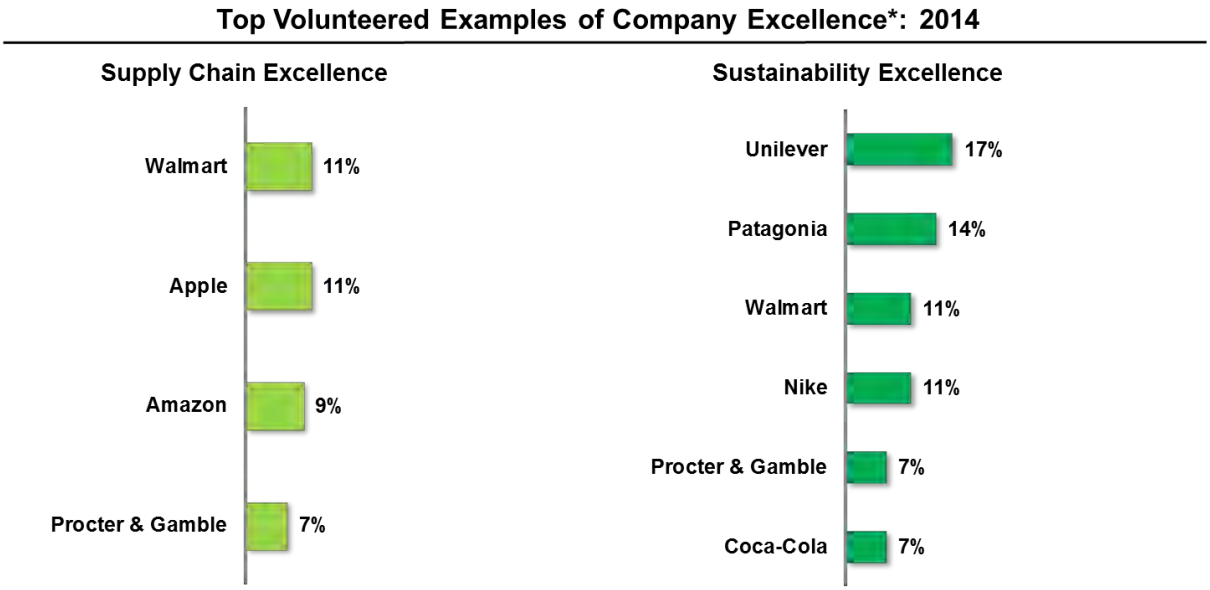
The most progress is being made in the area of energy usage. The slowest progress is in the area of recycled content. Water and waste fall in between.

Figure 24. Corporate Social Responsibility Goals



Source: Supply Chain Insights LLC, Green Supply Chain (Jan-Feb 2013; Mar-Nov 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives with sustainability goals and have specific element within goals 2014: energy usage (n=58), waste reduction (n=57), carbon footprint (n=52), water usage (n=55), recycled content (n=28*)
*SMALL BASE SIZE: INTERPRET WITH CAUTION; Only showing elements with base size = 25+ in both waves
Q11. How important is each of these elements to your company's overall sustainability goals? SCALE: 1=Not at all important – 7=Very important; Q12. How would you rate your company's performance on meeting your goals for these same elements? SCALE: 1=Poor – 7=Excellent; Q4. In which of the following areas does your company have any goals for 2013? Please select all that apply.
**Among those with each goal element; rated 6-7 on 7-point scale

Figure 25. Companies Selected by Peers as Examples of Supply Chain and Sustainability Excellence



Source: Supply Chain Insights LLC, Green Supply Chain (Jan-Feb 2013; Mar-Nov 2014)
Base: Manufacturers, Retailers, Wholesalers / Distributors / Co-operatives with sustainability goals – 2014 (n=76)
*Only showing companies with 7%+ mentions
Q20. When you think of corporate social responsibility or sustainability excellence in the supply chain, what companies do you think do it well?
Q21. When you think of supply chain excellence, what companies do you think do it well?
OPEN-ENDED RESPONSES FOR BOTH QUESTIONS

Who does it best? Which companies do the best job of balancing the objectives of both supply chain and corporate social responsibility? In our study, and for two consecutive years, Walmart and Procter & Gamble are selected by peers as companies to admire.

Action Item: Work on aligning supply chain and CSR objectives to drive alignment and business value. For many companies, this opens up new avenues to pursue new business models.

Recommendations

Today's supply chain is very different than the supply chain of ten years ago. Why? More and more supply chain functions have been outsourced. There are fewer buffers. The supply chain links are more subject to market fluctuations and the interrelationships are more complex. The answer needs to be holistic. Here are seven actions to take:

1. Get Clear on What You Are Doing Today. Document the "As Is" and the "To Be" states. Most manufacturers are not clear on what they are doing today. The documentation of the "as is" condition is usually eye-opening. Companies typically overstate their current performance.

2. Manage the Supply Chain Holistically as a Complex System. Lead the teams to move past functional-silo thinking to drive end-to-end results. Define an operations strategy, build supply chain talent, and drive alignment across the functions.

3. Recognize and Close the Gap on Talent. As companies outsource manufacturing or change organizational structures in Research and Development or Information Technology, instead of lay-offs consider re-skilling employees for supply chain positions. Today, in planning, the average company has four-to-five positions open for three-to-four months. With market demand greater than supply, expect greater turnover and consider making salaries more attractive.

4. Simplify Operations. This includes simplification of the product lines and the definition of standard ingredients and/or interchangeable parts. Campbell's Soup is an example of a company that has done this successfully.

5. 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 in 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.

6. Make Your Suppliers' Needs Your Concern. Own Your Value Networks. 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.

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.

Conclusion

The supply chain of today is more strategic, and critical to driving corporate performance. Learn from the practices of the last 30 years in order to rethink the future. Build the right organizational muscle, improve time to decisions, and effectively build strong network capabilities.

Other Reports in This Series

This study includes excerpts from a number of previously published reports. For more details on demographics and insights, please reference these more detailed summaries available on our Supply Chain Insights website:

Supply Chains to Admire

Supply Chain Talent: A Broken Link in the Supply Chain

Maximizing the ROI in Supply Chain Planning

Building the Green Supply Chain-2014

Can You Afford the Risk?

Supply Chain Visibility in Business Networks

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) - In February 2012, I started Supply Chain Insights. My goal is to provide thought-leading supply chain research for the early adopter seeking first mover advantage. My first book, *Bricks Matter*, was published in December 2012 and now has 17 five-star reviews posted on Amazon.com. I am anxiously awaiting the publication of Supply Chain Metrics that Matter on December 22, 2014.

Research and writing are passions. During the month, you can access my monthly columns in CGT Magazine and Supply Chain Management Review. I am a frequent contributor for Supply Chain Brain, CIO Magazine, and the CSCMP Quarterly. I am also the author of the enterprise software blog *Supply Chain Shaman*, and contribute frequently as a LinkedIn INfluencer and a Forbes blogger. As an enterprise strategist, I focus on the changing face of enterprise technologies for the supply chain professional.

Previously, I spent 9 years as an industry analyst with Gartner Group, AMR Research, and Altimeter Group; 10 years as a leader in the building of supply chain software at Manugistics and Descartes Systems Group; and 15 years as a supply chain practitioner at Procter & Gamble, Kraft/General Foods, Clorox, and Dreyer's Grand Ice Cream (now a division of Nestlé).

My education includes a B.S. in Chemical Engineering from the University of Tennessee, an MBA from the Wharton School of Business at the University of Pennsylvania, I will graduate with a DBA from Temple in 2016, and I have completed post graduate work in organizational development at Georgetown University. Certifications include APICS, CIRM and CPIM and I am a past teacher of effective marketing concepts for software executives in the Pragmatic Marketing program.