



# MANAGING Risk in Global MANUFACTURING ENTERPRISES

The earthquakes, tsunami and ensuing nuclear emergency that struck Japan on March 11 are just the latest in a startling series of reminders that manufacturers face unparalleled risks in an interconnected and interdependent world. Hurricane Katrina and Deepwater Horizon have moved into the common business lexicon as examples of catastrophic events affecting thousands of companies. But companies face numerous risks from more mundane events such as material shortages, equipment failures, supplier bankruptcies and other unexpected interruptions. With complex supply chains that stretch around the world, companies must be prepared to deal with a host of natural and man-made risks that can drive up prices, wreak havoc with production schedules, sideline or destroy facilities, and put careers and lives in jeopardy.

Cognizant of these threats, companies are paying closer attention to the risks that can affect their businesses and raising the status of enterprise risk management, which the Risk Insurance Management Society defines as “a strategic business discipline that supports the achievement of an organization’s objectives by addressing the full spectrum of its risks and managing the combined impact of those risks as an interrelated risk portfolio.”

To better understand how manufacturers are viewing risks and preparing for them, INDUSTRYWEEK



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A Special Research Report by IndustryWeek, sponsored exclusively by Zurich NA

and Penton Research recently undertook a study, sponsored exclusively by Zurich NA, to determine how executives and managers are assessing risks, what risks they are most concerned about and what their state of readiness is for dealing with these risks. More than 580 manufacturing executives and managers responded to our survey.

### Global Sourcing

Overall, 55% of the manufacturers responding to our survey are engaged in sourcing products globally. (Fig.1) Respondents from large companies are most likely (71%) to participate in global sourcing, according to our survey, while just under 40% of small firms (less than \$25 million in annual revenue) do so.

Products and raw materials are most likely to be sourced globally. (Fig.2) Large companies were much more likely to source services on a global basis.

Respondents are unlikely to have a single source for critical supplies; 11% of respondents indicate that none of their critical suppliers are sole-source, while an additional 47% indicate that fewer than 25% of their critical suppliers are sole-source.

Respondents from larger organizations were most likely to rely on an internal risk manager as a source for enterprise risk management. For small-to-mid-sized organizations, 32% used an internal risk manager but 25% said they relied on their insurance carrier and 32% said either print or digital media were key sources for enterprise risk management. (Fig.3)

### ERM PROGRAMS IN THE MINORITY

While considered a launching point for effectively dealing with risk management, less than half our respondents reported they had an enterprise risk-management program, (Fig.4) and just over a third of manufacturing respondents said

Figure 1—Global Sourcing Participation

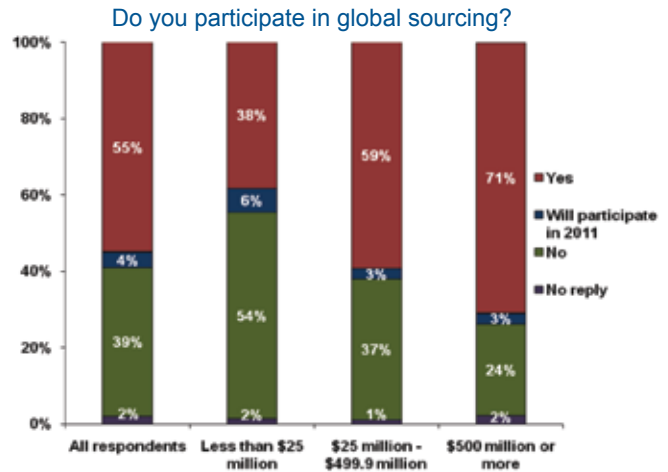


Figure 2—Globally Sourced Items

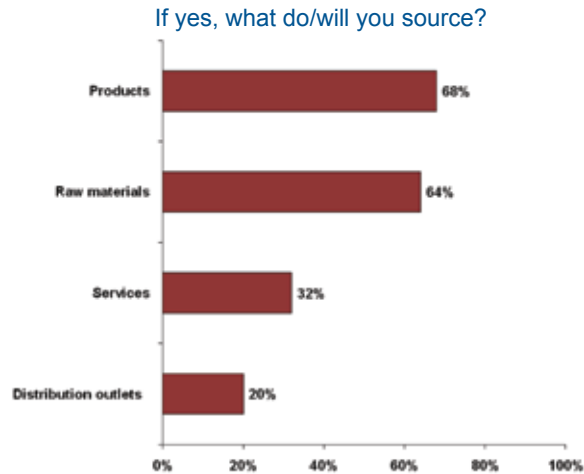
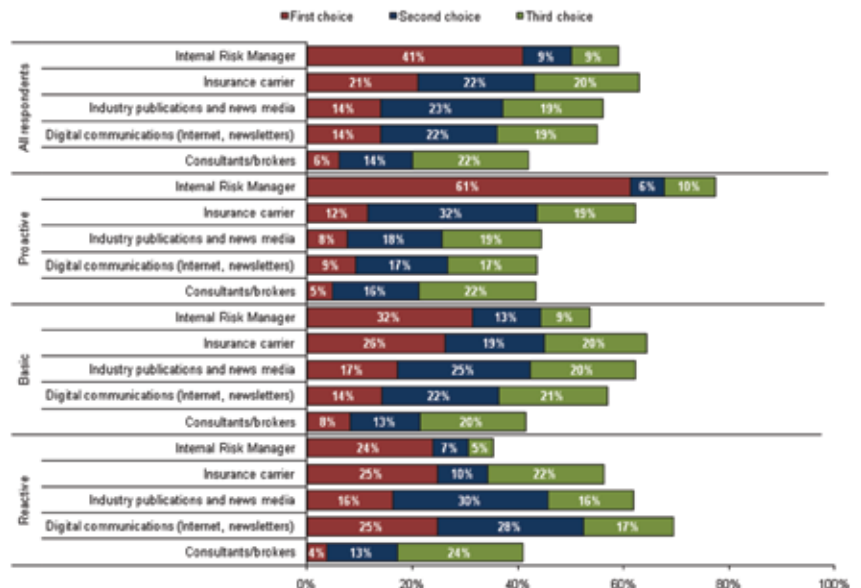


Figure 3—Enterprise Risk-Management Sources

What are your key sources for enterprise risk management?



their organizations take proactive approaches to risk management. Size was a significant factor in whether organizations employ dynamic risk-management approaches or handle risks in a more basic, inconsistent fashion. (Fig.5) Among companies with \$500 million or more in annual revenue, 57% take a proactive approach to risk management, compared with 25% of respondents with annual revenues under \$500 million.

Not surprisingly, 76% of companies that take a proactive approach to risk management currently have an enterprise risk-management program, compared with 15% of companies with a reactive approach to risk management and 24% of companies with a basic approach.

### High-level Responsibilities

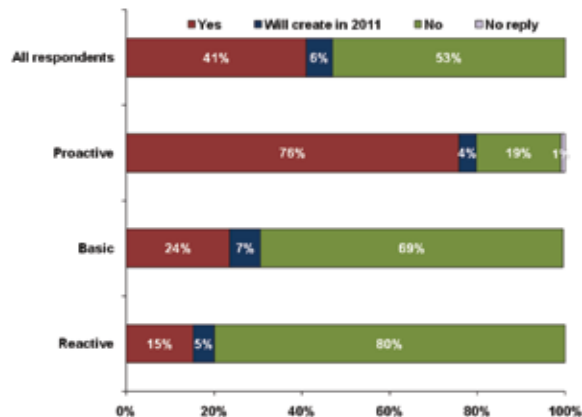
Nearly two in five respondents indicate C-suite executives are primarily responsible for managing risk in their organization. (Fig.6) An additional 32% indicate the primary responsibility falls to senior management. For another 14% of companies, the responsibility lies with a dedicated leader, such as a chief risk officer or a director of insurance.

Nearly half of respondents reported that the primary challenge they face in identifying and assessing risks is a lack of resources and time, followed closely by their ability to obtain the right information. (Fig.7) Among respondents whose companies take a proactive approach to risk management, the primary challenge to identifying and assessing risk is obtaining the right information. Those with basic or reactive approaches find a lack of resources and time to be the primary challenge. Some 11% of all respondents reported that a lack of ERM methodologies was the chief test they faced in assessing risks.

A solid majority of manufacturing leaders (59%) say that risk-management threats and opportunities are integrated into their strategic decision-making process. (Fig.8) That

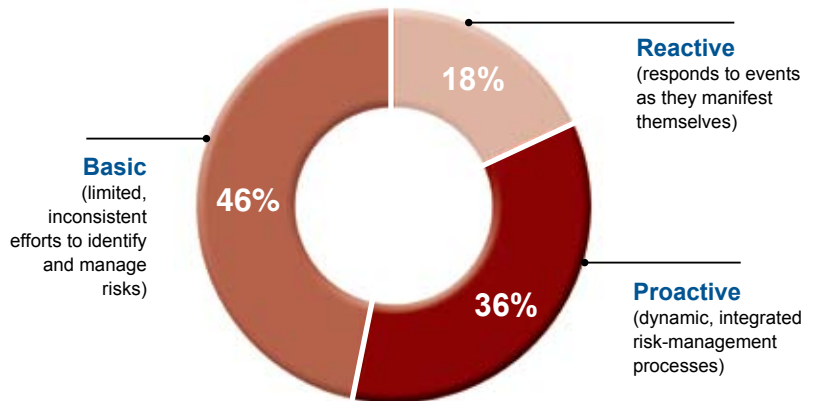
**Figure 4—Incidence of Enterprise Programs**

Does your company have an enterprise risk-management program?



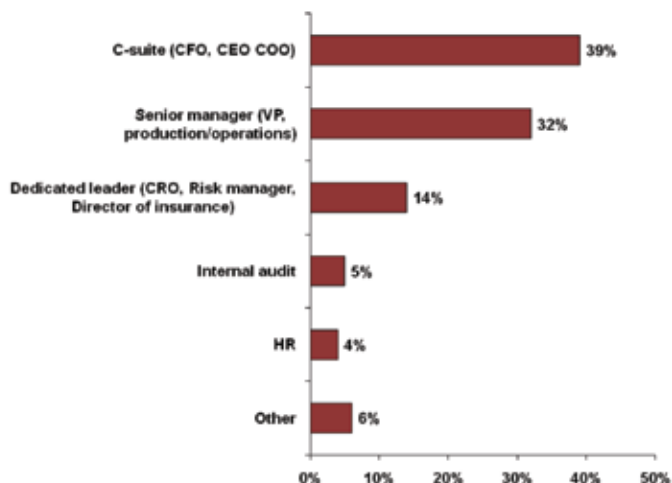
**Figure 5—Approach to Risk Management**

How would you describe your company's approach to risk management?



**Figure 6—Risk Manager**

Who is primarily responsible for managing risk across your organization?



percentage climbs significantly to 86% for respondents who claim to be proactive regarding risk management, while only 35% of those in reactive organizations follow this practice.

A business-continuity plan is employed by companies to make sure that they have a roadmap for bringing critical operations back on track if a disaster or other significant disruption occurs. (Fig.9) Our survey found that 65% of companies reported they have a plan in place. Among proactive employers, 87% said they have a business-continuity plan.

### Supply Chain Disruptions

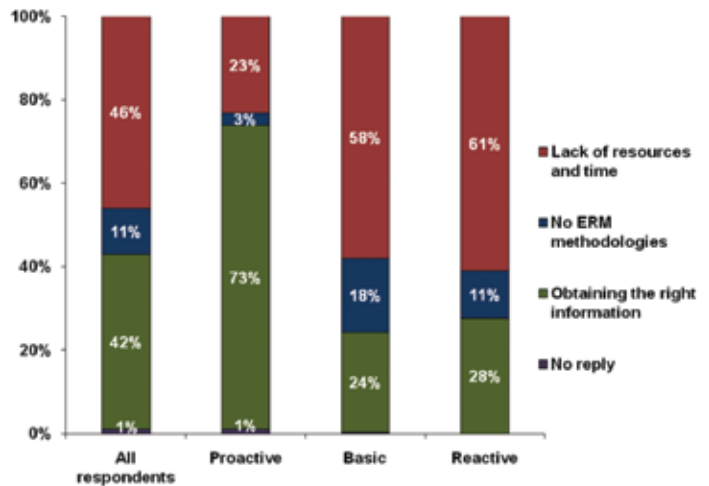
While most employers have plans in place in case a business interruption occurs, they aren't as meticulous about ensuring that their suppliers are similarly prepared. Only 38% of our respondents say they review the business-continuity plans of key suppliers. That leaves many manufacturers vulnerable to supplier interruptions that can be particularly troublesome in a just-in-time manufacturing system. Among proactive employers, a slight majority (56%) review the business-continuity plans of key suppliers. Among those who claim to have a reactive approach, however, only 24% review the plans of key suppliers.

Fewer than one in four respondents suffered a financial loss from a supply chain disruption in 2010. (Fig.10) Among respondents with \$500 million or more in annual revenue, 27% suffered a financial loss from a supply chain disruption. Some 24% of those with a proactive approach to risk management suffered a loss, compared with 32% of those with a basic or reactive approach.

Causes of losses from supply chain interruptions varied widely, from product recalls to defective products to weather. A number of managers cited problems with suppliers who either went bankrupt

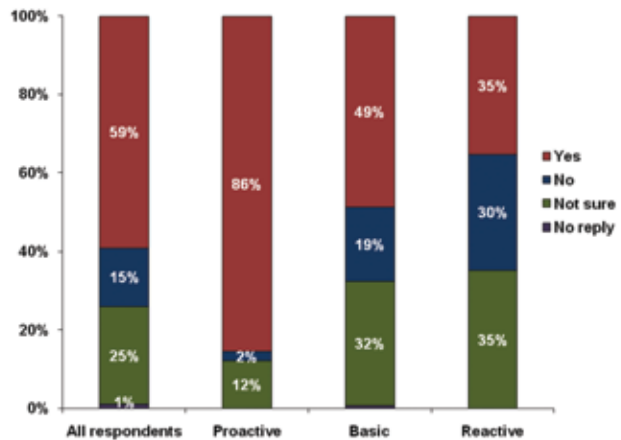
**Figure 7—Primary Risk Challenge**

What is the primary challenge to identifying and assessing risk in your organization?



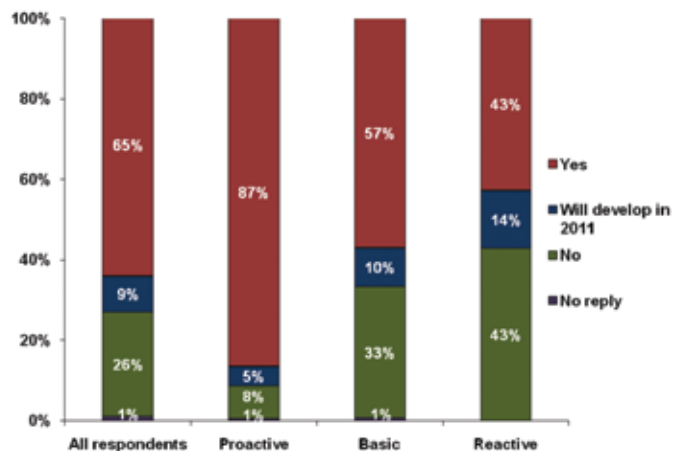
**Figure 8—Integration in Strategic Decisions**

Are risk-management threats and opportunities integrated into your strategic decision-making process?



**Figure 9—Business-Continuity Plan**

Does your company have a business-continuity plan?



or who were unable to ramp up capacity to meet rising demands as the economy recovered. One executive cited “stupidity,” a particularly vexing problem and one difficult to eradicate from any organization.

Asked about specific supply chain risks, respondents were most concerned that an increase in the cost or availability of raw materials would affect their company. (Fig.11) Respondents also were concerned with quality defects in supplied materials/components, supplier failure or insolvency and shipping delays or damage. At the other end of the spectrum, manufacturing leaders were least concerned about increased transportation rates, political disruptions in supplier nations and foreign-currency fluctuation.

Concerns did not vary significantly by approach to risk management. Looking ahead, manufacturing managers were not forecasting significant changes in the risk environment their operations would encounter. Approximately 70% said potential business-disruption risks would remain about the same in 2011, while 21% said they would increase. Only 8% expected risks to decrease.

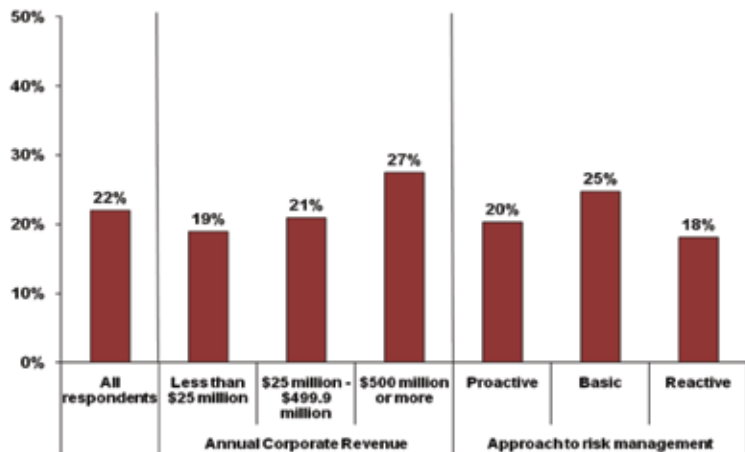
### Taking Action

Respondents with a proactive approach to risk management are most likely to have taken action to reduce supply chain risk exposure. (Fig.12) Respondents cited the top three actions they were taking as increased reviews and audits of suppliers, expanded supplier pre-qualification standards and increasing the number of suppliers. The latter action flies in the face of recent trends to streamline supplier ranks but recognizes that single or reduced sources of supply increase employer exposure to potentially lengthy production disruptions.

Respondents who take a proactive approach to risk management are most likely to be confident that their company is prepared to

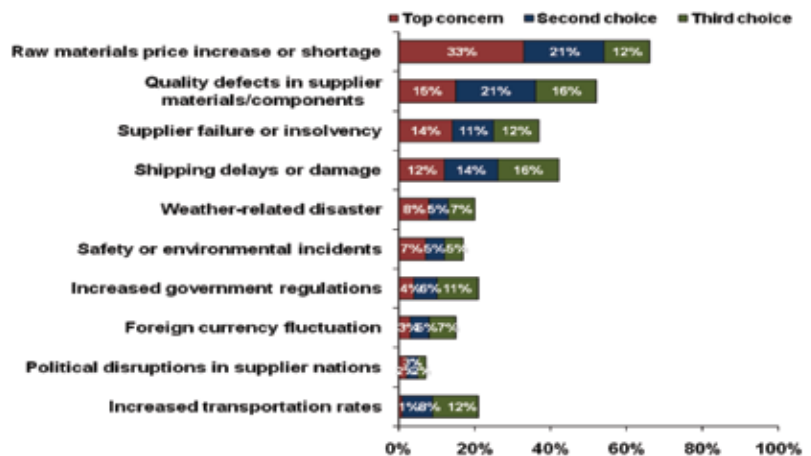
**Figure 10—Financial Loss From Supply Chain Disruption**

Did your company suffer a financial loss from a supply chain disruption in 2010? Percent from each respondent segment who indicated yes.



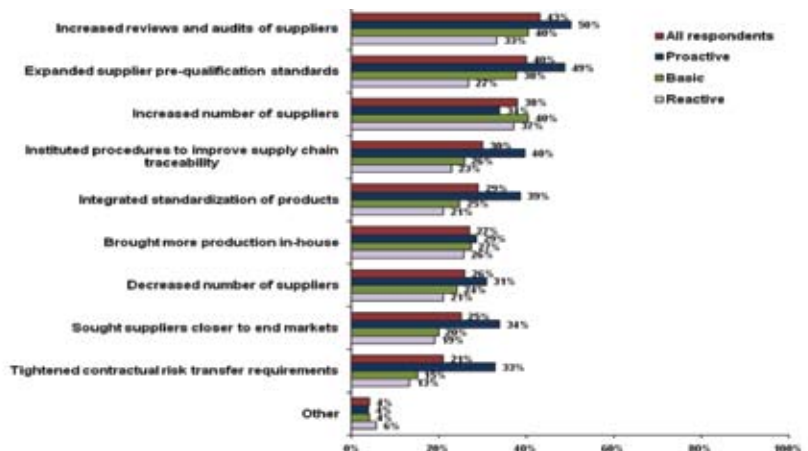
**Figure 11—Top Risk Concerns**

What supply chain risks are you most concerned about affecting your company? Rank your top three concerns.



**Figure 12—Actions to Reduce Supply Chain Risk Exposure**

Has your company taken any of the following actions to reduce its supply chain risk exposure?



deal with a supply chain business disruption. (Fig.13) While only 45% of all managers said they had a high degree (4 or 5 on a scale of 1 to 5) of confidence that they could deal with a disruption in a way that would meet customer demands successfully, 70% of managers in proactive organizations believed they could do so. Only 25% of managers in reactive organizations thought they could meet customer demands if a supply chain disruption occurred.

While reputation risk is an emerging area of concern for many companies, fewer than half of our respondents were concerned that a supply chain disruption could have an adverse effect on their company's reputation. (Fig.14)

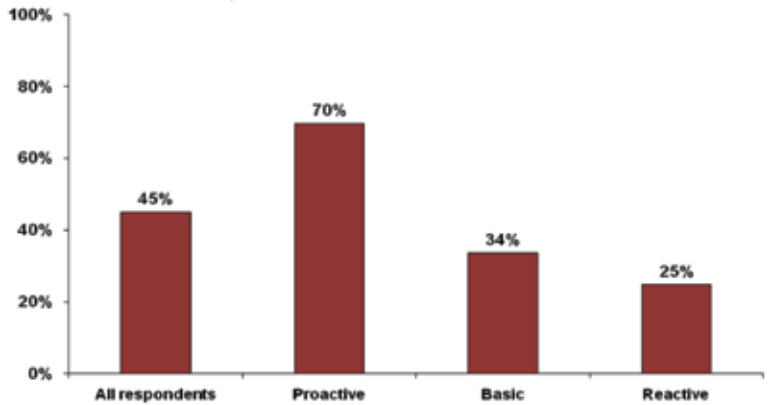
When asked what emerging risks were of most concern, the global economy was the clear leader overall, followed by government regulations and policy and a workforce skills shortage. (Fig.15) These were the top three concerns universally—across all revenue levels and all three approaches to risk management. Few manufacturers cited concerns about cybersecurity, non-traditional forms of employment such as outsourcing, and pressures to reduce their carbon footprint.

Manufacturers reported using a variety of technologies to help prevent or minimize supply chain disruptions. (Fig.16) Most used was inventory-management software and order-management software. Larger companies (revenues greater than \$500 million) were significantly more likely to use various software products. Respondents who are proactive in their approach to risk management also employ more technologies to prevent or minimize disruptions. For many types of software, proactive companies, for example, were twice as likely as reactive companies to use these products.

The survey confirms that risk in a global economy is an area of increasing concern for manufactur-

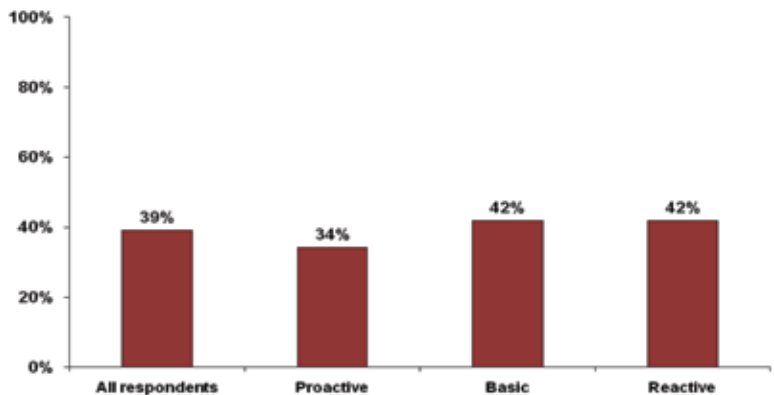
**Figure 13—Confidence in Preparedness**

How confident are you that your company is prepared to deal with a supply chain business disruption in a way that would allow it to meet customer demands successfully? Percent rating 4 or 5 on a 5-point scale where 5 = "Very confident" and 1 = "Not at all confident."



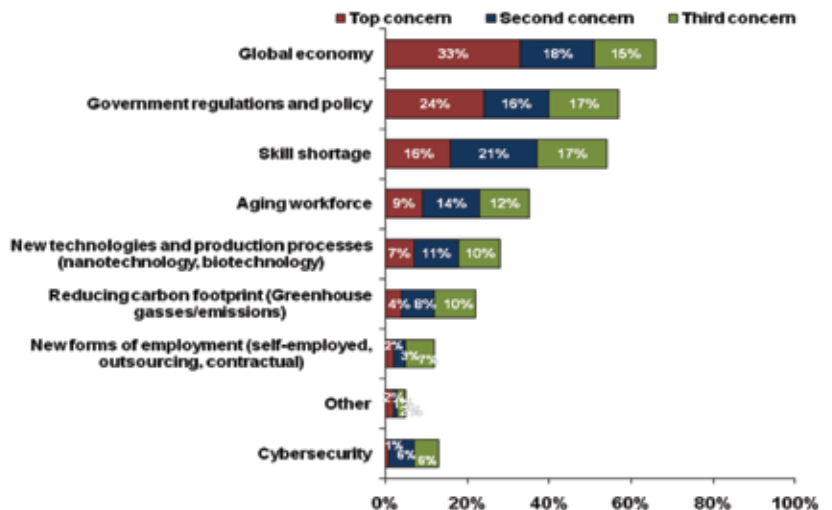
**Figure 14—Disruption Concern**

How concerned are you that a supply chain business disruption could have an adverse effect on your company's reputation? Percent rating 4 or 5 on a 5-point scale where 5 = "Very concerned" and 1 = "Not at all concerned."



**Figure 15—Emerging Risks**

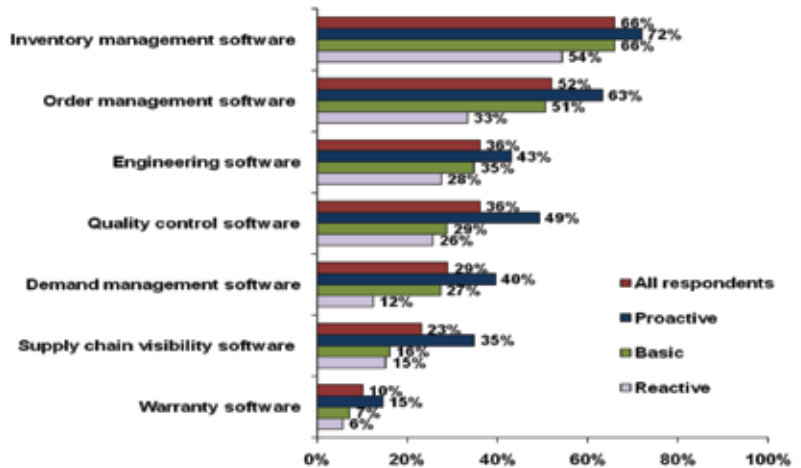
What emerging risks to your company are you most concerned about?



ers and that the majority are taking action to anticipate and prepare for those risks. It also shows that there is considerable room for improvement in how companies forge a more holistic view of risk and how they bring a variety of tools to bear to increase their knowledge of the risks they face and to deal effectively with those risks. The threats that companies face are as close as a river levee a few miles away or a factory owner facing bankruptcy halfway around the world. And that makes continual vigilance in dealing with risk a necessity of 21st century manufacturing.

**Figure 16—Technologies Used to Prevent or Minimize Disruption**

Which of the following technologies does your company employ to help prevent or minimize supply chain disruptions?



## Demographics

Respondents represent companies of various sizes and industries.

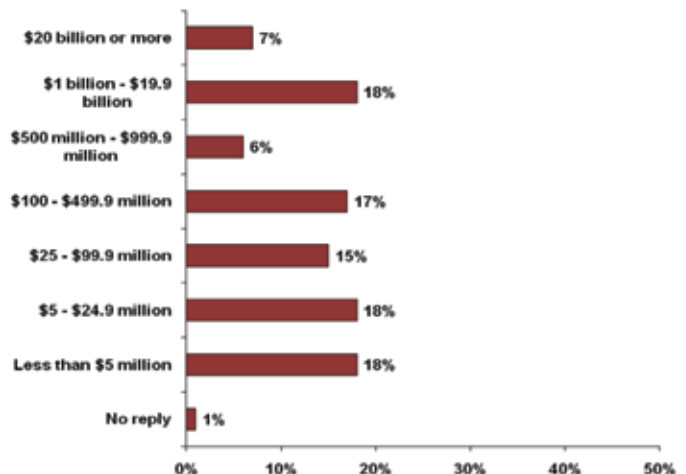
One in four respondents indicates their company has \$1 billion or more in annual revenue. An additional 23% have between \$100 million and \$999.9 million in revenue.

Twelve percent of respondents indicate their primary business is industrial machinery. Each of the other industries listed represents fewer than one in 10 respondents.

Nearly one in three respondents (32%) holds an executive-level position, while 40% are managers with direct reports and 27% are individual contributors with no direct reports.

## Company Size

What is your company's annual corporate revenue?



## Industry

What industry segment best describes your company's primary business?

