

# Managing supply-chain risk for reward

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Nearly a decade ago, lightning struck a Philips microchip plant in New Mexico, causing a fire that contaminated millions of mobile phone chips. Among Philips' biggest customers were Nokia and Ericsson, the mobile phone manufacturers, but each reacted differently to the disaster. Nokia's supply-chain management strategy allowed it to switch suppliers quickly; it even re-engineered some of its phones to accept both American and Japanese chips, which meant its production line was relatively unaffected. Ericsson, however, accepted Philips' word that production at the plant would be back on track in a week and took no action. That decision cost Ericsson more than US\$400m in annual earnings and, perhaps more significantly, the company lost market share. By contrast, Nokia's profits rose by 42% that year.

Managing supply-chain risk is not new in itself, but examples such as the above show that the one constant in any strategy may be to expect the unexpected. The global economic downturn is a case in point. It has forced many companies to pay special attention to their supply chains, but recession or no recession, an efficient and adaptable supply-chain risk management strategy can be the difference between survival and success. Moreover, in a prolonged global downturn such as the current one, a resilient supply-chain strategy can yield significant competitive advantage.

To understand how companies are being affected by supply-chain risk, and how they are responding to it, the Economist Intelligence Unit surveyed 500 executives with responsibility for risk management, from companies across Asia-Pacific, North America and Europe. Following are the main findings of the research.

### **Recession-related supply-chain disruptions have increased, and companies see them as a continuing threat.**

Companies' supply chains may face a host of perils, including labour disputes, terrorism, energy price hikes and natural disasters. However, the survey shows that disruptions associated with the effects of the recession have had the most impact on supply chains in the past year. As many as 62% of survey respondents cite inability to predict future demand for their products as a major disrupting force, and 59% have been badly affected by exchange-rate fluctuations. More than one-half of all respondents have been hit by rising input costs and swings in energy prices, and over one-third have been affected by the insolvency of partners or suppliers.

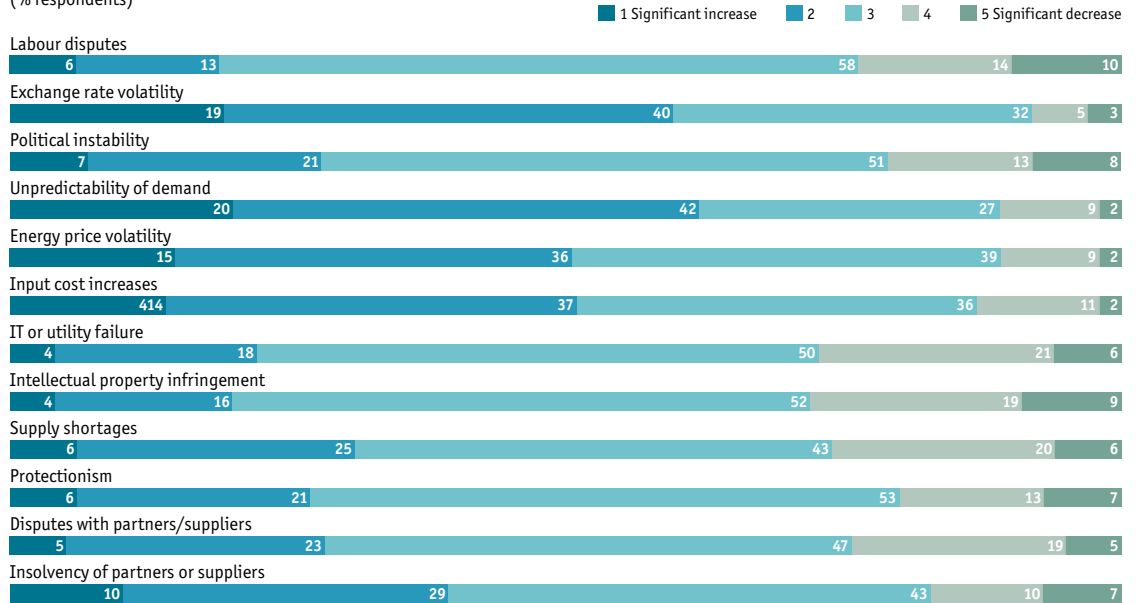


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### Over the past year, what change has there been to the magnitude of disruption to your supply chain of the following?

Please rate 1 to 5 where 1 is significant increase and 5 is significant decrease.

(% respondents)



Respondents feel that these threats to the supply chain are unlikely to go away in the near future. At the top of their list of concerns for the next 12 months are unfavourable exchange-rate fluctuations, followed closely by fears over input and energy price hikes. Declining customer confidence, the introduction of protectionist measures by governments and the prospect of more supplier insolvencies are other headaches.

Respondents' concerns about the impact of increasing energy prices on their supply chains are justified. At the time of writing, the price of crude oil had risen to US\$80/barrel, up from US\$34/barrel at the end of 2008. The effect of such volatility could be substantial. In 2008, David Simchi-Levi, a supply-chain expert at Massachusetts Institute of Technology, told the Supply Chain Digest that if oil prices rose from US\$100 to US\$150/barrel, total supply chain costs could rise by 3%. The impact of such an increase on a company's bottom line would be huge.

In a downturn, companies will be reluctant to pass on the increased costs to customers—the survey shows that 24% of respondents see declining customer confidence as a problem in the coming year—forcing them to look for savings elsewhere. Professor Simchi-Levi says that transport costs become more important, relative to production and facility costs, as oil prices rise. Cheaper manufacturing located further away from a company's distribution centres is offset by higher transport costs, and companies may seek to move production closer to customers. For instance, a US company which previously outsourced to China might see Mexico as more attractive.

Protectionism is also a valid concern for respondents. The downturn has led governments to consider a raft of measures designed to protect domestic business interests, including bail-outs, state aid, tariffs and trade defence measures. In October 2009 Global Trade Alert, a think-tank, predicted<sup>1</sup> that trade defence measures will become more prevalent in the year ahead, with China the biggest target, followed by the US, Germany, France and Japan. More North American respondents to the

<sup>1</sup> "What can be learned from crisis-era protectionism? An initial assessment", Centre for Economic Policy Research, October 2009

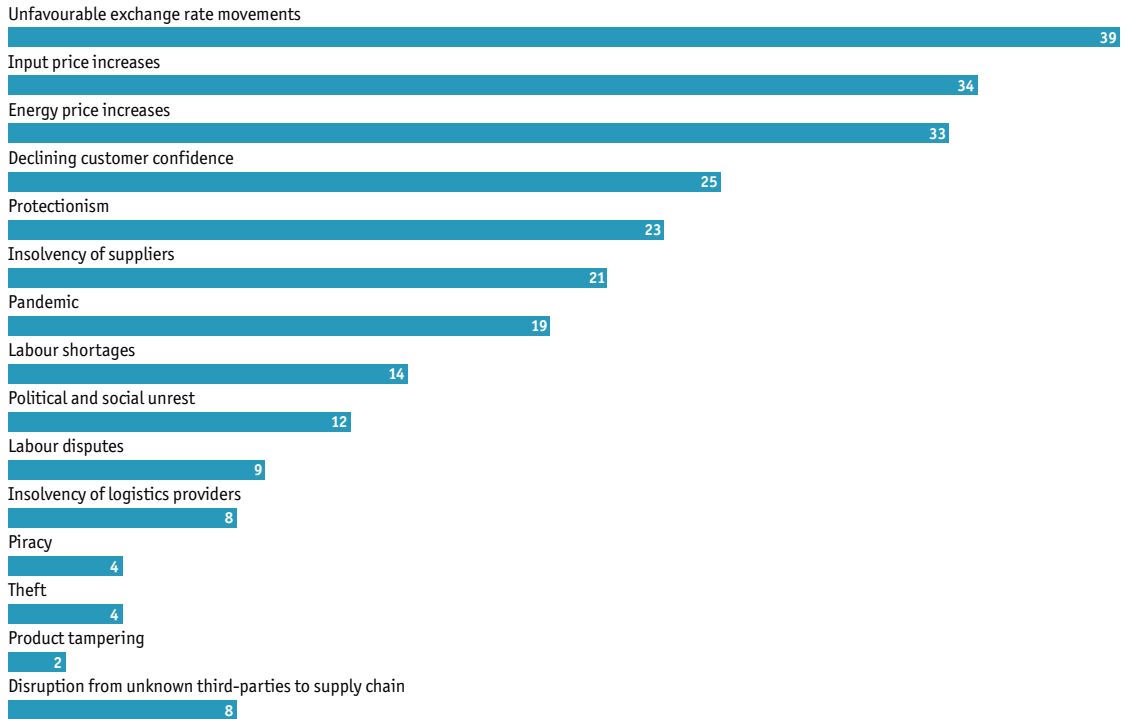


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### Over the next year, which of the following do you see as the biggest threats to the resilience of your supply chain?

Select up to three.

(% respondents)



survey say that protectionism is a large cause for supply-chain disruption than their counterparts in Europe and the Asia-Pacific.

Meanwhile, more traditional business issues seem to be less of a concern for companies over the next year. One-half of respondents say that disruption to the supply chain resulting from labour disputes, information technology (IT) or utility failure, and intellectual property (IP) infringements have remained unchanged over the past year, although the magnitude of increase or decrease in these issues varied depending on region. Nevertheless, these are not issues to be ignored—as many as 30% of respondents report that their companies have experienced some sort of IT failure over the past year, whereas 25% have been affected by equipment failure and 26% by theft.

### Driving down costs is a priority, but should be undertaken carefully

A major challenge for many companies in the downturn has been in containing or reducing costs. Some 52% of survey respondents agree that supply-chain costs related to energy and regulatory compliance have risen in the past year. More than a third saw costs associated with labour, material inputs, road transport and shipping, and paperwork and bureaucracy climbed too.

Unsurprisingly, suppliers have taken the brunt of companies' efforts to cut costs, rather than customers. In the past 12 months 57% of respondents negotiated lower prices from suppliers, against just 15% who raised the price of their products. Meanwhile, 35% sought more efficiency from their logistics operations.

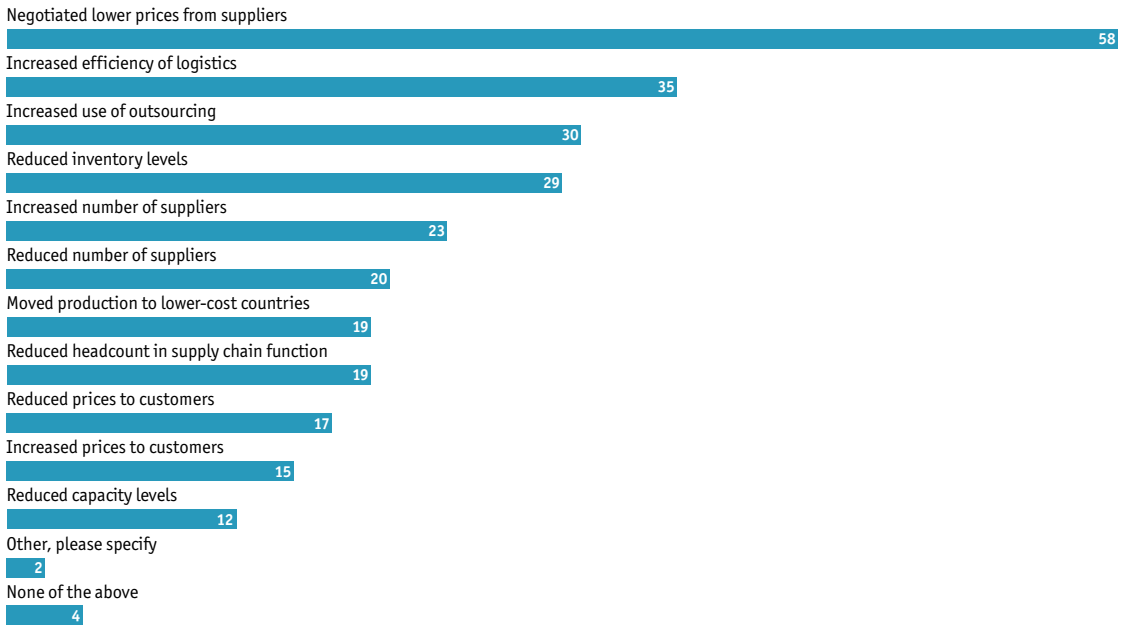


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### Which of the following steps has your organisation taken in the past 12 months as a result of the current downturn?

Select all that apply.

(% respondents)



Others, particularly those in the Asia-Pacific region, have stepped up their level of outsourcing. Other streamlining measures included reducing inventory, moving production to lower-cost countries, and tweaking supplier numbers.

But cost-cutting without thought for long-term strategy does not always deliver the desired results. Cheaper labour costs, for example, may make developing countries look like attractive partner options, but political or infrastructure-related uncertainty can make them costlier options in the long term. In fact, 47% of respondents say that cost-reduction programmes may have actually reduced their supply chain's resilience.

### The buck stops with management

Among most respondents, supply-chain risk management is a strategically important issue—more than one-half say it merits high or very high priority at board level in their organisation. Almost 60% say executive management is exerting pressure on their companies to boost supply-chain resilience, and nearly 40% say the pressure is coming from customers.

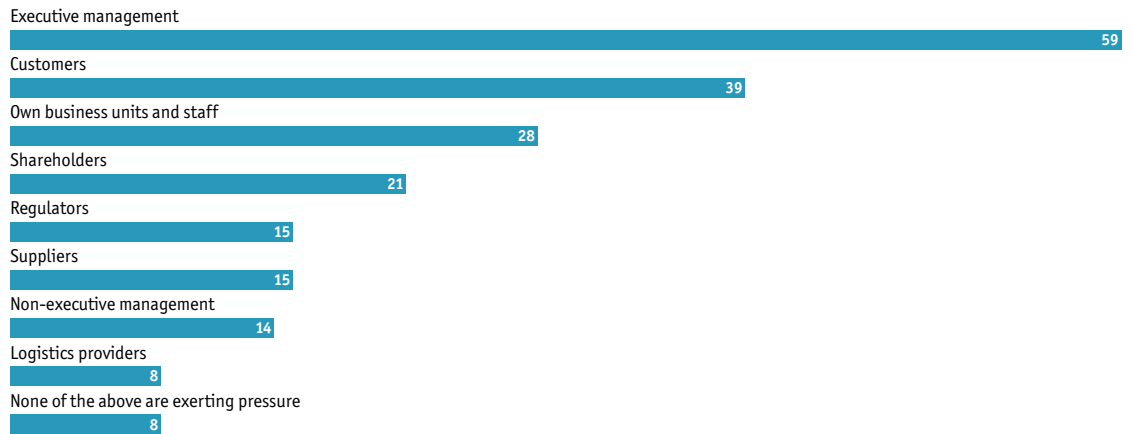
With senior management in the driving seat, just how well are companies faring in implementing a sound supply-chain risk strategy? The response to this question is mixed. As many as 35% of respondents believe there is still a lack of understanding of supply-chain risk at a board level. Furthermore, nearly one-half feel that their company underestimates the potential impact of supply-chain risk, and that it lacks expertise in knowing how to deal with it. Meanwhile, 40% believe their organisation lacks visibility across its entire supply chain.

On the plus side, however, 47% of the companies surveyed are comfortable with their ability to



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**Which of the following are exerting pressure on your company to increase its supply chain resilience?** Select all that apply.  
(% respondents)



assess and identify risk. A similar number say they are effective or very effective at managing and mitigating risk and keeping control of inventory levels.

### Compromise could cost more in the long run

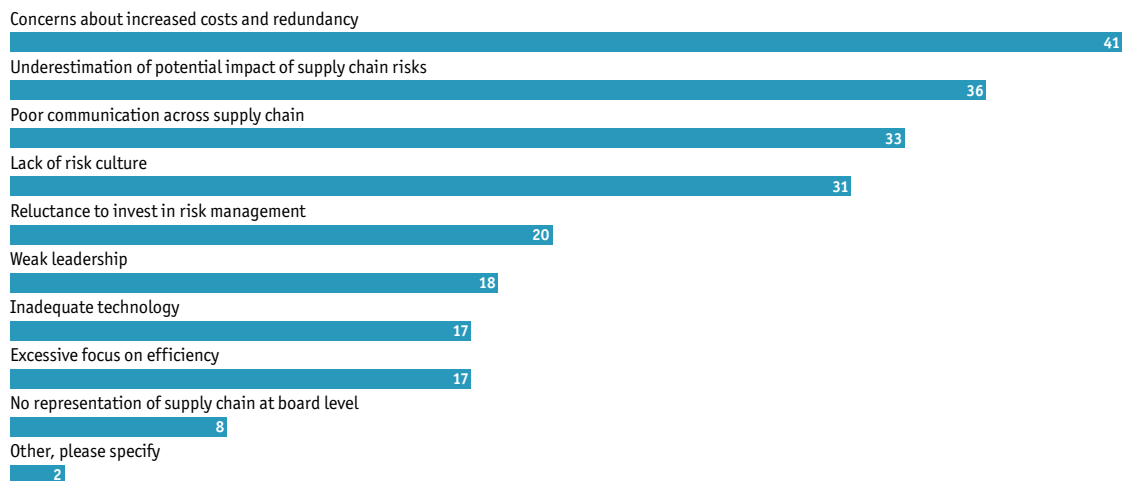
While creating efficiencies in the supply chain is a clear priority, when it comes to implementing them there are some clear hurdles to overcome. Some 41% of the executives say increased costs and redundancy are obstacles to them improving their supply-chain management strategy, and 35% nominate underestimation of supply-chain risk.

Such factors can exact a high cost, both in terms of lost sales and market share, and in long-term damage to a brand. In some sectors—such as food and pharmaceuticals—it is obvious that there is little room for compromise on safety in the supply chain, but the principle applies to other industries, too. In 2007, Mattel, a toy manufacturer, was forced to recall nearly a

**Over the next 12 months, what do you see as the biggest obstacles to improved supply chain risk management?**

Select up to three.

(% respondents)





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million toys after it was discovered that harmful lead paint had been used by one of its Chinese suppliers.

Regulators have plenty to say about such incidents. But the aftermath of other events—such as those in 2008 in which tainted heparin (for blood-thinning drugs) and melamine (for milk formula), both made in China, caused deaths and adverse reactions in consumers around the world—has shown that companies themselves are equally willing to take steps to help ensure that they do not happen again. In mid-2008 Rx-360, a consortium of pharmaceutical companies, their suppliers and auditors, was formed to standardise best practice, oversee the development of new technologies, monitor supply chains and act as a broker for firms to share their supplier audits. The idea of such companies sharing information might previously have been unthinkable.

### Steps for surviving the downturn

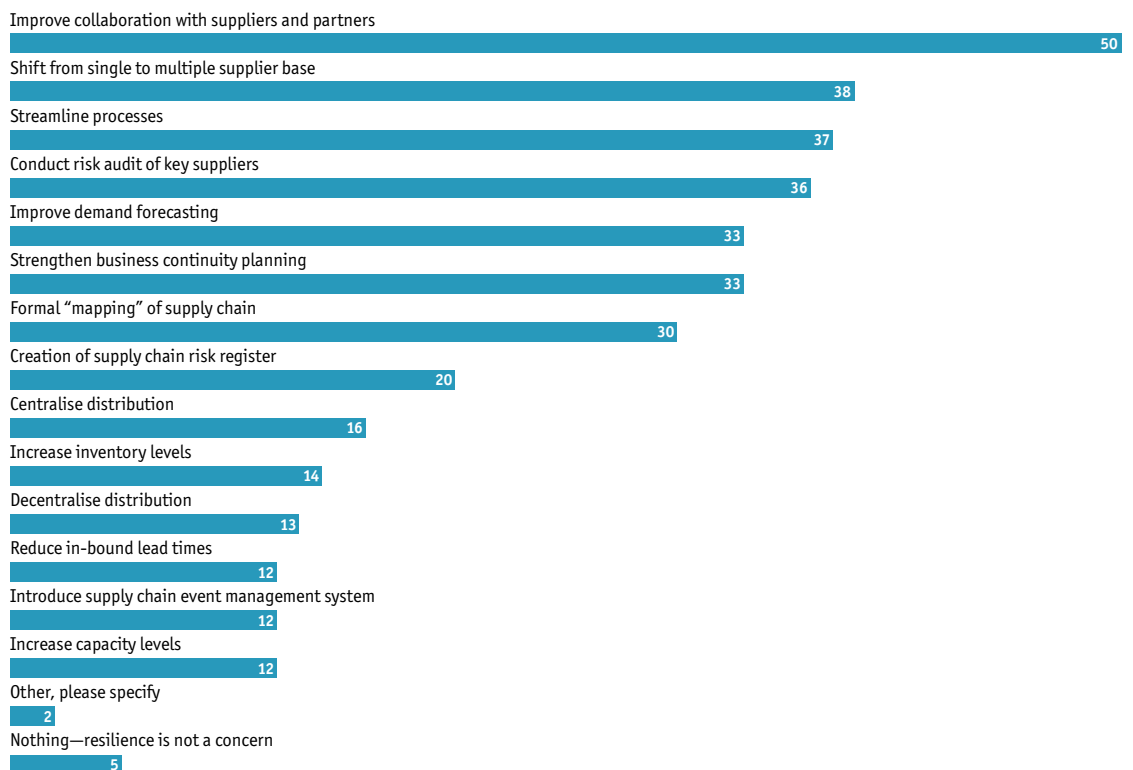
By some measures, the worst of the recession is over. Recovery, however, is likely to take several years. So what steps are companies taking to boost supply-chain resilience to help them ride out the storm?

To begin with, the recession does not appear to have dented companies' appetites for sourcing suppliers abroad—only 22% of respondents agree with the idea that an era of rising commodity prices is a detriment to a global sourcing strategy. Companies have also recognised that putting their eggs

#### Which of the following steps are you currently taking to increase the resilience of your company's supply chain?

Select all that apply.

(% respondents)





in one supplier's basket can be risky, especially with insolvencies on the rise. Consequently, 38% of respondents are looking to shift from single to multiple suppliers.

A similar number are streamlining processes. In the retail industry this is being taken particularly seriously—a recent report<sup>2</sup> by GS1, a UK-based supply-chain standards and solutions organisation, for example, estimates that UK grocery retailers and suppliers can realise savings of £1bn in five years, if accurate supply-chain data can be achieved.

Meanwhile, one-half of the survey respondents say that they are working to improve collaboration with their partners and suppliers, and more than two-thirds say that they are effective at managing supplier selection. The same numbers say that they are looking to conduct risk audits of key suppliers.

One-third of companies are taking steps to improve demand forecasting and strengthen business continuity planning. Interestingly very few respondents are seeking to increase capacity levels, perhaps for risk of further increasing costs.

### Regional differences in the survey

Enterprises based in the developed world once looked to establish operations or enlist suppliers in emerging economies such as India and China, as a way to reduce pressure on costs. But the survey shows that that option may not be as obvious today, and that higher costs are among the biggest challenges to Asia-Pacific respondents' supply chains. More than one-half (53%) report that their supply chains had been disrupted by input cost increases in the past year—more than North America (51%) and Europe (44%). More than 40% predict that input costs will also be a threat to supply-chain resilience in the year ahead—far more than Europeans (24%) and North Americans (34%). One-half of Asia-Pacific respondents say labour costs have increased in the past year, compared with just over 40% of North Americans and Europeans, and almost one-quarter have experienced a labour dispute affecting supply chains, again more than Europeans (15%) or North Americans (19%).

However, the survey shows that Asia-Pacific respondents may have had more flexibility and choice in the past year than their counterparts elsewhere. Nearly 40% have been able to increase outsourcing, nearly 30% have increased the number of their suppliers and more than 60% have been able to negotiate lower prices from suppliers. Only one-third of Asia-Pacific respondents say that they have been affected by suppliers' insolvency over the past year, compared with 45% in North America and 40% in Europe, and more than one-third have reported a decrease in IT or utility failure. Nonetheless, 46% of Asia-Pacific respondents say they are over-reliant on a small number of suppliers, and nearly one-half say that they lack the expertise to perform truly effective supply-chain management.

Many North American respondents, meanwhile, appear to have had a particularly tough time over the past 12 months. Mostly, disruptions to American respondents' supply chains have been exacerbated by the global economic downturn, but 35% say that their supply chains have been disrupted by political instability, compared with only 20% of Europeans and 27% of respondents in the Asia-Pacific. Other factors that have increased North Americans' supply-chain costs in the past year included shipping (44%, compared with less than 30% in Europe and the Asia-Pacific), regulatory compliance, paperwork and bureaucracy.

<sup>2</sup>Data Crunch Report: The Impacts of Bad Data on Profits and Consumer Service in the UK Grocery Industry", GS1, October 2009



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The flipside is that many North Americans seem to feel that things could not get much worse, in terms of managing supply chains. Fewer respondents envisage problems arising from increasing costs or redundancy, for example, than their counterparts elsewhere.



## Conclusion

For several years, it has been possible to correlate effective supply-chain management with above-average market performance. Boston-based AMR Research, for example, pegged the average return of companies in its 2007 “Supply Chain Top 25” list at nearly 18%, compared with less than 6.5% for the Dow Jones Industrial Average.

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

In the face of such threats, it is noticeable that many companies are working on strategies to boost the resilience of their supply chains, such as supplier audits and sharing information with their peers. These strategies will serve to put savvy companies in a stronger position as the recession lifts. While there is clearly room for improvement in certain areas, this survey shows that many firms are taking supply-chain risk seriously. Certainly those that remain complacent do so at their peril.

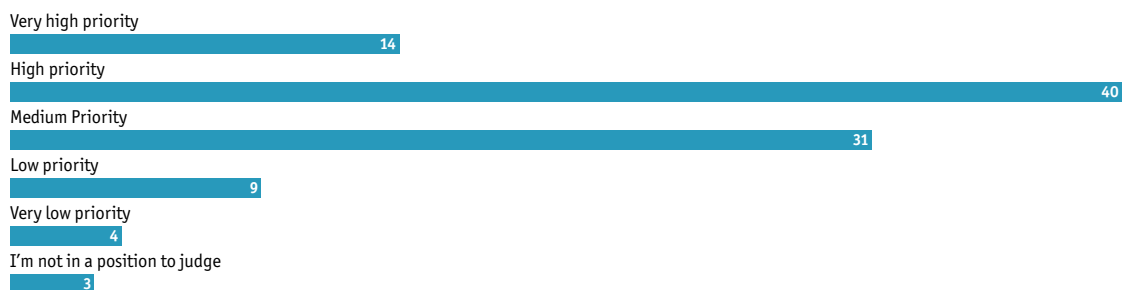
### About the survey

In September and October 2009 the Economist Intelligence Unit conducted a global survey of 500 executives responsible for risk management in their organisations. The survey, which was sponsored by ACE, was completed by respondents employed in a range of sectors, including financial services (17%), manufacturing (13%), professional services (10%), energy and natural resources (7%), IT and technology (7%), healthcare and pharmaceuticals (7%) and consumer goods (6%). Companies in Asia-Pacific accounted for 33% of the responses, followed by 29%

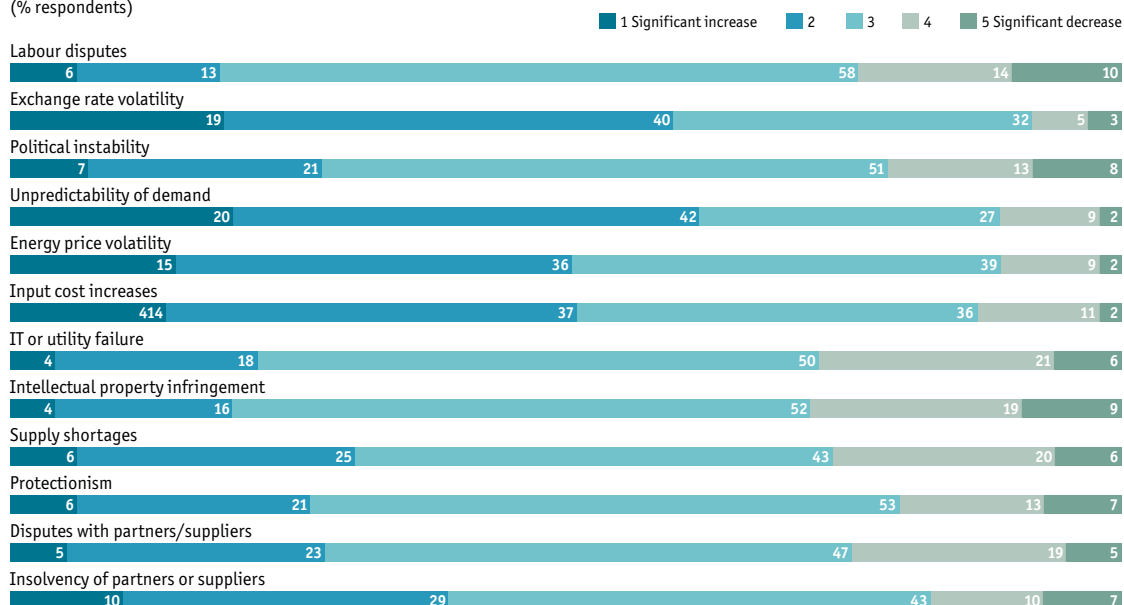
in Western Europe and 28% in North America. About one-half the respondents were C-level executives or board members. More than one-half the companies surveyed have revenues of over US\$500m, and one-quarter turn over more than US\$5bn a year. Publicly listed companies accounted for 38% of responses and 39% were privately owned but not by private equity. Our editorial team undertook the survey and conducted the analysis. Pamela Whitby wrote the summary, and Iain Scott was the editor. The findings expressed in the summary do not necessarily reflect those of the sponsor. The Economist Intelligence Unit would like to thank all those who gave their time and insight to make this survey and summary possible.

## Appendix: Survey results

**In terms of board level leadership and support, what priority is assigned in your organisation to issues of supply chain risk?**  
(% respondents)



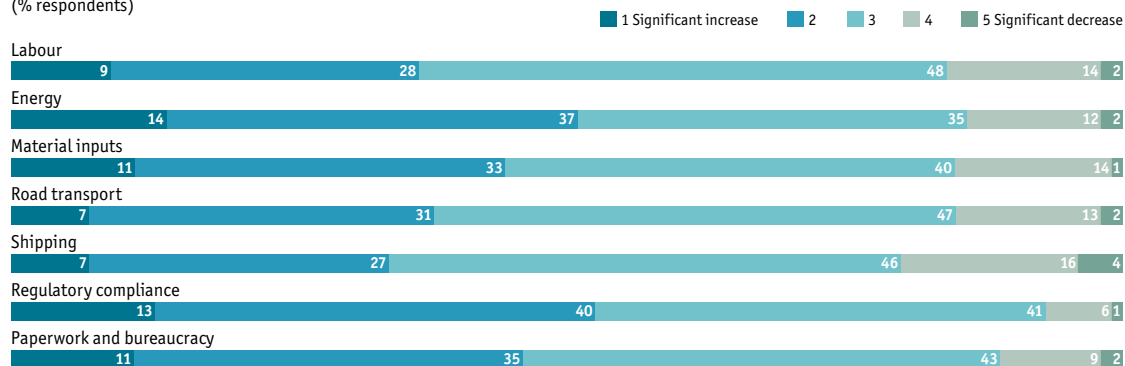
**Over the past year, what change has there been to the magnitude of disruption to your supply chain of the following?**  
Please rate 1 to 5 where 1 is significant increase and 5 is significant decrease.  
(% respondents)



**Over the past year, what change has there been to the costs associated with the following aspects of your supply chain?**

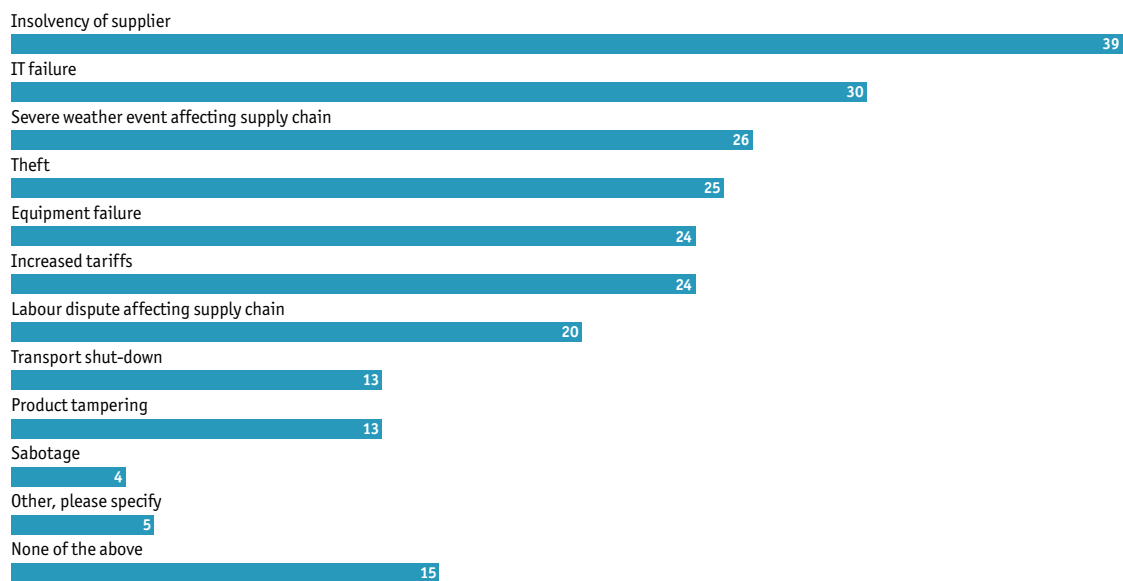
Please rate 1 to 5 where 1 is significant increase and 5 is significant decrease.

(% respondents)



**Which of the following events has your organisation experienced over the past year? Select all that apply.**

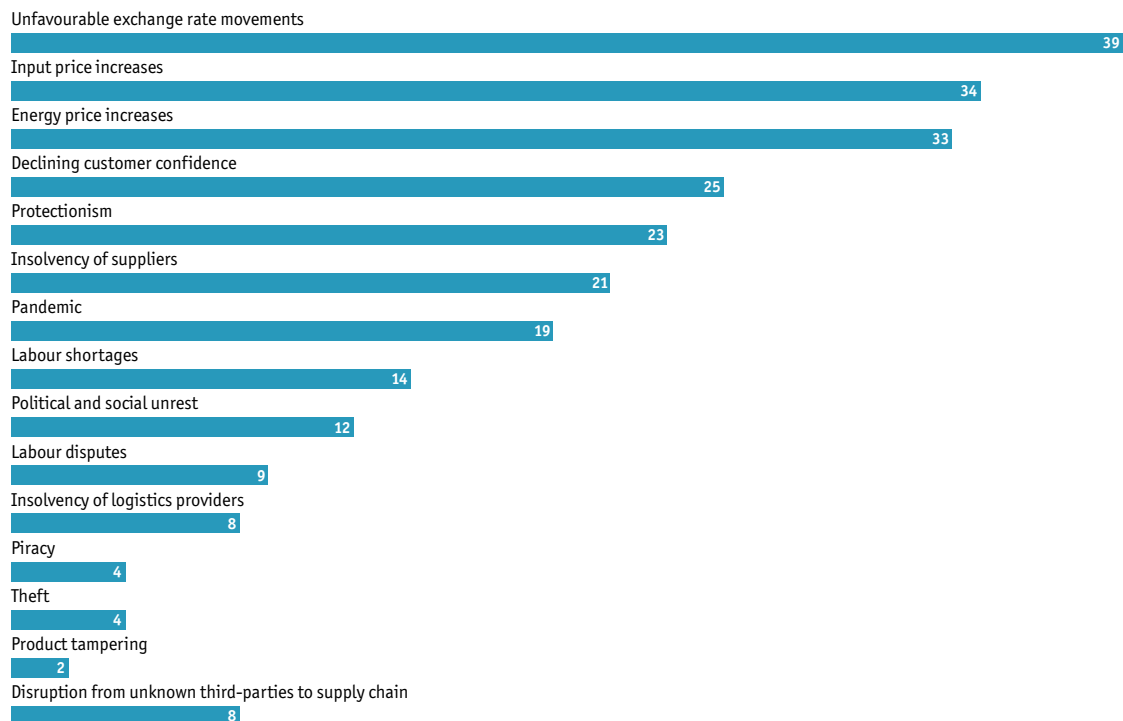
(% respondents)



**Over the next year, which of the following do you see as the biggest threats to the resilience of your supply chain?**

Select up to three.

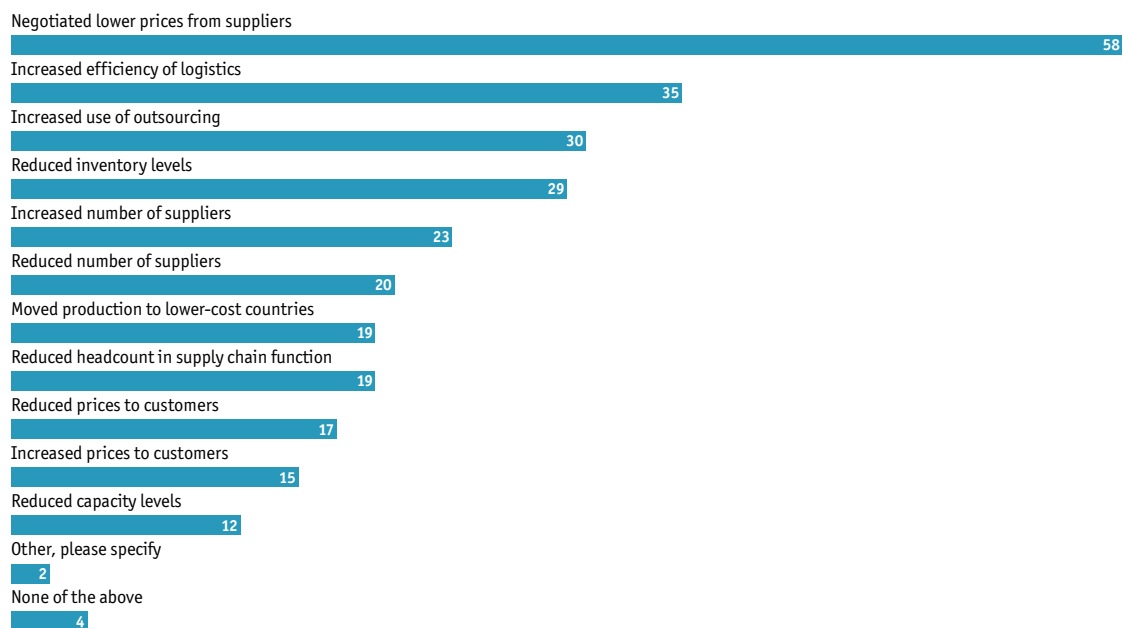
(% respondents)



**Which of the following steps has your organisation taken in the past 12 months as a result of the current downturn?**

Select all that apply.

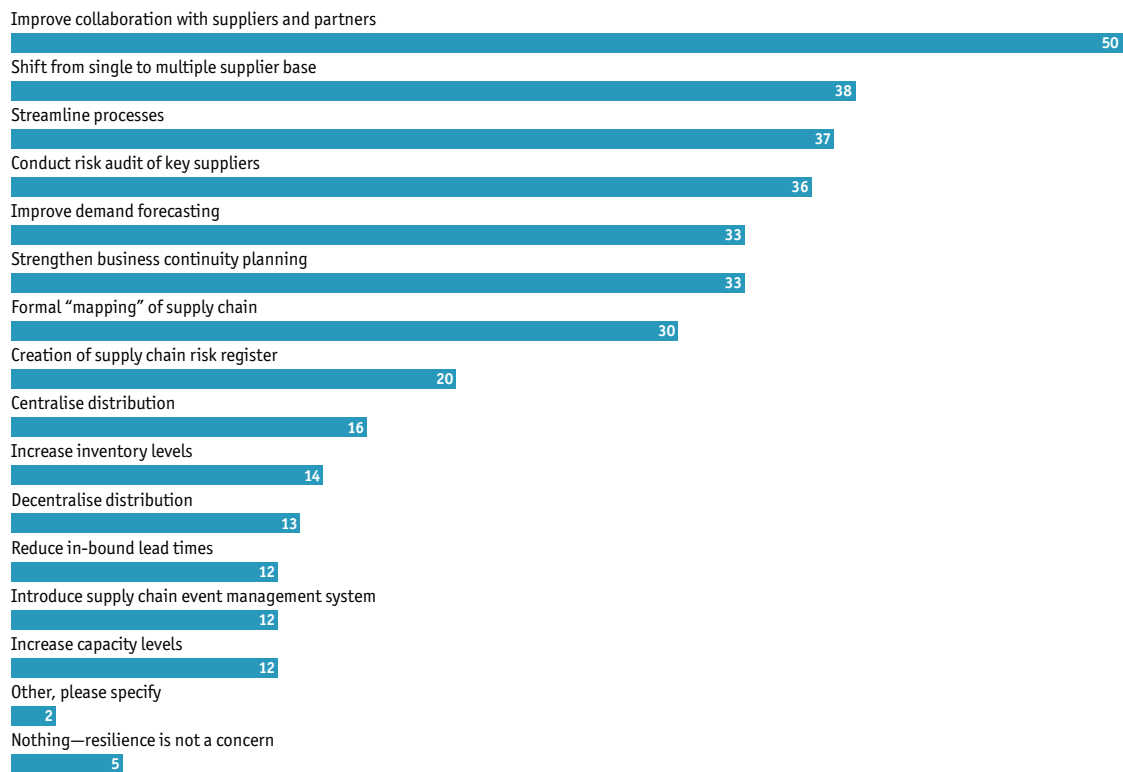
(% respondents)



**Which of the following steps are you currently taking to increase the resilience of your company's supply chain?**

Select all that apply.

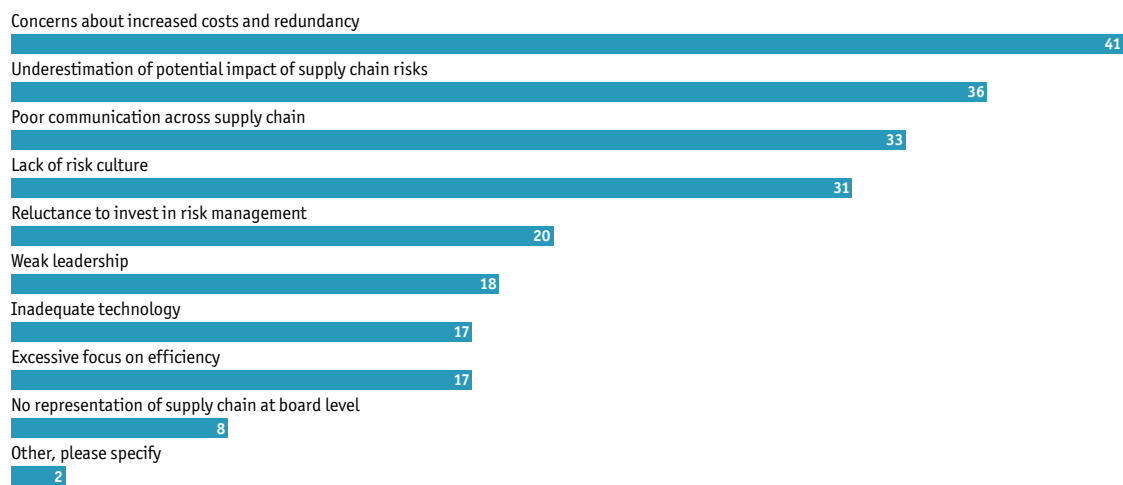
(% respondents)



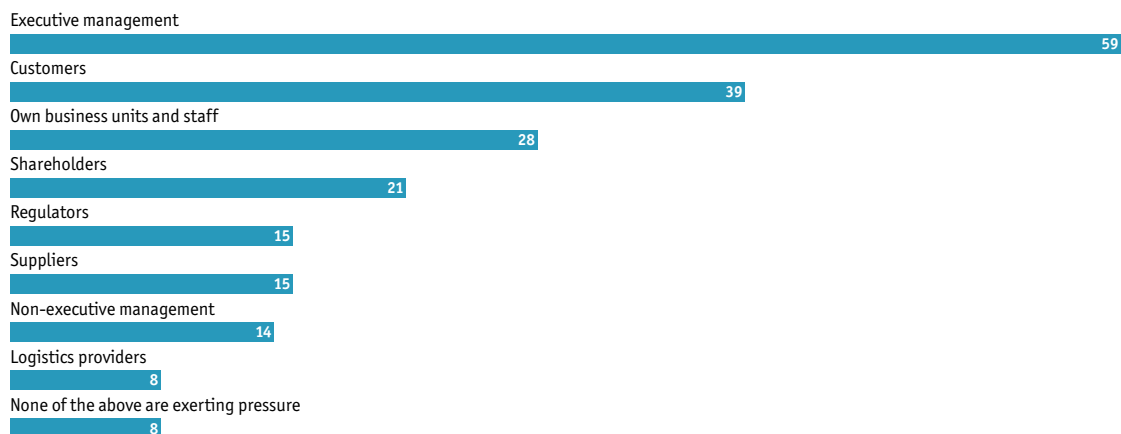
**Over the next 12 months, what do you see as the biggest obstacles to improved supply chain risk management?**

Select up to three.

(% respondents)

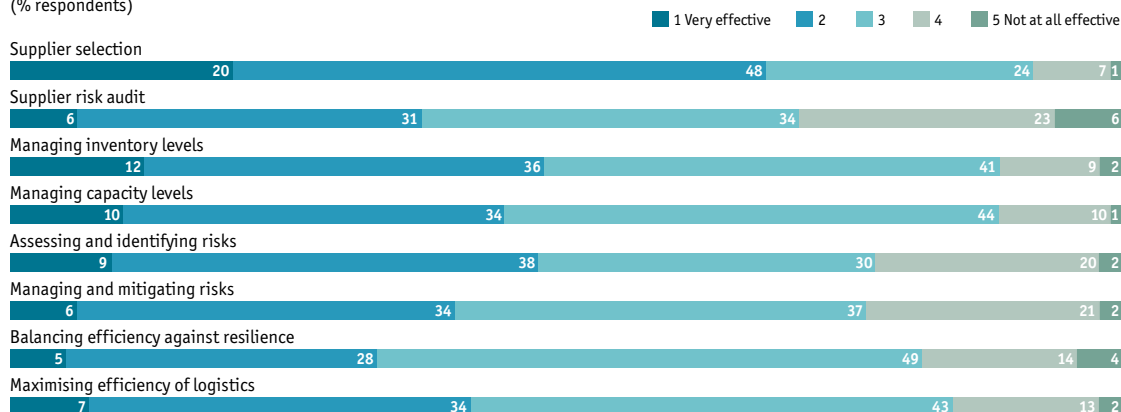


**Which of the following are exerting pressure on your company to increase its supply chain resilience?** Select all that apply.  
(% respondents)



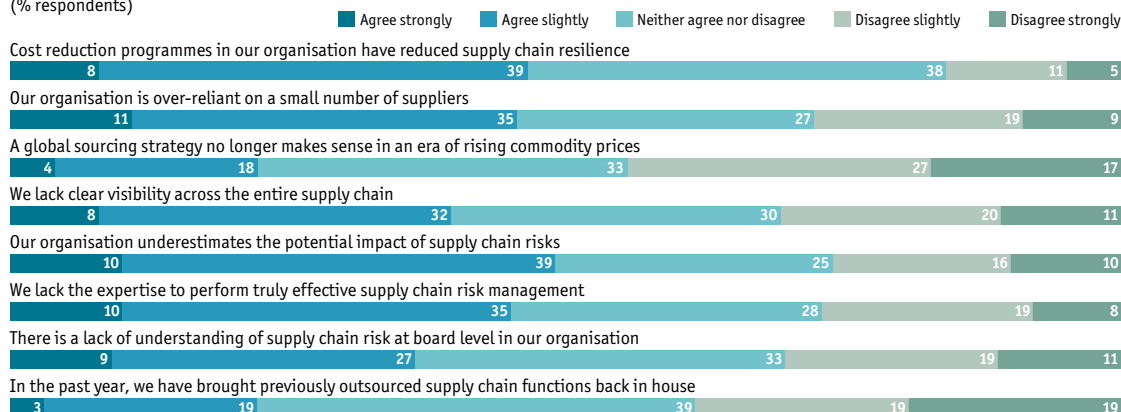
**How would you rate the effectiveness of your organisation at managing the following aspects of your supply chain?**

Please rate 1 to 5 where 1 is very effective and 5 is not at all effective.  
(% respondents)



**Please indicate whether you agree or disagree with the following statements.**

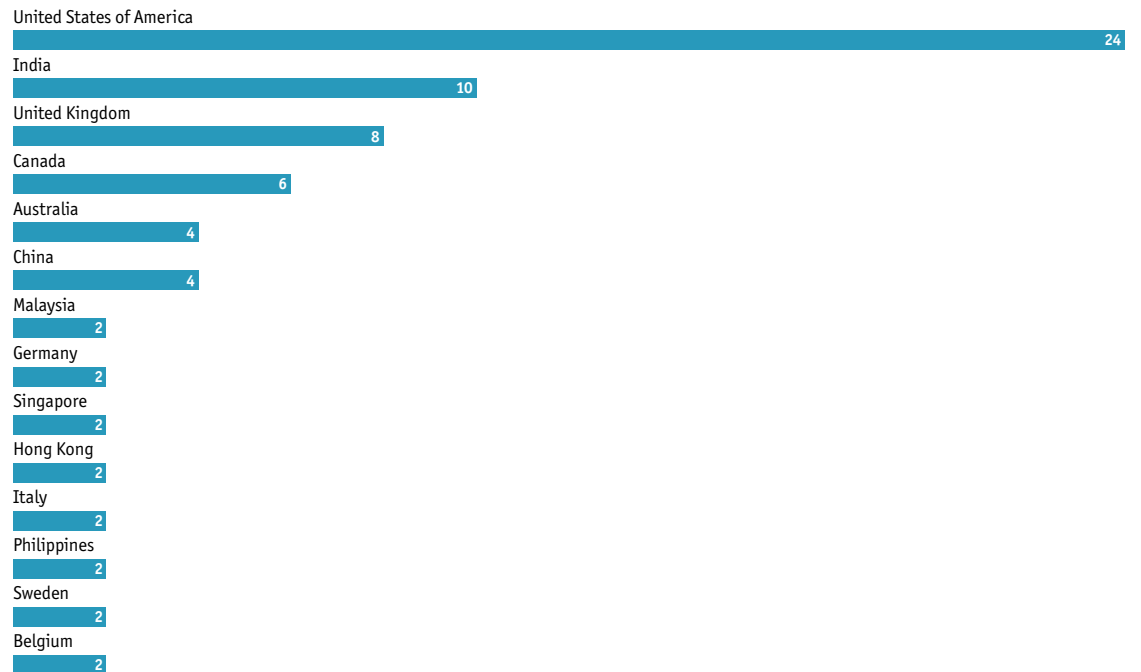
(% respondents)



**Which of the following best describes the ownership of your company?**  
(% respondents)

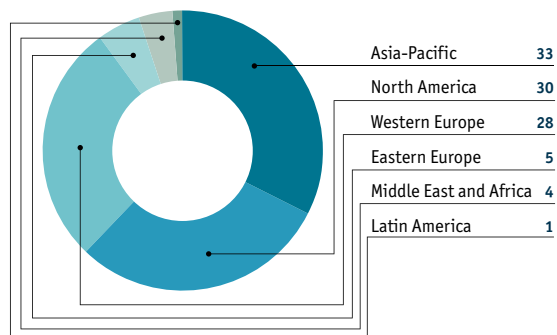


**In which country are you personally located?**  
(% respondents)



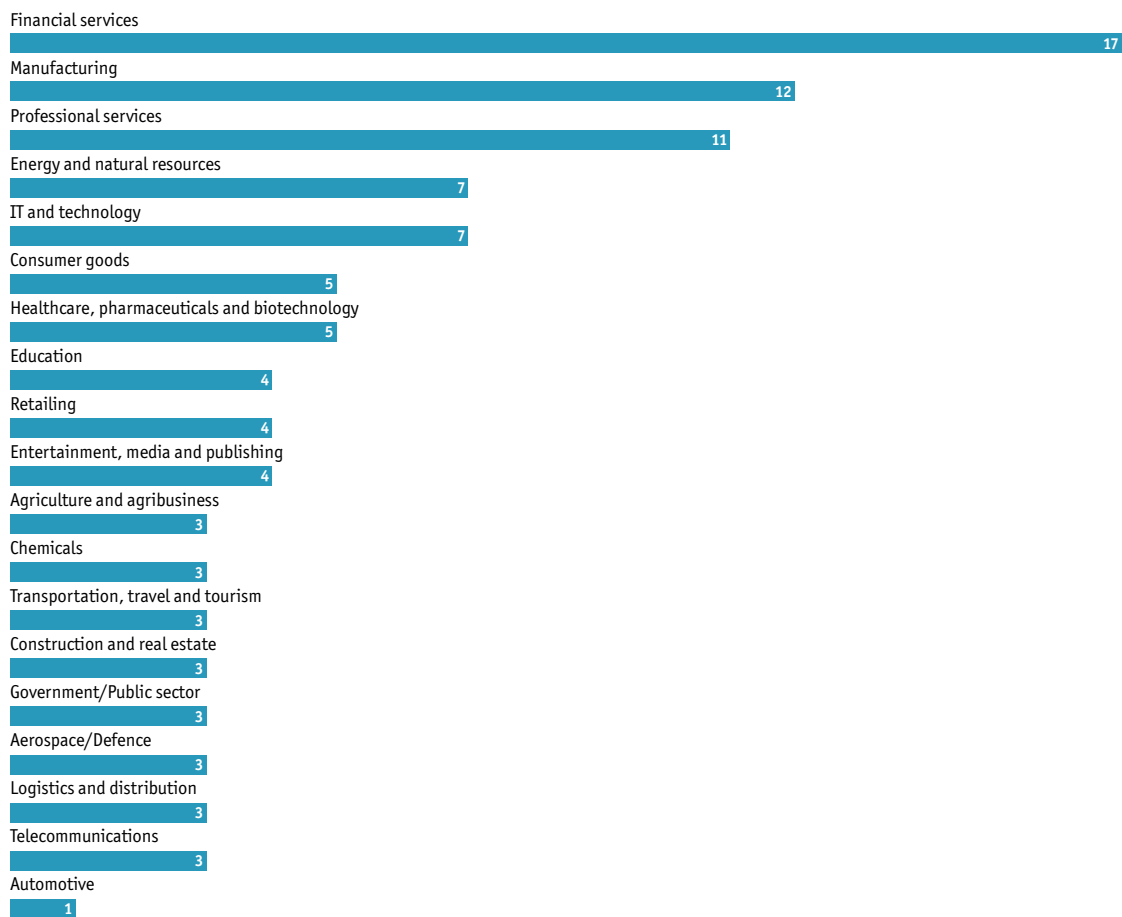
**In which region are you personally based?**

(% respondents)

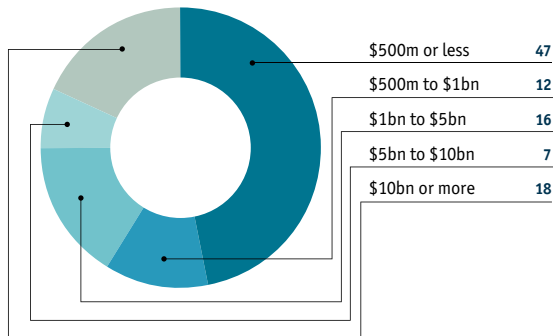


**What is your primary industry?**

(% respondents)



**What are your company's annual global revenues in US dollars?**  
(% respondents)



**What is your title?**  
(% respondents)



While every effort has been taken to verify the accuracy of this information, neither The Economist Intelligence Unit Ltd. nor the sponsor of this report can accept any responsibility or liability for reliance by any person on this white paper or any of the information, opinions or conclusions set out in this white paper.

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