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Delivering results

Key findings in the Industrial Manufacturing industry

15th Annual Global CEO Survey

Sector summary

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Commitments to doing more business globally are accelerating in 2012 despite economic, regulatory and other uncertainties. CEOs see the fundamentals for future growth still squarely in place.

To understand how businesses are preparing for growth in their priority markets, we surveyed 1,258 CEOs based in 60 different countries and talked to a further 38 CEOs face-to-face for our 15th Annual Global CEO Survey. *Delivering results: Growth and value in a volatile world* explores CEOs' confidence in prospects, and how they are building local capabilities and creating new networks for new markets.

CEOs are adapting how they go to market, reconfiguring processes and at times entire operating models. They are also addressing risks that greater integration can amplify and are focused on making talent more strategic to pursue market opportunities.

This report looks at the key findings in the industrial manufacturing sector, based on interviews with 156 industrial manufacturing CEOs in 41 countries, as well as in-depth interviews with Douglas R. Oberhelman, Chairman and CEO, Caterpillar Inc., and David Cote, Chairman and CEO, Honeywell. To explore the full results of the 15th Annual Global CEO Survey, please visit www.pwc.com/ceosurvey

Introduction

The overall economic outlook strongly influences demand for machinery and equipment, the staple products of the industrial manufacturing sector. CEOs in the sector are downbeat about the global economy: 40% expect it to decline in the next 12 months, although they are actually slightly more optimistic than their counterparts in the entire sample. Confidence levels among industrial manufacturing CEOs are down this year and lag slightly behind the levels seen across the total sample. Still, nearly four-fifths of industrial manufacturing CEOs are somewhat, or very, confident of revenue growth over the next 12 months, although just 18% believe the global economy will improve.

One reason for this optimism about their own companies' prospects is the fact that industrial manufacturing CEOs are willing to revisit their strategy. Altogether, 71% expect to change course this year—and 13% expect to make fundamental alterations. Concerns about economic growth are a big driver: 67% of those who are planning strategic changes are taking a potentially slow economy into account. But it's by no means the only factor. Customer demand is just as important, with 68% of industrial manufacturing CEOs citing it as a reason to shift direction. Competitive threats also loom for 64%, compared to 56% of the total sample.

Keeping costs under control

How are industrial manufacturing CEOs staying ahead as the competition gets tougher? Most are keeping a tight rein on costs: 78% have implemented a cost-reduction initiative over the past 12 months, and 70% expect to trim the fat in the next 12 months. Many industrial manufacturing companies are running much more efficient operations than they did just a few years ago. That's partly due to innovation. And industrial manufacturing CEOs are keeping up the pressure: 68% say they are focusing more heavily on innovations designed to reduce the cost of existing processes.

How taxes affect innovation

Market opportunity, natural resources, talent—all these factors matter when companies decide where and how to locate operations. But tax may also be a major issue: 47% of industrial manufacturing CEOs say tax policies are a 'significant factor' in their decision-making on cross-border locations.

Industrial manufacturing CEOs are paying especially close attention to changing tax conditions because of high debts and deficits in developed economies: 37% anticipate they'll change growth strategies as a result, compared with 29% of the total sample. Indeed, 17% of industrial manufacturing CEOs are 'extremely concerned' about the increasing tax burden in countries where they operate.

And while paying taxes is generally getting easier, the rules in areas important to manufacturing, like R&D tax credits, are often far from clear-cut. At The Future of UK Manufacturing Summit March 2011, participants called for grants, credits, taxes and regulations to be rationalised in order to incentivise research, innovation and investment[1]. These types of programmes are critical in supporting national industries. In the US, the National Association of Manufacturers (NAM) is calling for the government to strengthen and make permanent the R&D tax credit.

But industrial manufacturing CEOs are still being conservative when it comes to spending the cash that's been saved: only 22% intend to make a major change to their capital investment decisions this year, compared to 36% last year. That doesn't mean they are not ready to invest if the right opportunities arise, though: 35% are planning to complete a cross-border merger or acquisition in the next 12 months (compared to 28% of the overall sample).

Making it happen

Industrial manufacturing CEOs, like their peers in other sectors, are now focusing on the upside rather than the downside. They are refashioning their business models to cope with a world where the risks and opportunities are increasingly interconnected, but the sources of growth are often local. This presents three related challenges:

- **Reconfiguring operations to meet local market needs:**
  Building the right portfolio mix—the right infrastructure, operating model, strategic alliances, products and services for the right markets.
- **Defending against micro risks and macro disruptions:**
  Managing the consequences of local risks that may become global disruptions—such as the political upheavals, nuclear disaster, massive floods and unfolding sovereign debt crisis that occurred in 2011.
- **Getting the right talent:**
  Putting the right employees in the right places and managing serious short-term problems (like the shortage of technically skilled people in mature markets and trained managers in emerging markets).

Balancing global capabilities and local opportunities

A sensible strategy for globalisation today means more than building cheaply in one location and selling in another. CEOs are investing to create fully-fledged operations in their priority markets to build deeper relationships with their customers, innovate anew, take advantage of local talent and brands, reduce risk, access capital, strengthen supply chains and achieve other business objectives simultaneously, depending on each market's advantages.

In some countries, the manufacturing base is critical to overall employment levels, so governments have a natural interest. But while nearly half of industrial manufacturing CEOs worry that protectionism could prove a threat to growth, they are surprisingly blasé about any potential tightening of the rules: 58% are not concerned about the risk of over-regulation, compared with 43% of CEOs in the overall sample. Some are worried about taxes, though *(see How taxes affect innovation).*

Many industrial manufacturing companies already operate globally. Our sample reflects the global spread of the industry. Around half have business interests in Western Europe and North America, and around half have a presence in East Asia.[2] Many also have operations in Latin America (43%) and Central and Eastern Europe/ Central Asia (44%). Industrial manufacturing CEOs are very optimistic about growth in all regions of Asia and Latin America, while most expect their revenues in Western Europe to stay the same or shrink.

1 PwC, 'Paying Taxes 2012'; 'Manufacturing demands action: Wide-ranging concerns aired at Manufacturing Summit' (2011), http://www.ukmanufacturingsummit.co.uk/news.html; National Association of Manufacturers, 'A Manufacturing Renaissance: Four Goals for Economic Growth' (2011)
2 Includes China, Hong Kong, Macau, Japan, Mongolia, North Korea, South Korea and Taiwan..

"Ten years ago, only about 40% of our sales were outside the U.S. Today it's 55%."

"We know who our competitors are in the developed world, but when you look at emerging regions with high growth, that's where your next competitor is likely to emerge. The only way we'll be able to compete is if we're there and doing everything locally. And that's where our big push has been."

David Cote,
Chairman and CEO,
Honeywell

Tone from the top

It's critical to get growth markets right, and the commitment needs to come from the top. When asked how they would prefer to spend their time, nearly three-fifths of industrial manufacturing CEOs said they would like to devote more hours to developing operations outside their home markets (59% versus 49% of the total sample).

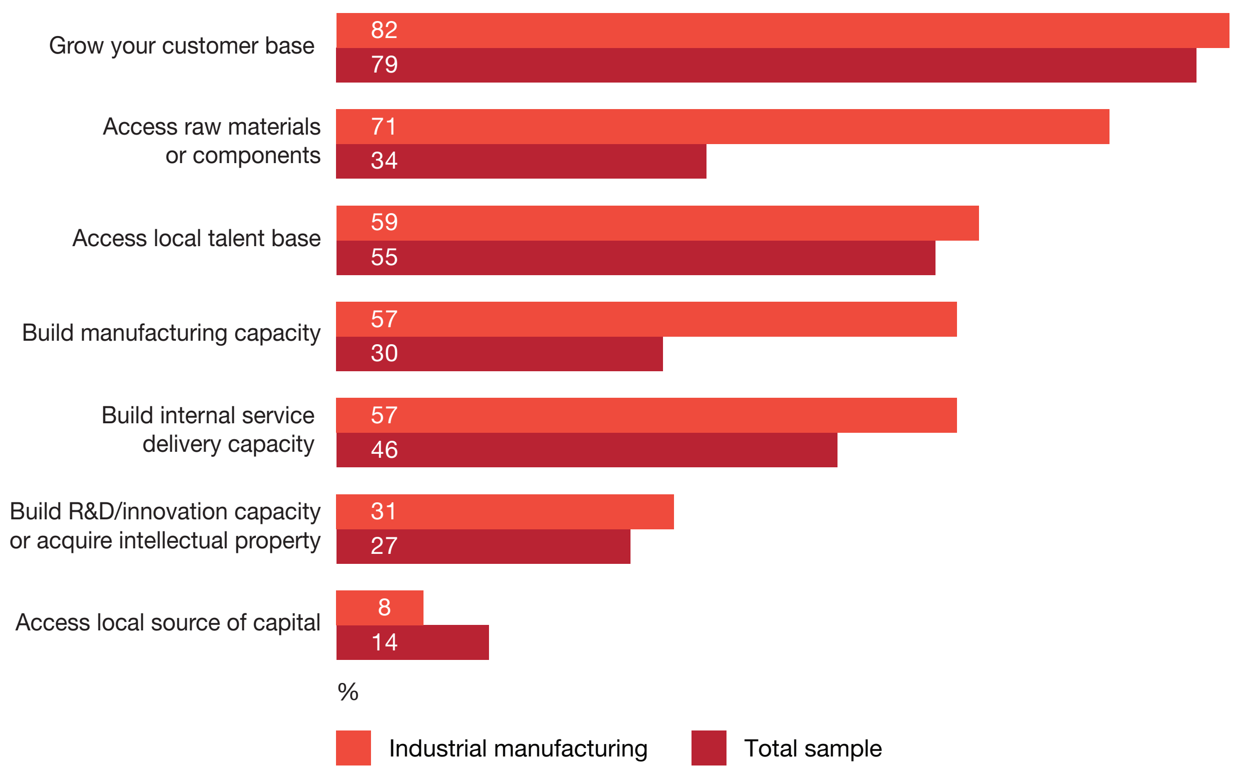
Which countries offer the best opportunities? The four BRIC countries fill four of the top six spots on the list—but traditional manufacturing powerhouses US and Germany make the cut, too.

Accessing China's raw materials

What are industrial manufacturing CEOs looking to do in these markets? While finding new customers heads their agendas, that's not their only goal. Those aiming to expand in China are more than twice as likely as the overall sample to say they are planning to access raw materials or components (see Figure 1). This may be partly because China has imposed trade barriers on some metals to protect its domestic industries.[3] According to the British Geological Survey, China is the leading producer of 27 of the 52 critical minerals and metals.[4] While there are other countries in which some of these metals are produced, there are a few strategically important metals, such as rare earth elements, which are almost exclusively mined in China.

Figure 1: Accessing customers and raw materials top the list of reasons industrial manufacturing companies are expanding in China

Q: Which of the following objectives do you hope to achieve in the next 12 months in China?



Base: All respondents naming China as one of three key markets (Total sample, 383; Industrial manufacturing, 49)

Source: PwC 15th Annual Global CEO Survey

3 PwC, 'Minerals and metals scarcity in manufacturing: the ticking time bomb' (2011).
4 British Geological Survey, 'Risk List 2011'.

For forward-looking industrial manufacturing CEOs, another big reason to be in China is to understand their future competition. Last year, China surpassed the US in manufacturing volume for the first time ever, producing $2 trillion in goods.[5] In its 12th Five-Year Plan (2011-2015), the Chinese government highlighted energy-saving and environmental protection and high-end equipment manufacturing as two of the country's seven strategic emerging industries. That means both sectors are likely to enjoy strong continued support.

Delivering custom and sustainable products

Industrial manufacturing CEOs are turning away from simply selling the same products abroad and at home, especially when it comes to the biggest market of them all—China. A full 63% of those who see it as a key market say that their company is modifying its products and services to meet local needs in China, compared to 46% of CEOs overall.

Far fewer industrial manufacturing CEOs say their company is designing products specifically for local emerging markets: only 18% do this in China and 13% in Brazil, for example. It's challenging—especially for smaller companies—to achieve economies of scale on machinery and equipment that's developed for just one market. When it comes to the US, though, 45% of industrial manufacturing CEOs say their company is designing products specifically to meet local requirements. That may reflect tougher health and safety or environmental standards in the US.

> ***"We have to listen to local markets and customers, and we have talented engineers from many countries who help us innovate. That makes us a stronger and a better product innovator."***
>
> **Douglas R. Oberhelman**
> Chairman and CEO,
> Caterpillar Inc.

Getting R&D right

Regardless of where—and for which markets—they are designed, new products and services are fundamental to the success of industrial manufacturing companies. That's why 35% of industrial manufacturing CEOs think they are the main route to growth over the next 12 months, compared to 28% of CEOs in the total sample. Recognising how important it is to get research and development (R&D) right, 84% also plan to change their company's R&D and innovation capacity over the next 12 months—and 31% of them describe the changes they plan as 'major'.

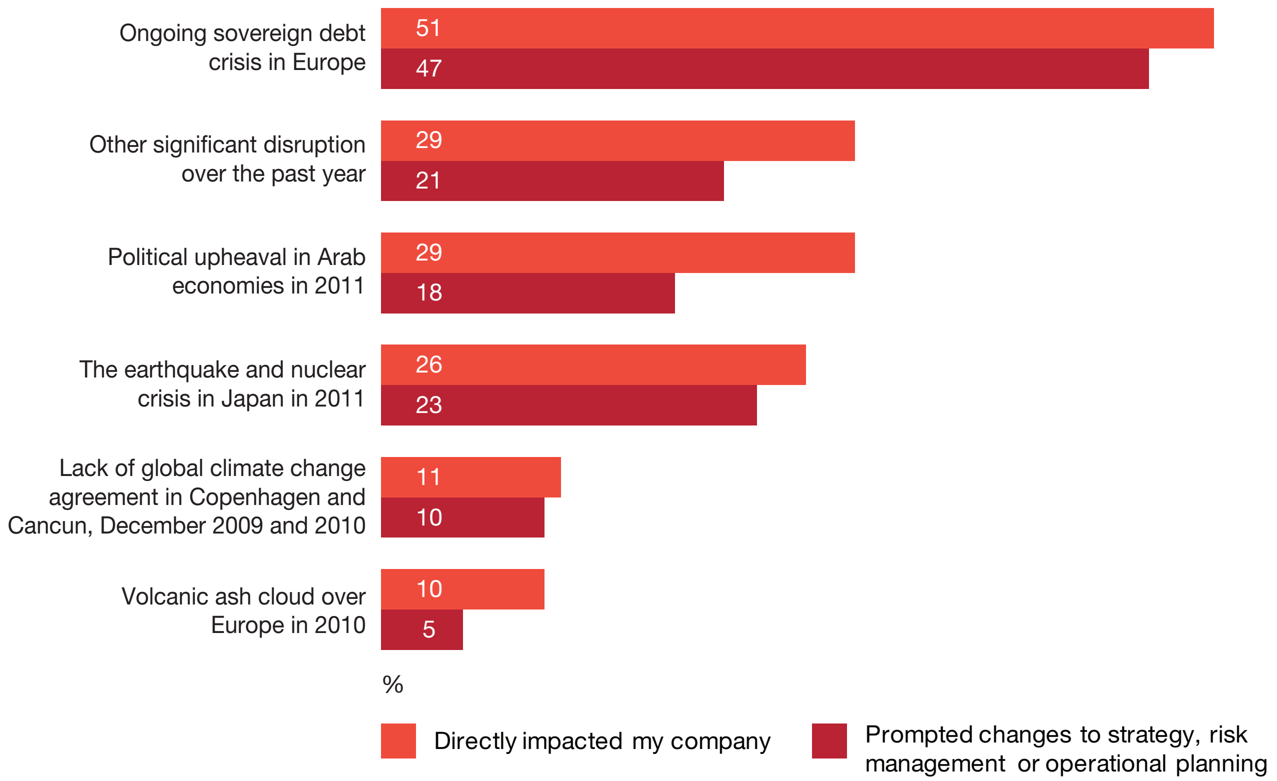
Making products more sustainable

We reported last year that industrial manufacturing CEOs were committed to using innovation to make their products more sustainable. This year, very few CEOs told us that the lack of a climate change agreement in Copenhagen or Cancun had affected their business. That doesn't mean industrial manufacturing CEOs are paying less attention to improving the environmental impact of their products and operations, though. As Caterpillar Inc.'s Douglas R. Oberhelman told us, "I talk with customers around the world, and without fail, within a few minutes they bring up the issue of environment sustainability, including issues such as managing fuel consumption, CO2 emissions, and oil footprint. We have a number of good ideas and initiatives in the sustainability arena."

5 Yepoka Yeebo, 'China edges ahead of the U.S. in manufacturing, report says', The Huffington Post (March 14 2011), http://www.huffingtonpost.com/2011/03/14/china-us-manufacturing_n_835470.html

Figure 2: Industrial manufacturing CEOs are changing the way they do business in response to macro disruptions

Q: Which of the following significant events directly affected your company financially? Which of the following significant events, if any, have triggered specific changes to your strategy, risk management or operational planning?



Base: All respondents (Total sample, 1258; Industrial manufacturing, 156)
Source: PwC 15th Annual Global CEO Survey

Resilience to macro disruptions and micro risks

During 2011, global businesses had to confront a portfolio of unrelated high-impact global risks—from political upheaval and a nuclear disaster to massive floods and an unfolding sovereign debt crisis. Through it all, CEOs have learned that prudent risk management focuses less on the probabilities, and more on the consequences, of such diverse events.

Western Europe (particularly Germany) is traditionally a manufacturing stronghold, but the current economic situation is weighing on the sector. According to Markit Economics, December 2011 marked a fourth straight month of contraction in the Eurozone, and prospects for the first quarter of 2012 are bleak.[6]

Industrial manufacturing CEOs are worried not only about the economic outlook in the Eurozone, but about the future of the single currency itself. They are more concerned about exchange rate fluctuations than their peers in other sectors: 67% see reason for caution, compared to 58% of the overall sample.

Preparing for the unpredictable

Many of the industrial manufacturing CEOs we surveyed are already feeling the impact of Europe's sovereign debt crisis. More than half say their companies have been directly affected. Strikingly, almost as many (47%) are changing how they do business as a result (see Figure 2). They are also re-assessing their strategy, risk management and operational planning because of the earthquake and nuclear crisis in Japan, political upheaval in the Middle East and other external events.In general, though, the initial phase of rapid adjustment after the financial crisis seems to have ended. Only 22% of industrial manufacturing CEOs plan to make major alterations to their risk management strategies in the coming year, although 40% cite changes in risk tolerance as a factor in changing their overall strategy.

For many industrial manufacturing companies, that most likely means taking a closer look at their supply chains. With so many companies operating across national and regional borders, supply networks have got longer and more complex. They are also potentially more vulnerable—which explains why 40% of industrial manufacturing CEOs are somewhat, or very, concerned about supply-chain security, compared to 34% of the total sample.

6 Markit Economics, 'Markit Eurozone Composite PMI' (4 January 2012), http://www.markiteconomics.com/MarkitFiles/Pages/ViewPressRelease.aspx?ID=8975
7 PRTM Management Consulting. '2011 Global Supply Chain Trends: Achieving flexibility in a volatile world' (2011).

The talent challenge

Creating a company that can draw on its global strengths to realise local opportunities and manage micro risks with macro implications are two of the key challenges CEOs face. The third is managing a global workforce and competing for scarce human resources. In fact, this is the one issue on which industrial manufacturing CEOs most want to spend more time. Developing the leadership and talent pipeline is an even higher priority than meeting customers or creating a more efficient organisation.

Talents constraints hurt the bottom line

Industrial manufacturing CEOs know how difficult it is to find the right talent. Nearly half of them told us that it's becoming harder to hire workers, mainly because there aren't enough qualified candidates. Engineering graduates are in short supply the world over—and the situation is likely to get worse with increasingly sophisticated production techniques. Demand for manufacturing professionals is projected to rise by over 4% a year in all economies, peaking at over 10% in developing economies in 2020.[8]

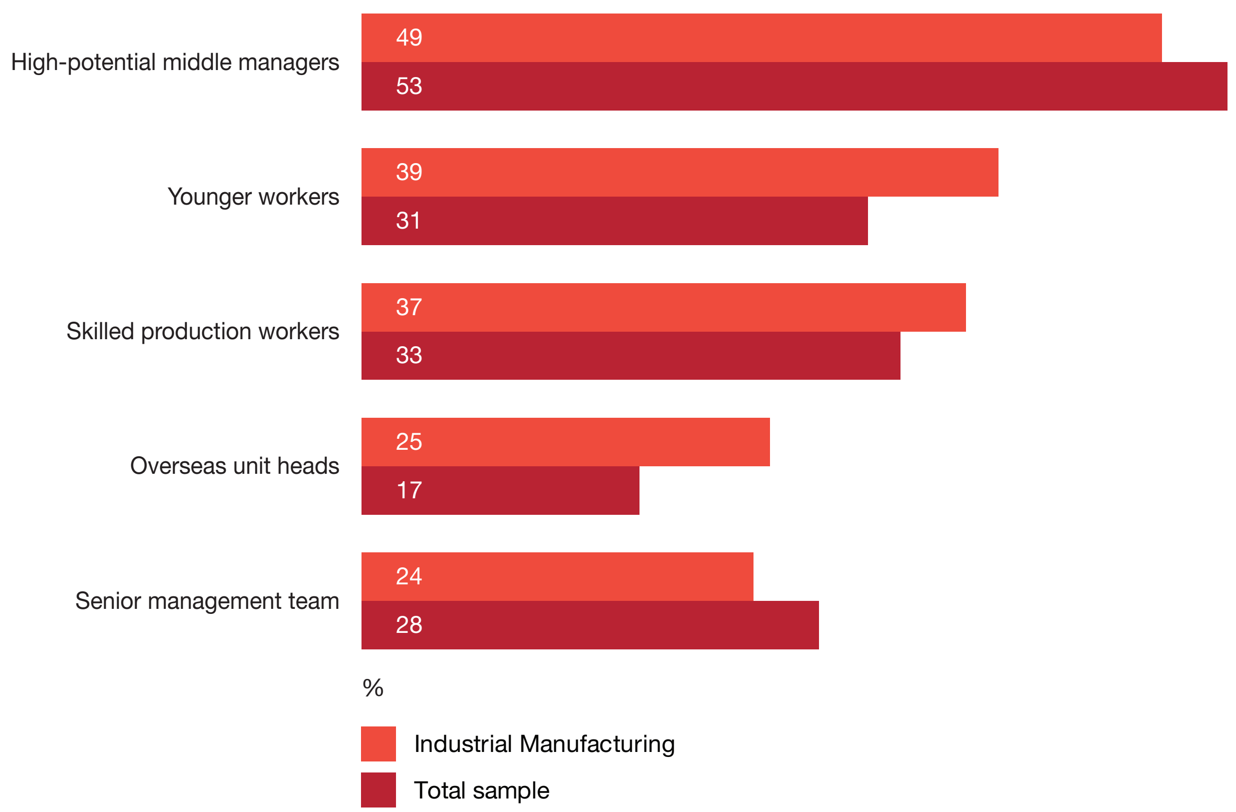
Engineers are also critical in driving innovation, and for many companies represent the biggest pool of talented candidates for middle management. In the industrial manufacturing sector, as in other industries, finding and keeping high-potential middle managers is a top concern (see Figure 3).

"In the US and Europe, for example, graduating more engineers is one of the things that we need to make sure we're doing, because we're going to get far outstripped in the number of engineers being created in other countries."

David Cote,
Chairman and CEO,
Honeywell

Figure 3: Finding and keeping the middle managers who keep the company together is tough

Q: With which of the following groups do you currently face the greatest challenges with regard to recruitment and retention?



Base: All respondents (Total sample, 1258; Industrial manufacturing, 156)
Source: PwC 15th Annual Global CEO Survey

8 World Economic Forum, 'Global Talent Risk - Seven Responses' (2011).

Another key challenge is generational. More industrial manufacturing CEOs are having trouble attracting and retaining younger workers than is the case in the total sample. That's especially troubling considering that the industry faces high retirement levels, particularly in mature markets. Younger workers are needed on the shop floor, too. More than a third of industrial manufacturing CEOs say it's difficult to find enough skilled production workers.

Such talent constraints carry a very real cost. Nearly half of industrial manufacturing CEOs say their talent expenses rose more than expected last year. A third or more also report that innovation has suffered and that they have been unable to pursue a market opportunity. So it's not surprising that more than half are concerned that the shortage of key skills could drag down growth.

> ***"I have identified that as just about my number-one priority in the next few years. How do we attract and develop talent around the world?"***
>
> **Douglas R. Oberhelman**
> Chairman and CEO,
> Caterpillar Inc.

Developing the workforce

One way the industry is responding is through workforce development. The vast majority of industrial manufacturing CEOs (85%) think business has a responsibility in this area and nearly as many say they are already making investments, primarily to ensure a future supply of potential employees. But more than half of industrial manufacturing CEOs believe that skills development should be a key priority for government, too. The US government clearly takes the same view; President Obama expanded the 'Skills for America's Future' initiative in June 2011. The goal is to train up to half a million additional workers in advanced manufacturing skills.[9] Government, education (primarily community colleges), private industry and trade organisations are all playing their part.

Making talent strategic

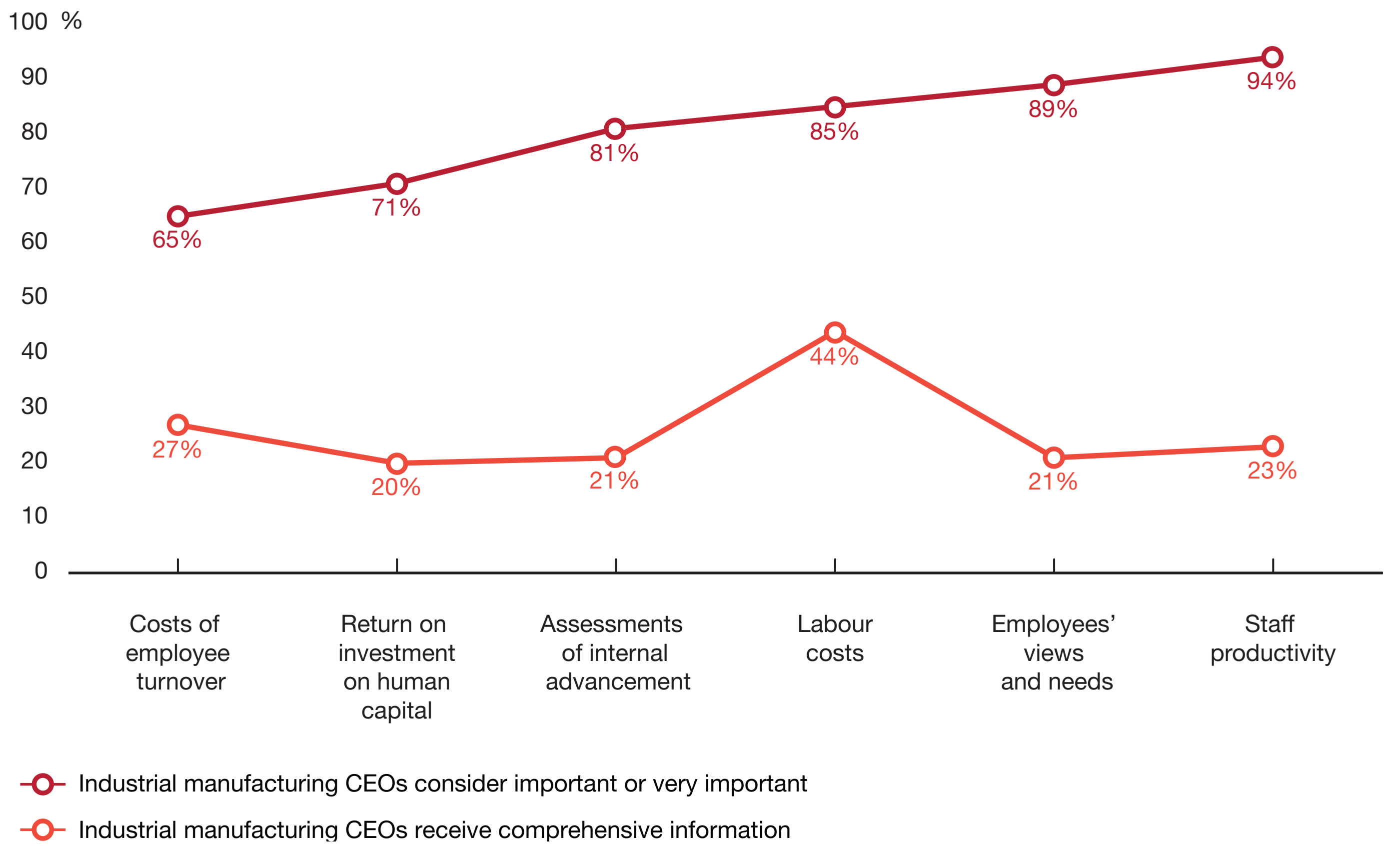
Workforce development to enhance the skills pool is surely part of the answer to the talent crunch, but industrial manufacturing CEOs also need to make sure that talent is integral to their strategic planning. Many are already trying to adopt a more strategic approach: 85% say the Head of HR reports directly to them.

Information on productivity and labour costs isn't enough to isolate skill gaps and identify the pivotal jobs that drive exponential value, though. It doesn't provide any insights on employee engagement or team performance, both of which are critical to foster innovation. These measurements are much harder to make, even when CEOs view them as vital components: 89% of industrial manufacturing CEOs think employees' views and needs are important, or very important, for example, but only 21% consider the data they get truly comprehensive. More information could help with decision making across the board. At least two-thirds of industrial manufacturing CEOs would like to get more information on five of the six key pointers listed in Figure 4.

9 'President Obama and Skills for America's Future Partners Announce Initiatives Critical to Improving Manufacturing Workforce' (8 June 2011), http://www.whitehouse.gov/the-press-office/2011/06/08/president-obama-and-skills-americas-future-partners-announce-initiatives

Figure 4: Very few industrial manufacturing CEOs have comprehensive information on all the HR measures they view as important

Q: When making decisions, how important is it to have information on each of the following talent-related areas?



Base: All respondents (Total sample, 1258; Industrial manufacturing, 156)

Source: PwC 15th Annual Global CEO Survey

What's next?

Deciding which processes and capabilities need to be global, regional, and local isn't just about taking advantage of growth opportunities; it's also about developing the flexibility to survive disruptions, wherever they may surface. That involves getting the right people into the right roles, in the right places. It's not an easy balance to strike. We've distilled eight key questions from the feedback CEOs have given us in this year's *CEO Survey*:

1. **How local is your global growth strategy?**
2. **How are you balancing global capabilities with local opportunities?**
3. **Is your talent strategy fit for growth?**
4. **Are your innovations creating value for your customers—or just novelty?**
5. **Do your strategic plans account for the macro impact of micro risks?**
6. **Are you responding to the needs and constraints of the communities in which you operate?**
7. **Where are the biggest opportunities for business and government to coordinate better?**
8. **Does your governance model account for the ways in which organisations' and people's expectations are changing?**

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