Manufacturing Barometer

Business outlook report
January 2015

Special topic:
Human capital

pwc

Contents

Quarterly highlights

Key findings

Three major quarterly findings

First, a strong own-company revenue forecast is planned by US industrial manufacturers, raising their final calendar year 2014 growth rate to 5.2 percent, and a target rate of 5.8 percent for 2015, a double-digit percentage increase.

Second, new hiring plans showed a noteworthy uptick for the next 12 months, with 60 percent planning to add 1.1 percent to their composite workforce. The major force behind new hiring is the skills-gap segment (64 percent): 66 percent are planning new hiring that will add 1.3 percent to their composite workforces over the next 12 months. Fewer among the all-skills group (36 percent) are expecting to hire (44 percent), and the number hired will add only 0.1 percent to their composite workforces.

Third, a sharp decline was found in the legislative/regulatory potential barrier to growth over the next 12 months, probably related to the Republican party's capturing the Senate as well as the House of Representatives for the next two years. Formerly the leading "headwind," cited by 59 percent in the prior quarter, concern about legislative/regulatory pressures has dropped 27 points to the 32 percent level. A year ago, it was 47 percent (15 points higher). There is expectation among many industrial manufacturers of either favorable legislation or fewer, less rigorous regulatory pressures reflected in these findings.

Optimism about the US and world economies on the rise

Optimism about the US economy's 12-month prospects among the industrial manufacturing panelists rebounded 11 points to 68 percent from the prior quarter's 57 percent, reflecting continued strength, on pace with the 68 percent a year ago. Only 5 percent were pessimistic, and 27 percent uncertain. Currently, 82 percent view the US economy as growing in 4Q 2014, ten points higher than a year ago (72 percent).

An uptick was also seen in optimism about the world economy among US-based industrial manufacturers who market abroad, rising 8 points to the 38 percent level – but a year ago, it was a notably higher 47 percent. The prevailing view of the world economy's prospects over the next 12 months is still uncertainty, 55 percent, as only 7 percent are pessimistic. In 4Q 2014, only 29 percent viewed the world economy as growing; most, 64 percent, viewed it as unchanged.

Own company revenue growth forecasts strengthen

A stronger own-company revenue forecast is planned by industrial manufacturers for the next 12 months (2015), rising from the final calendar year 2014 growth rate of 5.2 percent to 5.8 percent, a double-digit increase of twelve percent expected year-to-year. This growth pace has been consistent throughout the year, up from their 5.4 percent forecast a year ago. Looking ahead, 85 percent expect positive revenue growth over the next 12 months – with a high of 17 percent expecting double-digit growth. Only two percent forecast negative growth ahead, and five percent anticipate zero growth. Eight percent, a fairly constant number, were not reported.

International sales show a sustained contribution to revenues

The projected contribution to total own-company 12-month revenue growth among industrial manufacturers selling abroad remained at the 30 percent level – consistent quarter-to-quarter and a point below the 31 percent level a year ago. In 4Q 2014, some positive movement in international sales was reported, with 20 percent reporting an increase, only 8 percent reporting a decrease, and 72 percent about the same quarter-to-quarter. A year ago, in 4Q 2013, the pattern was similar but somewhat more firms reported sales increases, 29 percent (9 points higher).

A noteworthy uptick in new hiring plans

Looking ahead, 60 percent of these industrial manufacturers are planning net additions to their workforces over the next 12 months (2015), which was an 8-point rise over the prior quarter but the same as a year ago (60 percent). Only 10 percent plan to reduce their workforces (consistent with 7 percent forecasting zero growth or negative revenue growth), and the remaining 30 percent will stay about the same. It is noteworthy that an overall workforce increase of 1.1 percent is now planned for the next 12 months, well above both the prior quarter's 0.4 percent and the 0.5 percent planned a year ago.

There appears to be an increased focus on "qualified workers," with nearly two-thirds (64 percent) lacking needed skills. This skills gap segment appears to be the major force behind the uptick in new planned hiring, with 66 percent planning new hires that will add 1.3 percent to their overall composite workforce.

Key findings

More CapEx spending but at lower levels

Overall, 43 percent of US industrial manufacturers surveyed plan major new investments of capital over the next 12 months (2015) – up 7 points on a quarter-to-quarter basis, but on pace with a year ago (43 percent). Yet they plan to spend less. Their mean investment as a percentage of total sales was a notably lower 3.3 percent compared to a typically higher investment level a year ago of 4.8 percent.

On the positive side, more panelist companies are planning to increase operational spending, 82 percent – up quarter-to-quarter and 9 points higher than a year ago's 73 percent. The leading areas of increased expenditures were both higher than a year ago: New product or service introduction, 52 percent (7 points higher), and research and development, 47 percent (10 points higher). While IT increases remained about the same (28 percent level), geographic expansion rose eight points to 27 percent, and business acquisitions were up six points to 22 percent. Note that plans for marketing and sales promotion (15 percent) and advertising (8 percent) also showed gains this quarter.

More panelists are planning M&A activities over the next 12 months, 33 percent (up 7 points), most planning to purchase another business (25 percent). Expansion to new markets abroad rose to 22 percent, and plans for new facilities abroad rose to a recent high of 18 percent.

Fewer legislative/regulatory headwinds to growth

Significantly, legislative/regulatory pressures, the former leading potential barrier to growth over the next 12 months, declined sharply from 59 percent level to 32 percent, off a remarkable 27 points. This falloff in concern was likely related to the Republican party capturing the Senate as well as the House of Representatives for the next two years. This reflects the expectation among many panelists that it may result in either more favorable legislation or fewer, less rigorous regulatory pressures over the near-future.

It is also noteworthy that the lack of qualified workers barrier increased 7 points to 33 percent and is now on par with legislative/regulatory pressure headwinds in level of industrial manufacturers citing this concern. More importantly, concern about qualified workers is reflected in greater new hiring plans, especially among the skill-gap segment.

Lack of demand is now the leading barrier but concern dropped to 35 percent, off 7 points from a year ago (42 percent). However, decreasing profitability remained about the same, at 20 percent.

Note that the crash in oil prices from greater than $100 to less than $50 per barrel is not yet reflected in this data, since most interviewing preceded the crash. Oil/energy price concerns remained at 22 percent.

Gross margins remain high

Gross margins in 4Q2014 remained high, with costs up but offsetting own-company prices higher. Concern about profitability over the next 12 months (2015) remained consistent at 20 percent, lower on a quarter-to-quarter basis but the same as a year ago (20 percent).

A quarter-over-quarter comparison of key indicators shows the business outlook for the next 12 months and how the views of the panel have changed each quarter (see chart 1.1). The pages that follow provide a detailed look at each question for the past five quarterly surveys.

A significant number of companies have skill gaps to fill

Significantly, nearly two-thirds (64 percent) of industrial manufacturers report that their organization has a skill gap to fill over the next 12-24 months in order to meet their companies' business objectives. In contrast, a minority (36 percent) believe their organization's workforce currently has all the right (or needed) skills.

Secondly, over the past year, two-thirds (64 percent) of all industrial manufacturers report having had open positions that their companies were "unable to fill" with experienced or skilled employees. Most, 81 percent, of the skill-gap segment report having had open unfilled positions in the past year, and even 33 percent of the all-skills group admit to open unfilled positions this past year.

Importantly, nearly four-fifths (78 percent) of all industrial manufacturers currently rank talent management – the development of talented/skilled workers – as a top 10 corporate priority. Top 10 priority was reported among 91 percent of the skill-gap segment and 55 percent of the all-skills group.

It is notable that nearly all of the prospective new hiring over the next 12 months among these panelists companies is planned by the skill-gap segment: 66 percent planning to add 1.3 percent to their total composite workforces. In contrast, 44 percent of their all-skills counterparts plan new hiring, but expect to add only 0.1 percent to their companies' overall composite workforce.

The skill-gap segment is planning to add all three major types of employees at a 38 percent rate or higher: professionals/technicians (38 percent), skilled workers (41 percent), and semi-skilled production workers (38 percent).

The skill-gap segment is above-average in most spending categories: 47 percent planning capital investments (14 points higher), and especially planned geographic expansion, 34 percent (17 points higher).

Note that the skill-gap group looks to be exceptionally active in international initiatives – 38 percent planning expansion to new markets abroad, and 25 percent planning new facilities abroad (versus 11 percent of the all-skill group). Currently, 88 percent are selling internationally, representing 31 percent of their total revenues versus 67 percent of the all-skills group accounting for 29 percent of total revenues. A strong relationship appears to exist between skill gap need and international expansion initiatives.

Finally, while expecting to grow revenue faster than their peers over the next 12 months (5.9 percent pace versus 4.3 percent), the skill-gap segment is smaller in enterprise revenue size – $8.3 billion versus $12.5 billion for their all-skills peers.

Key indicators for the business outlook

Chart 1.1 Key indicators for the business outlook

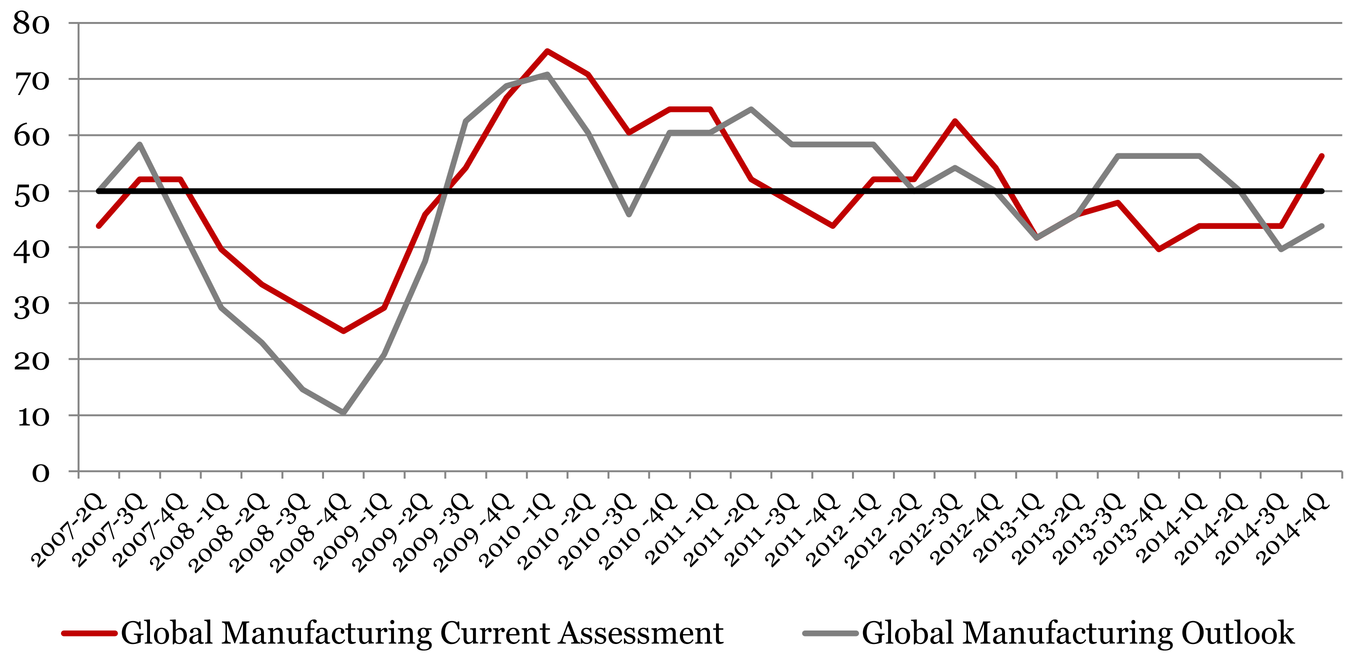
A quarter-over-quarter comparison of the survey's key indicators shows how the 12-month outlook has changed each quarter. The change column indicates the movement of opinion of those surveyed over the past two quarters.

Business outlook, next 12 months among industrial manufacturers	2013		2014			Change	Page
	4Q'13	1Q'14	2Q'14	3Q'14	4Q'14	3Q'14–4Q'14	
Optimistic about US economy	68%	71%	65%	57%	68%	↑	8
Optimistic about world economy	47%	41%	38%	30%	38%	↑	9
Expect positive revenue growth	85%	82%	77%	86%	85%	=	17
Average growth rate expected	5.4%	5.3%	5.2%	5.6%	5.8%	=	17
Planning major new investments	43%	39%	52%	36%	43%	↑	19
New investments as a % of sales	4.8%	5.4%	5.7%	5.7%	3.3%	↓	19
Planning to hire	60%	56%	48%	52%	60%	↑	18
New workers as a % of workforce (net)	0.5%	0.4%	0.5%	0.4%	1.1%	↑	18
Expected barriers to growth:							
• Lack of demand	42%	44%	42%	43%	35%	↓	20
• Lack of qualified workers	20%	28%	25%	26%	33%	↑	20
• Legislative/regulatory pressures	47%	38%	47%	59%	32%	↓	20
• Taxation policies	22%	23%	25%	31%	27%	↓	20
• Oil/energy prices	25%	26%	28%	22%	22%	=	20
• Decreasing profitability	20%	28%	27%	22%	20%	=	20
• Competition from foreign markets	27%	25%	28%	21%	15%	↓	20
• Monetary exchange rate	12%	18%	15%	14%	15%	=	20
• Capital constraints	17%	28%	17%	16%	12%	↓	20
• Pressure for increased wages	10%	12%	7%	7%	10%	↑	20
• Higher interest rates	5%	8%	3%	14%	7%	↓	20

PwC global manufacturing current assessment and outlook indices

The manufacturing current assessment improved sharply relative to third quarter results, while the manufacturing outlook index increased slightly. As both the indices are calculated using a four-quarter moving average, these results mask a considerable improvement to the global outlook from the prior quarter. In fact, the non-smoothed outlook *Barometer* index jumped to 83 in 4Q14 from 33 the prior quarter.

Executives maintained their optimism toward the US economy during this quarter while their view of the global economy also improved. The spread of executives who believe that the US economy is growing (over those who believe the global economy is growing) dropped slightly off the prior quarter's high. Almost three times more respondents believe that the US economy grew during the most recent quarter than believe the world economy grew. However, only 30% of respondents believe that the global economy is growing, up from the 23% low of the prior quarter, but below the 50% result from a year ago. In addition, the percentages of respondents who are optimistic about the US economy over the next 12 months were almost double those who were optimistic over the global economy.



PwC global manufacturing current assessment and outlook indices

Most outlook index constituents improved relative to the prior quarter. A greater percentage of companies plan to add new workers, raise capital investment, and/or increase operational spending. This may be related to expectation of improvement in global demand, as more companies believe improving volumes will help them absorb these additional costs. However, companies appear to be more cautious on pricing and margins, which remain in-line with post-recession averages.

So what is driving the general improvement in sentiment regarding the overall economic outlook and what are the risks? One likely possibility would be declining energy/oil prices but, surprisingly, few respondents pointed to energy costs as a major driver of sentiment (in part due to timing of the survey). Other data from this quarter's *Barometer* report indicates that more executives are feeling relief from legislative/regulatory pressures that had built up in anticipation of the mid-term elections. In addition, concerns regarding foreign competition have declined and low cost financing will continue to prop up industrial manufacturing clients' access to capital. In terms of risks, companies seem most concerned about their ability to service the expected demand, due to gaps in talent, particularly in skilled areas such as engineering and design.

Background/methodology

PwC has surveyed global manufacturing executives since 2003 with the results published in our *Manufacturing Barometer* publication. The responses to these survey questions have been used to measure the sentiment of manufacturers by creating current assessment and outlook indices. The Global Manufacturing Current Assessment Index measures current trends in pricing, margins, employment, and capital expenditures, while the Global Manufacturing Outlook Index measures expectations for revenue, employment, operational spending, and capital expenditures. These results are calculated as a four-quarter moving average of diffusion indices which measure the degree to which their equal-weighted components move in the same direction at the same time. The indices are scaled between 1 and 100 with above 50 indicating more positive sentiment and below 50 indicating more negative sentiment.

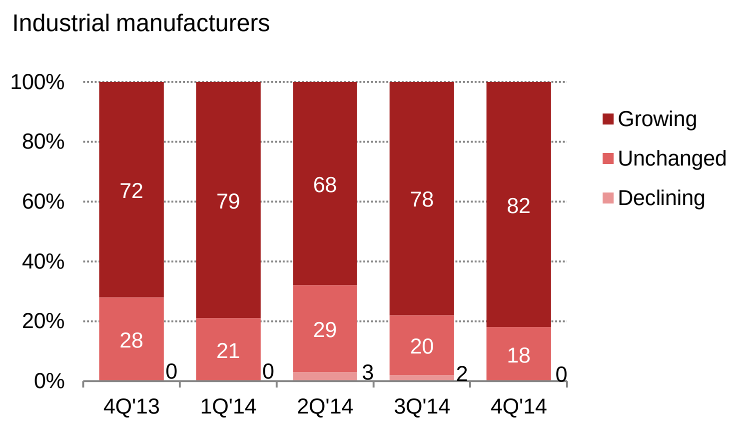
Economic views

View of the US economy, this quarter

Which best describes your view of the US economy this quarter?

In fourth-quarter 2014, 82 percent of US industrial manufacturers surveyed believed the US economy was growing, up 4 points from the prior quarter's 78 percent. None believed it was declining, and 18 percent saw no change from third-quarter 2014.

Chart 2.1 View of the US economy, this quarter



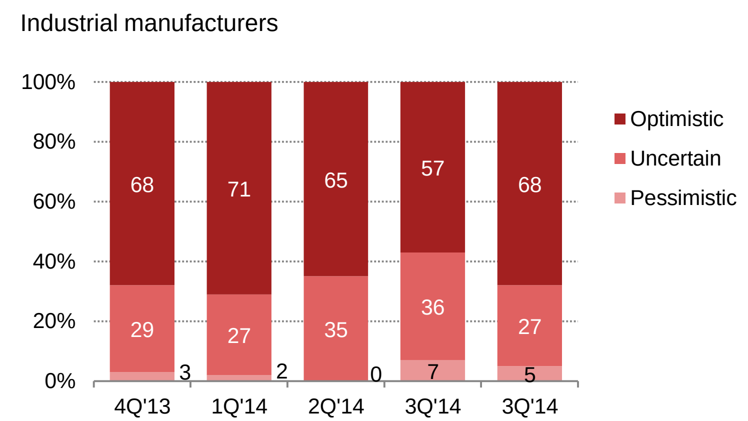
Note: In 4Q 2014 total respondents = 60

View of the US economy, next 12 months

Looking at the next 12 months, how do you feel about the prospects for the US economy?

Looking ahead, 68 percent of respondents expressed optimism about the 12-month outlook for the US economy, up 11 points from the prior quarter's 57 percent. Five percent were pessimistic (off 2 points), while 27 percent were uncertain. A year ago, 68 percent were optimistic, the same level.

Chart 2.2 View of the US economy, next 12 months



View of the world economy, this quarter

View of the world economy, next 12 months

Which best describes your view of the world economy this quarter (international marketers only)?

In fourth-quarter 2014, 29 percent of the panelists marketing abroad viewed the world economy as growing, an increase of 6 points from the prior quarter's 23 percent. Seven percent believed it was declining (off 14 points from the prior quarter). Sixty-four percent said they saw no change.

Looking at the next 12 months, how do you feel about the prospects for the world economy (international marketers only)?

Looking ahead, 38 percent of US-based industrial manufacturers who market abroad are optimistic about the prospects for the world economy over the next 12 months, up 8 points from the prior quarter's 30 percent. Seven percent are pessimistic (off 6 points), while 55 percent are uncertain. A year ago, 47 percent were optimistic, 9 points higher.

Chart 2.3 View of the world economy, this quarter

Industrial manufacturers

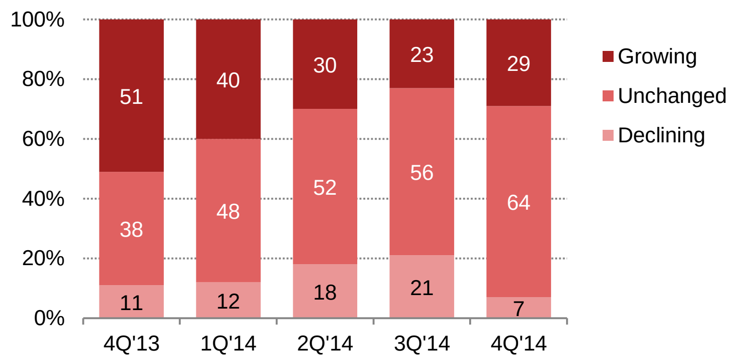
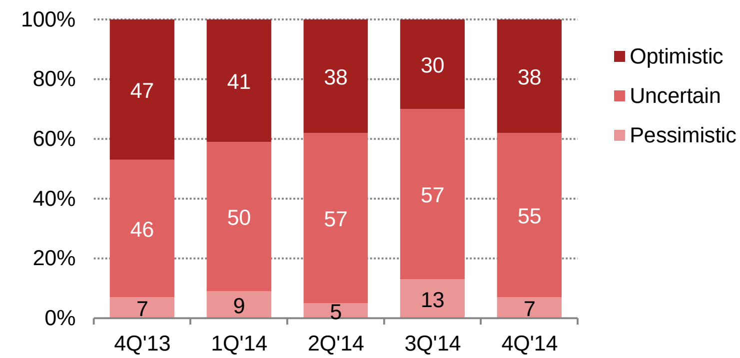


Chart 2.4 View of the world economy, next 12 months

Industrial manufacturers



Note: In 4Q 2014 total respondents = 55

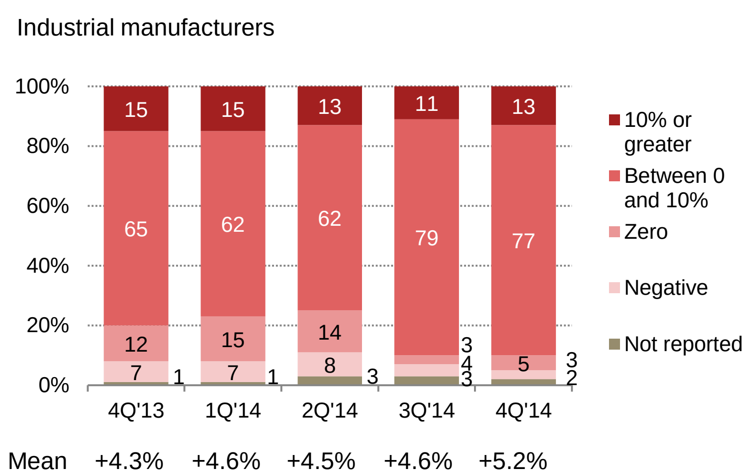
Company performance

Company revenue growth, calendar year

What is your company's estimated revenue growth rate for the calendar year?

The composite average growth estimate for own-company revenue in the calendar year 2014 was at 5.2 percent, above the 4.6 percent in the third quarter for calendar year 2014. Ninety percent of respondents said they expect positive own-company growth, with 13 percent expecting double-digit growth and 77 percent single-digit growth. Three percent were on the negative side, 5 percent expected zero growth, and 2 percent were not reported.

Chart 3.1 Company revenue growth, calendar year

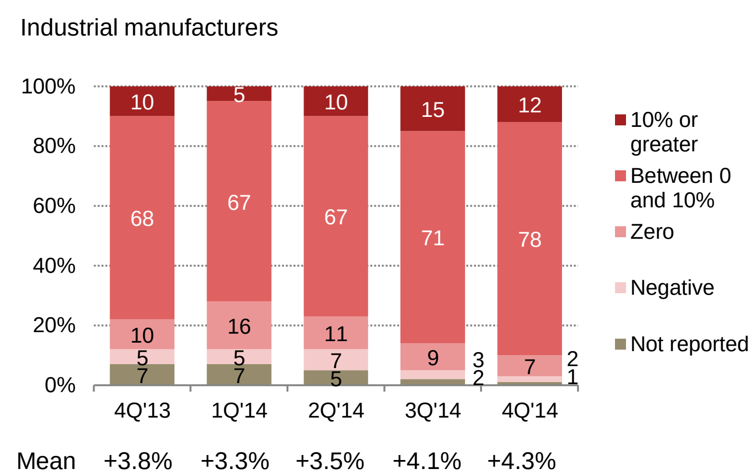


Industry growth, calendar year

What is your industry's estimated growth rate for the calendar year?

Estimated industry growth rate for calendar-year 2014 was at 4.3 percent, slightly above the third quarter's 4.1 percent and ahead of the 3.8 percent a year ago. Ninety percent of panelists reported positive industry growth for 2014 – 12 percent double-digit growth and 78 percent single-digit growth. Two percent were on the negative side and 7 percent expected zero growth for this year. One percent was not reported.

Chart 3.2 Industry growth, calendar year



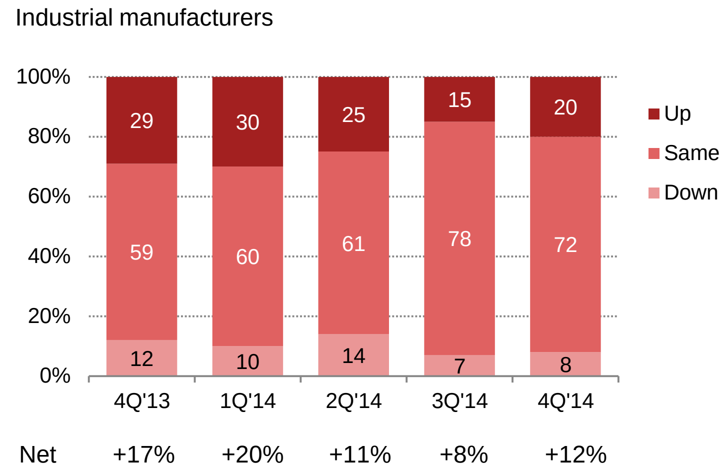
Note: In 4Q 2014 total respondents = 60

International sales

Are international sales up, down, or the same compared with three months ago (international marketers only)?

US-based industrial manufacturers that sell abroad reported some additional positive movement in international revenue in fourth-quarter 2014, with 20 percent reporting an increase in sales (up 5 points), and 8 percent reporting a decrease (up one point) or a net 12 percent increasers (4 points higher than the previous quarter). The remaining 72 percent said sales stayed about the same quarter to quarter.

Chart 3.3 International sales



Note: In 4Q 2014 total respondents = 55

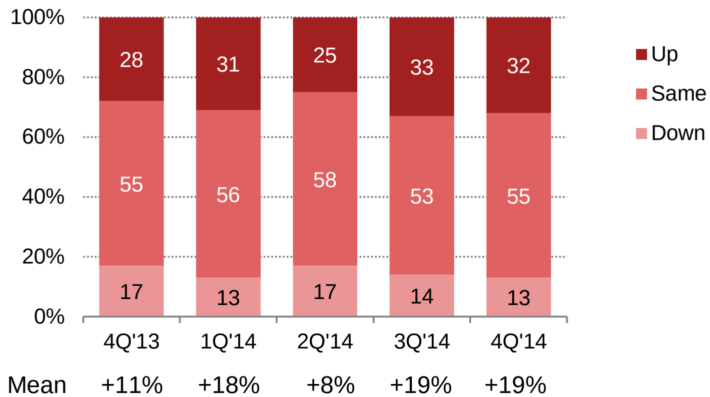
Changes in gross margins

Are gross margins up, down, or the same compared with three months ago?

In fourth-quarter 2014, gross margins were higher again. They were higher for 32 percent of panelists (off 1 point) and lower for 13 percent (off 1 point), for a net plus 19 percent, same as the prior quarter's plus 19 percent. Fifty-five percent stayed about the same.

Chart 3.4 Changes in gross margins

Industrial manufacturers



Note: In 4Q 2014 total respondents = 60

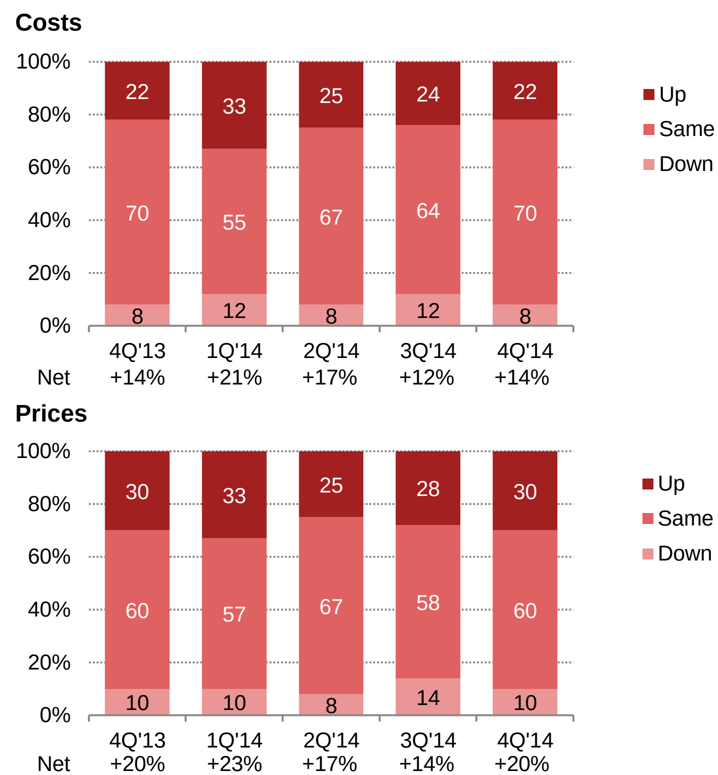
Changes in costs and prices

Are costs up, down, or the same compared with three months ago? prices?

In fourth-quarter 2014, costs remained high and prices were even higher. Twenty-two percent of US-based industrial manufacturers reported higher costs (off 2 points), and 8 percent reported lower costs (off 4 points), for a net plus 14 percent higher, 2 points above the prior quarter's 12 percent. On the price side, 30 percent raised prices (up 2 points) and 10 percent lowered them (off 4 points), for a net plus 20 percent reporting higher prices (6 points higher than the prior quarter).

Chart 3.5 Changes in costs and prices

Industrial manufacturers

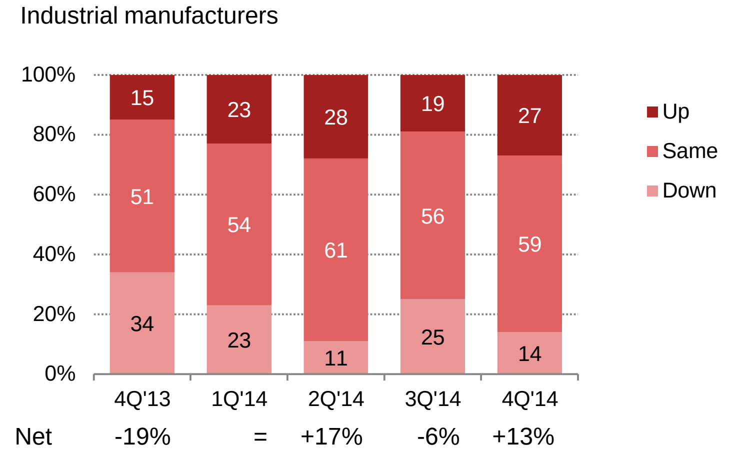


Inventory movement

Are finished inventories as a percentage of sales up, down, or the same compared with three months ago?

Inventories as a percentage of sales grew for 27 percent of US-based industrial manufacturers in the fourth quarter, 8 points higher than the prior quarter. Levels were down for 14 percent (off 11 points), net 13 percent higher, indicating some moderate inventory growth in fourth-quarter 2014 after flat inventories in the third quarter of 2014.

Chart 3.6 Inventory movement



Note: In 4Q 2014 total respondents = 60

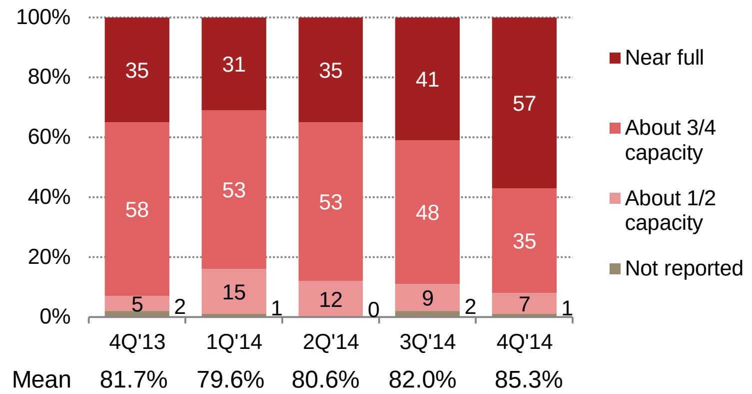
Level of operating capacity

What is your organization's current operating capacity?

Operating capacity is an estimate of the current level of permanent staffing and operations compared with what is needed for full-capacity output. In the fourth quarter, the mean rose nearly 3½ points to 85.3 percent of capacity, above the previous quarter's 82.0 percent, with 57 percent of industrial manufacturers surveyed claiming to be at or near full capacity (up 16 points).

Chart 3.7 Level of operating capacity

Industrial manufacturers



Note: In 4Q 2014 total respondents = 60

Business outlook, next 12 months

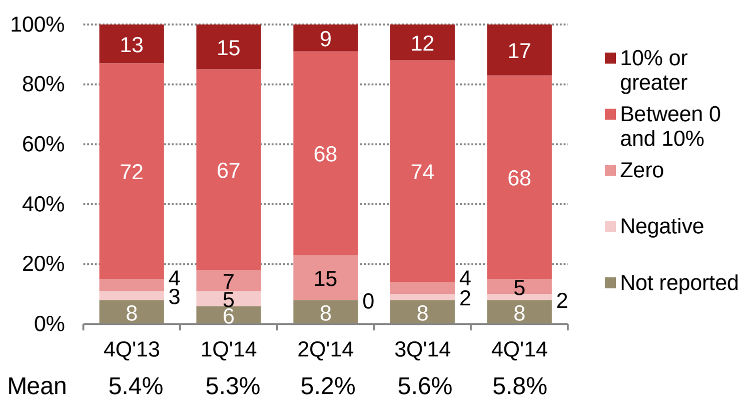
Revenue growth, next 12 months

What is your organization's estimated revenue growth rate for the next 12 months?

The projected average revenue growth rate over the next 12 months among panelists increased to 5.8 percent, ahead of the prior quarter's 5.6 percent and a year ago (5.4 percent). Eighty-five percent expect positive revenue growth for their own companies, with 17 percent forecasting double-digit growth and 68 percent forecasting single-digit growth. Two percent forecast negative growth, 5 percent forecast zero growth, and 8 percent were not reported.

Chart 4.1 Revenue growth, next 12 months

Industrial manufacturers



Note: In 4Q 2014 total respondents = 60

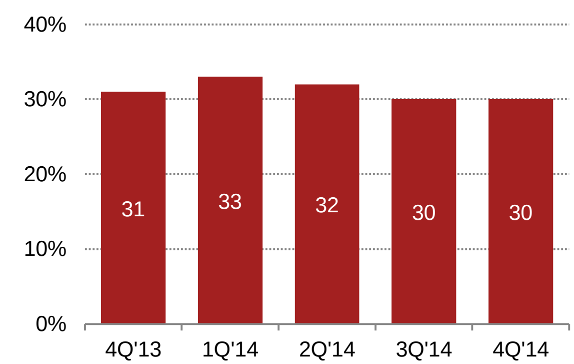
International sales, next 12 months

What percentage of your business's total revenue over the next 12 months do you expect to be derived from international sales (international marketers only)?

Of respondents selling abroad, the projected contribution of international sales to total revenue over the next 12 months continued at 30 percent pace, same as the prior quarter, and similar to the 31 percent level as a year ago.

Chart 4.2 International sales, next 12 months

Industrial manufacturers



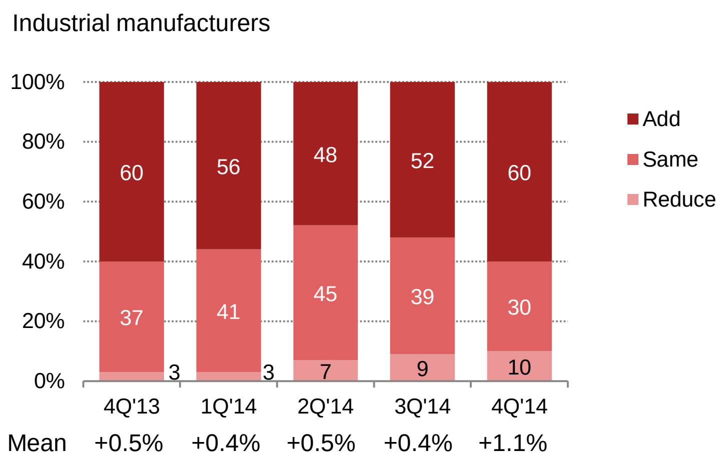
Note: In 4Q 2014 those marketing abroad = 55

Percent planning to hire

Do you plan to add or reduce the number of full-time equivalent employees over the next 12 months?

In total, 60 percent of industrial manufacturers plan to add employees to their workforce over the next 12 months, up 8 points from the third-quarter 2014 estimates, and same as a year ago (60 percent). Ten percent plan to reduce the number of full-time equivalent employees (up 1 point), and 30 percent will stay about the same. Total net workforce growth projection was 1.1 percent, well above last quarter's plus 0.4 percent and above last year's 0.5 percent, indicating an important uptick in hiring among these industrial manufacturing firms.

Chart 4.3 Percent planning to hire



Note: In 4Q 2014 total respondents = 60

Percent planning to hire by type of employee

What types of employees do you plan to add over the next 12 months?

Among the 60 percent of respondents planning to hire within the next 12 months, the most sought-after employees will be and skilled labor (35 percent), professionals/technicians (32 percent), along with production workers (28 percent). Limited white collar support (12 percent) but a bit more sales/marketing hiring is planned (10 percent).

Chart 4.4 Percent planning to hire by type of employee

Industrial manufacturers

	4Q '13	1Q '14	2Q '14	3Q '14	4Q '14
Planning to hire (net)	60%	56%	48%	52%	60%
• Skilled labor	42%	33%	32%	33%	35%
• Professionals/ technicians	30%	28%	20%	26%	32%
• Production workers	28%	30%	27%	26%	28%
• White collar support	13%	20%	8%	10%	12%
• Sales/marketing	12%	15%	8%	7%	10%

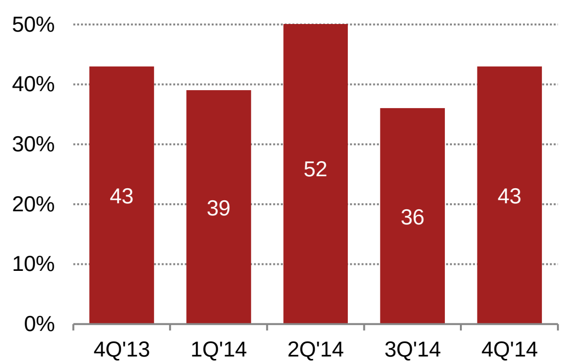
Percent planning major new investments of capital

Are you actively planning any major new investments of capital over the next 12 months? If so, what percentage of total sales do you expect to invest?

Overall, 43 percent of US industrial manufacturers surveyed plan major new investments of capital during the next 12 months, up 7 points from the prior quarter's 36 percent, and the same as last year's 43 percent. The mean investment as a percentage of total sales was a lower 3.3 percent, well below the last quarter's 5.7 percent and 4.8 percent a year ago. These findings indicate a pullback in panelist firms' level of CapEx spending among these panelist businesses.

Chart 4.5 Percent planning major new investments of capital

Industrial manufacturers



Mean investment as a % of total sales	4Q'13	1Q'14	2Q'14	3Q'14	4Q'14
	+4.8%	+5.4%	+5.7%	+5.7%	+3.3%

Note: In 4Q 2014 total respondents = 60

Percent planning to increase operational spending

Over the next 12 months, where do you expect to increase spending?

Looking ahead over the next 12 months, operational spending increased: 82 percent of respondents plan to increase operational spending, up 13 points quarter-to-quarter. Leading increased expenditures were new product or service introductions (52 percent, up 9 points), research and development (47 percent, up 11 points), and information technology (28 percent). Plans for geographic expansion rose sharply to 27 percent. Business acquisition was up 6 points to 22 percent. Marketing and sales promotion was also up 6 points to 15 percent. Both advertising and internet commerce were up at lower levels – 8 percent and 5 percent, respectively.

Chart 4.6 Percent planning to increase operational spending

Industrial manufacturers

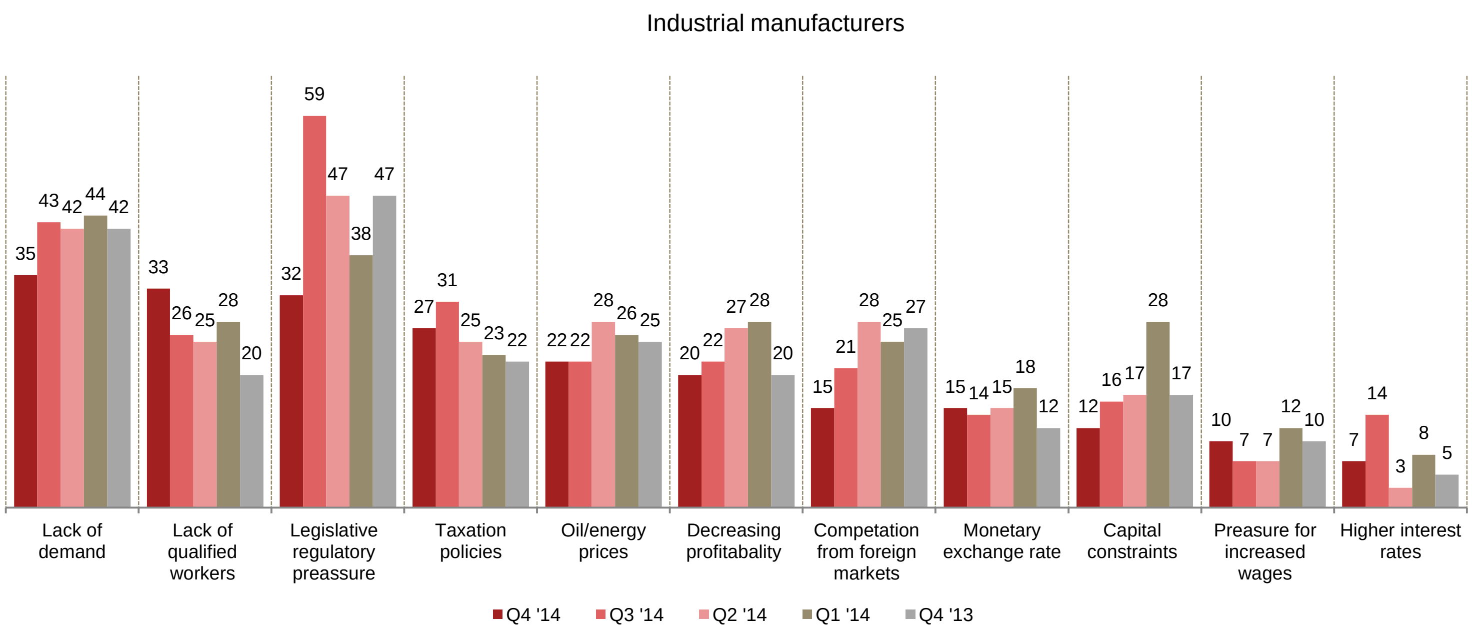
	4Q '13	1Q '14	2Q '14	3Q '14	4Q '14
Percent planning to increase spending (net)	73%	75%	75%	69%	82%
• New product or service introduction	45%	44%	43%	43%	52%
• Research and development	37%	34%	45%	36%	47%
• Information technology	32%	38%	33%	29%	28%
• Geographic expansion	18%	21%	22%	19%	27%
• Business acquisition	17%	21%	27%	16%	22%
• Facilities expansion	23%	21%	20%	17%	20%
• Marketing and sales promotion	13%	13%	5%	9%	15%
• Advertising	2%	3%	5%	2%	8%
• Internet commerce	2%	2%	2%	2%	5%

Expected barriers to business growth

Over the next 12 months, will any of the following represent barriers to business growth?

Overall, a softening was found in levels of potential barriers to growth over the next 12 months. Concern about legislative/regulatory pressures fell off dramatically, from a 59 percent high to 32 percent (off 27 points). The leading potential barrier, lack of demand, was off 8 points to 35 percent, while lack of qualified workers rose 7 points to recent high of 33 percent. Next, both taxation policies (27 percent) and oil/energy prices (22 percent) continued – but the oil price crash from greater than $100 to less than $50 per barrel occurred after most interviewing (it will be reflected in the next quarter). Lower concern was seen for higher interest rates (7 percent). Decreased profitability was off slightly from 22 percent to 20 percent, and is at the same level as a year ago (20 percent).

Chart 4.7 Expected barriers to business growth



Note: In 4Q 2014 total respondents = 60

Plans for M&A and other business initiatives

Over the next 12 months, do you expect to participate in any of the following new business initiatives?

More panelists are planning M&A activity over the next 12 months, up 7 points to 33 percent, 10 points higher than a year ago. Most of these, 25 percent, are looking at purchasing another business, while 8 percent plan to sell part or all of their own business. Plans for expansion to new markets abroad increased 8 points to 22 percent, with 18 percent planning new facilities abroad. New strategic alliances rose to 23 percent, and new joint ventures are planned by 25 percent. On the debit side, reductions abroad were reported by a net 10 percent, with closing/reduction of facilities abroad cited by 7 percent, and reduced activity by 5 percent. There are many fewer net closing and reducing facilities abroad than those expanding – 10 percent versus 22 percent expanding abroad.

Chart 4.8 Plans for M&A and other business initiatives

Industrial manufacturers

	4Q '13	1Q '14	2Q '14	3Q '14	4Q '14
New business initiatives (net)	47%	53%	47%	48%	53%
• M&A activities (net)	23%	28%	38%	26%	33%
• Purchase another business	20%	25%	35%	19%	25%
• Sell part/all own business	8%	7%	8%	7%	8%
• Equity carve-out/spin-off	5%	3%	3%	4%	5%
• New strategic alliance	22%	23%	17%	21%	23%
• New joint venture	13%	12%	15%	21%	25%
• Expand to new markets abroad	20%	18%	12%	14%	22%
• New facilities abroad	8%	13%	10%	9%	18%
• Close/reduce facilities abroad	10%	8%	8%	9%	7%
• Reduce activity in markets abroad	5%	7%	3%	9%	5%

Note: In 4Q 2014 total respondents = 60

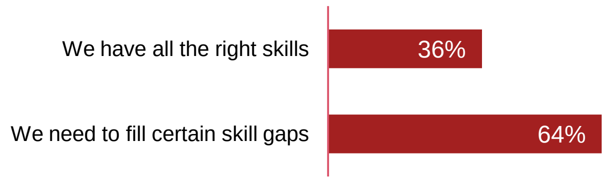
Special topic: Human capital

Human capital: Skill gaps

Do you believe that your organization's workforce has all the right skills to meet your company's business objectives over the next 12-24 months, or is there a need to fill certain gaps?

Significantly, nearly two-thirds (64 percent) of US industrial manufacturers surveyed cite a need to fill certain skill gaps in their businesses over the next 12-24 months. In contrast, 36 percent claim to have all the right skills needed at present.

Chart 5.1 Need to fill skill gaps

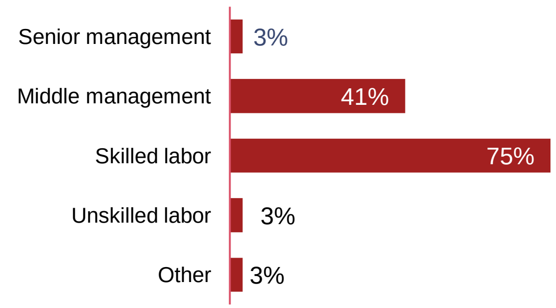


Human capital: Skill gaps

Where do you see the biggest skill gaps?

The biggest skill gaps indentified were in skilled labor (75 percent) and in middle management (41 percent). Senior management is cited as a gap by only 3 percent.

Chart 5.2 Where are biggest skill gaps?

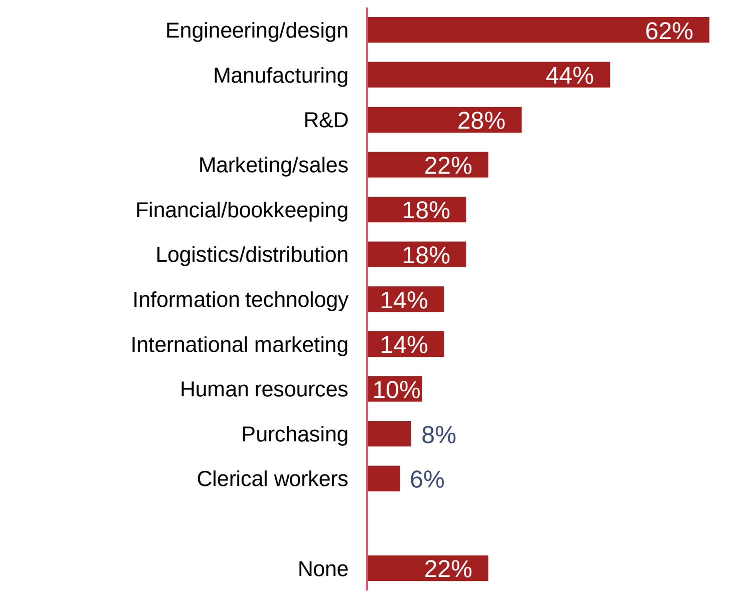


Human capital: Hiring plans

Will your organization be hiring new employees in the following skill functions over the next 12-24 months?

More than three-fourths of US industrial manufacturers (78 percent) will be hiring new skill function employees over the next 12-24 months. The broadest needs are in engineering/design (62 percent) and in manufacturing (44 percent). Next are R&D (28 percent), marketing/sales (22 percent), financial/bookkeeping (18 percent), logistics/distribution (18 percent), and IT and international marketing (each at 14 percent).

Chart 5.3 Skill functions planning to hire

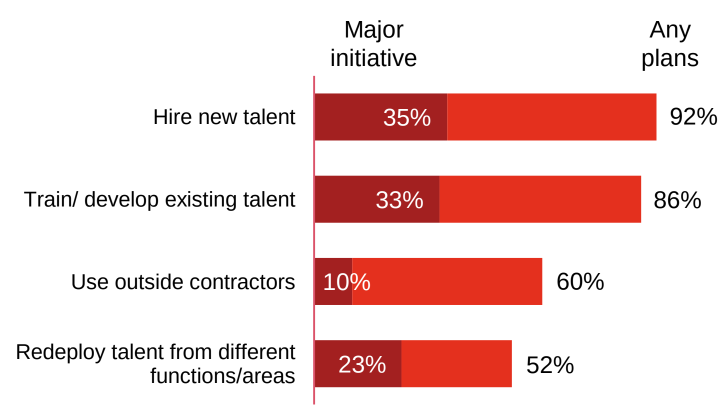


Human capital: How to fill skill gaps

To fill your company's skill gaps over the next 12-24 months, what do you plan to do?

To fill the company's skill gaps over the next 12-24 months, nearly all (92 percent) industrial manufacturing companies will hire new talent (35 percent as a major initiative), while 86 percent will train or develop existing talent (33 percent as a major initiative). Sixty percent will use outside contractors, and 52 percent will redeploy talent from different functions/areas.

Chart 5.2 Plans on how to fill the biggest skill gaps

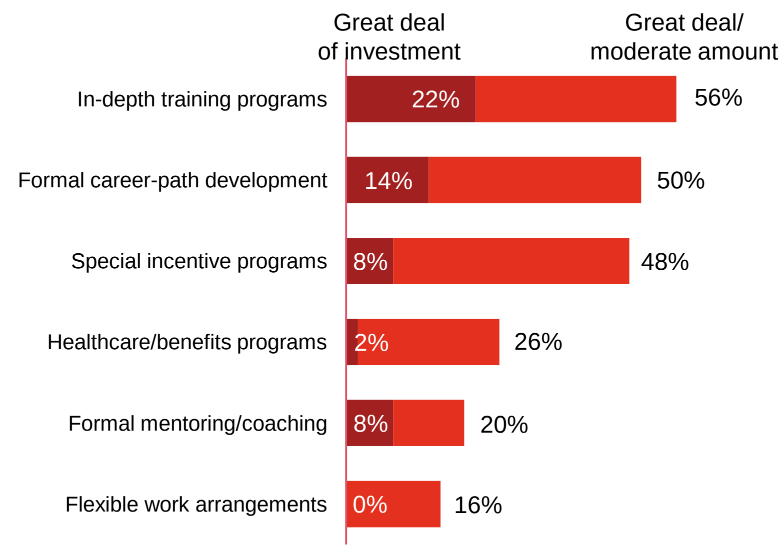


Human capital: Investment areas to attract and retain talent

To attract and retain talent, to what extent is your company investing (or do you plan to invest) in these initiatives?

Three critical investment areas are cited by US industrial manufacturer panelists to attract and retain talent. They are in-depth training programs, 56 percent (22 percent a great deal of investment); formal career-path development, 50 percent (14 percent a great deal); and special incentive programs, 48 percent (8 percent a great deal). Also noted were healthcare/benefits programs, cited by 26 percent (2 percent a great deal); formal mentoring/coaching (20 percent); and flexible work arrangements (16 percent). Note that the healthcare/benefits programs are off from their 2013 levels, from 45 percent to 26 percent.

Chart 5.5 Investment areas to attract/retain talent

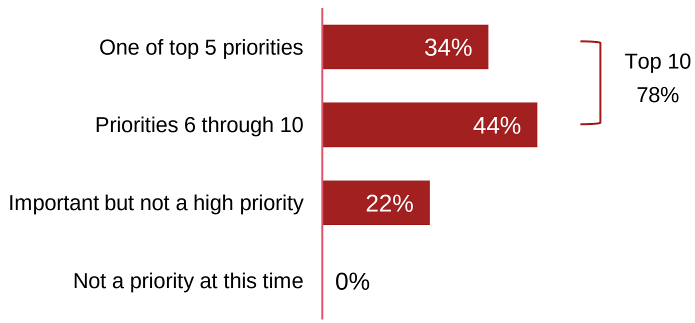


Human capital: Talent management

Where does talent management – the development of talented/skilled workers – currently rank in your company's objectives?

Significantly, nearly four-fifths of US industrial product manufacturers (78 percent) currently rank talent management – the development of talented/skilled workers – as a top 10 priority, 34 percent as one of their top 5 priorities, and 44 percent as priorities 6 through 10. Another 22 percent believe it important but not a high priority, and none rank it as a non-priority.

Chart 5.6 Is talent management a company priority?



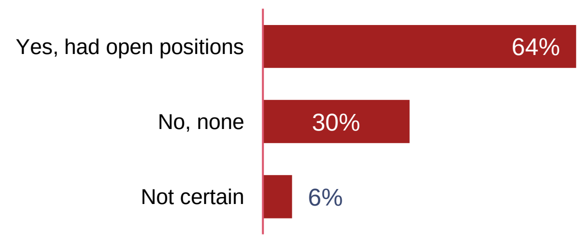
Human capital: Open positions

Over the past year, has your organization had open positions that you were unable to fill with experienced or skilled employees?

Over the past year, two-thirds (64 percent) of US industrial product organizations report having open positions that they were unable to fill with experienced or skilled employees. Another 6 percent were uncertain, while 30 percent claim to have had no unfilled open positions.

In today's job market, it is troublesome that nearly two-thirds of panelists report a skill gap (64 percent), and nearly two-thirds of companies reported an inability to fill certain skill gaps over the past year (64 percent).

Chart 5.7 Open positions unable to fill this past year



Survey demographics and research methodology

Chart 6.6

Demographics

Who	Senior executives of US-based industrial manufacturing organizations
Interview dates	September 19, 2014 to December 22, 2014
	Industrial manufacturers (60)
Average number of employees at location	9,807
Average business unit revenue	$3.21 billion
Average enterprise revenue	$8.79 billion
Market capitalization	$10.46 billion
Industry sectors	Products 100% Manufacturing 100%

Methodology

PwC's *Manufacturing Barometer* is a quarterly telephone survey conducted by the independent research firm BSI Global Research Inc. Our regular survey panel consists of senior executives from a geographically balanced sample of large companies in the United States. Ninety-five percent of the panelists hold titles such as president, CEO, CFO, VP of finance, treasurer, controller, internal audit director, or other related title.

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About the research:

The *Manufacturing Barometer* is one in a series of quarterly business outlook surveys from PwC. The survey provides a view on the 12-month outlook for revenue growth, new investments, new hiring plans, emerging business barriers and more. In addition to the business outlook, we hear from our panelists about special issues they face as the business climate changes. Results of the quarterly business outlook surveys and special issue surveys are available at *www.barometersurveys.com*.

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