

Manufacturing Barometer

**Business outlook report
January 2014**

*Special topic:
Cyber security
and IT
innovations*

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Quarterly highlights

Key findings:

In the fourth quarter of 2013, PwC interviewed 60 US-based industrial manufacturing executives about their current business performance, their views on the state of the economy, and their expectations for business growth over the next 12 months. We then compared their responses with results from prior quarters to see how the panel's 12-month outlook has changed.

Looking ahead to 2014, optimism among industrial manufacturers has increased for both the US economy's prospects (68 percent) and, importantly, the worldwide economy's prospects (47 percent). The industrial products panelists appear poised for increased growth over the next 12 months. Own-company 12-month revenue targets have been raised from 4.2 percent to a 5.4 percent average rate of growth. Eighty five percent anticipate positive revenue growth in 2014; only 3 percent forecast negative growth, 4 percent zero growth, and 8 percent were not reported.

International sales appear to have regained positive momentum in 4Q 2013, and the expected contribution from international sales to total revenue is up slightly to 31 percent.

While the majority of panelist firms are planning net new hiring in the year ahead (60 percent), overall additions to their workforces is a moderate plus 0.5 percent. A continuity of CAPEX spending (43 percent) and budgetary increased spending (73 percent) is planned for 2014, but at moderate levels. Potential barriers to growth over the next 12 months focus on legislation/regulatory pressures (47 percent) and concern about lack of demand (42 percent).

Finally, in 4Q 2013 gross margins were positive. Costs were moderately higher, but offset by increasing price flexibility. Decreasing profitability as a headwind to growth (20 percent) in 2014 is notably lower than a year ago (30 percent).

- **Optimism increases in US and worldwide.** Optimism among industrial manufacturers about the US economy's prospects over the next 12 months rose an additional 8 points to 68 percent, 20 points higher than a year ago. Only three percent were pessimistic, and 29 percent were uncertain. Perceptions of US economy growing in 4Q 2013 was at 72 percent, 20 points above a year ago in 4Q 2012.

Significantly, optimism about the world economies' prospects among industrial manufacturers who market abroad also rose, cited by 47 percent (up 7 points), and 15 point higher than a year ago (32 percent). Only 7 percent are pessimistic, down 5 points quarter-to-quarter, and down 8 points from a year ago. However, a large minority, 46 percent, remain uncertain about global prospects.

- **Higher own-company revenue growth forecasts.** The own-company revenue forecasts for the next 12 months rose over a point from 4.2 percent last quarter to a moderately high 5.4 percent average pace of growth. A year ago, 12-month forecasts were a similar 5.2 percent, but year

2013 ended with a notably lower 4.3 percent growth rate. However, with optimism on the rise for 2014, there is increased likelihood of achieving the 5.4 percent target. Looking ahead, 85 percent expect positive revenue growth for their own companies in 2014, with 13 percent forecasting double-digit growth and 72 percent forecasting single-digit growth. Only 3 percent forecast negative growth, 4 percent zero growth, and 8 percent were not reported.

- **International sales regain momentum.** With optimism about the world economy's prospects continuing to move upward, quarterly sales among international marketers regained upward movement: 29 percent reported an increase in international sales in 4Q 2013 (up 11 points) and 12 percent reported a decrease (6 points lower), for a net 17 percent increasers. In the prior quarter, the upside and downside were even, for a net zero increasers. A year ago, in 4Q 2012, net increasers were a notably lower 8 percent. The expected contribution of international sales to total revenues among those selling abroad over the next 12 months continued a point higher quarter-to-quarter, at 31 percent, reflecting slight upward movement. The rise in global optimism may signal an increasing contribution as these international marketers see an improving economic picture in Europe and in emerging markets.
- **Many are hiring, but at a moderate pace.** The majority of industrial manufacturers (60 percent) plan net new hiring in 2014, 2 points above the prior quarter, and a year ago (58 percent). Only 3 percent plan to reduce the number of full-time equivalent employees, and 37 percent will likely stay about the same. The total net workforce projection for 2014 is a plus 0.5 percent additional workers, the same as a year ago, and off slightly from the 12-month projections last quarter (0.7 percent). The most sought after employees will be skilled labor (42 percent, up 7 points), followed by professionals/technicians (30 percent) and production workers (28 percent). Plans to hire sales/marketing employees remain limited (12 percent).
- **Continuity of CAPEX and budget spending.** Forty-three percent of US industrial manufacturers plan major new investments of capital in 2014, somewhat lower than the prior quarter (48 percent) or a year ago (47 percent). And their mean investment as a percentage of total sales was a moderate 4.8 percent, lower than the 6.5 percent in the prior quarter, and below the 5.3 percent a year ago— indicative of spending continuity at a moderate level in the year ahead.

Operational spending increases in 2014 are planned by 73 percent (off 5 points). Leading increased investment areas will be: new product or service introductions (45 percent), R&D (37 percent), information technology (32 percent). Increased spending on geographic expansion was cited by 18 percent, off 5 points from the prior quarter and ten points from a year ago. Marketing and

sales promotion remained low (13 percent), and few plan increases in advertising (only 2 percent).

M&A activity is planned by 23 percent in the year ahead, focused on purchase of another business (20 percent), sale of part/all of own business (8 percent) or an equity carve-out/spin-off (5 percent). Expansion to new markets abroad was up slightly to 20 percent (up 2 points); 8 percent citing new facilities abroad, offset by 10 percent planning to close/reduce facilities abroad.

- **Headwinds to growth leveling off.** Concern about legislative/regulatory pressures was cited as a potential barrier to growth over the next 12 months by 47 percent (off 11 points from last quarter, but same as a year ago). Lack of demand is a concern of 42 percent, but is off 10 points from a year ago. Several other potential barriers are lower than a year ago, including oil/energy prices (25 percent, off 17 points), taxation policies (22 percent, off 11 points), and decreasing profitability (20 percent, off 10 points). Up from a year ago are capital constraints (17 percent, up 5 points) and competition from foreign markets (27 percent, up 7 points).

- **Margins, costs and prices mostly favorable.**

In 4Q 2013, gross margins were higher for 28 percent and lower for 17 percent—a net plus 11 percent higher (similar to a year ago). Costs were moderately higher: up for 22 percent, lower for 8 percent, a net 14 percent higher (below a year ago). And prices were notably more flexible: 30 percent up, 10 percent down, a net 20 percent higher (10 points above a year ago). Looking ahead, decreasing profitability over the next 12 months was cited by 20 percent as a potential barrier (of 10 points from a year ago).

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.

Special topic: Cyber-security and IT innovations

- **Have effectiveness methodology.** Three-fourths of industrial products manufacturers surveyed (75 percent) claim to have a methodology to detect the effectiveness of their organizations' security programs. Only 20 percent do not, and 5 percent were not certain.
 - **Cyber-security event growth in past 12 months.** A limited number (15 percent) reported an increase in cyber-security events over the past 12 months, while only 2 percent saw a decrease. Most, 55 percent, stayed about the same, and 28 percent were not certain.
 - **Formalized plan to report and respond to event.** Significantly, 82 percent report having a formalized plan for reporting and responding to cyber-security events. Another 6 percent expect to have one over the next 12 months. Only 9 percent have none and have no plans. Plans are typically tested at least once a year; only 9 percent less often.
 - **Monetary losses over past 12 months.** Only 2 percent of industrial manufacturers reported increased monetary losses over the past 12 months. Seventy-three percent were about the same, 2 percent reported a decrease, and 23 percent were not certain.
 - **Which groups pose cyber-security threat?** Hackers posed the greatest cyber-security threat over the past 12 months, cited by 69 percent. Current/former employees were next (26 percent), followed by activists/activist organizations (7 percent).
- Important IT innovations over past 12 months.** Nearly 2 in 5 (38 percent) of industrial products manufacturers surveyed cite important IT innovations that their businesses have made over the past 12 months. The majority, 51 percent, have not, while 7 percent were not certain and 4 percent were not reported.
- **Business sectors where IT innovations were made.** The two business sectors leading the way for important IT innovations were manufacturing processes (52 percent) and security/cyberthreats (43 percent). Next at 33 percent were R&D, distribution/supply chains, and consumer communications. Note that only 19 percent mentioned marketing/sales forecasting.
 - **IT areas of important innovations.** Cloud computing led the way in important IT areas of innovation over the past 12 months (52 percent), followed by mobile computing (38 percent), advanced analytics (33 percent), and online capabilities (33 percent). Nineteen percent cite big data, and 14 percent cite legacy systems. 3-D printing and self-service were cited by 10 percent each.
 - **IT innovations contributed to bottom-line growth?** A positive contribution to their companies' bottom-line revenue/profit growth is reported for the 38 percent with important IT innovations over the past year. Overall, 47 percent cite "definite" (14 percent) or "probable" (33 percent) contribution to their company's bottom-line growth (which represents 18 percent of all manufacturers surveyed). Twenty-nine percent were on the negative side, and one-fourth, 24 percent, were not certain.
 - **IT innovations involved increased IT investments.** Over two-thirds (67 percent) have made moderate (57 percent) or strong increases (10 percent) in IT investments to achieve these important IT innovations over the past 12 months. Another 24 percent made only minor investments, and 9 percent were not certain/not reported.

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	2012	2013				Change	Page
	4Q '12	1Q '13	2Q '13	3Q '13	4Q '13	3Q'13 – 4Q'13	
Optimistic about US economy	48%	55%	63%	60%	68%	↑	10
Optimistic about world economy	32%	36%	31%	40%	47%	↑	12
Expect positive revenue growth	83%	78%	82%	82%	85%	↑	22
Average growth rate expected	5.2%	4.3%	4.6%	4.2%	5.4%	↑	22
Planning major new investments	47%	43%	40%	48%	43%	↓	26
New investments as a % of sales	5.3%	4.8%	4.0%	6.5%	4.8%	↓	26
Planning to hire	58%	45%	42%	58%	60%	=	24
New workers as a % of workforce (net)	0.5%	1.0%	0.9%	0.7%	0.5%	=	24
Expected barriers to growth:							
• Legislative/regulatory pressures	47%	55%	53%	58%	47%	↓	28
• Lack of demand	52%	48%	47%	45%	42%	↓	28
• Competition from foreign markets	20%	19%	30%	32%	27%	↓	28
• Oil/energy prices	42%	35%	22%	28%	25%	↓	28
• Taxation policies	33%	45%	32%	22%	22%	=	28
• Lack of qualified workers	25%	19%	13%	22%	20%	=	28
• Decreasing profitability	30%	26%	24%	15%	20%	↑	28
• Capital constraints	12%	17%	13%	20%	17%	↓	28
• Monetary exchange rate	18%	12%	15%	13%	12%	=	28
• Pressure for increased wages	18%	10%	10%	8%	10%	=	28
• Higher interest rates	8%	7%	10%	13%	5%	↓	28

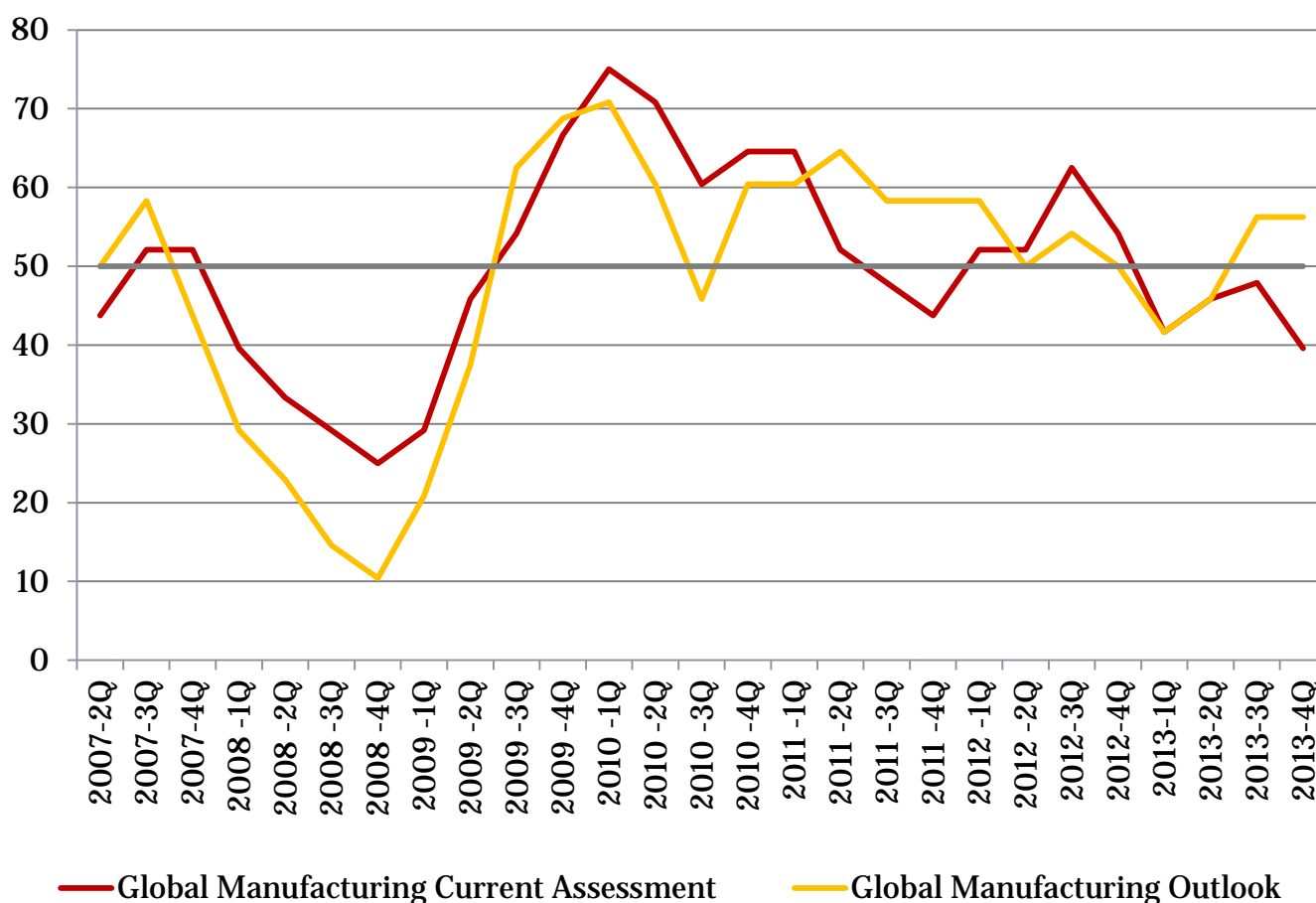
PwC global manufacturing current assessment and outlook indices

Similar to the third quarter 2013 results, manufacturing executives are somewhat pessimistic over current conditions but much more optimistic over their future prospects. The majority of executives generally agree in their optimism over current and future economic performance. However, despite this optimism, they are also taking more caution in their investments and spending plans.

The current assessment index fell this quarter, with sequential declines across most components except expectations for global economic growth. Yet it is interesting that the majority of respondents believe the global economy is growing for the first time since the first quarter of 2011. Assessments of the US economy remain strong compared to historical norms, but optimism has moderated somewhat from the post-recession high of last quarter. Executives have a more muddled assessment of pricing and margins with slightly fewer seeing improvements in these measures though both components remain close to their post-global recession averages.

The manufacturing outlook index remains stable, with large sequential jumps in optimism over the future of the global and US economies. This was offset by a slightly higher aversion toward more capital and operational spending. However, a bright spot in the data this quarter is that employment plans are up, in particular when measuring the percentage of executives planning to add workers over the next year, which reached the second highest level since the question was first asked in 2003.

The indices and their components seem to be telling us that executives are generally more positive in regard to the economic environments in which they operate, but aren't seeing significant improvement in financial results. This has led to bifurcated plans for spending as it pertains to the workforce versus capital and operating spending. It would stand to reason that a sustained improvement in pricing and profits may be required to see a more consistent approach to investment plans.



PwC global manufacturing current assessment and outlook indices

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.

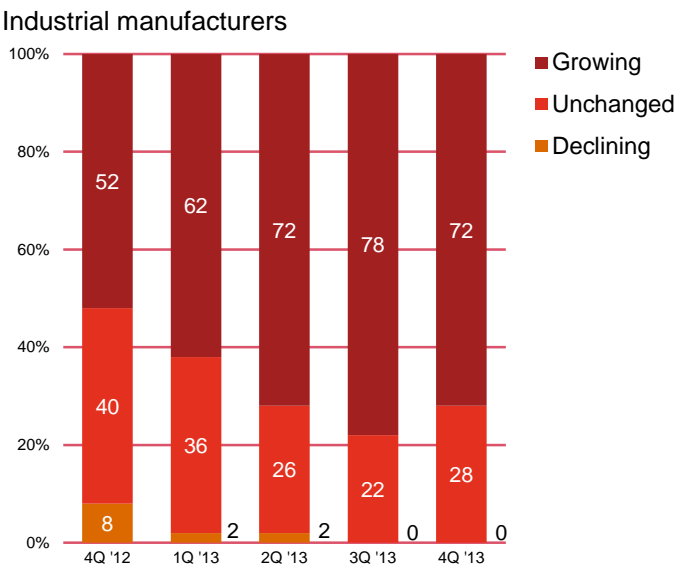
Economic views

View of the US economy, this quarter

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

In fourth-quarter 2013, 72 percent of US industrial manufacturers surveyed believed the US economy was growing, off only 6 points from the prior quarter's high of 78 percent. None believed it was declining, and 28 percent saw no change from third-quarter 2013.

Chart 2.1 View of the US economy, this quarter



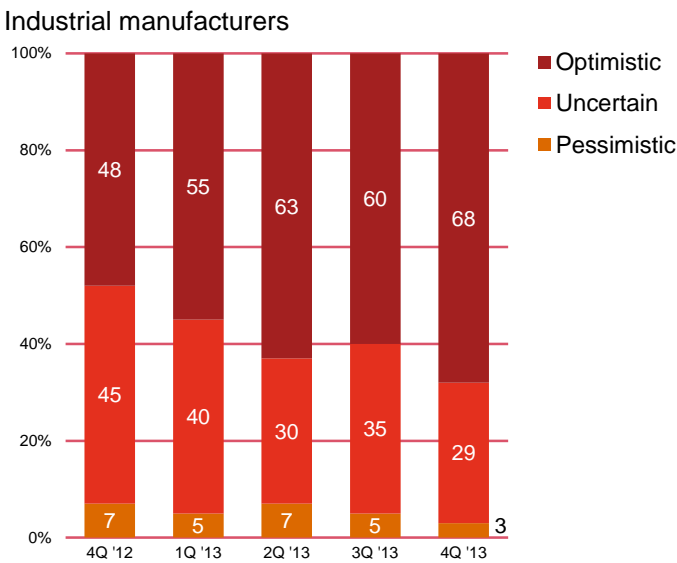
Note: In 4Q 2013 total respondents = 60

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 8 points from the prior quarter's 60 percent. Three percent were pessimistic (off 2 points), while 29 percent were uncertain.

Chart 2.2 View of the US economy, next 12 months



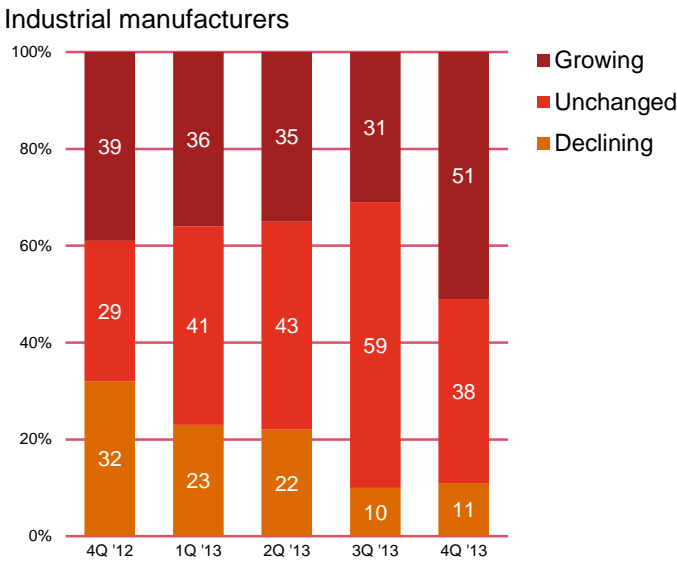
Note: In 4Q 2013 total respondents = 60

View of the world economy, this quarter

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

In fourth-quarter 2013, 51 percent of the panelists marketing abroad viewed the world economy as growing, a notable increase of 20 points from the prior quarter's 31 percent. Eleven percent believed it was declining (up one point from the prior quarter), and 38 percent said they saw no change.

Chart 2.3 View of the world economy, this quarter



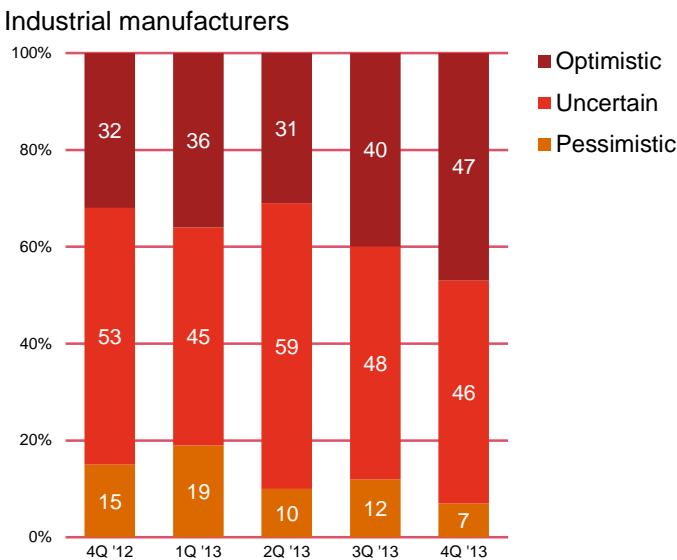
Note: In 4Q 2013 those marketing abroad = 57

View of the world economy, next 12 months

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

Looking ahead, nearly half, 47 percent, of US-based industrial manufacturers who market abroad are optimistic about the prospects for the world economy over the next 12 months, up 7 points from the prior quarter's 40 percent. Only 7 percent are pessimistic (off 5 points), while 46 percent are uncertain. A year ago, only 32 percent were optimistic, 15 points lower.

Chart 2.4 View of the world economy, next 12 months



Note: In 4Q 2013 those marketing abroad = 57

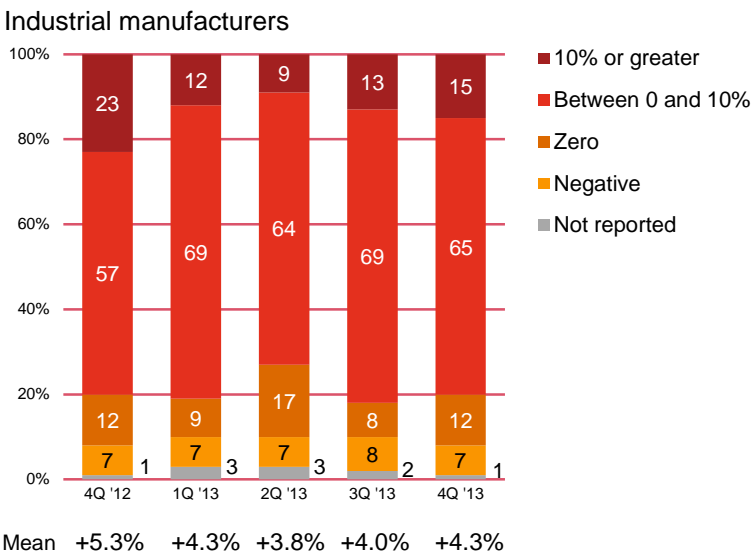
Company performance

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 2013 was at 4.3 percent, up from 4.0 percent in the third quarter. Eighty percent of respondents said they expect positive own-company growth, with 15 percent expecting double-digit growth and 65 percent single-digit growth. Seven percent were on the negative side, while 12 percent expected zero growth, and 1 percent was not reported.

Chart 3.1 Company revenue growth, calendar year



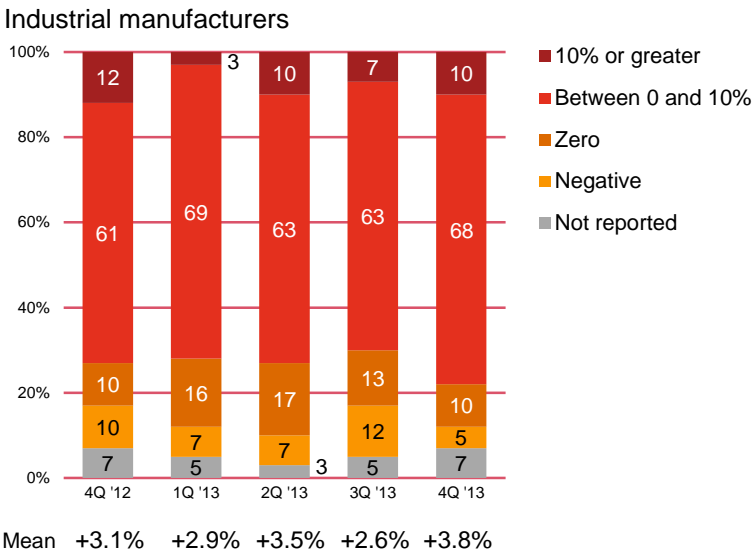
Note: In 4Q 2013 total respondents = 60

Industry growth, calendar year

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

Estimated industry growth rate for calendar-year 2013 rose to 3.8 percent, above the third quarter’s 2.6 percent and 3.1 percent a year ago. Seventy-eight percent of panelists reported positive industry growth for 2013 – 10 percent double-digit growth and 68 percent single-digit growth. Five percent were on the negative side (off 7 points). Ten percent reported zero growth for this year, and 7 percent were not reported.

Chart 3.2 Industry growth, calendar year



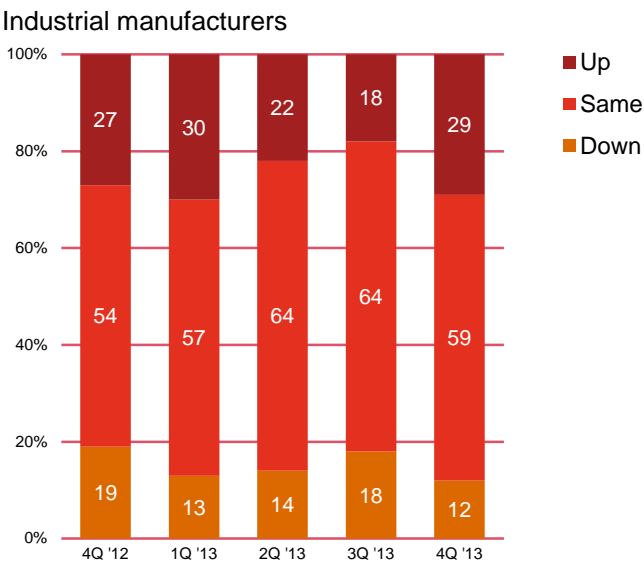
Note: In 4Q 2013 total respondents = 60

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 once again reported an upward movement in international revenue in fourth-quarter 2013, with 29 percent reporting an increase in sales (up 11 points), and 12 percent reporting a decrease (6 points lower). The remaining 59 percent said sales stayed about the same quarter-to-quarter.

Chart 3.3 International sales



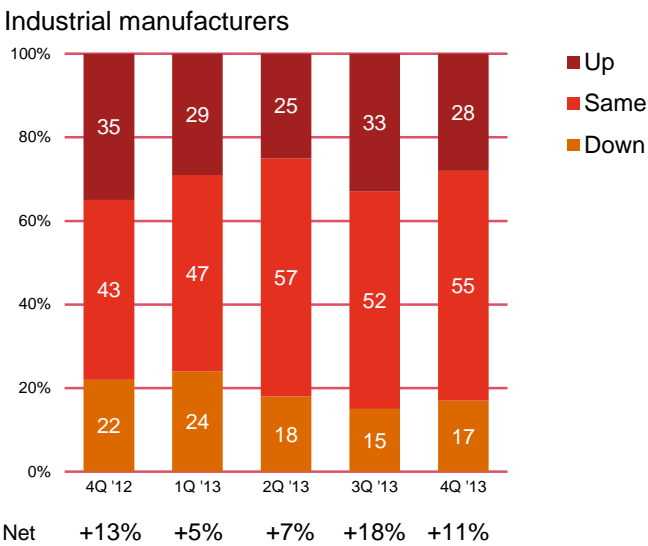
Note: In 4Q 2013 those marketing abroad = 57

Changes in gross margins

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

In fourth-quarter 2013, gross margins remained moderately positive. They were higher for 28 percent of panelists (off 5 points) and lower for 17 percent (up 2 points), for a net plus 11 percent, 7 points below the prior quarter's plus 18 percent. Fifty-five percent stayed about the same.

Chart 3.4 Changes in gross margins



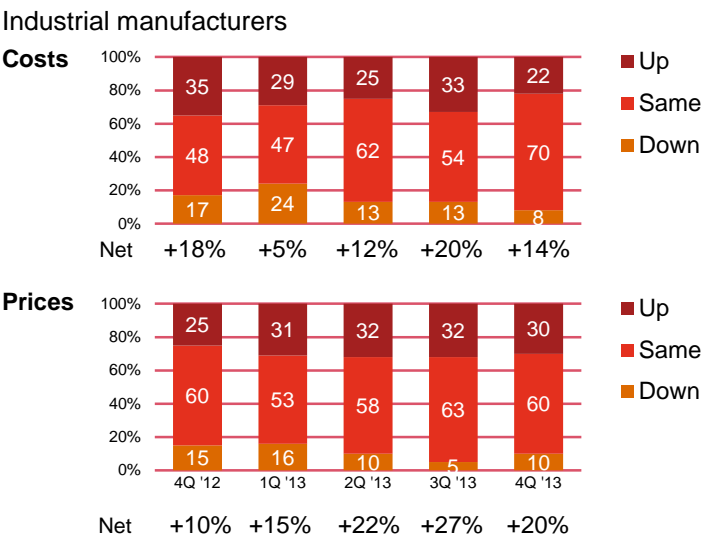
Note: In 4Q 2013 total respondents = 60

Changes in costs and prices

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

In fourth-quarter 2013, costs and prices remained moderately higher but declined from the prior two quarters. Twenty-two percent of US-based industrial manufacturers reported higher costs (off 11 points), and 8 percent reported lower costs (off 5 points), for a net plus 14 percent higher, 6 points below the prior quarter's 20 percent. On the price side, 30 percent raised prices (off 2 points) and 10 percent lowered them (up 5 points), for a net plus 20 percent reporting higher prices (7 points lower).

Chart 3.5 Changes in costs and prices



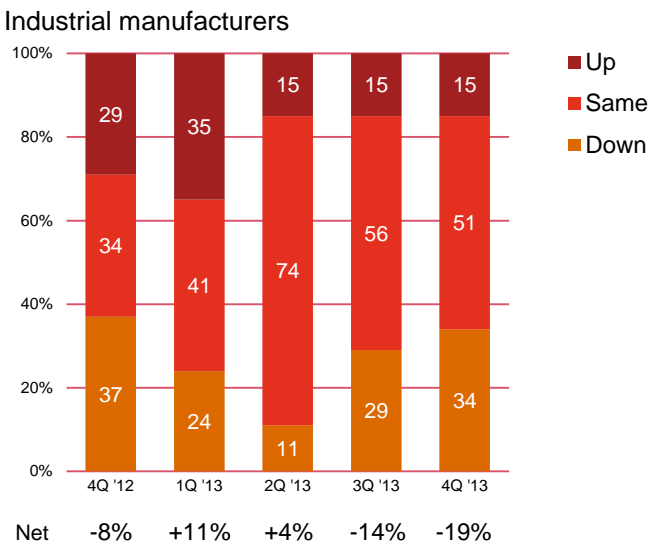
Note: In 4Q 2013 total respondents = 60

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 only 15 percent of US-based industrial manufacturers in the first quarter, same as the prior quarter. Levels were down for 34 percent (up 5 points), for a minus 19 percent decrease, indicating negative inventory growth or depletion of inventories in third-quarter 2013.

Chart 3.6 Inventory movement



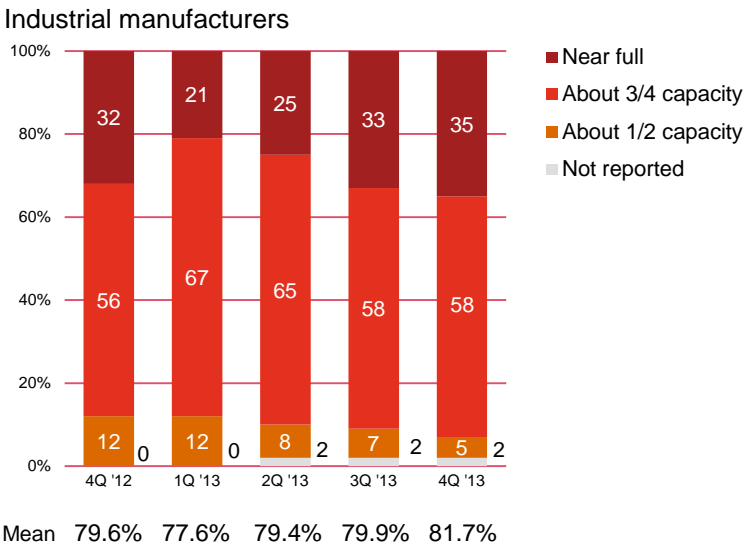
Note: In 4Q 2013 total respondents = 60

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 to 81.7 percent of capacity, well above the previous quarter’s 79.9 percent, with 35 percent of industrial manufacturers surveyed claiming to be at or near full capacity (up 2 points).

Chart 3.7 Level of operating capacity



Note: In 4Q 2013 total respondents = 60

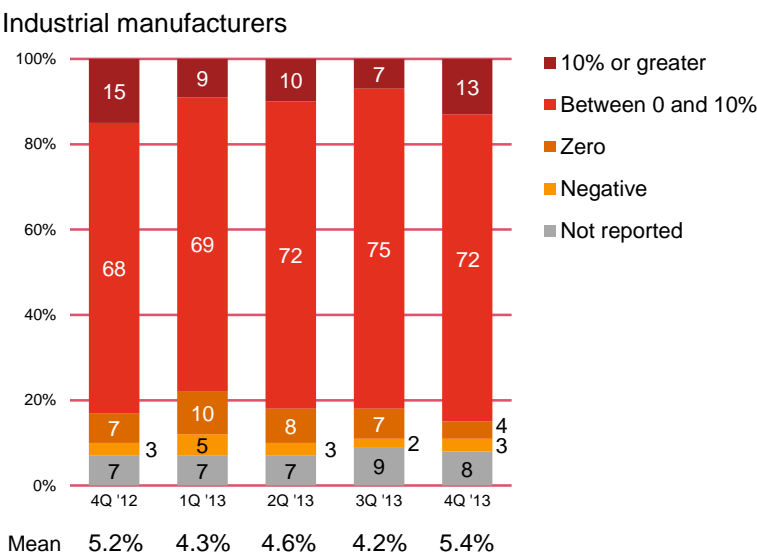
Business outlook, next 12 months

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 respondents increased to a moderate 5.4 percent, an advance from the prior quarter’s 4.2 percent and similar to a year ago (5.2 percent). Eighty-five percent expect positive revenue growth for their own companies, with 13 percent forecasting double-digit growth and 72 percent forecasting single-digit growth. Only 3 percent forecast negative growth, 4 percent forecast zero growth, and 8 percent were not reported.

Chart 4.1 Revenue growth, next 12 months



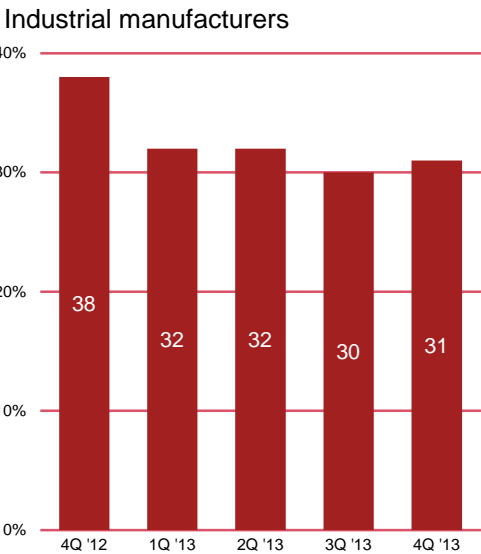
Note: In 4Q 2013 total respondents = 60

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 was slightly higher, up to the 31 percent level, one point above the prior quarter. A year ago, it was at a notably higher 38 percent level.

Chart 4.2 International sales, next 12 months



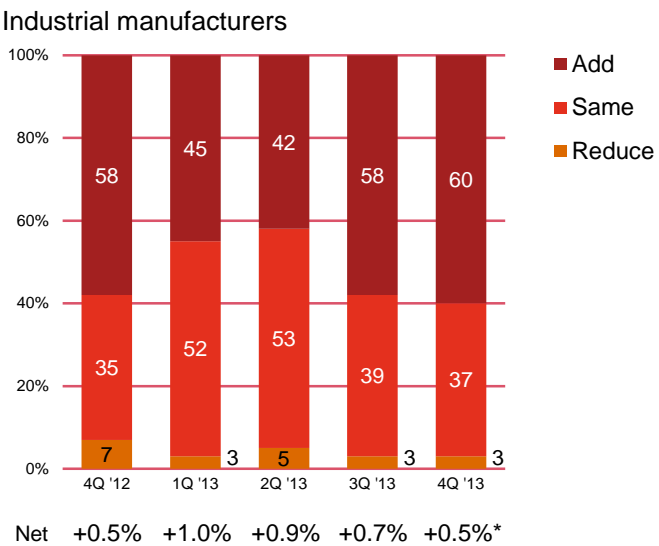
Note: In 4Q 2013 those marketing abroad = 57

Percent planning to hire

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

The majority, 60 percent, of industrial manufacturers surveyed plan to add employees to their workforce over the next 12 months, up 2 points from third-quarter 2013 estimates. Only 3 percent plan to reduce the number of full-time equivalent employees, and 37 percent will stay about the same. Total net workforce projection was 0.5 percent, below last quarter's plus 0.7 percent but the same as last year's 0.5 percent, indicating a continuation of moderate hiring among these industrial manufacturing firms.

Chart 4.3 Percent planning to hire



* Percent (%) reported for US hiring, 83%

Note: In 4Q 2013 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 skilled labor (42 percent), professionals/technicians (30 percent), and production workers (28 percent). Note that fewer white collar support hiring are now planned (off 4 points quarter-to-quarter to 13 percent).

Chart 4.4 Percent planning to hire by type of employee

Industrial manufacturers					
	4Q '12	1Q '13	2Q '13	3Q '13	4Q '13
Planning to hire (net)	58%	45%	42%	58%	60%
• Skilled labor	35%	19%	23%	35%	42%
• Professionals/technicians	43%	29%	18%	35%	30%
• Production workers	30%	23%	23%	30%	28%
• White collar support	12%	7%	7%	17%	13%
• Sales/marketing	13%	5%	10%	7%	12%

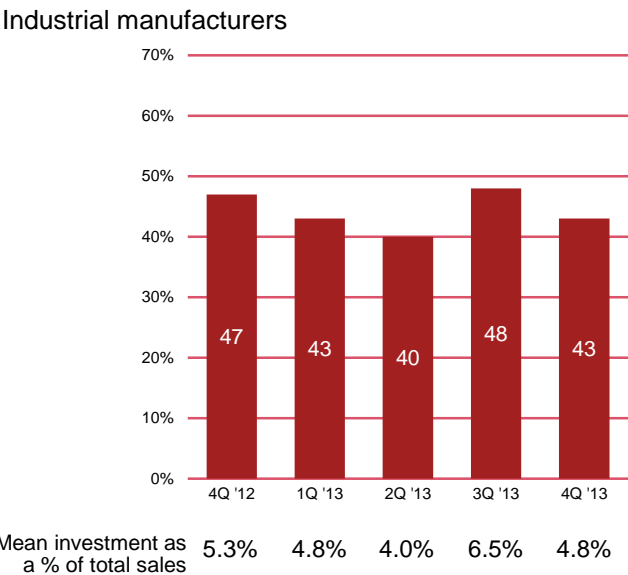
Note: In 4Q 2013 total respondents = 60

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 products manufacturers surveyed plan major new investments of capital during the next 12 months, off 5 points from the prior quarter's 48 percent, and off from a year ago (47 percent). The mean investment as a percentage of total sales was lower than the prior quarter's 6.5 percent, at 4.8 percent – indicative of moderate spending among these panelist businesses.

Chart 4.5 Percent planning major new investments of capital



Note: In 4Q 2013 total respondents = 60

Percent planning to increase operational spending

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

Looking at the next 12 months, 73 percent of respondents plan to increase operational spending, off 5 points from the third quarter. Leading increased expenditures were new product or service introductions (45 percent, off 10 points), research and development (37 percent), and information technology (32 percent). Plans for geographic expansion declined 5 points to 18 percent, while marketing and sales dropped to 13 percent.

Chart 4.6 Percent planning to increase operational spending

Industrial manufacturers

	4Q '12	1Q '13	2Q '13	3Q '13	4Q '13
Percent planning to increase spending (net)	80%	71%	73%	78%	73%
• New product or service introduction	40%	38%	45%	55%	45%
• Research and development	38%	52%	38%	38%	37%
• Information technology	37%	28%	28%	35%	32%
• Facilities expansion	43%	17%	20%	30%	23%
• Geographic expansion	28%	10%	15%	23%	18%
• Business acquisition	27%	12%	20%	15%	17%
• Marketing and sales promotion	18%	14%	17%	15%	13%
• Advertising	8%	7%	7%	8%	2%
• Internet commerce	6%	5%	7%	2%	2%

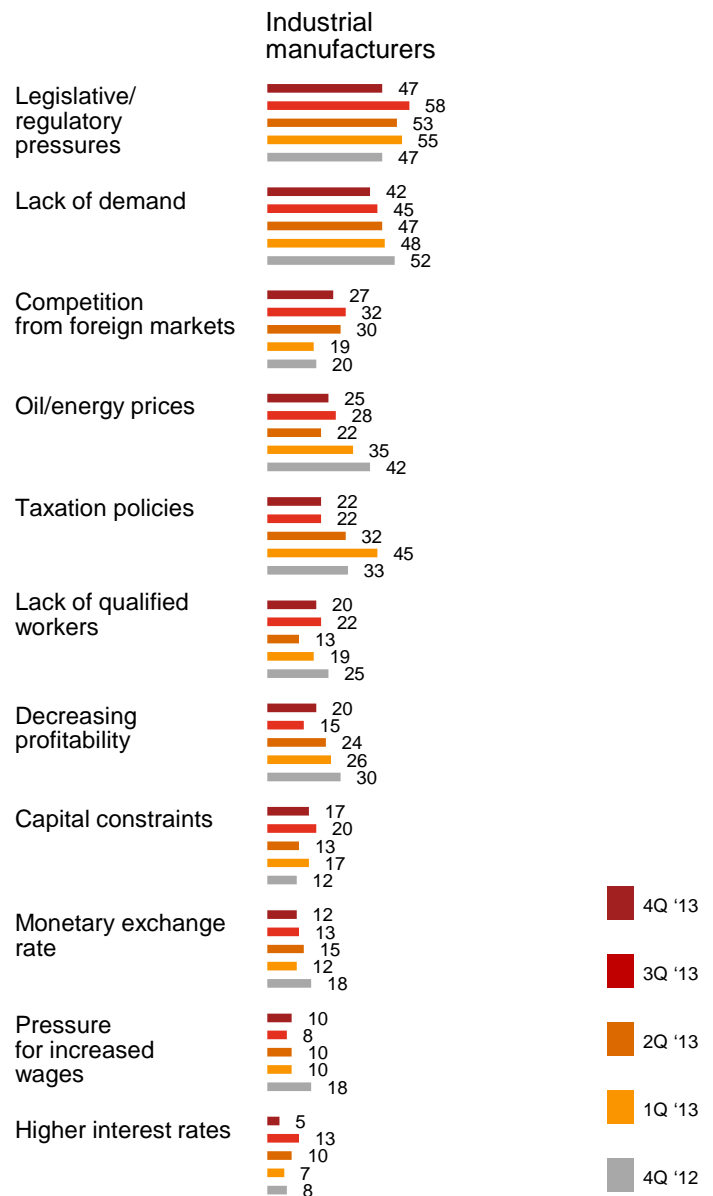
Note: In 4Q 2013 total respondents = 60

Expected barriers to business growth

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

At 47 percent, legislative/regulatory pressures is the leading potential barrier to growth over the next 12 months but was off 11 points quarter-to-quarter. Lack of demand remained at second position, cited by 42 percent. Next were competition from foreign markets (27 percent), oil energy prices (25 percent), and taxation policies (22 percent), followed by lack of qualified workers (20 percent). Capital constraints was off 3 points to 17 percent. Decreasing profitability was back up 5 points to 20 percent. Higher interest rates was off 8 points to 5 percent.

Chart 4.7 Expected barriers to business growth



Note: In 4Q 2013 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?

The number of respondents planning M&A activity over the next 12 months rose 1 point to 23 percent. Most, 20 percent, are looking at purchasing another business, and 8 percent plan to sell part or all of their own business. Plans for expansion to new markets abroad rose 2 points to 20 percent. New joint ventures are planned by fewer, 13 percent, and new strategic alliances was cited by 22 percent. On the debit side, reductions abroad were reported by a net 10 percent, with closing/reduction of facilities abroad cited by all 10 percent.

Chart 4.8 Plans for M&A and other business initiatives

Industrial manufacturers

	4Q '12	1Q '13	2Q '13	3Q '13	4Q '13
New business initiatives (net)	60%	47%	50%	58%	47%
• M&A activity (net)	35%	19%	23%	22%	23%
- Purchase another business	32%	14%	18%	17%	20%
- Sell part/all own business	13%	7%	10%	8%	8%
- Equity carve-out/spin-off	2%	---	2%	3%	5%
• New strategic alliance	27%	16%	20%	27%	22%
• Expand to new markets abroad	23%	9%	18%	18%	20%
• New joint venture	27%	22%	10%	33%	13%
• Close/reduce facilities abroad	12%	5%	7%	8%	10%
• New facilities abroad	17%	3%	12%	8%	8%
• Reduce activity in markets abroad	3%	2%	3%	5%	5%

Note: In 4Q 2013 total respondents = 60

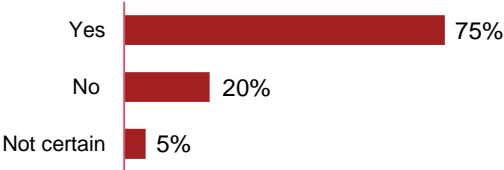
***Special topic:
Cyber security and
IT innovations***

Cyber security

Does your organization have a methodology that helps you determine the effectiveness of your organization's security programs based on clear measures?

Three-fourths of industrial products manufacturers surveyed (75 percent) claim to have a methodology to detect the effectiveness of their organizations' security programs. Only 20 percent do not, and 5 percent were not certain.

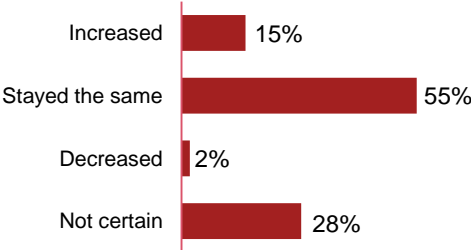
Chart 5.1 Have effectiveness methodology



When compared to the prior 12 months, have cyber security events in your organization increased, decreased, or stayed the same?

A limited number (15 percent) reported an increase in cyber security events over the past 12 months, while only 2 percent saw a decrease. Most, 55 percent, stayed about the same, and 28 percent were not certain.

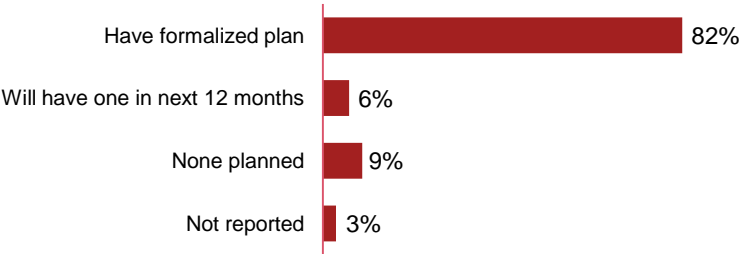
Chart 5.2 Cyber security event growth in past 12 months



Does your organization have a formalized plan outlining policies and procedures for reporting and responding to cyber security events committed against your organization?

Significantly, 82 percent report having a formalized plan for reporting and responding to cyber security events. Another 6 percent expect to have one over the next 12 months. Only 9 percent have none and have no plans. Plans are typically tested at least once a year; only 9 percent less often.

Chart 5.3 Formalized plan to report and respond to event



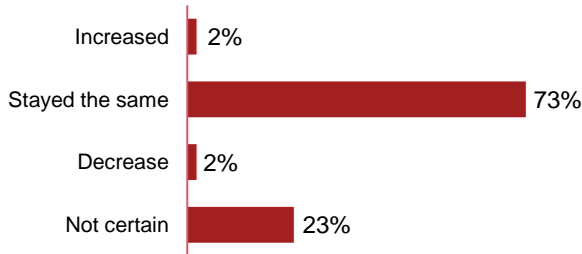
Note: In 4Q 2013 total respondents = 55

Cyber security

When compared to the prior 12 months, how have monetary losses as a result of cyber security events in your organization changed?

Only 2 percent of industrial manufacturers reported increased monetary losses over the past 12 months. Seventy-three percent were about the same, 2 percent reported a decrease, and 23 percent were not certain.

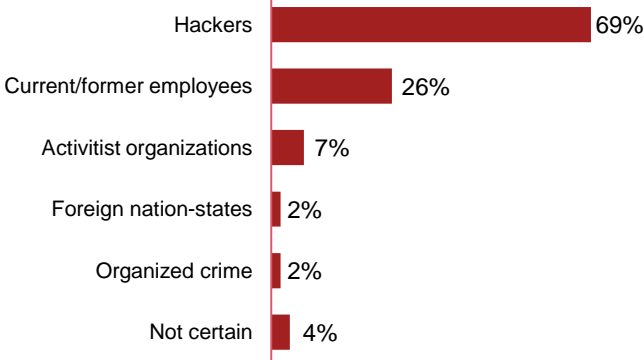
Chart 5.4 Monetary losses over past 12 months



Which of the following groups posed the greatest cyber security threat on your organization in the past 12 months?

Hackers posed the greatest cyber-security threat over the past 12 months, cited by 69 percent. Current/former employees were next (26 percent), followed by activists/activist organizations (7 percent).

Chart 5.5 Cyber security event growth in past 12 months



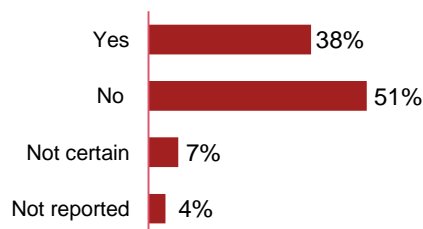
Note: In 4Q 2013 total respondents = 55

Information technology innovations

Has your business made use of important IT innovations over the past 12 months?

Nearly 2 in 5 (38 percent) of industrial products manufacturers surveyed cite important IT innovations that their businesses have made over the past 12 months. The majority, 51 percent, have not, while 7 percent were not certain and 4 percent were not reported.

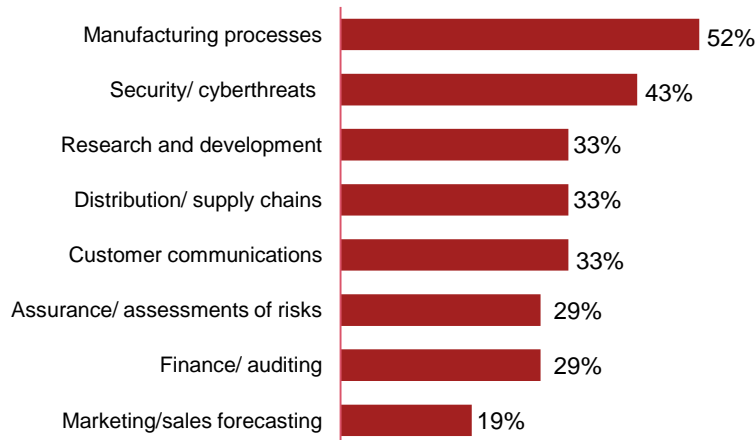
Chart 5.6 Important IT innovations over past 12 months



In which business sectors did your company implement or begin to implement important IT innovations?

The two business sectors leading the way for important IT innovations were manufacturing processes (52 percent) and security/cyberthreats (43 percent). Next at 33 percent were R&D, distribution/supply chains, and consumer communications. Note that only 19 percent mentioned marketing/sales forecasting.

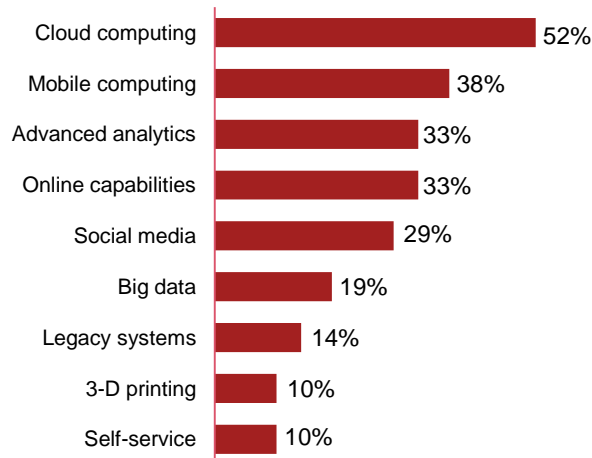
Chart 5.7 Business sectors where IT innovations were made



Which IT areas were involved in these important innovations over the past 12 months?

Cloud computing led the way in important IT areas of innovation over the past 12 months (52 percent), followed by mobile computing (38 percent), advanced analytics (33 percent), and online capabilities (33 percent). Nineteen percent cite big data, and 14 percent cite legacy systems. 3-D printing and self-service were cited by 10 percent each.

Chart 5.8 IT areas of important innovations



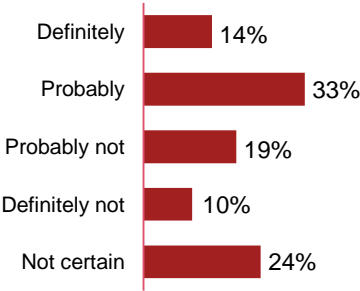
Note: In 4Q 2013 total respondents = 55

Information technology innovations

In your opinion, have these IT innovations contributed to your company’s bottom-line revenue/profit growth over the past 12 months?

A positive contribution to their companies’ bottom-line revenue/profit growth is reported for the 38 percent with important IT innovations over the past year. Overall, 47 percent cite “definite” (14 percent) or “probable” (33 percent) contribution to their company’s bottom-line growth (which represents 18 percent of all manufacturers surveyed). Twenty-nine percent were on the negative side and one-fourth, 24 percent, were not certain.

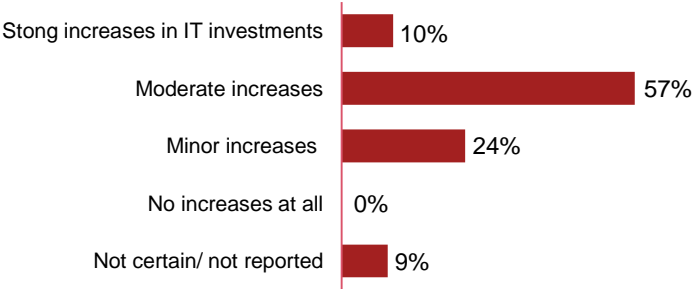
Chart 5.9 IT innovations contributed to bottom-line growth?



Have these IT innovations over the past 12 months involved increases in IT investment?

More than two-thirds (67 percent) have made moderate (57 percent) or strong increases (10 percent) in IT investments to achieve these important IT innovations over the past 12 months. Another 24 percent made only minor investments, and 9 percent were not certain/not reported.

Chart 5.10 IT innovations involved increased IT investments



Note: In 4Q 2013 total respondents = 55

Survey demographics and research methodology

Demographics

Who	Senior executives of US-based industrial manufacturing organizations
Interview dates	October 1, 2013 to January 8, 2014
	Industrial manufacturers (60)
Average number of employees at location	7,809
Average business unit revenue	\$3.20 billion
Average enterprise revenue	\$8.34 billion
Market capitalization	\$8.55 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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