

A report from the Economist Intelligence Unit



In search of insight and foresight

Getting more out of big data

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Preface

Big data have opened the information floodgates for corporations worldwide, but translating this new digital wealth into competitive advantage and profits isn't easy. *In search of insight and foresight* explores how to ask the questions that extract business value from data. It also identifies the traits of companies that are able to use data to achieve superior performance. As the basis for this research, sponsored by Oracle and Intel®, the Economist Intelligence Unit surveyed 373 senior executives in August 2012 and conducted in-depth interviews with thought leaders and practitioners in the field of business analytics. The findings and views expressed in this report do not necessarily reflect the views of the sponsors. The author was Peter Moustakerski. Riva Richmond edited the report, and Mike Kenny was responsible for the layout. We would like to thank all of the executives who participated, whether on record or anonymously, for their valuable insights.

Interviewees

David Blackwell

Head of client and advisor analytics at UBS
Wealth Management Americas

Dan Shoenholz

Principal in Ernst & Young's Commercial
Advisory Services group

David Rockland

Managing director of global research at
Ketchum

Jim Manzi

Founder and chairman of Applied Predictive
Technologies

Vijay Raghavan

Chief technology officer of LexisNexis Risk
Solutions

Vincent Dell'Anno

Managing director at Accenture's global big
data practice

Executive summary

How can you get there if you don't know the route? This may seem an odd question, but a tremendous number of organisations working hard to leverage data to their advantage have no real roadmap.

To create one, companies must first use data to understand past performance and where their journey has taken them so far. Then, they can see where they are headed—or could go if they pointed themselves in the optimal direction. Behind every effort to effectively leverage data for insight into a business, and foresight into a path to strong performance, is a process involving smart hypotheses and savvy questions whose answers show the way.

To explore the benefits and challenges of asking better questions of data in analytics efforts and how these questions can yield actionable insights that improve decision-making and business strategy, the Economist Intelligence Unit in August

2012 conducted a global survey of 373 senior executives, sponsored by Oracle and Intel. The principal research findings are:

- **Asking better questions is critical to leveraging data in decision-making.** The ability to ask better questions of data and test better hypotheses is key to driving superior performance. The vast majority of survey respondents agree that asking better questions has improved their organisation's performance, and that it will continue to do so over the next three years. Executives overwhelmingly consider predictions (70%) to be the most critical type of data insight, when it comes to supporting C-suite-level decisions, followed by insights into trends (43%).
- **Focusing on a business outcome is crucial, yet a struggle for most companies.** Defining, agreeing

Who took the survey?

The survey drew 373 responses from executives around the world, with nearly equal numbers in North America (30%), Asia-Pacific (29%) and Western Europe (28%). Of the 55 countries represented, the most responses came from the US, India, the UK and Canada. Over half of respondents (53%) are C-level executives or equivalent, 27% are vice presidents or equivalent

and 20% are at the manager level. Over half (52%) represent large companies, with annual revenues of US\$500m or more. A wide range of industries is represented, with the top three being professional services (15%), financial services (15%) and manufacturing (11%). Please see the appendix for full survey demographics. ■

on and gearing data analyses towards clear, specific and relevant business objectives is difficult for many companies and a key obstacle to translating data into insights and results. It is also where formulating better pre-analysis questions can create the most value and, ultimately, deliver competitive advantage.

- **The main challenges are with people, not technology.** The most common data-analysis challenge executives report in our survey is deficient quality and reliability of data. But interviews with experts indicate that people-related obstacles are even more formidable. Bringing in people with the right skills, putting them in the right roles, and instilling the right organisational culture around data is where many companies fall short.

- **Top performers gain competitive advantage from data.** Companies that outperform in profitability have leaders who invest in data capabilities with patience and commitment. They foster a culture of collaboration and experimentation where decisions are rooted in verifiable data. Superior performers also ensure close alignment between data efforts and business strategy, focusing analytical undertakings on key business objectives. ■



Introduction

We all know data analysis played a critical role in Barack Obama's 2012 US presidential victory. But why was the Obama campaign's data strategy so successful?

From the start, campaign manager Jim Messina emphasised data-driven insights. He invested heavily in data and hired more than 100 data experts. He and Mr Obama also created a culture in which data-enabled insights and predictions were systematically extracted and applied to specific campaign priorities to achieve measurable results.

When the goal was to raise US\$1bn for the campaign, the analytics team asked: What demographic is most likely to contribute, and how can we best appeal to them? The data answered: females between 40 and 49, a group that loves contests, small dinners and celebrities. So the campaign created a contest to dine with Mr Obama at actor George Clooney's Los Angeles home, which it promoted with a sophisticated, data-driven e-mail campaign that used an array of subject lines and messages to target various subsets of potential donors. The fundraiser grossed a record-breaking US\$15m.

When the objective was to get out the vote in key swing states like Ohio, the Obama campaign asked: Who do we need to turn out, and what is the most effective way to get them to the polls? The

data answered: African-Americans who did not vote in 2008, people who respond best to in-person visits by local volunteers. Mr Obama's operatives made in-person contact with likely voters 50% more often than Mr Romney's team did. The result: 209,000 more African-Americans in Ohio voted in the 2012 presidential election than in 2008. Mr Obama won in Ohio by 3 percentage points, or 166,214 votes.

Many of today's organisations have access to vast pools of information. These data arrive in real time, from multiple sources and devices, in continuous streams and in multi-terabyte-sized sets. But extracting insights and making predictions that point the way to effective action, while practiced by some companies to great advantage, remains challenging for most.

Yet this process is critical to performance, according to a global survey of 373 executives and in-depth interviews with thought leaders and practitioners in the realm of big data analysis, conducted by the Economist Intelligence Unit, sponsored by Oracle and Intel. Companies must develop the cultural environment and capacity to formulate better hypotheses and questions. And then they must translate the answers into useable business intelligence. ■

1

Better questions, better results

The ability to ask better questions and test better hypotheses is key to an analysis effort that yields insights that point the way to better results. Survey respondents agree by a wide margin (75%) that asking better questions has improved their organisation's performance in extracting valuable insights from data, and most (85%) are confident that better questions will help improve performance in the next three years. These convictions are stronger still among respondents who say their companies outperform their peers in profitability. (Improved performance has already been seen by 84%, and 93% expect improvement over the next three years.)

Companies reap many benefits from asking the right questions before plunging into complex and costly data-analytics efforts, but improved decision-making is at the top of the list for most executives (59%). This emphasis is important, given that executives often attribute their own success to an ability to make good decisions by leveraging both facts and intuition.

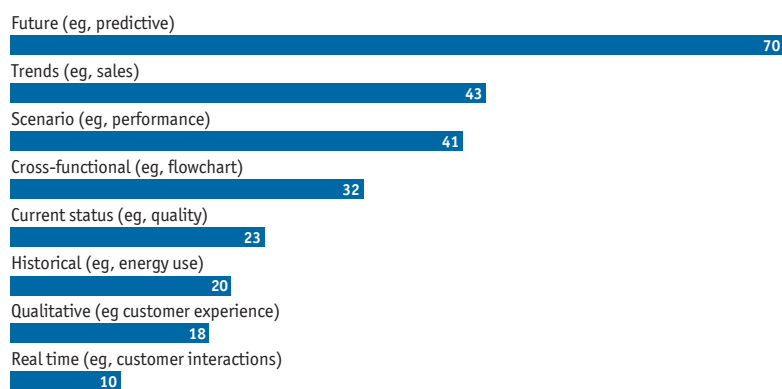
Executives are particularly keen to use data to anticipate where the business is headed and how to best position it for growth. They widely consider predictions (70%) to be the most critical type of data insight for making C-suite-level decisions, followed by insights into trends (43%).

After decision-making, avoiding missed opportunities is the second-most commonly perceived advantage of better questions, cited by 44% of all survey respondents and 56% of C-level respondents. Keeping up with the competition and managing risk are also seen as important.

Certain firms seem to struggle more, suggesting company or industry cultures and entrenched legacy systems may be root problems. For instance, respondents from energy and manufacturing companies are the least likely to say both that they have created sufficient alignment between data and business strategies and that they are confident they understand how to use data. Similarly, respondents from large companies are the least convinced that asking better questions will result in better future performance. ■

Types of data insights considered critical for helping C-level executives make decisions

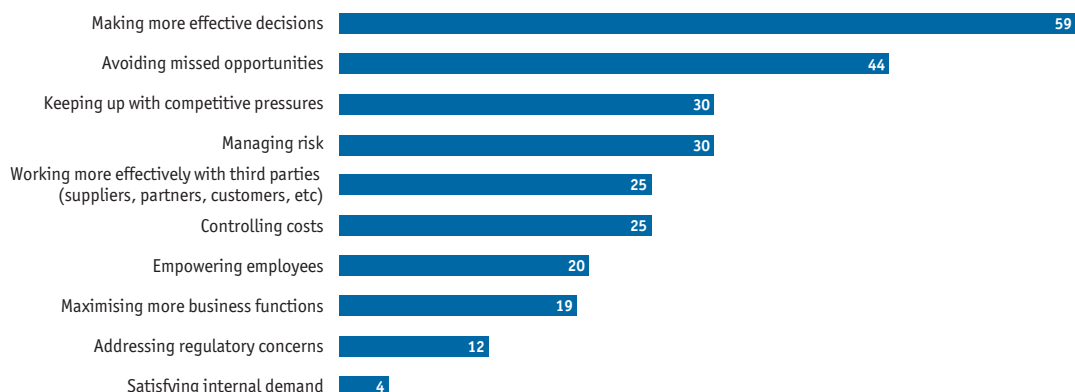
(% respondents)



Source: Economist Intelligence Unit survey, August 2012.

What would be the benefit to your business unit of answering new questions using data to derive insight?

(% respondents)



Source: Economist Intelligence Unit survey, August 2012.

What questions yield better insights from data?

Better questions can produce better insights that, in turn, drive better decisions and performance. But what are “better” questions? Is there a “right” way to extract actionable insights and accurate foresight from ever-larger datasets?

The answer, according to the executives interviewed for this report, is a resounding “yes”. Characteristics that define a good question include:

Relevant to a business goal. “Optimise what? And why? These are basic questions, yet leadership and statisticians are often not on the same page,” says Vincent Dell’Anno, managing director at Accenture’s global big data practice. Behind each analytical exercise should be a specific business problem to solve, risk or speed bump to identify, or growth opportunity to explore. The business rationale should be well understood by all stakeholders.

Framed as part of a hypothesis answerable by data. Better questions should generate answers that clearly prove or refute well-thought-out hypotheses. According to Dan Shoenholz, a strategy consultant and principal in Ernst & Young’s Commercial Advisory Services group, “Good questions force the data into an analytical framework that is designed to serve the business hypothesis, and thus ensure the relevance of the answers to the

business goal at hand.”

They should also be centred on variables that are readily measurable by available data. Vijay Raghavan, chief technology officer of LexisNexis Risk Solutions, a legal research firm, agrees: “Asking the right questions is about focusing on the right pieces of data—those that are accurate, non-extraneous and relevant to your business—and thus zeroing in on the right problem to solve.”

Reflective of tactical specifics. Good questions and hypotheses define both the target audience and tactical actions at the right level of granularity. “Knowing the larger context—or how your business problem fits within the grand scheme of the lives of your target audience—is critical to asking smart, specific and actionable questions,” says David Rockland, managing director of global research at Ketchum, a US public relations firm.

Responsive to valuable new data types. Harnessing rich new data types, particularly social media and other sources of customer feedback, and combining them with more traditional customer-profile, transactional and market data, can provide valuable insights into a business’s past and present. And mining these data can bring foresight by revealing business drivers that point the way to future outcomes. ■

2

The challenge: technology is ahead of people

Companies know they have much to gain by delving into data. But many face difficulties generating meaningful, actionable insights, despite significant advances in data management and analytics tools.

The most common challenge executives report is deficient quality and reliability of data, followed by a lack of adequate systems to gather and analyse data effectively. Closing those gaps is a major task that corporate IT departments must face.

Yet technology is not the main concern. "The top challenges are organisational and people-related," says Accenture's Vincent Dell'Anno, managing director at Accenture's global big data practice. Bringing in people with the right skills, putting

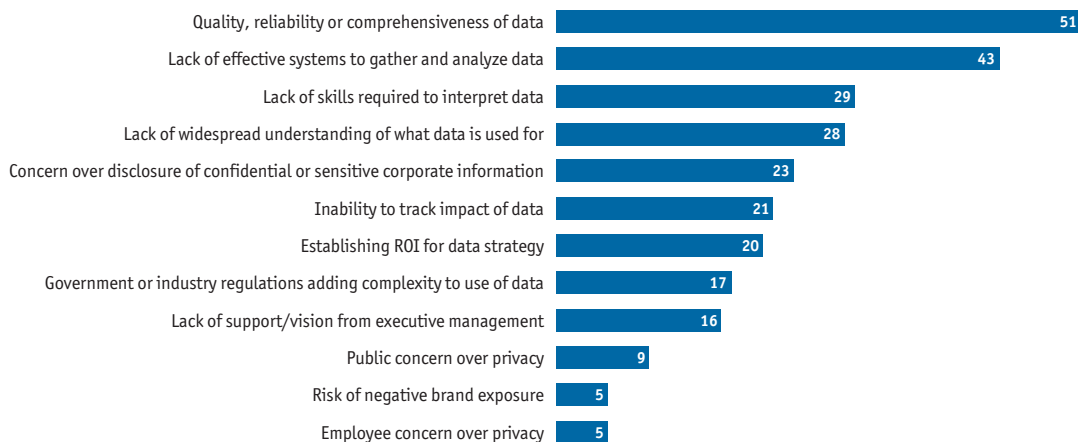
them in the right roles, and instilling the right culture is where many companies fall short.

David Blackwell, head of client and advisor analytics at UBS Wealth Management Americas, a US unit of a Swiss financial-services firm, says that, prior to implementing a new user-friendly data interface, as much as 70% of his statisticians' time was spent sourcing raw data and preparing it for analysis. That left less than one-third of their time for work that would bring greater value to the business: conducting analyses and extracting insights.

A lot of time and effort is also expended on the back-and-forth between statisticians and business leaders, experts say. These two groups generally

Which of the following are the key data challenges your organisation faces today?

(% respondents)



Source: Economist Intelligence Unit survey, August 2012.

come from different backgrounds and can disagree about the validity or meaning of findings gleaned from data.

To alleviate these challenges, companies should adopt an organisational model that connects the business and analytics teams. Mr Blackwell argues that a new “interpreter” role should be introduced—someone to articulate business objectives to the analytics team, while explaining the analytical methods and findings and the data limitations to the business leaders. Bringing in outside experts can be helpful; 59% of respondents say their organisation has used an external consultancy to get better insight, and 69% say the results of those decisions were positive.

The people challenges go beyond skills, capacity and organisational design to include the realm of culture and mindset. A culture that motivates and empowers employees is vital. According to the majority of survey respondents (56%), inspiring employees to take ownership is the most effective

way to achieve tangible business results.

To define the best questions and extract the most value from data, people must also be able to understand and accept the perspectives of others. Dan Shoenholz, a strategy consultant and principal in Ernst & Young’s Commercial Advisory Services group says limited business or market knowledge, differing views about the hypotheses to be tested, and outright personal biases and agendas often get in the way of objectivity and rigour when companies design and execute analytics projects. David Rockland, managing director of global research at Ketchum, a US public relations firm agrees. People too often get fixated on “micro” questions based on their own narrow perspective, he says.

But perhaps the greatest danger business teams face when launching complex data projects is losing sight of the business goal. Too often, Dr Rockland says, companies fall into the trap of collecting more data or “crunching” it longer, while failing to pinpoint what they want to learn. ■

3

Leadership, collaboration and investment

How can companies ask better questions, gain better insight and achieve better business outcomes? Our survey results and in-depth interviews reveal important clues about the genomes of top performers.

Provide leadership vision and support for using data

Companies that outperform their peers in profitability are more likely to be led by executives who firmly believe in the role of data in business strategy. These leaders communicate a vision for using data insights to achieve key business goals and emphasise the importance of asking better questions to drive stronger performance.

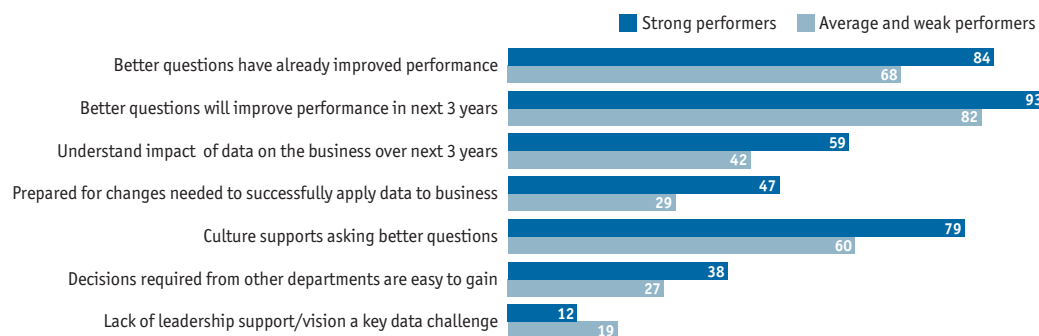
As a result, employees at high-performing companies better understand the impact of data on their business (59% of respondents at

outperforming companies vs 42% at other companies) and recognise the effect better questions have had (84% vs 68%) and will continue to have (93% vs 82%) on business performance. They also feel better prepared for changes required to apply data to their business (47% vs 29%).

Jim Manzi, founder and chairman of Applied Predictive Technologies (APT), a US data-analytics firm that works with many retailers, says executive buy-in is a key trait of corporate cultures that get meaningful results from data efforts. This “sponsorship” at the top trickles down through the management layers, reinforcing a commitment to the goals and resource needs of the undertaking. “Executive involvement and alignment from the key P&L owner is critical to successfully converting big data efforts into shareholder value,” Mr Manzi says.

Organisational and cultural aspects associated with leveraging data to achieve business results

(% of survey respondents agreeing)



Source: Economist Intelligence Unit survey, August 2012.

Foster an open and collaborative culture.

Cultivating a supportive corporate culture is critical to asking effective questions. As our survey shows, executives at outperforming companies are much more likely than their counterparts at average or weak-performing firms to say their corporate culture supports doing so (79% vs 60%).

A key factor here is openness to alternative points of view, experts say. This environment is more commonly achieved in flatter organisations where participation and idea sharing is strongly encouraged.

Another aspect of high-performing cultures is the propensity to collaborate across departments. There is no question that collaboration is key: three-quarters of survey respondents agree they need cross-departmental input to extract useful business insights from data.

other respondents.

According to Dr Rockland of Ketchum, the right kind of culture is one that breaks down silos and promotes sharing. He believes resources should be pooled rather than scattered across functions. "It is not a good idea to isolate the market-intelligence group," he says, for example. "Instead, it is best to have it in a central unit, providing insights and information to the entire organisation—and directly to the C-level executives."

This kind of collaboration was at the core of a successful data-driven effort at UBS recently, according to Mr Blackwell. The project tackled a complex pricing issue that required heavy-duty analytics and impacted disparate constituencies at the firm. To address the problem, UBS involved financial advisors in the field; the central product-management groups; the CFO's organisation; and Mr Blackwell's team of statisticians, who are part of the centralised analytics function.

That all stakeholders were closely involved and consulted throughout the project was critical to its success, he says. Advisors, the end-users of the pricing strategy, were included early on when defining the questions and formulating the hypotheses. They were also consulted as interim analyses came in and during subsequent analytical iterations. "We included the end-user and all key stakeholders, from concept to analysis to design to rollout" of the new pricing strategy in the field, Mr Blackwell says.

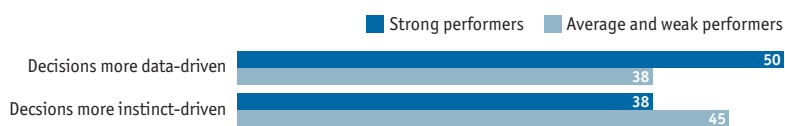
Encourage data-driven decision-making

A fact-based management philosophy is a hallmark of successful companies. While gut instinct plays a role, leaders at the strongest-performing companies base many decisions heavily on empirical evidence. Leaders of average and weak performing firms, on the other hand, tend to rely more heavily on instinct.

Mr Shoenholz of Ernst & Young notes that the relative roles of data and instinct often depend on the industry in which the company operates. The EIU's survey results support this. Respondents from the manufacturing, healthcare and technology

Management styles – data vs instinct

(% of respondents attributing 60% or more of their organisation's decisions to the respective driver)



Source: Economist Intelligence Unit survey, August 2012.

But obtaining input from other business units can be tricky. Only 34% of survey respondents find cross-department collaboration easy to achieve, while 42% consider it difficult. Strong performers, however, are better at fostering a collaborative environment. Some 39% of respondents at such firms believe input from other departments is easy to gain, compared to only 27% at average and underperforming companies.

Strong performers collaborate successfully both internally and externally. They are even more likely to have engaged external consultants (62% vs 56% for average and weak performers), and, perhaps more importantly, they are less likely to let such efforts fail. Only 5% of strong performers saw negative outcomes from external consulting engagements, compared to 15% for

sectors report that their organisations are more likely to make data-driven decisions, while companies in professional services and energy are more instinct-driven.

However, a fundamental belief in quantitative metrics and testing hypotheses is vital. According to Mr Shoenholz, the corporate culture that is best positioned to reap business benefits from data is one that values independent inquiry and measures business inputs and outputs.

The need for intuition is not necessarily diminishing—it is evolving. “Given today’s complexity of data and need for speed, decisions need to be data-driven, but intuition is still important—especially in asking the right questions of the data,” says Mr Dell’Anno of Accenture. The role of intuition is shifting to the pre-analysis stage, while post-analysis decisions should be firmly rooted in data insights.

Align data efforts with business strategy

Losing sight of business objectives and conducting analysis for its own sake is a common trap. The top-performers know exactly why they need data, which hypotheses to test, which datasets are most likely to provide answers, and how to measure the validity of findings. In a nutshell, they can answer the question, “Why are we doing this analysis?”

Dr Rockland of Ketchum notes that the smartest operators know how to focus on the *right* data to

support their business goals and avoid the compulsion to indiscriminately collect and analyse more and more data. Accenture’s Mr Dell’Anno agrees, “We had a client who tracked 300 key performance indicators (KPIs). The first question we asked was: ‘What are the 20 that matter?’”

Strong performers are significantly more likely than their average or weak-performing counterparts to have a clear, well-documented data strategy in place (55% vs 35%) and to believe that the data strategy aligns with overall business strategy (54% vs 40%). As a result, they are also more likely to have incorporated data insights into their business strategies (55% vs 44%).

Make smart, long-term investments in people and systems

One of the key traits of successful companies is the propensity to invest in the right resources over time. Strong performers invest in data. They are more likely to have significantly increased investment in the past year (40% vs 25% of respondents from other companies) and to continue doing so over the coming three years (51% vs 42%).

Top performers are also better at tracking and evaluating the effectiveness of data efforts. They are more likely to define key performance indicators (44% vs 32%) and to track return on investment (43% vs 23%). As a result, respondents

The state of organisations’ data strategies

(% of survey respondents agreeing)



Source: Economist Intelligence Unit survey, August 2012.

at outperforming companies are much less likely to see lack of effective data systems as a key challenge (38% vs 48%). They are also more focused on investing in the right people—strong performers are more likely to see the need to add technology staff (41% vs 29%).

According to Mr Shoenholz, achieving tangible results from data-analytics efforts requires that companies be willing to invest in the necessary infrastructure, both in terms of technology and people with the right skills and ways of thinking. And companies must approach these investments with the patience and commitment required in any long-term strategic undertaking.

Institute both a structured approach and freedom to experiment

Companies that ask good questions of data and translate what they learn into profitable action do not do so haphazardly. They follow a tried-and-tested analytical approach and a defined programme-management process. Survey respondents from top-performing companies are more focused on managing project timelines (43% vs 39% for other companies). At the same time, there must be freedom to tinker. A willingness to experiment and push boundaries is vital to establishing competitive advantage.

“We start with a pre-analysis meeting. We then delve into the business issues and methodically classify them into a comprehensive ‘issues tree’,” Mr Shoenholz says. “From there, we map the analytical approaches and iterate continuously,

letting the thinking—and process—be guided by the new information we receive from each round of analysis.”

In addition to having a disciplined approach, Mr Manzi says it is important to clearly assign responsibility for interpreting analytical results and adjudicating conflicting interpretations to one group in the organisation. “You need to have an ‘FDA’ that looks at the measurements and decides what is right and what is wrong, what is true and what is false,” he says, referring to the Food and Drug Administration, a US regulatory agency.

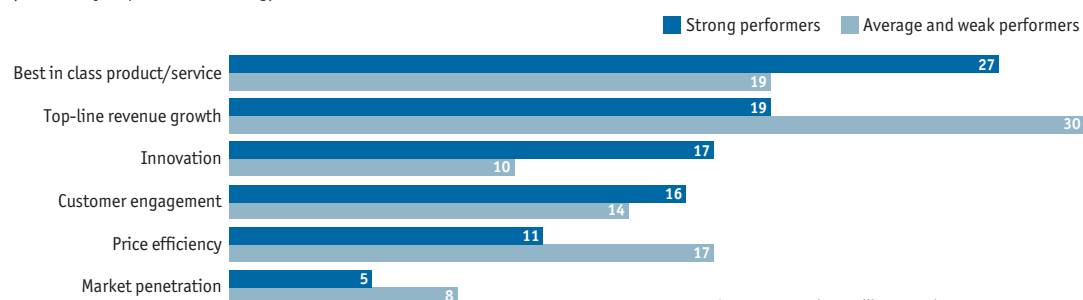
But structure and process have to be tempered with innovation and experimentation. “With the abundance of new data today, you can stumble on a valuable nugget that is relevant and gives you competitive advantage,” says Vijay Raghavan, chief technology officer of LexisNexis Risk Solutions, a legal research firm. Creating a culture and environment that allows companies to uncover such nuggets, while being methodical in the management of data efforts, is key to success.

Focus on engaging customers with innovative, quality offerings

Outperforming companies focus their data projects on creating and seizing new opportunities through customer engagement, innovation and best-in-class products and services. They are relatively less focused on cost management (22% of top performers vs 28% of others see cost control as a key benefit from new data insights) and business process improvements (59% vs 62% see this as a

Top driver of the organisation's decision-making process

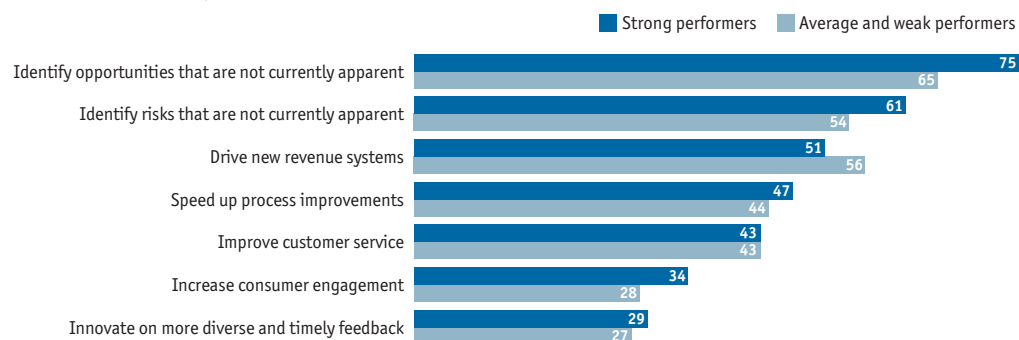
(% of survey respondents selecting)



Source: Economist Intelligence Unit survey, August 2012.

Near-term application of insights gleaned from asking better questions of data

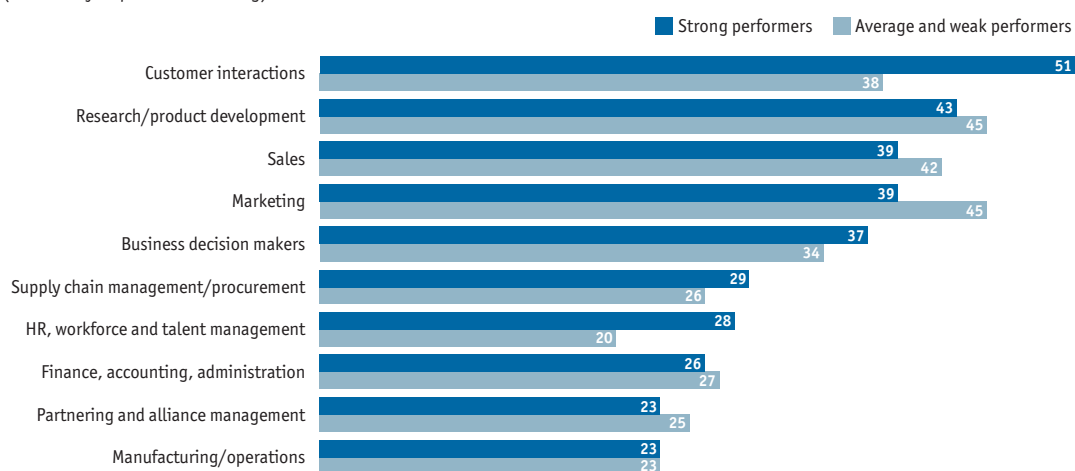
(% of survey respondents selecting)



Source: Economist Intelligence Unit survey, August 2012.

Business areas that will receive investment to build innovative data capabilities

(% of survey respondents selecting)



Source: Economist Intelligence Unit survey, August 2012.

leading factor driving a need for more data).

Developing top-notch products and services is the number-one driver of business decisions for strong performers. They are notably more likely to say so than average and underperforming companies (27% vs 19%), and also are more likely to cite innovation (17% vs 11%) as a key driver. Their decision-making process is less apt to be driven by the goals of revenue growth (19% vs 30%) and price efficiency (11% vs 17%).

Top performers are more likely to use data insights to identify opportunities (75% vs 65%), increase customer engagement (34% vs 28%) and innovate (30% vs 27%) than are average and weak performers.

They are also more likely to invest in customer interactions (51% vs 38%) and talent-management functions (28% vs 20%) to help recruit the right people and build the right culture. ■

4

Conclusion

Honing questions that can extract timely information from data and facilitate decision-making will only become more important as executives, managers and employees grapple with increasingly large datasets and their need to separate signal from noise.

To succeed in this quest, corporate culture must evolve. The high-performing organisation of the future will be one that places great value on data and analytical exploration. It will have functional units and roles that act as custodians and

interpreters of big data, and hire or cultivate talent that can close the gap between statisticians and business people. It will cultivate and encourage internal and external collaboration, and invest in data capabilities with patience and commitment.

Most important, leaders of top-performing companies will foster alignment between data efforts and business strategies, ensuring that analytic projects always begin with a clear business goal and end with a measurable business result. ■

Appendix: survey results

How would you characterise your organisation's profitability (or efficiency, for the public sector) compared to its industry peers over the past 3 years?

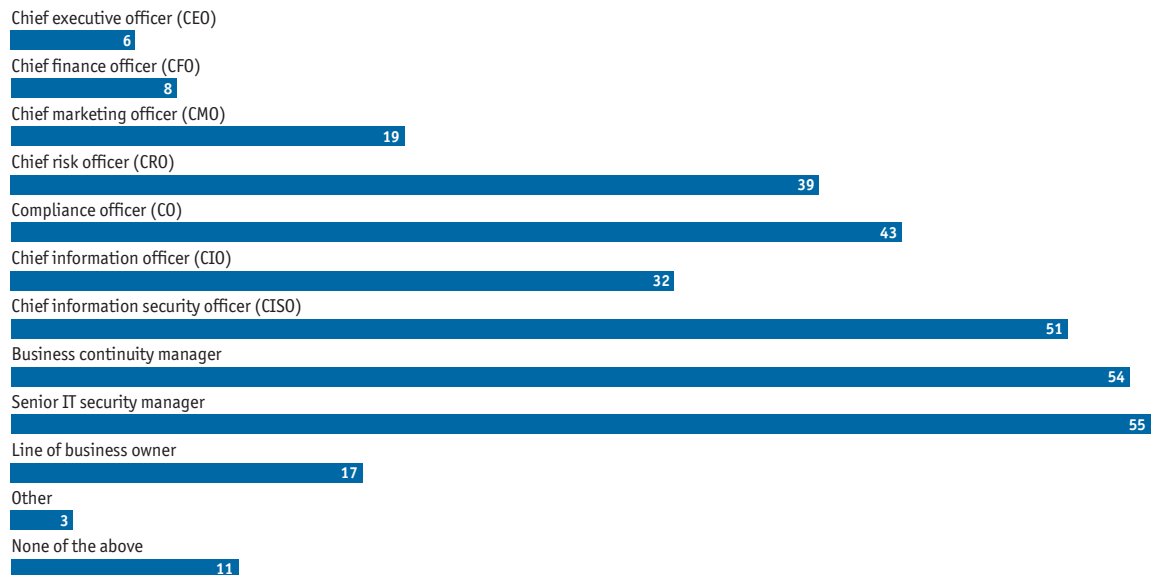
(% respondents)



Which of the following executive roles are not key players in your current decision planning processes?

Select all that apply.

(% respondents)

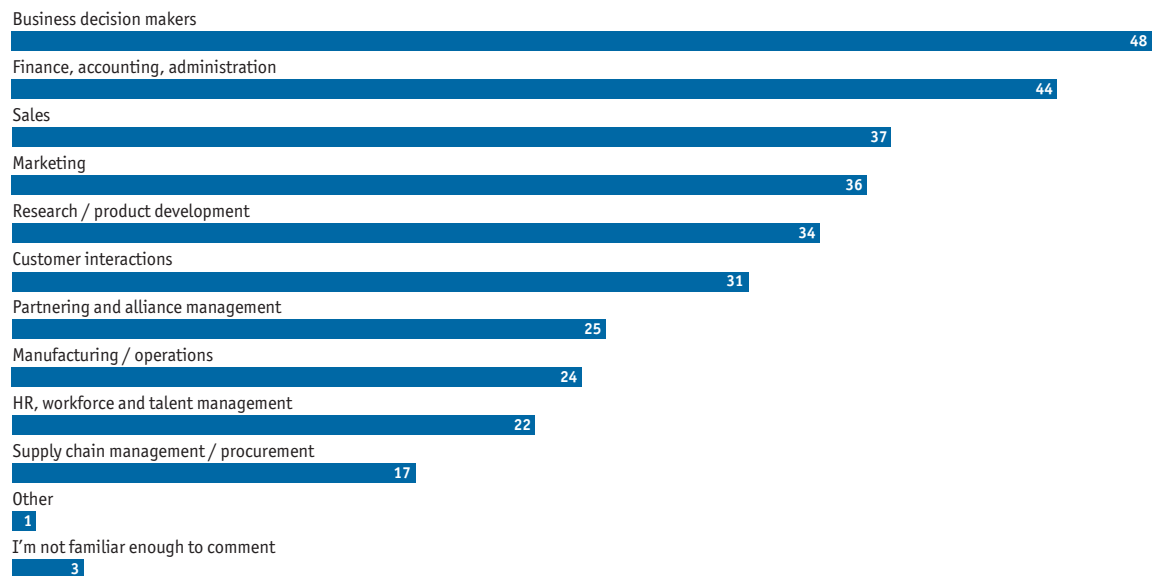


Percentages may not add to 100% owing to rounding or the ability of respondents to choose multiple responses.

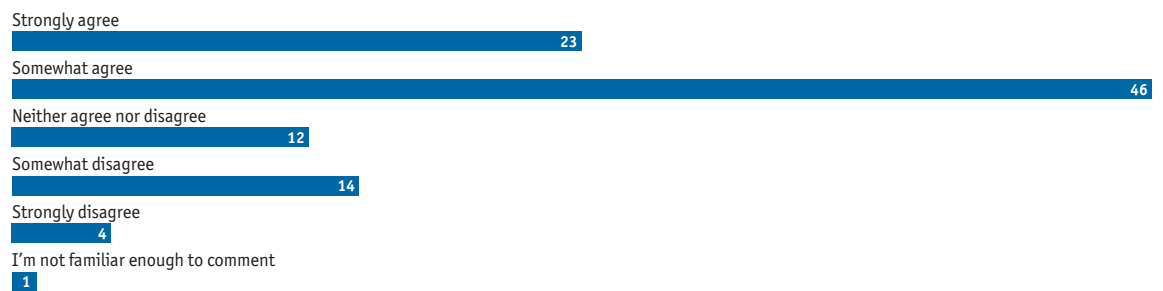
What business roles stand out in terms of driving questions about business strategy and performance?

Please select up to four.

(% respondents)

**To what extent do you agree with the following statement?****"My business supports a culture that asks the right kinds of questions to solve business problems."**

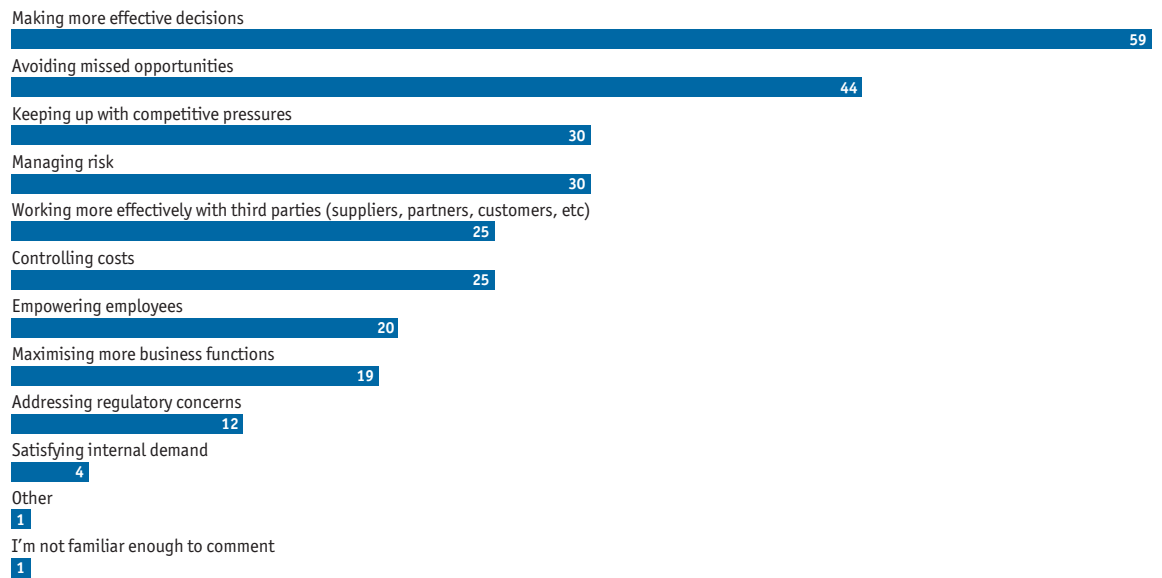
(% respondents)



What would be the benefit to your business unit of answering new questions using data to derive insight?

Please select up to three.

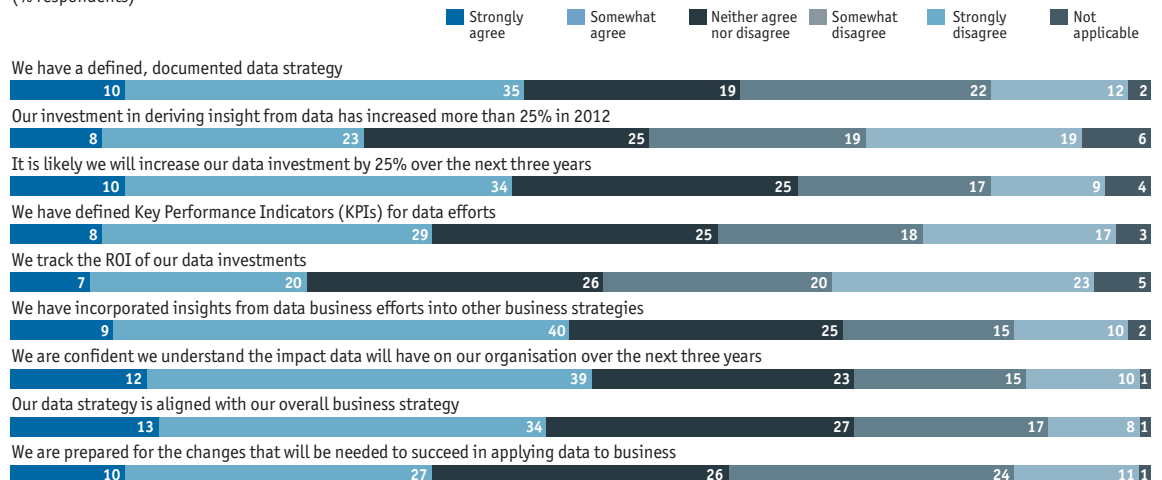
(% respondents)



How well do the following statements describe your organisation's data strategy? (ie, gathering information and turning it into knowledge)

Please rate on a scale from Strongly agree to Strongly disagree.

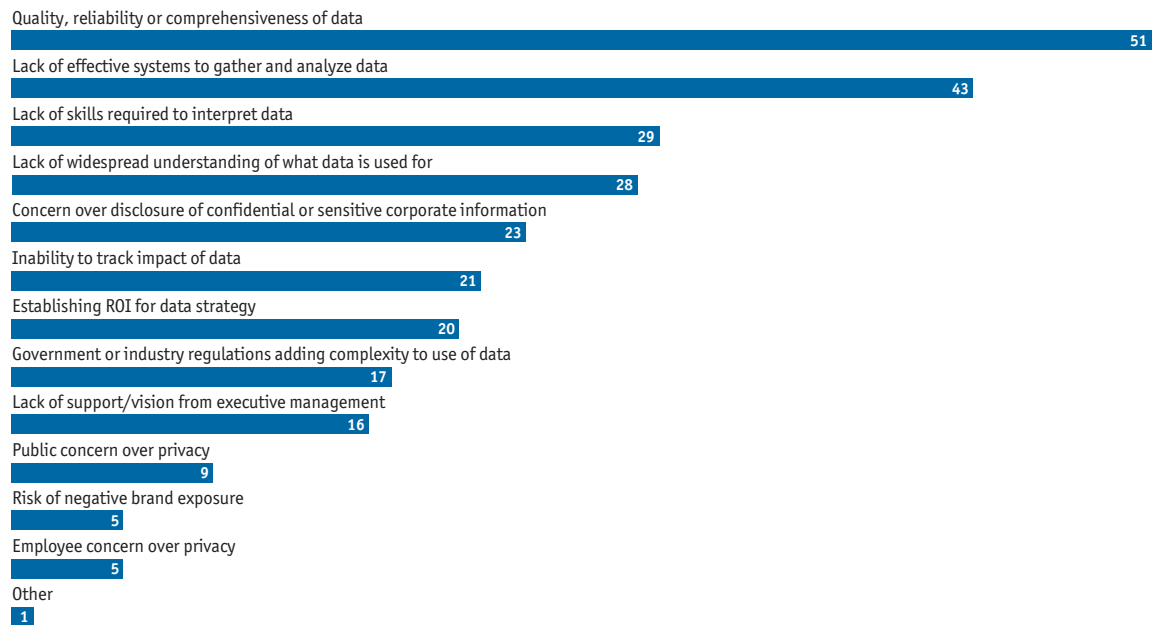
(% respondents)



Which of the following are the key data challenges your organisation faces today?

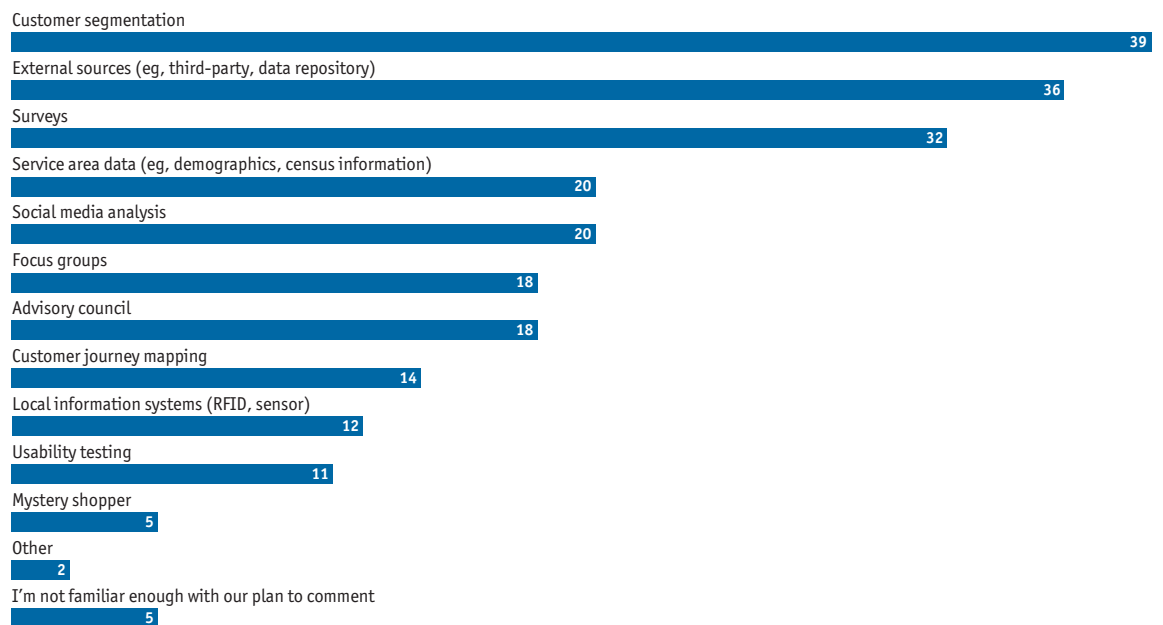
Please select up to three.

(% respondents)

**Which methods of developing insight from business data does your department plan to pursue?**

Please select up to three.

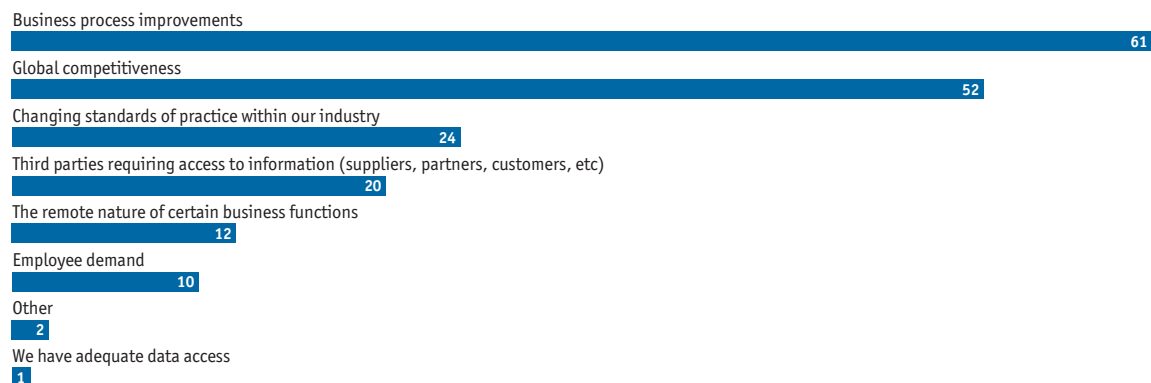
(% respondents)



What are the leading factors driving a need for access to more data in your organisation?

Please select up to two.

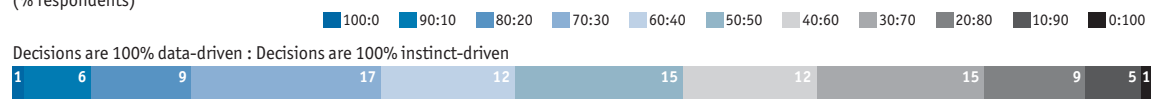
(% respondents)



In your estimation, in what ratio are your department's decision processes data-driven versus instinct-driven?

Drag the slider button to choose a relevant percentage split that reflects how each option is weighted (eg, 60% to 40%).

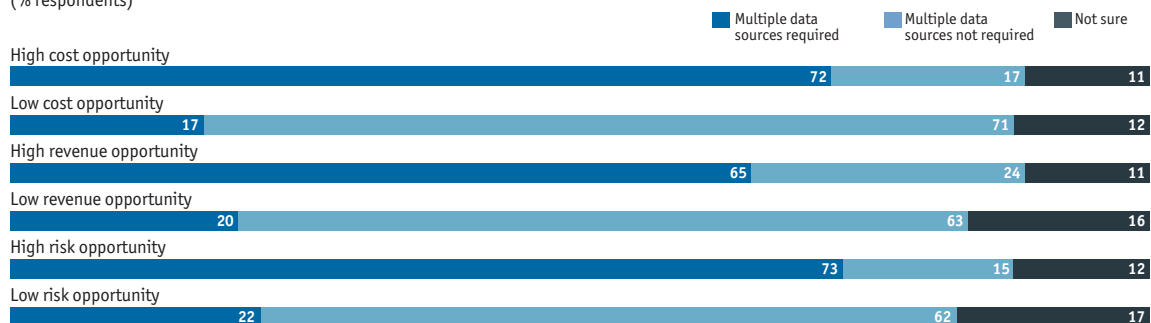
(% respondents)



Thinking about the decision-making process in your department, at what level of opportunity are you required to review multiple sources of data to gain insight and make decisions?

Please select one in each row.

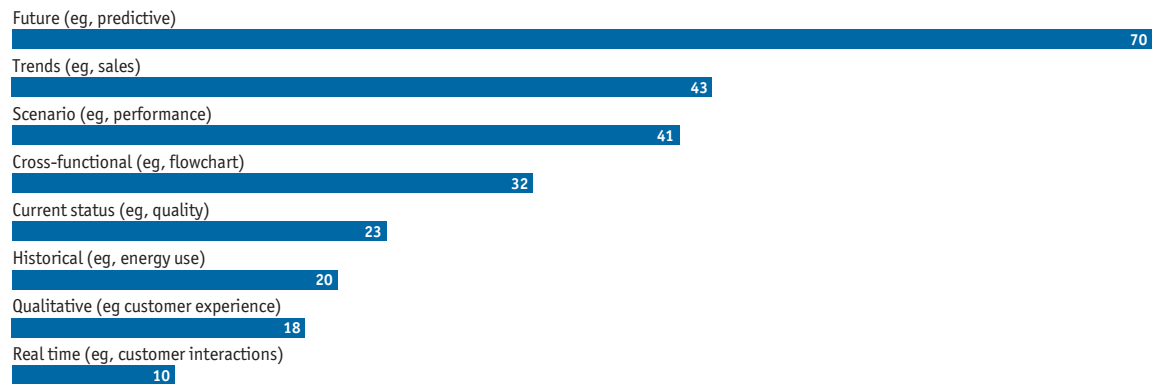
(% respondents)



What following types of data insights are most critical for making decisions?

Please select up to three for C-suite.

(% respondents)

**What following types of data insights are most critical for making decisions?**

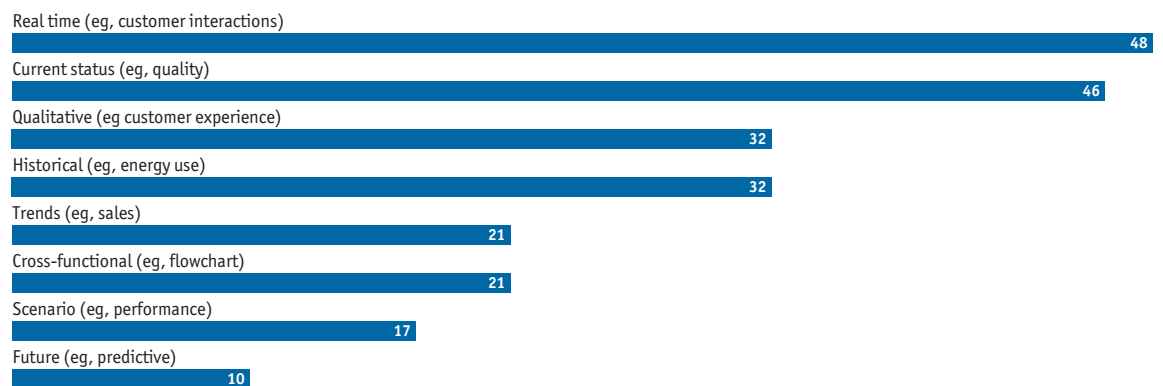
Please select up to three for business managers.

(% respondents)

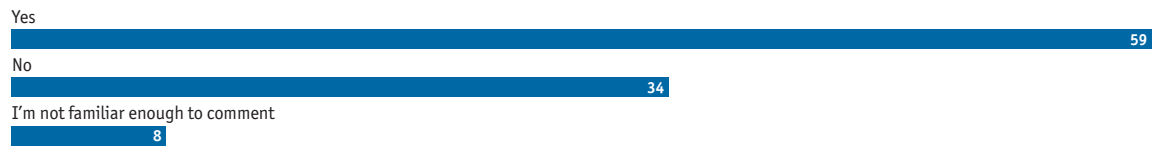
**What following types of data insights are most critical for making decisions?**

Please select up to three for employees.

(% respondents)



Has your organisation ever used an external consultancy to help it get answers to tough questions or ask better questions?
(% respondents)



Think about the result of that decision. What was the outcome?
(% respondents)



Do you need cross-department input to derive business insight from data?
(% respondents)



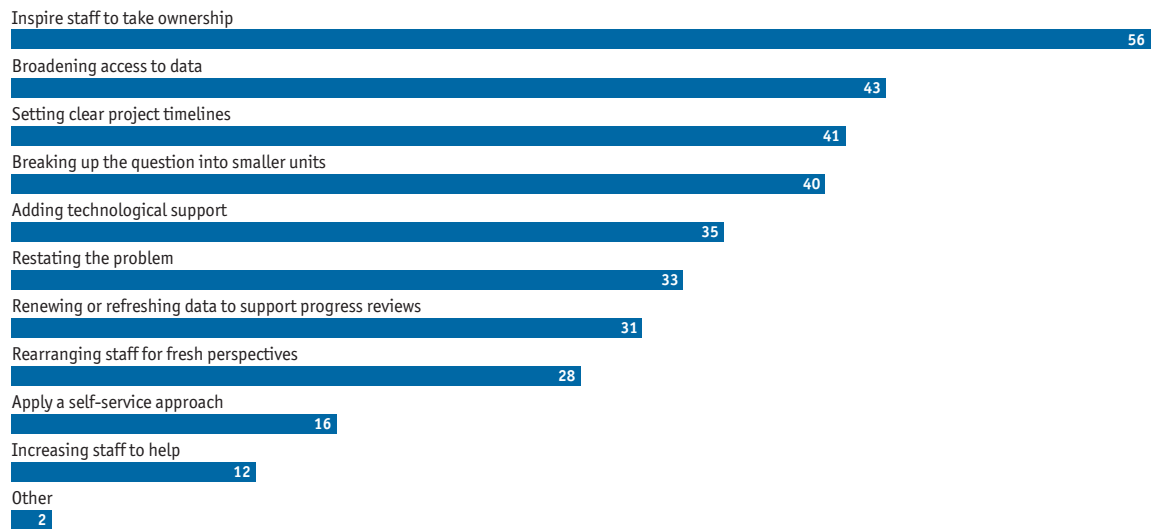
In your opinion, how easy/difficult is it to gain your decisions require from other departments?
(% respondents)



What processes are needed to convert new questions into innovative results?

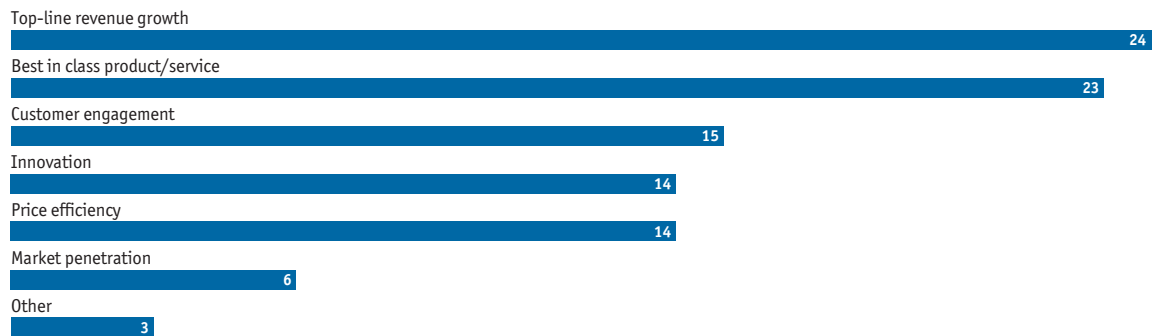
Please select all that apply.

(% respondents)



Which of the following is the single-most important element driving your department's decision making process?

(% respondents)

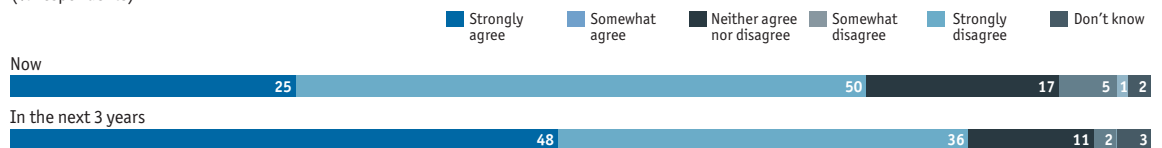


To what extent do you agree that asking better questions has improved your department's overall performance now?

Do you agree it will improve overall performance in the next three years?

Please rate on a scale from Strongly agree to Strongly disagree.

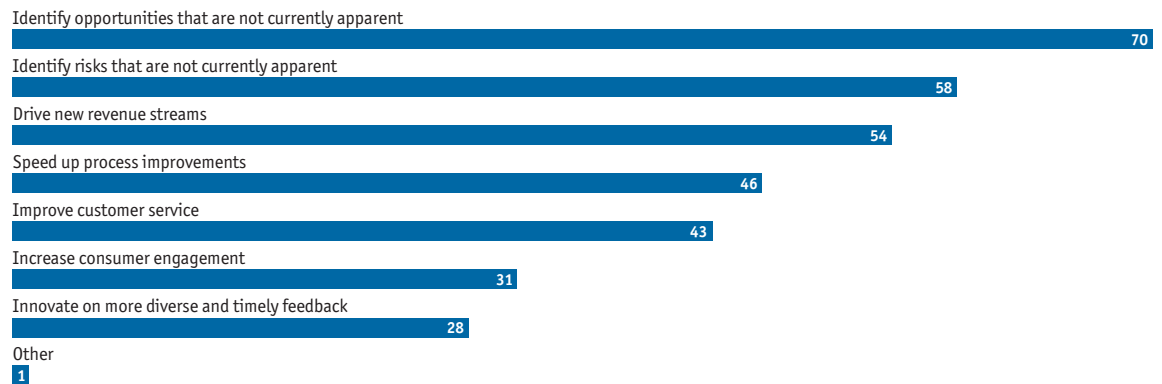
(% respondents)



In the next 12–18 months, what does your department expect to do with the answers to the questions you are asking now?

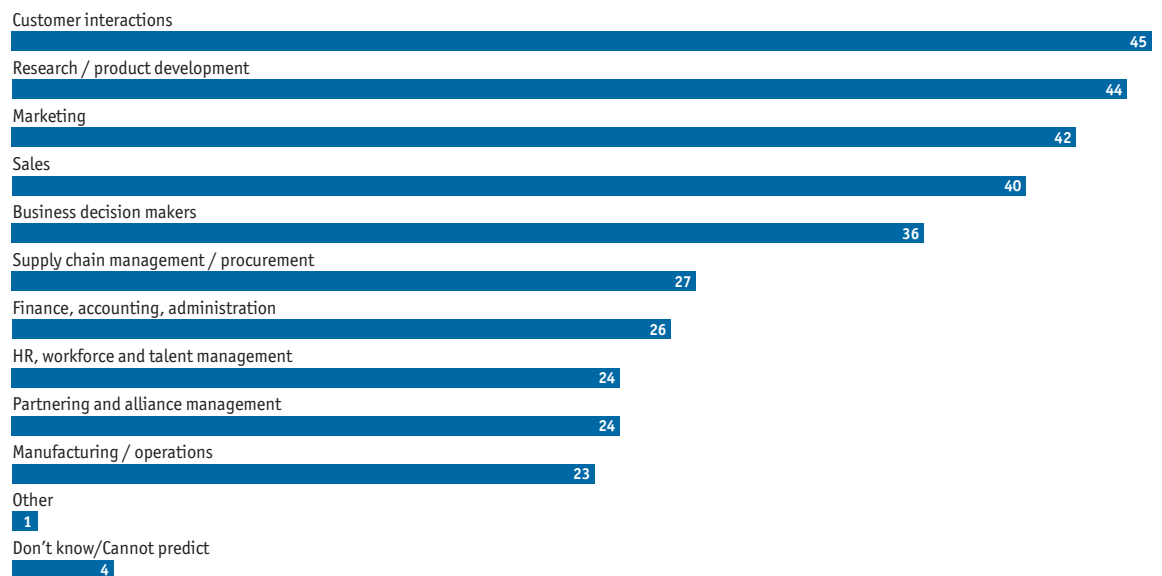
Please select all that apply.

(% respondents)

**In which business areas will you invest over the next 3 years in innovative data capabilities to give you a competitive advantage?**

Please select all that apply.

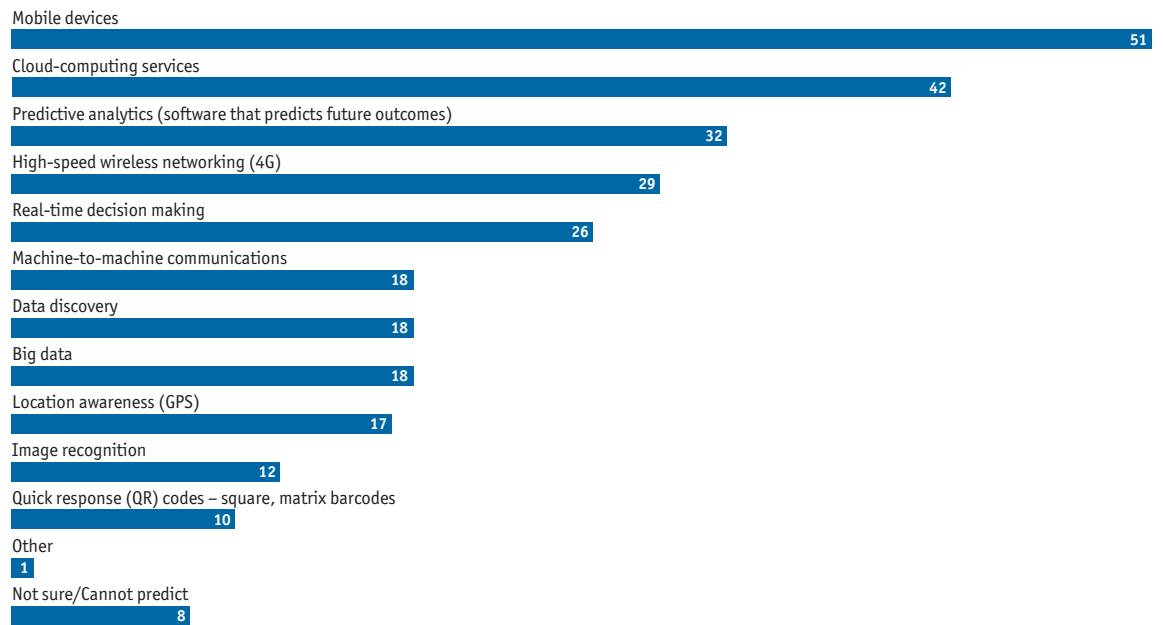
(% respondents)



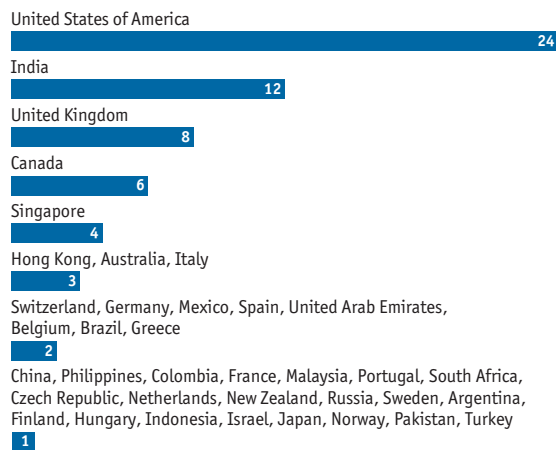
What emerging technologies will your organisation likely leverage over the next 3 years to enhance its decision-making processes?

Please select up to four.

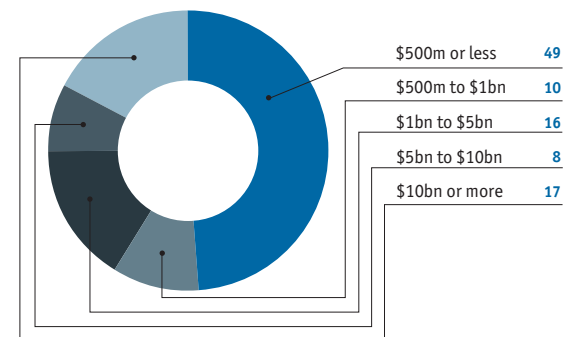
(% respondents)

**In which country are you personally located?**

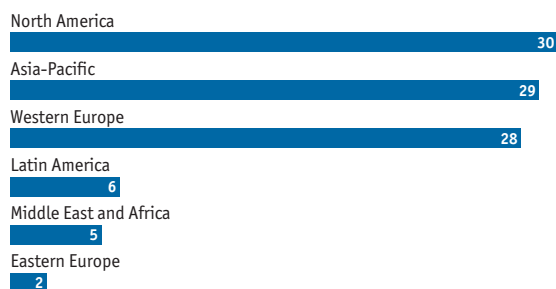
(% respondents)

**What are your organisation's global annual revenues in US dollars?**

(% respondents)

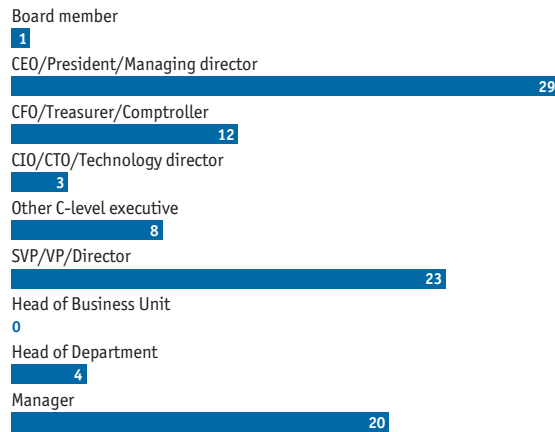
**In which region are you personally located?**

(% respondents)

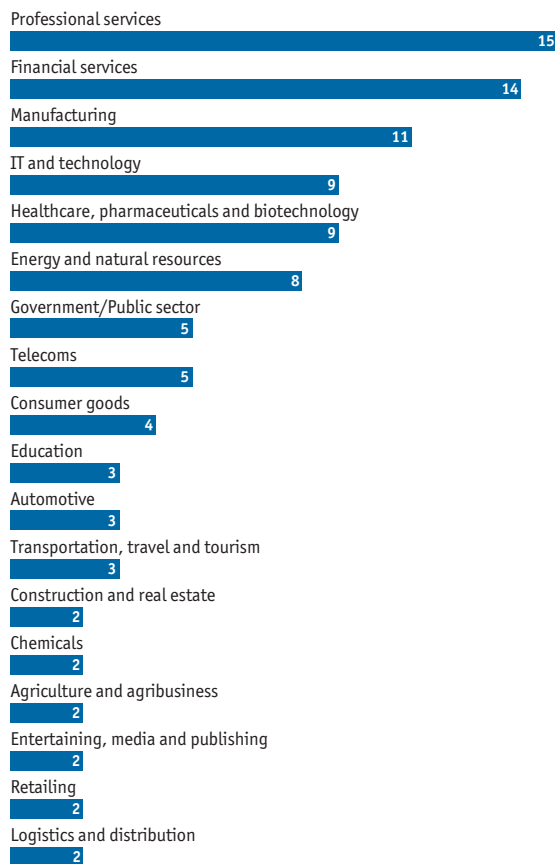


Which of the following best describes your title?

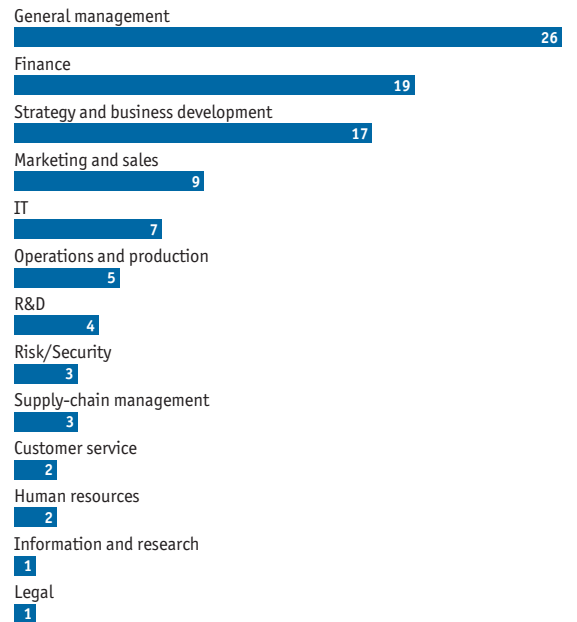
(% respondents)

**What is your primary industry?**

(% respondents)

**What is your main functional role?**

(% respondents)



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

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