Harvard Business Review

A REPORT BY HARVARD BUSINESS REVIEW ANALYTIC SERVICES

# Learning from the New Breed of Confident Decision-Makers

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# Learning from the New Breed of Confident Decision-Makers

**EXECUTIVE SUMMARY**

All professionals in all organizations need to make decisions, and the pressure is on to achieve quick results in a time of constant change and demanding customers. No wonder, then, that a vast majority of companies are eager to move away from making decisions based on experience and gut feel, and begin embracing a culture of real-time data-based decision-making. In a new global survey of business and organizational leaders by Harvard Business Review Analytic Services, more than three-quarters (78 percent) of the 374 respondents said data analytics in decision-making has become more important in the past two years, and nearly all (88 percent) agreed that it will be increasingly important to make decisions quickly based on real-time data in the next two years. figure 1

A major finding of the survey is that about half of respondents (51 percent) have had the necessary information to feel confident about their business decisions in the past six months. And this group is reaping the rewards—it is more confident with high-risk decisions and feels prepared to make critical business decisions in a timely manner. figure 2 We have labeled this group the "confident decision-makers," and they epitomize both the opportunities and challenges that come with moving toward a data-driven culture.

Importantly, confident or not, all respondents report similar challenges when it comes to fully embracing a data-driven culture of inquiry that balances data with judgment and experience; indeed, just one-third (32 percent) of confident decision-makers said the use of data and analytics was embedded in their organizations, compared with 23 percent of all respondents. Challenges include managing the precipitous growth of new information sources, ensuring data quality, overcoming weaknesses in analytics tools, and establishing an organization-wide level of trust in data-driven findings that will empower people at all levels to take decisive and timely action.

Despite these challenges, respondents are realizing an array of benefits from their use of analytics, such as reduced costs and increased productivity, and they expect more transformative impacts in the future, such as faster decision-making and new ways to approach their operations.

**HIGHLIGHTS**

**88%**

Believe making decisions quickly based on real-time data is increasingly important

**51%**

Have the necessary information to feel confident in making decisions

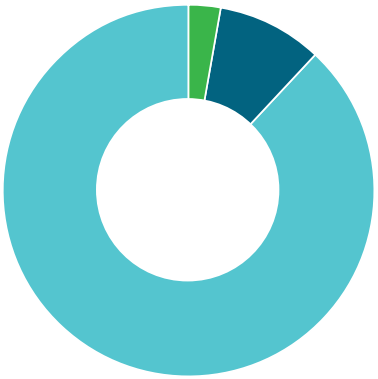
**23%**

Say the use of data and analytics is embedded within their organizations

Figure 1

## Increased Importance of Real-Time Decisions

Please rate the extent to which you agree with the following statement:
"Making decisions quickly, based on real-time data, is increasingly important."



3%
DISAGREE

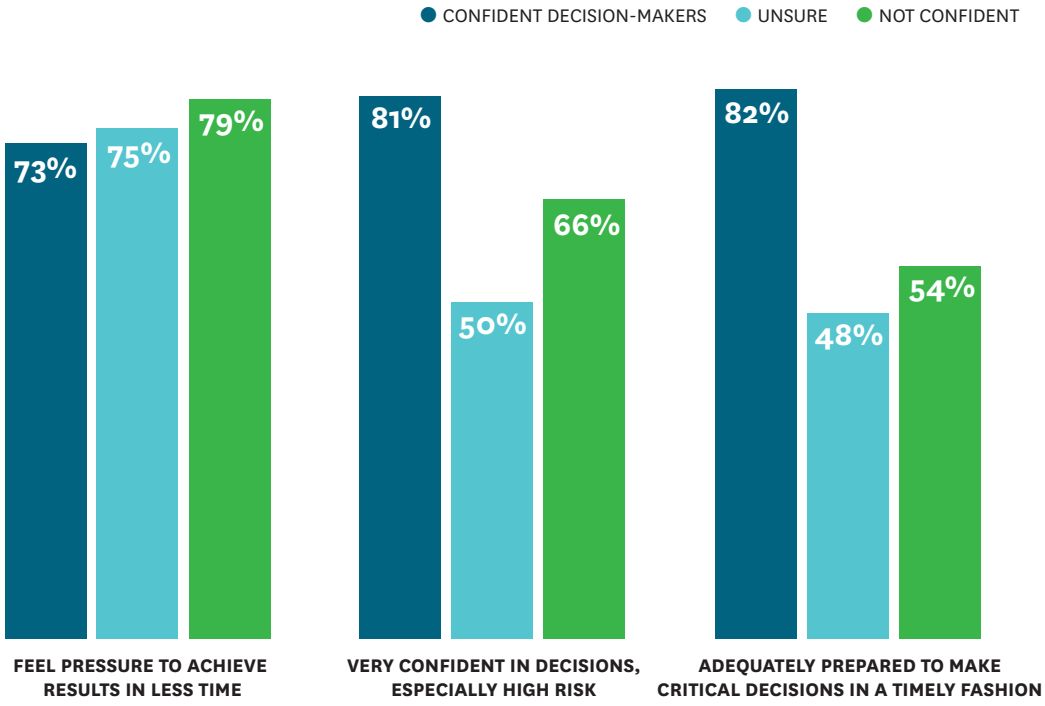
9%
NEUTRAL

88%
AGREE

Figure 2

## Traits of Confident Decision-Makers

Please indicate your level of agreement with each of the following statements.



The survey findings raise numerous compelling questions, which this paper will address: What characterizes a confident decision-maker? What challenges do organizations face when embracing a truly data-driven culture, and how can they overcome those challenges? And, perhaps most important, how can organizations move toward a future in which all employees throughout the enterprise are confident decision-makers?

## What Confident Decision-Makers Look Like

One thing is clear: Confident decision-making pays off. Around half (49 percent) of confident decision-makers feel well positioned for growth, while those who are not confident in their decisions are most pessimistic about the year ahead. figure 3

Further, confident decision-making is inextricably tied to the use of data and analytics. Confident decision-makers are the group most likely to rely on analytics in their role (56 percent) and most likely to have formal, corporate-wide decision-making processes (36 percent vs. 16 percent of nonconfident respondents). figure 4 They are also far more likely to say that their organization's use of analytics has been a major factor in helping them gain a competitive edge (33 percent vs. just 4 percent of nonconfident decision-makers).

A corporate culture of data-driven decision-making is yet another characteristic of confident decision-makers. While just one-third of nonconfident decision-makers reported having a "culture of inquiry"—in which people sought data before making decisions or placed a high level of importance on data—nearly two-thirds of confident decision-makers reported that cultural trait. figure 5

The growing reliance on data and analytics for making decisions is apparent at Memorial Health in Savannah, Georgia. "At strategy planning sessions, executives are gasping for data like it's oxygen," says

Figure 3

### Confident Decision-Makers Are Positioned for Growth

Relative to 2013, how well positioned is your organization for revenue growth in 2014?

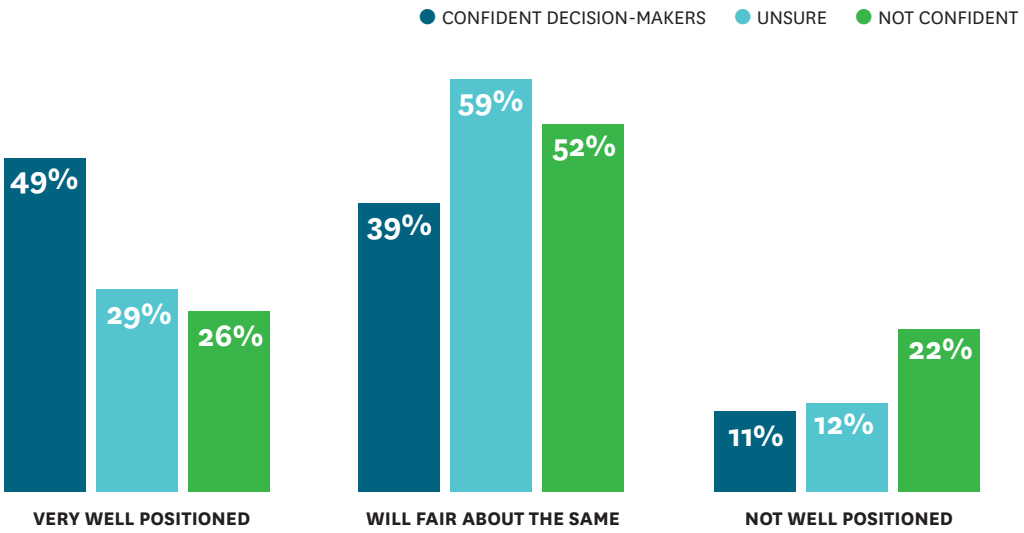


Figure 4

## Confident Decision-Makers Most Likely to Rely on Analytics

Please rate on a scale of 1-10 the extent to which a) you personally rely on analytics in your role and b) your function/department relies on analytics-derived insight from data.

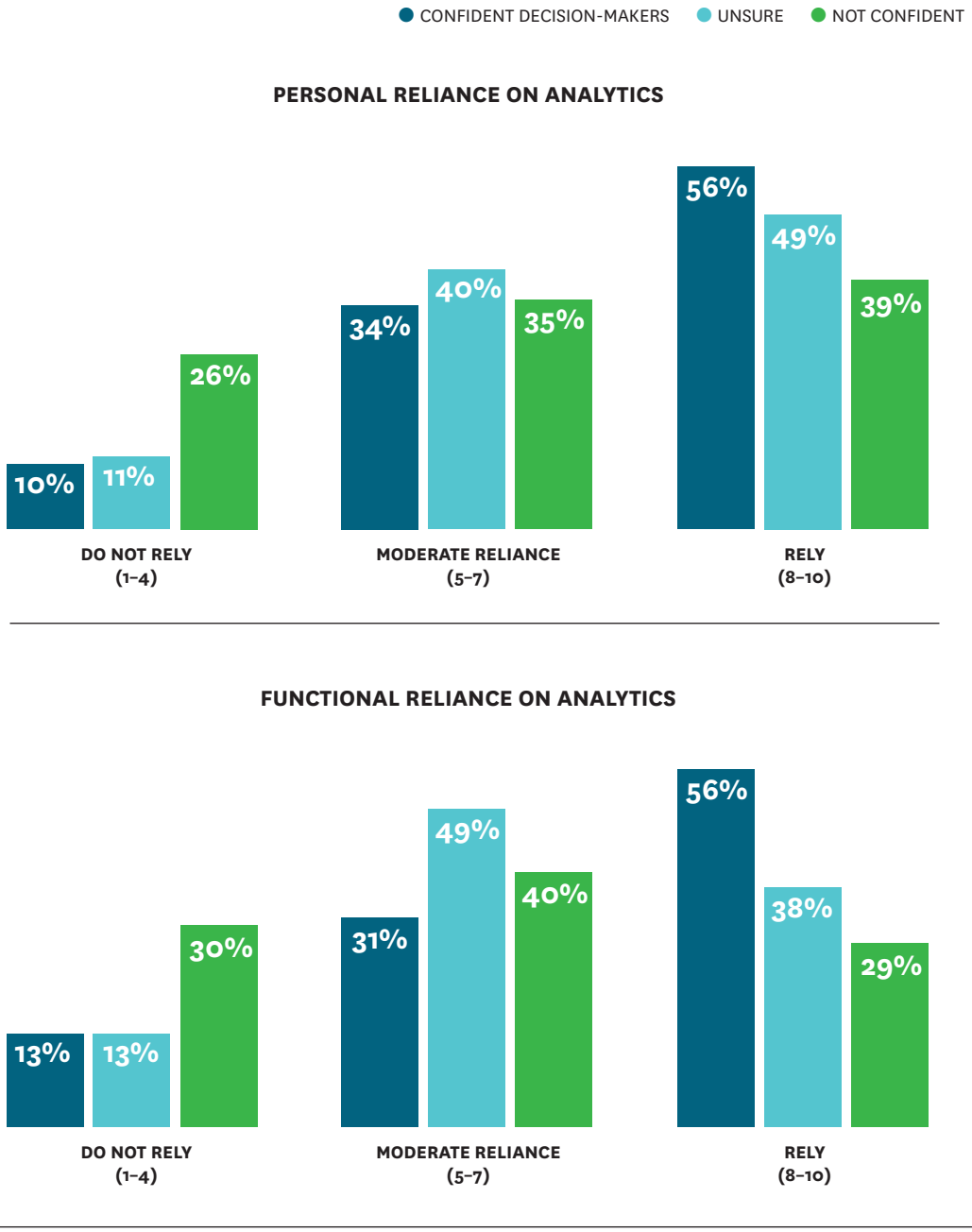
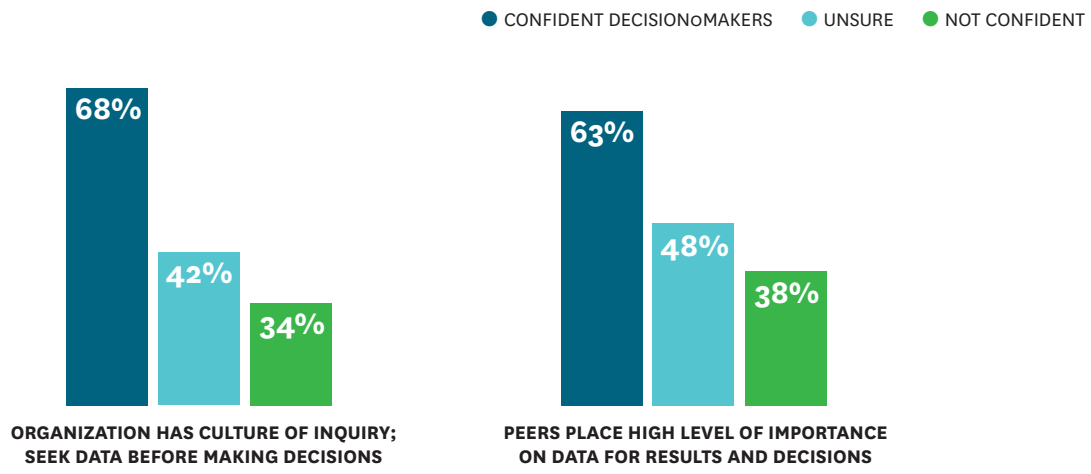


Figure 5

## Cultural Traits of Confident Decision-Makers

Please indicate level of agreement on the following statements.




Karen Hunter, an IT professional and registered nurse who manages analysts and applications related to clinical care at Memorial Health. “They say, ‘We need data, we need numbers.’”

Recently, for example, the vendor that provides X-ray services for the hospital proposed a change to its pricing model. Currently, the hospital pays a licensing fee for each X-ray machine; the vendor wanted to charge based on the number of X-rays. The inability to track and analyze X-ray usage data left the hospital stymied about whether to agree to the change.

“We need to collect information in real time, so we can understand it and act on it,” Hunter says. She attests to the need for better decision-making to raise the overall quality of care. “The health IT industry was built up on the idea of multiple best-of-breed systems that don’t talk to each other,” she says. “We can no longer exist in the old world of disparate systems.” For example, when a patient undergoes a hip replacement, there can be many subtle signs indicating a complication of the treatment, such as a slight rise in certain vital signs or an elevated lab count, Hunter says. Unless that information is compiled quickly, it can be easy to miss a problem that can rapidly become serious. “We need to put the pieces together sooner rather than later,” she says.

For Memorial Health, data analytics are becoming a financial issue as well, since quality-of-care metrics affect federal reimbursements. “The CIO and the business side say we are losing money because we can’t document our quality,” Hunter says. The hospital’s quality scores dropped from the 95th percentile to the 92nd over the past year, she points out; however, this was not because the hospital’s level of quality declined but because other hospitals improved. The improvement, Hunter suspects, is largely due to these hospitals’ superior application of data to improve performance.

“Unless they have their data act together, companies are flying blind,” says Wayne Eckerson, principal consultant, Eckerson Group, a research and consulting firm based in Boston that helps companies turn data into insights and action. “And a lot of companies are relying on intuition. They don’t have the reports they need, especially when launching new products. They don’t have enough data to guide their actions, and they can’t drill down to see if their decisions had the desired impact.”

## Benefits of Confident Decision-Making

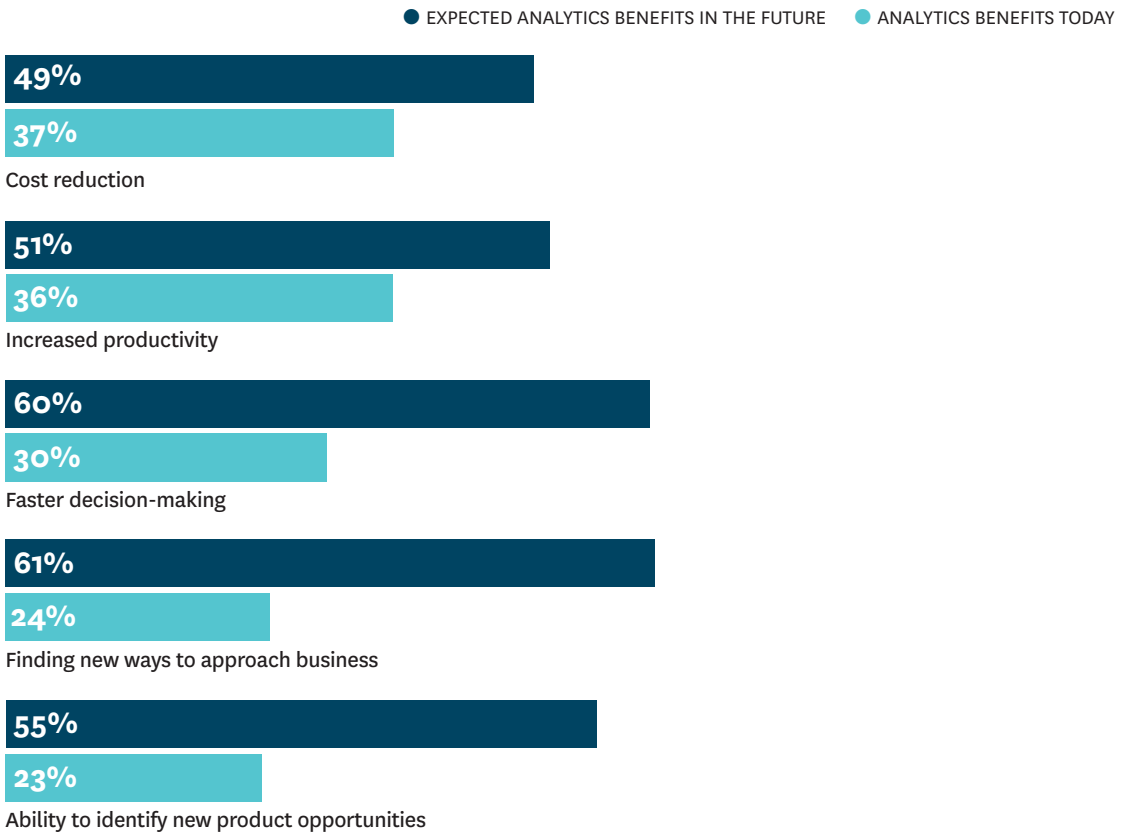
Farrar Corp., a ductile iron foundry and machining company with locations in Manhattan and Norwich, Kansas, is one organization that is striving to develop the characteristics of a confident decision-maker. For one thing, it is working to embed the practice of data-based decision-making throughout the organization, even down to the shop floor, according to Kraig Vondran, CFO at Farrar. To improve performance on the shop floor, Farrar has implemented a balanced scorecard system, in which 50-inch monitors broadcast real-time information about whether orders are going through on time, as well as the status of upcoming orders.

The idea is to capture as much information as possible to improve back-office decision-making. For example, Farrar had assumed that an excessive amount of scrap castings—a costly issue—was due to imperfections in the material itself. By analyzing the daily reports from the data collected at the workstations, the company tracked the problem back to worker error caused by incorrect measurement.

Figure 6

### Changing Drivers for Analytics

What benefits/positive impacts has your organization seen from the use of analytics? And in what other areas do you hope to see an impact in the future?



> At strategy planning sessions, executives are gasping for data like it's oxygen ... They say, "We need data, we need numbers."

After the implementation of training programs to address the issue, the scrap castings dropped to 5.5 percent from 12 percent, a huge savings for the company.

Collecting and analyzing data in real time has also improved business results. Previously, there was a day or two delay in data input, but now information is gathered immediately, and analysis is completed in 60 seconds to an hour. By understanding how jobs are progressing, the company can move workers to other tasks. With better processes in place because of real-time information, on-time delivery of projects leaped to 84 percent from 53 percent. Additionally, from a strategic standpoint, Farrar has gained insights on machine utilization and issues that slowed production, and these have guided it to make more effective equipment investments.

The array of benefits that Farrar has realized through real-time analytics aligns with the survey findings. Currently, respondents' reported benefits tend to be more tactical in nature, such as lower costs (37 percent) and increased productivity (38 percent). Over time, however, respondents expect analytics to help them with more transformative endeavors, such as finding new ways to approach business or operations (61 percent), speeding decision-making (60 percent) and identifying new opportunities (55 percent). figure 6

## Challenges of Embracing Analytics

In order to realize these more transformative benefits, organizations need to overcome some of the bigger challenges that thwart data-driven decision-making. And whether decision-makers consider themselves confident or not, obstacles currently stand in the way of fully embracing a culture of inquiry among all levels of employees.

For example, while confident decision-makers are more likely to report being extremely effective at collecting, analyzing and leveraging data in decision-making, only a minority feels highly capable of leveraging data for decisions within their department (40 percent) and across the organization (29 percent). A very low 20 percent of confident decision-makers said that their organizations usually take decisive action after data is analyzed and presented. Decisive action is slowed, this group said, when the data challenges the decision-maker's preconceptions (43 percent) or when doubt exists as to the data accuracy or completeness (28 percent).

Further, half of all respondents (52 percent) deal with fragmented or limited data; confident decision-makers are just as likely to suffer from poor-quality internal data and lack of access to data due to siloed systems. figure 7 Customer data is the most difficult to access, according to respondents (48 percent), which poses a thorny issue, as the number one driver for faster decisions among respondents is keeping up with fast-changing customer preferences.

Data challenges are not expected to abate; more than half of respondents said both internal and external data needed for decision-making is increasing more quickly than their companies can process it, at 52 percent and 57 percent, respectively.

For example, Vondran at Farrar acknowledges that his company struggled with both data quality and data access. “We weren’t capturing a lot of costs associated with the products,” he says. “It was a tedious process to get into the systems and extract the information we needed.”

Data collection is also a challenge at Memorial Health, where Hunter says nurses are reluctant to input data at the end of their 12-hour shifts, and doctors still prefer to dictate notes and have them transcribed rather than input them in a more easily analyzed format. Workers do not always understand their key role in data quality, such as when one hospital unit decided to change its metrics for documenting a central line-associated bloodstream infection, making it impossible to get the consistent view needed for reimbursement purposes.

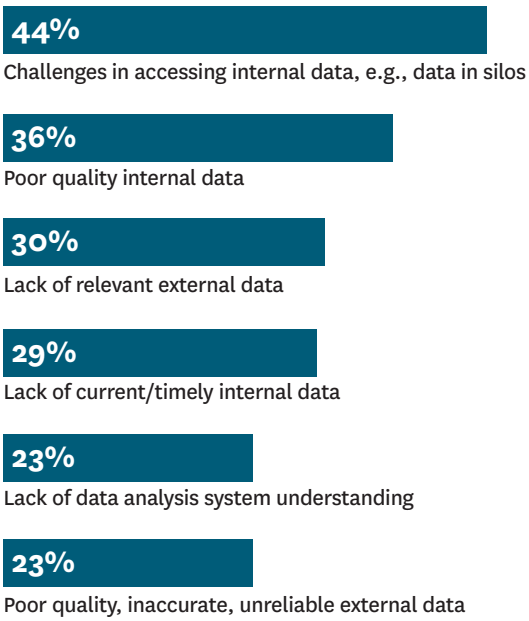
Jenn Steele can attest to these types of data challenges across companies large and small. Steele went from marketing positions at Amazon and HubSpot to become head of growth for RecruitLoop, a curated marketplace of independent recruiters. “I had to create a data-driven culture,” she says. “During my job interview, the CEO didn’t have any data about conversion; he had no idea how many touches were needed to make a sale.” In RecruitLoop’s case, she says, data is necessary not just to make decisions, but also to court venture capitalists. “You can throw stuff against the wall to see how much sticks only so many times,” she says.

Instituting processes for collecting and analyzing the data can introduce as many technology issues as political ones, Steele says. For example, at Amazon, the free search side of the company and the paid search side used different metrics, making it difficult to get an enterprise-wide view of operations. The

Figure 7

## Obstacles to Decision-Making

Which of the following are the most significant data-related impediments to your current ability to confidently make important business decisions?



> Developing a fully functional culture of inquiry also requires an understanding that data insights can and should be balanced with experience, judgment and gut feel.

approach that companies choose is less important than settling on a uniform approach, she says. "You can't adjust your metrics and suddenly decide a team that was a superstar yesterday is subpar today. Because then you have arguments in the boardroom about the data rather than use of the data to be agile and faster."

## Overcoming Obstacles

Organizations are working toward resolving these many issues. For instance, tackling data quality and access issues involves data governance, Eckerson says, which is the process of getting the data into a uniform state that makes it easier to analyze. This is a human challenge as much as a technology one, he says, requiring "business communication and workflows that translate into tangible value for an organization." Advocates need to facilitate discussions that drive consensus on data policies and rules. In addition, the business needs to own, guide and actively manage the data governance program, working closely with the IT department, which administers the systems and applications that implement a data strategy.

The end result, he says, is "a common vocabulary" that the business can use to describe and analyze what it does, ensuring that business processes flow smoothly and efficiently. Such efforts can face stiff political headwinds, because "whoever controls the data, controls the business," he says. "Decoupling data from politics requires a heavy dose of change management."

Another key to overcoming obstacles to confident decision-making is increasing transparency, both in the data itself and in decision-making processes, which boosts trust in management's ability to act on data in the right way. Confident decision-makers in the survey were much more likely to report decision-making transparency in their business than were nonconfident decision-makers (60 percent vs. 35 percent).

The establishment of transparency starts at the top of the organization, Farrar's Vondran says. "We are a privately held company, and our culture has gone through periods of being both open and very closed," he says. "We have worked very hard to re-establish an open culture." After a long talk with the CEO, Vondran says, "he said, 'Share everything. Let the divisions know if they are profitable. Let them know if the company is profitable.'" Now, "instead of making it us versus them, we have open meetings where workers can ask anything they want of any executive," he says.

Transparency also helps build trust among all ranks of employees regarding how the data will ultimately be used. Farrar addressed worker apprehension by holding meetings at which workers were educated about the scrap metal problem and shown how analytics would improve it. In addition, worker representatives took part in developing the analytics system and determining how the data was captured, alleviating many concerns.

Similarly, at Memorial Health, the key to culture change has been showing doctors how analytics can improve their job. In a recent meeting, for instance, Hunter overheard a doctor complaining that he could not access a patient's medical records, from an Atlanta hospital, about her liver transplant. When another

Once value is seen, adoption of analytics can be pushed further into the company, which is key to enabling organizations to move from tactical results to the more transformative.

doctor in attendance used his smartphone to access the records, it was an eye-opener about the benefits of real-time data, she says. "We are having small successes," Hunter says. "Doctors are craving the data. But the problem is they are craving the data for themselves and don't want to give up the data." For example, one doctor was afraid of his medical data being available to Emergency Room personnel; he didn't want them to be able to see his notes in case he made a mistake.

Developing a fully functional culture of inquiry also requires balancing data with experience, judgment and gut feel. In the survey, only one-third (35 percent) of confident decision-makers said managers relied more on their own judgment than on data when making decisions—compared with an astounding 62 percent of nonconfident decision-makers. "The writings of Malcolm Gladwell show how your instincts can lead you astray in the business world," Eckerson says. "If the market has changed significantly, your past experience may not predict future behavior."

However, trusting the data can be difficult when decisions carry a large amount of risk or high cost. Rick Miller, a technology executive at AOL, points out that marketers can easily test a data recommendation by targeting different campaigns at different groups of customers. It's quite another matter for an automobile manufacturer to trust data that requires it to produce 10,000 cars. "People will always question data if it goes against deeply held instincts and feelings," he says.

Moving toward confident decision-making, then, means installing the notion that gut feel and data-driven decision-making can work together. Eckerson points out that companies need to develop a sophisticated sense of how to balance data with their own judgment, as data in isolation can lead companies astray. Consider, he says, over-reliance on your car's GPS. "A lot of people turn their brain off and end up going on a far-fetched route," he says. "The research shows that the optimal approach is to make decisions that balance intuition and data."

As Miller says, "Information mining isn't a black-and-white, yes-or-no equation. It's about probabilities. If you are 98 percent sure the data is correct, you can go with it. If you are 80 percent sure the data is right, you are still in the realm of needing gut instinct."

Lastly, fully embracing analytics-driven decision-making requires that an organization overcome political and cultural issues. According to Miller, this is an issue AOL contends with. A few years ago, some groups made great use of data to understand the consumer, while others made minimal use of rudimentary executive dashboards. "We are evolving to the point where the people who used to be good at analytics are becoming more sophisticated and pushing boundaries," he says. "The casual users want to become more sophisticated but they often don't know how."

Miller encourages the casual users to seek guidance from the more advanced units, but that can be politically fraught. "Sometimes they don't want to admit that they don't know much about data analytics. Other people are eager to reach out to the experts in the organization, and over time you see those relationships blossom."

## Focused on Creating a Data-Driven Culture

For all these challenges, business professionals are clearly eager to tackle these issues and create a data-driven decision-making culture. They know, however, that their efforts will need to be accompanied by better analytics tools. Overall, respondents reported low levels of satisfaction with the performance of current analytics tools, including their speed, ability to convert data into charts and graphs, and drill-down capabilities. When respondents were asked which new analytics capabilities they will look for in the next two years, the top response was tools that drive value from data, particularly the use of dashboards for individual roles, drill-down capabilities and data visualization. Fast responses to queries and the right kind of reporting tools were also on many respondents' wish lists.

Once value is seen, adoption of analytics can be pushed further into the company, which is key to enabling organizations to move from tactical results to the more transformative. "If the people who want to make a transformational change with how their companies use data can sell that change to internal stakeholders via the tactical methods, it's often a lot more persuasive," Steele says. "In other words, they're fixing day-to-day pain, and usually end up with more internal buy-in from stressed out/busy people."

Clearly, much work remains for organizations intent on building the capabilities and culture for data-driven decision-making and unleashing a staff of confident decision-makers. But it is equally apparent that business cannot afford to miss out on the value of having employees make transformative rather than tactical decisions, enabled by data analytics. As seen through the results of the confident decision-makers—even as they continue to work through the many challenges of collecting, analyzing and fully leveraging data throughout the organization—embracing a culture of inquiry is key to business growth and a competitive edge, now and in the future.

### Methodology and Participant Profile

Harvard Business Review Analytic Services received a total of 374 survey responses, including responses from 217 who are members of the Harvard Business Review Advisory Council.

**PARTICIPANT PROFILE**

**Size of organization**
Only individuals from organizations with more than 100 employees took part in the survey. One-third (31 percent) of respondents were from companies of 10,000 employees or more, and 20 percent work in organizations with between 1,000 and 4,999 staffers. Thirty-five percent were in organizations with fewer than 750 employees. Additionally, 23 percent of participating companies have 2011 revenues of $5 billion or more, and 44 percent generate less than $1 billion.

**Seniority**
One-fifth (19 percent) of respondents are executive management or board members, and just over one-third are senior management (34 percent). A similar proportion (33 percent) is in a middle management role, and 14 percent come from other areas of the organization.

**Key industry sectors**
The financial and manufacturing sectors are each represented by 12 percent of respondents, respectively, while IT/telecom and government/not-for-profit each contributed 9 percent to the respondent base. Eight percent of respondents were from the healthcare and education industries, respectively. Other sectors are each represented by 7 percent or less of the respondent base.

**Regions**
The global survey audience was well balanced across the major regions of the world, with just under half (40 percent) of respondents from North America, a quarter (23 percent) from Asia and a similar proportion (22 percent) from Europe. Eight percent are from MEA and 7 percent from South/Central America.

# Sponsor's Perspective

ANTHONY DEIGHTON
CHIEF TECHNOLOGY OFFICER
SENIOR VICE PRESIDENT, PRODUCTS
QLIK

In order to act fast, organizations often need to make critical business decisions in real time. This is where data comes into play. Skilled leaders know that in addition to intuition and past experience, data is critical to making better business decisions. Therefore, it's no surprise that we found an overwhelming number of organizations who were eager to move toward a culture of real-time, data-driven decision-making.

At Qlik®, we are interested in the human side of analytics. We believe that providing access to data across the organization leads to better and more confident decisions. We also understand that there's more involved than just seeing the data; humans need to explore the information and make their own discoveries in order to fully process and comprehend what is presented before them. For this reason, our primary focus is creating software and services that tap into these natural analytic abilities to help users act with confidence and create value in their work. In the age of big data, all executives should feel empowered and find confidence in data.

In this survey, we focus on the factors that help instill confidence in those individuals tasked with making business decisions. We also look at the obstacles they face as they transform their organization into one with a data-driven culture.

There's a huge opportunity for finding insights based on our natural ability to analyze the world around us. We invite you to learn more about our Natural Analytics™ approach and how we are helping our customers turn their data into better business outcomes by visiting www.qlik.com.

Anthony Deighton
Chief Technology Officer
Senior Vice President, Products
Qlik

**ABOUT QLIK** Qlik (NASDAQ: QLIK) reveals meaning in data so people can act on it. The QlikView Business Discovery software platform and Qlik Customer Success Framework provide the people, technology and services to help organizations progressively optimize how they use data as a strategic resource. QlikView uses Natural Analytics™ to support the way our human curiosity naturally searches and processes information, revealing insights and enabling decisions in the process. From small businesses to the largest global enterprises, QlikView gives users the immediate insights they need and IT professionals the enterprise manageability and governance they require. Headquartered in Radnor, Pennsylvania, Qlik has offices around the world serving approximately 32,000 customers in over 100 countries.

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