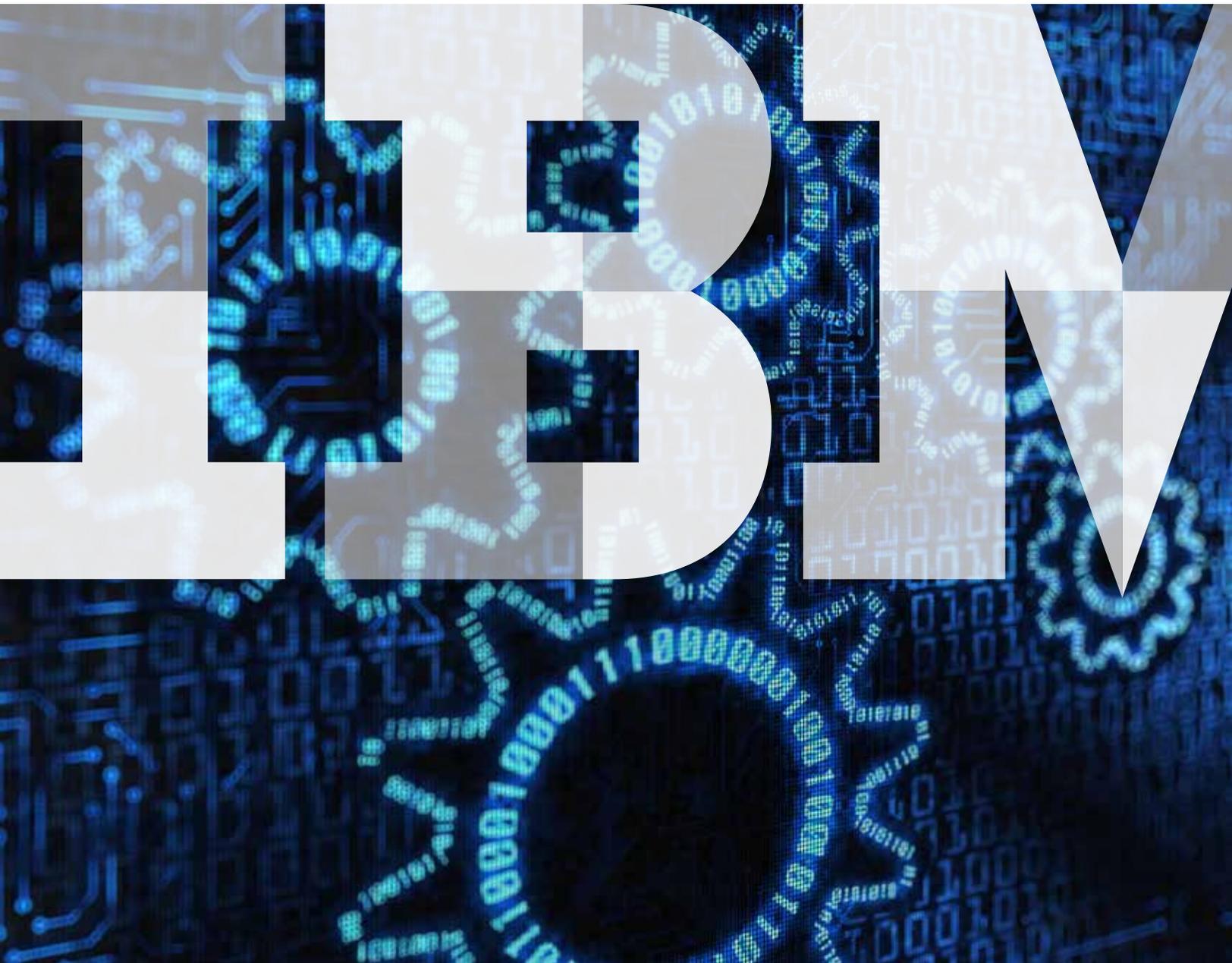


IBM Institute for Business Value

# Analytics: A blueprint for value

*Converting big data and analytics insights into results*



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## **IBM® Institute for Business Value**

IBM Global Business Services, through the IBM Institute for Business Value, develops fact-based strategic insights for senior executives around critical public and private sector issues. This executive report is based on an in-depth study by the Institute's research team. It is part of an ongoing commitment by IBM Global Business Services to provide analysis and viewpoints that help companies realize business value.

You may contact the authors or send an email to [iibv@us.ibm.com](mailto:iibv@us.ibm.com) for more information. Additional studies from the IBM Institute for Business Value can be found at [ibm.com/iibv](http://ibm.com/iibv)

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*By Fred Balboni, Glenn Finch, Cathy Rodenbeck Reese and Rebecca Shockley*

**In today's competitive marketplace,** executive leaders are racing to convert data-driven insights into meaningful results. Successful leaders are infusing analytics throughout their organizations to drive smarter decisions, enable faster actions and optimize outcomes. These are among the key findings from the 2013 IBM Institute for Business Value research study on how organizations around the globe are leveraging key capabilities to amplify their ability to create value from big data and analytics.

The IBM Institute for Business Value has researched the field of analytics at ever-increasing levels of granularity since 2009. Our research, combined with the on-the-ground experience of thousands of consultants, continues to probe deeper into the fundamental question: How can organizations achieve positive returns on their analytic investments by taking advantage of the growing amounts of data?

We've determined it takes the right alignment of strategy, technology and organizational structure. Analytic implementation strategies need to enable an organization's most important business objectives; the technology in place needs to support the analytics strategy; and the organization's culture needs to evolve so people use the technology to take action in line with the strategy. The proper alignment of these three key dimensions is needed to create tangible value and results-based outcomes.

To discover how to achieve this alignment of strategy, technology and structure, we surveyed 900 business and IT executives from 70 countries. We asked more than 50 questions to an analytics-savvy group of executives, senior managers and managers, along with analytics experts, business and data analysts, and others within organizations large and small. The questions were designed to reveal how to translate high-level concepts associated with delivering exceptional business value through analytics into actions that can truly deliver value. (For more details, please see sidebar: About the research.)

Through our research, we identified nine levers that enable organizations to create value from an ever-growing volume of data from a variety of sources – value that results from insights derived and actions taken at every level of the organization.

### About the research

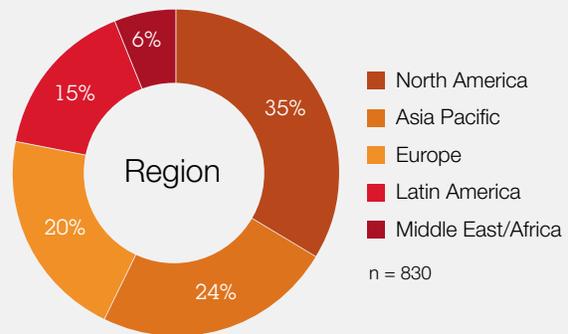
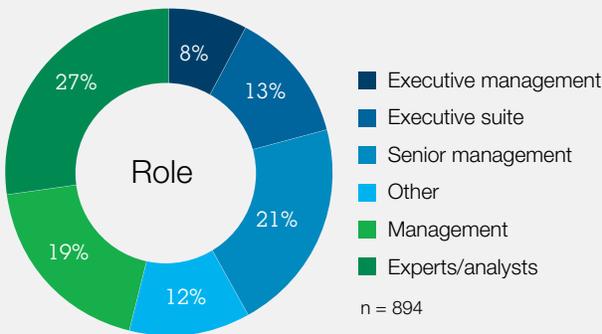
The IBM Institute for Business Value's 2013 analytics survey was our most comprehensive look at organizational activities related to data and analytics. We surveyed 900 business and IT executives from 70 countries (see Figures below).

The survey was available online for ten weeks in 2013 (June through August) and offered in six languages: English, Chinese, French, Japanese, Portuguese (Brazilian) and Spanish. Some respondents self selected based on interest in the topic, and additional invitations were sent based on IBM relationships. Survey topics included executive activities, business process activities, data management practices, human resources management, competency measures, software usage and hardware implementation.

The questions were designed to help us translate concepts relating to generating value from analytics into actions. To identify which capabilities were most responsible for value creation within an organization, we started with a wide ranging survey to examine more than 50 analytic processes, as well as

understand the collection level of 12 types of data, the competency level of data and analytics skills for 15 analysis techniques, and implementation levels of 14 hardware and data management components.

Using the survey data, we performed bivariate and multivariate correlation and regression analysis to identify the sets of key capabilities that differentiate those organizations creating the greatest value from analytics. We then analyzed these against one another to understand how organizations are gaining optimal value from analytics and delivering both tangible and intangible benefits based on insights extracted from data. We discussed these findings with members of the IBM Business Analytics and Optimization (BAO) Advisory Board, a group of top-tier executives focused on analytics, to better understand how the data translates into actions within real-world organizations. We then translated the findings into a set of business-driven actions organizations can implement to help maximize the value of their analytics investments.



Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

## Nine levers of differentiation

These nine levers represent the sets of capabilities that most differentiated Leaders from other respondents:

- **Culture:** Availability and use of data and analytics within an organization
- **Data:** Structure and formality of the organization's data governance process and the security of its data
- **Expertise:** Development of and access to data management and analytic skills and capabilities
- **Funding:** Financial rigor in the analytics funding process
- **Measurement:** Evaluating the impact on business outcomes
- **Platform:** Integrated capabilities delivered by hardware and software
- **Source of value:** Actions and decisions that generate results
- **Sponsorship:** Executive support and involvement
- **Trust:** Organizational confidence

There is a strong correlation between organizations that excel at these levers and those that create the greatest value from analytics. The levers – all present at a consistently high level of capability within Leader organizations – are interrelated. Taken individually, each of the levers does not equal one-ninth of the solution.

Organizations that invest in these nine levers – with particular attention to the symbiotic relationships that exist – can accelerate value creation, simplify analytics implementation and realize value from analytic investments.

*We identified three levels of value impact among the nine levers: Enable levers form the basis for big data and analytics; Drive levers are needed to realize value; and Amplify levers boost value creation.*

## Learning from Leaders

To understand the best practice benchmarks for executing these levers – combinations of activities focused on analytics development and delivery – we examined the top 19 percent of respondents who identify their organization as substantially outperforming their industry and market peers and attribute much of their success to analytics. Throughout this document, we will refer to this top group as Leaders. (For more details on how Leaders were identified among survey respondents, please see sidebar: About Leaders.)

### About Leaders

We identified a group of respondents that are succeeding in their industries and marketplaces and labeled them Leaders.

These respondents self identified as “substantially outperforming their market or industry peers” in a question used by the IBM Institute for Business Value for years across a wide variety of surveys; its accuracy in dividing the marketplace is evident in its consistency across time, as well as a sample validation done in 2010.

Representing just under one in five total respondents (19 percent), respondents within the Leaders group are almost equally from the geographies of North America (27 percent); Asia Pacific (22 percent); Latin America (24 percent); and the combined areas of Europe, the Middle East and Africa (27 percent). The average Leader organization has more than 1,000 employees (58 percent) and has been in business for more than 25 years (52 percent).

Leaders, it turns out, implement the nine levers in very similar ways, creating a common pattern in the behaviors organizations undertake to create value from analytics. By examining the Leaders' behavior, organizations still navigating the realities of their unique workplaces can begin to move forward with their own analytics implementations.

But Leaders are also similar to other organizations in one key way: They face the same political constraints and corporate realities. More than half (62 percent) cite some form of political or executive constraint as the top business challenge holding them back from delivering even greater value from analytics. This percentage among Leaders is statistically consistent with other organizations. What does set Leaders apart, however, is an observable pattern of implementing processes designed to minimize disruptive politics or other constraints.

### Influencing value creation

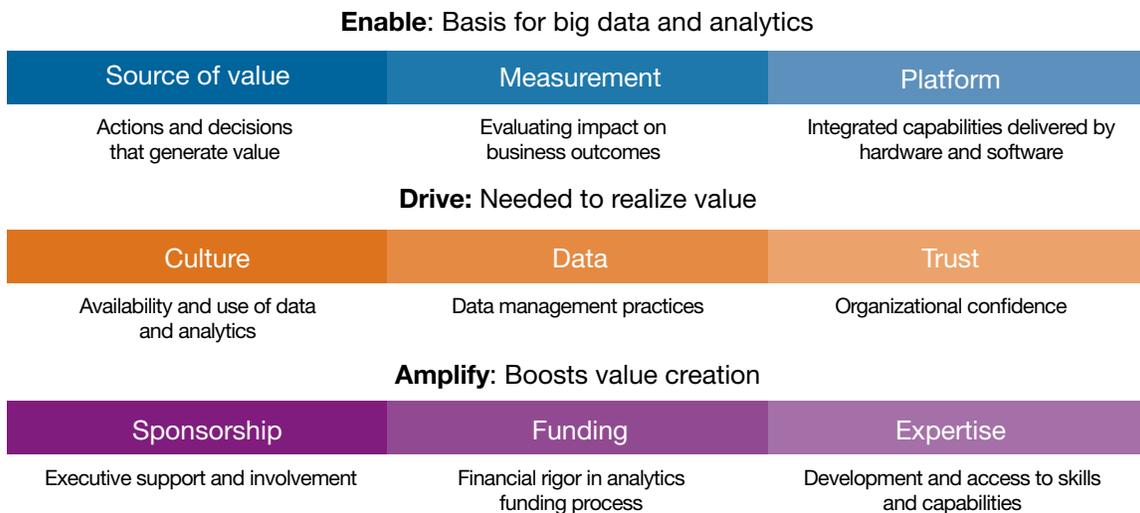
We found that some levers have greater influence on an organization's ability to deliver value from the data and analytics available. While all nine levers distinguish Leaders from other respondents, each lever does not impact value creation in the same way. We identified three levels of value impact among the levers:

**Enable:** These levers form the basis for big data and analytics.

**Drive:** These levers are needed to realize value from data and analytics; lack of sophistication within these levers will impede value creation.

**Amplify:** These levers boost value creation.

Understanding how each lever creates value – whether as an Enabler, Driver or Amplifier – is important in developing an analytics strategy. For example, Enable levers need to be in place before value can be generated through Drive and Amplify levers (see Figure 1).



Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

Figure 1: The nine levers are capabilities that enable and enhance analytics development, delivery and value creation.

**Enable**

The Enable levers create the foundation for big data and analytics. These levers form the basis around which data analysis, discovery and analytic value creation can occur.

Levers at the Enable level are *Source of value*, *Measurement* and *Platform* (see Figure 2).

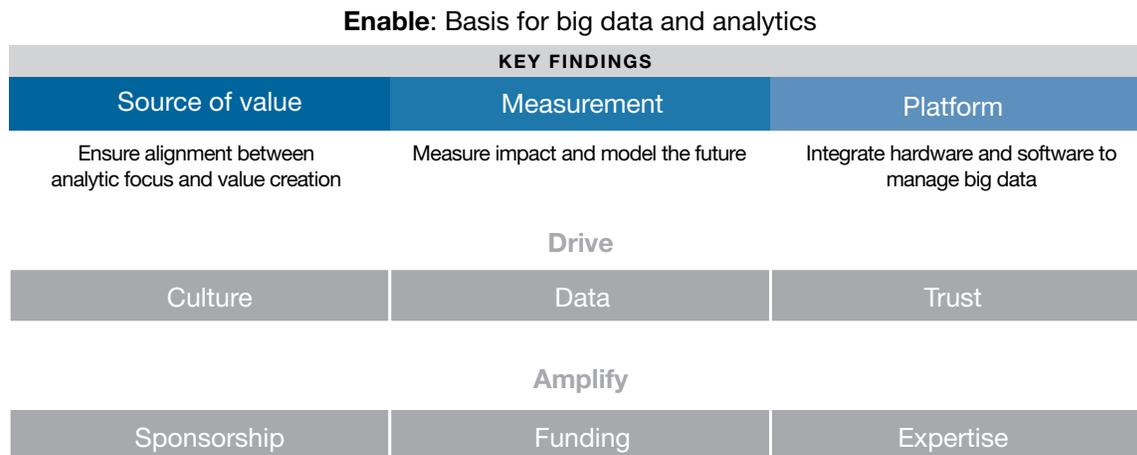
Because the Enable levers serve as a foundation, Leaders are setting the organizational direction for analytics by aligning their big data and analytics strategy with the enterprise strategy and investing in scalable and extensible information

management capabilities. Through these investments, they develop a system to measure success and create a platform capable of embracing today’s rapid technological advances.

*Source of value*

*Actions and decisions that generate results*

Not every organization derives value from the same activities. The spectrum of value outcomes ranges from cost management to revenue generation. Organizations that derive the most value have a clear understanding of the source of that value and target activities toward meeting specific objectives.

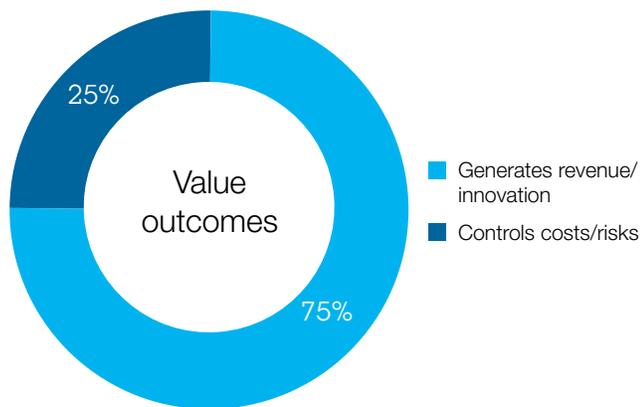


Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

Figure 2: Enable levers represent the key capabilities that serve as the basis for big data and analytics.

A majority of all respondents reported growth-driven expansion efforts as the source of value from their current analytics investments. Seventy-five percent of Leaders, and 70 percent of all other respondents, attributed the value of analytics solutions to their ability to increase revenues, increase the speed and accuracy of decisions, and generate innovative ideas. Only 25 percent of Leaders said the primary source of value was from cost-containment activities such as reducing operational costs and improving efficiency (see Figure 3).

One in eight organizations, however, experience a disconnect between how the source of value is realized within their organization and what the currently defined objective is for the use of analytics. In these organizations, respondents cited revenue-enhancing activities as the source of value; however, elsewhere they noted the organizations' current objectives were primarily focused on cost controls.



Note: Leaders were asked to describe the source of value derived from analytics. Consolidated response options shown; n = 156.  
Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

**Figure 3: Leaders realize value from activities that support revenue generation and innovation.**

Organizations that derive the most value will be those that clearly understand the source of value and target activities toward objectives associated with that value. For example, among the Leaders targeting revenue-generation objectives, more than one-third (37 percent) are focused specifically on activities designed to better know, understand, interact with and engage with customers. These kinds of activities often require consolidation and analysis of vast stores of customer data before value creation can get underway.

### *Measurement*

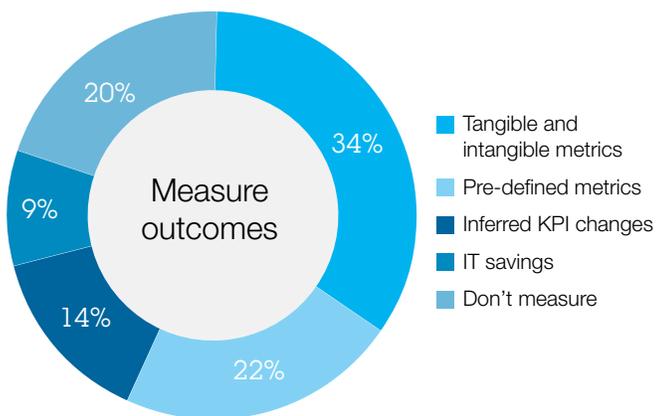
#### *Evaluating the impact on business outcomes*

Influencing business outcomes is the primary purpose of analytics investments. Organizations realizing value from analytics solutions are those that can readily measure the impact on key performance metrics and recognize their ability to forecast future outcomes.

To sustain success with analytics, results must be measured. Leaders know this intuitively and take proactive steps to ensure they can define how much impact information and analytics have on business outcomes and in anticipating future events. They use information and analytics to predict future events and impact business outcomes and then measure the outcomes.

Almost half of Leaders report that data and analytics have a significant impact on their organizations' business strategies and operational outcomes. Leaders use analytics across their core processes to inform and guide most operational actions and drive departmental-level decisions. The top one-fifth of Leaders base all their business decisions (that is, both strategic and operational) on information provided by analytics.

And once a project has been implemented, a majority of Leaders use a set of metrics-based processes to evaluate the outcomes. One-third of Leaders evaluate analytics efforts based on both the tangible and intangible impacts, while another quarter of Leaders benchmark pre-defined metrics and evaluate success based on the level of change (see Figure 4).



Note: Leaders were asked to describe how they measure the impact of analytics investments; n = 132.  
Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

**Figure 4: Leaders use pre-defined tangible and intangible metrics to evaluate the outcomes of analytic activities and investments.**

Measurement is important in demonstrating a return on investment for analytics initiatives. We found that a majority of all organizations realize a return on their analytic investments within the first 12 months following implementation. More than 40 percent of Leaders report realizing a return within the first 6 months, while another 25 percent report a return between 6 and 12 months.

For one **South Asian communications company**, the ability to measure the performance of its communications towers is an essential part of its business model. The company rents space on the towers to service providers throughout India, including rough, remote areas. To guarantee the necessary levels of service quality, the company needed a clear view into asset usage, tower tenancy and other factors to aid in monitoring, management, operational efficiency and cost control, both overall and by business circle.

For example, some towers only had a few tenants renting space. Those towers brought in less revenue for the company, which also missed opportunities to market the extra space to other potential tenants. The company needed to identify those less-populated towers to rent them to capacity.

The company now uses business analytics to monitor 34 different key performance indicators (KPIs) for each tower to spot high costs and inefficiencies. The analytics dashboard has automated 74 percent of KPI monitoring, all of which was previously measured manually. The solution also provided first-time insights into market share, leading to increased sales and marketing opportunities. The system also has reduced the energy cost per tenant and, as a result, reduced customer churn.

*Because the Enable levers serve as a foundation, Leaders are setting the organizational direction for analytics by aligning their big data and analytics strategy with the enterprise strategy and investing in scalable and extensible information management capabilities.*

**Platform**

*Integrated capabilities delivered by hardware and software*

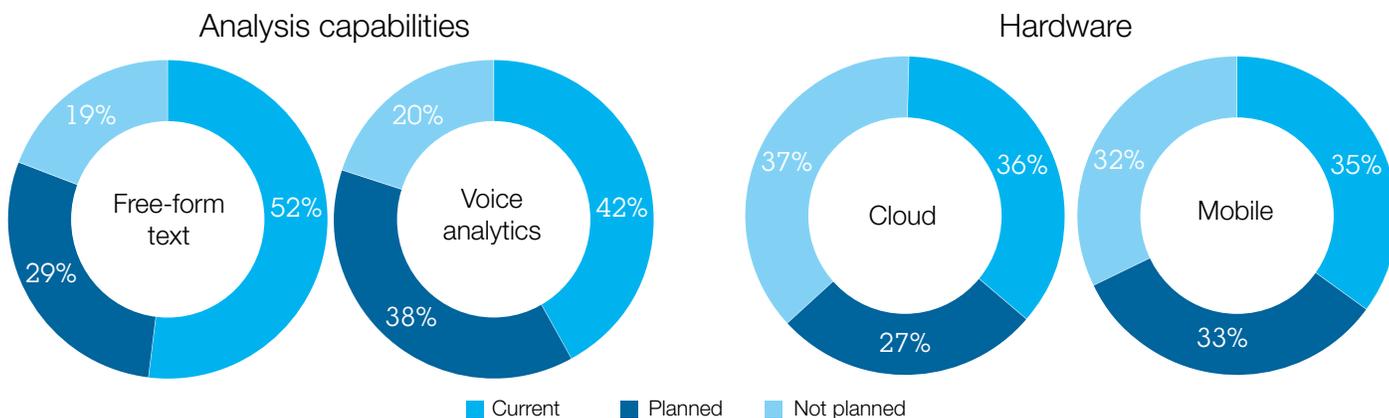
In examining the analytic capabilities of organizations, we find a majority of all respondents can support query and reporting (73 percent), data visualization (58 percent) and data mining (57 percent). But beyond those skills, the capabilities of Leaders begin to diverge dramatically.

Leaders have made more substantial investments in developing the integrated capabilities delivered through hardware and software components in support of analytic activities. They have evolved beyond the traditional infrastructures and analytics techniques of a foundational business intelligence platform to a modern, flexible infrastructure that can intake, process and manage the volume, velocity and variety of today’s data. More than one-third of Leaders, for example, have implemented cloud technology and mobile solutions, while roughly another third are currently developing strategies to implement those technologies (see Figure 5).

Sixty percent of Leaders have predictive analytic capabilities, as well as simulation (55 percent) and optimization (67 percent) capabilities. These skills enable Leaders to look beyond what happened yesterday and what is happening today, and begin to understand how changes in customer preferences, market forces, natural phenomenon or regulations might impact their operations and revenues tomorrow. By comparison, just over half (52 percent) of all other respondents have predictive capabilities, while fewer than half have simulation (45 percent) or optimization (49 percent) skills.

This will be increasingly important; in fact, Gartner predicts that through 2015, predictive and prescriptive analytics will be incorporated into less than 25 percent of business analytics projects, but will deliver at least 50 percent of the business value.<sup>1</sup>

Leaders are also investing in technologies to understand customers better. Leaders are two-and-a-half times more likely than others to have current analytic capabilities to support



Note: Leaders were asked to identify the analysis capabilities and hardware within their organization. Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

Figure 5: Leaders are implementing software and hardware capabilities to manage big data.

voice analytics (42 percent), an essential skill for extracting data from global call centers, citizen hotlines and judicial proceedings (see Figure 5). Leaders also have current analytic capabilities to support video analytics (36 percent), especially important in industries like retail where companies are starting to use video to analyze buyer shopping patterns, store layouts and product interactions.<sup>2</sup> In addition, more than half of Leaders have capabilities to support text analysis. They apply these technologies to analyze internal and external documents, as well as customer correspondences.

But data management is still an onerous task within most organizations. The inability to create, integrate and manage data was cited as the top technology challenge by 41 percent of all respondents, while another 27 percent cited the inefficiencies within the analytics process, 19 percent cited the lack of end-user analytic capabilities and 12 percent cited the constraints of a legacy infrastructure.

One organization that has invested in technology to augment its analytics capabilities is **Celcom Axiata Berhad**, a key operating company of the Axiata Group, which pioneered the mobile phone market in Malaysia in 1988. Today, the company provides mobile telecommunications to over 13 million customers. The business has evolved and adapted to changing technologies and standards over the past two decades, with a central focus on customer experience.

Given the complexity and frequency of new device and product launches, one of the most challenging areas for Celcom's customer service agents is to respond to queries on smartphones and provide recommendations on relevant data plans. Celcom needed to improve its approach to engaging customers in response to the demographic, social and technology shifts that were driving these changes.

### *Leaders are also investing in technologies to understand customers better.*

Cognitive computing systems overcome the challenge through a massively parallel processing system, which runs multiple queries at the same time (that is, in parallel), as opposed to more traditional sequential processing. This, in turn, enables the system to evolve response guidelines and policies as new material is added to the data set.

“Celcom will harness the power of IBM Watson™ in analyzing raw data to provide deeper customer insights and preferences in near real-time,” explains Dato' Sri Shazalli Ramly, Chief Executive Officer of Celcom Axiata Berhad. The company has seen strong results from its pilot implementation, which reduced new campaign launch time by more than 80 percent and improved campaign performance by more than 70 percent. This, in turn, increased campaign return on investment. The pilot also found the technology improves customer loyalty and reduces churn through personalized campaigns and messaging.

By deploying cognitive computing more broadly, Celcom hopes to provide consistent, high-quality support to customers across channels and agents. This facilitates Celcom's aim to deliver targeted customer offerings, simplify end-user interactions and deliver richer customer experiences across products, services and touch points.

**Drive**

The second level of impact – Drive – consists of the levers that start the process of moving an organization from analytics discovery to value creation. Organizations that lack the capabilities represented in these levers will struggle to create value from their analytic investments. Levers at the Drive level are *Culture*, *Data* and *Trust* (see Figure 6).

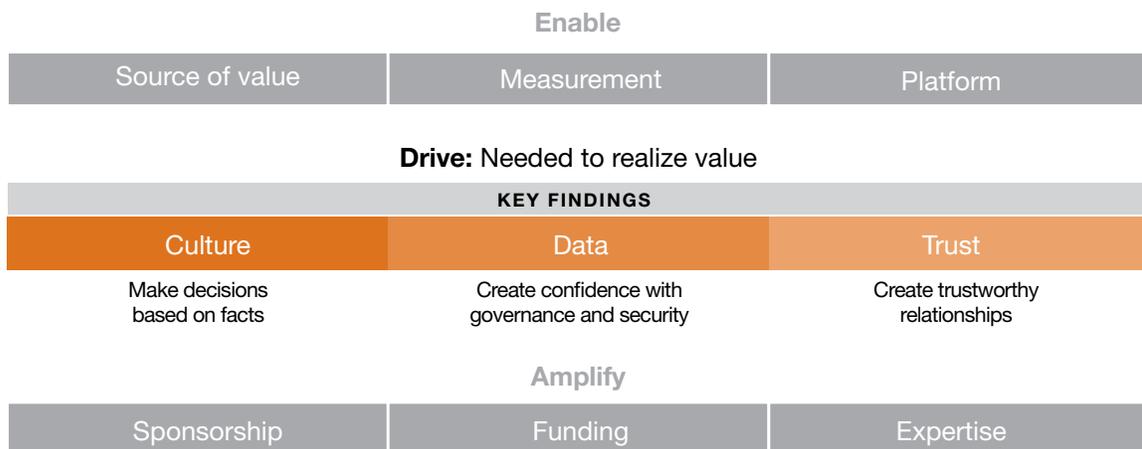
Driving an organization toward value creation requires a data-driven culture that encourages the use of analytics within decision-making processes and makes data available and accessible to those who need it. Strong governance and security are important in instilling confidence in the data, and trust is necessary – both in the data and in individuals – for individuals to act on data and insights.

**Culture**

*Availability and use of data and analytics*

The goal of analytics investment is to influence business outcomes. To achieve that, an organization has to use data and analytics within its decision-making processes. Organizations that do not adopt a fact-based culture will struggle to create value from analytics investments and capabilities.

Organizational culture is cultivated from the top down. An organization’s tone and culture generally align with the attitudes and behaviors exhibited by its chief executive officer and other senior executive team members. Infusing the use of analytics into an organization’s culture typically requires advocacy and action from the most senior levels of the organization.



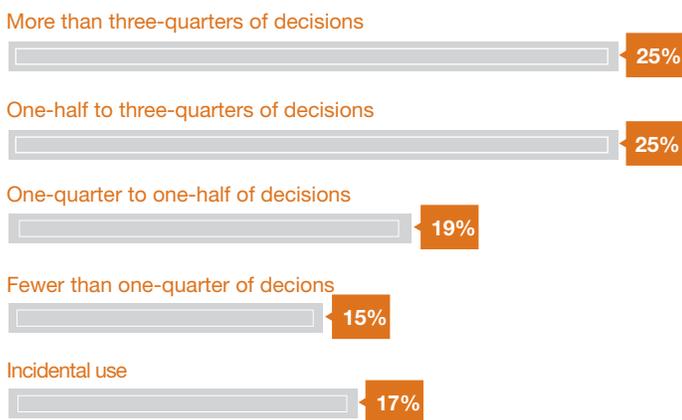
Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

Figure 6: Levers at the Drive level are necessary to move an organization from analytics discovery to value creation.

The Chief Executive Officer (CEO) and Chief Operating Officer (COO) serve as the chief advocates for the use of analytic insights in about one-quarter of all organizations (24 percent). However, non-Leader organizations are, on average, two times more likely than Leaders to be without an advocate for analytics.

Leaders make their decisions based on data and analytics because they have access to the information needed to make those decisions. Fifty percent of Leaders make more than half their decisions based on data and analytics (see Figure 7). Moreover, almost half of Leaders (42 percent) frequently or always have the information and analytics they need to make decisions.

#### Decisions based on facts



Note: Leaders were asked to identify the percentage of decisions they personally made based on data and analytics; n = 109.  
Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

**Figure 7: A majority of Leaders make a majority of their individual business decisions based on data and analytics.**

*The second level of impact – Drive – consists of the levers that start the process of moving an organization from analytics discovery to value creation.*

One **global electronics manufacturer** is striving to manage its massive amount of customer data to make it accessible to those who can use it in their decision-making processes. The company is gaining greater insight into customer buying behavior by consolidating vast amounts of customer purchase information into a single repository and applying advanced algorithms to analyze the data. By clustering and analyzing customer buying history and preferences, and making this data available throughout the organization, the company can now optimize both its regional and channel distribution and sales strategies by understanding which products sell best, as well as where and how. It can also use this detailed customer analysis to create and target specific customer segments with more effective, personalized marketing campaigns.

By employing these approaches and using analytics in its decision processes, the manufacturer has been able to boost sales revenue, increase sales volume and lower sales costs by improving sales forecast accuracy. It was also able to use the insights to facilitate product innovation and new product sales by analyzing customer responses to key selling features of existing products before new product development got underway.

While this global manufacturer and the majority of other Leaders may be using data and analytics within their decision-making processes, there are still vast stores of data that go untapped. In fact, Gartner predicts that through 2016, 90 percent of business decisions will be based on a fraction of the available relevant data.<sup>3</sup>

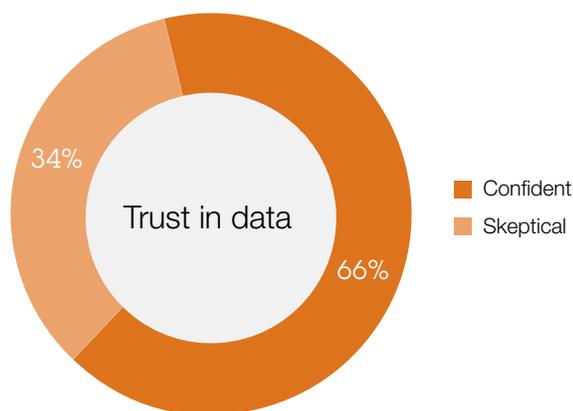
## Data

### Data management practices

Decision makers must have confidence in the data before they will use it to guide their actions. In organizations deriving the greatest value from analytics, the governance and security are sufficient to provide most users with a comfortable level of trust, yet flexible enough to allow business users to meet a diverse set of requirements. Furthermore, our research indicates that organizations with poor data management activities will continue to struggle to create value from data and analytics.

Leaders are confident about the data within their organizations. Two-thirds of respondents from Leader organizations believe enough in the quality of the data and analytics available to them to use it in their day-to-day decision-making processes (see Figure 8).

To create this level of confidence, Leaders use a rigorous system of enterprise-level standards and strong data management practices to help ensure not only the timeliness and quality of



Note: Leaders were asked to describe the level of confidence in the quality of data and analytics within their organization. Consolidated response options; n = 107.

Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

**Figure 8: Two-thirds of Leaders express confidence in the quality of data and analytics in their organizations.**

the data, but its security and privacy, as well. Leaders take a structured approach to data governance and security, and this vigilance is in large part credited for the higher degree of trust most have about the data and analytics within their organizations.

More than half of Leaders (57 percent) have enterprise-level standards, policies and practices in place to integrate data across the organization. These standards cover data management practices from intake to transfers, data storage processes for static and streaming data, and metadata management to ensure data traceability and enterprise data definitions.

To protect this data, one out of five Leaders (20 percent) implement strict internal standards and a secure infrastructure for the collection, storage and use of all types of data and analytics, while another 45 percent have relatively strong systems in place to protect sensitive data through the use of such practices as enterprise standards, policies and role-based access.

Understanding the importance of a strong data management strategy, one **European social services agency** sought to better govern and secure its data to improve service to citizens. The government agency realized its fragmented approach to data was causing its 18 million beneficiaries in 11 million households to have to repeat data previously provided to the organization each time a citizen applied for a different benefit. Not only was it frustrating to the beneficiaries, with little sharing of data between branches and a lack of up-to-date data, it was administratively inefficient.

Executives set out to integrate their data and improve data quality as a means to provide consistent information to citizens, case workers and providers across multiple programs. As a result, the agency has increased its effectiveness in providing the right services to eligible recipients and increased productivity among its agents by 35 percent.

## Trust

### Organizational confidence

The surprising lever that directly impacts an organization's ability to create value from analytics is the level of trust between people within an organization. Our research finds, in fact, that a lack of trust within an organization is one of the most significant hurdles to value realization.

This is not trust in the quality of the data, the reliability of analysis or the veracity of data. This is the trust between individual people – the old-fashioned kind of trust that is earned by getting to know someone's character and what they are capable of delivering.

The level of trust – a belief that others will do a competent job, deliver on promises and support the organization's best interest – among executives, analysts and data managers significantly impacts the willingness to share data, rely on insights and work together to deliver value. Within organizations creating value from analytics, there is a strong and pervasive level of personal trust.

Leaders generally (and seemingly genuinely) believe the people within their organization will do a competent job with the best of intentions. Business executives trust other executives, and to a lesser degree, business and IT executives trust one another. There is strong confidence between business executives and the business analysts who report to them, and those business analysts, in turn, share trust with the data analysts with whom they work (see Figure 9).

Where the level of trust starts to breakdown in Leader organizations, however, is when it becomes less personal. Fewer than half (44 percent) of respondents from Leader organizations reported a strong level of trust between business units and the IT department in general.

Wes Hunt, vice president of customer analytics at **Nationwide Insurance**, is a big believer in the value of trust, and one of the business advisors who pushed us to examine the idea of trust as part of the analytics process.



Note: Leaders were asked to identify the level of trust between analytics roles within their organization; n = 108.

Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

**Figure 9: Leaders generally trust that others within the organization will do a competent job.**

“I am not sure how you can develop analytics insights or act on analytics in the absence of trust,” Hunt said.

The way his organization breaks down trust barriers is through education and personal interaction, whether it is by explaining how the analysis was done, why certain recommendations are being made or even why the analysts believe the recommended actions will work. He said resistance can often have nothing to do with the current actions themselves, but rather can be a result of a past failed attempt with a similar look or feel.

“In analytics, there are multiple data sources, multiple analytic messages and multiple analytic teams, each with an insight or recommendation or point of view,” he explained. “So what makes a (an internal data) consumer – whether on the frontline with customers or an executive – trust or rely upon one set of insights over another?” The answer, he said, often lies in the confidence the presenter has with the data, a familiarity with its nuances, for example, and the personal relationship between the two parties.

**Amplify**

The final level of impact consists of levers that boost value creation. These levers provide the momentum and capabilities to transform insights into actions that positively impact an organization’s bottom line. Levers at this level are *Sponsorship*, *Funding* and *Expertise* (see Figure 10).

To amplify the value created from data and analytics, organizations need business-driven sponsorship to guide a common agenda through business unit actions, and financial rigor within a collaborative funding process to support enterprise-level analytics investments. And it comes as no surprise that the final lever that changes the value equation for analytics investments involves experts and analysts within the organization, and especially the level of focus put on the development of their skills.

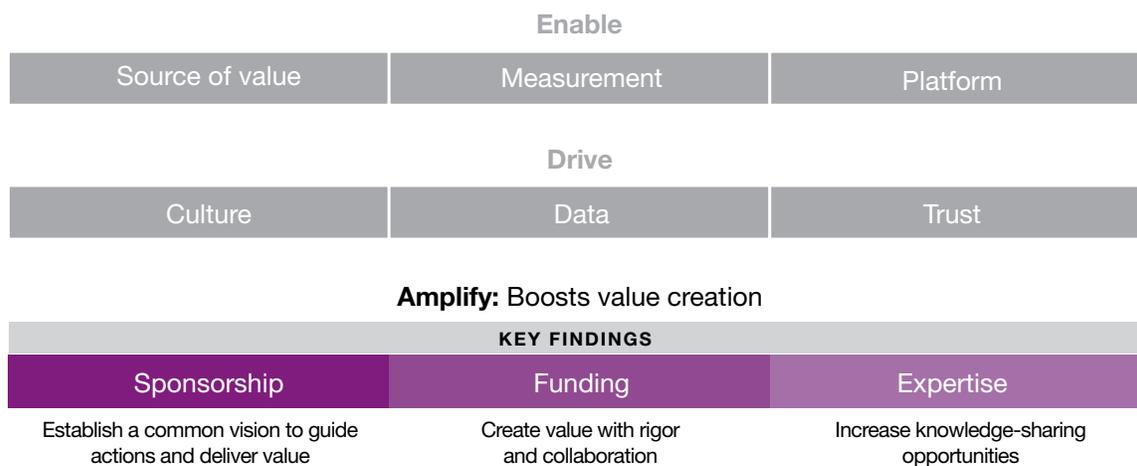
Taken together, these levers help create an environment that supports the use of data and analytics to solve meaningful business challenges – propelling an organization from merely competitive to achieving competitive advantage.

**Sponsorship**

*Executive support and involvement*

Executive support and involvement in analytics are key to value creation. In organizations with low levels of executive support, analytics implementations are hampered by lack of funding, resources and follow through.

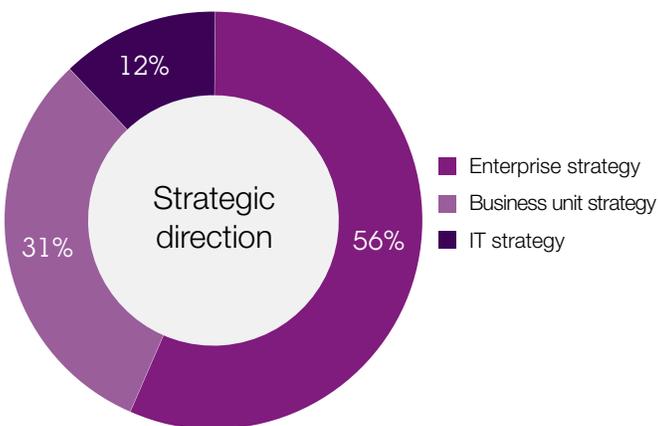
In sharp contrast with other organizations, the majority of business executives within Leader organizations (56 percent) oversee the use of data and analytics within their own departments, guided by an enterprise-level strategy, common policies and metrics, and standardized methodologies. Two-thirds of these Leaders have business unit executives work across silos to develop the strategy that directs the use of analytics; they define organizational data policies, define performance metrics and drive common methodologies across the organization. Yet still, the decisions about how to best implement those strategies, policies and metrics are made at the business unit level (see Figure 11). In non-Leader organizations, almost half of business executives (49 percent) work with an analytic strategy set and implemented by IT, while another third of respondents



Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

Figure 10: At the Amplify level, organizations are transforming analytics insights into actions that impact the bottom line.

(31 percent) develop their own business unit strategy; only 20 percent of non-Leader organizations have an enterprise-level strategy.



Note: Leaders were asked to describe who sets the analytic strategy in their organization; n = 103.  
Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

**Figure 11: Leaders take direction from an enterprise strategy, while the decisions about how to implement it are made at a business unit level.**

While we have seen examples of successful, analytically driven organizations that operate from a grass-roots motivation, our research consistently finds that most organizations require top-down executive-driven leadership.<sup>4</sup> Even better than executive sponsors are executive advocates – those who believe in the power of analytics and are passionate about instilling a data-driven culture.

This was the case when Alejandro Valenzuela, CEO of **Grupo Financiero Banorte**, announced a 10-year transformation to become the bank with the best customer experience and service not only in Mexico, but around the world through smarter use of advanced technologies.

Mexico's Grupo Financiero Banorte is seeking to make its banking arm, Banorte-Ixe, a sector leader in customer experience and service – on par with the best in the world – as well as a leading example of innovation. To support its goal of deeply understanding client needs and thereby delivering superior customer service, the bank turned to big data and analytics solutions.

“At Banorte-Ixe, we start today with a solid business foundation that has positioned us as the third bank in the Mexican market. We know it is time to move to the next level and evolve totally focused on our clients,” he said.

The bank plans to develop and offer personalized products and services better suited for each customer's unique needs. The bank's new customer-centric banking model is expected to improve efficiencies to nearly 50 percent and offer a return on equity of over 20 percent. The model establishes corporate governance to monitor investments in new projects and the re-routing of existing spending to control costs, while positioning the bank to differentiate itself using big data, analytics, cloud computing and social business.<sup>5</sup>

### **Funding**

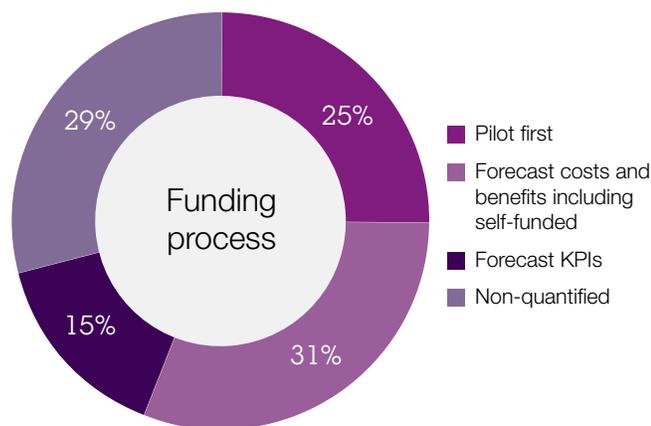
#### *Financial rigor in the analytics funding process*

Organizations that derive the most value from analytics take a disciplined approach to performance and implement processes to manage and monitor analytic investments. While there is an implicit connection to the level of sponsorship, we find that the structure, formality and follow through associated with the funding processes influence how much value the organization will derive from those investments.

Leaders use a rigorous evaluation process and pool resources to fund analytic investments. Leaders allocate funding for a shared roadmap and resources and implement a metrics-based funding process that reviews forecasted cost-benefit analysis to evaluate investments.

Almost two-thirds of Leaders allocate funding to support a shared pool of resources and activities. To fund these activities, one-third of Leaders allocate analytics funding for cross-silo activities and resources without impacting business units budgets, while the other third either have a funding arrangement whereby business leaders contribute to a shared funding pool to support those activities in advance, or through a chargeback model, whereby business executives fund a portion of the investments needed for these shared resources based on the amount of services they use. Only 15 percent of Leaders don't have some level of shared resources.

To decide how to utilize these shared resources, almost a third of Leaders require a cost-benefit analysis or self-funding plan prior to funding analytics efforts. One-quarter of Leaders require analytic investments to be justified by piloted or sandboxed results prior to full implementation (see Figure 12).



Note: Leaders were asked to describe the level of business case rigor required for analytic investments; n = 113.  
Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

Figure 12: Leaders require rigorous financial projections to justify analytics investments.

## Expertise

### Development and access to skills and capabilities

The level of professional development provided to its analytics resources is a reflection of the human capital investments an organization makes to develop and nurture a sought-after yet scarce resource in today's marketplace. Organizations that understand the value and inherent traits of these resources are the ones best able to realize value from the data management and analysis techniques they provide.

The gap between the demand for analytics talent globally and the supply of analytics talent locally is one of the key obstacles to analytics implementations across all organizations. One-third of respondents cited the lack of skills to analyze and interpret data into meaningful business actions as the top business challenge impeding better use of analytics within their organizations.

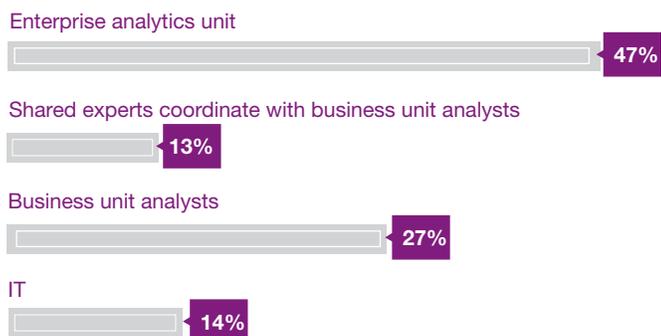
And the challenge is expected to grow. Gartner finds that by 2015, the demand for data and analytics resources will reach 4.4 million jobs globally, but only one-third of those jobs will be filled.<sup>6</sup>

The largest skills gap is the ability to combine analytic skills with business knowledge. The analyst who both understands the business and performs higher mathematic tasks is the most sought after in the market. More than one-third of all respondents (36 percent) cited this as their organization's most pressing skills gap, followed by analytic skills (24 percent), data management skills (21 percent) and business skills (19 percent).

Leaders vary significantly from others in the level of professional investment made in analytics resources. Leaders share advanced analytics subject matter experts across projects to expand mentoring and knowledge-sharing opportunities and create communities of competency among those who perform and manage business analytics. Within Leader organizations, analytics employees often have formalized roles and career paths laid out, as well as proactive investments in their skills development.

Leaders are also more likely to co-locate their analytics resources in units; these roles are often matrixed to specific business units yet share methodologies and a sense of community with other business and data analysts. Almost half of Leaders have analytics resources co-located in a single, shared enterprise group to perform and manage business analytics. Another 13 percent of Leaders have analytics experts who are shared across the organization to support business unit analysts tasks (see Figure 13).

#### Location analytics performed



Note: Respondents were asked to identify where and by whom analytics are performed within their organization; n = 109.  
Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

**Figure 13: Leaders tend to co-locate analytics expertise to optimize knowledge sharing opportunities.**

In addition to the communities of competency created through co-location, Leader organizations also proactively share knowledge across units within their organization. Two-thirds of Leaders have advanced analytics subject matter experts who work on projects across the organization. Leaders also invest in formalized training programs to train current employees and allocate resources across projects to grow their analytics expertise. One out of seven relies on knowledge transfer from vendors and consultants to grow internal expertise.

### *Amplify levers provide the momentum and capabilities to transform insights into actions.*

To continue to perform in a competitive modern insurance marketplace, **Westfield Insurance** knew that it had to find a more effective way to extract value from its business data, despite its long history as one of the top property, casualty and surety insurers in the United States.

The first step was to put a new organization in place to oversee business intelligence, analytics and data governance. Known as the Analytics Resource Center (ARC), a small co-located team that combined experts from the IT department, the company's business units and outside consultants, the organization began designing processes for data delivery and defining consistent metrics that would apply across the whole business.

"We're a 160-year-old company, so there are long-established ways of making decisions, many of which work effectively for us," comments Beth Riczko, Group Analytics Leader at Westfield Group. "The challenge has been to hold on to what works while adopting new tools to improve performance."

The ARC runs regular training sessions, webinars and informal sessions, such as brown-bag lunches, that help people learn in whatever ways work best for them. It has leveraged "change agents" in all the business units, who feed back information on how best to encourage the use of analytics in different areas.

Analytics is now a key competency for all employees, and analytics-related objectives have been added to many employees' goals. In fact, analytics is now part of the job description for all leadership positions, and senior leaders are expected to act as advocates for the solution.

Riczko comments: "Analytics at Westfield is an enterprise-wide effort – ARC's partnership with IT and the business units makes it possible for us to give our people the ability to obtain the data they need to make sound decisions on a day-to-day basis. Through business intelligence and analytics solutions, we are making it easier for the business to prosper in an increasingly competitive environment."<sup>7</sup>

## Recommendations

While it's helpful to know how each lever influences value creation, it's equally important to consider where each lever fits in terms of the day-to-day aspects of running a business. Most executives need to approach analytics with a business-driven blueprint, an approach that defines how and why the organizations will use technology through three lenses: strategy, technology and organization.

- **Strategy:** The deliberateness with which an organization approaches analytics
- **Technology:** The enabling capabilities and resources an organization has available to manage, process, analyze, interpret and store data
- **Organization:** The actions taken to use data and analytics to create value.

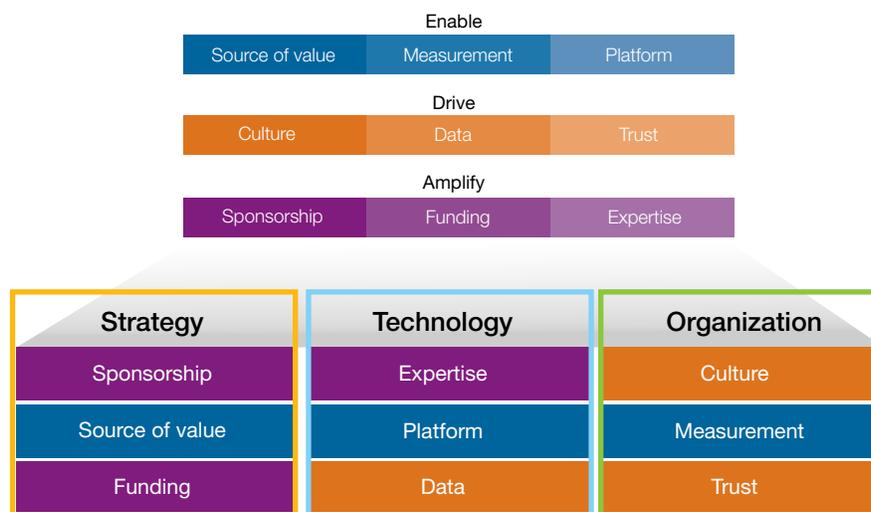
This construct, popularized as organizations built business intelligence foundations and other enterprise applications, creates a blueprint that guides executives to consider both the strategic

and tactical actions needed to act on data, as well as define the business and technical requirements for the use of analytics.

The levers of *Sponsorship*, *Source of value* and *Funding* represent those capabilities needed to define and enable a strategic approach to data and analytics. By emulating the behaviors of Leaders within these levers, executives can instill a sense of purpose to analytics that connects the strategic vision of the executive suite to the day-to-day actions needed to act on analytics.

The levers of *Expertise*, *Data* and *Platform* combine to create the technical capabilities and resources an organization has available to manage, process, analyze, interpret and store data. By identifying the capabilities most needed to solve the organization's unique requirements, executives can create a foundation for analytic discovery to solve today's challenges, while also architecting it for the future.

The levers of *Culture*, *Measurement* and *Trust* coalesce to form an organization's ability to act on data and analytics, which is



Source: IBM Institute for Business Value 2013 Big Data & Analytics Study.

Figure 14: While it is important to understand how each lever impacts value, organizations implement change using a different construct.

the only way to realize a return on investment. Executives need to consider the cultural impact and changes required to operate as a fact-driven organization and be able to measure success when it occurs. But, as noted earlier, it takes more than memos and measurement to transform an organization: it takes trust. It takes trust in the data, but also trust in one another – trust that everyone is working toward the same goal and similar outcomes.

By reframing the levers into a familiar construct, our goal is to provide the trusted advice executives need to create a blueprint for insight within their organization and unlock the value of data and analytics through discovery and insight (see Figure 14).

### Strategy

*Accelerate analytics with a results-based program.*

Executives need to establish a business-driven agenda for analytics that enables executive ownership, aligns to enterprise strategy and business goals, and defines any new business capabilities needed to deliver new sources of revenue and efficiencies. Moreover, they need to create a funding process that prioritizes projects that align with those goals.

To facilitate the necessary activities within each Strategy lever – *Sponsorship*, *Source of value* and *Funding* – we offer executives the following recommendations (see Figure 15):

#### *Sponsorship*

An effective analytics strategy will **establish the strategic intent of data and analytics investments** by creating explicit connections between the enterprise's strategic goals and the analytic activities it outlines.

Organizations whose line-of-business executives are personally involved in the development and management of an analytics strategy are the most effective. This involvement includes understanding the strengths and weaknesses of the organization's digital infrastructure – hardware, software, data and talent – and then taking proactive steps to ensure the organization is capable of using data as a strategic asset.

### Strategy Instill a sense of purpose

*Accelerate analytics with a results-based program*

#### Sponsorship

- Establish the strategic intent of data and analytics investments
- Use measureable business outcomes to make the transition from executive strategy to line-of-business actions
- Convey an enterprise-wide sense of ownership through communication and endorsement

#### Source of value

- Explore growth opportunities in the still-emerging digital marketplace
- Focus on opportunities for operational innovation
- Determine the business capabilities needed to create value

#### Funding

- Invest the time to develop value-based business cases
- Allocate funding to help maximize growth and efficiency
- Prioritize funding based on alignment to business outcomes

*Figure 15: Taken together, these steps establish a strategic approach to analytics that enables executives to accelerate analytics with a results-based program.*

Equally important are executive messages that outline – with certainty – how success will be defined. **Use measureable business outcomes to transition from executive strategy to line-of-business actions.** With a clear strategic vision from above, each descending level of management should ask, “How can we impact that set of business outcomes?” and, “What data do we need to do it?” Effective governance at every level means understanding how independent strategies can work together to achieve that common goal.

In addition to setting the analytics strategy, successful sponsors **convey an enterprise-wide sense of ownership through communication and endorsement** of analytic undertakings. Working together to achieve a common objective is a key strategy in creating value from analytics.

### *Source of value*

Organizations are recognizing the value of analytics to identify new sources of revenue and efficiencies. Most **explore the growth opportunities that abound in the still-emerging digital marketplace** of the twenty-first century. They are looking at new business models and strategies that capitalize on the changing information they have about customers, competitors and markets, and leveraging new technologies to create efficiencies throughout the organization.

Executives should also **focus on opportunities for operational innovation**. Transformations in personal technology – from the Internet to smartphones – have profoundly altered customer interactions and expectations. At the same time, business technology innovations have created new platforms for interaction with customers and suppliers, new means of understanding business outcomes in relevant timeframes, and innovative ways to manage the day-to-day operations of the business.

Once an organization has set its strategic path for analytics, the next step is to **determine the business capabilities needed to create value**. By developing a business-driven blueprint of the capabilities needed, organizations can better streamline and focus their analytic investments. Organizations should invest in business capabilities that support the immediate outcomes set forth by the strategy and that focus on solving key business challenges. Documenting the specific use of big data and analytics to solve business problems through use cases is a highly recommended practice.

### *Funding*

The rigorous approach required for analytics funding can often be learned from the Chief Financial Officer's staff. Rather than relying on best guess and assumed impacts, organizations need to **invest the time to develop value-based business cases** to optimize the likelihood that investments will pay off, preferably promptly. Funding requests that include justifiable costs and anticipated benefits are a minimum among most top performing organizations, many of which also require multiple scenarios to understand the range of business outcomes and proofs of concept to justify potential benefits.

The challenge is establishing a way to **allocate funding to maximize growth and efficiency**. Building on the business capabilities blueprint, organizations need to develop an implementation roadmap that encompasses all the proposed analytics-related activities seeking investments across the organization. An integrated roadmap reduces the risk of duplicative or conflicting investments in hardware and software, which not only result in inefficient initial investments but add a downstream expense of reconciling the components as needed to facilitate cross-enterprise data sharing and analysis.

An implementation roadmap can help the organization **prioritize funding based on alignment to business outcomes**. Due to the economic realities of most organizations, some desired outcomes won't be funded. Organizations unable to prioritize data and infrastructure developments holistically risk the likelihood of misaligning dependencies and underutilizing scarce resources of analytics talent.

## Technology

*Enrich the core analytics platform and capabilities.*

Most firms will need to **enrich the core analytics platform and capabilities** available within their organization to manage, analyze and act on the insights that will deliver value from data and analytics.

Effective use of technology to achieve an organization's strategic goals begins with a strong analytic talent pool – individuals who understand the business or agency day-to-day operations and challenges and can combine that knowledge with analytics to create viable insights that deliver positive business results.

To effectively put this talent to use, organizations need to govern data assets with rigor and create a simplified, more flexible hardware infrastructure. And when making decisions relating to their IT infrastructure, they need to look toward their future needs as well, and architect for the future growth and needs of the organization.

Following (and summarized in Figure 16) are recommended actions to help organizations gain the capabilities associated with the Technology levers of *Expertise, Data* and *Platform*:

### Expertise

Leaders have discovered it is more effective and cost-efficient to **supplement business knowledge with analytics knowledge** by building skills among those already within an organization. Organizations will likely find it easier to teach critical thinking and analytics software skills to someone knowledgeable about the business than to instill business knowledge in an outside analytics expert. Training existing employees is also prudent given the current low supply of, and high demand for, strong analytic talent.

Organizations can proactively create opportunities for knowledge sharing through cross-project pollination and co-location within analytics centers of competency, which offer mentoring and knowledge-sharing opportunities at the

## Technology Architect for the future

*Enrich the core analytics platform and capabilities*

### Expertise

- Supplement business knowledge with analytics knowledge
- Establish a formal career path for analytics professionals
- Use partners to supplement skills gaps

### Data

- Govern data with rigor
- Improve data quality, accessibility and availability
- Capture a variety of big data sources

### Platform

- Simplify and modernize existing platform
- Increase reusability in application development and maintenance
- Pilot new technologies that enable business capabilities

*Figure 16: By working together, business and IT executives can enable the enterprise analytics agenda with shared analytical expertise, new technologies, and a simplified and flexible platform.*

grass-roots level. On-going learning opportunities ranging from formal training to lunch-and-learn sessions enable skills to grow organically.

Top-tier organizations **establish a formal career path for analytics professionals** to foster their professional development needs through a formal structure of training, career planning and incentives. By formalizing the role, executives send a clear message that data management and analytics are not secondary or incidental to achieving the enterprise's strategy, but integral to it.

For those complex data management or advanced mathematics skills that cannot be developed internally, we suggest organizations **use partners to supplement skills gaps**. A significant portion of respondents indicated an inability to find and hire needed skills, an issue readily confirmed by message boards at analytics conferences around the globe.

Indeed, a growing number of executives are determining that managing and training analytics experts are not core competencies for their organization – or cannot be due to the lack of available skills – yet recognize analytics as a fundamental part of their business strategy. Innovative public-private partnerships are emerging around the globe to create centers of analytics excellence accessible to the broader business community. Whereas outsourcing data management and software development has been available for decades, these new centers offer the opportunity for companies to overcome the global analytics skills shortage and gain access to the capabilities and insights needed to achieve their target strategic outcomes.

### *Data*

Organizations that **govern data with rigor** not only enable cross-silo data sharing, but instill confidence in the data and allow the organization to make data more widely available and accessible. In addition to protecting customer data, strong security – ironically – also enables wider sharing of data within an organization. Once sensitive data is secured through such practices as role-based access, data masking and monitoring, sharing the data becomes less risky. Increasing the availability and access to data, along with empowering the end user, drives data and analytics usage.

Most organizations have experienced the difficulty involved in integrating disparate data stores into a cohesive enterprise asset. Leaders have learned the most effective way to enable enterprise-wide data sharing and a single view of the customer is through a set of data management standards that establish uniformity in the data where needed, yet are flexible enough for business units to conduct their own analysis.

These standards create more than a foundation for master data management, though. Strong governance creates a direct path to **improve data quality, accessibility and availability**. Traceability and transparency in a data's lineage enable analysts and executives from across the organization to understand where the data came from, how it has been processed and what

it means; this enables a level of trust that only comes with clarity. Metadata management, a key part of rigorous data governance, is a step in the right direction for organizations crippled by a reluctance to manage data as a strategic asset.

The need for rigorous governance is intertwined with the organizational need to **capture a variety of big data sources**. The vast amount of customer data available in social media feeds, videos, text chats and other unstructured data cannot be ignored due to the sheer potential insights it holds. However, enabling a greater understanding of customers and their behavior patterns comes with a responsibility to protect the privacy and security of that data.

### *Platform*

Part of moving the focus from operations to innovation is to rethink what the organization needs today in terms of integrated hardware and software capabilities – to rethink not only what is needed to solve key business challenges, but what core capabilities the organization needs to provide itself; what it needs to have physically onsite; and what, if anything, could be provided by newer technologies, outside vendors or business partners.

After years of countless mergers and acquisitions, many organizations find themselves with a complex, pieced-together environment that often struggles to deliver consistent and complete information. With today's "need for speed," organizations can **simplify and modernize the existing platform** by taking such actions as creating reusable extract-transform-load (ETL) components and reducing data duplication and the number of data model tables by moving to an industry data model. This simplification results in data that is easier and more efficient to store, manage and access.

Organizations that **increase reusability in application development and maintenance** slowly transform their environments over time using their existing IT budgets. Teams build and deploy reusable ETL components, replacing long, repetitive ETL jobs with sets of target-based jobs, maximizing

resource utilization, reducing the cost of maintenance and decreasing delivery time of future data integration projects. This allows the organization to do more analytics within a pervasive environment of flat budget constraints.

Additionally, the reduction in complexity of the analytics environment makes it easier for the organization to integrate and **pilot new technologies that enable business capabilities**. Leaders are adopting the newer technologies at a measured pace, evaluating each before implementing, including cloud, big data, mobile capabilities and managed shared services constructs. Defining the right business use cases and pairing them with the right proofs of concepts, prototypes and pilots is an essential step in enabling new business capabilities.

## Organization

*Drive change with analytics as a core competency.*

Senior leaders must **drive change with analytics as a core competency** within the organization. In most organizations, cultural norms are set from the top down. As such, executives and business unit leaders must transparently use analytics to make their own decisions, and espouse the merits of a fact-based culture to set the needed expectations and engrain the behaviors within the organization.

In organizations that excel at analytics, leaders ensure that the mechanics of data-driven decision making don't impede the ability to act on data. They proactively work to establish the relationships needed to engender trust in the data, and they measure the amount of influence data has on business outcomes to demonstrate its value to the organization.

As summarized in Figure 17, we offer the following recommendations to assist organizations in honing the capabilities associated with the Organization levers of *Culture*, *Measurement* and *Trust*:

### Culture

With data moving from intake to insight at an ever faster pace, organizations need to provide the right data at the right time to the right people to make better decisions. Organizations

## Organization Enable the organization to act

*Drive change with analytics as a core competency*

### Culture

- Streamline the data cycle to deliver more timely and relevant insights
- Automate key portions of the analytics cycle to arm decision makers with information
- Actively endorse the power and benefits of data

### Measurement

- Create a feedback loop based on the outcomes
- Identify and define the specific key performance indicators (KPIs)
- Evaluate the investments' impact to value creation

### Trust

- Recognize trust is a key ingredient to value creation through analytics
- Invest time to create trustworthy relationships
- Transform roles to share responsibilities and outcomes

*Figure 17: By setting a strong example and expectations, senior leaders can create a data-driven culture built on relationships to generate business value.*

must **streamline the data cycle to deliver more timely and relevant insights** to reach end users and decision makers.

Leading organizations **automate key portions of the analytics cycle** to more effectively arm decision makers with the information they need. Embedded analytics and machine learning offer new opportunities to shrink the data cycle. Automating data feeds and routine tasks also increases the productivity of analysts, whom we found routinely spend as much as 75 percent of their time tracking down data and cleaning it up. Allowing analysts more time to focus on developing insights instead of tables and charts is not only a more productive use of valuable resources, but also increases the likelihood that data for the decision process is relevant, timely and consistent.

Moreover, executives need to **actively endorse the power and benefits of data and analytics**. One of the most effective ways to demonstrate this endorsement is using data and analytics to support decisions transparent to the organization. Decisions based on facts should be presented as such, reinforcing the behavior while also exposing the thought process to scrutiny, which in turn builds trust.

### *Measurement*

A critical part of that transparency is measuring the outcomes of analytics investments. If an organization cannot pinpoint the value of analytics strategies, it won't be motivated to invest in them or to develop and act on insights. Moreover, it could be investing in strategies that only deliver low-value returns and missing opportunities to improve future outcomes.

The only way to solve this is to measure value. This starts with the governed discipline of the strategy, follows through to implementation, and carries on with an ongoing evaluation of results as long as relevant. Organizations must measure to understand what works, what doesn't and how to increase the value of analytics.

The first step is to extend the rigorous metrics process put in place to fund analytics efforts to **create a feedback loop based on the outcomes**. The value of an analytics investment can best be understood when the cost-benefit analysis of the funding request is examined based on the actual costs and the actual benefits delivered. Without this level of evaluation, the ability to distinguish between an effective marketing campaign and an interesting idea becomes impossible.

As such, organizations must **identify and define the specific key performance indicators (KPIs)** expected to be impacted by each analytic investment at the time of funding. These KPIs should be aligned to the target business objective and justified with the forecasted outcomes – tangible and intangible – expected to be delivered.

Once analytics investments have been transformed into implemented capabilities, the organization needs to create an audit process and feedback mechanism to **evaluate the investments' impact to value creation**, as measured by the pre-defined KPIs.

### *Trust*

Trust and personal relationships established through face-to-face interactions may seem archaic in a world of social media and digital networking, but Leaders **recognize trust is a key ingredient to value creation through analytics**.

Trust has the power to break down the resistance to change that comes with every cultural transformation because it empowers people to act on data they did not create. Decision making is all about putting your and the organization's reputation at risk, with every action regardless how big or small. If people do not understand where data comes from and how conclusions were reached, even at a high level, they will be skeptical.

The solution is human interaction. **Invest the time needed to create trustworthy relationships**. This requires executives and analysts alike to talk to people: understand what concerns they have about the data and analysis provided; learn what they know about the data they manage or analyze; and discuss how to work better together. Strive to remove as much of the anonymity as possible between the data creators and users, between dependent executives and, most importantly, between the business unit and IT.

Organizations already accustomed to a fact-based culture are beginning to **transform roles to share responsibilities and outcomes** between business and data analysts, as well as business and IT executives. The distinction between "business" and "IT" is blurred by expectations that business analysts understand the data, where it comes from and how to use it, while data analysts grasp how the business works, what the key measures are, and how analytics can impact the business. In this model for the future, business executives are fluent in the technologies available, while IT executives drive to harness those capabilities to deliver business outcomes.

## Conclusion

Our research makes it clear that there are specific activities that can help organizations derive more value from their data.

The nine levers – combinations of activities focused on analytic development and delivery – help organizations accelerate value creation, simplify analytics implementation and streamline analytic investments.

By examining their own activities through the lens of the levers, organizations still struggling to harness the insights buried in their data can begin building a value-based analytics strategy. Organizations that learn from the Leaders in our survey and follow our recommendations stand to answer the question posed in the beginning of how to extract value out of analytics investments. By embracing analytics to drive smarter decisions and positively influence business outcomes, these organizations are well positioned to join the Leaders in outperforming their industry and market peers.

*By examining their own activities through the lens of the levers, organizations still struggling to harness the insights buried in their data can begin building a value-based analytics strategy.*

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## References

- 1 “Gartner Predicts 2013: Information Innovation.” Gartner Research. December 14, 2012. G00246040, page 2, “Strategic planning assumptions.”
- 2 Clifford, Stephanie and Quentin Hardy. “Attention Shoppers: Store is Tracking Your Cell.” The New York Times. July 14, 2013. <http://www.nytimes.com/2013/07/15/business/attention-shopper-stores-are-tracking-your-cell.html?pagewanted=all&r=0>
- 3 “Gartner Predicts 2013: Information Innovation.” Gartner Research. December 14, 2012. G00246040, page 2, “Strategic Planning assumptions.”
- 4 See case studies of McKesson and BAE Systems in our 2011 study: Kiron, David, Rebecca Shockley, Nina Kruschwitz, Glenn Finch and Dr. Michael Haydock. “Analytics: The widening divide: How companies are achieving competitive advantage through analytics.” IBM Institute for Business Value in collaboration with MIT Sloan Management Review. October 2011. <http://www-935.ibm.com/services/us/gbs/thoughtleadership/ibv-analytics-widening-divide.html> © 2011 Massachusetts Institute for Technology.
- 5 “Banorte-Ixe partners with IBM to establish a unique client-centric banking model in Latin America.” IBM press release. IBM Web site. March 12, 2013. <http://www-03.ibm.com/press/us/en/pressrelease/40619.wss>
- 6 “Gartner’s Top Predictions for IT Organizations and Users, 2013 and Beyond: Balancing Economics, Risk, Opportunity and Innovation.” Gartner Research. October 19, 2012.
- 7 “Westfield optimizes decision making through analytics.” IBM case study. IBM Web site. January 2, 2013. [http://www-01.ibm.com/software/success/cssdb.nsf/CS/STRD-937K3A?OpenDocument&Site=default&cty=en\\_us](http://www-01.ibm.com/software/success/cssdb.nsf/CS/STRD-937K3A?OpenDocument&Site=default&cty=en_us)





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