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EXECUTIVE STUDY AND RESEARCH PROJECT**

Beyond the Hype: The Hard Work Behind Analytics Success

Why competitive advantage from analytics
is declining and what to do about it

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Beyond the Hype: The Hard Work Behind Analytics Success

From Data to Decisions — Moving Past the Hype

The hype around data and analytics has reached a fever pitch. From baseball to biomedical advances, the media highlights one money-making or money-saving corporate experience with analytics after another. Stories abound about data scientists applying their wizardlike talents to find untapped markets, make millions, or save lives. Pundits have been talking up the promise of data in grand terms for several years now: Data has been described as the new oil, the new soil, the next big thing, and the force behind a new management revolution.¹

Despite the hype, the reality is that many companies still struggle to figure out how to use analytics to take advantage of their data. The experience of managers grappling, sometimes unsuccessfully, with ever-increasing amounts of data and sophisticated analytics is often more the rule than the exception. In many respects, the hype surrounding the promise of analytics glosses over the hard work necessary to fulfill that promise. It is hard work to understand what data a company has, to monitor the many processes necessary to make data sufficient (accurate, timely, complete, accessible, reliable, consistent, relevant, and detailed), and to improve managers' ability to use data. This unsexy side of analytics is where companies need to excel in order to maximize the value of their analytics initiatives, but it is also where many such efforts stall.

Moving past the hype takes a measure of resolve that few companies demonstrate. A 2015 survey of more than 2,000 managers conducted by *MIT Sloan Management Review* and SAS Institute — as well as more than a dozen interviews with executives at global companies — reveals insights about the unglamorous but necessary actions required to improve decision making with analytics.

Five key findings came from this research:

- Competitive advantage with analytics is waning. The percentage of companies that report obtaining a competitive advantage with analytics has declined significantly over the past two years. Increased market adoption of analytics levels the playing field and makes it more difficult for companies to keep their edge. In addition, many organizations are in the early stage of their analytics initiative.
- Optimism about the potential of analytics remains strong, despite the decline in competitive advantage. Most managers are still quite posi-

tive about the potential of analytics. They've seen increased interest in analytics over the past few years, and they expect its use to continue to grow in their organizations. In addition, use of analytics for innovation remains steady.

- Achieving competitive advantage with analytics requires resolve and a sustained commitment to changing the role of data in decision making. This commitment touches many aspects of organizational behavior, from revamping information management to adapting cultural norms.
- Companies that are successful with analytics are much more likely to have a strategic plan for analytics, and this plan is usually aligned with the organization's overall corporate strategy. These companies use analytics more broadly across the organization, and they are able to measure the results of their analytical efforts.
- Most companies are not prepared for the robust investment and cultural change that are required to achieve sustained success with analytics, including expanding the skill set of managers who use data, broadening the types of decisions influenced by data, and cultivating decision making that blends analytical insights with intuition.

ABOUT THE RESEARCH

To understand the challenges and opportunities associated with the use of business analytics, *MIT Sloan Management Review* conducted its sixth annual survey of business executives, managers, and analytics professionals from organizations located around the world. The survey, conducted in the summer of 2015 in partnership with SAS, captured insights from 2,192 respondents across the world, from a wide variety of industries and from organizations of all sizes. The sample was drawn from a number of sources, including MIT alumni, *MIT Sloan Management Review* subscribers, and other interested parties.

In addition to these survey results, we interviewed subject matter experts from a number of industries and disciplines to understand the practical issues facing organizations today in their use of analytics. Our interviewees' insights contributed to a richer understanding of the data. We also drew upon a number of case studies to illustrate how organizations are using business analytics as a strategic asset.

In this report, the term "analytics" refers to the use of data and related business insights developed through applied analytical disciplines (for example, statistical, contextual, quantitative, predictive, cognitive, and other models) to drive fact-based planning, decisions, execution, management, measurement, and learning.

Our research suggests that companies more advanced in their application of analytics view the collection, management, and use of valuable data in terms of strategic ends, not merely operational goals. These analytically advanced companies pursue their hard-won success with leadership and execution, not by leadership fiat or simply by hiring new analytics talent. Companies that have not been able to use analytics for competitive advantage — or those that have lost their analytical edge due to rapid advances in the marketplace — need to understand the level of commitment and hard work required to execute and sustain a successful analytics strategy. At the conclusion of this report, we identify four key organizational issues that managers need to address when planning for success with analytics.

Competitive Advantage From Analytics Is Down

For the past six years, *MIT Sloan Management Review* has asked managers to what degree analytics creates competitive advantage for their companies. For the first few years, the percent of managers reporting a competitive advantage from their use of analytics increased dramatically. In 2013, the steep incline flattened, and in the last two years, there has been a significant decline. Down from a high in 2012 of 66%, just 51% of survey respondents in 2015 indicated that analytics creates competitive advantage for their organizations. (See “Competitive Advantage From Analytics Is Declining.”) This decline is taking place across all industries, with energy and health care reporting the steepest declines, and manufacturing reporting the lowest decline.

This decrease in the percentage of organizations reporting a competitive advantage from analytics might suggest that analytics is losing its luster. After all, the original hype around analytics was that it helped organizations compete more effectively. In addition, now there is more data, better technology to capitalize on it, and increased focus on analytical skills. So what’s behind this dramatic drop-off?

One factor in this downward trend is the increase in adoption of analytics across the corporate landscape. As more companies develop analytic capabilities, it is becoming harder for some companies to gain an edge with analytics. “Analytics used to be a competitive advantage, but now it’s becoming table stakes,” says Steve Allan, head of analytics for Silicon Valley Bank. Surprisingly, many managers report that they are innovating with analytics at about the same rate as managers in previous surveys — suggesting that companies are using analytics to *stay* competitive, but are having difficulty pulling away from competitors.

Beyond the increased use of analytics among companies, there is no single source of the decline that might suggest a simple fix. Among companies not obtaining a competitive advantage from analytics, the reasons varied. (See “Difficulties Gaining an Edge With Analytics,” page 6.)

INTERCONTINENTAL HOTEL GROUP

Jim Sprigg, director of database marketing and analytics at InterContinental Hotels Group (IHG), describes the difficulties organizations in the hospitality industry face due to the complexities of data and multichannel marketing. “Many competitors are trying to drive many types of behavior among the same customers across multiple channels. Our advantage,” explains Sprigg, “is our marketing analytics.”

IHG executives believe their analytics advantage offers protection from imitation. “Other companies in the industry may be able to see what we’re doing because they can look at our promotions. But they are not going to be able to replicate our approach and results,” says Sprigg. “To actually do it well, you’ve got to have leadership that believes in it, is willing to put resources against it, and is willing to change the processes and replace them with what to that company is a new and risky approach to doing something.”

“You’ve got to have the organizational support and the organizational culture to build those capabilities and have them embedded and transfer your processes over to them. Otherwise you won’t be able to do what we’ve done.”

FIGURE 1: COMPETITIVE ADVANTAGE FROM ANALYTICS IS DECLINING The percentage of organizations gaining competitive advantage from analytics declined significantly in 2015.

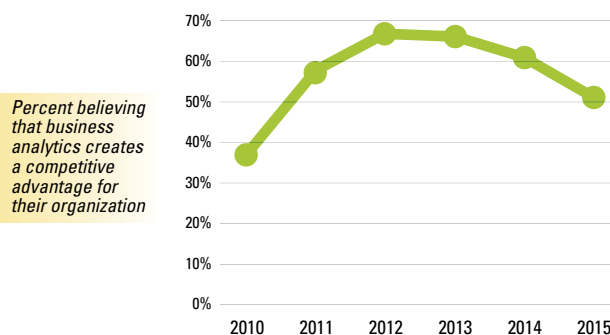
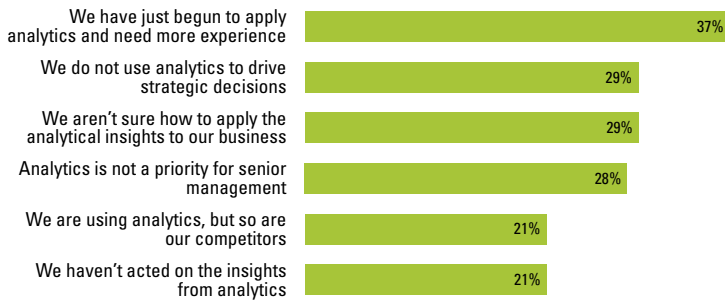


FIGURE 2: DIFFICULTIES GAINING AN EDGE WITH ANALYTICS

Many organizations not gaining a competitive advantage from analytics are just beginning to apply analytics and need more experience.

Among managers reporting a difficulty gaining competitive advantage with analytics, a certain percent cited one or more reasons for their difficulty:



Respondents could choose more than one option

FIGURE 3: MORE DATA, BUT INSIGHTS HAVE LESS EFFECT ON STRATEGY

While access to useful data has increased, the ability to use insights to drive strategy continues to decline.

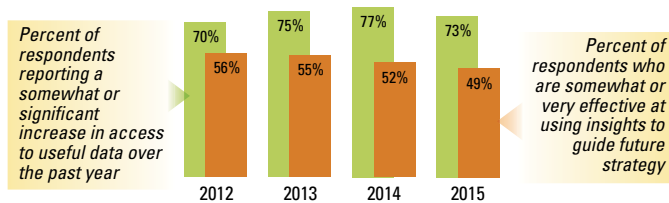
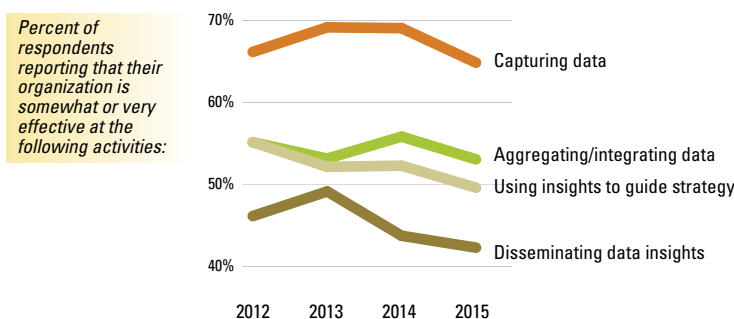


FIGURE 4: BROKEN LINKS IN THE INFORMATION VALUE CHAIN

Organizations have made no progress in managing how they capture and integrate data or disseminate relevant insights to strategic decision makers.



Many managers in organizations that have difficulty obtaining a competitive advantage are still experimenting with what they can do with data, and have yet to capitalize on data use across the enterprise. The transition from pilots to organization-wide deployments can be difficult given costs, effort required, and broader questions about whether the analytics will be used consistently by decision makers. Silicon Valley Bank is one company that's making the transition. "We've gone from experimenting with some analytics tools to deploying one visualization tool across the entire enterprise," says Allan. "Every person has access to data reports and the ability to look at the data from the exact viewpoint they would like. If you had told me two years ago I was going to shift that tool out from a small group of people to all 1,400 employees, I would have said, 'I highly doubt it.'"

Respondents also noted several difficulties applying analytical insights — not using analytics to drive strategic decisions, uncertainty about how to apply analytics, and failure to act on insights. Over the years, access to useful data has continued to increase, but the ability to apply analytical insights to strategy has declined. As the volume and complexity of data grows at exponential rates, companies wrestle with how to turn the data into useful insights that can guide the business. (See "More Data, but Insights Have Less Effect on Strategy.")

Moreover, since 2012, companies have not improved their data management capabilities. Data management is fundamental to effective analytics, yet it remains one of the biggest challenges for many organizations. Companies are also less effective in disseminating data insights and in using those insights strategically. (See "Broken Links in the Information Value Chain.")

Optimism About the Potential of Analytics Remains Strong

Despite the cross-industry decline in competitive advantage from analytics and the many reasons for

ALIGNING EXPECTATIONS AND REALITY

More than one-third (38%) of respondents agree analytics hasn't lived up to its hype, and 32% think management's expectations are too high. "The hype has been around not only the amount of data but also around the idea that data can solve all your problems," said Adam Leary, lead data scientist and senior director of the data team at CBS Interactive. "Vendors have come to us and said, 'You can build all these dashboards, and now you have insights.' Well, you don't really have insights if the team doesn't know what their own goals are, right? You can provide them with amazing outputs, but if you really don't know how to make it part of your own goals, if you don't have the level of sophistication to use it, you're going to miss out. That's a big organizational culture question. Analytics can help you a lot, even give you a competitive advantage, but only if you know how to use it."

this trend, most managers remain optimistic about the possibilities with analytics and do *not* report a commensurate level of disillusionment or pessimism. Although a substantial group of managers describe senior management expectations around analytics as unrealistic and express ambivalence about the results of analytical efforts in their organizations,² a majority of managers are optimistic about the business potential of analytics and anticipate that the appetite in their organizations for using analytics will increase significantly over the next few years. (See "Optimism Versus Pessimism About Analytics.")³

This is an interesting and surprising result: Many managers agree that analytical results have not lived up to the hype, yet a large proportion of managers remain optimistic about the potential of analytics and believe the use of analytics in their organization will increase significantly in the next few years. "I expected to be running into this Gartner curve," said an executive at a large U.S.-based pharmaceutical company, referring to the visualization Gartner uses to show how and when technologies move from promise to practicality. "There was definitely hype around big data. But I can't say we've had any disillusionment. I don't think we ever made any promises." (See "Aligning Expectations and Reality.")

This survey finding — optimism about the potential of analytics, combined with pessimism about executive expectations and current results from analytics — becomes more interesting when considering analytics maturity levels of companies represented in our survey. (See "Three Levels of Analytical Maturity" on page 8 for details about the levels.) For the first time since we began using these maturity categories in 2012, the least mature group, what we call the Analytically Challenged group, shows marked growth at the expense of the Analytical Practitioners group. (See "Increase in Analytically Challenged Organizations.")

Since the Analytically Challenged group has the most difficulty deriving a competitive advantage from analytics, it would be reasonable to assume that managers in these organizations would be overwhelmingly pessimistic about the potential of analytics. However, this

FIGURE 5: OPTIMISM VERSUS PESSIMISM ABOUT ANALYTICS Optimism about analytics is a stronger sentiment than pessimism about analytics.

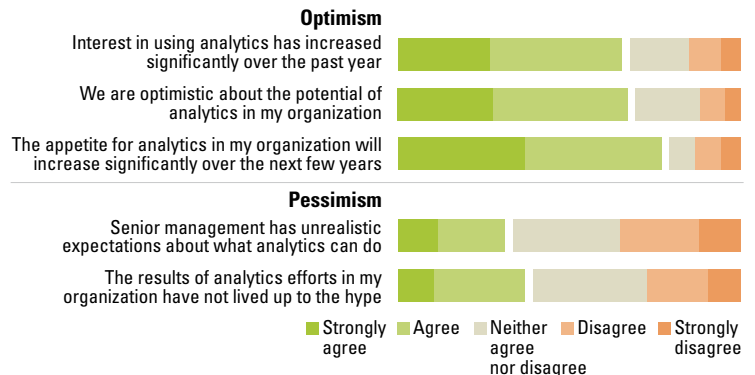
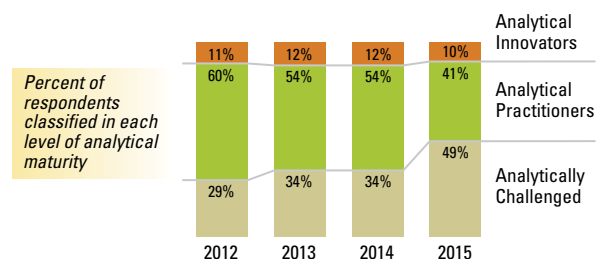


FIGURE 6: INCREASE IN ANALYTICALLY CHALLENGED ORGANIZATIONS The Analytically Challenged group shows a marked increase at the expense of the Analytical Practitioners group.ⁱⁱ



is not the case. True, optimism does increase with success. But more than half of this challenged group remains optimistic and expects the demand for analytics to increase in the next year.

Analytics Strategy Is a Key Component of Success

Having a strategy for analytics is critical to meeting (or even creating) demand for analytical insights.

Among Analytically Challenged organizations, only 1 of 8 respondents says his or her company has a formal long-term strategy for analytics. A significant number — 1 in 4 — has no analytics plan at all. Companies that have pulled away from the pack, the Analytical Innovators, are five times more likely to have a formal strategy for analytics than the least mature group. (See “Planning to Succeed With Analytics.”)

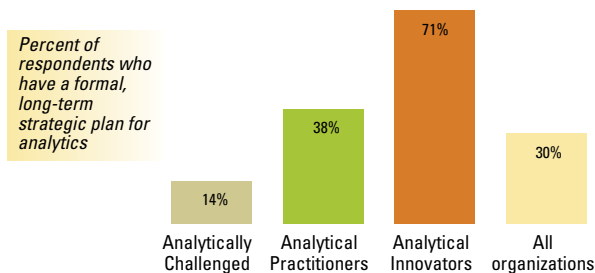
Formal analytics strategies tend to focus on at least three basic areas of activity: skills development, data management, and cultural norms for using data in decision making. Some of the most mature analytics organizations, along with those that are striving to use analytics more widely, forge a strong connection between their organizational strategy and a formal strategy for analytics. The following examples illustrate three different approaches to making this connection.

THREE LEVELS OF ANALYTICAL MATURITY

We classify organizational maturity based on a company’s ability to gain competitive advantage from analytics and its ability to use analytics to innovate. (See our report from 2014, “The Analytics Mandate,” for additional details.)ⁱ

49%	41%	10%
Analytically Challenged	Analytical Practitioners	Analytical Innovators
Rely more on management experience than data analysis	Working to become more data driven	Analytics culture driven by senior mandate
Focus on cost reduction in use of analytics	Primarily operational in their application of analytics	More strategic in their application of analytics
Suffer from data quality and access issues	Have “just good enough” data	Place a high value on data
Lack appropriate data management and analytical skills	Have more of the information they need to make decisions	Have higher levels of data management and analytic skills
Simple approach to analytics, mostly descriptive applications	More complex approach to analytics, some predictive applications	Sophisticated approach to analytics, focus on prediction and prescription

FIGURE 7: PLANNING TO SUCCEED WITH ANALYTICS Analytical Innovators are much more likely to have an analytics strategy.



Bank of England

The Bank of England, Great Britain’s central bank, influences the multitrillion-dollar British economy through regulation and policy. With an expanded charter to regulate the financial industry, analytics excellence is included in the core of the Bank’s mission. Because of the Bank’s role as a regulator, it has gained access to new datasets, and begun integrating and analyzing macroeconomic and, for the first time, some microeconomic datasets. In the past three years, the Bank has hired a chief data officer, created a data lab, established an advanced analytics group and formed a bank-wide data community. Bank leaders have also enlisted the public in a crowd-sourcing effort to use new data sets to find solutions to intractable policy issues. These changes are a direct result of the Bank’s strategic emphasis on analytics.

General Electric

In 2012, GE began creating a new digital business with a multibillion-dollar bet on the Industrial Internet, a platform to aggregate and analyze sensor data from industrial machines. To achieve this digital orientation, the company has had to refashion several elements of its business model, including

changing service delivery, transforming its sales force, and changing the way it prices equipment. It has created a huge software division to support a new cloud-based platform to host and analyze asset productivity data, develop new machine data applications, and bring together a community of customers and developers. GE's strategy for data and analytics has become tightly linked to its corporate strategy, a tremendous corporate shift for what was once a traditional manufacturing conglomerate.⁴ GE anticipates that its Industrial Internet offerings will be a significant source of profitability and growth for years to come. In September 2015, GE formally announced the creation of a new business division, GE Digital, which will combine its Silicon Valley software center, information technology, and industrial security operations.⁵

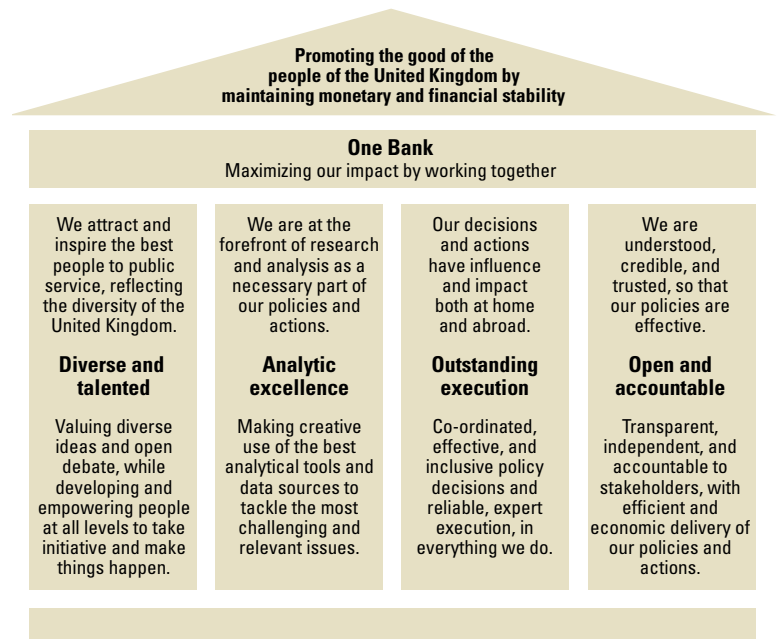
Xiaomi

Beijing-based Xiaomi is among the top phone makers in the world. With a market capitalization of \$45 billion, the five-year-old company is known for its flash sales of high quality, limited-edition phones, viral marketing campaigns, and razor-thin margins. The importance of Xiaomi's use of analytics was revealed in an interview we conducted with co-founder Bin Lin. "We are a data-mining company," Lin said. "Our business model is based on the data we collect." Analytics has proven crucial to managing the company's supply chain, delivering data as a valuable service to apps makers, developing new products, launching in new markets, and protecting a loyal customer base from third parties trying to create a black market for Xiaomi products.

Companies that are innovating with analytics — organizations such as the Bank of England, GE, and Xiaomi — recognize that they need to put in place a robust analytics culture, significant data management capabilities, and a strong talent base for developing analytics results. Our research in past years offers additional evidence that being effective in these areas is highly correlated with analytics success.⁶

As with any effort to develop an organizational capability that touches culture, talent, and decision

FIGURE 8: THE BANK OF ENGLAND'S STRATEGIC PLAN — ONE BANK, ONE MISSION Analytics plays a key role in the Bank of England's strategy and mission.ⁱⁱⁱ



“Culture trumps data, I don't care how good your model is. If you don't understand the culture ... you're not going to succeed with analytics and deliver success for the business.”

—Jim Sprigg, director of database marketing and analytics for InterContinental Hotels Group

making, it can be easy to underestimate just how difficult this process can be. The level of resolve necessary to create a business advantage with analytics can be as much about financing a big data initiative over time as it is about leaders demonstrating that the role of data and analytics should have a more prominent role in decision making. This is especially true for companies that are less open to new ideas and

NORTHWESTERN MUTUAL

For technologists pushing for change, that change might not come soon enough. David Pahl, director of analytics for The Northwestern Mutual Life Insurance Company (NM) and a 21-year veteran of the organization, had been trying for a decade to get the company to pay more attention to the value of applying advanced analytics to various business problems. Despite creating several proofs of concept identifying new ways to generate value, he could not get any traction within the company to leverage more robust analytics. In February 2013, Pahl was presented with an opportunity to start an advanced analytic team at NM from a leader who felt the company was finally ready and would finally embrace it. Initially skeptical, Pahl ultimately agreed to give it a renewed push.

Today, Pahl runs a full-fledged enterprise solutions analytics division, which employs about 50 analytics professionals and offers data and analytics services to over 30 different business units in the organization (not including a separate analytics unit dedicated to corporate strategy). “People are really becoming advocates for our services and understanding the value that we can deliver,” says Pahl. “It’s real now.”

have not demonstrated a willingness to adapt their business models to a changing market environment.

“One of the biggest challenges for established companies is the fact that how they think about these capabilities is at odds with how they manage and control their organizations,” says a senior vice president and director of decision analytics and research at a major financial institution. “We’re having a lot of conversations around how to manage these new teams and new capabilities.” He is now formulating a standard framework to address issues where most organizations lack clarity, including how work flows into the analytical group.

Creating an analytics strategy is necessary, but not sufficient. The next challenge is to execute that strategy.

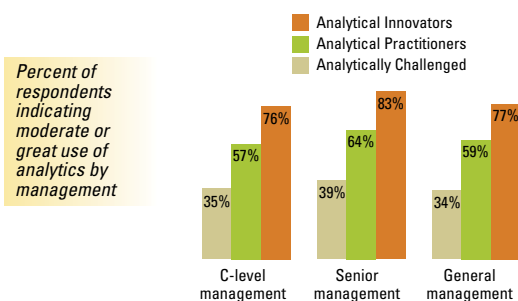
Executing an Analytics Strategy Will Change Behavior

The main goal of a formal organizational strategy for data and analytics is typically to improve decision making with analytics in a wide realm of activities. These might include customer segmentation, pricing, identifying new markets, managing supply chain risk, fraud detection, creating efficiencies, and improving operational effectiveness. Our survey results and interviews offer strong evidence that successful analytics strategies dramatically shift how decisions are made in the organization. Organizations with formal analytics strategies exhibit four key characteristics.

1. Executives are both proponents and users of analytics

In the most analytically mature organizations, senior management, including members of the C-suite, are much more likely to use analytics than their counterparts in less mature organizations. (See “All Management Levels Use Analytics in Analytically Advanced Organizations.”) One survey respondent from an Analytical Innovator company remarked, “Data analytics is used by C-suite for providing stra-

FIGURE 9: ALL MANAGEMENT LEVELS USE ANALYTICS IN ANALYTICALLY ADVANCED ORGANIZATIONS Successful analytics strategies shift how decisions are made at all levels in the organization.



tegic direction to the whole organization. It is also used by middle management to improve day-to-day operation of the organization.”

Senior managers in Analytical Innovator organizations also tend to be more open to change their business in response to analytical insights. One manager reported that “a long-standing premise for a business line was disproved using analytics, bringing into question both its pricing and viability going forward.” Another Analytical Innovator respondent said, “We recently analyzed the prescribing behavior of tens of thousands of physicians [in the U.S.] over the past six years in order to inform our launch strategy. The analysis changed marketing decisions and significantly improved the potential outcome. The analysis and model predictions changed our behaviors and strategic plan.”

Respondents from Analytically Challenged organizations offered a more negative appraisal about the use of analytics by senior management. Some emphasized the reluctance of senior managers to incorporate analytics in their decision making:

“Senior management tends to come from sales/marketing functions where gut feel and/or outsourcing have dominated, so they just don’t have the skills or understanding.”

“Top management are people before the computer; they have more confidence in their intuition and feelings than in hard data analysis.”

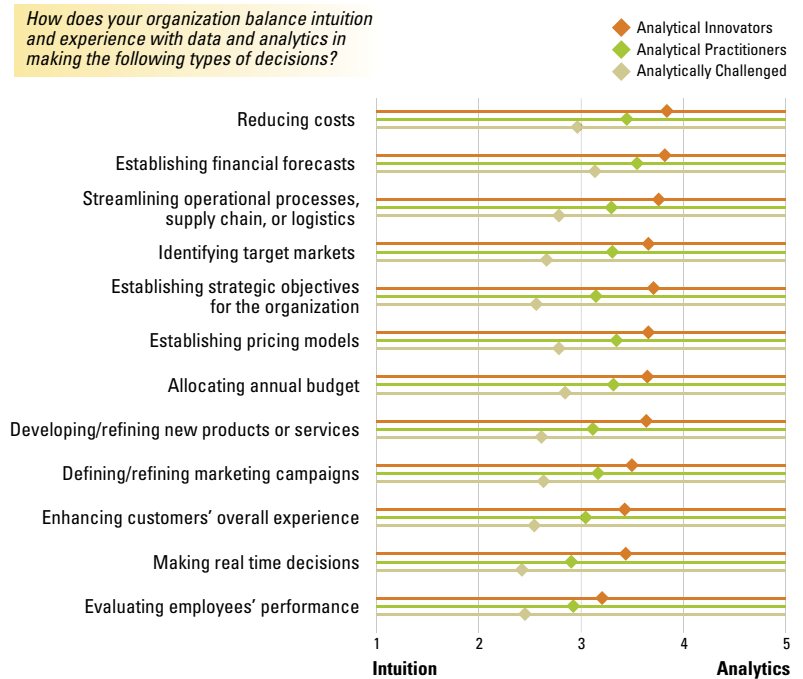
“Our senior partners believe that an organization of our size does not have time/resources to apply analytics, and they are convinced that their intuition is the best tool to use. They fear being wrong.”

“Our CEO is ‘often wrong, but never in doubt,’ and hates seeing anything that contradicts his intuition.”

2. Analytics and intuition are blended, not balanced

In more analytically advanced organizations, managers tend to give more weight to analytics when

FIGURE 10: BLENDING ANALYTICS WITH INTUITION Managers in more analytically advanced organizations lean more on analytics than in less mature organizations.



making a wide range of decisions than managers in less advanced analytical organization. (See “Blending Analytics With Intuition.”) From cost-cutting decisions to more strategic choices, data is deployed to a far greater extent in the most advanced analytical companies. This reliance on data is a reach for many Analytically Challenged organizations, whose executives may perceive analytics and experience-based intuition in terms of a trade-off or, worse, as different approaches to decision making that are inevitably at odds. “Intuition versus data is a false dichotomy,” counters Sprigg of IHG. “Great analytics teams love intuitive thinkers who love data, because it’s that intuition — that human spark — that brings ideas and innovation. When I work with a decision maker, we identify the questions we’re trying to answer and we come back to them with answers. I love when this process sparks an entirely new conversation and someone says, ‘Oh, now that I know this, wow; now I need to think differently in these three other areas.’”

Furthermore, when analytical tools bolster intuition, new opportunities can be created. Joseph Bruhin, chief information officer at New York-based beverage conglomerate Constellation Brands, says

analytics has helped the company’s own sales force have strategic discussions with retailers about the relative value of different opportunities such as product shelf placements. When the analytic evidence from the company’s visualization tool showed the comparative benefits of different product placements or offerings, and that evidence matched the experience of retailers, the tool came to be used as a credible platform to have new kinds of conversations. “It’s been a massive and very positive transition,” says Bruhin.

3. Analytics is applied strategically

The strategic use of analytics increases with analytical maturity. Analytical Innovators are much more likely to apply analytics strategically than Analytically Challenged and Analytical Practitioner organizations, which tend to use analytics for more

operational purposes. (See “Operational Versus Strategic.”) Using analytics to ask and answer larger strategic questions can deliver significant benefits. In 2005, a major car company’s executives wanted to assess how cohesive the company’s international operations were. According to Gahl Berkooz, the former global head of data and governance, “We started generating metrics around how close we were to a global enterprise. How common are our parts, for example. Once we generated those analytical metrics, people realized that there was very little commonality between the products and the different regions [Americas, Europe, and Asia]. We saw a huge opportunity to deliver savings and efficiency.”

While the automaker’s managers were not surprised that so few duplicate parts existed, the parts inventory helped establish a global product parts taxonomy that eventually was credited with saving the company \$2 billion in costs. According to Berkooz, this system embodies how analytics can enhance traditional business decision making: “Once we had the global product structure in place, any time somebody wanted to introduce what we call a new base part, we were able to run it against this single global taxonomy and see if we already had that kind of a base part in the system. This change in the structure involved changing people’s responsibilities, and people didn’t like that. We needed to have strong executive support to do this, and because of the imperative of globalization, we had that. Eventually, we were able to reduce dramatically, by over 90%, the rate of new base part number introductions.”

FIGURE 11: OPERATIONAL VERSUS STRATEGIC

Analytics is used strategically in more analytically advanced organizations.

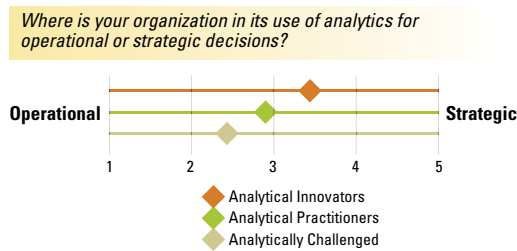
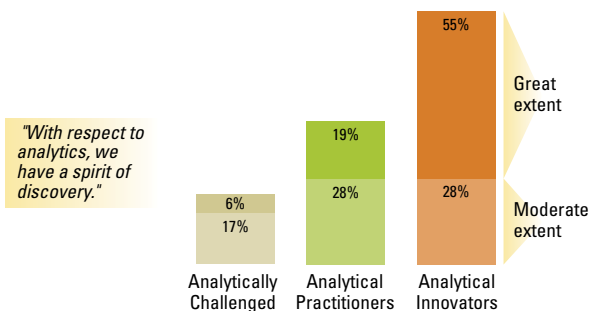


FIGURE 12: SPIRIT OF DISCOVERY Analytical Innovators are

more likely to use data to make new discoveries.



4. Initiatives go beyond optimizing existing processes to explore new ideas

The most mature analytical organizations have a decisive advantage when it comes to exploring the potential of data. While less mature organizations conduct pilot studies to see what they are capable of doing with data, more mature companies are using their capabilities with data to discover new ways to create business value. (See “Spirit of Discovery.”) A case in point is a population analytics initiative sponsored by the U.S. Department of Veteran Affairs called the Million Veteran Program (MVP). It

is designed to answer key questions about high-priority health conditions affecting U.S. military veterans, such as heart disease, kidney disease, diabetes, cancer, and substance use. The goal is to build one of the world's largest medical databases by collecting blood samples and health information from 1 million veteran volunteers. Data is stored anonymously to support research on the effects of genetics, military exposure, lifestyle, and health factors on diseases and military-related illnesses, such as post-traumatic stress disorder.

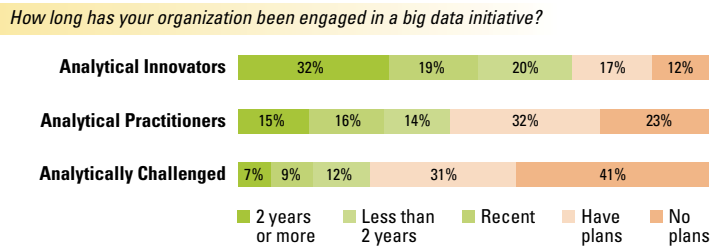
“We’re at this very interesting point in time where we now have the capability to measure biochemical parameters such as genes, to do genotyping on a large scale at a reasonable price,” said Dr. Michael Gaziano, a principal investigator. The studies using this data will not only explore questions related to chronic illnesses common among veterans but will also help establish new methods for securely linking MVP data with other sources of health information, such as the Centers for Medicaid and Medicare Services.

One way managers can explore data is through big data initiatives, which can open up new ways of conducting business. Analytical Innovators are well underway with big data initiatives, having gained experience and started to benefit from their up-front investments. (See “Proactive With Big Data.”) More mature organizations are likely to be building familiarity with other technologies, such as the Internet of Things, so that they can identify, assimilate, and apply these technologies to their organization’s specific needs.

Transitioning to the Next Phase of Analytics

For many organizations, cultivating a formal analytics strategy and ultimately linking that with corporate strategy requires changing how important business decisions are made. For some companies, the biggest stumbling block may be building processes that enable managers to not only trust the data but also trust that their reliance on data will

FIGURE 13: PROACTIVE WITH BIG DATA Analytical Innovators explore early to gain awareness about technology potential and limitations.



not undermine the respect that others have for their experience. Information management is clearly a critical component of any robust analytics strategy, but at the same time, cultural norms around decision making, such as respect for and use of data, along with skills development, may need adjustment. A strategy for successful analytics will integrate the business and technology sides of an organization by providing the ground rules for how these groups work together and why. Making this transition to the next phase of analytics will often include an emphasis on four key issues:

Data awareness and responsibility. As managers rely more on data, their awareness of data in the organization — where it is, who has it, what’s available, how to find what one needs — has to grow as well. Adam Leary, lead data scientist and senior director of the data team at CBS Interactive, calls this “data awareness.” With greater awareness, however, comes greater responsibility. Curating data, for instance, once the exclusive purview of business intelligence units, is increasingly being required of general managers. Similarly, a greater number of general managers are being called upon to participate in data governance and compliance activities.

At the insurance giant Aetna, the CEO mandated reporting requirements for financial performance data across business lines after each business head presented data showing that their function was profitable, even though the company had just lost hundreds of millions of dollars.⁷ At the Bank of England, senior managers from across the Bank sit on a data council that addresses a wide range of data issues — from quality to access to data governance. Just as important, as recent stories about data-related

deceptions at Volkswagen and Takata demonstrate, the credibility of data can be an organizational risk factor as well as a building block for achieving the potential of analytics.

Openness to new ideas. Entertaining a wide range of ideas is fundamental to cultivating both innovation and competitive advantage with analytics, but creating room in an organization to enable that to happen demands openness to new ideas that challenge the status quo, along with a tolerance for mistakes. As the philosopher Ludwig von Wittgenstein once remarked, “If people did not do silly things, nothing intelligent would ever get done.” Analytical Innovators use existing data to create or curate new data by looking at it in inventive ways, developing new attributes, or asking questions in new ways. Greg Jones, vice president of enterprise data and analytics at credit reporting agency Equifax, says it best: “We use existing data to uncover really interesting relations and identify things that we didn’t have the capabilities to do before.” For every interesting analytics anecdote, however, the people we interviewed also talked about the many uninteresting results and attempts that didn’t yield a “eureka” moment. An organization must be tolerant of these; after all, the analysis wouldn’t be necessary at all if people knew ahead of time which results would work out.

Signals about the importance of analytics. Employees frequently look for signals about what is important to management, and whether what is important today will be important tomorrow. Establishing organizational structures such as data councils, data labs, and centers of excellence signals to staff that the organization is taking data seriously as a core asset. Senior managers who use analytics themselves and set clear expectations about staff’s use of data in proposals make visible statements about the importance of analytics. One interviewee says he uses the phrase “the analytics side is bringing in the truth” to signal to people in the organization that the voice of data and evidence will be a key part of the conversation.

Decisions that blend analytics with intuition. Managers in more advanced analytics companies

give more weight to analytics when they make key business decisions. However, if the reports from Analytically Challenged respondents are any indication, the humility required to rely on analytics remains a stretch for some executives. Equip senior managers with skills and the attitude to appreciate that analytics can take intuition much further, in some instances, than intuition by itself. Help managers appreciate that the process of developing analytics is not a mechanical process devoid of intuitive leaps. As Sprigg of IHG notes, analytics teams love intuitive thinkers, especially among general manager decision makers. Some of the best analytical results may come from inspired collaborations between IT and traditional decision makers that forge new questions and elicit new types of insights. The perceived dichotomy between analytics and intuition is false for two reasons: Intuition has a critical role in developing analytics; and blending analytics with intuition in decision making can produce more effective results than either alone, especially when making strategic decisions.

Conclusion

Managing with analytics is now a mainstream idea, though not a mainstream practice. It is not surprising that Gartner Research identifies getting “the right information to the right person, at the right time” as a strategic technology trend.⁸ Accenture has identified this issue as a top priority for CIOs.⁹

Even so, many companies underappreciate the organizational resolve necessary to achieve this goal.

On the technology side, simply identifying where and what data exists in an organization can be extremely valuable, but it is also an arduous, time-consuming exercise that few organizations pursue. The Bank of England and the City of Amsterdam are two exceptions: In their efforts to institutionalize analytics, each began to reinforce its analytics foundations by taking an inventory of the data sets in their respective organizations. This tedious task identified nearly a thousand data sets at the Bank of England, and 12,000 among city departments in

Amsterdam. “Inventory sounds quite boring,” remarks one executive, “but it’s fundamental. We need to know what we’ve got to know how to manage it.”

On the management side, deepening the use of analytical decision making changes management behavior at several levels: how managers blend information and experience to make specific decisions, how managers and technologists together build processes to create the right information, and how managers improve their skill sets to make the best use of data. Together, achieving these shifts may fundamentally change how managers operate. Yet few companies have a strategic plan for analytics or are executing a strategy for what they hope to achieve with analytics. Without a strategy for advancing the use of analytics among decision makers, the desired results from data-driven insights will be elusive.

On both the technology and management sides, organizational resolve is the difference between experimenting with analytics and using analytics to achieve strategic ends. If executives believe that analytics can help them gain a competitive advantage in their markets and, by implication, help reverse the downward trend among companies gaining a competitive edge with analytics, they must recognize and engage in the hard work that’s necessary to achieve these results.

Our research clearly shows that companies in the early stages of their analytics maturity are far less likely to have a strategic plan for analytics. This matters, especially in this era of rapidly evolving evidence-based management. In the twentieth century, the rate of technological change and business trends occurred on a much slower time frame, making it easier for companies to catch up if they fell behind the latest tech trends. But today, even as they gain better access to data, less analytically developed companies struggle to develop data-driven strategic insights. Veteran managers accustomed to experimentation and pilots with twentieth-century cycle times may (increasingly) find themselves at a disadvantage among companies that move rapidly and purposefully from experiments to new technology adoption.

More analytically advanced organizations ensure that the right data is being captured or created on an ongoing basis. In these organizations, information management is an organizational goal, not a technical one. For many organizations, especially among the growing numbers of the Analytically Challenged companies, it is time to recognize that to get the most out of data and effectively improve decision making with data across the organization, better algorithms and better analytical talent are necessary but not sufficient. Changing how decisions are made is a crucial part of how organizations function, and buying the latest technology fad alone may not cut it. With access to useful data becoming less of a problem, CIOs might consider joining with other colleagues in the C-suite to “develop the right information so that the right person with the right skills can use it at the right time.” The right information might not exist if the right questions have yet to be asked.

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