



High performance. Delivered.

This article originally appeared
in the June 2010 issue of

Outlook

The journal of
high-performance business

Analytics

How to turn data into a strategic asset

By Jeanne G. Harris

Companies across a wide range of industries are learning that the sophisticated use of information found within their own organizations is critical to achieving high performance. Here's a five-step model for putting analytics at the center of your decision making.

• Consulting • Technology • Outsourcing

Chances are, there are data gold mines buried among your company's most basic operations that could help you outperform the competition.

Take Britain's Royal Shakespeare Company. A thorough examination of seven years' worth of ticket sales data allowed the RSC to sell more to existing customers and identify new audiences. Using analytics to look at names, addresses, performances attended and prices paid for tickets, the company developed a marketing program that increased the number of regular attendees at its showcase Stratford-upon-Avon location by more than 70 percent.

Over the past decade, companies across a number of industries have gone even further. Netflix, Capital One, Amazon.com, Tesco and Progressive Casualty Insurance Co., just to name a few, have learned how to win with analytics—that is, how to use data and sophisticated quantitative models as strategic tools in their efforts to achieve high performance.

Not every company has the ability, or even the desire, to put analytics at the heart of its strategy, of course. But even those executives who want to use analytics to make their companies more powerful competitors without undergoing a total strategic makeover can almost certainly find troves of information within their organizations—information that they could be putting to better use.

The question is: How do they do it?

After more than a decade of research looking at hundreds of companies and talking with scores of executives, Accenture uses a five-step model called DELTA (data, enterprise, leadership, targets and analysts) that addresses the essential requirements for the successful use of analytics through a series of questions.

Data

What's unique about my data?

Few companies realize there is special value in the data they collect. In a 2009 survey Accenture conducted with 600 blue-chip companies, 88 percent of respondents told us that their data was only on par with that of their competitors in terms of usefulness and significance.

Such thinking is self-defeating. No two companies have exactly the same data. The problem is that most data is the by-product of efforts to reach another business goal—managing credit risk in banking, for example, or managing inventory in retail.

Relatively few companies mine that data to get an analytical edge.

The first task, then, is to realize what's unique about your data and put it to work. This requires some creative thinking, which likely means capturing some new data and creating new performance metrics. Consider how the following companies are using their data from customer relationships or internal operations to gain an advantage.

Best Buy was able to determine through analysis of member data

from its Reward Zone loyalty program that 7 percent of its customers were responsible for 43 percent of its sales. Armed with this analysis, the giant electronics retailer segmented its customers into several archetypes and redesigned stores and the in-store experience to reflect the buying habits of certain customer groups.

Olive Garden, an Italian restaurant chain in the United States and Canada owned by Darden Restaurants, uses data from its restaurants to forecast almost every aspect of its operations. One application forecasts staffing needs and food preparation

requirements down to the individual menu item and ingredient. As a result, during the past two years, Darden has managed its Olive Garden staff more efficiently and has cut food waste significantly.

While uniqueness isn't the only important issue related to the use of data (structure, integration, quality, access, privacy and governance must also be tackled), it's fundamental to gaining a competitive edge with analytics. Any organization that wants to succeed with analytics needs to start identifying the data that it alone possesses—and recognize the value in it.

Enterprise

To take advantage of analytics, how much integration is needed throughout the enterprise?

An enterprisewide focus is essential to the effective use of analytics. But for the vast majority of organizations, that's the exception rather than the rule. Only 20 percent of respondents in our survey reported using analytics across the organization. Higher percentages were using analytics across business processes but in a single business unit (31 percent) or in several functions but with a single business process (43 percent).

In truth, the question of what makes an effort enterprisewide is a thorny one. The integration of data, analyses and processes in a diverse and far-flung company—with different types of customers and products, operating in a variety of markets and a volatile economic environment—is, to put it mildly, a major challenge.

Take, for example, a multinational that makes and sells a whole shopping list of products and services around the world. Does data about its wind turbine clients in Europe and its

insurance customers in Asia need to be shared across the entire corporation? Probably not. But in some areas—such as talent management and volume purchase agreements—such a global enterprise needs to share data from several or even all of its businesses.

How do you adopt a companywide perspective for analytics? The key issue is whether anyone else in the company would find the same data, technology and analytics useful. Any group in a corporation that shares or could share customers, markets, inventory and suppliers, or any group that participates in the same analytical projects based on those business entities, should be considered part of a single enterprise.

When in doubt, determine if any other groups need common data to answer any of the six analytical questions in the chart below. If they do, there is value in aligning common technical infrastructure,

A companywide approach

To help create a companywide approach to analytics, it is helpful to see which groups—if any—need common data to answer these six key analytical questions. If you find they do need common data, then it will make sense to set up systems and processes to ensure the groups are able to share the data.

	Past	Present	Future
Information	What happened? (Reporting)	What is happening now? (Alerts)	What will happen? (Extrapolation)
Insight	How and why did it happen? (Modeling, experimental design)	What's the next best action? (Recommendation)	What's the best/worst that can happen? (Prediction, optimization, simulation)

Source: Thomas H. Davenport, Jeanne G. Harris and Robert Morison. *Analytics at Work: Smarter Decisions, Better Results*. Boston: Harvard Business Press, 2010, page 7.

data, definitions, analytics and decision processes.

A company that is committed to helping its customers and suppliers make better decisions will share not only data, but also analytics and analytical expertise, to create an extended enterprise. Walmart, for example, is famous for sharing data with its suppliers, with the expectation that those suppliers will use the information to lower prices and increase sales in partnership with the retailer. According to a 2006 Accenture study, however, only 24 percent of organizations had such direct linkages with customers, and just 15 percent had them with suppliers.

Determining the appropriate level of alignment or integration across business units can be a particularly sensitive issue at a large global company or after a merger, when it may be impractical to treat separate businesses and geographic units as a single entity. And data sometimes

must be left in its silo for practical or legal reasons.

Also, companies that regularly acquire and sell off businesses probably would not treat their subsidiaries' data as part of one enterprise; it's simpler to spin the units off if their data, systems and decisions are not intertwined. Further, organizations that are served by different IT functions can have so much difficulty sharing data and IT infrastructure that, as a practical matter, they can't be unified under the same enterprise.

The bottom line: While integration is critical to the success of analytics, it has to be done for the right reasons, and with a healthy respect for its limitations.

Leadership

What does an “analytical leader” actually do?

To compete effectively with analytics, senior leadership, especially the CEO, must be committed. Our 2009 survey indicates that top teams understand this: More than 70 percent of respondents reported that their senior management teams were either totally or highly committed to analytics and fact-based decision making.

Although this is excellent news, it's only one part of the story. What many do not realize is that analytical leadership is not just the province of the CEO and the organization's top executives; it should be second nature to any manager or individual contributor who seeks to make an impact.

So what makes an analytical leader? For one thing, they are not the socially challenged, numbers-obsessed stereotypes that occasionally turn up in crime labs on TV or in the movies. They are in fact well-rounded individuals with both analytical and people skills. Simply put, a good analytical leader is a good leader, period, who happens to have a strong analytical orientation.

In our research, however, we did identify a dozen specific characteristics that define that role. Analytical leaders:

Develop their people skills.

Many highly analytical people seem to prefer computers and data to people. But if you can't communicate well with others, you're not going to be a good leader of any type—including analytical.

Push for more data and analysis.

The core responsibility of an analytical leader is to set the expectation that people will make decisions based on data and analysis. If

approached by someone with a recommendation that appears to be based on intuition, an analytical leader will push back.

Hire smart people, and give them credit for being smart.

Many companies in industries that have not previously been highly analytical find themselves with relatively few people who can do serious analytical work. But persuading MBAs or PhDs with quantitative skills to work for companies not known for hiring such people is a tall order.

Set a hands-on example.

Analytical leaders lead by example, using data and analysis in their own decision making. Occasionally, they'll feel the need to get their hands dirty by messing around with data and brainstorming with analysts. They'll do so because they like analytics and because they want others to follow their example.

Sign up for results.

It's common to hear middle- and lower-level analysts complaining about the lack of analytical leadership in their organizations. But there is something they can do to take leadership: commit themselves to achieving a specific result in the part of the organization they serve or control.

Teach.

Analytical leaders are patient teachers of applying analytical perspectives to business. They sometimes teach actual analytical techniques. Other times, they gently guide employees and colleagues into more rigorous thinking and decision making.

(Continued on page 7)

The care and feeding of analytical talent

By Elizabeth Craig

A company's success with analytics hinges most on its ability to effectively manage analytical talent—the analysts who use statistics, quantitative or qualitative analysis, and information-modeling techniques to shape and make business decisions (see story).

For these reasons, Accenture began looking at these people more than two years ago. Who are they? What motivates them? What do they need to be effective? How well are companies managing them?

We interviewed dozens of executives in analytical organizations and surveyed more than 1,300 employees to investigate how to maximize analysts' contributions to the business, engagement in their work and intentions to stay with their employer.

What we found was surprising.

First, we learned that companies routinely neglect this group. They typically don't see analytical talent as a distinct and valuable workforce—and they certainly don't manage it as such. Analysts are often scattered throughout departments; many companies don't have a clear picture of who their analysts are or where they reside organizationally.

In fact, most companies have many different job descriptions for similar analyst roles—if they have job descriptions at all. As a result, performance expectations and measurements are vague or inconsistently applied. And analysts' daily work activities are not always aligned with the strategic goals of the organization.

This is a recipe for disaster when it comes to attracting, engaging and retaining analytical talent and building an organization's analytical capability.

How can companies overcome this neglect of analytical talent? The key is to take an enterprisewide approach to managing analysts. We discovered that the most successful companies create a talent-powered analytical organization by building four talent management capabilities: defining analytical talent needs; discovering new sources of analytical talent; developing analytical talent; and deploying analytical talent effectively.

By building these capabilities, they not only address the strategic and operational needs of the business, they also unleash their analysts' talents to maximize and continually expand the company's analytical effectiveness.

Second, we learned that companies often struggle with how to organize analysts. Should they be centralized or decentralized? Should they be charged out to the rest of the business as consultants or made available as a free resource? Where and to whom should they report?

We found that companies typically use one of five models to organize their analysts, often depending on their relative degree of analytical sophistication. But their choices can be problematic and certainly not optimal.

When companies don't get it right, their best analytical minds can end up being relegated to conducting simple analyses or working on low-value projects rather than building robust models to solve the most challenging business problems. Worse still, that type of work is a sure recipe for analyst disengagement and defection.

Our research revealed that companies that want to build a strong analytical workforce are best served by greater centralization and coordination of their analytical talent. Taking these steps ensures that analysts are working close to the business on the most important initiatives and even closer to one another to coordinate their efforts and promote mutual learning and support. This approach also ensures that analysts have the kind of meaningful work and career opportunities that are critical to engagement and retention.

Third, we discovered that while analysts are motivated by many of the same things as other employees, they also have distinct backgrounds, skills and attitudes.

Just as with employees in general, to engage and retain analysts, companies need to provide meaningful work and career opportunities, support people's efforts as well as their need for recovery and renewal, and cultivate a culture of trust and respect.

Our research revealed something else: Analysts have a different view of what makes opportunities meaningful, what kinds of support are essential and what cultural factors matter most. Analysts are most engaged when they understand the business side of things as well as the analytics, when they know what is expected of them, and when they can keep their technical skills and expertise current. They are most likely to stay with a company when they have a high degree of management support.

As companies continue to seek competitive advantage and ways of differentiating themselves, analysts will become more critical to business performance than ever. Regardless of whether your company routinely uses analytics as a distinctive business capability or is just beginning to develop analytical aspirations, the care and feeding of analytical talent is critical to your success.

(Continued from page 5)

Set strategy and performance expectations.

Good analytical leaders know that analytics and fact-based decisions don't happen in a vacuum. For people to know where and how to apply their analytical skills, they need a strategy for their business, their function, even their department. After setting the strategy, analytical leaders need to define a set of performance targets for their organizations and direct reports to achieve.

Look for leverage.

Strong analytical leaders know where a small improvement in a process driven by analytics can make a big difference. A simple example would be in retail, where something like a small bump in profit margin gets multiplied across many sales.

Demonstrate persistence over time.

Analytical leaders have to be “pluggers”—people who work doggedly and

persistently—because changes that apply analytics to decision making, business processes, information systems, culture and strategy do not happen overnight.

Build an analytical ecosystem.

Analytical leaders can rarely go it alone in building analytical capabilities. Instead, they have to build an ecosystem consisting of other leaders in their business, employees, external analytical suppliers, business partners and so forth.

Work along multiple fronts.

Analytical leaders know that no single application or initiative will make their company successful. Thus, they proceed along multiple fronts with a portfolio of projects.

Know the limits of analytics.

Good analytical leaders know when to use their intuition. They blend art and science in decision making. They use analytics whenever possible but can also see the big picture.

Targets

How do I target my investment in analytics to achieve the biggest payoff?

Companies constantly have to make choices about where to invest resources, and it's no different with analytical initiatives. In our 2009 survey, we asked executives to identify which analytical objectives were most important to implement immediately and which could wait.

In the short term, the need to respond in a differentiated way to an event or customer activity was the most-cited objective (64 percent of respondents), but almost as many (62 percent) cited the simple desire to get their data in order. Longer term, the ability to use the predic-

tive power of analytics was the chief objective (72 percent).

Analytical projects can also be targeted by function. In the survey, 35 percent of respondents were targeting CRM for investments in analytics, followed by 27 percent each for both operations and finance.

What are the keys to targeting investments in analytical projects? The answer depends on how you deliver value.

One way to tackle this question is to take a systematic look at

how business processes function and are structured, how decisions are made within them and where the opportunities for dramatic improvement may be. A logical place to start is to determine which business processes are under pressure and would benefit the most from performance breakthroughs.

Certain kinds of business processes lend themselves to analytics, and they typically have a number of characteristics in common. These processes are frequently:

- **Data rich**, or have the potential to be data rich.
- **Information intensive.** Analytics reveal the meaning of data.
- **Asset intensive.** Analytics enable the effective use and sharing of scarce or expensive resources.
- **Labor intensive.** Analytics enable decision making and the use of expertise, especially where talent supply is short, talent demand is cyclical and training times are lengthy.
- **Dependent on speed and timing.** Analytics enable process acceleration and real-time decisions, especially where customer satisfaction or process competitiveness demand ultra-fast response times (for example, via the Web).
- **Dependent on consistency and control.** Analytics enable consistent decisions even in unpredictable cases.
- **Dependent on distributed decision making.** Analytics enable decision makers to look upstream and downstream to anticipate the effects of their actions.

- **Cross-functional or cross-business in scope.** Analytics reveal interdependencies and enable the parts to work together better.
- **Plagued by an average success rate.** Processes with a low “batting average” are probably ripe for improvement through analytics.

For example, McKesson Pharmaceutical targeted its complex supply chain. The company, which is the largest pharmaceuticals distributor in North America, routes one-third of the medicines consumed in the US market daily to more than 40,000 locations. With major pharmaceuticals manufacturers on the supply side and powerful retailers (including Walmart) on the customer side, McKesson has to operate at high volume and high efficiency.

With a strong focus on business processes already, the company brought together data from the sales, logistics, purchasing and finance processes to achieve more integrated analysis and decision support. Now managers all along the supply chain can evaluate the operational and financial impact of their decisions regarding delivery schedules, transportation utilization, quantity adjustments, product dating and drop shipping.

Taking an inventory of your processes isn't the only way to find the right analytics opportunities. You should also engage in big-picture thinking about the shape of your business and the developments affecting it: demographic shifts, economic trends and changes in what customers want. Getting a fix on both internal and external developments will help you make the right call about investments in analytics efforts.

Humana: Developing an analytics strategy

Over the past decade, Humana has become one of the largest health insurers in the United States, providing health plans and prescription drugs to more than 18 million members. As the company grew, changing market conditions shifted the entire industry toward a more analytical management style. Evidence-based medicine promised a statistically rigorous approach to more cost-effective treatment. Informatics (data-based analytics in health care) was becoming central to Humana's ability to serve its customers and manage costs.

As an early adopter of an enterprise data warehouse, Humana encountered several pitfalls common to many organizations, such as the lack of proactive plans to integrate new business acquisitions into the enterprise data warehouse, inconsistent integration between all business functions and the centralized EDW team, and inadequate policies for the governance of enterprise data. In addition, functionally siloed analytics teams and, in many cases, databases made it difficult both to use the data and to maintain and upgrade the enterprise data warehouse.

Jim Murray, Humana's chief operating officer, emphasized the importance of taking an enterprisewide approach to analytics. To achieve that goal, Humana established a new position to lead analytics (vice president, Humana Integrated Informatics) and recruited Lisa Tourville, an experienced actuarial consultant, for this crucial role.

Recognizing the importance of top management leadership, Tourville assembled a team of business and IT leaders to develop Humana's analytics strategy. With sponsorship from the executive suite, the team concluded that Humana needed to build an analytics competency center to integrate decentralized business units with the corporate team that builds and maintains the data warehouse. This center would also perform the critical role of champion of business intelligence and analytics for Humana.

Tourville's team, working in tandem with IT and all involved Humana business units, functional departments and user communities, then developed a detailed strategy and roadmap. They built the foundation for a more inclusive enterprise informatics infrastructure that was designed from the start to enable advanced reporting and analytics, and that could transform Humana's wealth of data into meaningful, actionable insights to improve the health of their membership, the quality of care and the cost-effectiveness of the company's products. From this assessment and plan, Humana gained a deep understanding of the human performance, technological and operational challenges underpinning the company's expanding use of analytics.

Analysts

Who is an analyst?

Executives leading analytical projects rely on analysts from many quarters. Fifty-three percent of respondents to the Accenture survey said they use external analysts, 60 percent draw on resources from a centralized group, and two-thirds use analysts from a department, unit or function.

At the highest level, we define *analysts* as those who use statistics, quantitative or qualitative analysis, and information-modeling techniques to shape and make business decisions—a broad range of activity. But analysts—which we call *analytical talent*—vary widely in their characteristics and responsibilities. We've identified four general types of analytical talent: champions, professionals, semi-pros and amateurs.

Analytical champions. These are often analytical professionals who have been promoted into senior management. Combining strong business acumen with an appreciation of analytical techniques, they establish long-term strategies and provide guidance to others in their organization on IT systems or process-related topics.

Analytical professionals. These are the most proficient and knowledgeable employees, with a wide range of quantitative skills. They create advanced analytical applications by developing statistical models and algorithms. Analytical professionals typically employ advanced techniques, such as trend analysis, classification algorithms, predictive modeling, statistical modeling, and optimization and simulation, as well as a variety of data-, Web- and text-mining techniques.

These jobs tend to require an advanced degree (often a doctorate) in a quantitative field. Analytical professionals typically make up 5 percent to 10 percent of a company's analysts, versus about 1 percent for the analytical champions.

Analytical semi-professionals. These analysts apply the models and algorithms developed by professionals on behalf of the rest of the business. They may be sophisticated "quants" in their own right. But their primary role is to apply analytics to business problems for routine or specialized decision making and then translate the benefits of analytics into lay language for businesspeople. Analytical semi-professionals may make up 15 percent to 20 percent of an organization's analysts.

Analytical amateurs. In the fourth category are the analytical amateurs, employees whose primary job is not analytical work but who need some understanding of analytics to do their jobs successfully. *Amateur* isn't meant to be pejorative. On the contrary, amateurs are knowledgeable consumers of analytics who can apply analytical insights to their work.

An amateur might be a business manager using data-driven insights to improve sales, a call center employee who relies on a next-best-offer recommendation to serve a customer effectively, or a warehouse manager who follows data-based advice about optimal inventory levels. Analytical amateurs typically make up 70 percent to 80 percent of an organization's analytical talent.

For further reading

"Counting on Analytical Talent," by Jeanne G. Harris, Elizabeth Craig and Henry Egan (Accenture, 2010)

"As they like it," *Outlook*, May 2008

"Winning with analytics," *Outlook*, May 2007

Competing on Analytics, by Thomas H. Davenport and Jeanne G. Harris (Harvard Business Press, 2007)

Not every company is in a position to base its strategy on the use of analytics and sustain it over time. But putting the DELTA model—data, enterprise, leadership, targets, analysts—into practice can go a long way toward building an analytical capability.

Whether a utilities organization looking at the data generated by a new smart grid, a healthcare company looking at clinical data or an insurer examining fraud and risk data, the winners will be those that use analytics to help executives gain deeper insights and make smarter decisions.

About the authors

Jeanne G. Harris is a senior executive research fellow with the Accenture Institute for High Performance in Chicago. In 2009, she was awarded the Lifetime Achievement Award for Women Leaders in Consulting by *Consulting* magazine.

jeanne.g.harris@accenture.com

Elizabeth Craig is a research fellow at the Accenture Institute for High Performance in Boston. She is the coauthor, with Peter Cheese and Robert J. Thomas, of *The Talent Powered Organization* (Kogan Page, 2007).

elizabeth.craig@accenture.com

Outlook is published by Accenture.
© 2010 Accenture.
All rights reserved.

The views and opinions in this article should not be viewed as professional advice with respect to your business.

Accenture, its logo, and High Performance Delivered are trademarks of Accenture.

The use herein of trademarks that may be owned by others is not an assertion of ownership of such trademarks by Accenture nor intended to imply an association between Accenture and the lawful owners of such trademarks.

For more information about Accenture, please visit www.accenture.com