# How Pharmaceutical Companies Use Analytics to Achieve High Performance

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Research Note

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In the pharmaceutical industry, business is anything but smooth sailing. Most pharmaceutical companies are under enormous pressure to discover and develop new drugs faster and more frequently as patents on existing drugs expire and generics are aggressively coming to market.

But filling their development pipelines with innovative products from their own labs is only one of the concerns weighing on the industry's executives. It is getting much tougher to acquire new products in development. Pricing is under increasing pressure from governments and private payers alike, and generics are constantly raising the competitive stakes. Drug safety issues are another hot spot – witness Vioxx, Avandia and other recent headlines – putting drug manufacturers under the glare of the regulators' spotlights. And in the prescription drug sector, legislation and privacy restrictions are making direct customer data – be it patient or health care professional – harder to come by.

Leading pharmaceutical companies are finding a way forward: they are using analytics to drive better decision making and enhance their execution to outsmart rivals. This is not the basic data-gathering and review that has long been common in the industry: it involves seeking and gathering the right data, analyzing it rapidly to deliver truly competitive insights, and then acting swiftly on those insights. The new capability involves sophisticated analytics–making extensive use of data, statistical and quantitative analysis, predictive models, and fact-based management to drive decisions and actions.

The leading pharmaceutical companies explicitly recognize the competitive advantage they can gain from analytics. In a recent study, Accenture found that executives at those companies rate analytics as one of the top five factors critical to outperforming their competitors in the next three years.

In the course of Accenture's research into high-performance businesses, we've found that more and more pharmaceutical organizations are recognizing the power of analytics and building their competitive strategies around data-driven insights. By using analytics to make better decisions and to extract maximum value from their business processes, some of the top names in biopharmaceuticals are able to accelerate drug discovery, make clinical trials more cost-effective, find ways to reduce production costs, optimize new product launches, and make better use of their marketing expenditures. (See Two Success Stories below.)

Long accustomed to using analytics in their research and development (R&D) labs, some leading organizations are moving R&D-like techniques into core business processes like marketing, finance and strategic positioning–"industrializing" their use of analytics. What truly distinguishes those organizations from their rivals is not their business processes per se, but the analytical skills and capabilities that allow them to achieve lasting competitive differentiation. In some cases, their competitive advantage is their analytical capability. Accenture's experience indicates that pharmaceutical companies that industrialize their use of analytics can boost their profitability by 5 to 15 percent. Using econometric

## Two Success Stories

**Optimizing marketing spend**

A specialty pharmaceutical producer wanted to better understand how to allocate its $300 million annual spend on marketing and sales across three diverse U.S. brands. With help from Accenture, the company built a sustainable in-house capability to automate and expand its ability to analyze responses to promotions over time. The analytical response models drew from rich data on clusters of prescribers, analyzed the effectiveness and efficiency of marketing spending and provided automatic updates and recommendations each month.

In the first year of use, the new capability helped spot new sales opportunities worth more than $50 million. It provides the company's sales and marketing leaders with monthly reports of how the business is evolving and responding to changes in marketing spend. And it delivers directed advice and ongoing tracking to the sales force and brand teams so they can implement results at the levels of prescribers and market segments.

**Making sense of business reports**

The basics of analytics must not be overlooked in the effort to liberate value. A case in point: good reporting processes, as shown at a leading pharmaceutical company that had found it difficult to generate meaningful insights from its management reports. A large part of the problem: too many reports had been coming from too many sources–few of them in consistent formats. The company set out to integrate its commercial information with enterprise analytical tools in order to achieve increased consistency, accuracy and quality insight.

The solution uncovered an array of quick wins that bolstered management's confidence in the value of a broader push for consistent high-quality reporting. Standardizing the formatting and branding of reports, along with defined governance processes, quickly made the data streams more accessible–and more valuable. The company was able to eliminate 44 percent of its total number of cross-functional reports and reduce the concomitant vendor costs by up to 10 percent. More important, it gained a mechanism for guiding investment and maintaining focus on the business's key objectives over the next 18 to 36 months.

modeling and ROI analysis, they optimize the allocation of their marketing and sales investments by lowering the level of those investments or by increasing their effectiveness-boosting results per dollar invested.

Many are also looking outside the industry for ideas, recruiting executives from consumer goods and retail sectors, for example, and adapting analytics best practices proven elsewhere. There are compelling examples in many areas: in retail, Tesco's customer analytics drive coupon redemption rates far higher than industry norms, for instance, and Best Buy's deep analysis of customer segments has led to new store formats that generate sales at twice the rate of the company's traditional stores. In financial services, credit card provider Capital One has been celebrated by the media for initiatives such as its analytical predictions about customers' willingness to repay their balances when the economy is strong.

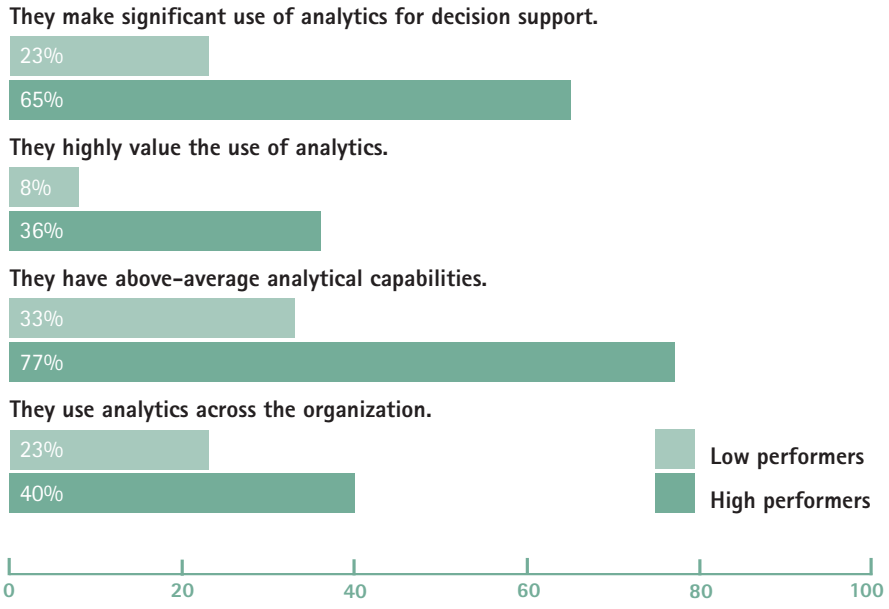
The pharmaceutical industry is also highly reliant on licensing and business development to fuel growth and extract value from R&D assets. Here, too, there are opportunities to get good returns from analytics. Predictive models can be used to assess and select the right deals, to determine the right price and to optimize the value of a target company's product portfolio.

## Analytics and high performance

Accenture's research into High Performance Business found a powerful link between organizations with pronounced analytical orientations and superior market performance. (See Figure 1.) High performers are much more likely to value fact-based decision-making and to have the skills and capabilities in place to effectively use analytics across their organizations. With their deep skills in R&D-based techniques such as hypothesis testing, control groups and statistical analysis, biopharmaceutical companies are well positioned to employ similar techniques far outside the lab.

So what is it that separates the companies that merely use data and analysis from true analytical competitors—those that can nimbly outmaneuver rivals at every turn? There are three characteristics common to every analytical competitor. First, they achieve results on a grand scale by having senior leadership teams that are deeply committed to analytical competition and to building their organizations' analytical capabilities. Second: they use analytics to leverage their distinctive capabilities—the sum of the integrated business processes and capabilities that allow them to serve customers in differentiated ways and that create a formula for lasting business success. And third: they always place a premium on tactical execution—using the data, data management tools, decision support tools, and other resources to consistently deliver on the promise of analytics.

**Figure 1: Analytical orientations of high and low performers**



It is important for pharmaceutical players to constantly benchmark the analytics initiatives of the high performers—and to see what benefits they are achieving as a result. Examples include:

- Vertex Pharmaceuticals designed the trial for a new cystic fibrosis drug in only a few days—record time for any drug company. How so? The company had developed analytical tools that simulate clinical trials, running those trials hundreds of times faster than was previously possible. Clinical trials are an area where costs have grown fast, and where there is a lot of room for error, either in terms of poorly designed trials that yield ambiguous results or trials that cost too much because they are effectively over-designed.

- A leading global pharmaceutical company is equipping its sales reps with tablet PCs that allow them to electronically walk physicians through the company's promotional material and focus on messages that appeal to them most. That way, the company not only captures basic data about which physician the sales representative met with but also rich data about how long the meeting lasted, what messages were conveyed, and in what order—data that can later be correlated with the doctor's actual prescribing volume. This powerful capability enables the company's marketers to constantly test and refine their selling messages.

- Entelos has built computer program "platforms" to simulate diseases and treatments in cardiovascular diseases, diabetes, and asthma, among others. The systems-biology startup links up with pharmaceutical companies and other research organizations to identify and test new compounds, using computational simulations to cut the high costs, long cycle times and high failure rates of conventional pharmaceutical lab research. One collaborative effort on a diabetes drug with Johnson & Johnson led to a 40 percent reduction in time and a 66 percent drop in the number of patients needed in an early-phase clinical trial.[1]

The industry's foremost analytical competitors are persistently applying analytics to unlock much more of their growth and earnings potential. Their concerted use of data and analysis is strengthening operations far beyond the R&D labs, helping them answer intense challenges in core business areas such as pricing, marketing, sales support, and licensing. Executives across the pharmaceutical sector should be watching closely—and asking what role analytics should play in their business strategies.

## About the author

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To learn more about the impact of analytics on the pharmaceutical industry, see **Competing on Analytics: The New Science of Winning** (Harvard Business School Press) by Thomas H. Davenport and Jeanne G. Harris. In this ground-breaking work, Davenport and Harris demonstrate that the frontier for using data has shifted dramatically as leading companies are learning to do more than just collect and store it in large quantities. They show how leading companies – including organizations as diverse as the Boston Red Sox, Netflix, Amazon.com, Cemex, Capital One, Harrah's Entertainment, Procter & Gamble, and Best Buy – use analytics to trump rivals. A timely, much-needed resource, **Competing on Analytics** promises to rewrite the rules on competition.

**Notes**

1 Alex Bangs, "Predictive Biosimulation and Virtual Patients in Pharmaceutical R&D," **Studies in Health Technology and Informatics**, Vol. 111, 2005, p. 41.

## About Accenture

Accenture is a global management consulting, technology services and outsourcing company. Committed to delivering innovation, Accenture collaborates with its clients to help them become high-performance businesses and governments. With deep industry and business process expertise, broad global resources and a proven track record, Accenture can mobilize the right people, skills and technologies to help clients improve their performance. With more than 158,000 people in 49 countries, the company generated net revenues of US$16.65 billion for the fiscal year ended Aug. 31, 2006. Its homepage is **www.accenture.com**.

## About the Accenture Institute for High Performance Business

The Accenture Institute for High Performance Business creates strategic insights into key management issues through original research and analysis. Its management researchers combine world-class reputations with Accenture's extensive consulting, technology and outsourcing experience to conduct innovative research and analysis into how organizations become and remain high-performance businesses.