

BOARDROOM IMPERATIVE

Business Analytics

Six Questions To Ask About Information And Competition

WHAT IS BUSINESS ANALYTICS?

Corporations today are awash in information yet short on tools, methods, and talent for using it. Information about the most important facets of the business – customers, processes, employees, competition – is gathered but not analyzed, reported but not understood, guessed about rather than acted upon. As a result, the status quo prevails and opportunities to improve performance, often dramatically, go unnoticed.

There are exceptions. Smart organizations have always tried to make the most of the information in hand. But recent technological breakthroughs have provided the ability to manage and make sense of vast amounts of hitherto unrelated data – and in the process have redefined what it means to be a smart organization. Aggressive competitors recognize these new capabilities and put them to work. They don't just gather and report information – they leverage it through **business analytics**:

- **Capital One**, which grows organically at 20% per year by analyzing 60,000 product configuration experiments a year and follow through on the most promising.
- **Progressive**, which analyzes specific market sub-segments to “skim the cream” and profitably insure customers in traditionally high-risk categories.
- **Harrah's Entertainment**, which uses a customer loyalty program and predictive modeling techniques to identify and retain the most profitable customers.

- **Marriott International**, which has modeled its business and distributed analytic tools so that every property can maximize revenue not only from hotel rooms and rates, but also from conference facilities, catering, and other services.
- **Procter & Gamble**, which has drawn 100 analysts from across the enterprise to address the most complex cross-functional issues, such as maximizing growth in existing markets and optimizing supply networks.
- **UPS**, which expanded its statistical expertise in logistics and package tracking to anticipate and influence customer actions and minimize attrition.

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These progressive companies have many things in common about how they operate:

- They use sophisticated data-collection technology and analysis methods to wring every last drop of value from their most strategic business processes.
- They understand what motivates customers and makes them profitable.

- They understand what motivates employees and keeps them engaged and productive.
- They don't just track their business – they model it, anticipate how proposed changes will play out, predict and prevent bottlenecks.
- They don't just conceive and enact business changes – they experiment to determine the best changes to make and the best implementation methods.
- They don't just provide managers with reports – they distribute information and analytic tools to decision-makers at every level, so employees can act upon evidence and make better decisions day-in and day-out.

Business analytics involves using sophisticated technology to bring information together and sophisticated algorithms to filter and analyze that information. The outputs can include deep understanding of the workings of the business and its connections to the marketplace, key performance indicators to drive business decisions, dramatic improvements in the performance of the most critical business processes, and insights and innovations that can change the basis of competition.

Business analytics is a simple idea with complex ramifications – leverage the wealth of data being collected today to create powerful new ways to perform and compete. Business analytics is the new frontier of management science and practice. In this *Boardroom Imperative*, we invite you to explore it with us.

Since the late 1980's, corporations have been capitalizing on the techniques of business process reengineering. The underlying approach was simple yet dramatic – use up-to-date computing and communications to share business information more widely and thus to cut across functional silos, eliminate handoffs and errors, coordinate better, reduce costs, and raise performance. At its best, reengineering entailed the fundamental redesign of end-to-end business processes to take better advantage of both human and technological capability.

Today, leading corporations are capitalizing on the techniques of business analytics to achieve new breakthroughs in process performance. With the help of up-to-date technology, they use business information differently – discovering hitherto invisible connections and patterns, getting a handle on the true keys to performance, developing new metrics, and managing processes (and across processes) more effectively. Some are reengineering again to take even better advantage of human and technological capability, especially the ability to make informed decisions.

The next wave of business reengineering is being powered by business analytics, and the potential performance breakthroughs are just as large as they were 15 or so years ago. Many of these breakthroughs will come through the ability to integrate the demand side of the house with the supply side of the house as never before. Even information-rich industries have tended to concentrate on one side or the other. With the power of business analytics, corporations can make and manage the demand-supply connections – a big step closer to the goal of optimizing the performance of the corporation as a whole.

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WHERE SHOULD WE LEVERAGE BUSINESS ANALYTICS?

At first glance, it's tempting to say, "all over the place." Any part of a business can benefit from more systematic creation, gathering, and interpretation of information leading to better decisions and more informed actions. Indeed, as more and better information and analysis tools have become available, organizations are learning to "manage by fact" more consistently. So an analytical bent is good for a business generally.

However, business analytics as we've defined it must be focused. It's neither practical nor cost-effective to apply these analytical techniques in every area of a business. Distinguish between *applying* more analytical techniques, which may be widespread, and *competing* on analytics, which centers around developing deep and distinguishing expertise in a specific and critical area of the business.

In most cases, you will want to focus business analytics where you already have distinctive capability – the aspect of the business where you excel relative to the competition and where you have chosen to compete. For Wal-Mart, the distinctive capability lies in an efficient supply chain. For automobile insurer Progressive, the most distinctive capability involves the pricing of risk. For the gaming industry leader Harrah's, the chosen distinctive capability for the past several years has been customer loyalty – a departure from construction of the lavish casino and hotel facilities that some other firms have selected as the basis for competition. In all three companies, business analytics are largely focused on these distinctive capabilities.

An organization's distinctive capability should be selected on the basis of its strategy and its market positioning, not its analytical orientation. If it simply isn't clear about what a company's key capabilities are or what's distinctive about them, the company has problems that require more than extensive data and analytics. Over time, most firms tend to explore analytical domains outside of their original capability areas. At Harrah's, for example, analytics have now been applied to such domains as human resources and IT capacity planning. This is fine as long as it maintains continual investment and improvement in the original capability area.

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Thus, you may branch out, and you may be forced to become more analytical in areas where the competition has already become so. But you should focus business analytics where you already compete. The payoff is greatest where you are playing to your strength, not where you are playing catch-up.

MORE QUESTIONS TO ASK:

- What is our distinctive capability? On what basis do we choose to compete? And how clear and definitive are we about that choice?
- What performance levels or innovations in this area would blow away the competition?
- What information, knowledge, and insight would it take to perform that way? What are the biggest unanswered questions and biggest opportunities?
- How would we act upon that information, knowledge, and insight?

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WHY NOW?

There have always been companies that competed based on their superior ability to gather, analyze, and act upon the information at hand. But taking an analytical approach to the most important and complex business problems used to take an enormous amount of time, money, and effort. For example, the early practitioners of passenger yield management in the airline industry made extraordinary investments in people, process, and technology to master that business process.

Recent technological developments have lowered that threshold of investment dramatically.

- Today's information management technology at last enables dissimilar databases to "talk" with one another and contribute their information to common repositories, and many corporations are investing in the integration and quality of their data.
- Today's sophisticated analytical tools include not only the established statistical regression and time series methods, but also statistically-based "machine learning" techniques that partially automate the processes of pattern recognition and prediction.

With such technological capability now available, corporations have the means to address many of their most complex business problems and competitive opportunities – areas that have defied systematic analysis in the past. And because they can, they will.

Just as business reengineering leveraged the step-change in information technology of the 1980s to enable radical redesign of business processes, business analytics today leverages new

technology to enable new processes and breakthrough process performance. Corporations that mastered the techniques of reengineering early enjoyed competitive advantage, as are those who are learning to compete on analytics today.

Almost every industry today – from professional athletics to wine – features one or more organizations that are pursuing analytical competition. Even in the cement industry, the Mexican company Cemex – the third-largest global producer – is using analytics to coordinate supply chains. In industries with substantial amounts of online information, including travel and transport, financial services, and e-commerce, virtually all leading players are emphasizing analytics, though there are still clear leaders.

Business analytics may be more feasible than ever before, but that doesn't make it quick and easy. Businesses with a committed executive team can begin to show clear results from an intensive analytical initiative fairly quickly. Harrah's, for example, began to see results from its loyalty management marketing initiatives in about a year, although it already had a good customer database in place. Barclay's, in contrast, had a "five year plan" to convert to an analytically-based approach in its credit card business. It took that long to recruit new analytical staff, build new databases and systems, and change business processes. Of course, the bank was able to show substantial improvements in key measures of performance along the way. If a corporation doesn't have executive support for a new analytical direction, it may take a couple of years of small, focused, grassroots analytical projects just to get senior management attention – and then begin in earnest.

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"Why now?" Because the technology is ready. Because your competitors are likely exploring the possibilities of analytical competition, too. Because it may take a while to come up the learning curve and realize the payoff. And because it's always risky to be slow in recognizing and capitalizing on a fundamentally new business capability.

MORE QUESTIONS TO ASK:

- What are our direct competitors doing or attempting with business analytics? Is anyone in our industry jumping ahead in terms of analytical capability?
- How are analytics changing our competitive landscape? Are we at risk from non-traditional competitors who may use analytics to encroach on our markets?
- What emerging technologies of information integration and analysis should we be exploring more aggressively?
- How fast can we launch a serious business analytics initiative? What's holding us back?

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WHAT'S THE PAYOFF?

Most analytical competitors are leaders in their industries and quite successful in financial terms. In a study of 32 corporations with varying degrees of analytical orientation, an increased focus on analytics correlated with stronger financial performance. In another study of over 400 firms, analytical competitors were five times more likely to be in the top-performing quintile than the bottom-performing.

The improvements in performance for analytical competitors are often dramatic. For example:

- Harrah's has improved in every measure of financial performance since it adopted an analytical orientation, including revenues and profits, "same store" sales, average hotel room rates, slot machine profit margins, and perhaps most importantly, stock price.
- Analysts suggest that Marriott reaps around an 8% revenue advantage compared to other similar hotel chains from its highly refined and extensively-applied revenue management system.
- Capital One has grown earnings per share by more than 20% each year since it went public in 1994, and has grown to be the third-largest provider of credit cards in the U.S.
- AutoZone creates an optimal portfolio mix of its product, pricing and promotional activities across all 3,300 stores by understanding and forecasting the performance of individual departments, products and categories within each store.

Most firms measure the financial returns from technology-enabled business initiatives through conventional ROI analyses. Certainly any specific analytical application can and should be evaluated in this fashion. But most business initiatives are evaluated only intermittently, and sometimes only after the fact. Business analytics initiatives are different in that performance measurement is an integral part of the process itself.

Business analytics often entails testing designs and alternatives for effectiveness, using a clear hypothesis and perhaps a control group, and then measuring the results, often in financial as well as operational terms. Business analytics is all about *anticipating the payoff in order to maximize it*. So the analytics initiative succeeds if and when the business capitalizes on an opportunity that analytics reveals.

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However, analytical competitors must also evaluate their efforts on a grander scale. Analytical competition is basically a bet on a new way of doing business. The payoff is whether the business prospers – whether it grows in revenues, profits, or market share. If there is no evidence of improvement in these overriding business objectives, then analytics may have yielded local and incremental improvements, but the firm’s approach to analytical competition has not succeeded.

MORE QUESTIONS TO ASK:

- What are our specific performance goals in the area where we choose to compete?
- How well do we measure them? How might better measurement and analysis of today’s performance reveal tomorrow’s opportunities?
- How well aligned are the organization, its management, and its stakeholders with these performance goals?
- What’s our highest ambition? What would it mean in terms of revenue, profit, and market share if we were really to change the basis of competition?

BUSINESS ANALYTICS AND CUSTOMER RELATIONSHIPS

Many corporations compete on the basis of their ability to initiate, expand, and maintain relationships with customers. Indeed, customer management is a high-potential domain for business analytics, especially the techniques of predictive modeling.

“Predictive modeling” uses a variety of analytical techniques to make estimates about the future based on current and historical data. These predictions are expressed as a likelihood that a particular event, opportunity, or behavior will take place. Predictive modeling can be used in making increasingly effective and individualized decisions about the treatment of customers. These models analyze the customers’ past performance in order to assess how likely a customer is to exhibit a specific behavior or respond to a specific offer.

There are several mature predictive modeling applications. One is credit scoring, models that estimate the likelihood that a customer will make future payments on time. Another relatively mature application is in targeted marketing, which involves using consumers’ purchasing history and response rates, along with demographic,

geographic and other relevant characteristics, to estimate the likelihood that customers will respond to particular marketing efforts. Though this approach is mature, it still requires ongoing testing and refinement using various customer offers. But these mature applications represent just the tip of the iceberg of overall opportunity for using predictive modeling to optimize customer relationships. For starters, most of these mature approaches have been run off-line – periodic calculations that set customer transactions and marketing programs in motion. But now leading corporations are beginning to embed predictive models in real-time customer-facing processes and systems in ways that generate revenue opportunities and control risks.

We see five major application categories of predictive modeling for optimizing customer relationships:

- **Valuation.** Many companies are beginning to actively measure and manage the asset value of their customer relationships. The first and most basic questions are: What’s the lifetime value of this customer? Based on a customer’s unique characteristics and transaction pattern, what types and magnitude of investment are justified? When we make an investment in this customer, does it generate transaction patterns that reflect an increase in value?

- **Customization.** Competitive pressures are driving companies to personalize the way they manage customer relationships. Uniquely targeting consumers with the products, services, and experiences they value and are likely to respond to can lead to significant revenue growth while reducing acquisition costs. This goes well beyond traditional targeted marketing and cross-selling. Examples include the “recommendation engines” at Amazon and NetFlix, and the “intelligent wardrobing recommendations” made by call center agents at Victoria’s Secret Direct. One financial services company predicts a unique “next logical sale” to offer to each customer who calls for any service issue or inquiry.
- **Pricing.** Many businesses have to account for unique customer risk, then price the product or service based on the cost of covering that risk. For example, auto insurance providers must accurately determine the amount of premium to charge to cover each automobile and driver. More effective predictive modeling can streamline the process of customer acquisition by predicting the risks of a particular customer and making more effective pricing decisions. Even retailers are beginning to broadly adopt analytical approaches to pricing their goods, and online retailers are experimenting with offering different pricing to different customers for the same product or service.
- **Retention.** Too many businesses try to retain customers only after the customer attempts to terminate the relationship. At this stage, changing the customer’s mind can be expensive or impossible. Many businesses also face “silent attrition,” where customers slowly but steadily reduce purchases and usage. Some corporations are developing early warning systems that detect any significant change in customer behavior that may indicate a service or retention issue. They then take preemptive measures to retain customers and address any latent service issues.
- **Fraud Detection.** Fraud ranges from inaccurate credit applications, fraudulent transactions, and false insurance claims, to identity theft. It undermines the profitability of companies and drives up the costs of goods and services for customers. Property and casualty insurance fraud amounts to approximately \$30 billion a year, health care fraud is approaching \$100 billion, and credit card fraud is estimated to cost \$1-2 billion. Finding fraud has always been a needle-in-a-haystack problem, but increasingly effective predictive models are being used to quickly identify fraudulent activity without increasing the number of “false positives” that can inconvenience and alarm customers.

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WHAT INFORMATION AND TECHNOLOGY DO WE NEED?

For starters, you must have high-quality, integrated data about the aspects of the business requiring analysis. The needed data may come from internal transaction systems, point-of-sale or other customer-facing systems, Web-based systems, or sources external to the corporation. Most companies today do not lack for sufficient amounts of data, but many still suffer from a lack of integration – can the information be used together? – and a lack of quality – how well does the data measure and represent the business phenomena that you want to analyze? Without good data, you simply can't do good analytics.

Specific technologies are required for analytical competition (see sidebar), but most large organizations probably have many of them already. Assuming that critical data reside in transactional systems such as an enterprise resource planning (ERP) system, it must be extracted with the use of “extract, transform, and load” software. It should generally be transferred into a data warehouse for easy access. If databases are particularly large, it may be necessary to store them in a “data warehouse appliance” – specialized hardware and software for data access and retrieval. All firms interested in analytical competition will need specialized software for query and reporting, and for sophisticated analysis. Leading vendors are increasingly combining all “business intelligence” capabilities in an integrated platform, but most are still typically stronger at either query and reporting, or at varying types of analytics.

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If you need additions to your technology platform to support business analytics, they are probably in two areas: first, search and text analysis technology to locate and categorize information that hasn't been "structured" or organized into traditional databases; second, integration technology to enable the data to be accessed and used together even when the relationships among data have not been anticipated or predefined.

All that said, the most common issue relative to analytical information and technology is having too much of it scattered about. Large organizations typically have multiple "business intelligence" software packages installed in different functions across the enterprise. They have multiple data warehouses. They have multiple versions of data, even around key business entities like customers. And they lack an overall technology architecture both complete and flexible enough to organize and manage information and technology assets as an agile enterprise platform.

Because your analytics initiative will be focused on a specific business capability and competitive strategy, you needn't address all these problems across-the-board and in advance. However, you may want to make an investment in organizing and supplementing the information and technology in your area of analytical focus.

MORE QUESTIONS TO ASK:

- Is the information we need at hand? Is the data that support our distinctive capability in one repository, with common definitions of key data elements?
- Is this data integrated enough not only to be accessible, but also to be manipulated with analytical tools?
- How completely and accurately does the information measure and represent our distinctive business capability and basis of competition? Is it up-to-date? What are the most glaring gaps and shortfalls?
- Do we have the technologies in place to support business analytics in this area? Or is technology fragmentation holding us back?

KEY TECHNOLOGY COMPONENTS

- **Integrated Analytical and Reporting Software** – Crunches the data and reports the results
- **Data Integration and Data Quality Software** – Moves, "cleans," and enhances the data
- **Data Warehouse/Data Marts** – Keeps the data in a place to perform analysis
- **Scalable Servers, Storage and Networks** – Makes it possible to get results quickly and share them widely

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WHAT KINDS OF PEOPLE DO WE NEED?

You've got to have trained and skilled analytical people to do analytical work – and to succeed in analytical competition. There are three levels of analytical people to consider:

- **Analytical professionals.** Most successful analytical competitors have a core cadre of people who design and conduct experiments and tests, define and refine analytical algorithms, and perform data mining and statistical analyses on key data. In most cases, these individuals have advanced degrees – often Ph.D.s – in such analytical fields as statistics, operations research, logistics, economics, or econometrics.
- **Analytical semi-professionals.** They can do substantial amounts of modeling and analysis using spreadsheets or visual analysis tools, but are unlikely to develop sophisticated new algorithms or models. These individuals might be, for example, quantitatively-oriented MBAs with deep knowledge and experience in the business process or function that's the analytical focus of the enterprise.

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- **Analytical amateurs.** The employees who do the day-to-day work of the business also need to understand something of the analytical basis for operations and decisions. For example, if a lodging chain employs sophisticated analytics for revenue management, those who quote room prices to customers need to understand, at least to some degree, how prices are derived, and when they can be overridden.

Gathering *analytical professionals* may be a matter of hiring if you have not had roles for them in the past. Or they may be on hand and concentrated in a function, such as operations planning or logistics, that relies heavily on analytics in everyday work. You probably have *analytical semi-professionals* on staff, so it's a matter of identifying who has the right mix of analytical skill and business experience for the area where you choose to compete on analytics. The *analytical amateurs* simply need to be educated and trained in how the analytical results shape and get applied in their everyday work.

The most critical role, however, is the *analytical manager*, who can focus the work of analytical professionals. These managers must be intimately familiar with the business, experienced with analytical applications, and knowledgeable enough to credibly lead the analytical professionals. Like deep technical experts in many fields, analytical professionals tend to be focused more on their specialty than on the business, and to dismiss direction from managers who don't understand the technical domain. It takes a special breed of manager to translate, steer, and set priorities for the specialists. Without such a leader, analytical professionals do not get close enough to the business to make a strategic difference.

With the requisite people, information, and technology in place, a company can launch an analytical application. Perhaps it's a project to identify the most profitable customers, or to optimize inventory in the supply chain. The project team then includes not only analytical professionals and semi-professionals, but also key managers and professionals from the business process under analysis who are willing and able to reshape that process.

MORE QUESTIONS TO ASK:

- Do we have a critical mass of analytical professionals on staff? Are we prepared to hire them? Do we need to "rent" this talent in the short term to fill gaps?
- Who can manage analytical professionals? Who has the necessary experience, credibility, and "bridging" skills?
- Will we be ready to train employees to apply the analytical results and operate differently?
- Is the organization at large oriented toward analytical decision-making, or is it wedded to yesterday's procedures and rules of thumb? How quickly can the organization come up to speed analytically?

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WHAT ROLES MUST SENIOR EXECUTIVES PLAY?

Another prerequisite for analytical competition is committed senior executives who provide the passion and the resources to drive their organizations in an analytical direction. In virtually every firm that has determined to leverage analytics, the CEO and senior management team set an analytical strategy in the first place and then continually pushed it forward.

There are three key roles that the CEO or business unit head must play:

- **Strategy.** Decide where analytics should be leveraged in the business. As discussed under the first question, the CEO must articulate the business's distinctive capability and chosen basis of competition, determine where in that domain to leverage the power of analytics, and charter the first (or next) analytical initiative.
- **Capability.** Drive with passion and commitment the organizational changes needed by an analytical competitor. Without top executive support, any company is unlikely to make the needed changes in skills, information management processes, and IT capabilities.
- **Execution.** Insist that the business take action based on its analyses. It's often easier, for example, to create a segmentation scheme for customers than to actually treat customers differently. And it's easier to establish the profitability of products than to discontinue unprofitable ones. Managers of the functions involved in analytical projects must be prepared to take action – with the insistence and backing of top management.

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Meanwhile, other executives play vital roles in analytical competition:

- Since applications of business analytics typically involve some sort of financial information, including calculation of returns under different conditions and scenarios, the *Chief Financial Officer* plays a role in virtually all of them. The CFO may simply support an analytical project with financial processes, information, and staff; may advise the project, for example, on how to relate new analyses with past ones; and may own the project if it centers on the financial structure and management of the enterprise.
- *Chief Information Officers*, of course, have extremely important roles. The most traditional is to provide technology and access to the company’s databases, including insight into their structure and the quality of their data. But the CIO – or a designated leader of the technology side of a corporation’s analytical initiatives – may support or play other roles on analytical initiatives, including catalyst, architect, and business/financial analyst.
- Critical to the success of any analytical project is the leader of the business function or process in question. *Functional executives* are usually responsible for specifying the capabilities of key information systems – both transactional and analytical. The leader of an analytical function is closest

to its business processes, so is ultimately responsible for their design, execution, and competitive optimization.

- Finally, each business analytics initiative must have a *project leader* who has real expertise in the business process, high credibility and respect among top management, and is conversant in analytical technology and methods. This person leads the charge day-to-day and makes sure that the analytical efforts stay focused on the business strategy and intent.

MORE QUESTIONS TO ASK:

- Are we committed to competing on analytics, starting at the top of the organization? What are the CEO and executive team doing to demonstrate that commitment?
- Is the leader of the analytical function prepared to act upon the results of the analyses?
- Are the roles and decision rights of other stakeholders, including the CFO and CIO, clear – especially when their roles are novel or overlap?
- Do we have a project leader who can span the worlds of strategy, process performance, and analytics?

MORE APPLICATIONS OF ANALYTICS

KEY PROCESS: SUPPLY CHAIN

Whether the corporation produces physical products or provides services, supply chain is among the most critical business processes. It's how the "goods" get delivered, whatever they may be. And it's where the most basic optimization of cost-to-performance takes place. Business analytics can reveal the below-the-surface truths about supply chain performance:

- What's the weakest point in our chain? What handoffs pose the most potentially damaging disruptions?
- What's the strongest point in our chain? Where might we be over-paying and over-performing? How much should we really be outsourcing or relying on others? What's the best risk/reward-adjusted mix of inside and outside resources?
- What measures most accurately predict overall supply chain performance? What measures are merely window dressing or, worse, misleading?

KEY ASSET: PEOPLE

The labor force growth rate is slowing, and labor markets are projected to continue tightening. Employee variety is increasing by every measure – demographics, background, lifestyle, motivation. Corporations must understand their employees and prospective hires more deeply than ever as a foundation for customizing the "employment deal" as never before. Business analytics can show the way:

- What's our company's exposure to retirement waves, heightened competition for talent, and educational shortfalls among job candidates?
- What are our most critical employee categories? Where do departures hurt the most? What facets of the job, the organization, and the employment deal matter most to our most important employees?
- How many options should we offer employees in compensation and benefits packages? Where does customization pay off, and where is it a waste of effort?

WATERSHED EVENT: MERGER OR ACQUISITION

The track record of corporate mergers and acquisitions in the U.S. is pretty abysmal. Few meet their stated goals, and most end up destroying shareholder value. The financial and ownership transaction is simple compared to the complexity of integrating operations, leveraging scale, and cutting costs. And yet the rate of corporate combinations has again increased. If your organization is contemplating a merger or acquisition, or in the midst of one, business analytics can help clear a path to success:

- What effects will the combination have on our markets? How are customers, especially common ones, most likely to react?
- What's the real scope of the integration effort? How ready are the organizations, their assets, and their information for integration?
- What's our most aggressive, risk/reward-adjusted pace for integrating?
- What does past M&A experience of the two entities – and of our industry – tell us about the chances and methods of success?

GETTING AND STAYING AHEAD

If your company is the leading analytical competitor in your industry – or succeeds in becoming so – congratulations. However, the work and the opportunity have just begun. The business analytics experts in leading competitors are the first to admit that they are just scratching the surface. Business analytics is for the most part uncharted territory with untold potential that must be explored.

Analytical competitors that are successful over the long run keep working at it – they are never finished and can hardly rest on their laurels. Analytical firms must continue to innovate with new models and algorithms, to invest in new capabilities, and to broaden the basis of competition by extending analytics to different business functions and units. They must explore new metrics. They must “close the loop” by capturing the learning from successful and unsuccessful business experiments, and embedding the learning into ongoing and automated business processes. And they must, of course, monitor and respond to competitors who will constantly challenge an analytically-derived lead.


Successful analytical competitors must do more than hone their techniques and expand their applications. They must constantly check the key assumptions behind their quantitative analyses. They must monitor how well they learn. For example:

- A credit card company has to keep examining the assumptions behind the level of debt that customers can successfully pay back; change in consumer psychology or a shift in the overall economic climate could invalidate the assumptions behind earlier analyses.

- An e-commerce firm must determine whether customer data – and conclusions based on it – gathered in earlier periods are still relevant when both business conditions and customer sophistication are changing fast.

Finally, two cautions. First, remember that it’s better to optimize a simple process than a complex one, better to optimize a coherent business model than a fragmented one. Success with business analytics can disguise fundamental business problems. American and United Airlines pioneered such analytical approaches as yield management, fleet and crew optimization, and data-intensive customer loyalty programs. Over time, however, more successful airlines learned to employ these techniques in support of simpler and more effective business models, such as Southwest’s single-aircraft-type fleet. Business analytics should enable you not only to master complex problems, but also to find simpler solutions.

Second, remember to keep your business analytics initiatives competitively focused and demand driven. You may decide to launch analytical experiments in different areas of the business as a means of uncovering opportunities, or to marshal some analysts behind any business experiment that shows real promise. But you cannot afford to have your analytical professionals doing brilliant work in areas that are not crucial to business success. These professionals are in short supply and increasing demand. As analytical competition intensifies, you must focus your resources where the business demands analysis, where the business is prepared to act upon the results, and where actions will make a difference in the marketplace.



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