

From Data to Differentiator

Study: Business analytics is the key to moving beyond what *was* and *is* to embrace what *will be*, *should be* and *can be*.

Many organizations are overwhelmed by the amount of data they're constantly generating and frustrated by an inability to effectively extract business value. Increasingly, IT departments are under pressure to provision, use and manage data in a transformative manner that enhances the company's financial and operational performance by helping the business develop and launch new products and services effectively, enter new markets or create new revenue streams..

A recent survey of IT and business decision-makers found that fewer than half believe that their organizations effectively leverage information as a major competitive differentiator. This white paper examines the challenges organizations face in managing information as an asset and the strategies being implemented to take advantage of business analytics technology in a manner that integrates the results across multiple business units and stakeholders for making better decisions.

Struggling for Meaningful Data

IT has gotten pretty good at collecting and storing data. Many companies have focused over the past 10 years on creating data warehouses that bring together widespread, disparate data so it can be processed by reporting tools that enable people to navigate, visualize and share information.

Nonetheless, for most businesses, that's not good enough. There are constant, if not increasing, demands for making better use of that data—in short, utilizing data as a business asset to make proactive decisions. Executives are looking to IT to ensure that business analytics investments are fully utilized to help meet varied business goals, either to take confident action to develop new products or services or to predict with certainty which customers will generate the most profits.

In a recent survey of 140 IT and business leaders

conducted by *CIO* for SAS, just 45 percent of the respondents viewed their organization as progressive in managing information as one of their valuable assets, if not the most valuable. Another 40 percent said their organization realized the potential of their information but were struggling with how to make that information actionable. And 14 percent said their organization was only now beginning to realize the value and importance of the information at its disposal.

The survey, conducted in August 2010, spanned respondents in various vertical industries with average annual gross revenues of \$6.7 billion. The *CIO* survey reflects struggles under way at many organizations facing similar issues in dealing with market, competitive and regulatory issues:

- Aligning their organization with current market conditions
- Proactively detecting and understanding trends, opportunities and risks
- Improving data quality
- Sharing data across business units in a consistent manner
- Making decisions better and faster

James Taylor, a leading expert in decision management, says that for the most part, IT can

develop the reports and dashboards that business users think they want. Where IT struggles, says Taylor, CEO and principal consultant at Decision Management Solutions and a faculty member of the International Institute for Analytics (IIA), is in delivering solutions that don't require users to have analytic skills and in automating how insight is derived from the data.

In particular, IT is struggling to provide business users with meaningful and actionable data that can be used to develop new services, products and markets. For example, financial services companies that are under new constraints due to U.S. regulatory changes need better, faster ways to evaluate how they can replace lost fees with new revenue streams from within their existing customer base and how to expand that base.

Stalled Progress

Although business analytics technology has become widely deployed, the *CIO* survey indicates that most organizations are failing to realize the full potential of investments in it. An overwhelming majority of the survey respondents (83 percent) indicated that their organization was leveraging business data primarily for reporting on past performance.

Organizations large, medium and small in the

public and private sectors face similar challenges and frustrations in taking business analytics to the next level. Improving data quality is a top business analytics challenge, according to 56 percent.

Only slightly more than one-third (38 percent) of the respondents described their organization's information as easily accessible. It's probably no surprise that, for most, data is still accessed, explored and integrated primarily within organizational silos or even at the individual level. Just 36 percent said they were consistently integrating analytics results within specific business processes, activities or campaigns to improve performance a majority of the time within silos or across the enterprise.

IT leaders are being asked to optimize business operations and solve complex business issues by using a full range of analytical methods. Generally this results in one of two outcomes: increased pressure on IT to provide a robust business analytics framework or the continued development of siloed decision management infrastructure based on departmental or individual requirements.

Enterprise Challenges

If it follows separate paths for individual business units, IT will continue to experience frustration in trying to meet demands to make analytics

functionality more pervasive to all types of decision-makers, from top executives to line-of-business managers/analysts, from business partners to customer-facing call center employees.

Yet, in the *CIO* survey, more than half of the respondents rated themselves as middling to poor in areas such as data governance and supporting future business unit objectives, among other areas. On the other hand, those who said they had implemented an enterprise-wide approach to data and application management were significantly more likely to

Companies that view information as a valuable asset versus those that struggle to raise awareness of its importance



SOURCE: IDG Research Services, August 2010

report high levels of effectiveness in developing and promoting IT/business alignment and in improving business flexibility and resilience.

Of those surveyed, 52 percent also indicated that one of their biggest challenges with business analytics was sharing and integrating analyses and decisions across business units. This is likely due in part to duplication of reporting or analytics functions across those different business units because managers have made independent decisions on what tools to apply and use. Indeed, almost 60 percent of the survey respondents indicated that they expect that one of the top benefits from business analytics initiatives will be providing enterprise analytical capabilities for better decision-making.

Providing the organization with a business analytics framework provides a clear path for organizations to make more-fact-based decisions, more quickly, at every point in their value chain.

Those organizations that do pursue a framework and a reusable services-based business analytics architecture approach enjoy greater success in supporting data management, reporting and analytics demands and in quickly turning data into action for better returns.

Taylor recently wrote that it was time for organizations to “industrialize their advanced analytics efforts,” arguing that allowing analysts to pick their own desired tool “means that common data cleansing routines or model elements are not, in fact common.” That doesn’t necessarily mean that all analytics should be a top-down enterprise decision, he added, “but organizations need to get away from an artisanal approach to this. What you can’t afford to do anymore is say, ‘You guys build the model, and when you’re done, we’ll see what we can do with the results.’”

According to Taylor, organizations regularly find that 50 percent to 60 percent of the analytic models built

never make it into production. Even worse, he adds, 40 percent of the respondents in a May 2010 survey conducted by Taylor indicated that it took six months or more to get an analytic model into production, yet analytics experts often say that models should be refreshed at least every six months. “Nearly half of those models aren’t getting into production until they’re already out of date,” he concluded.

Building a Business Analytics Architecture

A common complaint from business users is that IT focuses on operational applications and static reports. Faced with the need to constantly evaluate changing market and customer dynamics, those business units are clamoring for more business analytics tools to solve a variety of problems.

IT obviously wants to be more responsive. More than half of those polled in the *CIO* survey indicated they were looking to their business analytics initiatives to improve the relevance and timeliness of information and analysis (54 percent) and increasing transparency/insight into business priorities.

Providing the organization with a business analytics framework provides a clear path for organizations to make more-fact-based decisions, more quickly, at every point in their value chain. A successful framework should enable organizations to solve complex business problems and make effective decisions. Among the key components to focus on are the following:

- **Data management** – The sheer volume of data flowing in from every business process can be a major obstacle for empowering decision-making. In the *CIO* survey, 56 percent of the respondents viewed improving data quality as the top challenge for their companies.
- **Analytics** – Evidence-based decisions require not only quality data but also the ability to transform that data into predictive insights. According to Taylor, IT needs to provide users with tools that help people gain insight into the organization’s data even if they don’t have sophisticated

analytics skills and to employ more-automated ways of deriving analytic insights from data.

- **Reporting** – The results of analyses need to be shareable across the organization. Role-based interfaces help make users more self-sufficient. IT needs to be able to rationalize the myriad of tools in use while still meeting the needs of each department.
- **Business solutions** – Line-of-business solutions address goals that have an impact on every organization, while providing results in a relevant context to improve specific industry processes.

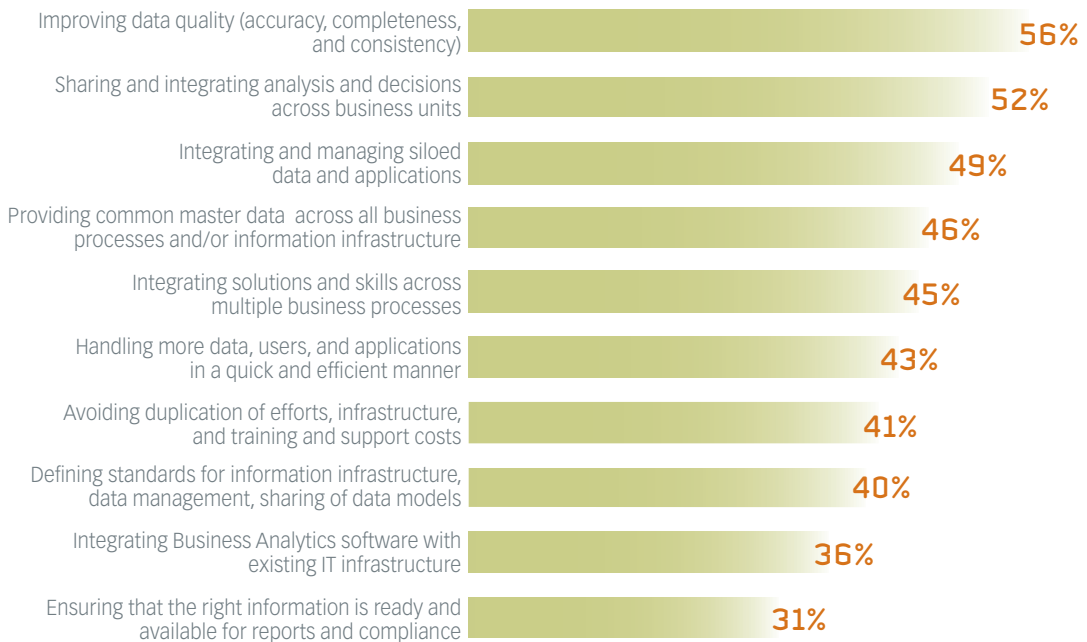
Building a business analytics architecture to create a competitive advantage requires supporting multiple styles of deployment and usage as the needs of the organization change. Many organizations (47 percent of the survey respondents) are still largely reliant on stand-alone tools to access, organize and manage data and explore it to do historical reporting.

Advancing Organizational Goals

Every organization has its own style of business analytics—from classic query and reporting to real-time analytics and business activity monitoring. Reporting has evolved to enable more-interactive navigation and self-service access. In addition, there has been a steady trend of adopting and implementing advanced analytics such as forecasting, data mining, optimization, operations research and simulation.

The problem for IT is that what works with one style may not be as effective with another. According to Taylor, traditional reporting tends to rely on summary data—what happened last week, last month and so on—whereas a predictive model may need transactional information from the 30 days immediately prior to a customer’s terminating a relationship or the first 30 days after the start of a relationship.

Improving data quality is a top business analytics challenge at more than half of all respondents' companies



SOURCE: IDG Research Services, August 2010



IT's challenge is to recognize differences in styles, work with business users and analytics teams to develop systems that deliver intelligence that makes sense at specific points in the organization and figure out how to incorporate business analytics into operational systems and processes.

All styles of business analytics require the development and augmentation of content to support the decision-making process. This includes development and maintenance of data warehouses, data marts, analytic models and reports. But how this content is actually used to make decisions may vary greatly. Increasingly, businesses are looking for formats other than reports—such as enterprise portals, dashboards and scorecards—and integration with operational systems.

For example, many organizations are struggling with how to meet data management and analytics needs while adhering to governance requirements. Regulatory agencies and stockholders require increased levels of oversight into how decisions are made and the impact those decisions have on an organization's success or failure. That requires effective decision rules and models as well as the ability to track the model through its life cycle.

Moving to the Next Level

Taylor says companies with experience with a particular kind of analytics sometimes have trouble trying to adapt to using analytics more broadly across the organization. As companies continue to deal with growing volumes of real-time data, external data and Web interactions, a more holistic approach to managing business data is increasingly necessary.

Regardless of the size, industry or goals of your organization, the basic architectural requirements for business analytics are essentially the same, but the scale and styles might be different. The important activities are sourcing the data, discovering what it is telling you and sharing the insights with the appropriate decision-makers.

Moving in the direction of a business analytics framework requires time, effort and desire. Among

the initial steps are the following:

- Work with the business units to review current processes and the issues being faced, in order to support business analytics.
- Develop a target state architecture for your enterprise-wide business analytics implementation.
- Execute against a road map to deliver your targeted-state architecture.
- Be a key sponsor of and participant in an analytical center of excellence.
- Review business analytics needs and delivery capabilities often with the business units to stay ahead of their changing needs and remain responsive.

The architectural building blocks you need are based on providing capabilities for data management, analytics and reporting. Once deployed, your solution building blocks should work together, since the solution is using a common set of services and clients to provide consistency, reuse and self-sufficiency.

A Clear Path

The SAS Business Analytics Framework provides IT leaders a clear path for resolving issues—from the simple to the incredibly complex—through a measured and scalable approach to delivering value. This framework for decision-making incorporates the skills, best practices, solutions and technologies, as well as the underlying analytical methods, required to

- Solve complex business problems and act to solve them
- Manage and reduce risk in order to outthink the competition
- Provide insights and understanding to support evidence-based decisions

For more ideas on getting started with your business analytics implementation, read [8 business analytics essentials](#).