Business intelligence and predictive analytics
Helping businesses turn information into action and business results
In recent years, the role and importance of data across the enterprise have been transformed beyond recognition. Organizations in all industries are seeing exponential growth in data volumes and an increasing demand to access critical information via enterprise systems.

As a result, the challenges of managing ‘big data’ efficiently and effectively have never been greater. But the prize for getting data management right has also increased dramatically, with the explosion in data availability giving organizations more information to work with, and boosting their ability to perform predictive modeling at ever greater degrees of accuracy.

As we’ll highlight in this paper, the Business Intelligence Lifecycle provides a solid foundation for predictive analytics. We’ll also examine some of the common scenarios and questions that companies need to take into account when reviewing investments in business intelligence (BI) and analytics—particularly when considering implementing the Microsoft BI/analytics platform.
Boosting returns in turbulent times

The need to for businesses to use BI/analytics to realize the opportunities in ‘big data’ is underlined by the findings of a recent Avanade global survey of more than 540 C-level executives in 17 countries across North America, Europe and Asia Pacific. The study, entitled The Business Impact of Big Data, confirms that the exponential grown in data and the need to access critical information are creating very real business challenges. Some 56 percent of all respondents report that they feel overwhelmed by the amount of data their company manages. As well as costing money, managing all this data costs valuable time—with 62 percent of the C-level interviewees in the study saying they are ‘frequently’ interrupted by irrelevant incoming data.

A key driver behind the rising importance of data is companies’ pursuit of higher returns on investment in today’s uncertain business environment. Economic turbulence is encouraging organizations to explore new options to speed the time-to-value of IT expenditure, such as adopting diverse sourcing models, reducing legacy equipment, consolidating suppliers and eliminating applications. All these steps demand accurate and well-managed data.

As data becomes ever more central to decision-making, there is a rising need to disseminate actionable information more widely and at greater scale across the enterprise. In the Avanade study, 61 percent of the executives we interviewed say they want faster access to data. And to meet this requirement, organizations need to bring together information from a variety of sources, and deliver it to an increasingly diverse set of devices, including phones and tablets.

Governance—and business performance through BI

With sensitive corporate data being shared and used more widely, data governance is rising up the agenda. The need to protect data from unauthorized access, modification or deletion demands data governance policies that enhance security while simplifying regulatory compliance.

Organizations can only turn data into real, sustainable business performance if they understand and apply it in their decisions. So, in parallel with the rising importance and volumes of data, organizations are becoming ever more dependent on using analytics to generate insightful and actionable Business Intelligence (BI).

Technology must meet the demand for rapid, reliable BI throughout the enterprise. Working together, Accenture, Avanade and Microsoft are making this happen for thousands of businesses worldwide.

The Business Intelligence lifecycle...

A key framework for enabling companies to harness the full power of data is the Business Intelligence lifecycle (see Figure 1). By creating an ongoing BI lifecycle encompassing and integrating all the stages shown in the chart, an organization can create higher and more sustainable business value. It does this by constantly evolving BI to provide greater volumes of more accurate, timely and actionable insight, thus enhancing its ability to deal proactively with volatile business requirements, and drive its operations and growth more efficiently and effectively.

Proof that getting the foundations right helps to drive high performance

Recent research by Accenture reveals that high-performance IT organizations are more evolved in their information management practices than their peers in other organizations. For example, they are more than twice as likely to have developed target data architectures and created effective BI and analytics capabilities as well as data governance. They provide their employees with more access to the most detailed and real-time information they need to do their jobs. The most accessible, granular and real-time customer data, for example, is 80 percent more accessible, more than twice as granular and twice as likely to be available in real time from high performers versus from other IT organizations.

Furthermore, investments in information management technology are delivering significantly more value for high performers. More than three-quarters of high performers said that business analytics investments are delivering 75 percent or more of the expected value—nearly twice the proportion of other IT organizations giving that response. For example, high performers have invested more aggressively in data quality assurance and master data management technologies, giving them reliable, consistent information about customers, products, employees, and suppliers.

...provides a foundation for predictive analytics

With a robust BI lifecycle in place, a business gains a solid foundation for turning information into management action and real business results through predictive analytics. This is a discipline that fuses business and technology to support better-informed, more forward-looking decision-making (see "What is predictive analytics?" at right).

Predictive analytics improves the effectiveness of companies' strategic, operational and tactical decision-making by helping them turn information into technology-enabled business insights, insights into actions, and actions into outcomes. It can also support a collaborative decision-making environment that incorporates and integrates social networking, cloud, mobility, and big data as well as legacy IT environments. Accenture research confirms that advanced BI and analytics capabilities are characteristics of high-performance IT organizations across all industries (see "Proof that getting the foundation right helps to drive high performance" on p3).

What is predictive analytics?
Predictive analytics is defined as the extensive use of data, statistical and quantitative analysis, explanatory and predictive models and fact-based management to drive business decisions and actions.

BI Capabilities
BI includes the capabilities to provide historical, current and predictive views of business operations and context, continually adapting to the changing business needs through its evolution lifecycle briefly explained here.

Data Sourcing
Understands current business processes and needs, and how leveraging BI creates value. Knows current data sources, quality and availability and issues and together with data owners works to ensure best BI data sourcing.

Data Warehousing
Provides the basic BI platform and infrastructure for collecting, processing and long-term storage of the enterprise data. Also in charge of timely data delivery in a dynamic mixture of sets and formats for various BI uses and purposes over time.

BI Usage
Uses data provided by the BI platform and possibly other sources to create wide range of reports, analysis, queries, etc. and format the results by using advanced visualization techniques for a final delivery via the agreed BI services.

Services and Operations
Reliably delivers value to business users through BI delivery in appropriate presentation forms, availability and functionality. Includes BI operations, end user support, project support and BI education as needed.

Assessment and Optimization
Ongoing evaluation and optimization of the BI strategy, capabilities and services to best support current and future business strategy and needs. A major input to the continuous BI development process.

Figure 1: the Business Intelligence Lifecycle
Top challenges facing BI solution implementations

Companies looking to adopt BI solutions typically face a number of challenges. While the severity and mix of challenges vary for every individual business, there are several common themes at both organizational and functional levels.

Organizational challenges

The organizational challenges around BI can be seen from the perspectives of the CIO, business and data growth.

1. CIO perspective
One of the biggest gaps between CIOs’ capabilities today and their target capabilities tomorrow is in their ability to manage information effectively. Regulatory and compliance changes ranging from Sarbanes-Oxley to Basel II to the Health Insurance Portability & Accountability Act (HIPAA) mean C-level executives need to rethink their entire approach to information management. Nine out of ten executives of large US companies believe they need stronger information management capabilities to enable their organizations to thrive and grow.

2. Business perspective
According to IDC, information workers spend 48 percent of their time searching for and analyzing information, costing organizations an average of US$28,000 per worker per year. However, managers often report that they frequently miss useful information, and that only some of the information they do receive turns out to be of any value. What’s more, they also often use and act on the wrong information.

3. Data growth perspective
Research by Gartner suggests that 800MB of recorded information is produced per person per year, and that data and semi-structured data—including databases and messaging applications—have been growing at an annual rate of 30 percent to 50 percent. It is also commonly estimated that, with the explosion in social networking, society now produces more data every six months than has been produced in the whole of human history. And 85 percent of the big data enterprises produce is externally influenced, scattered, neither secure nor validated, and cannot be aggregated.

Functional challenges

From a functional perspective, data challenges are arising all over the organization. Here are some common problems and outcomes.

Integrated view of the customer
Problem: Inability to assemble and integrate customer data from multiple sources and channels.
Outcome: $ millions lost in services errors, manual rework, and unrealized incremental cross- and up-selling revenue.

Fraud and collections
Problem: Incorrect payee contact information.
Outcome: $ millions uncollected.

Operational planning and execution
Problem: Inability to aggregate, analyze and project operational capacity cost effectively.
Outcome: $ millions over-invested in underperforming or under-utilized operational infrastructure and people.

Supply chain and purchasing
Problem: Lack of integrated buying information per supplier and product.
Outcome: $ millions lost in missed discounts that couldn’t be negotiated.

Corporate management and planning
Problem: Inability to agree on KPI figures; different departments reporting different values because of issues such as different definitions of products, markets/channels, etc.
Outcome: $ millions lost through poor product strategy and marketing.

Process automation
Problem: Inability to forward data across processes such as Sales, Delivery and Billing due to silos of applications with local data.
Outcome: $ millions spent entering the same data multiple times, and manual data reconciliation.

Regulatory requirements
Problem: Sarbanes-Oxley, Basel II, HIPAA etc.
Outcome: $ millions spent gaining confidence in data.

Proactive Communications
Problem: Incorrect customer contact information, and inability to proactively notify service events.
Outcome: $ millions lost in customer attrition and missed sales opportunities.

Succession
Problem: Baby boomers are retiring en masse, taking significant systems knowledge with them.
Outcome: $ millions spent on documentation and transitions.
Key questions...

In light of these challenges, corporate boards are asking several key questions about how to manage and disseminate BI in their businesses. These questions include:

- How do we control the cost and complexity of managing increasing volumes of data and content?
- What should we be doing next? What are we not thinking about?
- How do we prepare for cloud applications?
- How can we continue to drive down IT and process costs?

...and the optimal answer: predictive analytics

Applying deep industry-specific insights and proven models, Accenture and Avanade work with Microsoft technology to help clients answer all these questions and more through sophisticated data analytics capabilities. The high performance outcomes we help these clients to achieve are powered and delivered through our integrated analytics approach, based on our framework for supporting an analytical competitive strategy, as depicted in Figure 2.

Accenture developed this framework to help clients successfully implement analytics-driven management decision-making, and rapidly create value from information. The framework incorporates a broad spectrum of analytics activities—and regardless of where an organization is on its analytics journey, Accenture can help it gain control of information and harness the actionable intelligence that lies within.

Our approach starts from a bedrock of best-practice information management. On this solid foundation we then build layers of Business Intelligence and insight generation, blending statistical models and analysis with industry understanding. This enables us to help clients develop the topmost layer of analytics-enabled decision-making, turning insights into concrete actions and measurable business outcomes.

Microsoft technology—tailored and implemented by Accenture and Avanade—is a proven and robust platform for maximizing the business benefits from this integrated approach. We'll now explain why.
Why Microsoft provides an ideal platform for BI and predictive analytics solutions

A world-leading BI platform...

Independent third-party research confirms that when it comes to offering a Business Intelligence platform Microsoft is a world leader. In its latest Magic Quadrant for BI Platforms research4 Gartner positions Microsoft as a leader among business intelligence platform providers.

Several factors have put Microsoft in the leadership position it enjoys in the market today, including the Microsoft platform’s strong self-service and ad hoc functionality, enabling actionable data insights and discoveries accessible through intuitive and familiar interfaces. These advantages are compounded by the platform’s strong BI capabilities, attractive packaging and pricing, and ability to build on and integrate with existing IT investments.

The Microsoft platform and the solutions it supports combine low total cost of ownership (TCO) alongside the ability to scale rapidly, extending advanced BI capabilities rapidly and seamlessly to a broad user base with the interfaces and tools with which they are already familiar. The Microsoft platform offers the ability to create joined up data capabilities between individual users and enterprise levels without compromising either flexibility for business users or overall enterprise control.

For some years, Microsoft has been executing a coordinated and unified BI strategy—driving integration across its business and product units to create a seamless information management platform. Microsoft is committed to growing its BI investments, driving greater innovation in areas such as visualization and cloud-based data and to continue developing the strong communities to support and grow the availability of BI skills on the platform to maintain Microsoft’s position as a leader.

...with Accenture and Avanade as leading implementers

The optimal way for businesses in all industries to harness and realize the benefits of the market-leading Microsoft BI platform is via the unique BI industry alliance of Accenture, Avanade and Microsoft—widely known as the “Power of Three Alliance” (see Figure 3).

Figure 3: The “Power of Three Alliance”—three unique partners

<table>
<thead>
<tr>
<th>Accenture</th>
<th>Avanade</th>
<th>Microsoft</th>
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<tr>
<td>• Deep industry knowledge and business acumen</td>
<td>• Specialization on the Microsoft platform to deliver mission critical solutions and managed services</td>
<td>• Provide of industry leading technology innovation, software products and services</td>
</tr>
<tr>
<td>• Process, strategy and human performance expertise</td>
<td>• Industry and cross-industry solutions</td>
<td>• Comprehensive enterprise platform</td>
</tr>
<tr>
<td>• Capacity to manage large transformational programs implementing complex information systems</td>
<td>• Engineered assets, reference architectures, and delivery methods</td>
<td>• Superior price, performance</td>
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<td>• Commitment to research and development</td>
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<td>• Deep product expertise and capacity to put “skin in the game”</td>
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Accenture and Avanade business intelligence offerings

BI Strategy
A comprehensive assessment to evaluate current state, desired state and BI roadmap.

Intelligent Warehousing
A proven set of logical designs, comprehensive data models and actionable metrics to fast track a data warehouse implementation.

Performance Analytics
A comprehensive approach to plan, forecast, monitor, analyze and manage business performance.

BI as a Service
A world-class high performance architecture built to manage high data volumes and multiple clients who have multiple analytical applications running at the same time.

The 11-year alliance between Accenture, Avanade and Microsoft has seen Avanade expand rapidly at more than 20 percent average yearly growth. It now has 60+ locations in 20+ countries worldwide, with over 14,000 global professionals.

In terms of clients, Accenture/Avanade had a portfolio of more than 250 unique Microsoft-based clients in 2010, and a track record in the past three years of successfully delivering more than 100 intelligent warehousing projects and more than 300 dashboard/scorecard/reporting projects. In 2011 it was recognized as Microsoft Partner of the Year in multiple categories, and Avanade was among Consulting Magazine’s Best Firms to Work For 2010, 2009, 2008, 2007.

The Alliance is planning ongoing investments to drive analytics in the marketplace, with a dedicated BI team. It is #1 in Microsoft certifications per employee and #1 in Microsoft SharePoint certifications. Also, Accenture/Avanade holds the highest number of certifications of any provider in:

- Designing and implementing database solutions with Microsoft SQL Server
- Designing and implementing business intelligence solutions with Microsoft SQL Server
- Application development with Microsoft SharePoint technologies

Furthermore, Accenture/Avanade has 24 Microsoft Gold Competencies—the most of any partner—and is the largest systems implementer globally on Microsoft technologies, with 2,200 dedicated BI experts.

Accenture and Avanade BI: benefits and key differentiators

The Accenture/Avanade Alliance has achieved this combination of rapid growth, technology leadership and impressive industry accolades through its consistently outstanding delivery for its clients. In combination, the Alliance’s key BI offerings—listed in the accompanying information panel—address all the major aspects of organizations’ BI needs.

The Alliance has the proven ability to help organizations capitalize on the strategic value of data by improving the way they integrate and manage information, while also reducing implementation risks by using proven data models.

The resulting solutions enable clients to align operational decision-making with corporate strategy, increase the delivery capability of BI through optimization of organization, methods and processes, and maximize the value of existing BI investments. Most importantly, organizations become enabled and empowered to distribute information effectively in an actionable format to the right people at the right time.
This leading multinational software company’s various businesses and regions were serviced by multiple BI vendors, leading to high operating costs and inconsistent levels of service. Inconsistent processes across regions and lines of business also made it difficult to share best practices.

**The Alliance’s solution**

The company selected Accenture and Avanade to drive its BI thought leadership and innovation after the Alliance demonstrated the value of its BI assets, toolkits and pre-packaged capabilities to transform the client’s BI landscape. The Alliance partners’ deep commitment to the Microsoft® BI stack, dedicated run management experts and single global team serving all lines of business meant their solution offered the best value for the money. Following their appointment, Accenture and Avanade now support BI development, analysis and run management activities for the client.

**Business results**

The business outcomes for the client include a significant reduction in application support costs and continuous improvement through automation, self-service and platform simplification. The client now experiences improved, high-quality, cost-effective BI services through a managed service model, which has demonstrated the agility to flex with changing business environment. The clients also has a clear BI roadmap to showcase innovation internally and externally to potential customers.

Accenture and Avanade BI solutions in action: Global leader in software, services and solutions
How will SQL Server 2012 change the landscape?

The release of Microsoft SQL Server 2012—formerly known by codename Denali—will significantly expand the BI landscape on the Microsoft platform and open up new opportunities for clients. Among other innovations, the new platform incorporates the BI Semantic Model (BISM), and has new capabilities around master data management and data quality services.

SQL 2012 will provide better performance and greater scalability, and will be able to work off tabular data models or multi-dimensional data models within BISM. A particularly significant step forward is PowerView, which is a new tool for advanced immersive data visualization and self-service reporting, and will enable ad-hoc queries from a wide range of devices.

Five top tips for BI and analytics implementations

The Accenture/Avanade/Microsoft Alliance’s wealth of experience with many hundreds of BI projects for a fast-growing global client base confirms that an integrated, enterprise-wide approach is the key to a successful BI/analytics implementation.

Our five top tips for success are:

1. Apply best practice data management techniques—including de-duping and anonymizing where necessary.

2. Use rigorous data integration and governance to link siloed data sources together.

3. Create a single, integrated view of fact across the enterprise.

4. Implement best-in-class capabilities such as insight generation, analytic modeling and aggregation on top of the data.

5. Apply best practice around data access and consumption—including providing users with easy and flexible access through reporting or self-service capabilities, and applying robust authentication and security to ensure each level of users only see the data they are authorized to see.

Today, data is at the core of every organization—and is its most powerful source of competitive advantage. Together, Accenture, Avanade and Microsoft can enable your business to unleash that power through world-leading BI/analytics solutions, and target the resulting insights to drive better, faster decisions and higher business results.

The data you need is out there, across and beyond your business. It’s time to put it to work. With Accenture, Avanade and Microsoft.
Notes

1 Source: Avanade Global Survey: The Business Impact of Big Data, November 2010.


4 Magic Quadrant for Business Intelligence Platforms, Analyst(s): John Hagerty, Rita L. Sallam, James Richardson, Published: 6 February 2012, Report number: G00225500.
About Accenture

Accenture is a global management consulting, technology services and outsourcing company, with more than 244,000 people serving clients in more than 120 countries. Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world’s most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. The company generated net revenues of US$25.5 billion for the fiscal year ended Aug. 31, 2011. Its home page is www.accenture.com.