A step-by-step approach to successful Business Intelligence

FEATURING RESEARCH FROM GARTNER

INTRODUCTION

Leading organizations of all kinds are seeking new, smarter ways to improve performance, grow revenue, develop stronger customer relationships and increase workforce effectiveness – and they expect individuals in every role to contribute to these outcomes. Business intelligence (BI) is a key factor in achieving such results because it supports informed decision making at every level, enabling managers, executives and knowledge workers to take the most effective action in a given situation. BI software connects people with information when and where they need it, and provides capabilities far beyond spreadsheets to deliver a true picture of the business. For small and midsize firms, however, finding a BI strategy that matches their resources, expertise and budgets can be particularly challenging.

Gartner finds that organizations which have the greatest success with BI travel an evolutionary path, starting with basic data and analytical tools and transitioning to increasingly more sophisticated capabilities until BI becomes an intrinsic part of their business culture. The research report, “Three Approaches to BI and Decision Impact”, describes a three-stage process in which organizations gradually grow in analytical sophistication as their business needs and demands evolve:

1. **IT-centric.** Organizations at this level generally approach BI as an IT-driven initiative focused on data collection and analytical tool selection. They ask “What happened?” and focus on making better business decisions through analysis of historical data.

2. **Information management.** At this stage people ask, “How are we doing against the plan, and what can we tweak now to hit our target?” Decisions become more real time as businesses harness BI tools and technology to push information to people so they can make better business decisions in the moment. This usually involves integrating data from CRM and ERP applications.

3. **Predictive insight.** In this approach, businesses add advanced analytics and predictive modeling to anticipate likely future events and capitalize on new trends or market opportunities. These enterprises ask “What will happen next, and how can we optimize the outcome?” They not only see the future, but play a role in creating it.
Any organization looking to become a market leader needs to embrace continuous improvement and innovation, and this requires the adoption of increasingly more advanced approaches to BI. Its goal, the authors assert, should be to “maximize decision impact in real-time decision making, as well as in future-vision scenario modeling, all with the goal of driving a business culture that is anticipatory and opportunistic regarding operations, products and customers.”

Of course, the transformation from an organization that makes reactive decisions based on summarized historical data, to one that uses historical data to anticipate and respond to future events in real time, can’t happen overnight. Our experience shows that all organizations grow in BI maturity step by step. Many have some type of reporting or analytical technologies in place but then find that these technologies don’t adequately address critical business challenges. This realization moves them to take steps toward becoming more analytically mature.

THE IDEAL BI APPROACH FOR MIDSIZE COMPANIES – THINK BIG, START SMALL

Midsize companies are perfect candidates for an incremental approach to BI. To be agile and compete with larger rivals, managers and business users at midsize companies need targeted, timely and accurate information – information that can successfully drive strategic business decisions. But because they have limited IT staff and budgets, smaller firms need a practical solution that enables them to deploy components tactically and incrementally. These businesses should “think big” – that is, draw on the conceptual frameworks of larger companies – yet scale their approaches to fit a company with fewer resources.

Some organizations make the mistake of trying to solve all of their challenges at once, and ultimately fail. By focusing on the highest priority business pain point, then selecting which capability will address the issue (such as analysis or reporting), small to midsize firms can more easily stay within their resource capacity and budget, realize business benefits more quickly and provide justification for further investment.

For example, an organization in the early phases of BI can:

- Start with reports or dashboards for information on how the business is performing
- Add analysis capabilities to gain insight into why certain events or conditions are occurring
- Incorporate planning functionality to link the insights gained from analysis
- Integrate what-if scenario modeling into the planning and analysis process so that action is immediate across the company

With these capabilities in place, small to midsize companies can deliver consistent, reliable information that helps employees understand what happened and why, and what they should be doing to achieve desired outcomes, while creating an easy-to-follow BI growth path.
IBM BUSINESS ANALYTICS SOLUTIONS SUPPORT BUSINESSES AT EVERY STAGE OF BI MATURITY

Midsize firms embarking on or expanding on a BI strategy will find everything they need to get started in a single package: IBM® Cognos® Express. This integrated reporting, analysis and planning solution provides a low-cost, low-risk entry into leading-edge BI for businesses with small IT staffs and limited skills and budgets. There are no hidden costs – IBM Cognos Express includes everything needed to deploy BI out of the box without requiring additional software investments or burdening IT staff – and because it is simple to manage, it saves time and resources while delivering faster time to value. To further lower any upfront capital expenditure, both software and services can be financed through IBM, enabling firms to make BI a reality today.

Whether a business is just starting out, or is further along the evolutionary path, IBM Cognos Express can empower any organization to take a more proactive, forward-looking approach to business intelligence.

- Organizations in the early phases of BI typically start by improving their reporting and analysis capabilities. IBM Cognos Express delivers complete self-service reporting, ad hoc query and analysis. This design allows users to access, modify or author reports quickly and easily, as well as combine all of their data into a single screen or dashboard to monitor changing business conditions. A consistent view of information ensures that users can drill down and “slice and dice” information to further analyze the business, enabling them to get the results they need.

- As companies move from simply reporting on what happened to tracking and managing performance against their plans, business users need to be able to react quickly to changing business conditions. This is easy with IBM Cognos Express, which provides an intuitive planning environment that blends managed workflow with personalized analysis for improved business agility. The solution streamlines information gathering, aggregation and analysis for continuous planning, budgeting and forecasting.

- Organizations at the most advanced stage of BI can leverage “what-if” and predictive modeling capabilities to see trends, determine what those trends mean for the business and modify plans accordingly. By adding the predictive capabilities of IBM® SPSS® Modeler, these organizations can see trends before they actually occur, as well as anticipate behavior and communicate this information through dashboards across the enterprise to drive better business outcomes.

By starting small with the capabilities they need now, and growing their BI and planning solution over time, midsize organizations can fulfill the vision of an information-driven business culture that ties insight to action across the enterprise.

Source: IBM
THREE APPROACHES TO BI AND DECISION IMPACT

Business intelligence (BI) is a moving target, with constantly evolving business demands. There are three basic approaches to BI: decipher what happened, understand the here and now, and create a new future.

KEY FINDINGS

• Approach 1: IT-centric – BI generally starts out as an engineering, IT-driven initiative focused on data collection and analytical tool selection. These are businesses whose conversations and analysis take place in the “past tense.” They seek to recast their business plans on a quarterly or annual basis – a “better-luck-next-time” strategy.

• Approach 2: information management – In this approach, decisions become more real time, reflecting a fusion of data and analytical tools with key business applications, such as call center, CRM or ERP. The workforce speaks in the present tense, as in, “How are we doing against the plan, and what can we tweak now to hit our target?” The adjustments in business planning are persistent.

• Approach 3: predictive insight – “Future tense” characterizes this approach where scenario modeling permits examination of new business models, market opportunities and products. The business plan is anticipatory. These enterprises are mostly certain of hitting their plan, and their goal is to become opportunistic. They not only see the future, but often create it.

RECOMMENDATIONS

• The IT organization must work in partnership with business counterparts to address the decision-making needs of the enterprise, and quantify and qualify the impact of those decisions.

• The IT organization must educate itself and business leaders that BI is not a technology tool, but a decision-making environment based on a solid business process orientation and performance management foundation.

• The IT organization must take the lead in establishing a common language for BI that is completely business-oriented, tying BI initiatives to specific business decisions and outcomes.

ANALYSIS

BI has become an expected business competency for improving decision-making effectiveness. Leading enterprises are establishing competency in aspects of BI, such as decision modeling and support, so that all workers, managers and executives can take the most effective action in a given business situation.
Enterprises that demonstrate quantifiable success with BI travel an evolutionary path, starting with basic data and analytical tools, and culminating in BI becoming a full-blown business competency – that is, a part of the business culture.

Although IT-based, engineered BI solutions characterize initial approaches, more advanced decision making and scenario modeling demand social-science skills drawn from cognitive psychology, sociology and economics. The ultimate goal of the social science of BI is to maximize decision impact in real-time decision making, as well as in future-vision scenario modeling, all with the goal of driving a business culture that is anticipatory and opportunistic regarding operations, products and customers.

THE THREE APPROACHES TO BI

The use of BI in decision making must become intrinsic to the IT and enterprise cultures. Market-leading organizations embrace continuous improvement and innovation, while leveraging the three basic approaches to BI:

1. Decipher what happened.
2. Impact the here and now.
3. Create a new future.

Figure 1 depicts the characteristics of the three approaches to BI.

APPROACH 1: DECIPHER WHAT HAPPENED

IT organizations extract, integrate, standardize and organize data into data warehouses and marts, and then use information-reporting technologies or systems to query, summarize and profile the data. This type of BI focuses on summarizing and profiling organizational and transactional history to build a foundation for decision making.

Figure 1. Three Approaches to BI
A small group comprising operations people, finance staff and marketing forecasters may make reactive decisions using summarized historical data. The business impact of these decisions is often limited to identifying correlations between data elements or objects to improve efficiencies. Therefore, this approach is best for businesses that engage in past-tense conversations, with limited, expected changes in their environments – that is, they seek to recast their plans on a quarterly or annual basis to achieve a “better-luck-next-time” strategy.

According to the director of IT and new technologies at U.S.-based ManuCo, a manufacturer of steel products that wishes to remain anonymous, BI initiatives should start where risk is low, early success is likely and accomplishments can be showcased. This executive believes success hinges on teaching IT staff that BI is more of a business discipline than a technological endeavor. He stresses that BI must come from the top down and involve the business from the very beginning. At the same time, IT must learn how the business wants to run itself before committing resources, time and effort.

“Without business leadership,” says the director, “a BI initiative can veer off course.” He also suggests that, because BI is a learning process, “You shouldn’t worry about getting it perfect the first time. It’ll clean itself up. Just get it moving.”

Instead of deploying tools randomly, the BI team using Approach 1 will, over time and with the participation of the business, fine-tune compelling business questions to decipher what happened.

**APPROACH 2: IMPACT THE HERE AND NOW**

In a practical sense, Approach 2 produces information that guides real-time encounters, such as offering a product or service via the Web or by telephone. The ability to “push” alerts to knowledge or process workers increases decision impact by driving additional revenue, margin or client satisfaction. Attention thus focuses on the client and the maximization of products, markets and channels.

The workforce speaks in the present tense, as in, “How are we doing against plan, and what can we tweak to hit our target?” Adjustments in business planning are ongoing and frequent, characterized by a push alert that tells users immediately if something is going off process or plan, with embedded decision support and knowledge management that guide worker responses.

These properties make Approach 2 especially viable for organizations with a business process orientation in which processes map to performance management metrics.

Case study enterprise Societe des alcools du Quebec (SAQ), a state-owned corporation that oversees the trade of alcoholic beverages in Quebec, Canada, has integrated BI initiatives into its performance management, governance and enterprise strategies. By maximizing the power of store managers to make merchandising decisions, SAQ has increased alcoholic beverage revenue and lowered operating expenses.
In recent years, SAQ has concentrated on revamping and validating corporate performance management, with performance metrics linked directly to strategic goals and definitions standardized across the enterprise. Each division defines its business objectives against the strategic plan, and identifies associated indicators and measurements. BI governance is crucial, driving performance management up, down and across the enterprise. With performance management ingrained in this way, no key performance indicators (KPIs) can be created without linking directly to the strategic plan.

As CIO Benoit Durand puts it, “If an existing KPI isn’t part of your management process, that KPI is useless.”

To impact here-and-now decision making, Approach 2 should therefore contain a KPI or other real-time metric that tells what is on or off plan. Only then will business managers be able to improve business processes and performance management.

**APPROACH 3: CREATE A NEW FUTURE**

Analytical data mining and visualization techniques characterize Approach 3, which creates case logic and rules that guide actions and support scenario modeling and forecasting. This approach leverages historical data with quantitative methodologies to produce accurate and timely forecasts or recommendations based on selected data inputs and conditions. The goal is to optimize outcomes.

Approach 3 adopts a future-tense perspective. Scenario modeling permits the examination of new business models, market opportunities and products. The business plan is anticipatory – enterprises that use Approach 3 are the most certain to hit their plan and aim to become business opportunistic. They not only see the future, but have a role in creating it.

Features of Approach 3 include on-the-spot remote selling, proactive merchandising, customer education, use of macroeconomic indicators, preparation for multiple futures and serial decision making that sheds alternative futures as the actual future scenario comes into focus.

Grupo Martins, a Brazilian wholesaler and distributor with interests in logistics, financial services and other areas, uses BI throughout its supply chain to better understand markets and customers. Capturing and interpreting this information help the company and its customers thrive in an ever-changing business environment. Using data to create models and scenarios of business operations, Martins can predict what will happen day to day, month to month and year to year. Data drawn from transactions, individual customers, sales regions, inventory and other internal sources is coupled with external information, such as microeconomic and macroeconomic data.

Martins’ Competitive Intelligence Nucleus, which operates as a BI competency center within IT, analyzes it all. Expert mathematicians and statisticians – the driving force of the nucleus – receive comprehensive training in each of Martins’ businesses. With an understanding of every detail in
a business and its supply chain, they develop sophisticated models that Martins employees use every day.

“There is technology everywhere at Martins, but no technology just for technology’s sake,” says CIO Flavio Lucio Borges Martins da Silva. “IT is directly linked to business outcomes. We must make sense and make a difference in the businesses.” Although Martins uses BI to improve processes, margins and the bottom line, according to Martins da Silva, the true power of BI lies in giving the enterprise the ability to turn outward and transform the market itself.

To summarize, Grupo Martins sees Approach 3 as a mutually educational BI collaboration with its customers, whereby the company actively shapes and models customer business transformations into the future.

To develop their approaches, ManuCo, SAQ and Grupo Martins all focused on competencies, built organizational structures to house and foster their competencies, and established clear governance that engaged the appropriate management levels.

Figure 2 summarizes the competencies and supporting structures mentioned above that are required for success, as well as the decision types and their impact on these three approaches.

![Figure 2. Attributes Required to Achieve Each Level of BI](image)

Source: Gartner (June 2011)
Enterprises demonstrating quantifiable success with BI travel an evolutionary path, starting with basic data and analytical tools, and culminating with BI that has become a full-blown competency that’s intrinsic to the business’s culture.

Identify the likely approach to BI by getting business users to go beyond buy-in to project ownership, and by formulating burning business questions. Use the BI approach that provides the best answers.

As CIO, you should lead the BI program as a cultural transformation of the business, not as an IT project. The transformation is from a culture that simply demands more information to one in which asking the right questions taps a subset of information that drives impactful decisions.

### Acronym Key and Glossary Terms

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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Decision</td>
<td>The normative or prescriptive determination of an outcome or course of action based on data, information or insight. The determination identifies the best decision to make, assuming an ideal decision maker who is rational, fully informed and able to compute with perfect accuracy.</td>
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<tr>
<td>Impact</td>
<td>The persuasive or directional force resulting from the collision of data or ideas; a forceful consequence; influencing strongly; having an effect on.</td>
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<tr>
<td>Decision impact</td>
<td>The use of data, information or insight to create a persuasive or directional change toward an optimal beneficial outcome.</td>
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<tr>
<td>Business intelligence</td>
<td>The process of gathering information in the field of business; the process of turning data into information and then into knowledge.</td>
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Source: Gartner RAS Core Research G00213516, Patrick Meehan, John P. Roberts, 16 June 2011
ABOUT IBM BUSINESS ANALYTICS

IBM Business Analytics software delivers actionable insights decision-makers need to achieve better business performance. IBM offers a comprehensive, unified portfolio of business intelligence, predictive and advanced analytics, financial performance and strategy management, governance, risk and compliance and analytic applications.

With IBM software, companies can spot trends, patterns and anomalies, compare “what if” scenarios, predict potential threats and opportunities, identify and manage key business risks and plan, budget and forecast resources. With these deep analytic capabilities our customers around the world can better understand, anticipate and shape business outcomes.

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