Banking on Business Intelligence

What Can a Business Intelligence and Analytics Solution Do for Your Bank?

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Featuring research from Gartner.
Foreword

To say that we live in changing times would seem too much of a cliché. Yet, we do live in changing times, and nowhere is this change more evident than in the technologies we use. Newer versions with better features, sleeker designs and pocket-friendly budgets enter the fray every day.

Technology is not the only thing that changes with time. Perspectives change, the monetary environment changes and the regulations governing them change too. When two of the biggest banks declared bankruptcy in 2008, it threw the whole world into disarray. Such is the power of banking.

At the end of the day, every bank needs to make profits. Not just for itself, but for the sake of the millions who have invested their life savings in it. Banks have a power, a responsibility and a trust to keep. The Ramco Banking team understands this well. Which is why we have tailored Ramco Banking Analytics—the perfect solution to help you succeed in a dynamic financial environment. Headed by veterans in the banking industry, Ramco Banking Analytics (RBA) is the result of a cumulative 200 plus years of banking experience.

Engineered on a flexible platform—Ramco DecisionWorks™ (RDW)—it accommodates change and addresses the typical pain points of the industry. Our ultimate goal has been to develop a product that will grow with the bank. Apart from merely providing Business Intelligence, we have endeavored to build a culture of Business Empowerment, which will enable bankers at all levels to take the right Business Decisions.

If you’ve been left out of the technology lexicon, we’ve simplified it for you. This newsletter gives you a brief perspective of the wisdom of ‘Banking on Business Intelligence’ for your bank.

Source: Ramco
Intelligent Businesses: A Way of Life

Business Analytics today has far more takers than it did about a decade ago. Almost every industry has been realizing the transforming power of a well-defined Business Analytics solution. From what happened to why it happened and what corrective actions are required, Business Analytics has redefined the existence and future of many an establishment.

According to Gartner, Inc. “The market for business intelligence (BI) software in India is forecast to reach revenue of $65.4 million in 2011, up 15.7 percent over 2010. Worldwide BI software market revenue is forecast to grow 9.7 percent to reach $10.8 billion in 2011. BI ranked number five on the list of the top 10 technology priorities in 2011, according to Gartner’s annual global CIO survey.”

Clearly, takers are increasing and it is natural to expect that like many revolutionary technologies, Business Analytics and Intelligence are likely to emerge the norm rather than the exception. But before we move forward, let us pause to re-examine what we mean by Business Intelligence and Analytics.

Gartner defines Business Intelligence (BI) as an umbrella term that “spans the people, processes and applications/tools to organize information, enable access to it and analyze it to improve decisions and manage performance.”

Analytics on the other hand is defined as “packaged BI capabilities for a particular domain or business problem.” Webster’s Revised Unabridged Dictionary has defined Analytics as “the science of analysis.” It goes on to define analysis as “the tracing of things to their source, and the resolving of knowledge into its original principles.”

What this means for a business is that it will be able to understand the cause and effect between various business events and prevailing business conditions. Thus, Analytics has the potential to equip a business with crucial insights, which can in turn, enable them to make the right business decisions and achieve their business goals.

4 http://machaut.uchicago.edu/?resource=Webster%27s&word=analytics&use1913=on&use1828=on
5 http://machaut.uchicago.edu/?resource=Webster%27s&word=analysis&use1913=on&use1828=on

Source: Ramco

The Growing Need for a Dedicated Banking Analytics Solution

Why is Banking Analytics and Business Intelligence more a priority now than ever? A few overarching reasons that we have identified are as follows:

One: Because data centralization has redefined the principles of banking

Durai Rajasekar, Executive Vice President – Cloud Computing Solutions and BI, Ramco Systems, says: “Gone are the days when the brick and mortar branch was the one-stop destination for an individual’s banking requirements. In those days, the branch staff had a complete 360° view of an individual customer’s transactions at their fingertips—that’s how strong the personal touch and customer relationship was. However, with the emergence of data centralization and multiple channels for conducting transactions, the personal touch with customers has dwindled. Today’s banking environment is highly competitive with every bank vying with the other to launch a slew of products and services. In such a scenario, it is crucial that banks with centralized data leverage this “centralization” to their greatest advantage.”

Banks therefore will have to capitalize on systems that give them...
greater control over information. Customers, assets and liabilities will have to be analyzed with a 360° view. Monitoring mechanisms too need to become intangible and digitalized—with money flowing across continents in just a matter of seconds, banks have to find newer, faster, and more intelligent systems that can manage the seamless flow.

Analytics can help banks do this effectively.

Two: Because reports are passé

The biggest power of Analytics is that it is iterative and leads to a series of questions. We don’t ask just about any question, but the right questions that lead to further insights and progress. For instance, imagine a scenario where answers stream in from various sources. Each of these answers would typically constitute ‘data’. Only by asking the right questions of our data, can we bridge important information gaps.

The process involved in doing this is far from easy though. For one, preparing accessible and trustworthy data is an expensive and time-consuming affair. What’s more, it is highly dependent upon finding the right people who can sift through volumes of data to cull out the data that really matters. Collating ‘good’ data also requires the right tools—those that go beyond the purview of preparing ordinary reports.

From implementing integrated transactions systems, banks need to take the next logical step, which is to make the best use of this transaction data by opting for Analytics, so as to scale up the proposition from managing processes to taking informed decisions about the business.

Three: Because customers just keep getting smarter

Another new trend, according to MVK Sarma, Vice President—Ramco Business Analytics is the difference in expectations among customers. “These days, customers are very well-informed and demand complete transparency from their suppliers,” he says. “Suppliers on the other hand, are challenged to find innovative means to lock in the customer and win his/her loyalty. The bank that stays ahead will be the one that has deep insights into customer preferences, likes and dislikes, and offers products and services that complement the customer’s need.”

An Analytics Solution gives a bank a 360° view of its customer portfolio, enabling it to cater to its customers’ unique needs and preferences. It also enables banks to measure their performance, both in tangible and non-tangible areas, and find innovative ways to provide “personalized” experiences at the lowest price by accessing resources across the globe.

Four: Because regulations change and we need to keep up

With corporate scandals on the rise, governments and regulatory bodies are imposing stricter regulations for companies to comply with. Banks will have to take these changes seriously if they need to survive and grow. In India for instance, a Centralized Data Repository (CDR) that was once considered a luxury has now become a necessity. The RBI, India’s Central Bank, recently released an approach note on Automated Data Flow (ADF), and it is surmised that in the next few months, every bank will have to implement ADF. This is not the case in India alone—globally too the regulatory environment continues to evolve, making it essential for banks to devise systems that can automatically help them adhere to requirements.

In such a context, the right technology can be the defining factor for a bank’s success. PA Kalyanasundar, Rtd GM–IT Bank of India and Advisor, Ramco Systems notes, “The nature of business in the banking industry is changing very fast and the volume of transactions has been growing tremendously. Centralized data can provide reports on transactions. At the same time, to leverage the data for business growth and profitability, analytical data is also essential. Analyzing customer trends and customer requirements, and making effective use of data would lead to informed and on-time decision making. Creating such a platform for banking analytics would also enable banks to move easily towards automated data flow and reporting to regulators.”

Source: Ramco
Ramco Banking Analytics: Looking Beyond Reports

Ramco’s Banking Analytics solution has been specifically engineered keeping in mind the evolving nature of the banking industry. A pre-built Business Intelligence and Performance Management application, it empowers bankers to ‘Measure, Monitor and Manage’ their business goals, risks and growth. Being pre-built, it offers a host of advantages—the chief one being that the product is easily deployable.

The analytical content for the solution is delivered to end users over Ramco’s own BI application named Ramco DecisionWorks™ (RDW)—a web-based, platform-neutral and action-ready Performance Management and Decision Support system. Offering superior reporting, comprehensive query and analysis, it enhances the bank’s performance. Data from various transaction systems are processed into information and stored in Data Warehouses. The information from these systems is then presented in multiple formats like scorecards and dashboards to enable quick monitoring and decision-making.

By applying the pre-built analytical tools, users get better insights or knowledge into banking performance/conformance through exceptions, trends and patterns. Users can also create and modify rules, and based on these rules, plans can be modified. Over time, this creates fresh data from which valuable insights can be gleaned.

This is illustrated in the diagram below:

**Corporate Performance Management Solution**

- **A layer architecture approach to decouple the various layers of the application—presentation layer, application layer, infrastructure layer, data access layer etc., thus facilitating a “plug and play” of components**
- **A library-driven approach for building the analytical content**

The revolutionary RDW platform offers several game-changing capabilities, the chief ones being:

- A layered architecture approach to decouple the various layers of the application—presentation layer, application layer, infrastructure layer, data access layer etc., thus facilitating a “plug and play” of components
- A library-driven approach for building the analytical content in terms of Key Performance Indicators, business rules, dimensions, measures etc.
- Dashboards and scorecards that aid performance monitoring and a powerful OLAP functionality to generate analytical reports
- Built-in capabilities for configurability, manageability, scalability and interoperability
- Ability to empower end-users to use the library to create and publish their own content
- Comprehensive reporting capabilities covering the varied requirements of multiple users, spanning enterprise reports, MIS reports, analytical and ad hoc reporting

Source: Ramco
Pre-built Components: Redefining the Rules of the Game

“It is often assumed that customized solutions best address an individual bank’s need. However, this is not always true. Often, a large portion of the average data warehouse deals with non-unique content, which are standard from the banking operations perspective. It is the last 15 to 20 percentage of the development process that is really unique,” notes Rajasekar.

By using pre-built Analytics, Ramco makes sure that the deployment of non-unique content is carried out in a few weeks time, as opposed to a custom-built application which would require several man hours of effort. Moreover, Ramco’s analytical work bench design does enable a degree of customization. By making use of the dimensions and measures, business users get optimum and customized results.

Pre-built analytic applications also come with pre-written ETL and ready-made data models, thereby reducing the level of effort required to deploy a DW and BI solution. Pre-built applications also cost lesser than customized data marts, making it easier to comply with budget constraints.

The table below demonstrates the differences between traditional custom-built data applications and Ramco’s pre-built analytical application:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conventional BI/Custom-built BI</th>
<th>Ramco Pre-Built Analytic Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools and Platform</td>
<td>Need to procure BI, ETL tools such as BO, Cognos, Informatica etc.</td>
<td>Ramco’s pre-built BI solution is delivered shrink-wrapped with its own BI platform, having industry-standard capabilities for ETL, BI Reporting, and Performance Management.</td>
</tr>
<tr>
<td>Engineering Work Involved</td>
<td>The entire solution is engineered ground up.</td>
<td>Engineering work is restricted to connectors because the Data Model and outputs are pre-built and readily available. In cases where connectors are already available, even this part of engineering is not required.</td>
</tr>
<tr>
<td>Time to Go Live</td>
<td>Depends on the complete SDLC (Software Development Life Cycle).</td>
<td>Vastly reduced because of the pre-built, ready-to-run product approach.</td>
</tr>
<tr>
<td>End-User Efforts</td>
<td>Intensive end-user participations in requirements finalization, testing and acceptance.</td>
<td>End-users only need to validate the product output. Pre-built Analytics encapsulate industry best practices in decision making for subject areas.</td>
</tr>
<tr>
<td>Risk</td>
<td>No way to guarantee that the end product will meet the vision for investment in the BI project.</td>
<td>Can accurately visualize the product’s capabilities at the very onset. Vastly reduced engineering further minimizes implementation risks.</td>
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</table>
According to Rajasekar, the real debate is not how effective the traditional tools are vis-à-vis newer entrants. Rather, it is about how suitable the traditional tools are for the business user’s role. “It is important to take into consideration the roles played by various types of business users,” he says. “Different types of users need different levels of information and while deploying a BI technology, it is really important that you ask yourself if the tool will cater to the information requirements of all types of users. Most times, it won’t.”

More often than not, the BI technology proves to be unwieldy and complicated for certain users, while those who really need hardcore data like an analyst for instance, will find that the solution yields insufficient information. Instead of deploying a one-size-fits-all technology, the need of the hour is for companies to deploy a technology that is role-based.

Ramco Banking Analytics’ RDW platform allows you to configure for different users’ role profiles. So, different functionalities are made available to the user based upon his/her profile. The license for accessing and working with the Banking Analytics content is also role-based, ensuring that data security is achieved according to the rights available at the dimension-member level.

The various user role profiles envisaged are:

**Executive Dashboard Users:** These users can view rights to executive dashboards and access specified analytical reports/enterprise reports, alerts, scorecards, work lists etc.

**Power Users:** These users can design/configure/extend/publish the analytical reports, configure charts and graphs, publish and configure portal dashboards.

**View Users:** These users have standard dashboards with view rights to access the enterprise reports, analytical reports, alerts, scorecards etc. They also get full access to work lists.

Source: Ramco
Case Study: How Ramco Banking Analytics was a Game Changer for Bank of India

Bank of India (BOI) is one of India's oldest—over a hundred years—and most reputed banking institutions. With 3000+ branches, 29 of which are located overseas, the bank has a business mix of over 93 bn USD (about USD 53 bn in deposits and about USD 40 bn in advances), and is on a growth trajectory of over 20% per annum.

While adopting a prudent approach, BOI has also managed to embrace change rather well, being at the forefront of several innovative services and systems. Among India’s nationalized banks, it was the first to establish a computerized branch and an ATM as far back as 1989. In March 2009, BOI implemented Core Banking Solution (CBS) across all its branches.

Going a step further, the bank wanted to institute a robust Corporate Performance Management System so as to create a single Operational Data Source, which would render full-fledged portfolio analysis across various product lines like Loans & Advances, Deposits, Trade Finance and Customer Level Analysis. They wanted the solution to be implemented quickly. A conventional procedure, involving design and development of data marts and subsequent development of analytical reports and outputs, would stretch to over 2 years—a timeframe that the bank did not have. That was when the company decided to opt for a pre-built Analytics solution.

The implementation timeline, spaced across 24 weeks, consisted of installing Ramco Banking Analytics software, Pilot UDB Processing, Pre-UAT Verification, User Training, User Acceptance and Go-live activities. RBA's pre-built Data Warehouse called the Universal Database (UDB) or Centralized Data Repository (CDR) has been based on a comprehensive data model that can service a universe of business questions in different functional areas. The accompanying analytical outputs are in the form of scorecards, Key Performance Indicators (KPIs), analytical reports, graphical visualizations and user-specific dashboards, all of which have facilitated quick and easy decision-making.

For implementing the solution, Ramco followed a structured methodology that involved:

- Analyzing and mapping the various source data elements required for Ramco’s logical data model
- Configuring and scheduling connectors for drawing the data from the transaction system (Finacle Core Banking System) to provide daily refresh for the Data Warehouse
- Populating the Data Warehouse for a select set of branches, for the purpose of conducting acceptance testing by end-users and for training end-users and trainers

- Going live with the Data Warehouse population with the transactional data for the entire bank (3100 branches)
- Rolling out the solution to end-user decision makers

Statistics related to the Bank

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted number of users</td>
<td>3500</td>
</tr>
<tr>
<td>Number of branches</td>
<td>3100</td>
</tr>
<tr>
<td>Number of loan accounts</td>
<td>40,00,000</td>
</tr>
<tr>
<td>Number of deposit accounts</td>
<td>4,10,00,000</td>
</tr>
<tr>
<td>Number of customers</td>
<td>4,25,00,000</td>
</tr>
</tbody>
</table>

Some of RBA's winning moves

V. Viswanathan, Deputy General Manager, Bank of India says, “Ramco Analytics for Bank Performance Management is found to be extremely suitable for providing information on Business Performance Management and review/monitoring of different business units of the Bank. The implementation of business analytics in the Bank has been seamless and absolutely smooth, mainly because of the professional approach adopted by Ramco’s Implementation Team.”

According to K. Sriram, who headed the implementation team, “After the first day of training, which consisted of a one hour hands-on training session, 9 out of 10 users were confident they could use the product from the very next day.”
The effectiveness of the 360° view was illustrated by taking the accounts that had been closed in the previous month. While regular reports provided only basic information like the customer’s name and account number, Ramco’s Analytical Solution provided insights like when the account was opened, the user’s activity, the rate of interest during account closure, the type of customer, the industry/sector/facility to which he belonged and so on.

Moreover, the drill-through facility provided critical insights like lien account bucket dimension data, NPA movement dimension including assets which had slipped, minimal term deposit account transaction data and so on. In short, the Ramco Analytics suite worked as a whistle blower, enhancing the data quality and mitigating operational risks. Within a period of nine months, BOI has gone live with the Loans, Deposits, Financial Profitability and Customer modules. As a separate initiative, Ramco delivered a Performance Management reporting system called “Sankalp”, based on recommendations from McKinsey&Company.

### Business Benefits Leveraged by Bank of India through Ramco Banking Analytics

- A 360° view of loans, deposits, trade finance, customer portfolio as well as financial profitability of the bank rendered possible through analyses across several attributes
- Drill-through and drill-down features, allowing performance measures to be viewed at the aggregate level or at the detailed level, enabling business users to initiate integrated action and follow up
- Different levels of security and user-specific access
- Role-based dashboards available so end-users are not inundated with irrelevant data
- ‘Single version of truth’ by elimination of ambiguity arising from several versions of management reporting data

### What can BI do for you?

1) **Get faster answers to your business questions**: BI makes data visualization easier for quick decisions. Actions are ready and served on the Manager’s desktop.

2) **Eliminate guesswork**: Far too often, executives must rely on ‘best guess’ and ‘gut feel’ decisions, as they attempt to steer their companies into the future. They do this because their business data lacks a structure that allows them to make truly informed choices. Business Intelligence can provide more accurate historical data, real-time updates, synthesis between departmental data stores, forecasting and trending, and even predictive ‘what if?’ analysis,” eliminating the need to guesstimate.

3) **Get key business metrics reports when and where you need them**: Today, many Business Intelligence software vendors are making it possible for users to access key business metrics, reports and dashboards on mobile devices like their iPhone, iPad, Droid or BlackBerry, giving sales and marketing people access to critical business information on the fly.

4) **Get insight into customer behavior**: One of the great benefits of business intelligence software is that it enables companies to gain visibility into what customers are buying (or not), giving them “the ability to turn this knowledge into additional profit” and retain valuable customers.

5) **Identify cross-selling and up-selling opportunities**: Business Intelligence software allows firms to leverage customer data to build, refine and modify predictive models that help sales representatives to up-sell and cross-sell products at appropriate customer touch points.

6) **Learn how to streamline operations**: With detailed insights into business performance, organizations can easily see where they need to make changes to streamline operations.

7) **Improve efficiency**: Single view reporting of enterprise-wide data, ability to see where your business has been, where it is now and where it is going.

8) **Flexibility**: The Analytics solution can adapt to changing business scenarios and growth.
• Effective and transparent performance reviews through:
  - Scorecards that allow tracking performance against targets, so the bank can always analyze how they are performing at any given point in time.
  - Alerts that visually draw attention to deviations and potential pitfalls. Decision-making collaboration is enabled through these alerts, closed loop messaging and workflow.
  - Versatile end-user interactive reporting and analysis with powerful visualization features, enabling end-users to create, publish and manage reports, analyses and queries.

• The solution adapts easily to a number of Database Management Systems and can be deployed without any change to the existing set-up

The Future of Banking Analytics

“Today, almost universally, most CIOs admit and understand the value of Analytics,” says Rajasekar.

“However, they may differ in their assessment of whether their organization is ready for it. The reasons for this could be, suspicion of the quality of the data in the transaction systems, apprehension as to whether business users will be able to frame their requirements precisely, and sometimes it could stem from their inability to frame a definitive Return on Investment and pass it with the board. When there is a business case for a solution with a clear requirement framework, the decision to implement Analytics moves ahead smoothly.”

The enclosed Gartner Report looks at some of the challenges faced by companies trying to implement a BI solution. It also presents some recommendations that can ensure a smooth transition to a BI application.

Source: Ramco
Automated Data Flow—A Most Compelling Case for BI in India

According to Kalyanasundar, in India, the case for Analytics and Business Intelligence becomes even more pertinent in the light of RBI’s decision to automate the data flow from banks. Indian banks will now have to submit over 200+ reports at different periodicities. An approach paper released by the RBI on ADF notes, “The common end state is the state of complete automation for submission of the returns by the banks to RBI without any manual intervention. To achieve the objective of automated data flow and ensure uniformity in the returns submission process there is need for a common end state which the banks may reach.”

The common end state has been broken down into four distinct logical layers i.e. Data Acquisition, Data Integration & Storage, Data Conversion and Data Submission.

The RBI has also specified the process that needs to be followed in each of these four layers before the reports are finally submitted.

“Since all of these reports are to be submitted in XBRL format within a few days of its due date (a major benefit arising out of the CDR and ADF solution), there is no need for a large and dedicated MIS group to collect, collate, compile, format, generate and then submit these reports to the RBI,” says Rajasekar. “Instead, the RBI has designed a system to receive data in an electronic format that can be directly used. Reports are across different time frames, different periodicities, reporting date variants and so on. For every reporting date variant, data will be culled and sent to the RBI. When the ADF solution finally gets implemented by all the banks, it is likely to redefine the effectiveness of decision-taking by the RBI in the context of macro-economic management.”

Sarma explains further, “When the RBI guideline on ADF came in, we found that barring the availability of XBRL, a lot of the functionalities already existed on our banking analytics platform. The data requirement for over 80 reports that the RBI requires banks to submit was already available with us. So, when designing our ADF solution, we’ve tried to give the bank a robust infrastructure that has the flexibility to grow incrementally adopting an “invest and extend” approach. Rather than giving a single-point solution for compliance reporting at a tactical level, the bank can leverage the available functionalities later.”

The diagram below is an apt illustration of the relationship between ADF and RBA:
ADF Solution: A Snapshot of Features

- Pre-built, ready-to-use product following data model for ESS/DSS/MIS purpose rather than a report-centric approach
- Enables performance management at various hierarchy levels – corporate office, regional offices and branch offices
- Flexible to accommodate further changes and weather an ever-changing regulatory environment
- Centralized Data Repository (CDR) with provision for data enrichment to complement missing data elements as a part of Ramco’s Universal Database (UDB)
- Embedded ETL (Extract-Transform-Load) engine to carry out extractions/transformations
- Comprehensive data model capable of addressing RBI requirements and bank’s internal MIS requirements
- Automatic scheduling of returns submission and publishing in RBI mandated XBRL format
- In-built capabilities of data cleansing, validation and triggering feedback to strengthen solution friendliness
- Through collaboration with powerful Ramco DecisionWorks™ and Ramco VirtualWorks® framework, we facilitate:
  - User-friendly narration on reports
  - Facility to handle RBI feedback and maintain version control
  - Data enrichment by controlled mechanism

Source: Ramco
From the Gartner Files:

The BI(G) Discrepancy: Theory and Practice of Business Intelligence

Although business intelligence has been quoted as a CIO top technology for the last five years in Gartner’s EXP survey, the targeted results have rarely materialized. This document highlights the various discrepancies between BI’s great expectations and its hard realities.

Overview

There is a consistent gap between the promise of business intelligence (BI) and the hard realities in today’s implementations. This document highlights the discrepancy between the ideal world of BI (“theory” sections), and the real world of BI (“practice” sections), and provides targeted advice for each problem area.

Key Findings

• Any BI program needs a business sponsor.
• IT departments will always struggle “selling” BI to the business users.
• Many BI programs get stuck in “reporting.”
• Technology is rarely the culprit if the BI program is considered a failure.

Recommendations

• Assess the current BI initiative’s organizational grounding. Who is ultimately responsible for BI?
• Consider building a BI steering group (better known as BI competence center [BICC]), staffed by both IT and business representatives.
• Run a series of brainstorming sessions and creative workshops to identify potential use cases for BI and to create a proper BI strategy.
• Start educating business users and management about the BI’s potential beyond reporting, in particular the combination with analysis and planning.

Analysis

During the discussions with Gartner clients about BI topics, time and again, it becomes very obvious that a significant gap exists between BI approaches, claims and expectations on one side and BI traps, observations and realities on the other. Many Gartner clients are consistently talking the talk, but are rarely walking the walk. This document highlights the major discrepancies between the ideal approach of BI, the recurring situations of BI pitfalls and ways to avoid those (see Table 1 for an overview of all discrepancies discussed in this document).

<table>
<thead>
<tr>
<th>Table 1. Overview of Discrepancy Domains</th>
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<tbody>
<tr>
<td><strong>Theory</strong></td>
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<tr>
<td>Responsibility</td>
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<tr>
<td>Complexity</td>
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<tr>
<td>Strategy</td>
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<td>Governance</td>
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<td>Technology</td>
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<td>Quality</td>
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<td>Program</td>
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<td>Definitions</td>
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<tr>
<td>Business Case</td>
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</table>

Source: Gartner (July 2010)
1.0 Responsibility

Theory: According to Gartner’s annual Executive Programs (EXP) survey, which includes approximately 1,600 CIOs worldwide, BI has been named a top technology priority for the last five years. While it is unknown, what every single CIO understands when using the term BI, it is nevertheless significant that BI is generally considered a most important technology area in the respective organizations.

Practice: Quizzed about their BI approach, representatives of virtually every organization report that BI technology has been used in the organization in a wide variety of ways. At the same time, when asked about any responsibility for BI, responses indicate that many different departments, functions, or units have deployed rather isolated BI tools, without anybody considering BI as a strategic, cross-functional initiative with dedicated responsibilities for architecture, tools and technology, content or data quality.

Action: CIOs and members of IT departments have traditionally the best insight into technology areas, such as BI, and can best assess the potential benefits. However, IT departments are often bogged down in day-to-day operations and have little time to educate both end-users and top management about the proper BI approach. The CIO must enable his team to engage in strategic BI thinking and needs to wriggle back control and influence over buying decisions. CIOs must avoid the risk of laissez-faire with department heads buying “flavor of the month” BI technology, adding to the zoo of tools that ultimately becomes uncontrollable.

2.0 Complexity

Theory: BI is a highly complex framework of tools, technologies, best practices, processes, models and organizational requirements (see Figure 1). Every BI and performance management topology consists of many interlinked parts that require dedicated management processes to handle the complexity. While not every shown item is equally important for each organization, a structured approach to handle the diverse relevant aspects of BI and the corresponding infrastructure is mandatory.

Practice: Most organizations are approaching BI from a pure tools perspective. In many instances, organizations are quickly switching from high level discussions about the value of BI to questions about “Which BI tool should I buy?” or “Which is the better data warehouse platform, X or Y?” However, a portfolio approach balancing prioritized business requirements with available technology, infrastructure, personnel and skills, is warranted.

Action: Before jumping blindly into a technology purchase, an initial assessment of the current situation is necessary. Without knowing an organization’s BI investments, tools and technology landscape, license agreements, user requirements, skills and so on, any new purchasing decision will be rather a “shot in the dark.” Gartner suggests implementing an audit-like task force to investigate the as-is situation to identify potential tools overlap, shelfware, duplicate license agreements, underlicensing exposure and technology gaps. In addition, the audit’s result can be leveraged for a software asset management or portfolio management initiative.

3.0 Strategy

Theory: Nine out of 10 times, when asked about the importance of BI, respondents say BI is “strategic” in their organization. This may simply be meant as a synonym for “very important” but quite often, executives actually talk about their “strategic BI projects” that have high visibility and management attention. Sometimes the statement is underscored by what is called a “BI strategy” document.

Practice: Despite the lip-service about the strategic importance of BI in nearly every organization, repeated informal surveys of Gartner clients (at briefings, conferences, or other interactions) reveal the fact that virtually no company has a BI strategy. When asking the audience for a quick show-of-hands, even among BI-savvy attendees, the results are surprising: An average of 2% of respondents claim to have a BI strategy in their organization, even in mature markets, such as North America, Central Europe, or Australia. When asking the same question in emerging markets (such as, Russia, Poland, South Africa, Brazil, or Peru), it is rather common that nobody seems to have created a strategy for this “highly strategic” endeavor named BI.

Nearly shocking results are obtained when actually reviewing the so-called “BI strategy” documents. Almost never would those qualify as any strategy in Gartner’s opinion. Quite often, the strategy is merely a statement like “We have a Microsoft BI strategy” or “Our BI strategy is SAP” indicating what products the organizations is using or planning to implement. Other times, the “strategy” is basically an architecture diagram, indicating data sources, data warehouses and various kinds
of data marts, tools and technology components. This is as if the Ferrari Formula 1 team described its racing strategy as “using Bridgestone tires, Shell fuel, a V8 engine and red paint.”

A proper BI strategy must be able to answer the questions around the organizational model (who runs the program, who are the users), the business case (why does the organization need BI), the approach (what are the measures to align the company), and the technology (how does the BI architecture look). By those standards, even the 2% ratio of organizations claiming a BI strategy, is rather optimistic.

After surveying literally thousands of representatives from around the world, it becomes clear that the concept of a “BI strategy” is simply not understood. The question could even be expanded to “Do executives actually know what constitutes a strategy?”

Action: According to the dictionary, a strategy is “a plan of action intended to accomplish a specific goal.” Organizations need to think of a strategy as a living document that outlines not only the technical components, but also the business and organizational angle, responsibilities, requirements, and so on. Leaving this task to someone in the IT group does not work, as the strategy document needs to include various segments that can’t be provided by IT, particularly describing the business case and the expected business impact. Ideally, the BICC is the owner of the BI strategy, as all important business functions are coming together in this group. A potential strawman of a proper BI strategy document should have a table of contents like the following:

1 Background and Purpose
2 Objectives and Scope
3 History and Current State
4 Requirements and Business Case
5 Priorities and Alignment
6 Architecture and Standards
7 Organization and Steering Committee
8 Quality and Stewardship
9 Sourcing (Build, Buy or Hybrid)
10 Program Management
11 Education and Training
12 Support and Help Desk
13 Road Map and Milestones
14 Future State

For more information on BI strategies, refer to “Toolkit: Communicating a BI Strategy to a Business Audience” and “Toolkit: Template for Business Intelligence Strategy.”

4.0 Governance

Theory: It goes without saying that a highly complex, and at the same time highly important, endeavor like a BI initiative needs proper governance, with representation across the business. After all, BI stands for business intelligence. Think BIG: Business Intelligence Governance. Virtually every knowledge worker in an organization anywhere in the corporate hierarchy is a potential BI user. Add to that people outside the organization, such as key partners, customers, or suppliers. And finally, even business process engines could be defined as BI consumers. All in all, BI requires people from multiple business domains, functional units, and departments to collaborate to get the BI initiative on track and keep it there.

Practice: BI is mostly driven by IT, plain and simple. And while the IT departments attempt to do the right thing by investing in infrastructure, building data warehouses and multi-dimensional cubes, buying BI platforms, and even generating specific reports and dashboards, it is generally “assumed” that this is what the business needs for what IT calls “better decision making.” However, this approach regularly misses the point and we see many BI initiatives failing to deliver the expected value.

Action: An important and complex initiative like BI needs to have a solid grounding in the organization. The concept of a BICC seems to work very well as the organizational foundation, and Gartner observes more and more companies warming to the concept. The group’s name is not that important, there are also BI steering committees, BI governance boards, BI strategy group, or BI program offices, all of which serve the same purpose: Running BI as a strategic program and bringing together diverse groups in the organization necessary to achieve this. Interestingly, virtually all organizations that submitted their case to the Gartner BI Excellence Awards had a BICC of some sort, and the winners and finalists always had a very strong BICC team in place.

Staffing of a proper BICC depends on the type of organization, of course. In almost all cases, BI governance is handled by a cross-functional, virtual team. The BI “supply side” requires various technical and architecture roles, while the business, or BI “demand side,” needs to have representation from the different functional groups and departments. The total size of a BICC should ideally be somewhere between 4 to 12 people, most of which will have a dotted reporting line into the sponsor of the BICC.

Table 2 shows a sample structure of a BICC, for both organizations in the commercial and the public sector.

5.0 Technology

Theory: The BI platform market has evolved dramatically over the last few years. What started out as a thick stack of green-bar paper being the first type of report, over time became a comprehensive set of technologies, from engines generating large volumes of pixel-perfect reports, to ad hoc query, multi-dimensional analysis tools, to highly interactive dashboards, data mining workbenches and predictive modeling capabilities. For virtually all user types, whatever role they fill in an organization, there are BI toolsets specific to help that role. As such, organizations should define their requirements in a way that includes all aspects of the BI tools portfolio, from simple and static reporting for information consumers, online analytical processing cubes for business analysts, executive dashboards to forecasting, simulation and optimization applications, based on data mining. A few years ago, companies even had to follow a best-of-breed approach, picking up specific tools from a variety of vendors. While some companies still choose to do so, the arrival of the “BI stack” from large infrastructure vendors now even allows the deployment of almost all styles of BI from a single or very few vendors, reducing the integration pain and overall license cost.
Table 2. Representation for Sample BICC Staffing

<table>
<thead>
<tr>
<th>IT Roles</th>
<th>Business Roles</th>
<th>Commercial Sector</th>
<th>Public Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Architecture</td>
<td>Finance</td>
<td>Finance</td>
<td></td>
</tr>
<tr>
<td>Information Architecture</td>
<td>Sales</td>
<td>Roads and Transportation</td>
<td></td>
</tr>
<tr>
<td>Data Modeling</td>
<td>Marketing</td>
<td>Health and Safety</td>
<td></td>
</tr>
<tr>
<td>Data Integration</td>
<td>Production</td>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Human Resources</td>
<td>Energy and Water</td>
<td></td>
</tr>
</tbody>
</table>

Source: Gartner (July 2010)

**Practice:** When talking to end-users and evaluating the proposed technology portfolio of any given BI initiative, the overwhelming majority of selected technology is reporting, and not part of a broad variety of technologies, just reporting. While “reporting” may be understood as a synonym for all kinds of “information delivery” to the end-user, it quite often means production reporting only, whereby the IT department designs a variety of reports and by a defined schedule, reports are generated and sent to the selected end-users in the expected formats, from Web pages to PDF files or Excel spreadsheets. Insightful reports come in a variety of styles, from operational and managerial reports to banded reports and graphical dashboards. The problem is when business users interpret reports only as a source of convenient information and do not see the reports as strategic to their jobs. That perception is what needs to be changed.

**Action:** Not all users expect or need reports. IT organizations have to survey their potential user population, run education workshops and brainstorming sessions to really find out what type of BI technology is best suited for a particular user type. There are at least five distinct user types that all require a different BI tool to fulfill their individual roles. Table 3 shows a rough estimate of the typical user breakdown.

Table 3. Typical Breakdown of User Population

<table>
<thead>
<tr>
<th>User Constituent</th>
<th>Technology</th>
<th>Percentage of User Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Consumer</td>
<td>Reporting/Query</td>
<td>~ 65%</td>
</tr>
<tr>
<td>Analyst/Power User</td>
<td>Analysis/OLAP</td>
<td>~ 15%</td>
</tr>
<tr>
<td>Manager/Executive</td>
<td>Dashboarding/Scorecarding</td>
<td>~ 10%</td>
</tr>
<tr>
<td>Researcher/Specialist</td>
<td>Data Mining</td>
<td>~ 5%</td>
</tr>
<tr>
<td>Application User</td>
<td>Analytic Application</td>
<td>5%-30%</td>
</tr>
</tbody>
</table>

OLAP — online analytical processing
Source: Gartner (July 2010)

For information on BI tool standardization, see “Business Intelligence Standardization; Better a Pragmatic Portfolio Than an Unworkable Single Vendor Solution”
6.0 Quality

Theory: Many BI initiatives include a data warehouse at their core, which is often described as the “single version of the truth.” As such, reports, dashboards, and scorecards that are based on the data warehouse are implicitly expected to be of good quality. Combined with efforts to build well designed and high-quality BI front-ends, the perception is that the investments in BI infrastructure provide a solid foundation for all decision making within the organization.

Practice: Organizations don’t seem to understand that their whole investment in BI can easily be jeopardized by bad data quality. There is very little value in building a big data warehouse, generating hundreds of reports, or designing beautiful dashboards, when the presented content is wrong. End-users quickly experience a lack of trust if the provided data from the BI platform looks specious. Consequently, they start arguing over the validity of data, or build their shadow BI infrastructure that they implicitly trust because it is “their own.” If an organization actually recognizes lack of data quality as an impactful problem, it is often assumed that the IT department will fix it, since the data is coming from the computer.

Action: Organizations must elevate BI to a corporate program. BI should not be considered just an add-on to ERP or any other business applications, but the importance (see section 1.0 Responsibility) and the complexity (see Figure 1) of BI requires its continuous management. Instead of project managers running BI, organizations should rather look for program managers to take care of the BI initiative (as also described in section 4.0 Governance). As the BICC’s leadership capability is a critical aspect of a successful BI initiative, it must be given broad authority to effectively run an organizationwide program.

7.0 Program

Theory: BI has consistently been described as a most-strategic investment area for businesses worldwide. There are roles defined (for example, data warehouse manager, BI architect) and whole departments are called “BI development and operations.” So, BI has a top priority, high management visibility and must have a solid organizational grounding.

Practice: Users are often referring to their “BI project,” which is often solely driven by the IT department. A project, by most definitions, is a temporary construct, initiated by a “project kick-off” and finishing with a “project wrap-up.” BI is not a temporary thing, so should not be considered a project at all. While there may be many projects run within BI (for example, data modeling project, migration project, report development project, dashboard design project), BI itself should be rather understood as a “program” or “initiative,” which are really never ending. An organization will never be able to “finish BI.” Users also do not talk about “security projects” as a focus on security will never go away. BI should be understood in the same context.

Action: Organizations must elevate BI to a corporate program. BI should not be considered just an add-on to ERP or any other business applications, but the importance (see section 1.0 Responsibility) and the complexity (see Figure 1) of BI requires its continuous management. Instead of project managers running BI, organizations should rather look for program managers to take care of the BI initiative (as also described in section 4.0 Governance). As the BICC’s leadership capability is a critical aspect of a successful BI initiative, it must be given broad authority to effectively run an organizationwide program.

8.0 Definitions

Theory: BI is supposed to be pervasive across the organization, leverage data from a large number of operational applications and fulfill a wide variety of business requirements for corporate decision-making, compliance and other initiatives. In addition, the data warehouse and data mart infrastructure is considered the central repository of the “truth” with its definitions of entities, relationships, measures, and dimensions. As such, every BI user...
has access to the same data, can trust the integrity of reporting results, and can confidently make business decisions.

**Practice:** BI continues to be full of interpretation. Hardly any organization can point to a specific document that explains what is meant by the numerous metrics and attributes in reports, dashboards, or scorecards. It is simply assumed that every user in the organization has the same definition of the world. This includes universally used metrics such as revenue, profit, or margin, as well as rather domain-specific and complex metrics such as comprehensiveness of sales composites, dollarized coverage ratio, or deviations from deal envelopes, which are understood by only a very small number of people, yet they are essential for those roles. In fact, definitions are not only important for financial metrics, but are equally important for rather generic entities. Organizations often cannot uniquely answer basic questions, such as:

- What is a “customer”?
- When is an account “closed”?
- How many products X did we “sell” last quarter?

The problem is, that everybody is using the same words while it is often unclear what is meant. Does “sell” mean signed, booked, installed, paid, or even something else? Another example is the definition of “delivery date.” It depends on who in the organization talks about that delivery date. A clerk on the loading dock refers to *delivery* as the date when the truck leaves the dock. A customer service representative considers the “real” *delivery* as the date the product is installed at the customer site. The customer probably thinks the product is *delivered* when it is installed, operational, and proven functioning to specifications, and a finance person would argue that the product is only *delivered* when the invoice is paid, as until that moment, the product ownership is legally not transferred.

**Action:** In order to avoid ongoing confusion, an organization must manage its metadata, and not only technical metadata, but cross-domain business metadata. Similar to the emerging concept of metrics frameworks (see “Tutorial for Creating An Enterprise Metrics Framework”), a managed glossary of business terms is essential. Ideally, a group of data stewards takes on the task of maintaining the glossary on behalf of the organization. At the same time, data modelers, architects, and data integration specialists should be involved in the initiative. It is another critical function of the BICC and its sponsor leader to facilitate these tough negotiations across business units to come to agreement.

### 9.0 Business Case

**Theory:** Business intelligence promises to yield a wide variety of benefits, from highly tangible efforts of lowering cost, increasing profits or reducing fraud, to more intangibles such as higher customer satisfaction or website stickiness. Organizations balance each individual user requirement against the projected outcome and build a corresponding business case which is discussed by the BICC (see section 4.0 on Governance) and becomes part of the BI strategy (see section 3.0 on Strategy). The business case plays a key role when discussing priorities of the various requirements, enabling the BICC to focus on high-value projects and filter out those that are merely “nice to have.”

**Practice:** The initiative is called business intelligence for a reason, so organizations typically have a solid business case that explains the reason for the significant investments, right? Wrong. Most organizations invest in BI based on relatively soft argumentation. Many times, the rather unspecific “better decision making” argument is brought forward, however, without any further explanation, what decisions are to be made, how BI is supposed to support that decision and what the expected business benefit will be. While software vendors regularly use the “better decision making” tagline, the end-user organization better come up with something more measurable. Equally, limited usefulness is the line of reasoning that explains the value of BI by the number of reports generated or the increased user population with access to dashboards. An implicit assumption that “more helps more” is not good enough as a proper business case.

**Action:** An early warning sign for the lack of a business case is when the IT department asks the
question “how do we sell BI to the business?,” as it indicates a disconnect between the (impending) investment in BI and the potential outcome. The question should actually be asked the other way around. The business stakeholders should sell their (properly articulated) business requirements to the BI governance body, because the IT department rarely is in a position to come up with a real business case. Again, that’s why it is called a business case. CIOs should not walk the path of lowest resistance against business demands and invest in any “nice to have” technology and “flavor of the month” toolsets, as the sole reason to spend any money and resources for BI must be that business case. In fact, when the executive board requests some insight into the value generated from the investments into BI technology, the CIO must be prepared to describe the outcome in business terms.

### Acronym Key and Glossary Terms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>BI</td>
<td>business intelligence</td>
</tr>
<tr>
<td>BICC</td>
<td>business intelligence competency center</td>
</tr>
<tr>
<td>OLAP</td>
<td>online analytical processing</td>
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</tbody>
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Source: Gartner Research G00176038, Andreas Bitterer, 2 August 2010
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