Better Decision Making with Proper Business Intelligence

Quality information is key to making quick, rational business decisions
As companies focus on growth and business development, the availability of quality information is crucial to making quick, rational business decisions. New technologies, however, can cause information overload, leaving decision makers buried under a mass of irrelevant, inadequate, and inconsistent data. Some companies manage to provide their decision makers with precise, relevant data in an easy-to-grasp format. These companies have discovered the value of effective business intelligence capabilities.

For many companies, new technologies are causing information overload, leaving decision makers overwhelmed with inadequate, incorrect, inconsistent and misleading information. Indeed, the various acts of retrieving and processing this often useless information can tie up numerous resources. Yet there are companies that manage to provide their decision makers with processed and automatically consolidated raw data, presented in an understandable, easy-to-grasp format. These companies provide insightful information for quick, profound decision making. What do these companies have that the others don’t? Business intelligence (BI) capabilities and processes.

Business intelligence is a research field that focuses on theoretical and practical aspects of achieving a solid information basis for decision making. This paper summarizes A.T. Kearney’s experience in helping companies shape their data processes to obtain the right information for rational and quick decision making.

What Is Business Intelligence?
Business intelligence focuses on the particular field of data processing and consolidation to retrieve information for decision making. The overarching objective is to provide—via various solutions—the right knowledge to the right people at the right time. Doing this requires the right mix of IT systems, architectures, data structures, data-collection processes, and responsibilities for providing meaningful information. Business intelligence has a proven impact on key performance indicators (KPIs). For example:

- 60 percent of executive managers state that the use of a performance management tool has a positive impact on shareholder value
- Return on equity (ROE) is more than twice as high in companies that widely use performance management tools compared to those that do not in the same industry

When assessing BI capabilities, there are four levels to consider:

- Reporting. Reporting is a core functionality of BI tools as the objective is to create recurring, standard, reports in an efficient and user-friendly manner. Reports are predefined and static by nature, generated either by request of an end-user or refreshed periodically through an automatic scheduler (uploaded on Intranet servers or shared
The Advantages of Business Intelligence

When analyzing a business intelligence solution, it is important to consider the business benefits, including improved overall decision making and increased efficiency for business reporting and analysis. To this first point, BI offers four important prerequisites for proper decision making:

- Required information is available
- Data is consistent across organizational units
- Information can be easily analyzed using built-in analysis functionality
- Reports are presented in a user-friendly format

A well-designed business intelligence solution ensures that information across the organization is available in a consistent, reliable manner. Figures can be aggregated and compared in different business units, assuring the validity of like-for-like data comparisons, and that all management reports provide operations leaders and top management with the information they need to steer the business properly.

Essentially, BI improves efficiency on both the information technology (IT) side and the business side of the organization. On the IT side, workers are freed from the recurring task of creating and changing data reports as end-users are able to create and change their own reports. On the business side, less time is spent in data analysis and preparation as management reports are created directly from the BI dashboards. Not only is the data in these reports more up-to-date and credible, but also they are easier to read and handle. And, importantly, the information can be downloaded on smart devices, including the iPhone and iPad. The sidebar on page 4, What Makes a BI Leader?, offers a short list of success factors shared by top business intelligence organizations.

Three Phases of Implementation

A successful corporate BI implementation has three phases (see figure 1). In implementing BI systems, it is important to begin with business requirements, because projects that are technically triggered usually fail.

Phase 1: Define the necessary KPIs on a management dashboard. A key activity in the first phase is to define future reports and KPIs, which often means eliminating some existing reports, as many are unnecessary and do not truly reflect the company’s objectives (see figure 2).  

Next, in assessing data availability to calculate defined KPIs; a sound data basis is a key success factor for system implementation. External tools connecting to existing data warehouses and additional calculations should be kept to a minimum. Also, the various layers of a BI system are evaluated to define which areas should be addressed and identify specific parts that should be eliminated (see figure 3 on page 4).

It is important to clarify at the beginning which areas shall be covered by the project: Is it a BI system for finance KPIs only or does it also include supply chain management? Will the project integrate other functional areas, departments or even specific business lines within operations? Often human resources and customer relationship management (CRM) are the next candidates to improve finance BI and integrate more of the

Three phases of a business intelligence solution

Phase 1
Define key performance indicators and level of business intelligence to be achieved

Phase 2
Collect requirements, build prototype and conduct vendor “proof of concept”

Phase 3
Implement solution and improve tool according to release plan

Figure 1

Figure 2
The main tasks in Phase 1

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What Makes a BI Leader?

From our experience helping companies implement business intelligence projects, we have found several common characteristics or “success factors” that differentiate the BI leaders from the followers. The BI leaders:

- Define and optimize corporate report standards
- Focus on the business not the data
- Establish a balanced scorecard
- Define clear data dimensions and structures
- Develop a master data management plan
- Establish corporate data governance and clear ownership of master data
- Use report visualization in pilots
- Leverage web technologies
- Focus on cross-organizational efforts
- Distinguish between business-driven and IT-driven projects
- Define the long-term BI scope, from the beginning
- Realize a mobile version of business intelligence

The link to operations is more difficult as KPIs from manufacturing, production or logistics are fairly different from finance KPIs and are often difficult to connect to existing KPI trees. Even between similar business lines, KPIs are sometimes slightly different because they represent different business models—for instance, internal production for intermediate products or external production for final products. If the long-term strategy is to analyze operational KPIs, this should be addressed at the outset. Once these questions are answered and all affected business areas are addressed, the second phase can begin.

Phase 2: Create a design and navigation prototype and build a “proof of concept.” Four tasks are involved in preparation for system implementation. The result is a “proof of concept,” designed before the comprehensive implementation begins. At this point, software vendor selection is independent of specific design requirements and often driven by strategic policies or IT landscape requirements. Based on IT architecture rules, a short list can be devised up-front to select appropriate tools to fit the company’s requirements, IT strategy and IT landscape (see figure 4).

Phase 2 is not only about collecting requirements regarding the functionality of a future tool (navigation and analysis deep dives, for example) but also about report design, dashboards and tool functionality. One point must be stated clearly: A pure management “cockpit” or dashboard cannot replace the internal or external reporting. As a first step, it can be seen as a second channel (always available), but with a different level of detail (management adequate). All management cockpit tools offer a reporting functionality used to print-out the dashboard content. Replacing the complete paper-based internal (or external) reporting requires significant efforts as the detailed design of every single page is outlined up-front. Both the dashboard screen design and the report layouts, which cover all of the depicted content regarding historic numbers and comparisons, among other things, finally get defined before the detailed concept is handed over to a system integrator for implementation. The realization of the screens and the corresponding KPI visualization are the main drivers of the system implementation and the testing. Therefore stability is required.

Figure 4
The tasks in phase 2

- Perform assessment to ensure the need for a “cockpit”
- Conduct a brief cost-benefit analysis of the area and other potentially affected areas such as procurement
- Draw up a short list of vendors, taking into account industry reports and other external information
- Assess the options from an internal viewpoint
- Complete a list of business requirements and build a first simple PowerPoint prototype to develop a “look-and-feel” of the final product
- Begin company-vendor discussions
- Help the vendor understand the client and ensure vendor receives timely feedback so to make quick improvements

Source: A.T. Kearney analysis
The proof of concept increases the developers’ understanding of the company’s requirements before starting the real systems implementation. In our experience, a quick prototype allows a company to check the design of all possible pre-selected tools and test the capability of the potential solution provider. Work packages can also be tested to assess vendors’ innovation capabilities in solving design questions. Finally, the firm’s requirements can be tested and challenged.

Phase 3: Implementation

Implementation is a typical IT project. However, due to high visibility and management awareness, the implementation should be fast and provide quick solutions.

A release plan ensures first results are delivered quickly, while the final and comprehensive solution is created in several steps, aligned with reporting cycles and data availability. The first release should provide all required dashboard functions (design, navigation and drill-down) and some of the reporting requirements, which are detailed in the follow-on implementation phases and can be delivered sequentially. Typically, first releases lack the full data set. An essential activity in the BI project is to cleanse existing data and establish a process to record new data in a proper way, which often requires developing the entire data architecture, including dimensions, hierarchies and formulas. Close interaction between system provider and business departments (as the final users and clients of the system) is crucial to the success of the project. The management cockpit or dashboard fulfills the design and functional requirements because it provides clear visibility to management and the necessary ease of use. Although all required data or KPIs may not be included in the beginning, they are provided throughout the steps.

Governance and the CIO’s Role

Within a BI project, the corporate IT and the CIO moderate between the different business departments that are involved, the internal IT group, and the software provider or implementer. A BI project is often driven by the finance department as the key user due to corporate reporting and corporate management requirements; finance defines the main KPIs on a corporate level and ensures standardization across all different business models within the firm.

Operational KPIs are provided by the different operating units and standardized to ensure that consistent content is reported to top management. The CIO and corporate IT take over the role of supporting KPI definitions by providing information about data sources, data availability and data quality. And they start the analysis on how a business intelligence tool could be used to fulfill high-level requirements (see sidebar: Business Intelligence: A Case Study).

Part of the project involves defining future BI governance. This often means establishing a BI

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**Business Intelligence: A Case Study**

The management team at a large German company decided to implement a corporate-wide business intelligence (BI) process. The company, involved in heterogeneous businesses, started with pilot units in its three business concerns, defining financial key performance indicators (KPIs) to manage and direct the corporation.

The management team knew that success would depend on corporate-wide definitions for its KPIs so they could be cascaded down to all business units.

The project began with development of a basic management dashboard that provided a visual KPI tree to clarify the logical dependencies of the two main KPIs—and then illustrating all the subsequent KPIs that followed from them—and how they navigated through the organization.

Next, business-specific operational KPIs were added to the dashboard, a simulation tool was developed to provide units with a business-planning model to illustrate the dependencies between KPIs, and a BI tool-based reporting process was designed and implemented.

The IT work began during the final definition of corporate-wide KPIs and reporting, providing information about the availability of existing data within the data warehouse. This was followed by the vendor and tool-selection process. A prototype was designed, and software providers were asked to use the design and business units’ functional requirements to develop a rough proof of concept.

Immediately after the proof-of-concept presentations, the vendor-selection process was finalized and implementation began. Within three months, the company had its first release, covering main functionalities, dashboard design and navigation, and first-reporting factors. The release plan took into account the main reporting cycles, and two subsequent releases were scheduled within the planned timeframe.

Soon after introduction, the management team was delighted as user acceptance proved stronger than expected throughout the organization. When asked about the success factors, team members were quick to cite the top two: design and ease of navigation within the BI tool, and on-time delivery of the major KPIs. All in all, the company is now dedicated to using business intelligence to help steer it on a richer and more successful course.

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**Figure 5**

Detailed analysis of BI software vendors

<table>
<thead>
<tr>
<th>Category</th>
<th>On-board tools</th>
<th>Vendor 1</th>
<th>Vendor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation design</td>
<td></td>
<td>• Only static design possible; performance critical</td>
<td>• Through TOOL 1 WYSIWYG the dashboard can be handled</td>
</tr>
<tr>
<td>Implementation comments</td>
<td></td>
<td>• Use of standard BDS associated with performance issues</td>
<td>• Vendor offers functional building blocks for the storing of comments in the SAP BW</td>
</tr>
<tr>
<td>Implementation simulation</td>
<td></td>
<td>• Generally not simulation functionality</td>
<td>• Possible according to the demonstration; no information given on the interface builder; use of all graphic types possible</td>
</tr>
<tr>
<td>Transition from prototype to release 1 to 2</td>
<td></td>
<td>• Due to low performance on comments and the illustration of graphs, no usage possible in phases 1 to 2</td>
<td>• Comments and simulation can be executed early</td>
</tr>
<tr>
<td>Connectivity to data</td>
<td></td>
<td>• Executed on machine one, no export of the cube data needed</td>
<td>• According to vendor, it can communicate with SAP BW 3.5 but not demonstrated</td>
</tr>
<tr>
<td>Hardware costs</td>
<td></td>
<td>• None</td>
<td>• Basic infrastructure on machine one has to be built anew</td>
</tr>
</tbody>
</table>

Source: A.T. Kearney analysis
Choosing Tools and an Implementation Partner

BI tool selection is rarely a “green field” approach. The corporate IT strategy, system landscape and the main requirements regarding the BI level to be achieved are all guidelines in the selection process. Market research and analysts’ estimations can be used as support documents, but in most cases these analyses are too general and cannot be adapted to meet company specifics. Instead, external reports are typically used afterwards as support information to justify the short-listed vendors or tools.

The software vendor and implementer are the same in most cases, as only a few companies are able to provide a full business intelligence suite, connected or even integrated somehow to the main enterprise resource planning (ERP) systems, such as SAP or Oracle.

A company-specific questionnaire and evaluation template allows the efficient gathering of key requirements. The main questions or key evaluation points should be shared in advance with the short-listed software vendors to give them an opportunity to prepare the tool presentation and to answer all questions completely. The clearer the requirements are documented and described, the faster the selection process can be executed (see figure 5 on page 7).

A rough prototype—such as a PowerPoint visual of the management cockpit to demonstrate key navigation functions and design-related requirements will help both sides understand the desired outcome and manage expectations. It is the basis for the later detailed design and concept, containing the description of each requirement. This and the more technical description of the existing landscape and necessary interfaces are the most relevant documents for the implementation and build up to the kick-off for the system-implementation phase.

BI: A Must for Business Success

A proper BI solution is a must have in today’s world. Companies in all industries are using BI systems for successful decision making. These companies beat their competition and identify new opportunities to optimize their businesses. They also reduce resources for manual effort and redeicate people to analyzing data and preparing decision memos. For companies that grasp the true potential in business intelligence, they should take action sooner rather than later—time, as always, is of the essence.

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