

# The missing link

Selecting business intelligence initiatives based on enterprise needs. *by Jonathan G. Geiger*

**B**usiness strategy and enterprise analytic capabilities are often planned separately, yet they are tightly related. Business strategy sets the corporate direction. It includes the major goals and objectives of the enterprise and is the basis for tactical planning. Enterprise analytics, which answers specific questions about the business, is an IT initiative supported by the organization's business intelligence (BI) program. To understand the relationship between business strategy and enterprise analytics, we need only look at the scope of BI.

BI provides enterprise-level information regarding where the business has been, where it is now and where it is expected to be in the near future. This information is necessary for an organization to develop a business strategy and to monitor its progress against that strategy.

The enterprise business data model acts as the focal point of linking business strategy and analytic capabilities. This model maps questions and key metrics that determine the data needed to support the business strategy and then helps to design the enterprise's data warehouse. The data warehouse, in turn, is mapped back to the operational systems where critical data can be loaded once and reused in many applications and by many users. When completed, this mapping chain can identify the availability of the information needed to support the business

strategy, and therein help to prioritize and plan the analytic projects.

A major benefit of using the enterprise business data model is that each BI project can be directly related to the overall business strategy and goals. The projects can be selected based on a combination of:

- > Their support of the business goals.
- > The degree to which the data is available.
- > The effort that is required to provide unavailable data.

## Mapping existing data to an enterprise business data model

To ensure the data warehouse properly represents the business strategy, best practices provide for the data warehouse

operational environment to support the extract, transform and load (ETL) design. Here, the complexity of providing an enterprise view of the data is evident: multiple sources often hold duplicate data that should be consolidated.

Also, the data needed to support some of the strategic goals may be unavailable, potentially driving the company to use external data sources. For example, if information about competitive activities is needed, the company may seek external sources to provide that data.

Once the ETL design is completed, the next step under the mapping exercise is to link the business strategy to the available information in the data warehouse.

*The enterprise business data model acts as the focal point of linking business strategy and analytic capabilities.*

to be founded on and linked to the enterprise business data model. Further, the enterprise data model used to build the data warehouse is relatively stable, ensuring that the data repository is also stable and reusable. (See figure 1, page 76.)

The first step in the mapping exercise requires finding the data within the

## Selecting BI initiatives

Data warehouse initiatives should be selected based on overall enterprise needs, priorities (determined by business impact) and data availability. Figure 2 on page 77 provides a visual representation in the form of a "decision cube," which shows how BI initiatives can be selected by considering the

# Enterprise BI is a critical component of a company's strategic architecture. It provides information for establishing realistic goals, determining actions and tracking progress relative to those goals.

value associated with the business impact (priority), the available data and the complexity of the initiative.

## Business impact

The relative importance of each strategic goal and tactical action determines the business impact, while the business priority is driven by a combination of the business impact and the degree to which supporting data is available. One approach to determining the priority of a BI initiative is to independently evaluate the impact of each goal or action and the degree to which BI capabilities and information are available to support it. Availability includes qualities such as accuracy, completeness, consistency, timeliness and format.

If the business priorities were the sole standard for selecting the BI initiatives, we would pursue the ones on the top left quadrant of figure 2. These are the first goals and actions that should be mapped to the

business data model. We are likely to discover through this process that the same data will support multiple goals, and that there are several high-priority goals from which we must choose.

## Data availability

With the linkages established, we can determine the data's availability at each juncture point. At the source system level, the quality of the data can be evaluated through data profiling and other techniques. At the integrated data warehouse level, the completeness (for example, the percent of store data available) can be measured. Finally, by retracing the linkages, we can identify how the existing data applies to the company's objectives and goals.

Before reviewing the data, we should consider the types of data warehouse architectures. The most popular, according to a recent survey by The Data Warehouse Institute, is the hub-

and-spoke data warehouse, which consists of an enterprise data warehouse (EDW) and physical or virtual data marts.

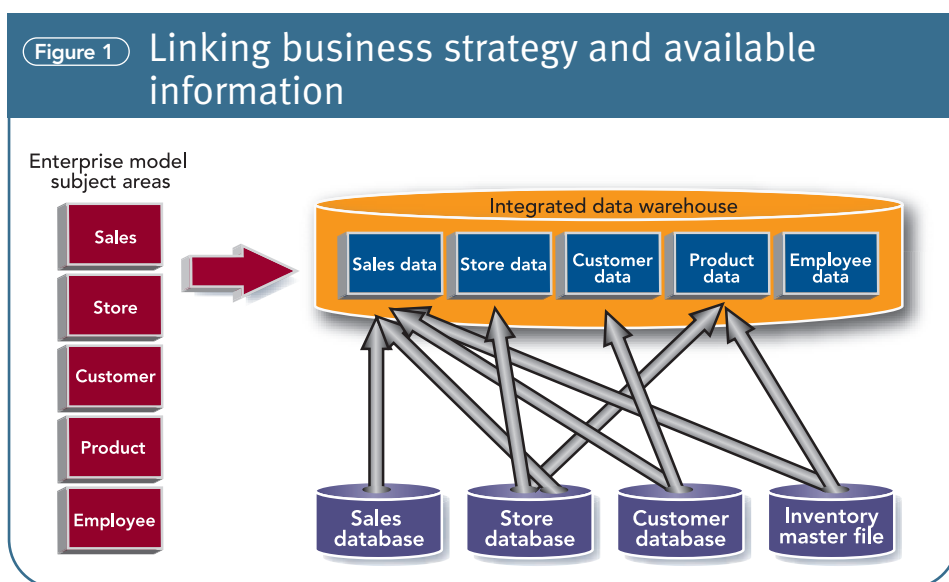
The centralized EDW architecture is optimal; its design often requires incremental physical deployment of the enterprise business model, either directly or indirectly. Since it is based on the enterprise business model, the centralized EDW is also relatively stable and independent of organizational structures and physical systems, both of which are often dynamic.

## Initiative selection

The complexity of collecting and storing data impacts the cost and duration of a BI project. To evaluate these factors, first determine the data needed to support the business strategies and actions considered to be the highest priority. After mapping the data from the enterprise data model to the source databases, the potential impact of each initiative on one or more of the BI goals is identified and understood. As shown in figure 2, this impact provides some dependency relationships among initiatives and will help organizations assess (at least at a high level) the potential cost, effort and duration of those initiatives.

## Initiative scoping

The mapping exercise does more than help us identify the initiatives to be pursued. It provides information to help establish the scope of the projects. We know the sources and the data subjects, and we have information to help us determine the potential complexities associated with collecting and integrating the data. In addition, we can document and substantiate the business benefits based on their relationships to the strategic goals.



Utilizing an enterprise business data model simplifies the design process and extensibility of a data warehouse.

## Success factors

While selecting BI initiatives is impacted by a company's mission and business priorities, it is also dependent upon several critical factors:

- > **Executive sponsorship:** Active involvement by the company's leaders is essential. These executives identify or substantiate the strategic goals and priorities, and ultimately provide resources to deploy the recommended projects.
- > **Planning structure:** The enterprise must define, either within a formal or informal planning structure, the tactical actions and the strategic plan and objectives.
- > **Enterprise perspective:** The needs of the enterprise must be placed above the needs of the individual areas.
- > **Foundation emphasis:** Implementing a strong foundation for the company's data infrastructure will initially require greater expenditure and more time. Once the foundation is built, however, other

applications and departments will also reap the benefits.

- > **Infrastructure:** The technical and organizational infrastructure must be in place or established quickly.

## Critical component

Enterprise BI is a critical component of a company's strategic architecture. It provides information for establishing realistic goals, determining actions needed to meet the goals and tracking progress relative to those goals. A structured, enterprise-oriented approach can be used to establish a direct link between the available data resources and the strategic goals so that the BI initiatives with the greatest impact on the company's mission statement can be identified and pursued.

Teradata has developed the Enterprise Data Warehouse Roadmap (EDWR) and industry-specific logical data models (LDMs), two dynamic tools that help to align business

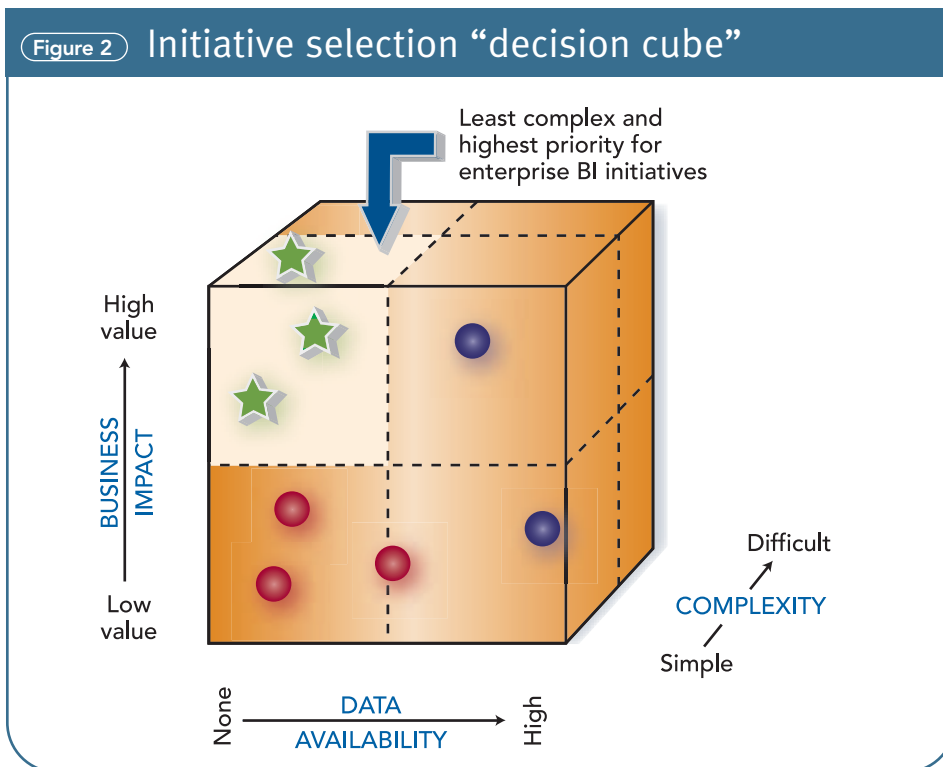
strategy and analytics. These tools provide a "best practice" approach that leverages one of the most stable aspects of the business environment—the data—as represented by the enterprise data model. An industry-specific LDM provides a foundation for the data integration roadmap. Through the deployment of the physical EDW based on the LDM, a stable store of integrated data can be reused to support many analytic applications.

Furthermore, since business environments do not stand still, the EDWR needs to be revisited as the business climate and priorities change, and as BI capabilities increase. One challenge of a BI program is to constantly identify new opportunities for increasing business value. Companies leveraging the graphical representation of the EDWR will be able to quickly pinpoint and prioritize BI opportunities so they can remain competitive leaders in their industry.

For a business to succeed, its BI strategy must be directly aligned with its enterprise analytics. If each is planned separately, a company may know where it wants to go, but not exactly how to get there. Roadmaps, data models and an EDW are tools that innovative businesses use to drive their organizations in the proper direction. **T**

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Visit [Teradata.com](http://Teradata.com) to download Jonathan's white paper, "Aligning Enterprise Analytics to Support Your Business Strategy." The white paper includes a case study on applying Jonathan's BI initiative selection with Teradata's Enterprise Data Warehouse Roadmap.



Preference for BI initiative selection is for those with the highest business impact value, the greatest data availability and the least complexity to execute.