

THE BUZZ OF BUSINESS INTELLIGENCE

by Pieter J Conradie

It is an exciting time to be involved in business intelligence, given the rapid rate at which the technological support tools are developing. These tools make it much easier and faster to execute some of the information preparation processes. They also streamline the process of delivering the right information at the right time to the right people. This, in turn, enables the users to spend more time on those steps that require human interpretation, innovation and creativity – things that can never be replaced by technology.

During the last decade, the field of business intelligence has developed rapidly. Apart from going through terminology changes, the supporting tools and technologies have also matured to some extent.

Hype cycle for business intelligence and corporate performance management

A large number of related topics have been identified in the latest hype cycle for business intelligence and corporate performance management (Gartner, 2006), as indicated in → 1. These related subjects include data quality, data mining, scorecards, enterprise information management, business activity monitoring, service-orientated architecture and many more.

The closer link between business intelligence and corporate performance management is acknowledged by Gartner Research in its approach, which merges the hype cycles of these two subjects. The researchers also moved the more technical aspects of data management, such as extraction, transformation and loading tools, enterprise information integration,

data warehousing and metadata tools, to a separate hype cycle.

Industrial engineers have always been interested in improving processes. No wonder some of them are involved in the wide range of processes necessary to generate business intelligence from seemingly disparate data sources to support decision-making in organisations. Since business intelligence can be used at various levels of the organisation for different purposes, it is important for any business intelligence initiative to have a bigger picture in mind.

The Business Dimensional Life Cycle framework

The Business Dimensional Life Cycle framework, developed by Ralph Kimball in the late 1990s (see → 2), identified a number of generic processes that are needed when developing a data warehouse in support of business intelligence. It includes functional design processes, such as the definition of business requirements, the functional design of so-called star schemes with fact tables and surrounding dimension tables to facilitate queries and the ETL (extraction, transformation and loading) processes. However, it also includes the more technical processes of selecting appropriate IT architecture and end-user applications, as well as the project management process to ensure that the different activities are performed in a co-ordinated manner.

The Bigger Picture Business Intelligence Context Model

The trend, increasingly, is for business intelligence solutions to be used in conjunction with corporate performance management systems. For this reason, the Bigger Picture Business Intelligence Context Model was developed to assist organisations in getting better strategic value from their business intelligence investment. The aim of the conceptual model is to support the quest for strategy alignment, using business intelligence as an important component to provide performance measures that can be used in strategic decision-making. Instead of packaging existing ideas slightly differently under a new name, well-known theories such as the Zachman Framework for enterprise architecture and the Balanced

Scorecard from Kaplan and Norton were incorporated into the Bigger Picture Business Intelligence Context Model to fulfil certain requirements. Figure 3 depicts the conceptual model in schematic format.

The rationale behind the model is that performance management through business intelligence should provide the organisation with the right information to evaluate its current strategy from time to time, taking information from the external environment into account.

Interpretation of the feedback should give a clear indication as to whether the current strategy is still valid, but needs some improvement in its operational execution, or if the strategy as a whole needs to be reviewed and changed.

The model uses enterprise architecture as a foundation to document the integrated relationships between organisational structure (people), processes and systems that support the strategy of the day. It was found that the basic balanced scorecard approach of Kaplan and Norton (1996) and their more recent implementation methodologies for “strategically focused organisations” provide powerful guidance in the development of strategy. The idea of identifying a cause-and-effect strategy map that logically links goals from different business perspectives (learning and growth, internal processes, customer and financial perspectives) to support a specific strategy, also assists in communicating the strategy to the organisation. Part of their process includes identifying initiatives that will be necessary to implement the strategy, which leads to the identification of relevant measurements.

The identification of measurements ties in with the Business Requirement Definition step in the Kimball dimensional model that kicks off a process to design new data marts in the data warehouse (or to influence the redesign of existing data marts) and to update various ETL processes. Changes to the measurements, or the targets, may also lead to changes on the typical dashboard/scorecard products that are used to communicate compliance to the users. According to the hype cycle graph in → 1, the use of more sophisticated dashboard/scorecard products should be

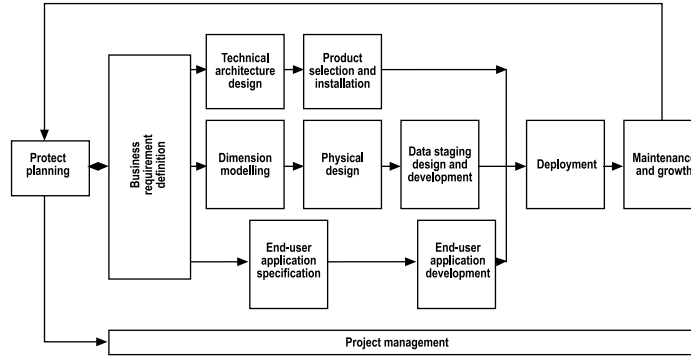
adopted by most organisations in two to five years' time, while the common use of spreadsheet-based business intelligence and corporate performance management systems will probably be phased out by most. ☺

References

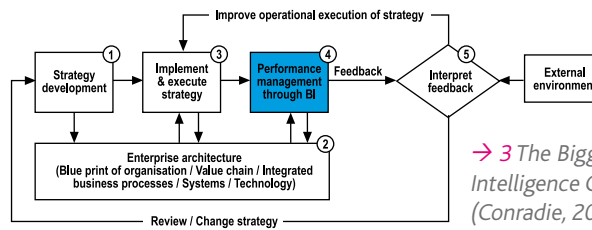
- Conradie, P.J. 2004. An industrial engineering perspective of business intelligence. University of Pretoria.
- Gartner Research. 2006. Hype cycle for business intelligence and corporate performance management, 2006.
- Kaplan, R. S. & Norton, D. P. 1996. The balanced scorecard. Harvard Business School Press.
- Kimball, R., Reeves, L., Ross M. & Thornthwaite, W. 1998. The data warehouse lifecycle toolkit. Wiley.

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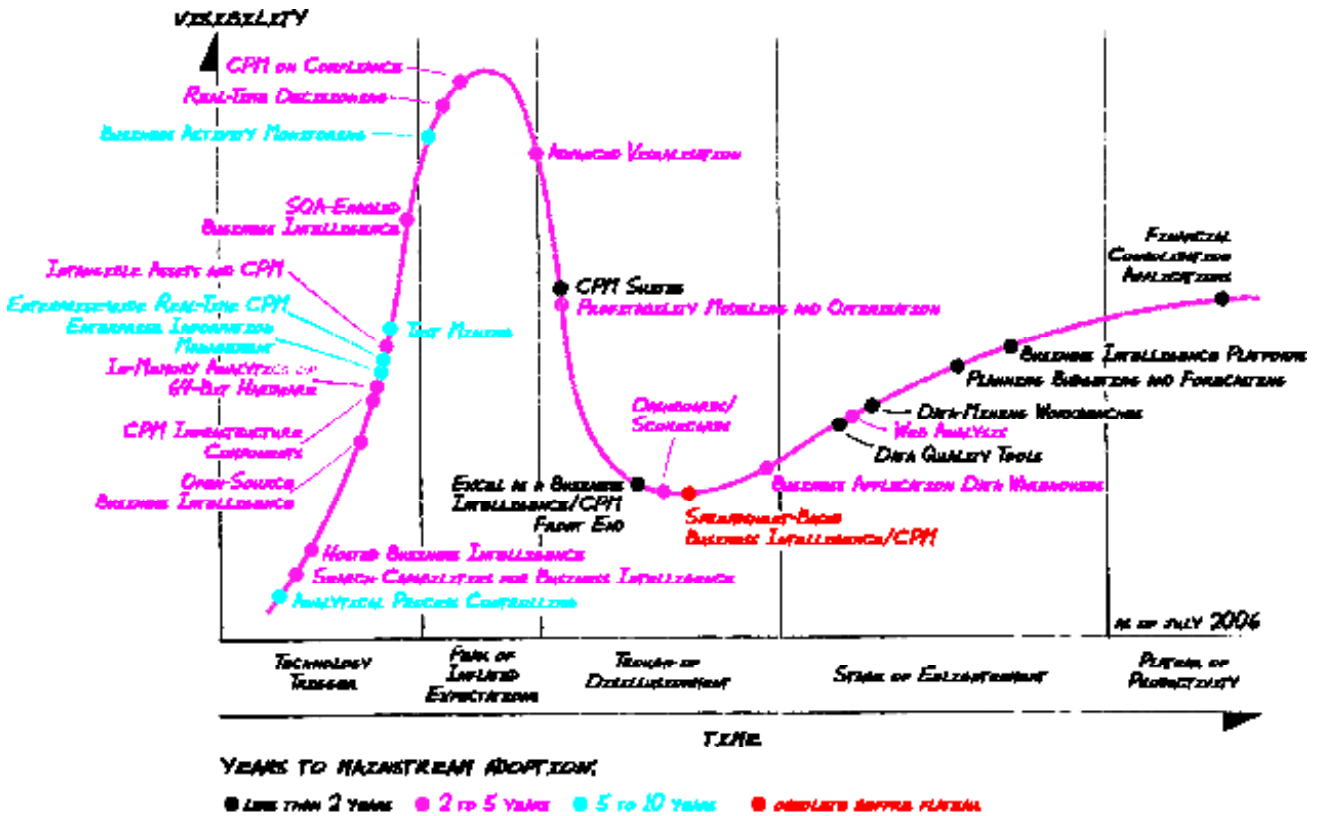
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→ 2 The Business Dimensional Lifecycle (Kimball et al. 1998)



→ 3 The Bigger Picture Business Intelligence Context Model (Conradie, 2004)



→ 1 Hype cycle for business intelligence and corporate performance management (Gartner, 2006)