

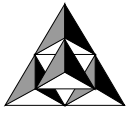
META Group Italia

Business Performance Management market overview

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From Business Intelligence to Business Performance Management

In today's rapid-paced business climate, companies are searching for ways to bring IT investments in line with their most critical business priorities, creating a shift from transaction-centric to information-centric approaches. Focus is behind a new class of software capabilities now evolving from the roots of business intelligence (BI) and decision support systems, helping organizations manage performance in a methodical and coordinated manner: the Business Performance Management (BPM) systems.

Performance Management is ubiquitous: since everybody in an enterprise has responsibilities for executing and/or managing certain activities or processes, everybody needs metrics to measure and manage the performance of his/her activities and processes.

To enable a comprehensive management and control of business processes and performance, the BPM model must add a top-down approach (from objectives to results) to the traditional bottom-up approach (from results to objectives) of Business Intelligence (BI). Furthermore, BPM systems must address the need to empower the analytical information publishing and distributing processes. Existing BI approaches intend to deliver the right information at the right time, nevertheless they have shown too much limitations; the constraints imposed by the widespread Client-Server model typically result in a consistent system performance worsening as soon as the volume of data to be managed and analysed begins to increase; moreover, the need to customize the information to be delivered in terms of format and business context (the same information must be appropriately interpreted according to each information consumer's point of view; for example, the sales process views the Customer – the information – with a different perspective than the production process) is hardly ever understood; as a result, information interpretation times increase, while the information time-to-delivery and operation costs reduction issues remain unsolved.

META Group believes that traditional BI technology and tools will merge into operational business processes through the introduction of new and expanded analytical application solutions that converge operational, analytical, and collaborative capabilities.

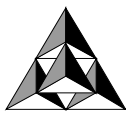
Business users have defined information usage requirements that are broken down into task categories independent of the underlying technologies and product categorizations. These usage requirements are:

- **Predefined:** view of static content/information typically generated by automated processes (e.g., batch, exception).
- **Interactive:** real-time user interaction with information (e.g., sort, filter, rank or drill, pivot, page).
- **Exploratory:** data exploration via navigation and statistical methods (e.g., regression, decision tree).

We suggest adopting the following dimensions to enable BPM and optimizing software technology selection:

Business Model. You must accurately define the business process that each business user is responsible of, acquire their information requirements, and clearly represent all the interactions between business processes and the different organizational departments. Defining the Business Model helps to ensure the proper level of integration between technologies, information, and applications.

Information Supply Chain. All the possible information sources must be identified and defined. Moreover, existing information flows that can deliver information required to timely meet business requirements must be properly leveraged.



Technology Framework. The technology framework can be broken down into three areas:

1. *presentation and publication* (multichannel information portals, workflow, push/pull, alert systems, etc.);
2. *application services* (users definitions, security management, collaboration, application logic, business models, business rules, etc.);
3. *engines* (data mining, agent, analytical systems, enterprise application integration, etc.).

Customization/Assembly. Every business process is unique and mandates some level of customization in the solution. Information representing business process performance must be customized and assembled directly by each user.

Next Steps

Organizations should ensure that any acquisition of technology, tools, or applications for decision-making purposes is measured along the BPM model. To avoid implementing stovepipe systems that will lead to increased operating costs, the BPM model should be applied prior to acquisitions of business-intelligence-related technology, tools, or analytical applications (e.g., OLAP, reporting, data mining).

We recommend approaching BPM through an Information Delivery Infrastructure model, reconciling different business requirements with selected technologies and ensuring that information is delivered in the right form, to the right people, and at the right time.

Establishing an Information Delivery Infrastructure

IT vendors are beginning to evolve their Business Intelligence products, starting from the empowerment of their delivery and publishing capabilities in order to enable the integration with enterprise portals, e-business sites, and enterprise application suites (e.g., CRM, ERP, Supply Chain Management).

By 2004/05, leading BI companies will be able to extend their offering. The BI scenario will evolve into sophisticated analytical applications, equipped with information delivery platforms capable of broad-scale integration with enterprise portals (EPs), enterprise applications, and e-business Web sites.

For several years, BI systems (particularly report servers) have been used to present information on extranets and intranets. However, brute-force integration with other Web systems has been accomplished with difficulty. As vendors evolve to information delivery platforms - promising to greatly simplify integration efforts- key issues must be addressed:

- *Programmable BI/reporting engine:* the BI engine must be callable from code running on application servers and from scripts running on content management or e-business platforms (e.g., BroadVision, Vignette, ATG), or from enterprise applications.
- *Web services:* bi-directional support for delivery of information through Web services interfaces is required and is not always universally available.
- *Data integration:* a comprehensive library of connectors for enterprise applications should be available, along with general SQL and OLAP source support.
- *XML integration:* XML streams from other system components must be used as data sources as well as command streams (invoking APIs).
- *Output flexibility:* information must be delivered in many formats, including XML, HTML, spreadsheets, and PDF.
- *Flexible personalization/profiling:* personalization must have sufficient flexibility to enable seamless integration with external personalization schemes.
- *Deep portal integration:* integration with EPs must ultimately go beyond just displaying a report in a window. It must include integrated management of roles, access control, user profiles, and integration of BI resources with workflow mechanisms.

Vendor Analysis

Business Objects, Crystal, and MicroStrategy have the most experience in integrating their information delivery platforms with Web sites and other applications, and support (at least to some extent) most of the features previously described. Oracle's BI tools show promise of the sort of integration needed for efficient information delivery - though so far, the integration is limited to the Oracle product stack. Microsoft, even though announced to be interested in this market since 1996, has never gone beyond offering infrastructure technologies. However, the more and more requested 'Spreadsheets option' will confirm Excel absolute leadership in this market segment. Brio and Cognos have recently announced expanded support for integration, though Brio does not yet support Web services (planned for 2H03).

Business Objects

Business Objects has recently directed development efforts into three areas: customer-focused analytical applications, improvements to server-based products as analytical application platforms, and reporting performance and scalability. Although analytical applications (particular customer-facing applications) represent an important future market, we believe demand for general BI tools will remain strong through 2006 at least.

Cognos

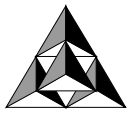
Cognos has made great strides in providing user-interface-level integration among its products. Integration has advanced to the point that it is no longer a problem for end users. Cognos views its enterprise portal primarily as a user interface integration architecture for Cognos products. Although this is a reasonable approach given the need to solve integration problems, in the long run we believe Cognos needs to adopt a more open approach to integrating with commonly used portal frameworks. We expect Cognos to remain strong in the BI tool space, but we expect limited impact from its efforts in analytical applications.

Other vendors

Brio has in the recent past struggled with management turnover and financial problems exacerbated by difficult macroeconomic conditions. Although Brio's products remain strong, and a recent financing removes short-term cash flow worries, end users should closely monitor Brio's financial situation and consider alternatives if the situation worsens.

MicroStrategy has moved beyond its relational OLAP base by significantly enhancing its query and reporting products. It is more frequently being considered as an alternative to Business Objects or Cognos. However, we believe MicroStrategy is more correctly positioned as a complementary product where a higher functionalities sophistication is needed in a particular analytic application project (as opposed to a general tool deployment).

CrossZ. This new appearance in the market promises to solve some of the main technical constraints and challenges for enabling an effective Information Delivery Infrastructure: limitation on size of information objects; insufficient speed of queries when objects get big; quality problems in data consistency (risk of data manipulation by information consumer). CrossZ's goal is to provide effective answers to these issues. Its proprietary "Information Hologram" based technology deserves attention. The QueryObject (QO) product suite provides an information compiler that generates 'holograms', containing the result set of answers to any possible query on the data to be analyzed, without replicating the original physical data. After "compilation", QO compresses the data to be analyzed together with business and application logics, providing super fast access to the results of any SQL or OLAP inquiry. The result is an 'executable info-object' that can be launched without the need of the underlying data base system and can be utilized in a secure mode to timely generate and distribute personalized analyses and reports based on the data compiled, that can be shared across multiple channels and at a reasonable cost of ownership. An information consumer can get and create by



himself the information he/she needs, but has all power to browse and to exploit the information using other technologies (BO, Brio, Excel, Microstrategy). An example that can help to better understand the QO concept is the analogy with a .pdf file creation process. This file is created from the original .doc and can be viewed, modified, printed and distributed without the need of the original file (the.doc one) to be physically available. The .pdf document can be interpreted as the 'compiled' version of the original .doc, that 'inherits' the application operations (in this case the document editing) from the 'father' document.

QO can be a valid support to implement BPM models able to address information consumer needs to have timely access to analytical information whenever they work on- or off-line.

As a technology component, it can be integrated by third-parties into application server based solutions real time performance analysis issues. This architectural positioning, along with the application server vendors already having their own portal application framework and the Web Services and XML integration capabilities unleashed in the last version of QO product suite, provides CrossZ a nice opportunity to target the market without having to build application infrastructure.

The near future

The most serious long-term threat for the BPM (and indeed all BI) players is the entry of the large enterprise application vendors (e.g., SAP, PeopleSoft, Oracle) into the BI space. Although the strategy is technically sound, we believe Oracle (and also PeopleSoft and SAP) will struggle to sell BI tools beyond its respective (large) installed base. Independent BI vendors will still have the inside track in heterogeneous shops at least through 2005/06. Best opportunity for them is to play the role of infrastructures for real-time analytics in the application server market. Through joining the application server partner programs and building simple demonstrable levels of integration, they can directly provide potential partners a quick and seamless method of integrating analytics within the solutions.

Mr. Camerinelli has extensive experience implementing and streamlining complex matrixes of customers, partners, and suppliers. His research focuses on supply chain management, integration of enterprise resource planning (ERP) systems with marketplaces, and manufacturing of vertical industry applications. Mr. Camerinelli's research also encompasses models and methodologies for IT portfolio return-on-investment (ROI) evaluations. Prior to joining META Group in February 2001, he gained experience in plant and logistics/operational management at several European automobile manufacturers, and held a senior marketing position with JD Edwards in Italy. Mr. Camerinelli is fluent in Italian, English, and Spanish. He received a degree in Electronic Engineering from Università La Sapienza in Rome.