BI Solutions Strategy: Business Suite or Best-of-Breed?

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Abstract

A best-of-breed approach to deploying business intelligence (BI) capabilities in today’s enterprise provides the opportunity to exploit tools and applications to support highly differentiated business processes through advanced and industry-specific functionality. This advantage comes at the price of increased total cost of ownership (TCO) over time for maintenance and support when compared with a single-vendor platform in which there are normally no point-to-point interfaces to maintain. Best-of-breed tools should be limited to only a few that may provide strategic advantage while using an integrated platform for most business requirements.

The greatest value of BI comes from being increasingly embedded within the business processes themselves. Integrated platforms can provide BI capabilities throughout a company’s enterprise applications, such as enterprise resource planning (ERP) and customer relationship management (CRM), as well as within a data warehouse, thereby making the use of BI more widespread and pervasive. As the BI market consolidates, many innovative best-of-breed vendors will be acquired by large business suite players for their unique capabilities, making their competitive stability a major consideration.

Introduction

Business intelligence systems merge transactional data with analytical tools, enabling the delivery and presentation of complex corporate and competitive information to planners and decision makers as well as other information consumers. BI is becoming more strategic, helping businesses improve the timeliness and quality of data to the decision-making process (Negash, 2004). Most businesses have opted for multiple vendors to source their BI capabilities in what is known as a best-of-breed approach.
This term refers to applications from small, independent vendors that offer innovative functional capabilities to a specific industry or a single business area (Rao, 2006).

A TDWI survey determined that the top three reasons for adopting a best-of-breed BI strategy were 1) users having different requirements, 2) purchasing autonomy among departments, and 3) a reported lack of functionality from single-vendor solutions (Eckerson and Howson, 2005).

Gartner advises against the extremes of uncontrollably proliferating BI tools and applications on the one hand, and becoming locked in by a single vendor as the BI vendor market consolidates on the other. They recommend a balanced approach to standardization through business intelligence competency centers. As end users realize the increasing costs and performance risks associated with integrating and maintaining multiple interfaces among applications, there is a growing trend toward standardization and consolidation. This trend is being imposed in large part by the increasing market presence of large enterprise application megavendors, such as SAP and Oracle, which are gaining momentum by developing or acquiring specialized skills that allow them to offer a more complete portfolio of integrated BI tools (or so they claim).

This article explores the benefits and drawbacks of adopting a best-of-breed approach to implementing BI solutions in contrast to acquiring an integrated business suite from a single, large vendor. The pros and cons are examined from four perspectives or selection factors to be considered when choosing a solution:

- The specific needs of the business
- The pervasiveness of BI within the organization
- An infrastructure-based value proposition
- The competitive stability of BI vendors

Selection Factor 1: Specific Needs of the Business
There is no single BI tool or integrated platform complex enough that it can fully satisfy all of the possible needs of the end users in any given business context (Rao, 2006; Burton and Schlegel, 2006). Research by Gartner suggests that a best-of-breed approach is still needed. However, Gartner also advises against the extremes of uncontrollably proliferating BI tools and applications on the one hand, and becoming locked in by a single vendor as the BI vendor market consolidates on the other. Rather, they recommend a balanced approach to standardization through business intelligence competency centers (BICCs), which lead the evaluation, balancing, and prioritization of business requirements.

When user requirements for a BI solution are highly specialized, the best way to realistically meet the wish list of features is to select a few best-of-breed technologies available for highly specialized, business-critical processes, as long as redundancy in data and functionality can be avoided (Burton and Schlegel, 2006).

If specialized functionality is required to operate in a particular industry sector, consider vendors that offer point solutions. According to Gartner research, a significant proportion of financial services, healthcare, retail, and business services firms prefer to source BI solutions from best-of-breed vendors and pure-play BI vendors (Sommer and Graham, 2007). Best-of-breed vendors are the numerous, relatively smaller niche companies that offer innovative tools for specific BI market technology segments, including advanced visualization, data mining and predictive modeling, text mining functionality,
metadata, business process management, and business activity monitoring.

In fact, some of these vendors such as SeaTab Software and Celequest (acquired by Cognos) offer outsourcing of BI capabilities and data warehousing needs through software-as-a-service (SaaS) hosted delivery. SaaS is a viable option for a business with limited IT resources that needs high-performance analysis and reporting on large data volumes. Pure-play vendors are those that offer BI-only integrated platforms with a strong focus on corporate performance management (CPM) in addition to a portfolio of specialized and industry-specific analytic tools. Leading pure-play vendors include Business Objects, Cognos, Hyperion, MicroStrategy, Panorama, and SAS Institute (Sommer and Graham, 2007).

In general, businesses with a decentralized corporate culture, departmental autonomy, and highly complex business processes will implement BI solutions that best fit the specific user needs of each business unit, favoring the advanced functionality that only a best-of-breed system can provide. An integrated approach is preferred where the business has benefited from integration efficiencies by using enterprise applications such as SAP or Oracle. In this situation, the highly specialized best-of-breed functionality is the exception only where it supports business-critical processes.

Best-of-breed vendors are likely to provide more frequent or regular upgrades or enhancements than integrated suite vendors, and their shorter development cycles could make them more up-to-date technologically.

Selection Factor 2: Pervasiveness of BI within the Organization

The risks of choosing a best-of-breed approach include focusing on the technology per se, following the trends in the industry, and falling prey to the excessive marketing buzz (and hype) promoted by BI technology vendors. Over the next several years, businesses will have to shift their focus from the technologies that deliver user-centric information access, query, and report capabilities to process-driven capabilities that make BI less tactical and more strategic (Schlegel, 2006).

Gartner’s analysis predicts BI vendors must be able to provide calculation engines and scenario modeling, predictive analysis and data mining, real-time event data capture, scorecards, Web services integration, search capabilities, and collaboration and workflow features to the already mature online analytical processing (OLAP) and dashboard solutions currently offered (Burton and Rayner, 2006).

This greater focus on business process and performance management is necessary to align operations with corporate strategy and to guide the selection of BI application architectures that are business process specific.
Pure-play BI vendors such as Hyperion have developed performance management capabilities to differentiate themselves from the business suite vendors that offer basic BI capabilities. Even though larger vendors such as SAP have not yet reached the same level of sophistication in process-oriented capabilities (such as CPM applications) as that of pure-play and best-of-breed BI vendors, they have a strategic advantage: They can deliver analytics functionality embedded within their widely used enterprise applications, such as statistical analysis in CRM, financial planning in ERP, and business planning and simulation in NetWeaver BI.

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Offering BI and CPM functionality integrated into applications at the business-process level makes BI more pervasive, reaching more users throughout the organization and hastening user acceptance and adoption as BI becomes more relevant to users’ roles. According to a report by TDWI, *Enterprise Business Intelligence: Strategies and Technologies for Deploying BI on an Enterprise Scale*, the top challenge for BI-tool standardization efforts is individual resistance to change (Eckerson and Howson, 2005).

SAP intends to offer advanced analytics as an integral part of everyday process workflows, with access to metrics and calculations providing insight on transactional data. This offering will merge BI and CPM into a single platform, in keeping with the standardization, consolidation, and integration trend, which could make best-of-breed applications redundant.

The “pervasiveness” factor favors larger vendors in the long run if advanced process-driven analytics are not immediately required (Chandler, 2007). If, however, it is not feasible to wait for a vendor to improve its offering—either by development or (more likely) by acquiring specialist competitors—then a viable solution would be a single-vendor, pure-play BI platform that fully integrates with the enterprise transactional systems and/or a data warehouse (such as MicroStrategy or Cognos).

**Selection Factor 3: Infrastructure-based Value Proposition**

Many larger companies often depend on an IT infrastructure running many applications that integrate data across the enterprise. Gartner’s research shows that more than half of manufacturing firms have a preference for BI vendors that also offer enterprise applications and infrastructure (such as servers and databases). Larger enterprises are more likely to choose the vendor of their current business applications (Sommer and Graham, 2007).

**Market Trends**

IDC’s competitive analysis found that BI tools remain an attractive market for software vendors. IDC says that database-embedded (as in data warehouses) BI solutions have been gaining market share, growing at almost twice the rate of standalone BI tools (Vesset and McDonough, 2006). This finding further confirms the trend toward standardization, consolidation, and integration.

**Seamless Integration**

Inevitably, as they extend their presence in the BI market, large vendors are acquiring best-of-breed vendors to gain the functionality lacking in their own solutions. The challenge for these large business suite vendors is to seamlessly integrate their standard OLAP and reporting data warehouse applications with the segment-specific tools they purchased.

The resulting architecture-design and platform approach to BI has no unified user interface: users must switch to
separate applications to work with data, request reports, view dashboards or scorecards, or use other BI tools. The problem here is that “all those environments might connect to the same cube, but all have separate metadata and require separate configuration” (Cyr, 2006).

**Connectivity**

Although access to common data using standard interfaces may be an advantage of BI-inclusive enterprise business suites, integration with a transactional systems infrastructure is not an obstacle for best-of-breed or pure-play BI vendors. Most of these vendors’ solutions already support built-in custom interfaces to major enterprise systems from SAP, Oracle, Microsoft, and others, providing at least data-level connectivity using standards such as eXtensible Markup Language (XML) and Web services, open database connectivity (ODBC), and COM-based interfaces (Hall, 2002). Furthermore, best-of-breed analytics tools tend to incorporate Web technologies, a feature that eases implementation.

**Flexibility**

Holtz (2005) argues that best-of-breed applications offer greater flexibility in connecting with best-in-class point solutions such as e-commerce. This could be due to a more technically advanced plug-in architecture of best-of-breed systems. In addition, they are more customizable than business suite applications. In contrast, the emphasis on standardization makes business suite products easier to configure and faster to implement within an enterprise-wide platform, but the depth of integration between modules and business applications may make customization more difficult.

**Measuring Return on Investment**

According to TDWI research, only 9 percent of organizations have performed a return on investment (ROI) assessment of their BI standardization efforts (Eckerson and Howson, 2005). Some general guidelines can be applied to measuring ROI when comparing a single-vendor architecture with a best-of-breed environment. ROI must consider the benefits realized in proportion to the delivery costs over time (that is, the TCO). The ROI assessment should evaluate the expected quantifiable benefits and all the cost categories below, as outlined by Raden (2004):

- **Acquisition costs.** The initial purchase price of individual best-of-breed applications is lower than that of an integrated platform. However, as best-of-breed products are added over time (to address the growing user needs for new functionality), the cost of the overall BI solution increases, but these additional costs may not be accounted for as part of the initial acquisition investment. If these cost calculations are overlooked in the initial ROI assessment, ROI may be unrealistically high for a BI best-of-breed solution.

- **Infrastructure costs.** A best-of-breed solution may incur incremental costs as a result of network or hardware upgrades required to attach each new application to the existing infrastructure. In the case of a BI-only platform solution (e.g., Business Objects or Cognos) interfacing with an integrated business suite (e.g., SAP or Oracle), these incremental costs can be avoided, as most major BI applications already include adapters for most major ERP systems.

In the case of an integrated business suite, it is possible to incur only marginal costs by sharing infrastructure components (such as Web servers, network bandwidth, and storage/disaster recovery facilities) among multiple systems.

- **Implementation and deployment costs.** These costs, including consulting, training, and internal project staff expenses, can be significant for both best-of-breed and single-platform approaches. For best-of-breed solutions, having multiple implementation cycles as new components are added may be a disadvantage. A one-time deployment (for a single-platform solution) would require only release upgrades. In addition, in a single-platform approach, a familiar user interface could expedite training.

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2 COM is a communication component or simply a class used in C/C++ programming language.
Support and lifetime maintenance costs. Expenses for direct training in multiple applications (to ensure a wide set of staff skills for maintaining the greater number of interfaces), plus opportunity costs and reduced benefits from multiple integration cycles (each with an associated learning curve and possible downtime) must be tallied in the best-of-breed scenario. In addition, incompatibilities arising among heterogeneous applications must be resolved; a homogeneous single-platform environment, where components are standard, avoids this problem. Nonetheless, in a business suite, license fees and maintenance are a significant ongoing cost.

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Other factors that can affect ROI include the reliability, performance, and availability (or uptime) of a given application. There are more potential failure points at the interfaces, and more performance tuning may be required between the BI tools and the enterprise systems or data warehouse in a best-of-breed scenario. In a single-platform environment, the enterprise works with a single vendor to resolve issues.

Proper valuation of a BI investment, however, is more complex than the calculation of traditional ROI. Williams and Williams (2003), for example, argue that the assessment of the business value of BI in organizations is a strategic necessity in order to improve results. They recommend a broader analytical view than just ROI, which is undoubtedly an integral component of the overall business value analysis.

As with any asset, the business value of an investment should be measured in economic terms as the net present value of future after-tax cash flows from the investment, rather than on the basis of net profit or savings. However, these cash flows can be difficult to determine and to link directly to the BI investment, especially to less tangible factors such as reliability and performance.

Selection Factor 4: Vendor Stability

Whether small, innovative companies will survive in the long run is the biggest uncertainty surrounding best-of-breed vendors. Those that do survive may still end up being taken over by larger vendors looking for specialized capabilities. Vendor consolidation in the BI industry poses the biggest challenge for customers who have or are considering best-of-breed solutions.

In contrast, the challenge for businesses opting for an integrated single-vendor solution is to avoid losing leverage and negotiating power where they are dependent on that vendor for their entire applications portfolio. As they continue to acquire smaller vendors, large vendors (which are supposed to offer integrated platforms) are themselves offering a portfolio of disparate, best-of-breed products.

The best example of this is the acquisition by Oracle of Hyperion Solutions. The full integration and standardization of the Hyperion CPM products into Oracle’s own BI platform, according to Gartner, “could take several release cycles to complete.” They are currently offered separately and will most likely continue to be offered as separate product lines for some time (Hostmann, Van Decker, and Rayner, 2007).

The biggest issue to a best-of-breed customer is losing continuity of product support if their vendor is acquired. They also risk having their existing product replaced by a new product that does not offer the same functionality (Rao, 2006). Even where a forced product change proves technically satisfactory, there could be pricing changes and both financial and productivity costs associated with migration and retraining of users (Hostmann and...
Schlegel, 2006). However, a best-of-breed customer will always have the leverage of finding alternative suppliers for a given stand-alone application, whereas for a customer of an integrated business suite, the switching costs are much higher (On-Line Consultant Software, 2003).

A viable alternative is to adopt a middle-of-the-road approach and go for one of the larger pure-play BI vendors (such as SAS Institute or MicroStrategy) for a BI-only platform, retaining the enterprise suite for the rest of the application portfolio. This option has the dual benefit of incorporating market-leading specialist BI capabilities while avoiding vendor lock-in.

Still, not even these established BI vendors are exempt from being acquired by even larger vendors such as SAP or Oracle, as evidenced by Oracle’s Hyperion acquisition in the first quarter of 2007 and SAP’s acquisition of Business Objects in the last quarter of 2007. Therefore, clear guidelines should be defined, derived from the company’s IT guiding principles that pertain to software investments.

In any case, the investment choice must be based on a firm business case. Those opting for a best-of-breed option will have to prepare a more detailed and rigorous cost/benefit analysis to quantify, justify, and communicate their selection decision. Ultimately, vendor stability as a selection criterion favors a larger player, but its road map for future consolidation and integration of acquisitions should be a key consideration.

**Conclusion**

Optimization of the parts does not necessarily optimize the whole. Trying to attain the best possible individual architecture components to satisfy each functional requirement may lead to a sub-optimized enterprise architecture. Costs for an integrated business suite are more predictable and controllable than costs for a best-of-breed application portfolio.

For a business with a long tradition of using ERP and other enterprise systems, it makes sense to acquire BI capabilities from the same vendor, considering the convenience of integrating the back-end transactional data with the front-end analytics on a single platform.

Generally, most businesses still prefer to obtain BI from best-of-breed vendors, but there is a clear trend toward standardization and consolidation, enabled by a BICC, which plays a key role in defining the company’s overall BI strategy, standardization efforts, and prioritization of business requirements, as well as driving user adoption.

As they extend their presence in the BI market, large vendors are acquiring best-of-breed vendors to gain the functionality lacking in their own solutions. The challenge for these suite vendors is to seamlessly integrate their standard OLAP and reporting data warehouse applications with the segment-specific tools they purchased.

Best-of-breed vendors are highly skilled and innovative in developing BI functionality. The best of these smaller vendors may ultimately be acquired by larger software vendors, so their competitive stability should be a factor for selection. Large enterprise application vendors offer a promising way forward, integrating BI functionality into business processes to ensure user acceptance and adoption, and to make BI use more strategic and pervasive.

**References**

Burton, Betsy, and Kurt Schlegel [2006]. “BICCs Drive Business Intelligence Platform Standardization,” Gartner Inc.


Sommer, Dan, and Colleen Graham [2007]. “User Survey Analysis: Spending and Sourcing Preferences for Business Intelligence, North America and Europe,” Gartner Inc.
