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FT REPORT - DIGITAL BUSINESS 2007: How to move forward from guesswork to hard facts

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Any board-level executive worthy of the name would like to say they have the true status of their organisation's business performance at their fingertips. Whether they really do will depend largely on the state of the company's business intelligence (BI) systems.

The pressure on managers to make better use of company data - and better understand how their organisations are performing - has put business intelligence technologies at the top of IT spending in the last two years, ahead of security and compliance.

"The CIO has been the custodian of information, and he or she is looking for a layer [of technology] that helps bring data services together and helps provide an information source for the business," says Don Campbell, chief technology officer at BI vendor Cognos.

"The CEO is looking for decisionmaking tools to help guide his company. Companies have made a great investment in collecting the data, but now want to derive value from it."

This shift has made BI the focus of a buying spree by enterprise technology vendors: in March, Oracle paid $3.3bn for BI specialist Hyperion, and this month rival SAP agreed to buy Business Objects, for €4.8bn ($6.8bn).

These deals are significant, and not just because they represent continuing consolidation in the market for large business software systems.

Companies selling enterprise resource planning (ERP) software, such as SAP and Oracle, recognise that boards of directors want more than just the raw data that systems such as ERP produce. They want to be able to analyse that information to support decision-making and to make more accurate forecasts and plans.

Unfortunately, better decision-making demands far more than just plugging in a business intelligence application to the company network.

A large enterprise might well have a dozen or more business intelligence systems, data mining systems, enterprise performance management suites and reporting and analysis tools. This creates a huge burden for the CIO to support, and leaves line-of-business managers unsure of which sources of data to rely on.

As a result, companies are often forced to deploy a further set of tools on top of their existing data warehouse and business management technology, in order to produce a consistent set of reports.

Conventional business intelligence, whether done in a standalone tool or in a spreadsheet such as Microsoft Excel, is based mostly on analysing past data. This information is typically days, weeks or even months old.

But companies increasingly want up to date, or even "real time" business intelligence data. They might want this to enable senior managers to make accurate decisions more quickly, but it is just as likely to be driven by a need to give front-line staff better tools to make choices when they are in front of the customer.

"The trend in the past 18 months has been away from [analysing] data from last year and last week, to data that is hours old," says Royce Bell, CEO of Accenture Information Management Services.

The technology to do this is also improving. One benefit of the deal between SAP and Business Objects, according to SAP chief executive Henning Kagermann, is that Business Objects will be able to use SAP's know-how to allow much faster, "in memory" analytics for customers.

To date, companies needing real time or operational business intelligence have had to turn to smaller, more specialist solutions.

Secure printing and cash management company De La Rue, for example, uses portal based BI software from QlikView to enable its customers to monitor the performance of banknote sorting machines in their cash centres in real time.

According to Jon Ryley, responsible for the project, maintenance costs on the sorting machines - which cost between £400,000 and £1m each - has halved, and in-service uptime has improved considerably. The data has enabled De La Rue to cut its operational costs, and its customers can make better use of their expensive equipment.

The challenge for companies is to take such specific applications and tie them together across the business, both to reduce costs but also to improve the consistency of the information they deliver.

"Real-time business intelligence is theoretically possible but is so expensive that few people want to do it," says Andreas Bitterer, research vice-president at Gartner.

"But the move towards real-time technologies is reducing latency [in BI], which is helping companies to use BI with operational data. They are moving from gathering data weekly or hourly to every five minutes, so you can base business decisions on more or less real-time events."

For some companies, the analysis and reporting capabilities included in ERP or CRM (customer relationship management) will be sufficient. Both Oracle and SAP's recent acquisitions have significantly added to their BI functions, and other vendors, including Microsoft, have also worked to improve BI within their applications.

Cosalt, a supplier of maritime safety equipment, is using the business intelligence functions in its ERP system - from vendor IFS - to track sales performance, especially from smaller orders.

"The system has improved what we call our bread and butter sales. We are targeting orders under £10,000, because we had focused on big orders, but 70 per cent of our business is from smaller deals and tracking them has made a big improvement year on year," says managing director Winston Phillips.

The challenge for businesses, as they grow, is to tie such systems together to create an "enterprise" view of business intelligence. Companies also need to take on board emerging capabilities - such as enterprise performance management - and the pressure from a new generation of knowledge workers to have BI analytics tools on their desktops.

Rather than rely on specialist analysts to compile reports for the CFO once a quarter, more firms want to use the latest BI systems to support decision-making from shop floor or call centre to boardroom.

A large data warehouse with the latest data mining and analytics tools is the tidiest solution, but it inevitably means a hefty investment in both cash and development time. None the less, companies in sectors as diverse as retail and energy have made such investments, and seen significant financial returns. But the warehouses have to be well engineered to fulfil this task.

"It is still a challenge for most organisations to create a BI system to optimise their enterprise performance, and do so in a timely manner," says Eddie Short, vice president and global leader of business information management at Capgemini. "Traditional BI involves building huge data warehouses, and that brings with it a lot of latency."

For smaller companies, and those that cannot justify a state of the art data warehouse, the hope is that specific business intelligence projects, or investing in a centralised BI system that draws data from the underlying business applications, will bring most of the benefits. But the benefits will not come without both effort and investment.

"Most organisations have data all over the place, in many different systems, in applications and databases," says Gartner's Andreas Bitterer. "Those cases require a lot of data integration, metadata, and data quality efforts to yield good

BI results, as most sources differ in the way they store, define, provide common data."

To be successful, it will also require a cultural change. Good business intelligence means greater transparency, with staff sharing the data behind their decisions, both up and down the management chain.

It also means using what Accenture terms "bounded decision-making". The point is neither to put every employee on the board, nor to let the board try to run the factories, just because they have access to the data.

"Start with measurable key performance indicators," advises Oracle's Paul Rodwick. "Then use BI to help individuals make factual, not gut decisions.

"If you have anarchy, it's because people don't have the right facts or don't understand how decisions might affect the company. So they need to understand the key performance indicators, before they can do their own analysis."