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## The Final Frontier of Business Advantage

By Alan Cane

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Business intelligence, information intelligence, business analytics: whatever you call it, all the evidence is that ways of turning a company's raw data into information that can be used to improve performance and achieve competitive advantage is the *topic du jour* in many business leaders' minds.

A survey carried out this year by the US-based consultancy Forrester Research revealed that of more than 1,000 IT decision makers canvassed in North America and Europe, more than two thirds were considering, piloting, implementing or expanding business intelligence (BI) systems.

"Even in these tough economic times, virtually nobody in our surveys says they are retrenching or reducing their business intelligence initiatives," says Boris Evelson, a principal analyst for Forrester with more than 30 years experience of BI implementation behind him.

What is BI management? It is not about the technical nitty gritty of data warehousing or cleansing technology. While technologies are important – and most are good and effective, according to Mr Evelson – BI management is about ways of systematically making the most of customer information– what it is and what you can do with it.

More prosaically, it is everything that has to be done to raw data before they can be manipulated to facilitate better decision making.

Dashboard that can give a warning light on overspending

Law firm Clifford Chance has found itself learning about habits it never knew it had since analysing its spending trends through an online service provided by Rosslyn Analytics, a boutique software company based in London, writes Dan Ilett.

"It's very flexible," says Julien Cranwell, Clifford Chance's procurement manager. "You can look at your data to reduce spending. We've identified opportunities that we wouldn't have otherwise seen. It's made us feel a lot more confident of the data we've been using."

The company, which has 29 offices in 20 countries, used a web-based tool called [rapidintel.com](http://rapidintel.com). The service works like a dashboard with charts and graphs to give an overview of where money has been spent.

“It aggregates and shares information,” says Charles Clark, chief executive of Rosslyn Analytics. “We extract the data in a few hours and categorise them so they go into certain buckets. We then add other data such as credit card or risk information.

“It’s presented as a ready-to-use report. The data cube never changes but they can see it from so many different angles. It’s one view of all company-wide finance, procurement, accounts payable and spend data.”

“Some of the larger areas of spending have been travel, catering and entertainment,” says Mr Cranwell. “It shows where we have varying levels of spending between offices. We are then in a position of power because we know much more about our spending patterns.

“We’ve also looked at a cost recovery programme. Using Rosslyn’s expertise we’re using a module that works on contract management.”

The firm claims to have seen a return on investment of 100 per cent within two months. “The payback period was very fast indeed,” says Mr Cranwell.

It is also about understanding the business and its processes well enough to know what questions should be asked of the data to improve performance.

The basic idea was pioneered more than a decade ago by the US computer manufacturer Teradata, which combined supercomputer performance with sophisticated software to scan and detect trends and patterns in huge volumes of data.

But it was expensive and ahead of its time. Today, high-performance, low-cost computer systems and cheap memory mean that enterprises can and are collecting and storing data in unprecedented amounts.

However, they are struggling to make sense of what they have.

In Mr Evelson’s words: “We have to find the data, we have to extract it, we have to integrate it, we have to map apples to oranges, we have to clean it up, we have to aggregate it, we have to model it and we have to store it in something like a data warehouse.

“We have to understand what kind of metrics we want to track – times, customers, regions and then, and only then, can we start reporting.”

Everybody agrees there is nothing simple about these operations. “It is a very complex endeavour,” says Mr Evelson, “and that is why this market is very immature.”

The business opportunity for BI software has not been lost on IT companies and there has already been significant consolidation in the market, with IBM acquiring, among others, Cognos; SAP buying Business Objects; and Oracle purchasing Hyperion to add BI strings to their respective bows.

Microsoft offers BI software called SharePoint Server and there is considerable interest in open source BI software from younger companies such as Pentaho and JasperSoft.

IBM alone reckons to have spent \$12bn and trained 4,000 consultants over the past few years to develop the tools and knowledge which will encourage intelligence management in its customers.

Ambuj Goyal, who leads the company's information management initiative, argues that it is a new approach that will "turn the world a little bit upside down".

"Business efficiency over the past 20 years was all about automating a process – enterprise resource planning [ERP] for example. It generated huge efficiencies for businesses but is no longer a [competitive] differentiator.

"In the past two or three years we have started to look at information as a strategic capital asset for the organisation. This will generate 20, 30 or 40 per cent improvements in the way we run businesses as opposed to the 3 or 5 per cent improvements we achieved before."

But revolutions are rarely pain-free. According to the Forrester survey: "For many large enterprises, BI remains and will continue to be the 'last frontier' of competitive differentiation.

"Unfortunately, as the demand for pervasive and comprehensive BI applications continues to increase, the complexity, cost and effort of large-enterprise BI implementations increases as well.

"As a result, the great examples of successful implementations among Forrester's clients are outnumbered by the volume of underperforming BI environments."

In fact, more than two thirds of users questioned said they found BI applications hard or very hard to learn, navigate and use.

The business case for BI management is not helped by the difficulty of making a strong case for return on investment.

It is, for example, hard to decide which tools and processes should be included in the assessment – Microsoft's SharePoint is much more than a BI tool, for example, but separating out which strands are contributing to improved revenues and which are not is a challenge.

As Mr Evelson notes: "The grey boundary lines around which process and tools to include, the multiple BI components that typically need to be customised and integrated, and the frequent unpredictability of BI system integration efforts all make BI business cases an effort not for the faint of heart."

How, then, should executives think about business intelligence management? Royce Bell, information management specialist with the consultancy Accenture takes a robustly pragmatic view: “Business is made up of processes. Some of them may interact with the outside world, but there is a definite chain of events.

“All that business intelligence is supposed to inform, is any decision along that chain of events. The question an executive should be asking is: ‘At this point in the chain, what information do I need?’.

“Going through each and every one of your processes to be able to ask that question is hard. People are disappointed because they haven’t been able to get wisdom simply by piling all the data in one place.

“That [data warehousing and mining] sounds more exciting and more fun than going through your processes to determine what you need.”

Mr Bell believes that many executives are suspicious of the quality of the information provided by BI software: they think the data are “rubbish”, and there is no doubt that transforming data into intelligence requires clean data.

Roger Llewellyn is chief executive of the UK software group Kognitio, which has responsibility for analysing, among other things, telephone calls made by customers of British Telecom and store purchases that use the Nectar loyalty card of supermarket chain, J Sainsbury.

He says that up to 80 per cent of the price of a new contract can be the cost of cleaning the data – converting, in one case, 15 data types to a single standard.

The Sainsbury contract involves the analysis of the 20bn items purchased in the chain’s stores every nine months – enough, if typed on paper, to make an in-tray pile almost 17kms high.

How can this huge volume of bits and bytes be turned into useful information?

Mr Llewellyn gives the example of skin creams sold to counter stretch marks. Generally bought predominantly by women, if particular stores show high sales volumes, there are likely to be a lot of pregnancies in those areas – an alert for the store manager to stock up on maternity magazines, baby food and clothing.

And if most of the clothing bought is blue, there will be a lot of baby boys in the region: “From buying a jar of stretch cream, I’ve almost got you for life,” Mr Llewellyn beams.

James McGeever, chief financial officer of the US company NetSuite, which markets BI management software, underlines the importance of clean, unambiguous data in breaking down “silos” – data stored in different places and formats within an organisation: “I believe that if the same piece of data exists in two places then one will be wrong.”

The NetSuite answer for its customers is to convert all the data to one consistent type and store it in one repository: “The physical process of loading the data is not as tough as it may sound. It’s actually deciding what data to store there and how to organise your workflows that is the difficult part.”

NetSuite provides executives with tailored “dashboards”, a visual representation of the information important to their jobs.

A well-designed dashboard providing the right amount of pertinent information is a crucial part of BI according to Peter Lumley and Stephen Black of PA Consulting.

They point out that it is often forgotten that managers have limited time to absorb and act on information which, in any case, may be imperfect – if it was perfect, decision making would be no chore at all. A well-designed dashboard can help managers make the best possible decision from incomplete information.

The information, of course, has to be trusted and that is where technology can play an important part – in the automatic roll-up of data to a central repository: “Every time you go through a stage with manual intervention you have the opportunity for time delay and misinterpretation,” Mr Lumley argues.

And these mis-steps are precisely what business intelligence management hopes to avoid.