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## **Displaying the Intelligence: Search Goes on for a ‘Single View of the Truth’**

By Ross Tieman

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The idea that you can keep tabs on how an organisation is performing from a desktop display while also focusing on its strategic direction is hugely appealing.

Every day, many of us do precisely this in a car: the dashboard monitors its systems and speed, while helping the driver safely negotiate the obstacles of a journey. Could similar displays not help in running a company, a sales department, or a group of hospitals?

In theory, they can.

Most industrial processes today are run by mouse-clicks – from nuclear power stations to cloth-cutting machines. Corporate systems store every digit of data created, whether by the sales staff logging their calls, the accounts clerks issuing invoices, the machines doing the manufacturing or the purchasing manager placing orders for materials.

Yet these glorious, information-rich data are so often compartmentalised in fragmented systems, each designed to serve a particular business or organisational function. Bolting them together to turn data into information about corporate or organisational performance can be an IT chief’s nightmare.

It might seem as though a few wires and some simple software could enable data to flow seamlessly between systems, enabling the chief executive to see the basics, such as sales, deliveries, and how much cash the business is using, when they log-on in the morning.

Yet Bill Fuessler, IBM Global Financial Management Lead for business consulting, says this can prove stunningly difficult. “One of the biggest issues is getting commonality of data definition,” he says. “And that problem will last for several years more.”

Standards, and even digital definitions of commonplace business words, may differ in the sales department from those used in marketing, or finance. Combine the data sets, and the “information” simply doesn’t add up. What chief executive would drive a car whose dashboard said it might – or might not – be overheating?

Software companies, however, understand the issues and are working hard on how to extract information from data and reach what Richard Neale, marketing director of SAP BusinessObjects, calls “a single view of the truth”.

For mid-sized companies unencumbered by a long tail of legacy systems and data, or those willing to start again at square one, there are software-as-a-service specialists, such as NetSuite, capable of providing a state-of-the-art system containing every byte of corporate data, fully integrated, on a common set of definitions, accessible at will.

But abstracting information for a corporate, not-for-profit, or even public sector dashboard display is also attainable.

First, you have to discover who wants, or needs, to know what.

In a car there is a speedometer and a fuel gauge, possibly with information on fuel consumption, or distance until you next need to fill the tank. But most of the other dashboard data are displayed only if needed, as an alert – such as when the cooling system fails or a seat-belt is unbuckled.

Business intelligence displays need to follow the same precepts. They have to provide appropriate “mission critical” information for all; to enable users to call up information relevant to their role or task; and to provide appropriate alerts when things go wrong. There is no one-size-fits-all system.

In a car, every driver is engaged in a similar task, but in a company, some users – typically the chief executive or finance chief – need access to a broad range of information, while a departmental head might be interested in particular sub-sets of data. Almost everybody also needs alerts relating to their own areas of responsibility.

That information, as distinct from data, may have to reach them wherever they are. Mr Neale, at SAP, says that increasingly, dashboards are being delivered not just on desktops, but on mobile devices, including smartphones.

The latest generation of SAP BusinessObjects software enables users to have “widgets” on their desktops that highlight particular features of organisational performance.

It can also deliver a sophisticated alert to a smartphone, as a graphic display that enables the user to “mine” the information, calling up detail to establish the nature and cause of the problem to which they are being alerted. An alert could relate to inventory levels, risk, cash balances or even a cost or time over-run on a project.

That list highlights the importance of delivering relevant information to the responsible individual. To be valuable, it has to contain signals that the recipient may need to act upon. The IT boss may need to know if the system is likely to crash, but it’s the finance director who cares about the cash balances, while the IT department overrunning its budget may matter to both.

The desktop remains the presentation location of choice because the size of its display permits a lot of information to be shown.

Historically, many organisations have relied on Excel spreadsheets or Microsoft Office tools to present business information to users.

Today, using modern software, the information can be displayed in the form of gauges, pie-charts, graphs, thermometers, heat-maps – just about any format the user prefers.

What business intelligence data add is the ability to explore the information easily with mouse clicks to discover what happened, where, and why.

A typical NetSuite display is presented on a series of tabs, with pages that might include a meter, top selling items as a bar chart, key performance indicators that provide pop-up graphs, and comparative sales as a chart with variable time-spans. If you have reliable real-time data, you can sort and display it any way you like.

As IBM's Mr Fuessler says, if a retail company's sales fall, it is handy to be able to uncover quickly that it happened because of a holiday in Boston that closed three stores, for example, and is not the start of an alarming trend. Inadequate information can lead to false conclusions.

Nigel Rayner, research vice-president at Gartner, says: "When you get the dashboard in, that is when you start to get awkward questions. The chief executive can see revenue is going down, or up, but doesn't know why. Dashboards are always about reporting. They don't help you make decisions."

By definition, dashboards only present current or historic data. But decision-makers want to be able to predict the future. People running large companies, public-sector organisations and even not-for-profits want the IT equivalent of the forward-looking radar that some car-makers have trialled.

As Mr Rayner says: "You need more performance management applications to help people model options." This is where a lot of corporate IT investment is now going, he says.

But if you are going to start making decisions about business strategy based upon conclusions drawn from computer software you need clean data, and answers to current questions, rather than whatever the system was set up to measure five years ago.

"Most organisations have far too many metrics, without being able to plot cause and effect relationships," Mr Rayner says. "These are pure business problems, and more technology is not the answer."

So departmental bosses have to sit down together and agree the questions they want answered, and what they want to measure to get them.

To move from mere dashboards to directing the course of an organisation by drawing on all the information squirreled within its systems, Mr Rayner elaborates a four-stage process. Start by monitoring performance, set up an enterprise metric framework, and add analytic and modelling capabilities with performance management applications. Only then, he says, can you go develop a pattern-based business strategy.