a prototype expected to be released generally in November, 2004.

**Key learning points**
The obvious learning from this project is the need to make a mass of confused data less confusing — to extract simple patterns quickly and effectively. However, this project went beyond this first stage to add two further benefits: easy to interpret visual displays; and full-scale and easy integration with other tools used by analysts. Many companies quickly realise the first benefit when implementing new analytical tools. However, a significant sub-set fail at the next hurdle, failing to make information either intelligible or distributable.

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**CASE STUDY II: SOUTH TYNESIDE HEALTHCARE NHS TRUST/COGNOS**

**Introduction**
Healthcare is one of the few areas where if vital information slips through the net, it can literally be a case of life or death. Over the past few years, performance management has become a key issue for the National Health Service (NHS). More so than ever before, the NHS is open to public scrutiny and each individual healthcare trust must justify its results. As part of this initiative, the British government introduced the idea of foundation hospitals as part of a ‘payment by results’ scheme. The best performing trusts receive a three-star status and can then aspire to achieve foundation hospital status and greater autonomy.

With each trust responsible for its own management, South Tyneside Healthcare NHS Trust decided to invest in business intelligence (BI) tools to provide a clearer view of its performance and to help with the complex amounts of data that it gathers and holds. After implementing a real-time analysis of key patient data, South Tyneside Healthcare NHS Trust can now obtain a comprehensive overview of performance of its crucial departments. Trust managers receive an instant warning message on their desktops if departments are under-performing and can contact hospital consultants to take immediate action.

**The organisation**
South Tyneside Healthcare NHS Trust employs 2,500 staff across five sites. All of these people need access to patient and healthcare information in order to do their jobs. Many still rely on spreadsheets to collate data. This is time consuming and mistakes can easily be made.

**The challenge**
Currently, NHS trusts are expected to produce and justify performance statistics. The South Tyneside Healthcare NHS Trust (the Trust) needed a solution which could instantly produce reports that give a real-time, holistic view of all activity within the hospital, using accurate data to provide useful results. The Trust did not want to use BI as a tool to deliver esoteric statistics on performance and especially wanted to avoid the production of figures just for the sake of it.
The objectives of the project were to ensure that an accurate, real-time view of any activity within the hospital and up-to-date patient records were available and accessible, 24/7. This included critical information, such as all drugs prescribed to patients at the hospital; combining patients’ hospital records with their GP records; and the number of babies born in the hospital.

With an accurate set of performance statistics available, the Trust could then begin to address the problem areas, such as the key performance indicators set out as a measure of success by the government. Previously the Trust relied on spreadsheets to store data, which cannot easily be cross-referenced. Information was locked in operational computer systems, and managers had difficulty in analysing information and acting upon it. The Trust wanted a single, unquestionable method of producing all of the data its management needed in order to ensure the best possible service for all of its patients.

‘Healthcare intelligence is not simply about managing medical records and patient addresses, but also measuring performance quality and reviewing essential business functions. It allows managers and consultants to ensure that each and every patient has accurate records and receives follow-up treatment when necessary.’ (Martin Alexander, Head of Information Services, South Tyneside Healthcare NHS Trust)

The project is part of the Trust’s programme to deliver electronic patient records, in line with NHS strategy. BI helps the Trust manage activity and improve data quality. Better understanding of activity statistics help the Trust in its drive to achieve and maintain a three-star status (best performing hospitals in the UK). In an earlier review, one of the points made by the Commission for Healthcare Improvement, the performance assessor group, was that the Trust did not make the most of clinical information to improve operational efficiency and improve clinical care.

**The solution**

The information services (IS) department conducted a thorough review of all BI products on the market and selected Cognos PowerPlay for analysis and Cognos Impromptu for managed reporting. One of the key features the IS team looked for was strong web capability; Cognos was able to provide impressive features within PowerPlay Web and Impromptu Web Reports. These web features, together with compatibility with the Trust’s existing Oracle database applications, made Cognos the perfect choice not only to access the huge range of information locked within the system, but also to drill down and analyse specific data.

Cognos software is a major benefit to management of data quality by providing access to data which is usually locked in complex systems. The Trust has over 1,000 desktops and every single one has access to Cognos software through the Trust website. This allows managers and, potentially, consultants to have an instant, accurate view of exactly what is going on anywhere in the hospital.

‘The amount of data held by healthcare institutions is vast and complex. Previously, we had to rely on spreadsheets and printed reports to collate the information, a process which was time-consuming and had a huge margin for human error, given all of the manual inputting involved. Our implementation partner Bidetime recommended a Cognos solution that allows all of the data to be compiled automatically, reducing reporting time from days to minutes.’ (Martin Alexander, Head of Information Services, South Tyneside Healthcare NHS Trust)
Martin Alexander confirms that the solution ‘is so simple to use yet very powerful — developing an electronic health record requires good quality data; visualisation of data is key to good quality management’.

The use of Cognos’ technology allows managers throughout the Trust to monitor which departments fall short of their targets and which need more staff on hand at certain times of day. Departments use Cognos Cubes to manage their services better. The measurement parameters involved with a field as complex as healthcare can be simplified so that they are clearly understood by management.

‘It is this breadth of access to management information, and the resulting ability to change information into knowledge that supports the decision-making process, that is so impressive. Cognos Metrics Manager gives us the corporate view of our operations, while PowerPlay and Impromptu provide direct drill through to operational data that managers need to deliver effective services.’ (Mike Robson, Executive Director of Corporate Governance, South Tyneside Healthcare NHS Trust)

The advanced patient record system is playing an integral part in the Trust’s strategy to improve performance and prepare for foundation status. The Trust regained its three-star status this year. Although this cannot be fully attributed to the use of Cognos software, the business benefits provided by Cognos Metrics Manager did have a significant impact on the three-star ranking. More importantly, the better management practices, enabled by the use of this software, have had a direct impact on patient care. The Trust is one of the few in the UK to have a surgery waiting list of under nine months — many others are still aiming for 12. Cognos Metrics Manager helps the Trust to monitor key

The benefits
Where data inputting and cross-referencing had once been a time-consuming and admin-intensive process, managers now have instant access to current performance statistics and can produce reports in minutes, rather than days. This has radically improved the way the Trust’s managers and staff work, making their working day far more productive and effective.
targets using operational data and to manage its services in a more effective way.

‘Through better management we can improve services to our clients, which is the most important priority for the Trust.

‘You can have the best operational system in the world, but if you can’t get access to your information, how can you be sure it is being used correctly? We chose Cognos because of its excellent Web functionality and its simple end-user interface. With minimal training, our managers have access to a huge mine of operational data. For us, business intelligence is about providing better services and being more efficient. Central to this project’s success has been our close relationship with Bidetime who helped us tailor the software to address our specific requirements.’ (Martin Alexander, Head of IS, South Tyneside Healthcare NHS Trust)

The future
The Trust, in conjunction with Bidetime, is now trying to create NHS Cognos user groups, to enable them to share their information centrally, rather than just on a local basis.

Key learning points
Points to emerge from this project are similar to those that emerge from the Deutsche Bank exercise. Even though we are now, arguably, some 15 to 20 years past the onset of the information revolution, many organisations are still attempting to manage increasingly complex businesses and services using systems that tend to keep vital data and information in separate silos, rather than easily and centrally available to all users. In the worst cases, bits of data that ought to be linked are held in different formats by different people on incompatible software — so whenever any cross-over between the data sets is sought, it becomes a major and costly exercise to carry out.

There is, therefore, a growing trend towards the sort of ‘sweeping up’ exercise detailed here, which must, if it is to be successful, be about far more than feeding all the data into one system. Underpinning success is process, system and discipline, ensuring that managers begin to appreciate the importance of data; understand that it needs to be recorded consistently; and see data-related tasks as part of their day-to-day activity, rather than an added chore — like filing — to be done when there is nothing more important to do.

On the plus side, this initiative demonstrates many technical features one would look for: a central web-enabled database with good reporting capabilities and an ability to interface to other packages. Against this are two caveats. First, the case study is written very much from the technological side. Inevitable, perhaps, given that this is likely to have been the place where most was spent. But also, perhaps, an amber flag for the future; however good the technology, without equal emphasis on and investment in the underlying systems and processes, there is a very real chance of long-term failure.

Secondly — an issue on which the project managers need to provide their own separate justification — is a niggling concern that too many eggs are being placed in one basket. By pulling so much information together, the organisation seems to be crossing information that is literally ‘life and death’, with the more mundane — car parking statistics for the hospital car park, possibly. There is a lot to be said for single information views, but the golden rule is that any such system must work at the rate of the most critical information required in the system. Again, without a closer view of the systems architecture, no further
comment is possible. But a common mistake in marketing systems is to set specifications either too high (everything is able to be produced now) or too low (vital information can only be produced intermittently).

In this case, the consequence of some information being even seconds too late could be catastrophic — and so this is a high system risk.

CASE STUDY III: INTERBREW’S CUSTOMER SERVICE REPORTING SYSTEM (CSRS)

Introduction
Implementing new applications is not just about the bottom line. Interbrew UK wanted to improve the work–life balance of its field staff and to move customer service to one view of the customer. This case study demonstrates the impact that implementation of a customer service reporting system (CSRS) has had on Interbrew UK’s field staff, customers and management.

The organisation
Although you may not know Interbrew by name, you’re probably among the millions of people who regularly enjoy sipping one of their products at your local pub or at home. Interbrew’s origins date back to 1366 and it is one of the world’s largest brewers. Based in Brussels, Interbrew runs operations in 21 countries, across the Americas, Europe and Asia-Pacific. Interbrew UK markets some of Britain’s favourite brands including Stella Artois, Boddingtons and Hoegaarden and has thousands of retail outlets.

The challenge
Ensuring that its end customers — the people drinking in the pub — get quality beer and good customer service is vital to the way Interbrew UK’s brands are experienced. Accurate, up-to-date information gathered at retail outlets is the key to continuous quality and success. The system used to acquire this information, and the processes involved, needed to be streamlined.

A further important consideration was the work–life balance for Interbrew UK Beer quality teams who had the task of collecting and collating the mass of information gathered during customer visits.

The system as it existed before CSRS was cumbersome, time consuming, vulnerable to human error and labour intensive. It often took weeks to generate national reports, which, by then, were out of date.

Field executives, from the Beer Quality Team (BQT) visit customers at retail outlets. They used to receive the list of who they had to visit on an MS Excel spreadsheet. At the retail outlets the BQT executives gathered information, often hand-written notes, which was compiled in Lotus Approach spreadsheets and sent to the regional teams to be transferred to a Lotus Approach database. Each region processed the spreadsheets in their Approach database and then exported the data into an MS Access database before the data was again converted into Lotus 123 spreadsheets for distribution to interested parties, and national and regional management.

Interbrew UK was by no means the only company working this way. It