

# SEEING THE WOOD FOR THE TREES

*How well do data warehousing and BI systems allow companies to gather and sift their data? Our new research finds out, as Cliff Mills reports.*

Companies are awash with data on their customers, suppliers and business activities. This represents a valuable commodity that needs to be used to influence the organisation’s decision-making processes and ultimately improve its whole business performance.

It’s probably true to say that those organisations who manage their data more effectively, who produce useful insight into their business, will be more successful in the long term and be the survivors as we negotiate this difficult economic period. In short, the more you understand the mechanics of your business, the better able you are to steer it in the right direction.

Organisations have appreciated this, some more than others, and have used data warehouses and business intelligence (BI) applications to try and convert organisational data from their myriad sources into meaningful information. However, there have been many false starts and some failures in this process and it has taken several iterations of systems before companies have started to reap real benefits.

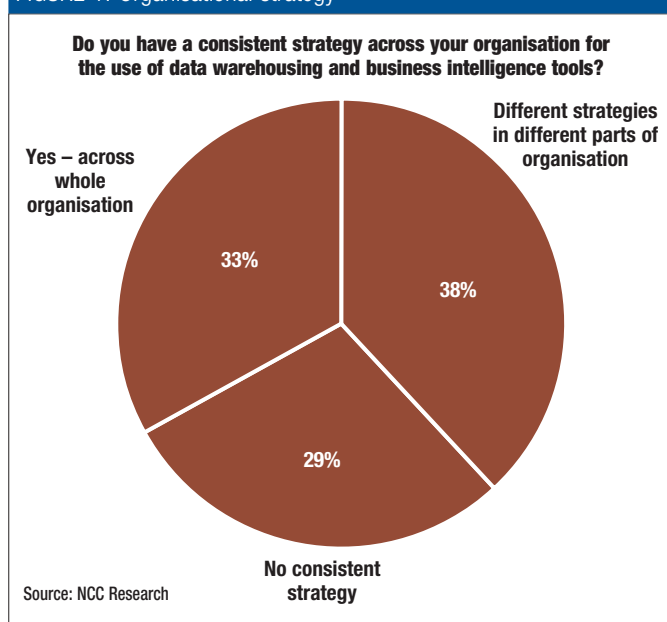
The use of data warehousing and BI tools has developed in different ways in organisations for a variety of reasons including the size of the company and the focus given to the technology.

The latest *Evaluation Centre* survey of this area finds that a third of organisations (33%) have formulated a clear and consistent strategy across the whole company for the use of data warehousing and BI tools (see Figure 1), compared to 38% who have different strategies in different parts of the organisation and 29% who have no consistent strategy at all.

In terms of the penetration of data warehousing and BI across organisations, it is still very much work in progress. Only 13% of companies claim that such technology is in use across the whole organisation, with half saying it is implemented in some parts and 21% saying it is currently in the development and implementation stage. A further 13% identify this as a future area of activity.

But many organisations are well-versed in the use of data warehousing and BI tools, with 17% having used them for between six and 10 years and 28% for between three and five years. On the other hand, 4% have been using them for less than six months, 17% for under one year and 21% for between one and two years.

**FIGURE 1: Organisational strategy**

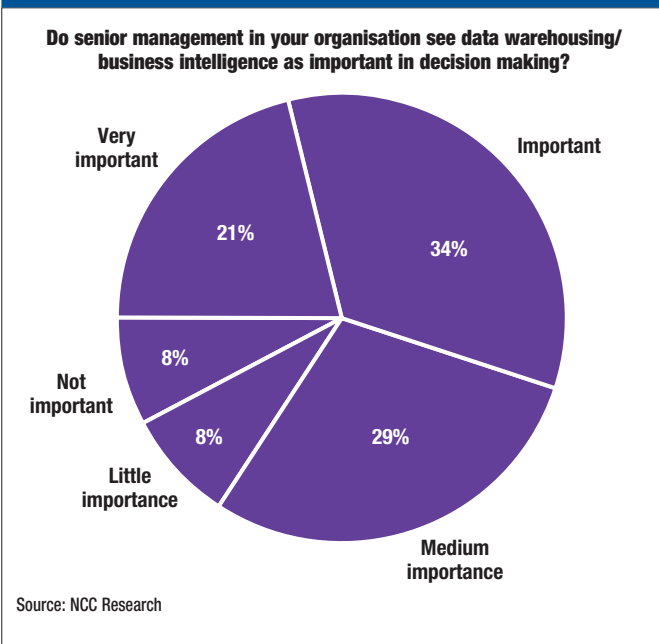


We asked our respondents to identify their reasons for using data warehousing and BI tools, based on a scale of 1 to 5 where one indicates ‘not important’ and 5 ‘very important’. Improving the quality of decision making in the organisation (4.2) is the main reason given, while improving performance measures is also a key objective (4.0).

Enhancing the accuracy and integrity of data across the organisation (4.0) is again seen as important; this can allow increased insight into business trends (3.5) and customer behaviour (3.0). Lower down the scale, improving marketing and sales information (2.5) and providing access to real-time data (2.5) are viewed as less important.

Respondents have mixed views on how well their organisation is meeting its objectives for data warehousing and BI initiatives. Just over a quarter think their company is performing either ‘very well’ (13%) or ‘well’ (13%), while at the other end of the scale 25% see their implementations as

**FIGURE 2: Value of data warehousing/BI**



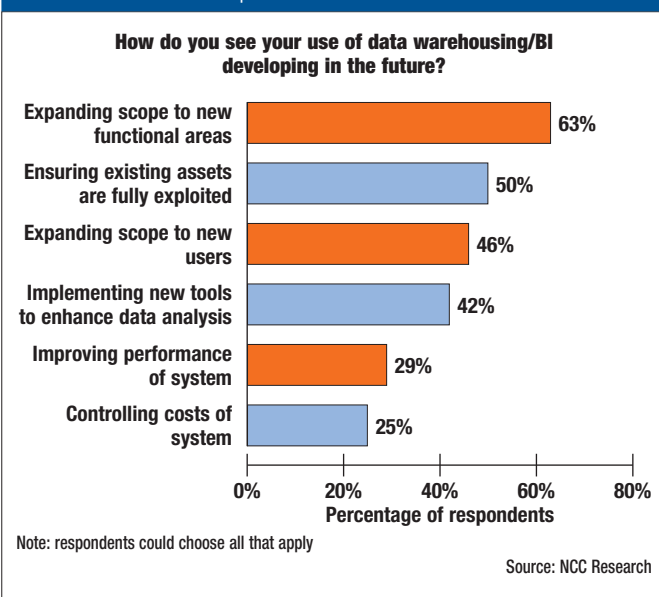
‘poor’ (17%) or ‘very poor’ (8%). The largest number (36%) say they have done ‘moderately well’.

However, data warehousing and BI is gaining credibility with senior management, with the majority viewing it as ‘very important’ (21%) or ‘important’ (34%) to their decision-making process (see Figure 2). This is followed by 29% who feel it is reasonably important; only a few respondents see it as of ‘little importance’ (8%) or ‘no importance’ (8%).

This positive view is reflected in the future development plans for data warehousing and BI tools, with 63% of companies planning to expand the scope of their systems to new functional areas (see Figure 3).

Half the companies (50%) are looking to further exploit their existing assets and 46% will extend the scope of the system to new users. Implementing new tools to enhance the capability for data analysis is an objective for 42%, while improving the performance of the system (29%) and controlling the costs (25%) are also aims for a number of users.

**FIGURE 3: Future developments**



But while organisations are generally seeing real benefits accruing from data warehousing and BI, there are still a number of issues that need to be addressed.

We asked our respondents to identify the key areas they would like to see improved, using the 1-5 scale where 1 indicates ‘not important’ and 5 ‘very important’.

The key limitation mentioned is that the system does not contain all the data required (4.0), and this goes hand-in-hand with not being able to ask all the questions needed to produce more meaningful insight (3.7).

In many companies it is still the case that queries can only be run by specialists (3.6) rather than by the end users who need the results. This ties in with those respondents who complain that the process of asking questions is too slow (3.2) and that reporting execution times are excessive (3.1).

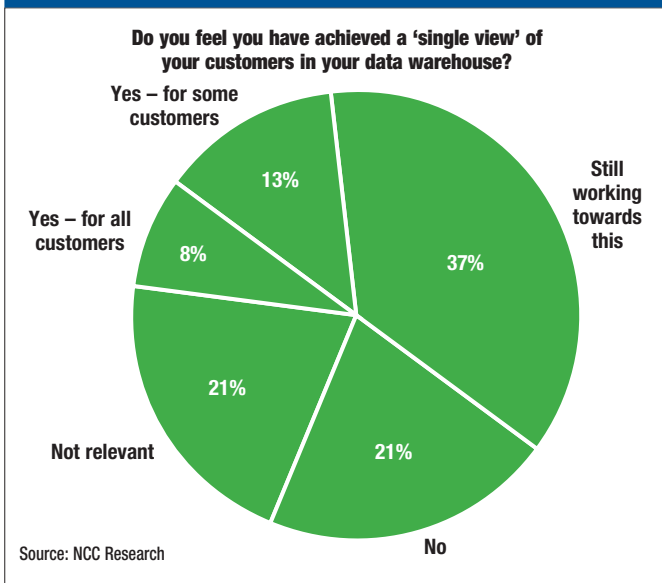
## SURVEY STATISTICS

We interviewed a cross-section of organisations for their views on a range of issues relating to the use of data warehousing and business intelligence applications. The sample included companies from the retail sector (17%), business services (17%), the public sector (13%), manufacturing (13%) and IT & telecoms (8%).

The companies varied in size, with 17% having in excess of £5 billion turnover, 4% in the £1 billion to £5 billion bracket and 13% in the £500 million to £1 billion range.

In the mid-market, 33% have between £100 million and £500 million turnover and 25% £50 million to £100 million. At the smaller end, 8% have a turnover of between £10 million and £50 million.

FIGURE 4: Single view of customer



In many cases they would also like to see real-time reporting (3.0). Some respondents are also concerned that the system is regularly taken offline for updates (2.1).

One of the objectives of data warehousing is to provide a single view of all the interactions between the company and its customers. But to date, only 8% of respondents feel they have achieved this for their entire customer base, while a further 13% say they have for some of their customers (see Figure 4). The largest number (37%) are still working towards this goal, with a further 21% feeling they are still some way from achieving it.

Ideally, the data in the data warehouse should be as up-to-date as possible so that timely information can be produced. Yet only 4% of organisations claim they are running off real-time information, with 25% using data that is updated periodically through the day.

The largest number, 38%, use data from the previous day. Other respondents are having to make do with data from the previous week (13%), the previous month (4%) or older than one month (8%).

In general, organisations are creating and having to store more and more data, and this is reflected in the increasing size of the data warehouses. A quarter of companies (25%) report a 'substantial increase' and 41% an increase in capacity. Only 13% see data volumes remaining the same and no-one envisages them decreasing.

Companies are adopting a range of actions to try and stem this growth in storage. A quarter (25%) say they are being more rigorous about the data they keep, while 21% are using more effective data management technologies and 17% are using more regular archiving.

Improved management controls are also being adopted by 13% and a few companies (4%) are keeping more data offline using tape storage. However, the largest number (42%) freely admit that they are doing little to contain data growth and are just adding more storage capacity.

For a variety of reasons – eg, mergers, re-organisation, etc – a company may have more than one data warehouse or data mart (a data mart being defined as a small data warehouse, which might contain specialist data for one particular application and may or may not be linked to a central data warehouse).

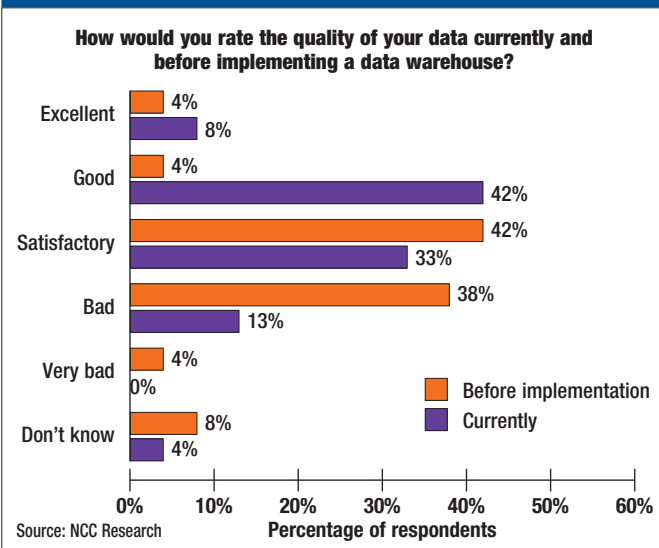
In total, 45% of the organisations fall into the category of having several independent data warehouses and data marts, compared to 17% who have only a single implementation and 13% who have a single data warehouse and several dependent data marts.

The most common reason for having multiple data warehouses is that it is part of a considered organisational strategy (27%). For 22% of companies, it is the by-product of a merger or as a result of implementing products with in-built business intelligence solutions (17%). For 11% it results from the tactical purchasing of products by individual departments.

Implementing data warehousing is forcing organisations to improve the quality of their data as without accurate and reliable data, beneficial results cannot be delivered.

Previously, 38% of respondents considered their data quality to be 'bad' but this has now dropped to just 13% (see Figure 5). Before data warehousing, only 4% considered their data to be 'good' and 42% felt it was 'satisfactory'; this compares with 42% who now think it is good and 33% who see it as satisfactory. The number of companies who feel their data is excellent has doubled from 4% to 8%.

**FIGURE 5: Impact on data quality**



To create a data warehouse, the most popular method is to use off-the-shelf products (46%). This is followed by 25% who have undertaken bespoke development using integrated products from a single vendor, and 13% who have created their system by using 'best of breed' products from multiple vendors. Only a few companies (4%) have developed their own inhouse solution.

To extract and analyse the information stored in a data warehouse, the majority of respondents (57%) use a range of specialist business intelligence tools. A further 17% plan to adopt specific BI tools for analysis but 26% have no immediate plans to do so.

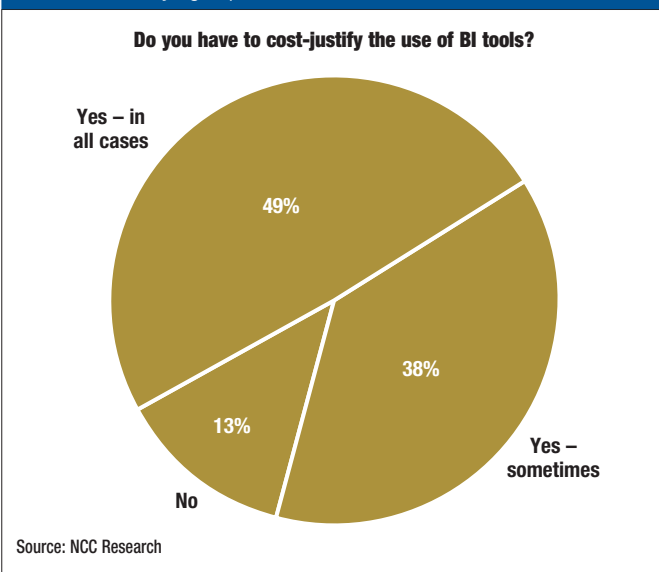
Among those organisations using or planning to use specialist BI tools, just over half (53%) are primarily used by specialist analysts while in 47% of companies they are routinely deployed as part of operational applications and used by non-specialists.

The cost of BI tools can be high and nearly half the organisations (49%) say they have to cost-justify their use in all cases, compared to 38% who only cost-justify them in some cases (see Figure 6). Only 13% of companies do not have to provide any cost justification.

A new type of data warehouse supplier has appeared in recent years offering what has become known as a data warehouse 'appliance' approach. This provides an integrated solution comprising servers, storage, operating system, database and software, specifically pre-installed and optimised for data warehousing.

This approach has found favour with some major companies but only 4% of our respondents have adopted this kind of solution and only 8% would consider using it.

**FIGURE 6: Justifying expenditure**



Some organisations have recognised that in order to make full use of their data, they need to extract business intelligence from their whole complement of applications. To do this, the data held across the company has to be managed in the same standard way. This is known as master data management (MDM).

The uptake of MDM is still in the early stages, with just 4% of companies having adopted it to date and 13% evaluating its potential use. This leaves many companies (33%) with no plans at all and a further 42% who are unfamiliar with MDM.

In conclusion, organisations have longed hoped that their IT systems would allow them to rapidly turn data into useful information and clearly 'see the wood for the trees'.

Many organisations have become very sophisticated in achieving this but there is still a long way to go before it becomes universal.

The quality and consistency of data is still an issue as is the fact that analysis tools remain, in many cases, in the hands of specialists rather than the people who need the information. Until these issues are satisfactorily addressed, the required business insight may prove elusive.

● *Cliff Mills is research manager for Evaluation Centre publisher NCC. If you are interested in this study, please contact Cliff on +44 (0)870 908 8767. Email [cliff.mills@ncc.co.uk](mailto:cliff.mills@ncc.co.uk).*

● *If you would like more information about this article or any of the products or companies mentioned in the article, please contact us at [info@evaluationcentre.com](mailto:info@evaluationcentre.com).*