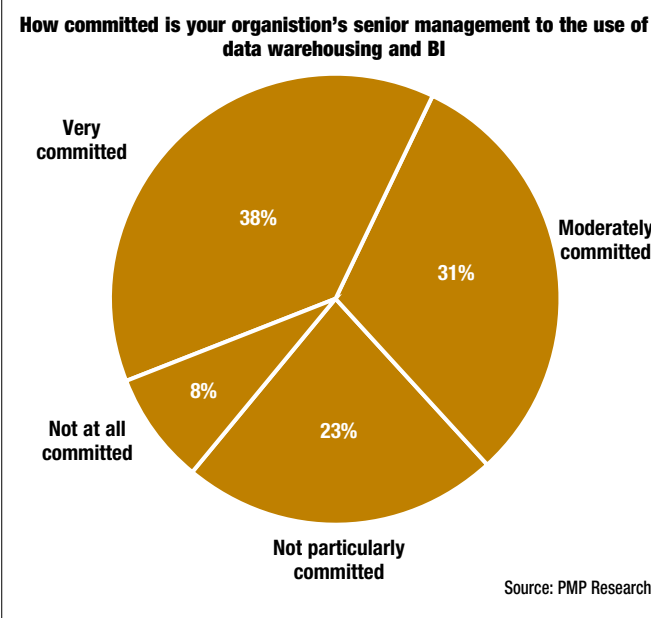


# SCALING THE DATA MOUNTAIN

*Companies are using data warehousing and BI to help them get on top of growing data volumes, reports Pat Sweet.*

Information may well be a company's biggest asset, but it can also prove to be its biggest headache. Collating, storing and analysing ever-growing volumes of data is an immense challenge and often demands more investment in time and money than an organisation can easily afford. But companies are showing strong commitment to technologies – such as data warehousing and business intelligence – which can deliver real benefit in this area.

FIGURE 1: Senior-level buy-in



This year's PMP survey emphasises how central data warehousing now is for most companies. Three-quarters (75%) of those polled are actively involved in a project using this technology, or have recently completed one. A further 17% are currently evaluating their options in this area, leaving only 5% who have yet to think about the possibilities and just 3% who have rejected data warehousing outright.

Similarly, over half (58%) of our sample are already using business intelligence (BI) or corporate performance management (CPM) tools to analyse the data stored in their warehouse. Looking ahead, this trend seems set to grow, with three-quarters planning to adopt this technology. Half (54%) say it is 'very likely' they will be using such tools in the future, with 20% rating this approach as 'moderately likely'. Moreover, a third (38%) of organisations describe their senior management as currently being 'very committed' to the use of data warehousing and BI, with a further 31% indicating that their managers are 'moderately committed' to these technologies (see Figure 1).

Nor is this interest a flash in the pan. Around half (48%) of the sample say there has been no change in the commitment displayed at the top of their organisation this year, suggesting this is a long-standing enthusiasm, while the other half (48%) maintain that commitment levels have actually risen over the last 12 months. As to why organisations are so keen on data warehousing and BI, one respondent sums up their expectations by stating: "We want to provide management information to customers and internal users, all from a single source of truth."

This 'single view' of both customer and company performance has long been held out as the Holy Grail for all good data

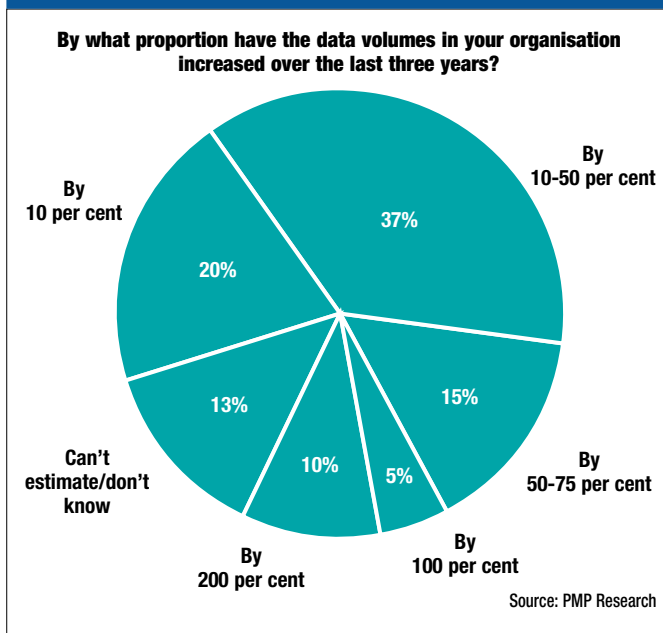
## SURVEY STATISTICS

We spoke to a broad cross-section of organisations, including representatives from the construction industry, leisure & tourism, chemicals & pharmaceuticals and publishing, as well as organisations in the IT, telecoms and engineering sectors.

As well as breadth of company type, we wanted to speak to those with plenty of experience in this area. The financial services sector is renowned for its pioneering work in collecting and analysing customer data, and accounts for 18% of this year's sample. Similarly, manufacturing companies (15%) are advanced users of this technology as they seek to exploit their existing ERP implementations, as are the retail (8%) and public sectors (8%), both of which are looking for ways to manage their substantial information needs.

The companies who took part in our survey range from the smaller end of the spectrum, with 7% reporting a turnover of between £5 million and £10 million, up to the very largest. More than a quarter (28%) have turnovers in the £150 million to £1 billion bracket, while 10% have a turnover of between £1 billion and £5 billion, with 13% topping the £5 billion mark.

FIGURE 2: Volumes of data



warehouse implementations. It comes as something of a shock, therefore, to learn that only one in five (20%) of our respondents claim to have achieved this, while many (45%) admit they are nowhere near doing so.

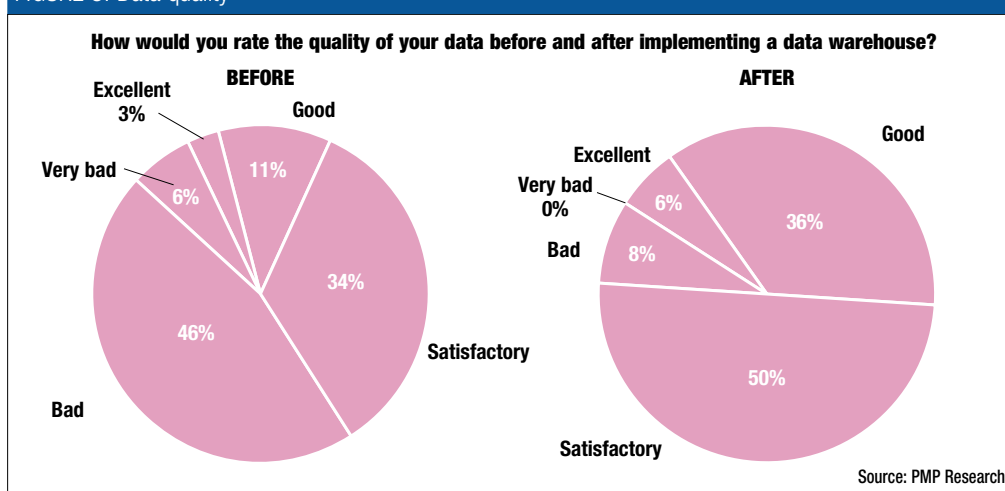
At first glance, this seems like an admission of failure that is all the more surprising given the widespread adoption of the technology and the fact that so many organisations are giving data warehousing and BI projects high-level backing and sponsorship. But looking more closely at the findings, it becomes clear that organisations face many challenges on the road to securing that elusive 'single view', and that there is no one measure which can gauge the success of such initiatives. Our sample includes both data warehousing and BI veterans and those who have only recently embarked on such projects. Most (26%) have been running their current programme for between one and two years, with 15% starting in the past seven to twelve months and 8% working on a data warehouse for less than six months.

However, 15% have had a data warehousing programme in place for three to five years, with 10% involved for between six and ten years and 8% having data warehousing initiatives which are more than a decade old. But no matter how long they have been active in this area, companies all agree on one point – the mountain they have to climb has been getting bigger at an alarming rate. The majority (60%) report that data volumes within their organisation have increased 'substantially' over the past three years, while 35% admit to a 'small increase'.

Asked to estimate just how large those increases have been, the biggest proportion (37%) reckon data volumes have gone up by 10-50% (see Figure 2). That might seem modest, but 15% put the rate of increase at 50-75%, while 5% of the sample report a 100% increase in data and 10% say there has been a 200% rise.

The reasons for this explosion in the amount of data held inside organisations vary. They include the simple fact of more computer systems in use, cited by 47%, along with company growth (67%) and e-business activity (32%). There is no doubt that new compliance rules and regulations (40%) are another significant factor in the growing volumes, as legal requirements to retain information are adding substantially to company archives.

FIGURE 3: Data quality



The fact that there is more data than ever before to compile and control raises another issue which companies have found difficult – namely ensuring that their data is clean, consistent and error-free. As Figure 3 (previous page) shows, almost half (46%) admit that the quality of their data before implementing a data warehouse was ‘bad’ and 6% ‘very bad’.

Putting that right takes time. A third (32%) of our sample estimate it took their organisation more than a year to clean up the data sufficiently to use it in the new warehouse. And while 9% say data cleansing took only a month and 3% spent one to three months on this work, another third (32%) devoted up to six months to the task and 24% took up to a year.

Organisations are most likely to be handling data cleansing themselves, as only 3% of the sample opted for a third-party or outsourced service in this area. Instead, most implement process improvements at source to encourage better data entry (57%) or buy appropriate tools (27%).

However, the findings suggest it is well worth spending as long as it takes on this exercise. After implementing their data warehouse, the majority (50%) describe their data quality as ‘satisfactory’, while none any longer feel it is ‘very bad’ (Figure 3). The proportion who view data quality as ‘bad’ also drops dramatically from 46% to 8% and the proportion of those who now label their data quality as ‘excellent’ doubles from 3% to 6%. Three times as many are also prepared to call their data ‘good’ (36% compared to 11% previously).

In fact, improved data quality is one of the key benefits organisations are seeking through the use of data warehousing – nominated by 42% of our sample. Perhaps to help them achieve this, data warehousing initiatives are becoming more complex and far-reaching. As Figure 4 shows, whilst 55% of the respondents initially implemented data warehousing as a single project and 24% did it on a departmental basis, the swing now is towards an enterprise-wide approach.

Currently only 19% expect to introduce a single-project data warehouse, and that proportion is set to drop to just 3% in the future. For the moment, departmental warehouses are holding their own (22%), but are likely to decline in future implementations (17%).

However, the real change is the proportion of organisations (60%) planning data warehouses which will touch every part of the business rather than being simply the preserve of the finance or sales and marketing departments. That does not mean, though, that every company will have just one data warehouse – over half (59%) admit to currently having a mix of repositories, and for 38% this is part of a considered strategy rather than an unfortunate accident.

This complexity creates problems for managers seeking that elusive ‘single view’. And the situation is not helped by the fact that BI and/or CPM tools are more likely to be used by specialist analysts either on an ad hoc basis (15%) or routinely (30%), rather than as a matter of course by those responsible for day-to-day management (25%).

FIGURE 4: Scale of data warehousing use

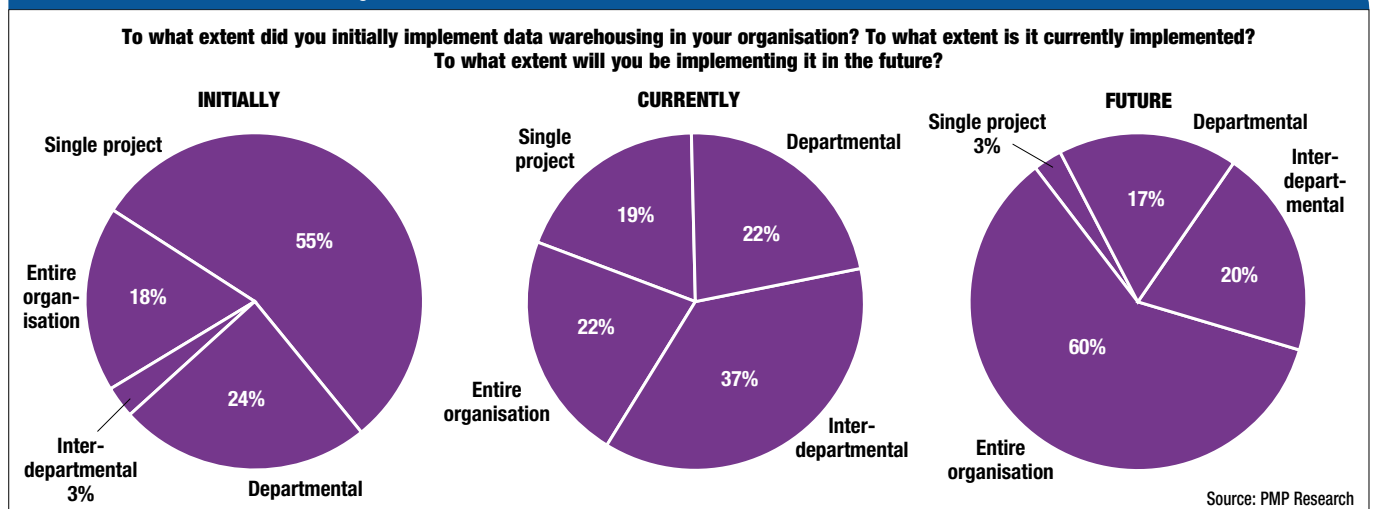
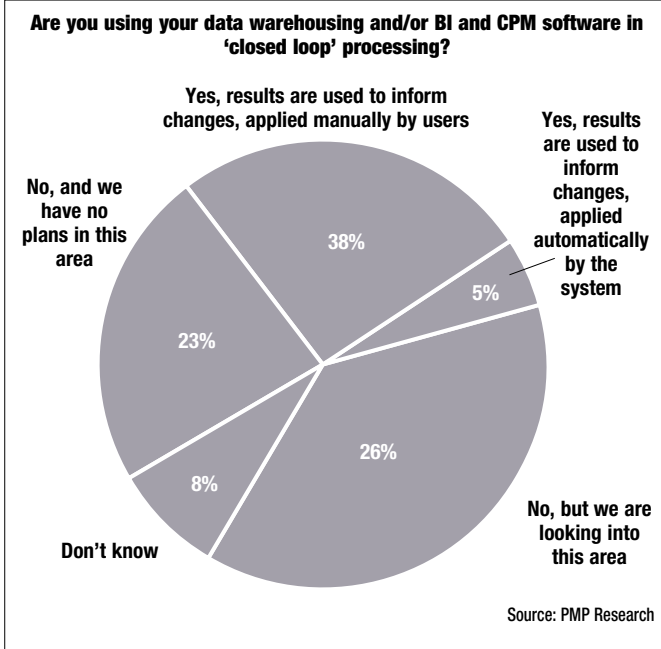


FIGURE 5: Closed loop processing



But there is evidence that companies are striving to address these issues. A third (36%) have already made information more targeted to specific users or job functions, and another third (33%) plan to do so. Such an approach should make it easier for non-specialist managers to interpret key data. However, one in five have no intention of offering more personalised information.

Yet companies are keen to make more seamless use of the data they hold on key indicators, as a growing number are now using data warehouse and BI software in 'closed loop' processing (see Figure 5). This means that the results obtained from analyses are used to inform or apply changes in operational applications, either manually (38%) or automatically by the system itself (5%).

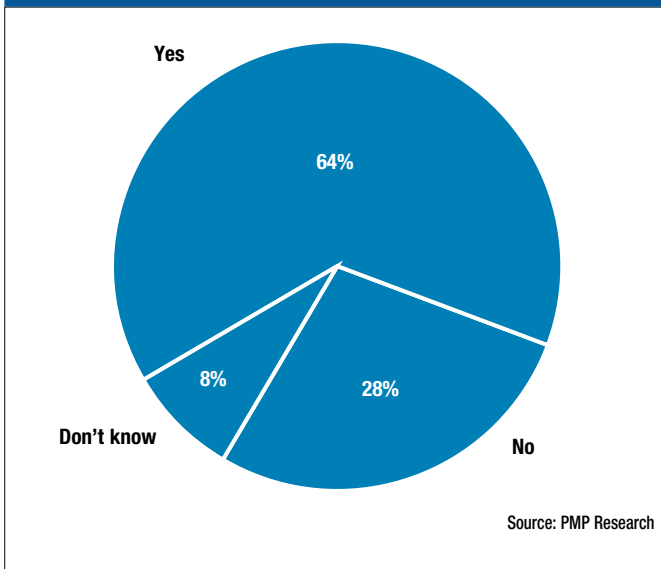
A quarter (26%) of the respondents are considering adopting this approach – which allows organisations, for example, to tweak discounting schedules in response to updated information on changes in demand. Even more ambitiously, 16% of companies are already using BI or CPM applications in real time to analyse data as it comes in, and a third (33%) indicate they may well do this in the future.

For some respondents, such facilities are more important than the much-vaunted 'single view'. As one respondent says: "It's a moot point, in that multiple-purpose views are the bigger picture and requirement."

Certainly, the biggest single slice (47%) of our sample agree that implementing data warehousing and BI has resulted in significant changes to their business, while around two-thirds (64%) feel such applications are now 'business critical' (see Figure 6).

Both findings underline the growing success of such applications. Indeed, 57% now have a business continuity plan specifically for the data warehouse application, although only a third (34%) have invested in 'hot standby' facilities.

FIGURE 6: Is your data warehouse a 'business critical' application?



For the majority, there are fresh challenges in assessing how to protect what is fast becoming a key element of their IT infrastructure, an issue which is taken up in more detail in the article opposite. Failure to do so may result in serious problems for the business, but the fact that this topic needs to be aired is evidence of just how far data warehousing and BI have become central to organisations' operations.

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