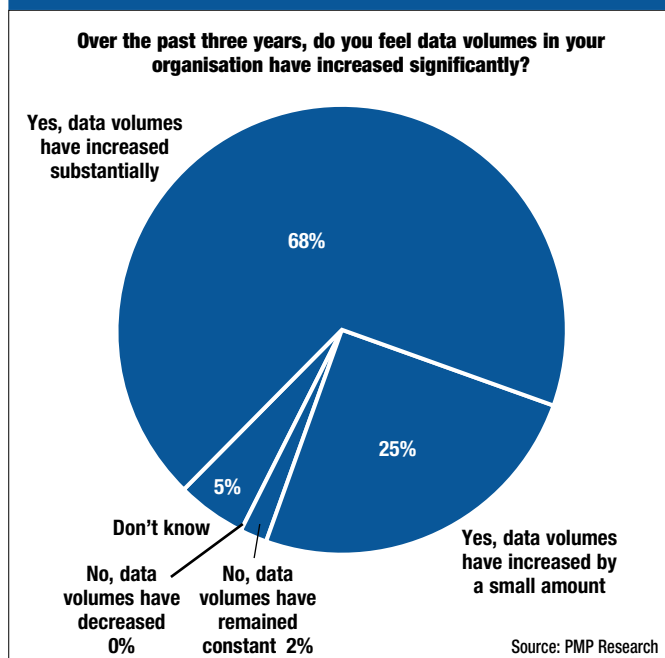


MINING FOR BUSINESS GOLD

Despite being overwhelmed by data, many companies are reluctant to adopt the more advanced data warehousing and business intelligence technologies. Pat Sweet reports on our latest end-user study.

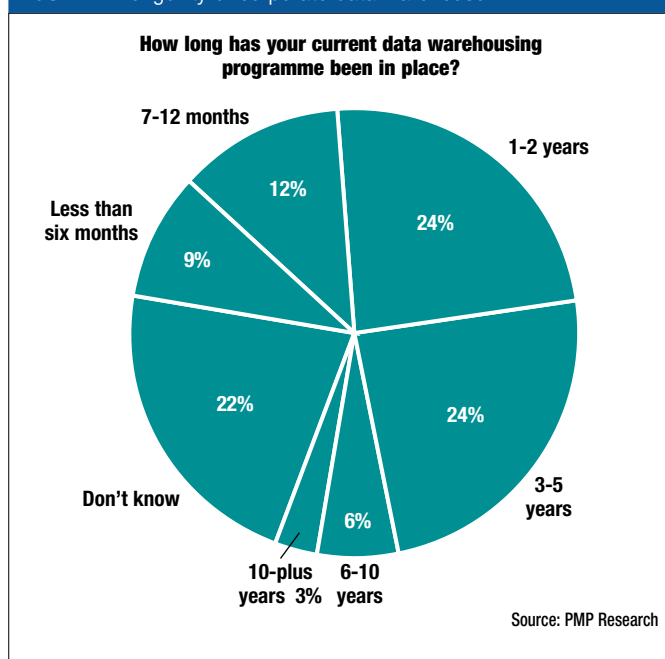
FIGURE 1: Growth in data volumes



Information is power for many organisations, but companies often feel overwhelmed by the sheer quantity of data they need to locate, sort, store and then analyse if they are to make the most of this vital asset. The challenges are immense and only the very bravest will claim total success. Yet so great are the potential rewards that most organisations are committed to keep on trying, even if progress is disappointing.

This year's Evaluation Centre survey confirms the biggest problem most companies face is the enormous rise in the amount of data now held in key applications. Around two-thirds of respondents (68%) say data volumes have increased substantially over the past three years, with a further 25% indicating more modest increases (see Figure 1). Significantly, only 2% reckon data volumes have stayed constant over that time period and nobody says they have fallen. There is near universal agreement that more information than ever is now distributed around the organisation.

FIGURE 2: Longevity of corporate data warehouse



The reasons are varied. The most obvious is the simple fact that there are more computer systems in use, a point made by half (54%) of our sample. In part this is due to a more favourable economic climate, which according to 51% of companies means their business has expanded. Other factors include the need for extra systems to handle compliance requirements, cited by a third (34%), as well as a growing commitment to providing online facilities, mentioned by 27%.

Individual responses highlight other important trends. One interviewee pointed out that many firms now routinely make more use of audio and video, as well as other new media, all of which increases both data and storage requirements. And for many companies, storage is becoming as much of an issue as retrieval. Several organisations report that more users are storing data, because they are now aware of how valuable such information could prove in the future; more historic data retained means more opportunities for deeper analysis.

Users do not necessarily know which nugget of information will prove golden in the future, so they keep everything just to

be on the safe side. And, as at least one respondent underlined, technology advances mean executives can create more refined and complex views of corporate data, which in turn encourages more data hoarding.

In an attempt to get control over their information stores, half (54%) of the organisations polled have already launched data warehousing projects, and 10% are currently evaluating their options in this area. Although 22% have yet to make a decision about the value of creating a data warehouse, just 7% have rejected the idea outright.

Many are fairly recent converts to the virtues of data warehousing. As Figure 2 shows, just over a fifth have started a programme in the past year, with 9% starting less than six months ago and 12% up to 12 months ago. Around a quarter (24%) have had a data warehousing programme for the past couple of years, and the same proportion (24%) for between three and five years.

For the majority, the reasons for going down this route are very clear-cut, namely the desire to improve the flow of management information (61%). Companies are also keen to improve data quality (39%) and to achieve specific goals such as growing sales through better customer targeting (27%) and being able to identify new trends (24%). Significantly, all of these outcomes have to do with improving company performance – cost cutting comes much further down the wish-list and is mentioned by only 12%.

The aims of the majority are best summed up in the words of one respondent, who said the original motivation behind their data warehousing project was “to provide direct access to standard information sets without the need to go into back-office systems, and to provide wide access to that information across the organisation”.

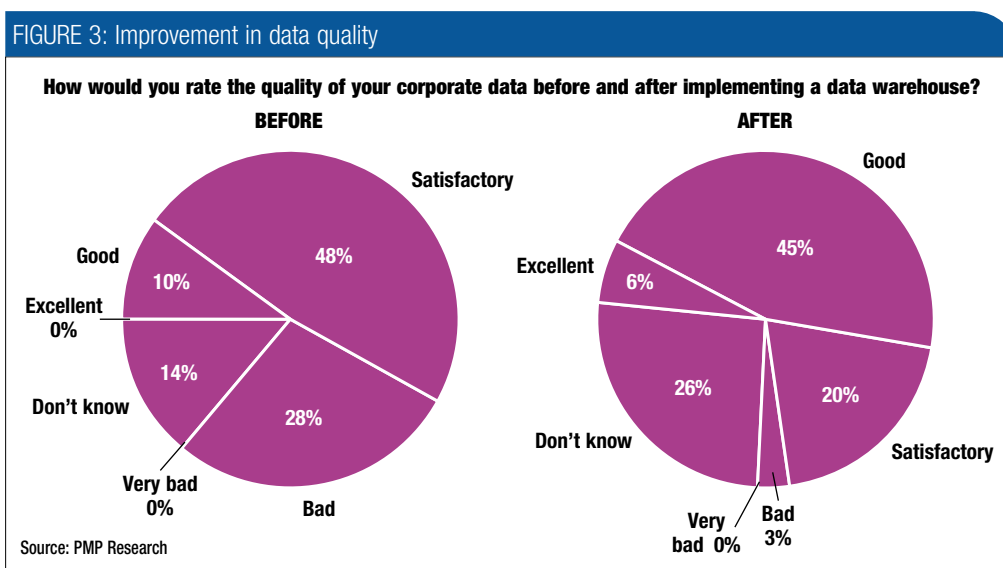
“Integrating data from a variety of sources and eliminating the use of ad hoc spreadsheets” sums up another organisation’s goals – and it is significant that many companies seek to use a data warehouse to promote a consistent interface to key data and to consolidate the ways in which it is interrogated.

However, while companies have a lot of data and a lot of ambitions, they also face some major hurdles. The accuracy and reliability of corporate data remains a crucial issue for many, with 28% agreeing that data quality was ‘bad’ prior to implementing a data warehouse (see Figure 3). Although the biggest proportion (48%) reckon their data was ‘satisfactory’, only 10% label data quality as ‘good’ before data warehousing, and none go so far as to call it ‘excellent’. In contrast, after implementing a data warehouse, the biggest percentage (45%) maintain their data quality is now ‘good’, while 6% describe it as ‘excellent’. The proportion who reckon their data is only ‘satisfactory’ has more than halved to 20%, while just 3% say their data quality is currently ‘bad’.

These improvements do not come easily. While 3% claim to have spent just one month on cleaning up data for entry into the data warehouse, most make a significantly greater investment in time and effort. Around a third took anything from three months (23%) to six months (13%) to resolve data issues, while 16% devoted up to a year to this project and 13% say the exercise took even longer than that.

Ensuring that data is robust and has integrity is the first step in allowing users to make greater use of corporate information. Next comes the process of offering a way to interrogate the data available – and on this our sample are divided.

While 48% report no difficulties in analysing the data obtained from their data warehouse, a quarter (26%) concede that they are having problems, while the remaining 26% admit they do not know how successfully they are managing this requirement.



SURVEY STATISTICS

We spoke to a broad cross-section of organisations, including representatives from the engineering industry, the legal profession, publishing and the education sector, as well as those in the IT, telecoms and transport businesses.

All organisations have to manage their data, but the inherent problems are particularly acute for institutions in the financial services market, which made up 7% of our sample, along with the retail sector (7%). We also sought the views of manufacturing companies (14%) – who are often seeking to exploit long-standing ERP systems – as well as the public sector (10%) where efficient information handling is a key concern.

The companies vary in size, from those with a turnover of less than £5 million (5%) through to the very largest with a turnover greater than £5 billion (10%). In between, 19% have a turnover of between £10 million and £50 million, while 12% fall into the £100 million to £150 million range and 17% into the £150 million to £1 billion bracket. 10% of the organisations describe themselves as ‘not for profit’ operations.

The majority (78%) are using specialist business intelligence (BI) or reporting tools to query the data available. In the past, such technology was reserved for an elite group of information specialists, who typically would run a query on behalf of a specific end-user request or as part of a special project designed to pull together information sources.

This year’s survey emphasises how far most companies have travelled from this point. It is no longer the case that BI is viewed as a specialist activity, since only 8% report that such technology continues to be used in a research capacity alone (see Figure 4). A quarter (24%) now have specialist analysts using BI on an ad hoc basis, and a third (34%) have analysts using BI on a regular basis to provide specific management reports.

Most significantly, a further third (34%) say that BI tools are routinely deployed as part of operational applications by non-specialists. This means that many companies are much closer to their goal of allowing access to a wider choice of data sources by the users who will make the decisions – rather than routing all data analysis requests through IT experts.

Whilst this is a welcome development, many companies are struggling with one of the key requirements of a unified data warehousing strategy: the goal of having a ‘single view’ of the customer. While 39% report that they have achieved this, a quarter (26%) admit it is still proving elusive (see Figure 5).

Having a unified customer view is clearly crucial if companies are to be able to mine their data confidently and dig out valuable insights. For larger organisations in particular, one problem is that common data is defined in contradictory ways by different business subsidiaries and departments, which makes high-level consistent analysis of performance very difficult.

FIGURE 4: Types of BI users

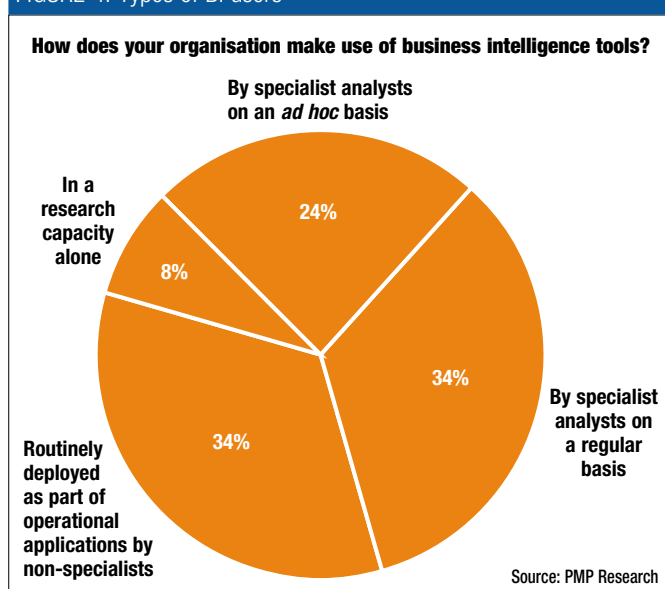


FIGURE 5: Consolidation of customer data

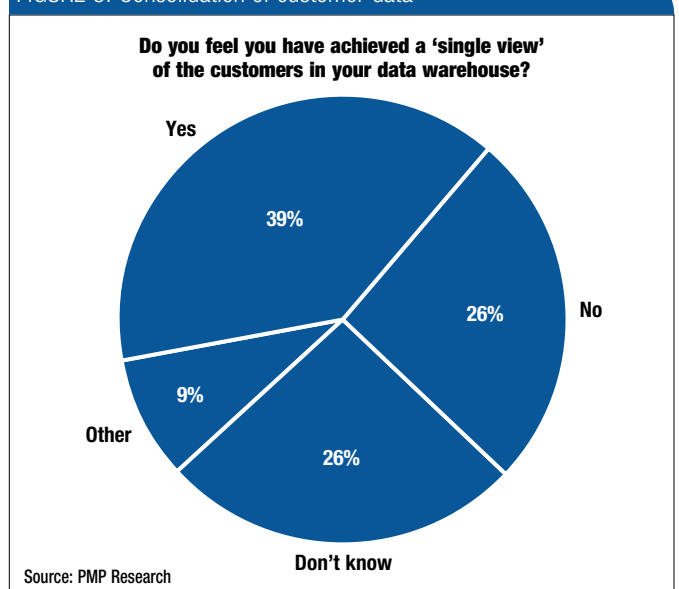
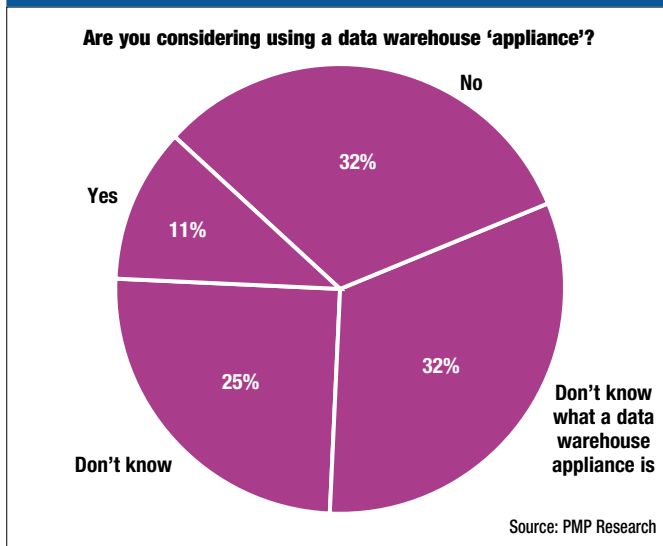


FIGURE 6: Take-up of data warehouse appliances



For example, the head of marketing and the production manager might have quite different views of a customer, which will again vary from the way the finance chief records customer contacts. In part, this discrepancy has arisen from the tendency to view data as 'owned' by the particular application which runs it.

To get over this, some organisations are looking at ways of de-coupling master data (such as customer contacts) from individual applications in order to create a master data layer.

The latest technological manifestation of this is master data management (MDM), a term which describes the business processes and application integration architecture used to create accurate and consistent views of corporate entities across disparate applications within the enterprise.

Gartner analysts have predicted that within four years, organisations will be spending around \$1.06 billion annually on MDM software. However, interest in the concept has yet to spread widely in the corporate world – only a third (32%) of Conspectus respondents claim to understand what MDM offers, while just 16% have plans to implement the software.

Few appliances

There is a similar level of reticence about another new idea in the data warehousing market, that of the data warehouse 'appliance'. As the accompanying Expert Opinion article outlines, many organisations have found that increasing data volumes add to the complexity and cost of their data warehouse implementations. Appliances offer a cheaper, more flexible alternative approach.

However, as Figure 6 shows, only 11% of our sample are contemplating making use of an appliance. This is despite the fact that 36% believe this option opens the way to simpler systems administration and 27% believe they would see significant performance improvements – while at least one respondent noted that this is the way to handle the huge volumes of information now common in most organisations.

On the downside, respondents are concerned about the fact that data warehouse appliances adopt a proprietary approach (34%) and will attract migration costs (32%). There is also the worry that the majority of the vendors in this section of the market are newcomers, with consequent issues of credibility and stability (22%).

These are all reasonable considerations and may well explain why a third (32%) of companies have ruled out using such technology. But probably the biggest factor at play here is the simple fact that many companies (32%) do not know what a data warehouse appliance actually is.

Yet if organisations are to get on top of the data which is currently submerging them, new technology has to be part of the answer. This year's survey suggests that while many data warehousing problems are familiar, the available solutions are more radical than many companies care to accept at this point. Companies clearly see the value of a data warehouse, but a number are unsure of the right way forward.

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