Chapter V

Auditing Data Warehouses

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The need to have a separate database in order to support the decision process was first recognized at the beginning of the 1970s (Sprague and Watson, 1996). Although the term "data warehouse" was not coined until the late 1980s by Bill Inmon, by 1985 big companies of telecommunications and banks began to build systems whose function was to provide managers with horizontal and global information on the organization (Watson et al., 1992). These systems were named EIS (Executive Information Systems) and constitute one of main precursors of data warehouses.

The main purpose of the EIS was to support managers in learning about the organization, including the study of the main processes and the interactions with the exterior. It is demonstrated that its use enhances the decision process, providing an improvement in the managerial results. (Vandenbosch and Huff, 1992).

The high risk of these kinds of systems was detected in these first projects since the percentage of failures was higher than in traditional information systems. The causes of these failures were diverse, for example the cancellation of the project before its end, errors in the implementation phase, falling in disuse...
before time, or even having very different results from those previously foreseen. We have to highlight that these systems are thought to be used by managers, who do not have time to spend in learning complex systems or supporting unjustified errors (Preece et al., 1994).

Nowadays, the amount of data stored in computerised systems grows dramatically. There are two reasons for this: firstly, because of technological advances in input devices (e.g. bar codes, magnetic cards, OCR,...), which allow data to be retrieved quite easily in sectors such as delivery or bank; and secondly, because of the volume of data generated from particular scientific applications both to the macro-universe (i.e. data sent through space satellites or soundings) and to the micro-universe (i.e. human genome, atomic particles). The new forms of information distribution, especially through the Internet, with a market penetration growing increasingly, the databases in CD-ROM, etc., also contribute to this explosion.

However, these vast amounts of data obtained at a relatively low cost do not have a reflection on the benefits reported to organisations, especially because they do not provide information (Gardner, 1998); in fact, an organisation may be rich in data albeit poor in information if it does not know how to identify and organise the data it owns.

The process for transforming data into information can be discomposed into the following stages:

a) Data identification.

b) Categorisation.

c) Summary.

d) Organisation.

On the other hand, the growing globalization in economy is generating a stronger competition in the different managerial sectors: while markets in which companies operate grow continually, clients become more and more exigent and demand made to measure services. To survive in this turbulent environment, companies have to be flexible and respond quickly to all the events around them. So, nowadays managers need all the necessary information (admittedly accurate information) just at the precise time. They demand a new kind of information systems, giving them not only the automation of the informa-
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