3 The Organization of Data Warehouse Activities

3.1 Introduction

In the last decade, the configuration of the banking market has seen a steady increase in competition levels, owing to the relaxation of restrictions on banks' operational independence, to the entry of nonbanking operators into the payments system, and to the banks' new role in the financial market (Banca d'Italia, 1996).

This market transformation has stimulated the whole banking brokerage industry and pushed it in the direction of supporting innovation in the services provided through the increasingly more systematic and coordinated use of information technology.

In this context, banks are affected by changes in environment, market, and regulations as well as by the opportunities offered by technology, and they have therefore reacted by increasing their own technical resources.

It might be added that the inherent nature of banking services, which is primarily informative, is conducive to recourse to information technologies on a massive scale (Porter, Millar, 1985).

As a matter of fact, the use of IT is of fundamental importance to banks, not just for processing the huge amounts of data they hold or to carry out on-line transac-

---

7 We refer to the innovations introduced by EU directives on banking coordination, and, in Italy's particular case, to the new overall regulation system for the banking industry.

8 Porter and Millar (1985) in How Information Gives You Competitive Advantages, classify different industrial sectors through an information intensity matrix. The said matrix allows analysis of the needs in terms of information intensity of processes and contents for the products/services typical of each sector. They then give an evaluation of existing and potential information intensities of processes and products, stating that these can determine role and dimension of IT in every industrial sector. Porter and Millar demonstrate how IT is a fundamental variable in all activities carried out by the bank. They do this by focusing on the needs and information contents typical of the banking sector which, in order to fulfill its objectives, uses IT in a consistent and systematic way. They thus conclude by saying the high information contents in products/services and the high information intensity in processes make the banking sector one of the most enthusiastic in the use of IT. On the same issue see also Rossignoli (1997).
tions, or yet to execute processes: it is also vital to enhancement of the decision-making process.

Although technological innovation has long provided banks with tools that can facilitate production processes, there does not appear to have been a corresponding evolution in decision process support systems.

In other words, we have a massive use of IT in the automation of operational activities, contrasting with scant use of effective decision support systems.

Banks and financial institutions have been using information systems for decades in the automation of strictly operative or operational activities. System architecture and archive structure were usually designed to increase process efficiency. Therefore, memorizing modes and data access were meant to support the operational activity only, limiting the reuse of the same data for decisional purposes.

In recent years, there has been an attempt to use the available data to produce the information necessary to enhance stringency, consistency and reliability in decision process management. (CIPA/ABI, 1999).

Traditional systems have proved ineffective in responding to decisional needs. New approaches to coping with the inadequacy of traditional information technology have come up over time: among these, the business intelligence systems, particularly data warehousing and data mining, seem to be outstanding in the enhancement of decision processes.9

The aim of the present work is to give an overall conceptual view, from the perspective of an integration between the traditional, transaction-oriented information system and the new, decision-oriented one, while highlighting the potentials of data warehousing and data mining in the banking industry.

### 3.2 The Data Warehouse

The operational information system supports the company’s mission critical activities. However, it does not allow data processing for objectives other than transactions. The reason is in most cases the lack of a platform integrated with the in-

---

9 It is interesting to remark that artificial intelligence systems, which are now included in data mining systems, are a technology that was already available in the 1950s. However, they partly owing to a natural reaction of resistance to change among management, partly because of the high implementation costs, and partly because of technical factors making it impossible to implement them, such as difficulties in accessing and reusing company data.