COMP 333 — Week 5 Data Warehouses

Datat Warehousing

Read Golfarelli and Rizzi Sections 1.2, 1.3.2, and 1.7.3

Introduction to Data Warehousing, Chapter 1 of Data Warehouse Design: Modern Principles and Methodologies, 2009, by Matteo Golfarelli and Stefano Rizzi.

Definitions

A *decision support system* (DSS) is a set of expandable, interactive IT techniques and tools designed for processing and analyzing data and for supporting managers in decision making. To do this, the system matches individual resources of managers with computer resources to improve the quality of the decisions made.

Data warehousing is a collection of methods, techniques, and tools used to support *knowledge workers* — senior managers, directors, managers, and analysts — to conduct data analyses that help with performing decision-making processes and improving information resources.

A *data warehouse* is a collection of data that supports decision-making processes. It provides the following features (Inmon, 2005):

- It is subject-oriented.
- It is integrated and consistent.
- It shows its evolution over time and it is not volatile.

A *data mart* is a subset or an aggregation of the data stored to a primary data warehouse. It includes a set of information pieces relevant to a specific business area, corporate department, or category of users.

Overview of a Decision-Support System

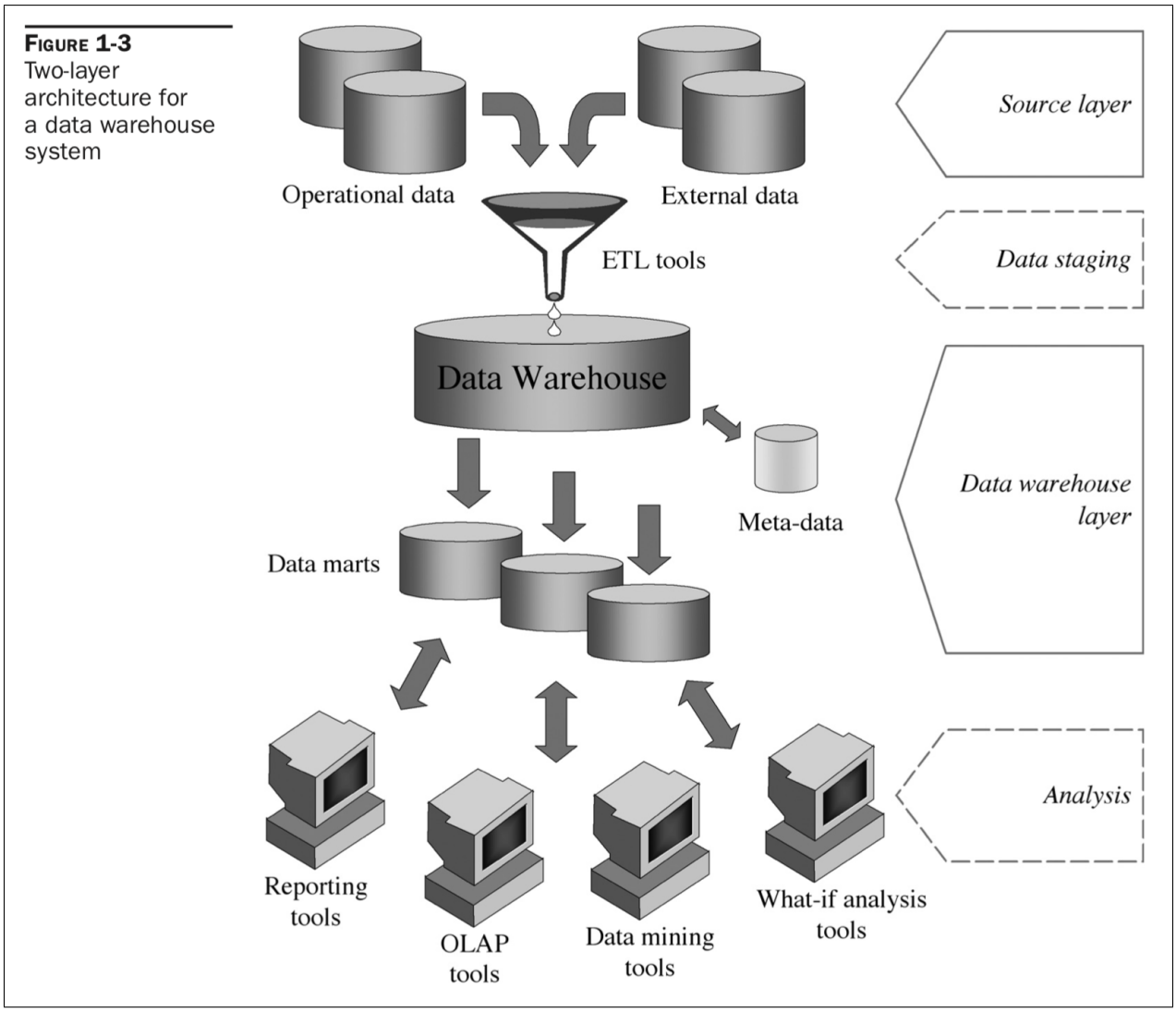

FIGURE 1-3
Two-layer architecture for a data warehouse system

Dashboard

The term *dashboard* refers to a GUI that displays a limited amount of relevant data in a brief and easy-to-read format.

Dashboards can provide a real-time overview of the trends for a specific phenomenon or for many phenomena that are strictly connected with each other.

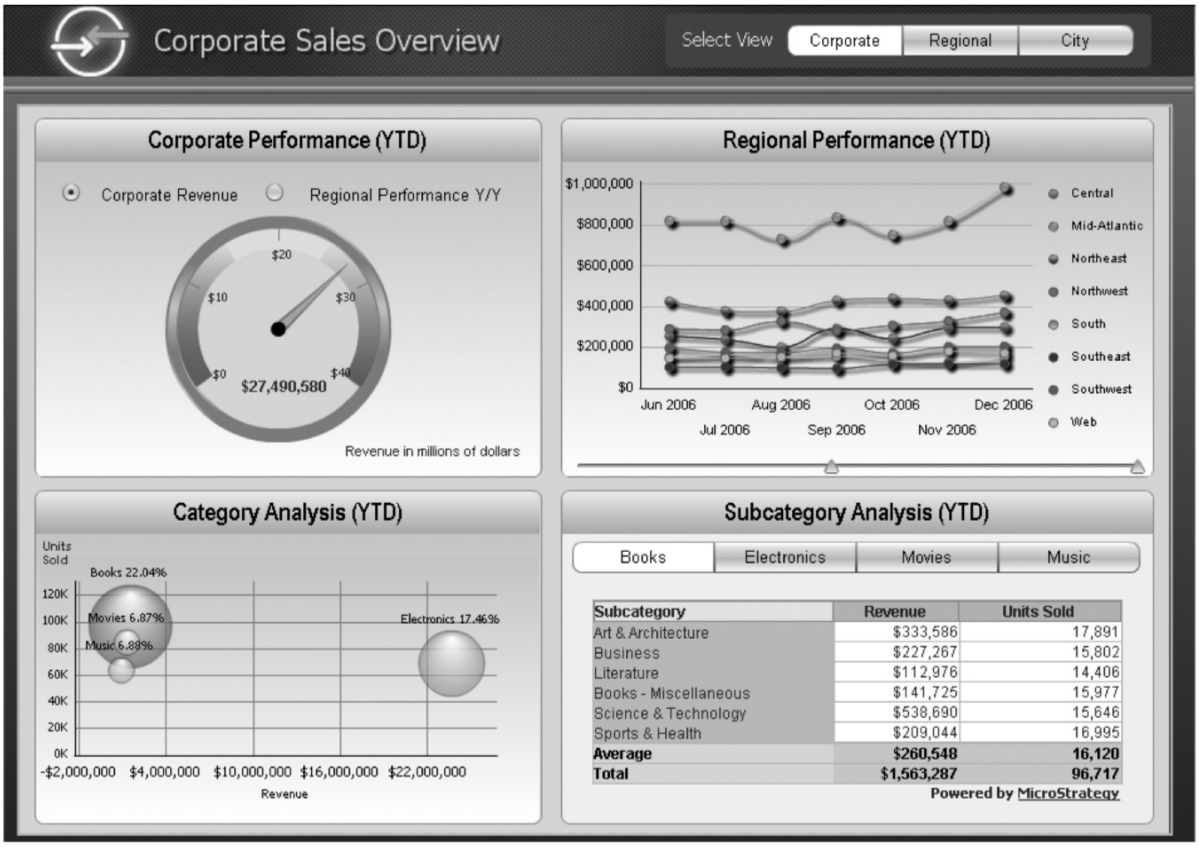

Figure 1-31 An example of dashboards

The term is a visual metaphor: the group of indicators in the GUI are displayed like a car dashboard.

Dashboards are often used by senior managers who need a quick way to view information.