Processing data stream by relational analysis

Ilhème Ghalamallah, Aziz Grimeh and Bernard Dousset

IRIT-SIG
Paul Sabatier University, 118 route de Narbonne, 31062 Toulouse cedex 9
{ghalamal, grimeh, dousset}@irit.fr

Abstract. In the business intelligence (BI) context, the majority of the strategic information comes from relational sources and the relevance of extracted knowledge usually depends on considering data evolution and their interactions. The multidimensional approach (nD) may bring forth a solution to identify and understand the underlying structures or strategies. But non-expert users get easily lost. Knowing that our team is experienced in knowledge extraction, we have already a platform called Tetralogie that is specialized for strategic scanning and another tool called Xplor which is dedicated to business intelligence. As a consequence, we provide a unified system to generate and manage relational data and extract implicit knowledge, whose content and format are adapted to decision-makers that are not experts in nD or BI.

Keywords: Knowledge extraction, business intelligence, relational analysis, evolution.

1 Introduction

In the context of the strategic scanning, Tétralogie is a tool particularly adapted to the macroscopic analyses. Indeed, it is able to detect the strong signals, the weak signals and tendencies from a corpus of documents collected for a precise subject. The elaborate information results, represents a synthesis obtained by various methods of data analysis and diffused via graphic visualizations. But because of the different strategic analyses that we have already carried with this software, it appeared that the end users of the produced analyses want, in addition to the general and strategic aspect (general knowledge), more precise views on certain points. In order to satisfy their specific needs for more precise information on elements, which they have already identified (competition, new products or processes, potential partners,…) or in order to discover other elements. Many experts and decision makers are demanding for more details while processing the elements that represent their traditional environment. These elements should contain more precise information about key words, the different actors, the prospective partners and markets that they're coveting for.

In addition, we propose for our macroscopic analyses a computerized decision-making system with perspective to automate the on-line processing of relational information and to propose analysis and navigation tools oriented to business intelligence (BI). This system provides strategic analyses on corpora of textual information resulting from the most various sources like: on line databases, Cds, the visible and invisible Web, the news, the press, linking sites, intern databases, etc. The proposed system gives the possibility to decision makers to perform their investigations without the participation of an analyst. The interaction between the System and decision makers can be on various levels such as choosing variables, extracting and selecting useful data, the choice of the analysis to be deployed and the visualization of the results.

Our principal goal is to reduce the cost of elaborate information and to increase the reactivity of the decision makers so we offer them a new interactive approach with their strategic data. We also offer query formulation assistance, and the development of new statistical graphs that aim to interpret evolutionary data.