


Towards a Methodology for the Discovery of Useful Knowledge Combining Data Mining, Data Warehousing and Visualization

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ABSTRACT - Data mining and knowledge discovery in databases have attracted great interest due to the promises to solve part of the “information overflow” problem, finding useful knowledge from large amounts of data. The maturity of learning algorithms and development of commercial tools made the necessary infrastructure to apply such technology. On the other hand, it is clear that blind data mining can be a dangerous practice, so it is necessary to develop methodologies to discover useful knowledge. Data warehousing community have faced many of these challenges and can greatly contribute. This paper is a step towards a methodology that supposes strong interaction with users, as suggested by data warehousing practitioners’ experience and presents visualization tools that can be valuable for the usability of data mining tools.

Keywords: databases, artificial intelligence, decision support systems, knowledge discovery in databases, data warehousing, data mining

1. Introduction

Knowledge Discovery in Databases (KDD) and Data Mining (DM) are issues in the research community that have attracted great interest, due mostly to the promises they carry of solving part of the “information overflow” problem that most organizations, and even individuals, face today with the availability of many huge and widespread information sources.

Several factors have contributed to increase the volume of available information, such as:

- Growth and widespread use of database technology;
- Lowering costs of powerful storage resources;
- Easy access to distributed information sources

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