

Knowledge-Driven Decision Support System Based on Knowledge Warehouse and Data Mining by Improving Apriori Algorithm with Fuzzy Logic

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Abstract : In recent years, we have seen an increasing importance of research and study on knowledge source, decision support systems, data mining and procedure of knowledge discovery in data bases and it is considered that each of these aspects affects the others. In this article, we have merged information source and knowledge source to suggest a knowledge based system within limits of management based on storing and restoring of knowledge to manage information and improve decision making and resources. In this article, we have used method of data mining and Apriori algorithm in procedure of knowledge discovery one of the problems of Apriori algorithm is that, a user should specify the minimum threshold for supporting the regularity. Imagine that a user wants to apply Apriori algorithm for a database with millions of transactions. Definitely, the user does not have necessary knowledge of all existing transactions in that database, and therefore cannot specify a suitable threshold. Our purpose in this article is to improve Apriori algorithm. To achieve our goal, we tried using fuzzy logic to put data in different clusters before applying the Apriori algorithm for existing data in the database and we also try to suggest the most suitable threshold to the user automatically.

Keywords : decision support system, data mining, knowledge discovery, data discovery, fuzzy logic

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