Abstract

In today's customer-oriented market, vision of "For better customer, the better service" becomes "For every customer, the appropriate service". Companies can develop composite products to satisfy customer needs by cross-selling. In Taiwan's financial sector, many financial holding companies have been consecutively founded recently. By pooling the resources and capital for banking, insurance, and securities, these financial holding companies would like to integration information resources from subsidiary companies for cross-selling. This new promotion method needs the information technology which can present the relationship between items, and association rule is an important element in data warehouse which supports cross-selling.

Traditional association rule can discover some customer purchase trend in a transaction database. The further exploration into targets as when, where and what kind of customers have this purchase trend that we chase, the more precise information that we can retrieve to make accurate and profitable strategies. Moreover, most related works assume that the rules are effective in database thoroughly, which obviously does not work in the majority of cases.

The aim of this paper is to discover correspondent rules from different zones in database. We develop a mechanism to produce segmentations with different granularities related to each dimension, and propose an algorithm to discover association rules in all the segmentations. The advantages of our method are:

1. The rules which only hold in several segmentations of database will be picked up by our algorithm.

2. Mining all association rules in all predefined segmentations with less

user prior knowledge and redundant database scans than previous methods.

3. By keeping the intermediate results of the algorithm, we can implement an incremental mining.

We give two examples to evaluate our method, and the results show that our method is efficient and effective.