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DESIGNING A WELL-STRUCTURED E-SHOP USING INCREMENTAL ASSOCIATION RULE MINING AND USING DIRECT GROUPING BASED APPROACH OF OPTIMAL SEGMENTATION

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Abstract

Many commercial companies collect large quantities of data from daily operations. For example, customer orders or purchase data are collected daily at the counters of grocery stores. Data mining is applied on such kind of data to extract patterns that could be useful to learn about the purchasing behavior of the customers. Such information are used to support a variety of business related tasks. In this paper we use Incremental Association Rule Mining for Building e-shop and also we use Optimal Segmentation. Since clustering has the disadvantage that it has greater complexity and its inability to recover from database corruption we are moving to the segmentation concept. Association Rule Mining is one of the techniques used to mine databases. Here we propose a method of using Incremental updating technique to mine directly association rules of inter & intra transactions. This paper shows that finding an optimal customer partition is NP-hard, proposes several suboptimal direct grouping segmentation methods, and empirically compares them among themselves, traditional statistics-based hierarchical and affinity propagation-based segmentation, and one-to-one methods across multiple experimental conditions. It is shown that the best direct grouping method significantly dominates the statistics-based and one-to-one approaches across most of the experimental conditions, while still being computationally tractable. The experiments showed that our method can reduce the cost up to 90% in some transactions. Thus it reduces the workload of marketing professional to provide direct marketing and thereby increasing customer satisfaction.