Abstract

This paper formulates a problem for production plan as k-most demanding products (k-MDP). Given a set of customers demanding a certain type of products with multiple features, a set of current products of the category, a set of candidate products that company is capable to offer, and a positive integer k, it helps the company to select k products from the candidate products such that the predicted number of the total customers for the k products is maximized. One greedy algorithm is implement to search inexact solution for the issue presented in this paper is NP-hard when the number of standards explains or features is 3 or more than 3. To find imprecise solution for this issue, Apriori-Based (APR) Algorithm and Upper Bound Pruning (UBP) Algorithm are proposed. Upper bound of expected figures of total customers is also implemented to find optimal solution of the problem. In addition to that, for computing least demanding products, an algorithm is proposed to search the k-least demanding products. This can also be beneficial to production plans.


Index Terms

Computer Science

Data Mining

Keywords
K-MDP, Decision support, Production plan.