Analyzing Sales Patterns and Customer Preferences: A Market Basket Analysis on Frequent Items

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Abstract
Sales and marketing can be greatly impacted by a data mining strategy using the top frequent pattern extraction algorithm. Since frequent pattern mining has so many practical applications, it is a heavily investigated area in data mining. This paper employs the most widely utilized frequent pattern mining algorithms- Apriori algorithms and FP-Growth algorithms for market basket analysis (MBA). The primary goal of this paper is to find the relationships between various items in a store selection and know how to take advantage of these relationships through marketing initiatives. We can extract useful information about co-occurrence and co-purchases of items by mining association rules from transactional data mining. These statistics can guide marketing initiatives such as inventory management, cross-selling campaigns, and promotional assistance.

Keywords: MBA, Association rules, Apriori algorithms, FP-Growth algorithms, Prediction