

MARKET BASKET INSIGHTS

1. Problem Definition And Design Thinking

Introduction:

Market basket analysis is a strategic data mining technique used by retailers to enhance sales by gaining a deeper understanding of customer purchasing patterns. This method entails the examination of substantial datasets, such as historical purchase records, in order to unveil inherent product groupings and identify items that tend to be bought together.

Step 1: Import the libraries.

Step 2: Load the dataset.

Step 3: Have a glance at the records.

Step 4: Look at the shape.

Step 5: Convert Pandas DataFrame into a list of lists.

Step 6: Build the Apriori model.

Step 7: Print out the number of rules.

Design and thinking:

Abstract

Here are the steps involved in using the apriori algorithm to implement MBA:

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1. First, define the minimum support and confidence for the association rule.
2. Find out all the subsets in the transactions with higher support(sup) than the minimum support.
3. Find all the rules for these subsets with higher confidence than minimum confidence.
4. Sort these association rules in decreasing order.
5. Analyze the rules along with their confidence and support.

CONCLUSION:

In this article, we successfully implemented market basket analysis on a retail dataset using the apriori algorithm and association rules. The great part of this process is that it is relatively easy to implement and interpret, the result of which can be used to make data-driven, strategic marketing decisions. In addition to its usefulness to retailers, market basket analysis is also applicable in other domains, such as in the manufacturing industry for predictive analysis on equipment failure, in the pharmaceutical industry for the discovery of co-occurrence relationships among diagnosis and active ingredients, and in finance for fraud detection.