

# Market basket analysis and campaign analytics for a Fortune 500 sports merchandise client

## Introduction

Our client is a Fortune 500 American multinational company best known for its footwear, apparel and sports equipment. The Client wanted to understand the customer buying patterns to scale the sales of retail outlets.

The Aim was to resolve the following objectives:

- Analyze outcome of campaigns, promotions and discounts on performance of Factory Outlets
- Market basket analysis to understand which products are complementary to each other and could be bought together.



## Solution

To build the solution, TransOrg used the Apriori association method to find frequent item sets & then derive association rules to uncover meaningful correlations between different products according to their co-occurrence in a data set.

The following measures are used to evaluate the strength of association:

- Support for the rule indicates its Outcome in terms of overall size
- Confidence determines the operational usefulness of a rule
- Lift ratio indicates how efficient is the rule is in finding consequences, compared to random selection of transaction

Table 1: Association rule. For Illustration only

Product 1	Product 2	Support	Confidence	Lift
Short sleeve top	Shoe	0.065	0.95	2.1
Length tight	Short sleeve top	0.018	0.75	3.8
Sleeveless top	Short sleeve top	0.0024	0.70	3.5

The rule suggests that if customers buy short sleeve top, then there is a higher chance of cross selling Shoe as well.



TransOrg analyzed marketing discounts to prevent cannibalization and also analyzed the “discount elasticity” of a product in different price bucket by offering differential discount on a same product.



## Insights from analysis

Key insights and suggestions:

- 70% discount had negative Outcome on sales of 30% discount category.
- Customers buying short sleeve top have high probability of also buying shoes.
- Identified products which are sold together even with less discount on one of them.

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