



Product Cannibalization for a 8000+ drug and convenience store operator

Business Problem

Our client stocked numerous size and flavor based variants of very similar products, so all promotions resulted in heavy cannibalization of the un-promoted products. Also, initial implementation of demand forecasting solution did not include any models for product cannibalization.

Challenge

Modeling product cannibalization is among the most complex tasks in Demand Forecasting. Since, un-promoted products were facing serious loss in sales, we went ahead to improve the existing demand forecasting solution by including product cannibalization in the model.

Our client had no data on likely-to-be-cannibalized products and were highly subjective.

Solution

Since the Demand forecasting solution was from Predictix, a provider of planning, merchandising, and supply chain solutions for retailers, we partnered with them to develop the cannibalization model. To begin with, we used academic literature review to develop the modeling framework but soon realized the limited success in coming up with the model.

Then we worked on a two-phase approach to arrive at the solution. Text analytics was used in first phase to comb through product descriptions to identify and group substitutable items. Human intervention to fine-tune the list was not possible given the large no. of items under consideration.

In the next phase, cannibalization between these products was modeled using a measure of degree of lifts to promotional events like discounting and catalogues.

Impact

The resulting model improved forecast accuracy by ~2% for most items as well as reduced the total forecast error for items under consideration. The model was recommended for roll-out.

About Tiger Analytics

We are a boutique analytical consulting firm. We use advanced analytical techniques, business insights and data engineering to make data-driven decisions and solve complex business problems.

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