



Customer Experience

Optimize product portfolios using Bayesian Regression analytics

The Big Picture

A leading CPG manufacturer recently changed its messaging strategy from attribute-oriented to customer experience-oriented and thus wanted to compare the impact of its old messaging to its new messaging on brand volume sales at the retailer level. Additionally, the company wanted to understand how its campaign had impacted private label product lines and how it could enhance its campaigns in the future to maximize net ROI.

Transformative Solution


A Hierarchical Bayesian Regression technique and a Bayesian Belief Network were used to build marketing mix models to measure campaign performance at the total US level by evaluating the impact of each campaign in generating incremental sales. The team further refined the models at a more granular retailer level using business information (priors) from the national level model as an input to the retailer models. The team could effectively establish performance of each campaign for all of the retailers and their impact on both brand sales and private label sales.

The Bayesian Belief Network approach was further adopted to identify the interrelationships between all of the media channels and tie them together in a network structure in order to capture the direct and indirect impact of media channels on sales. With the help of these network structures, the true contribution from a media channel on incremental sales was quantified, enabling reporting of the true ROI of each product line.

The Change

With the measurement of incremental sales of each campaign, along with true channel performance by Bayesian Network, it was established that customer-centric campaigns performed better than attribute-centric, increasing sales in both brand and private product lines, thus growing the entire category. Additionally, the true impact of campaign messaging was isolated from the channel mix strategy and other factors, providing further, more actionable insights.

The organization could easily transform the learnings from the study to enhance its marketing strategy and its trade strategy with all the retailers by highlighting the impact of advertising on private label goods.

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