

CASE STUDY

Sales and Operations Planning

Objective

Develop forecasting models for sales and operation planning

Client

Subsidiary of one of the world's largest cement and aggregate supplier

Benefits

Accurate forecasts that factored in the influence of important price drivers were used to set up sales targets and inventory levels

Project Objective

To develop advanced forecasting models to support sales and logistics planning for a commodity and to allow for a what-if analysis based on important causal factors.

Client

A subsidiary of the second largest Cement manufacturing company in the world.

Approach

The project required development of forecasting models for a combination of 19 geographies and 3 products. A process of data collection was initiated and interviews were conducted with the client's dealers. Data was tested for seasonality, trend and baseline demand. It was observed that some of the product-geography combinations had erratic behavior requiring further analysis and outlier removal. A series of ARIMA and Holt-Winter's models were considered as the final choice.

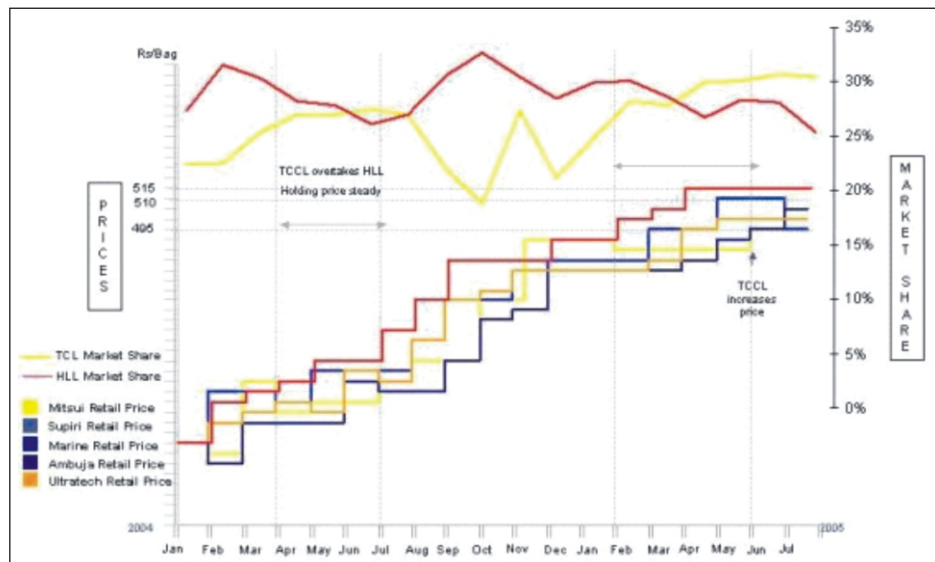
The multivariate approach involved the identification of major drivers based on the interviews and statistical correlations. The relations identified with factors such as rainfall, competitor prices were adapted in the form of a cause-and-effect model with the univariate models to give the final output.

Other Case Studies

↳ Transport Scheduling and Rostering : *Optimizing resource utilization and reducing transportation costs*

↳ Rostering and Optimization : *Streamlining rosters for resource optimization*

↳ Scheduling and Optimization: *Optimal resource scheduling*



Analysis of effect of competitor and client pricing strategies on market share

Solution

The project outcome was a set of sophisticated forecasting models along with a what-if analysis tool to simulate different scenarios as a combination of important causal factors.

Benefits

Accurate forecasts to the tune of 80-90% were generated for all products that enabled setting up sales targets and recommended inventory levels. The what-if analysis tool facilitated factoring of important price drivers into the forecasts.