



Retail Distributor Demand Driven Planning and Optimization

Challenge

One of the largest food distributors in the Middle East had difficulty forecasting demand and accurately placing orders to profitably fulfil demand across their distribution network. Challenges included the accuracy of demand forecasts, and the long lead times on order placement. In addition, the forecasting process was lengthy and manual with limited functionality in Excel. This impacted the work effort, the quality of forecasts, and forecasting cycle times. Accuracy suffered because orders were typically placed with suppliers for a one-year period with only minor changes to delivery schedule over the year based on stock on hand. The forecast was also compromised because it was difficult to accommodate size and complexity differences between customers of different types, such as chains and independent retailers. The distributor used promotions to increase sales and clear inventory that was near the expiration date, but the basic, less sophisticated forecast, made it difficult to predict the impact of promotions. Forecasts were at a high level and did not incorporate SKU/customer combinations. These challenges made it difficult to set optimal inventory levels, increasing the risk of excess stock, shortages of product, lower fill rates / service levels and increasing costs associated with products past their expiration dates.

Solution

- CT Global was tasked with designing and implementing a demand driven planning and optimization solution using SAS DDPO. This solution included:
- Statistical forecasting using an automated method to select the best statistical model to generate the most accurate forecast with the following features:
 - Selects champion model from 64 possible models
 - Accommodates a calendar that changes every month based on religious holidays and the lunar calendar, and is shorter than the Gregorian calendar
 - Includes forecasts of each SKU/customer combination
 - Includes new product forecasting
 - Provides product Phase in and Phase out forecasts
 - Determines the impact of individual promotions on forecast demand by SKU
 - Allows users to create “what if” demand scenarios
 - Allows users to update forecasts with comments
- Consensus planning using a collaborative method that integrates statistical baselines with business judgment and input to finalize the forecast
 - Workflow documentation and approvals for changes in the forecast
- Inventory optimization based on the highly accurate consensus forecast:
 - Optimized supply based on service level, warehouse capacity, supplier capacity, transportation costs, etc.
 - Optimization models including specified constraints such as required lead times, costs and targeted service levels

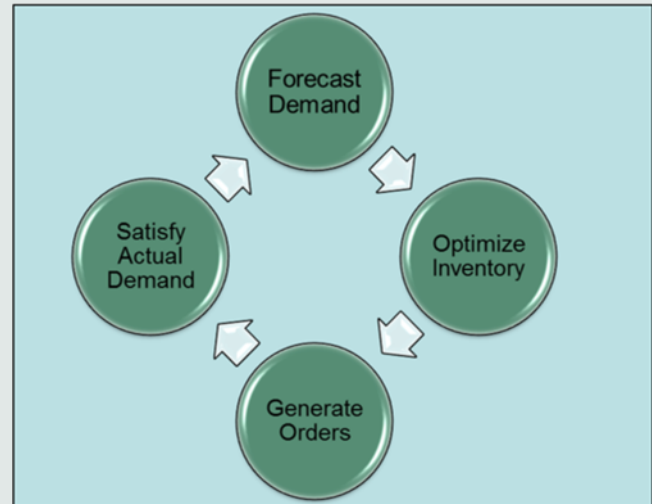


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- Ability to view inventory level/out of stock position based on forecasted demand, orders placed, expiration dates, and expected receipt dates
- Roll up from orders placed to fill container, pallet loads and MOQ's



Inventory Optimization



Inventory Management Cycle

Results & ROI

- Quantum improvement in forecast accuracy with low MAPE scores
- Controllability and auditability on overwrites to output parameters
- Reduced cost from proactive management of stock expiration, improvement in the forecasting process and other factors
- Faster forecasting and consensus planning and significant reduction of manual efforts
- Increased returns based on lower inventory costs, optimal inventory levels and attainment of target fill rates / service levels

About CT Global Solutions

Since 1991 CT Global Solutions has helped hundreds of organizations confidently make planning decisions by turning data into action and action into profits. Our legacy includes helping develop the world's first commercially available profitability analysis software tool. In 2002 this tool was acquired by the SAS Institute, the world's leading analytics software provider. CT Global is a SAS software reseller and gold partner. We design, implement and support financial, forecasting and optimization solutions powered by the SAS Institute.

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