

Demand Planning & Forecasting

Pet Food Manufacturer

Created a comprehensive and customized demand planning model using advanced statistical algorithms to enable the company to accurately forecast demand and plan supply more efficiently

Demand Planning & Forecasting for a Pet Food Manufacturer

Situation

- The client's existing processes to estimate future demand were manual and did not accurately account for increased manufacturing capacity
- Partnered with the client to create a comprehensive demand planning model to help predict future demand using advanced statistical algorithms
 considering seasonality, trends, and promotions, providing the flexibility to overlay marketing or sales team inputs

Accordion Value Add

- Created a demand planning model customized to suit the unique requirements of the client to be able to forecast for each sales channel, including the global business
- Estimated the final demand forecast by SKU and sales channel, taking into consideration future product expirations, new product introductions, open sales orders, and user overlays to incorporate inputs from the sales and marketing teams
- The demand models also included a performance indicator to compare the forecast with actuals every month, making any tweaks to the forecasting process to fine tune the results

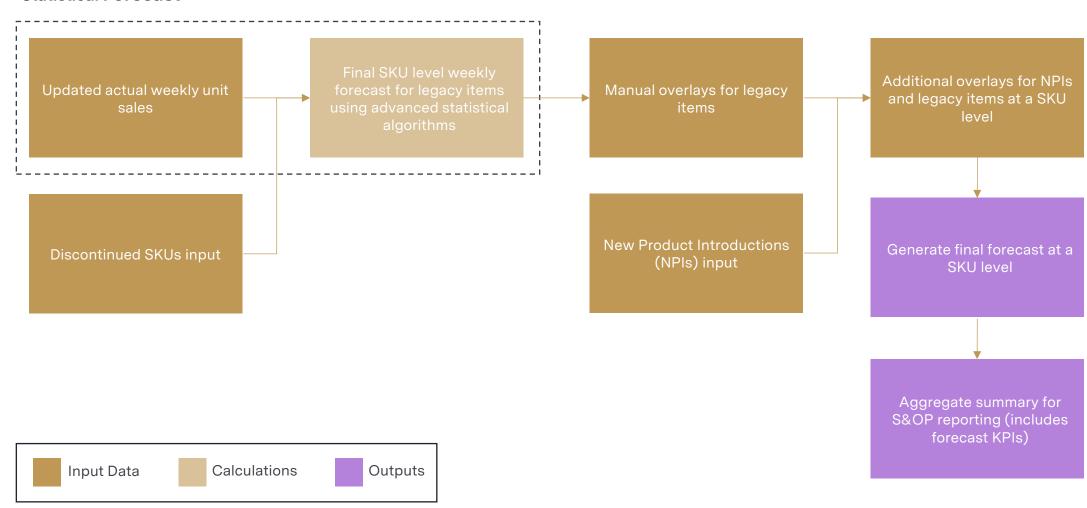
Impact

- The demand forecasting model improved the forecast accuracy by 20%
- The improved forecasts helped the company achieve a10% increase in service levels and generate 30% revenue growth YoY
- The outputs from the demand models enabled the team to plan supply more efficiently, reducing the turnaround time for monthly planning process by 50% and accurately assessing the net product needs to plan inventory and thereby improving the service levels

ΔCCORDION © 2024 Accordion CONFIDENTIAL

Demand Planning Methodology

Statistical Forecast



Statistical Forecast Methodology Input Data Calculations Outputs Actual historical weekly Last 6 months of historical unit/SKU sales at planning data identified as testing sub-brand level (2015 till data date) Identify the best-fit algorithm² Python Preliminary forecast at a Historical data for T-6 for each sub-brand (based on Final forecast of units/SKU at forecast planning sub-brand level for months is identified as the lowest error rate a planning sub-brand level algorithms the test period¹ based on training data set compared with the testing based on a best-fit algorithm (Five) training data data) Last 3 months share of unit Active SKUs count for future sales by SKU within the Final SKU level weekly period (based on existing SKUs, discontinued SKUs, and planning sub-brand for forecast existing SKUs and NPI inputs **NPI** inputs)

- 1. Includes 06 months where we have the actual data in order to back-test the forecast results
- 2. Algorithm considered include ARIMA, Holt-Winters Seasonal, Holt-Winters Non-seasonal, Simple Exponential Smoothening and FB Prophet. Best-fit algorithm (for planning sub brand) is identified based on the Forecast error from each algorithm

ΔCCORDION © 2024 Accordion CONFIDENTIAL