



## Demand Forecasting for Inventory Optimization



## About the Client

Client is a global company founded in 1939 in Bombay, India. Client has grown into a national and global leader in the Oleochemicals and Personal Care product segments. Today client has three main business verticals, Contract Manufacturing, Consumer Products and Oleochemicals. Client has over 16 operating centers spread across 4 continents, Asia, North America, Europe and Africa.



## The Challenge

- ✓ Actual demand of products varied exponentially from forecasted demand resulting in shortage or excess of inventory
- ✓ Client wanted to improve their demand forecasting model and optimize their inventory management

## Solution

- ✓ Data provided by the client didn't have seasonality, trends.
- ✓ Identification of a variable (material type) with maximum data points available from past years.
- ✓ A time series-based forecasting model was developed by training the model with past data, once the model is trained it is tested for accuracy.
- ✓ Initial run of the trained model gave an accuracy of 60% which was due to lack of seasonality and trends in data.
- ✓ We tried to identify other external data point which could impact the inventory pipeline.
- ✓ To improve the model accuracy further, we identified new variable which was rolling pipeline data (90 days/60 days/30 days/same month).
- ✓ A new statistical model was developed to accommodate new predictor variable (rolling pipeline data) along with the past data
- ✓ The new model tested with future predictor data gave an accuracy of 82.4%

## Outcome

- ✓ Our Demand Forecasting solution helped client reducing gap between actual demand and forecasted demand by 20% and this improved inventory planning.



Do you want to empower your  
decision makers?

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