APMAC

Revolutionize Procurement, Master Inventory

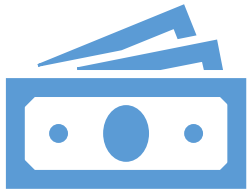
Approx read time: 2-3 minutes

Client

A global conglomerate in automotive manufacturer known for its electrical distribution systems and connectivity and security solutions.

Industry Challenge

The client was facing a major obstacle in their supply chain - inefficient procurement processes combined with limited visibility of stocks led to excess inventory and stockouts of critical parts. This resulted in some key issues:

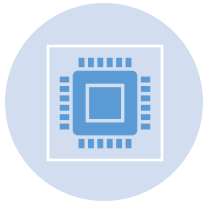


High Holding Costs: Maintain large stocks of parts tied up significant capital, severely impacting cash flow.

Production Delays: Stockout of crucial components causing production delays, hindering manufacturing output and impacting customer deliveries.

Limited Visibility: The lack of a centralized procurement system made it difficult to track inventory levels and anticipate future needs accurately.

Increased Costs: Excess inventory ties up capital and requires storage space, while stockouts can lead to production line stoppages and potential revenue loss.



Delayed Revenue and/ or Orders Cancelation: The lack of critical parts can stall production lines, leading to delays in meeting customer demands.

Reduced Competitiveness: All issues above can hinder overall operational efficiency and can negatively impact competitiveness in the automotive industry.

Solution

After a detailed root-cause evaluation and multiple solution workshops, APMAC recommends to focus on optimizing the data-driven demand forecasting approach. We redesign the whole process from scratch and focused on:

Data Collection & Integration: Revalidated the sales data and seasonality, industry trends and changes, customers forecast data, production capacity information as well as a variety of externally influencing factors like fuel cost or geo-political elements.

Forecasting Method: Test few tools and methods and finally tailored a machine learning algorithm to use complex patterns and generate highly accurate forecasts.

Model Validation and Continuous Improvement: Based on the results, make adjustments to the algorithm and setup a strong governance to ensure regular monitoring and continuous improvement in the long term.

Transformative Impact

By implementing this approach, client was managed to generate ~100 M USD yearly savings by significantly improving the following performance metrics:

Order Fulfillment Rate – improved by ~20%
Stockout Rate – reduced by ~60%
Inventory Turnover Ratio – increased by ~2x

Systematic Approach

Continuous Improvement

Make it sustainable and relevant for long term

Model Validation

Validate in real life, multiple iterations to achieve business targets

Data Collection

Choose data sets, define, collect and integrate

Forecasting Method

Test various models and select the suitable one(s)

How can we help in sustainable future?