



Inventory Optimization

Meeting Customer Demand and Protecting Profit Margins

Overview

A U.S.-based, middle market auto parts manufacturer with approximately \$200 million in annual revenue sells to distributors both nationally and in 12 countries across Europe, Asia/Pacific and Latin America. As the company experienced rapid growth over the past several years, its existing operations couldn't keep up with its expanding business needs. Global supply chain disruptions beyond its control added even more unprecedented and unforeseen obstacles.

Background

Substantial supply chain disruptions due to increased trade tensions starting in 2019 and the global COVID-19 restrictions that erupted in 2020 created supply-and-demand imbalances that resulted in disproportions in the company's inventory mix. In its manufacturing processes, the manufacturer uses common parts or components across its product portfolio, which had placed further burdens on limited supplies. This led to lost sales, cash flow challenges and excess and obsolete inventory.

From an organizational perspective, sales and operations planning processes and KPIs and metrics were lacking, leading to the company's inability to measure business performance accurately, drive root cause analysis or identify improvement opportunities.

Solution

The company chose RSM to help it overcome its supply chain and organizational challenges and build a firm foundation to meet customer demand efficiently and protect profit margins. RSM leveraged its Inventory Optimization methodology to identify improvements quickly.

The solution included the following components:



Business case creation



Project implementation planning and roadmap



Change management



Execution enablement



Organization-wide management coaching

Implementation

Due to the immediate challenges presented by the supply-and-demand imbalances, RSM placed special focus on implementing inventory optimization. This involved developing the analytical capability to more thoroughly understand the company's product portfolios, supplier performance and customer order profiles so managers could make informed decisions regarding inventory stocking levels. Optimizing inventory allowed the company to more effectively allocate critical parts to the highest-revenue and highest-margin products. This helped the organization better maintain its profits and keep customer satisfaction levels high.

RSM's comprehensive methodology focused on five key areas of inventory optimization:

1. Segment inventory

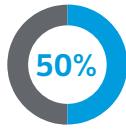
Inventory segmentation enabled the company to identify the slow-moving and erratic inventory that could be de-prioritized. The company's inventory segmentation strategy was based on the business value generated by the finished goods or materials (A, B and C in the chart below) and the demand variability and predictability of the order or consumption patterns (X, Y and Z in the chart).



About 20% of the company's SKUs fell into an even-demand, high-forecast reliability category (Stable).



About 30% fell into predictably variable and less forecast reliability (Irregular).



The remaining 50% fell into a sporadic-demand and difficult-to-forecast category (Erratic).

Each of the categories required a different inventory planning strategy that allowed the company to maintain the adequate inventory levels needed to meet customer demands while balancing costs.

Definition

| | X (Stable) | Y (Irregular) | Z (Erratic) |
|---|---|---|---|
| A | High Consumption Value Even Demand Reliable Forecasts | High Consumption Value Predictably Variable Demand Less Reliable Forecast | High Consumption Value Sporadic, variable demand Forecasting unreliable or impossible |
| B | Medium Consumption Value Even Demand Reliable Forecasts | Medium Consumption Value Predictably Variable Demand Less Reliable Forecast | Medium Consumption Value Sporadic, variable demand Forecasting unreliable or impossible |
| C | Low Consumption Value Even Demand Reliable Forecasts | Low Consumption Value Predictably Variable Demand Less Reliable Forecast | Low Consumption Value Sporadic, variable demand Forecasting unreliable or impossible |

2. Measure demand and identify variability

Measuring demand and then identifying its variability was, and continues to be, a key input into the segmenting of inventory, which then drives decision-making and planning parameters. By tracking the variability of demand, the company was able to more easily understand which products could be deferred until material shortages were alleviated due to more erratic customer demand. It also allowed the company to develop strategies and improve forecasting and communications with customers that were driving the largest amount of demand variability.

3. Eliminate slow-moving and obsolete SKUs

By eliminating and de-prioritizing the manufacturing of slow-moving and obsolete stock-keeping units (SKUs), the company was able to allocate limited manufacturing capacity and raw material inventory – due to major shortages worldwide – to items that would drive the largest revenue for the organization and prioritize the most strategic customers.

4. Optimize system planning parameters

One of the critical results of inventory optimization is the informing of optimal planning parameters within material requirements planning (MRP), which then automatically inform the decision makers of the optimal planning strategy against which to execute.

Outcomes

Based on the recommended target stock levels identified, RSM helped the manufacturer identify an estimated inventory reduction of approximately \$14 million, with an EBITDA impact of \$1 million in the first two years. In addition, right sizing the finished goods inventory mix allowed it to realize an estimated revenue increase of \$1.5 million monthly. Customer service levels also increased to 97%, up from around 75%.

Other benefits included:

- More streamlined planning and procurement processes that inform ERP/MRP planning parameters and other inputs as well as a better understanding of demand patterns and characteristics of the company's product portfolio
- A backlog reduction and an improved win rate that has resulted in increased revenue and related margin
- The elimination of carrying cost on excess inventory that resulted in on-going EBITDA positive impact and value creation
- Improved customer service level and higher customer retention rate

The RSM Methodology

RSM offers a proven methodology and approach to inventory optimization that has resulted in significant bottom-line impacts for our clients. There is generally a quick payback and ROI for these offerings. We've developed a set of analysis tools and technologies to diagnose issues and perform the analyses in a short timeframe.

RSM focuses on middle-market clients and their specific challenges. Our expertise can help resolve client's taxing supply chain management issues with our dynamic sales and operations planning assistance.

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