

Reduced raw material and packaging inventory levels for a leading consumer goods manufacturer



What We Did: Empowered the factory managers to understand the drivers of excess inventory in the manufacturing supply chain

The Impact We Made: Developed capability within factories by creating a detailed continuous improvement framework for inventory reduction

Summary - Inventory management

The manufacturing excellence group was tasked with reducing inventory levels by 20% over five years. Mu Sigma collaborated with the client to quantify the drivers of Finished Goods (FG), Raw Material (RM) and Packaging Material (PM) inventory, across the entire supply chain. Actionable insights were tested and implemented in factories to help managers drive better stocking decisions, leading to a significant improvement in Inventory Carrying Costs. A framework was created for factory managers to help them continuously monitor inventory and drive initiatives to control it.

About The Client - Largest consumer goods manufacturer

The client is one of the world's largest consumer goods manufacturers with significant manufacturing operations in 63 countries across the globe. Mu Sigma collaborated with the Manufacturing Excellence Group, which was tasked with driving cost and efficiency improvements in the manufacturing supply chain.

The Challenge - High inventory carrying costs

As part of a global inventory reduction program, the Manufacturing Excellence Group was tasked with reducing inventory carrying costs across the supply chain by 20% over a span of five years, starting 2013. The Group's primary focus was to reduce Raw Material (RM) and Packaging Material (PM) inventories in the factories and the Finished Good (FG) inventories in the Distribution Centers (DCs). Inventory levels and factors leading to high inventory varied by country and product categories.

The Approach - Root cause analysis

- Raw material, packaging material and finished goods were classified based on consumption trends and inventory value across time and location

- Various hypotheses around lead time variance, lot size, seasonality, order and stock out patterns were tested to identify factors that led to excess inventory in factories
- A multivariate regression model was used to quantify the effect of these factors. Interplay between drivers was assessed and further analysis was performed to identify the true root cause
- The final set of factors for high inventory levels were used to create a continuous improvement program across factories to focus on identification and reduction of abnormal inventory levels. This has helped the Factory Managers fine-tune planning recommendations from the existing ERP systems
- Deep dive analysis was performed to identify the true root cause of inventory issues, and tests were implemented to measure the impact on inventory levels

The Outcome - Improved planning

- Analysis across the pilot product categories over the past year led to multiple insights across the entire value chain and hence a robust framework. Some of the insights were as follows:
 - FIFO not being followed strictly across most factories
 - Deviations found between planned and actual supply to production, across factories
 - High lead time variances found across suppliers
 - Procurement lot sizes were found to be an inventory driver across factories
- Mu Sigma helped develop a framework to identify high inventory RM/PM items and the key drivers leading to high inventories. The framework was developed primarily from the perspective of a supply planner. Mu Sigma shared a detailed document which not only discusses the framework but also outlines the metrics and steps to be followed to track and analyze the inventory drivers - safety stock overestimation, lead time variance, sub-optimal order size, etc. This enabled Factory Managers manage RM/PM inventories at a Factory Level as well as make better planning decisions leading to lower FG inventories further downstream in the supply chain
- Structured and data-driven decision making inherently provided the ability to scale the solution framework globally, and in addition helped reduce Inventory Carrying Costs across the pilot product categories

Contact us at :

T: +91 80 7154 8000

E: ContactUs@mu-sigma.com
info@mu-sigma.com

Visit our website: www.mu-sigma.com

Or write to us: Mu Sigma Inc., 3400 Dundee Rd, Suite 160, Northbrook, IL – 60062