3M

PRODUCT PORTFOLIO AND SUPPLY CHAIN OPTIMIZATION

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3M is an industry leading manufacturer, producing thousands of innovative products across industries. In 2014, 3M generated a global revenue of $31.8 billion. 3M's Construction & Home Improvement Markets (CHIM) Division is part of the $4.5 billion Consumer Business Group. Safety Eyewear is one of the product lines within. CHIM's objectives include improving fill rate to meet key account requirements, improving inventory turnover, reducing dead and excess inventory, and improving supply chain response to demand volatility. For the 14 week project, the Tauber team evaluated the root causes of low margin and low service levels, and developed recommendations on cost-effective supply chain and product mix.

The Tauber team conducted risk and benefit analysis, developed business strategy recommendations, and created tools to assist stakeholders implementing the recommended strategies. The team identified three key root causes: high number of SKUs with mixed performance, large number of suppliers, and rigid, transactional supplier relationship. The team developed a supply chain simulation program in MATLAB to quantify inventory investment and cost difference between the current business model and future state scenarios. The team also mapped the current state value stream and utilized it to control key parameters based on the current model and made reasonable assumptions to use with the simulation program.

Based on the analysis and simulation results, the Tauber team recommended CHIM to consolidate product SKUs, consolidate the number of suppliers, establish 3M-supplier collaboration, and follow the team's short term supply chain strategy guideline. The team identified reductions of 42% of current portfolio and 50% of current vendors to demonstrate consolidation potential. To improve supply chain flexibility, the team recommended building a more collaborative relationship with suppliers. The Tauber team also developed guidelines to assist stakeholders in selecting the optimal supply chain for each product segment to achieve cost savings while meeting key account customers' fill rate requirements.

The recommendations can reduce cost by 2%, lower inventory by 3%, and improve service level to meet key account requirement. In addition, the recommendations enable CHIM to align their product portfolio and business strategy, improve portfolio and supplier management, reduce variability, and increases supply chain flexibility. Multiple tools, including a future state portfolio strategy, a supplier summary, and supply chain cost estimations were developed to guide the product selection process, assist communication with suppliers, and justify supply chain options. The 3M leadership team will be using these tools to negotiate with suppliers in late September supplier meetings.