

Supply Chain Case Study

Profit-Chain Consulting

Our Client

A leading producer of metals and chemical catalysts. The company supplies over 20% of the market, providing a wide range of products from commodity to high value added formulations.

By providing high levels of service to their customers, inventory had reached significant levels. Our client more inventory on hand in raw materials, work in process and finished goods than desired. Past attempts to reduce inventory levels were temporarily successful, but had caused challenges to meeting customer delivery dates.

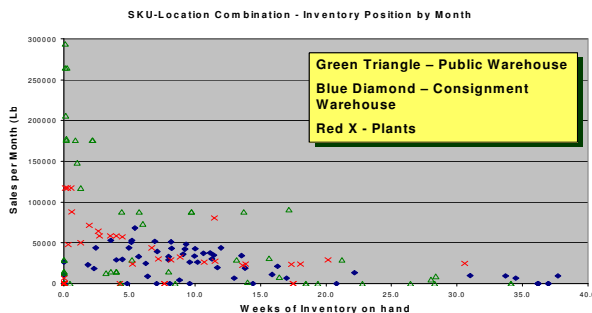
The Inventory Problem

Consulting assistance was sought to develop a more permanent solution. We employed our Supply chain Effectiveness Diagnostic to guide the assessment.

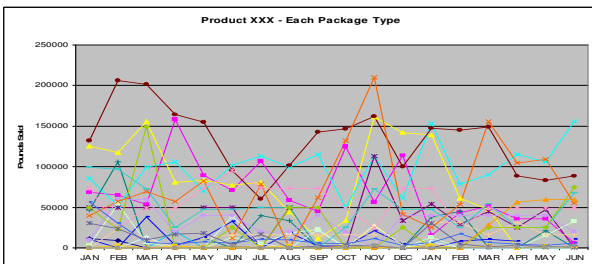
Since significant inventory was held throughout the supply chain the assessment reviewed sourcing, production, distribution and planning. Analyzing the relevant data provided a map of inventory and the governing processes/policies provide initial findings:

- The entire supply chain suffered from poor information flow and inadequate information systems.
- Customer service depended on inventory at distribution centers or consignment locations due to short order lead times.
- Products were packaged or customized to customer needs creating many SKUs and a complex replenishment chain.

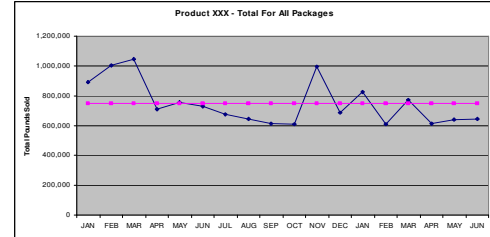
But, the analysis also focused on specific SKUs and the patterns based on customer demand history:



This dispersion of data points showed the difficulty maintaining levels without compromising customer service. The diagnostic also reviewed customer demand to assess variability:



Customer demand appeared highly variable, reinforcing the belief that forecasting was difficult and error prone. But looking at demand at a compound level rather than the packaged SKU level, provided a view of more manageable variation:



The total demand across all compounds for a given processing unit was even more stable, demonstrating that production could be level.

Solution Development

A phased approach was taken to solution development aligning the timing for investment and return. The first phase implemented processes with only minimal additions to the existing systems:

- Transition from push planning to demand pull replenishment.
- Reduction of batch sizes to increase responsiveness.
- Alignment of metrics for demand pull.
- Development of simple database tools to manage pull signals.
- Target inventory levels with a formal planning policy.

The second phase extended the implementation of demand pull to the remaining facilities around the world to:

- Tighten integration with customers for improved visibility.
- Provide consistent operations across all facilities.

Consistent demand pull across all operations improved the internal supply chain as well as the supply for feedstock from suppliers and finished products out to customers. In the future, improved systems will be implemented to re-planned faster and closer to changes in actual customer demand.

Results

Inventory was the initial key metric to gauge progress on cycle time, closer response to customer demand and overall demand pull transformation. With the inventory measure, the client assessed how quickly cash was being generated.

- Within six months, inventory was reduced 20% (\$25 million)
- After 18 months, inventory reduced another 12% (\$15 million)

Additional benefits along with inventory reductions were identified as new systems were implemented.

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