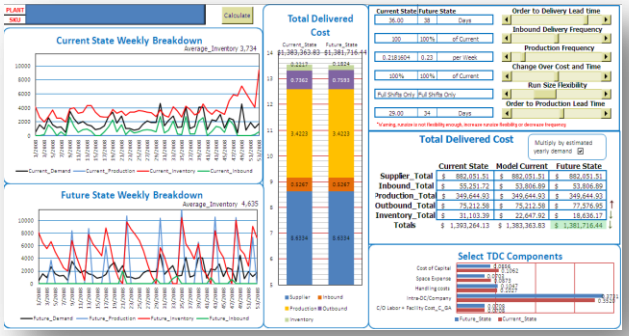
case study [TOTAL DELIVERED COST MODEL]

Industry: Food and Beverage

ANALYZING THE SUPPLY CHAIN TO FIND OPPORTUNITIES TO REDUCE TOTAL DELIVERED COST, AND IDENTIFYING PILOT SKUS FOR IMPLEMENTATION

current state — Customer Challenges

A leading food and beverage company was experiencing pressure from its customers to reduce lead times, have more competitive prices, improve service levels, and increase product freshness. It was striving to incorporate a more holistic view of its supply chain operation.



The client's business spanned four factories with production requirements centrally managed. Historically, the factories produced in shift increments, based on a monthly forecast and only prioritized critical items within the month. Only 35% of the SKUs could be produced in multiple locations. Other production constraints included labor balancing, full shift increments, and shared equipment.

The client suffered from high transportation costs, 30-40 day lead times, and large gaps between what they produced and actually needed. Current metrics included:

1) Inter-Plant (Inter-DC) Freight Costs

2) Inventory Cover and Costs (Including Overflow and External Warehouses)

3) Salvage

4) Forecast Accuracy

future state — Analysis, Tools, Solutions

LeanCor's Lean Deployment team defined the supply chain implications of moving to a flexible, regionalized production effort. They outlined the following goals for the project:

1) Align production strategy with regional sales.

2) Understand steps to achieve the future state.

3) Engage team members to implement future state.

4) Change the culture, shift mental models, and align staff.

5) Align plant/logistics goals, and agree on joint efforts for improvement of holistic business performance.

6) Continue minimizing total delivered costs (production, inventory, freight).

7) Reduce lead times and inventories.

LeanCor developed a Total Delivered Cost Model that simulated the effects of adjusting certain supply chain variables, including: supplier order-to-delivery lead time, supplier shipment frequency, production frequency, change-over cost and time, batch size production amounts, and order-to-production lead time. Over 200 input data points were used (over 8000 inputs for 42 modeled SKU's). Output measurements included several different cost points, inventory impacts, cross-shipment amounts, and lead-time impacts.

Future metrics would include:

1) Inter-Plant (Inter-DC) Freight Costs

2) Inventory Cover and Costs (Including Overflow and External Warehouses)

3) Salvage

4) Forecast Accuracy

5) Flexibility

6) Total Delivered Cost

LeanCor also conducted a Lean Awareness workshop to introduce team members to the Lean Supply Chain, including rigorous “Go See” activities to understand “make to order” constraints. The workshop prepared team members with training on lean principles and problem solving. In addition, the LeanCor team worked alongside the client to improve its scorecard process and share best practices on a variety of lean topics.

results thus far — Deliverables, Improvements, Customer Home-Runs

With this Total Delivered Cost Model of the supply chain, the client could define the value proposition of lean principles in supply chain according to its make-to-order vision. It could accurately estimate the impacts of various system impacts and implications for potential future state scenarios, validate which SKU’s to pilot, and understand what parameters could reasonably be changed for implementation. A pilot program was launched to run smaller batch sizes, more frequently, based on a weekly forecast for three items and expand to twelve items. It enabled the client to increase the flow of materials, reduce inventories, improve customer fill-rates, and reduce the total delivered cost of producing finished goods.

“Although we added complexity to the lines with more frequent line changeovers and shorter production cycles, we captured more than $85,000 with the initial three SKUs in phase one, by reducing cross shipments and cycle inventory. In phase two, we expect to capture incremental savings of $436,000. We are still in the beginning stages of our path to Value Stream Optimization. However, as we go along the Lean Roadmap, we know we can count on [LeanCor’s] continued support.”

-Head of Supply Chain

