Supply Chain

Reduced shipment complexity and cost through network optimization

fractal

INTELLIGENCE FOR IMAGINATION

The Big Picture

A Fortune 100 Technology company had high complexity in distribution and SKU portfolio, which led to suboptimal costs of shipment. It sought to reduce its cost of shipment through network optimization. The challenge was setting the correct replenishment cycle time and quantity, based on inventory values, freight costs, and an assessment of service levels. The other challenge was to identify which class of SKUs to target and optimize the network for the shipments of these SKUs. It was determined that network optimization through a best-in-class inventory rule, along with various network management techniques at the distribution center level would solve this problem.

Transformative Solution

The following inventory and network optimization methods were used to address the company's challenges:

- Analyzed network shipments by creating order, inventory, and shipment, along with systematic modelling of the supply chain network.
- Engaged across functions i.e., network design, channel, planning, logistics & distribution, order fulfilment and customer services.
- Identified major drivers for out-of-region shipments by assessing the network KPIs, i.e., number of transit days, day-on-hand, distance travelled and cost per shipment. These KPIs simulated and assessed the impact of proposed inventory levels.
- Provided actionable recommendations to reduce freight costs, and identified areas to improve service levels based on prescriptive analytics on allocation principles, transportation route, and inventory planning.

The Change

Optimized network with two DCs instead of three resulting in multi million dollars in cost savings. The company identified opportunities to reduce ~5% of total freight costs by eliminating sub optimal shipments. Also, a deeper look into demand vs replenishment profiling for distribution centers resulted in a recommended action plan to increase the frequency of replenishment from four to three weeks.