

CASE STUDY

Supply Chain Improvement - ScSimulator

- ▶ **Objective**
Reengineer client's supply chain for agility and cost-effectiveness
- ▶ **Client**
Subsidiary of one of the world's largest cement and aggregate supplier
- ▶ **Benefits**
Optimized network configuration resulting in savings of approx USD 6.8 Million

Project Objective

To analyze existing supply chain and identify focus areas for developing an agile and cost-effective supply chain and establish appropriate KPIs to ensure appropriate performance.

Client

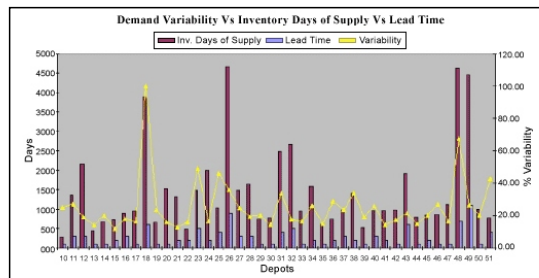
A subsidiary of the second largest Cement manufacturing company in the world.

Approach

The project was initiated with a survey of the demand variability and mapping the existing supply chain network structure into ScSimulator (DecisionCraft's proprietary solution). The inventory levels at different depots were mapped to the depot's demands highlighting the need for a thorough network and policy analysis using ScSimulator. ScSimulator allowed simulating hypothetical scenarios based on alternate network configurations and policies. Optimal network configurations and policies were estimated using ScSimulator.

Other Case Studies

- ↳ Distribution Network Redesign : *Strategic roadmap for supply chain change*
- ↳ Scheduling and Optimization: *Optimal resource scheduling*
- ↳ Sales and Operations Planning: *Sales and operations planning for commodity*



Demand variability study

- Create What-if scenarios and analyze**
- Network Related Scenarios*
- From where to source raw material and how to supply FG to One Stop Shops and retailers?
 - Do they need distributors?
 - What should be the size of a storage (Silo) at plant?
- Policy Related Scenarios*
- How responsive is my supply chain to sudden spikes in customer demand?
 - If I increase the service level from 95% to 99%, how much average inventory will increase and where?

Scenario analysis for supply chain

Solution

A series of recommendations were made in terms of network configuration and supply chain policies that included back hauling and reducing the usage of costly spot charters for shipping raw materials.

Activities	AS-IS		Activities	TO_BE
No. of Ports	3	→	No. of Ports	1
No. of Warehouses	4		No. of Warehouses	2
Types of Ships	4		Types of Ships	1
No. of Material Flow Links/paths	9		No. of Material Flow Links/paths	4
Supply Chain spread	Diffused		Supply Chain spread	Consolidated
Back Haul	None		Back Haul	Yes
Ship contract	Spot charter & Time Charter		Ship contract	Time Charter

Reengineered supply chain based on our recommendations

Benefits

The savings for the client were estimated to be approx. USD 6.8 Million based on the new network configuration and policies.