



Case study

Improve Service Levels and Inventory Turnover with Optimal Inventory Replenishment and Order Generation

A large number of SKUs belonging to several popular wafers and chips brands of a multinational food and beverage maker experienced regular instances of stock-outs and excessive inventory in its distribution channels. The company engaged a consulting firm which, in turn, approached IGSA to provide a solution for continuous inventory replenishment and order generation that could help streamline SKU flows through the client's distribution channels.

Challenge

The company produced and sold over two hundred SKUs through distributors in all cities of India. Each large city had a depot serving 30-60 distributors who, in turn, served small and medium retailers. Majority of consumers exhibited 'impulse purchase' behaviour and the demands of SKUs varied items across times as well as regions. The key value sought by the company was to determine the optimal inventory replenishment norms (i.e. safety stock level, re-order point, re-order quantity) of every SKU with every distributor. The large number of SKUs called for a replenishment system that minimized stock-outs, controlled inventory levels, and simultaneously was feasible with respect to various real-world constraints such as limited availability of stocks at depots, transport MOQ requirement and fund limits of distributors.

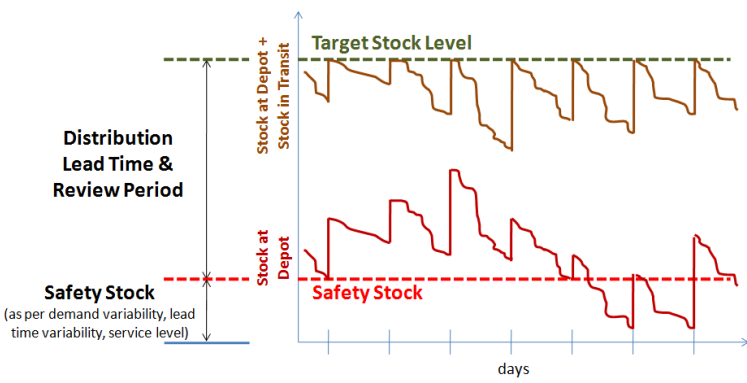
Solution

Post preliminary assessment of the situation, the city of Chennai was selected for a pilot test of the proposed system. IGSA's team tailored its demand planning and replenishment solution to client's requirements and the constraints of its depots and distributors. This solution forecasts demand determines optimal inventory replenishment norms and generates orders based on them. The modeling parameters included SKU Class, Distributor Class, Class-wise Target Service Level (or Fill Rate), Average Daily Demand Forecast, Demand Variability, Supply Lead Time, Supply Lead Time Variability, Stock Availability at Depot, Distributor's Fund Limit, Truck MOQ (Utilization) Requirement, among others. IGSA team automated the process of data upload, model execution and order generation and KPI (key performance indicators) report generation.

The Chennai pilot was successful and the results called for its replication across the ten metropolitan and large cities of India. IGSA provided constant support to fine-tune the tool to fit with the company's organizational and operational needs. Over a period of six months, the tool was perfected and integrated into the company's operations. The demand planning and replenishment solution now resides at each Depot and is operated by a Continuous Replenishment System (CRS) Executive. It determines the safety stock level and re-order point of every SKU at every distributor, updates these norms periodically, and places orders every day on behalf of distributors to the depots.

Result

The benefits of demand planning and replenishment solution were multi-fold. At the outset, average inventory levels were reduced by about half without comprising the service levels. Freshness and range of stocks available at distributors premises for market consumption improved significantly. Month-end spikes in orders and supplies reduced owing to continuous replenishment system. The system replaced ad-hoc methods, resulting in greater streamlining, transparency and trust among the client company and its channel partners. Manual, ad-hoc follow-ups by sales executives reduced drastically. This the end-consumer sales



Pristine Order = TSL – (Closing Stock at Depot + Stock in Transit)

Fig: Demand Planning and Replenishment System

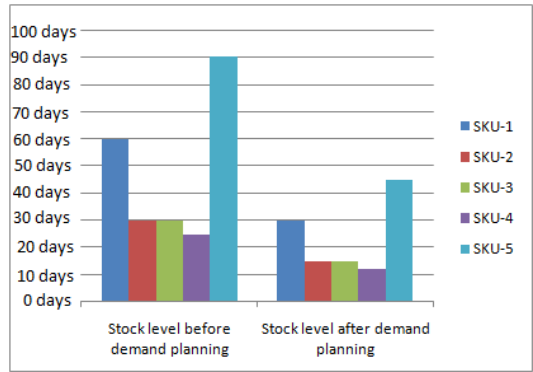


Chart: Demand planning and replenishment system

