

## **Why Sales & Operations Planning (S&OP) Needs to Include Inventory**

*By Joseph Shamir, CEO, ToolsGroup*

AMR Research calls Sales and Operations Planning (S&OP) “the cornerstone of the demand-driven supply network initiative” and targets it as “one of the highest supply chain management investment areas in 2006.” (Source: Lora Cecere, AMR Research, “The Handbook of Sales and Operations Planning Technologies,” March 2006). The same report introduces an improvement to S&OP called Sales, Inventory and Operations Planning (SIOP).

Every consumer-oriented company who is reviewing and improving their S&OP processes should build inventory modeling and optimization into their process.

Here’s why.

Customer service is the ultimate goal of the consumer goods supply chain. Improving service levels not only preserves or increases space on the retail shelf, but it also yields an impressive financial improvement. At a constant “cost to serve,” reducing out of stocks (OOS) increases the top line, dropping most of the additional gross margin to the bottom line.

Yet many consumer goods companies are still using weak approaches for planning customer service levels and deriving inventory targets, and are getting equally weak results. Organizations may talk about optimized stock mix and right-sized inventory buffers as critical to balancing demand and supply, but planners still spend most of the time chasing around the supply chain, manually intervening, expediting inventory and inadvertently exacerbating the problem. We call this “the vicious circle,” because well-intentioned planners are actually making the problem worse.

Solving the customer service problem starts with understanding the issue of volatility. Even with the best S&OP processes, supply chain environments are fraught with demand volatility and supply uncertainty. Customer demand vacillates, often in no relation to past sales. Promotions and new product introductions impact demand. Even if an organization can predict the impact of its own activities, customers’ and competitors’ promotions still hit demand in unforeseen ways.

High-quality forecasting of a reliable demand signal is fundamental, but it does not equate to achieving consistently high customer-service levels. The replenishment flows have to be synchronized with the demand signal as it propagates along the supply chain. This is done with inventory.

Inventory buffers the fluctuation of the demand. It behaves like a “shock absorber” against supply chain uncertainty. Without careful optimization, that inventory loses its

effectiveness at higher customer-service levels. And, we are back to the vicious circle all over again: the uncertainty wrecks the S&OP process, amplifies the noise and reduces the supply chain efficiency.

To achieve a Demand-Driven Supply Network (DDSN) and world-class service levels, the inventory mix has to be optimized and re-optimized regularly, in step with the speed of change in the business environment. How do companies achieve this?

Best-practice firms have created a cross-functional S&OP process called service planning. In it, finance, supply chain, marketing and production collaborate to define target customer service levels for product and market segments. With the right tools in hand, they make fact-based service-level trade-offs that minimize inventory, maximize margins or minimize obsolescence as an integrated part of the planning process.

Moving from planning to execution, SIOP is delivered through “Stock Mix Optimization,” which translates the target service levels into an optimal inventory mix for each item at each location across the entire supply chain. To guarantee service-level targets, the inventory levels at each node must absorb and buffer the statistical fluctuations upstream and downstream. Furthermore, these targets should be dynamic, revised frequently as the uncertainty evolves and changes in time. This approach ensures a higher global service level with less inventory.

While S&OP strives to create perfect forecasts and perfect feasible plans of supply, SIOP also successfully creates compensation mechanisms for the volatilities and uncertainties that rack the supply chain. This additional capability requires an extension to the S&OP mindset and some investment in additional technology. But, the pay-off is substantial – AMR Research has found that DDSN leaders have 10 percent higher revenue and 5-7 percent better profit margins than competitors. Our own studies show that leading consumer goods companies employing SIOP eliminate 30-50 percent of stockouts on average, while reducing inventory and costs by *at least* 20-25 percent, often more.

Here are two examples.

- In 2004, by implementing this process, a Personal Care division of one *Fortune* 500 consumer goods manufacturer reduced inventories by more than 25 percent, yet increasing service performance to above 99 percent. The company did this in just a few months by adding inventory modeling and optimization to its S&OP process. Based on this success, the company is now making the new process a standard operating procedure worldwide.
- Dixons Group is a \$10-billion multinational retailer in Europe. Stocking consumer electronics inventory has its challenges: short shelf life, frequent new product launches, discounts, promotions, etc. Dixons deployed new inventory management technology that rationalized and optimized inventory across 15 stores. Stockouts were reduced 35 percent at the central warehouse and a remarkable 50 percent at the store level. Overall inventory went down, despite adding new stores. Return on investment (ROI) took just a few weeks: the margin from eliminating lost sales quickly eclipsed the total cost of the project.

What's the first step? A good place to start is a one-off inventory assessment. A snapshot of the demand and supply pinpoints the trouble areas and identifies the gaps between current and potential performance, and highlights the potential return on investment.

But, because of the speed of change in the modern supply chain, reviewing safety stocks as a one-off exercise, or even once a year, is only a start. Best-practice leaders create a regular SIOP process, yielding sustainable improvements with huge paybacks. Returns on investment are almost universally measured in a just a few months.

Like everything else in supply chain, the “need for speed” in optimizing inventories is growing. At consumer-oriented companies, optimizing inventories needs to be part of every S&OP process.

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