Demand-Driven Supply Networks Require a New S&OP Process
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The Issue: With demand for products depressed in a down economy, companies must capture every drop of opportunity. Ensuring that sufficient supply is available requires a more robust, technology-supported Sales and Operations Planning (S&OP) process than many have in place today.

Demand-Driven Supply Networks (DDSNs) need to fulfill the perfect order

But achieving cost-efficient, flawless order fulfillment means matching supply and demand using an S&OP process with the proper technology. While the concept of an S&OP process is decades old, many companies are looking to revise current processes, capitalizing on the $10B that they spent over the past five years on supply chain planning software. Many companies put in the software, but did nothing with the process. Changing the process and supporting it with underlying technology lets marketing, sales, operations, and finance finally jointly participate, making better use of external information.

An S&OP process, by definition, is a routine cross-functional, consensus-based process

It is used to better align demand and supply plans.

The typical process involves the following:

● **Plan creation**--Based on one or more formal inter-departmental meetings, in which constrained and unconstrained demand and supply plans are developed

● **Collaboration**--Designed to lead to consensus and accountabilities of a set of single-number plans

● **Management**--Often the responsibility of a supply chain planning or demand management group, meeting are set to make sure the plan is executed

S&OP delivers high performance

AMR Research has benchmarked high-performing companies and found that S&OP was one of the most important best-practice processes in its operational success. One finding shows that best-in-peer companies across four industries--Consumer Products, Bulk Chemical, Industrial Electronic Equipment, and Tier Automotive--maintain up to a 10% advantage in perfect order fulfillment (for example, 100 out of 1000 orders). And all of these high-performing companies are linked by the fact that they use S&OP to plan for 100% of their demand.

When S&OP is done well, demand matches supply, thus yielding the following:

● Lower inventories

● Reduced operating costs

● Maximized customer service and revenues

● Increased profitability and Return on Assets (ROA)

Technology is available today to support S&OP for DDSN

Most S&OP processes have a weekly or monthly planning cycle with collaborative inputs from cross-functional

stakeholders, including marketing, sales, operations, and finance managers. To gain consensus, each stakeholder must be able to create, review, and revise plans. Since S&OP processes often develop supply plans that entail material needs down to the lowest component/raw materials level of a bill-of-material, technology is needed to aggregate and disaggregate plans, effectively slicing and dicing large-scale detailed plans in a way that is most meaningful to each stakeholder.

Since the mid-1990s, when planning was at its hottest, best-of-breed supply chain and Enterprise Resource Planning (ERP) vendors have grown created suites of products that support the S&OP process, albeit fragmented and labeled Advanced Planning and Scheduling (APS) or SCP product suites. But don't let the once over-hyped promises of supply planning scare you away.

A number of planning applications are now available to support S&OP processes, including the following:

- **Demand-Side Planning**--Two types of software applications can be used to support an S&OP process: demand forecaster/planner and demand collaborator.
- **Supply-Side Planning**--A variety of software applications can be used in the S&OP process to plan inventories, material purchases, manufacturing, and other supply chain operations, including a supply planning tool that supports multi-facility planning, Distribution Requirements Planning (DRP) and inventory management software, inventory optimization software, and supply collaborator applications or supplier portals.
- **Demand-Supply Alignment** – An S&OP workbench comprised of dashboards and scoreboards is most often used. With packaged software applications not prevalent, templates are often used instead to bring together information to help decision-making and to manage the S&OP process itself.

Recommendations:

At AMR Research's recent Lean Manufacturing Summit, we presented an *S&OP 4-stage Maturity Model* that we recommend to be used to review and improve current S&OP process performance. The model is broken down into the following stages:

- **Chaos Stage**--No formal S&OP process exists, and each stakeholder organization develops its own demand forecasts from which to plan supply. There are a large number of disjointed planning spreadsheets. **Recommended action:** Establish a formal S&OP process and start harmonizing (not necessarily fully synchronizing) their spreadsheets.

- **Operational Stage**--An informal, undisciplined, and largely imbalanced S&OP process exists, in which there are a large number of planning spreadsheets, but some electronic-sharing and at least informal consolidation takes place. **Recommended action:** Get executive approval to install a structured S&OP process in which participation and accountability is fostered. Use a demand forecaster/planner application to consolidate the multiple planning spreadsheets.

- **Analytic Stage**--A formal, disciplined, yet still imbalanced S&OP process exists. Typically standalone demand forecasting/planning applications and standalone supply-side applications are deployed. Some external data, such as customer forecasts or supplier capabilities, is brought into the process. **Recommended action:** Implement a demand collaborator and interface demand and supply-side applications. Implement a simple S&OP workbench linked to demand and supply-side applications, to move to a more balanced process.

- **Immersed Stage**--A formal, disciplined, and balanced S&OP process exists. An integrated, supply-demand application architecture is in place, with fully integrated demand and supply-side applications and an S&OP workbench. External collaborative information is usually brought into the applications electronically using demand and supply collaborator tools or portals. **Recommended action:** Develop the most accurate plans, and flawlessly execute them, while also handling plan exceptions. Some innovative companies are moving into stochastic risk-adjusted planning methods that mitigate the vagaries of supply and demand. Few companies have achieved the Immersed Stage, which is where the S&OP process needs to fully support DDSN. However, those organizations moving closer using the *Maturity Model* will reap benefits and stay competitive.