

IN THE FAST LANE: *Sales & Operations Planning*

Overview

Sales and operations planning is essential for strategy execution, especially for organizations with large numbers of SKUs or unique items. Trends in the competitive landscape such as the rapid evolution of products, decreasing average product lifecycle times, product manufacturing agility, increasing lead-time for critical components, customer centric product specifications and increasing product configurations are forcing organizations to plan at the more detail level more frequently.

Many organizations with great strategies stumble when it comes time to execute on their strategies. The most common reason for this failure is the lack of a Dynamic Sales and Operations Plan (DSOP) that is consistent with their competitive strategy.

Definition of DSOP

A dynamic sales and operations plan is a central repository of information that guides the day-to-day and short-term activities of the organization. It is dynamic because new information is incorporated into the plan on a frequent basis, usually daily, and allows the organization to fine tune its activities. It is competitive because it incorporates the information about competitors and their actions so that the plan can be adapted and proper actions can be taken for timely execution.

A DSOP manifests itself as a centralized data warehouse that brings together financial, sales, marketing, production and supporting enterprise information in order to create a plan of record. This plan can be used to deploy the organization's valuable scarce resources using a robust planning application that allows the various stakeholders to incorporate their information into the plan or record. Once the plan is frozen, analytical applications can be used to slice and dice the data and exception management systems can be used to monitor transactions and provide alerts to a feedback loop so that timely decisions and actions can be made. The DSOP brings these key elements together in an integrated fashion. The figure above depicts this.



Demand Management

The first key element of a DSOP is demand management. Demand management involves defining the market space, defining the defensible niche, forecasting aggregate and SKU level demand and incorporating the effects of promotions and events that affect demand. For some items there is only one opportunity to decide on a quantity to produce because the selling season is much shorter than the re-supply lead time. Improvements in application software solutions and an effective DSOP process can help reduce the cost of forecasting ahead.

Demand Forecasting

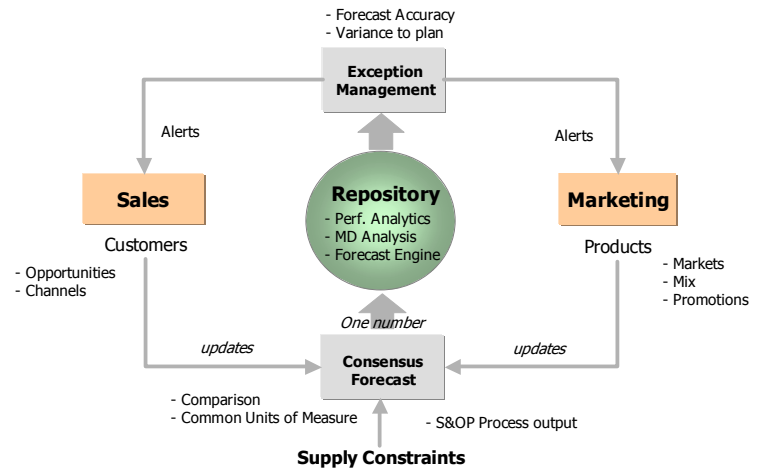
"We usually forecast year-over-year incremental improvements. Then, sometime during the down year we recognize that we're going to miss our numbers by a huge margin."

In a demand-driven environment where the focus is on meeting customer expectations, accurate demand forecasting is only achieved when a collaborative process integrates various forecasting systems. By adding performance analytics to measure the iterative plan and understand trends, along with exception processing to

generate alerts, companies can become even smarter about anticipating shifts in demand. The end result of improved forecast accuracy is reduced inventory costs; better customer service and improved cycle time and fill rates.

"Demand management often is a company's first entry into a full-blown supply chain planning and management initiative. But if the data you have about demand is not accurate, then all the subsequent steps you take in manufacturing and fulfillment will be off too." - Bob Ferrari, AMR Research analyst.

The biggest challenges with various forecasting systems are that they are driven by different departmental needs and incentive systems combined with the rapid cycle of the business itself and its competitors. This all leads to forecast inaccuracy that is really just the indicator that customer service, asset utilization and costs are mostly likely sub-optimized. Corporations of any size with lots of customers and products simply cannot even hope to optimize their operations without the integration of real-time business performance measurements, expert systems, and collaborative planning engines linked to their ERP or front office systems. The thorniest problem may be a by-product of the disparate forecasting systems in the enterprise – the lack of detail that represents a consensus view of demand.



The challenge has always been to develop a single forecast that is “agreed upon” and understandable by everyone in the enterprise. See the diagram above. Each part of the enterprise operates at a different, but interconnected, rate. From a strategic perspective the corporate financial forecast at the top is usually a yearly budget with performance against plan reported quarterly in currencies about business units and regional conditions with only limited visibility to markets and customers.

Not only do we need to provide SKU or end item-level forecasts to the production execution systems, we need to monitor and make appropriate changes to the demand patterns as they are detected. Those changes may not be within the production or materials contract planning horizon, so the feedback from Supply constraints may cause customer service problems.

At the core of the operational forecasting system is a data repository that houses enterprise data for doing multi-dimensional analysis and providing performance analytics in the form of customer scorecards, Key Performance Indicators, etc. The repository holds customer – product detailed level sales, returns, rough cut capacity, open orders, costing and units information. The key is that the information is reorganized in a time series usually for multiple years and becomes the basis for feeding the built-in expert system-based forecasting engine.

Once the baseline plan has been created it must be monitored and controlled with an exception management system. That system must provide performance metrics from many different perspectives — customers, channels, markets, products, cross-selling results, promotional effectiveness and external market trends. For companies with many products and many customers the process is greatly simplified with a rules-based system for alerting operational teams about changes that must be dealt with. In the end, the process is iterative and continuous and only possible with the right combination of today’s technologies.

Inventory Management

The second key element of DSOP is inventory management. Specifically two types of inventory need to be planned: the inventory to load the channel at the start of the selling window (season) and the inventory for replenishment during the selling window. Inventory management for some products is important because there usually isn't a second chance to make a sale of the product. That is, inventory must be micro-managed so that stock outs and inventory obsolescence are minimized. With the inputs from a DSOP process, inventory can be

managed in order to mitigate these risks. Demand forecasting and multi-level planning allow you to minimize inventory while maintaining or increasing service level. Minimizing inventory decreases “real” costs and cash flow. Maintaining service levels increases customer satisfaction, retention and revenues.

Micro managing inventory involves monitoring daily or weekly demand variation, safety stock levels, service levels and inbound and outbound lead times. The day-to-day operational decisions become very important because each decision can potentially affect successive decisions. But as the quantity of decisions increase only a core number of these decisions need to be analyzed carefully. Yet the remaining decisions can be critical when taken as a whole and therefore these decisions still need to be made. This can stress the decision making process as the inventory analysts are constantly putting out fires instead of analyzing the data. In fact most analysts actually become expeditors instead of inventory managers.



SOURCE: e-Distribution by Lawrence, Jennings, and Reynolds, Southwestern Thompson Publisher

One may be tempted to conclude that managing thousands of products is nearly impossible or can be handled with expensive software. A robust DSOP software with an exception management system will allow organizations to manage the inventory processes efficiently. The exception manager can be configured so that rules-based detects can be created to monitor an inventory event. Once the threshold for the rule has been breached an alert can be sent to the inventory analysts, planners and other operations people (or to those whose DSOP is affected). The exception management process with alerts and triggers therefore aids in the management of inventory decisions. The exception manager becomes an integral part of the policy loop as depicted in the figure above.

For example the replenishment and reorder (R&R) decision is crucial for a manufacturer, distributor and retailer. Organizations generally make simplistic R&R decisions because their existing software does not provide the necessary information to make advanced decisions. But making a decision to reorder is not that easy especially if you have to tie up working capital and face obsolescence risk. The potential for both of these risks can be extremely high. A prudent way is to view the past pattern or history of the product relative to the reorder point. Such analysis requires aggregate data of the product being analyzed. Furthermore, the aggregate and detail data need to be viewed in multiple dimensions, such as item ship-to account or item location.

For example, if you do not reorder on a timely basis, who are the top customers who will be affected based on recent trends and forecasts? What channel, distributor and retailer will be affected? What are the costs of lost sales by product and channel? Questions like these can only be answered by performing multi-dimensional analysis. Multi-dimensional analysis of such data allows you to make an intelligent reorder decision. Looking at just your product using transactional information may give you some information, but looking at the product from a holistic or multi-dimensional perspective allows you to incorporate more information that is relevant to the decision at hand. Information from an organization's CRM system, financial system and returns management system can provide the decision maker with additional information which can be used to reduce the risk of committing capital for the order.

Most forecasts are performed at an aggregate level such as product line. But aggregate demand forecasts must be translated to distribution requirements so that the right product is at the right place. Aggregate product forecasts do not allow the organization to place inventory at the item location level. A multi level allocation engine will allow the organization to intelligently allocate the product based on seasonality of the item at a particular location. A centralized data warehouse with DSOP can perform these multi level allocations and be scaleable so

that thousands of products can be allocated over thousands of stores. Such decisions must be performed frequently using the most recent data so that operational actions can be carried out on a timely manner by the individual most capable and responsible for the decision.

The process of using a DSOP, along with the right software application, will allow the organization to forecast demand and plan replenishments that will enable it to achieve a balance between market-driven customer service level and the cost of holding inventory. A collaborative process involving both internal and external partners can yield inventory replenishment schedules for the entire chain. The collaborative process becomes vital when a significant portion of the "make" or manufacturing function is outsourced to more efficient partners. The organization will be able to efficiently and effectively manage inventory risk, optimize availability, manage demand, monitor lead times, control orders and refine inventory policies.

Silvon Solution Features

Silvon Software's suite of Stratum™ applications embodies the concepts described in the CSOP. The application elements, which support a DSOP, are as follows:

1. Stratum Server data warehouse foundation
2. Predefined set of application modules
3. Multi-Level Planning Capabilities
4. Exception Management
5. Flexible Information Delivery
6. Enterprise Connectors
7. Closed Loop Processing

The figure to the right shows the relationships between the elements. This architecture and its application components allow a company to increase its reaction time and facilitates the flow of decision-making needs closer to operational interfaces. Silvon's solution allows employees to execute plans predicated by predetermined business practices and values.



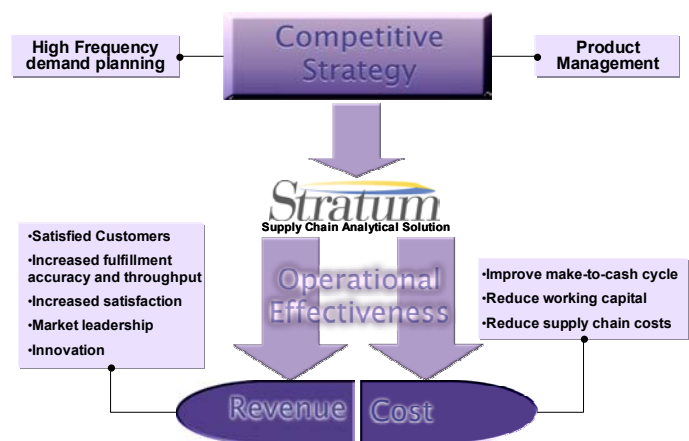
Silvon's Demand Planning & Forecasting module is a sophisticated application that supports planning and forecasting across any organizational, customer, geographic, product categories or time periods. The predefined set of applications offer best-practice templates for quick and easy implementation and is highly flexible for businesses with complex planning needs. The Exception Manger can be used to monitor / adjust plans in a proactive manner and manage events that may impact the business negatively. It allows the organization to automate its monitoring of business processes so that the analyst or planner is free to concentrate on monitoring the most important events.

Silvon's Inventory Performance Management module provides companies with standard, industry accepted, statistical algorithms that can be applied in a variety of scenarios. Inventory optimization and planning incorporates the ability to define and update product ABC classifications based on inventory return on investment so highly profitable products that move the fastest are considered A items (and they should be!). Further, you can establish your inventory policies for service level safety stocks and replenishment by ABC classification. The analysis within the Inventory Performance Management module further allows you to assess the cost to carry inventory investments, compare different inventory level cost scenarios, and help manage inventory levels so you have what is really need to satisfy customer requirements.

Summary

A DSOP process is essential for strategy execution, especially for organizations with large number of SKUs or unique items. To make knowledgeable, informed decisions, an organization's decision-makers require a complete, detailed, and holistic view of corporate operations and market conditions.

A DSOP application allows proactive companies to improve business results by enabling the flow of mission-critical information and improving the quality of strategic and tactical decision-making. The DSOP application links such disparate activities as financials, sales, marketing, and manufacturing. The link is critical for companies with large numbers of new products. With a tightly integrated DSOP process and a software solution, companies can manage their businesses, lower administrative costs, improve cash management, and make better long-term planning decisions. The figure above shows how a DSOP application such as Stratum™ affects revenue and cost while contributing to profit improvement.



One of the most effective ways to increase control over the environment in which decisions are made is to implement a DSOP process with collaborative demand management, as well as inventory planning and optimization components. Effective decision-making can't be made in a silo environment. By linking specific business functions such as sales, inventory, supplier scheduling, purchasing and order entry, companies can develop optimal distribution and manufacturing plans.

[Silvon Software, Inc.](http://www.silvon.com) develops and provides business performance management analytic applications to manufacturing, wholesale distribution and retail enterprises. The company's Stratum product suite includes the technology and functionality required to support the collaborative demand forecasting process, as reviewed in this white paper. For more information, visit www.silvon.com.