

white paper

Finance's role in **bridging** the **S&OP gap** with corporate **performance management**



Optimizing the sales and operational planning process is a key planning component of a successful manufacturing operation. When the process is optimized, excess inventory is reduced, the production plan is married to customer demand and ultimately the bottom line is positively impacted. There are a variety of tools and best practices to facilitate an efficient and effective supply chain management. This brief focuses on Finance's role in bridging the gap between the different functions that support the manufacturing organization – specifically, sales, marketing, operations and finance.

The role of each function in S&OP

Typically **Sales** is optimistic about their sales forecast and sales goals. In addition, the sales group is hired to sell, they can't be expected to review historical reports and come up with a mathematic equation that will produce a 100% accurate forecast for the year. They need a supporting application to perform that for them.

Marketing's role is to analyze previous year's data, market trends and projections made by sales. The marketing function iteratively creates marketing campaigns, programs and messages that match and compliment the sales plan. When it comes to budgeting and planning, marketing is more analytical and typically needs additional resources to "crunch" the data.

The role of **Operations** is to develop supply plans that are predicated on demand forecasts developed by others. Once they have the forecasts, operations will systematically plan out manufacturing, inventory, logistics, procurement and plant utilization.

The role of **Finance** in sales and operational planning is to monetize the demand and supply plans so that everyone can see the bigger financial picture, especially in the context of shareholder expectations and the budgets. However, there is an emerging role for the finance function and that is to bridge the gap between all of the functions in an effort to support an optimized sales and operational plan.

In many manufacturing organizations, the functions involved in the S&OP process across the organization are disjointed and create islands of planning that can result in inventory overages, poor customer service and a high cost to operate the supply chain. The problems are amplified with increased complexities in the supply chain due to offshore outsourcing, pressures to deliver better order cycle times, and improve inventory turn rates.

How can Finance make a positive impact on the S&OP? In many companies, even hinting that Finance can bridge the gap between the many functions involved in the S&OP process is fallible and impossible. However, there three core steps the finance role can take to facilitate better collaboration in the S&OP process and become a strategic resource toward bridging the gap.

Bridging the functional divide

One of the areas Finance does have control over is seeing the business side of sales and operational planning. For example, operations are concerned with customer demand, capacities and constraints. Finance on the other hand sees the same three areas as revenues, costs and profits. Finance can leverage their perspective and translate it to show how demand, capacities and constraints impact corporate performance.

The three key steps are outlined below:

Step 1

Create a monthly rolling sales forecast that contains projections for the coming 18 to 24 months. This is an essential component of the S&OP process and has the potential to make the annual budgeting cycle a significant non-event. The significance is that the resulting operational plan sets the expectations for the board of directors, shareholders and other financial and non-financial constituents. It becomes a non-event because the resulting annual plan is just another cycle in the S&OP process. The current forecast for the upcoming 12 months becomes the annual budget.

It is understood that the out months have a higher percentage error than the close in months. Over time as those months move closer in, they will become more accurate. It is also understood that the overall accuracy of the sales forecast will get better over time as people become more accustomed to revising the sales plan monthly. To help benchmark forecast accuracy, it is recommended to monitor a rolling "frozen" forecast compared to actual results. A rolling "frozen" forecast freezes the current forecast "X" months out. The "X" months should conform to your production cycle. If it takes two months from the start of the manufacturing process (ordering raw materials) to shipping the product, then the rolling "frozen" forecast should be two months. The rolling frozen forecast recognizes that frequently changing forecasts within

the production cycle time frame creates havoc at the production facility. Changing forecasts within the production cycle means higher material and shipping costs, additional retooling of production lines and overtime. There is typically an inverse relationship between the incremental additional manufacturing costs from frequent production planning changes and frozen forecast accuracy. As rolling forecast accuracy increases incrementally additional manufacturing costs should decrease.

Step 2

Incorporating multiple perspectives and facilitating collaboration between Sales, Manufacturing, Inventory and Purchasing will result in better forecasts. The more these disparate views are joined together and discussed, the better the organization will grasp the business and marketplace realities. The understanding that comes from this provides a solid basis for arriving at consensus. For example, one factor that often skews forecasts between Sales and Manufacturing is the fundamental difference in the way they approach forecasting. Sales constructs forecasts by customer and by product, but Production's forecasts are rooted in the process of manufacturing products in plant production lines. To accommodate Operations, the sales forecast must be recast in a way that takes into consideration all aspects of production, including assembly line product families, raw materials, and inventory requirements. Finance's role is to change the way functional areas communicate and to create visibility around why decisions are made the way they are.

Step 3

The third area where Finance can drive a collaborative S&OP process is to drive a monthly executive sales and operational planning meeting. The goal of each meeting is to define the sales and production plans for the coming months by updating the prior months plan based on changes in the market place. These meetings are conducted with representatives from Procurement, Inventory, Sales, Production, Engineering and Accounting. The objectives of these meetings are to ensure that the choices are considered from a total business perspective rather than from a functional viewpoint. Typical questions that should be addressed in these meetings include: what has changed since last month? What decisions need to be made or approved for this cycle? Are on plan financially? How are we performing against our company goals and key performance indicators? How are the individual product lines performing? Do we have any resources constraints? What new or different risks do we need to understand? What decision will we be compelled to make in the coming months? And finally, do we need to adjust our forecasts based on all of the above? These meetings are an ideal time to present new plan ideas and explore "what if" scenarios. Asking questions such as "what if we receive that large order?" or "what if we ship late and our distributor wants to return the out-of-season items?"

An added benefit to finance

A monthly reforecast for a manufacturing includes other financial areas beyond S&OP. It could include some fixed facilities expense, selling and administrative expenses, non-manufacturing related human resource expenses and other miscellaneous expenses. However, the bulk of the risk in the accuracy of a manufacturing facility reforecast resides in the production and production planning areas. The rest tend to be periodic expenses that are manageable to the original budget and require minimal effort to update. Implementing and refining a S&OP process is 70-80 percent of your complete facility reforecast.

Leveraging software to support your role

Corporate Performance Management (CPM) software that is specifically designed to support the S&OP process can help align all functional areas by providing visibility into the thinking behind the numbers. A fundamental principal of S&OP is that budgets and forecasts aren't just numbers – they represent all of the assumptions people were making when they provided those numbers. These assumptions are as important as the numbers themselves. CPM software documents the assumptions and corresponding numbers in a single repository (not in error-prone spreadsheets), manages unstructured data inputs and provides a way to communicate the thought process used to develop the plan and delivers a Web-based mechanism for all functional areas to see the status of what they projected versus reality.

CPM software stimulates discussion, allows different views to surface, and is the basis for "what if" simulations and contingency planning. The associated notes, documents and schedules are stored in a database and indexed by the plan, product family, preparer and timeframe so that any time the data is used in a report, the accompanying notes and assumptions can be easily included.

CPM software not only supports the sales planning process, but also supports the reorganization of the sales plan into a format based on how the products are manufactured. It then facilitates multiple inputs from the various participants so they can quantify their expectations in a model that takes into consideration all the aspects of the various departments.

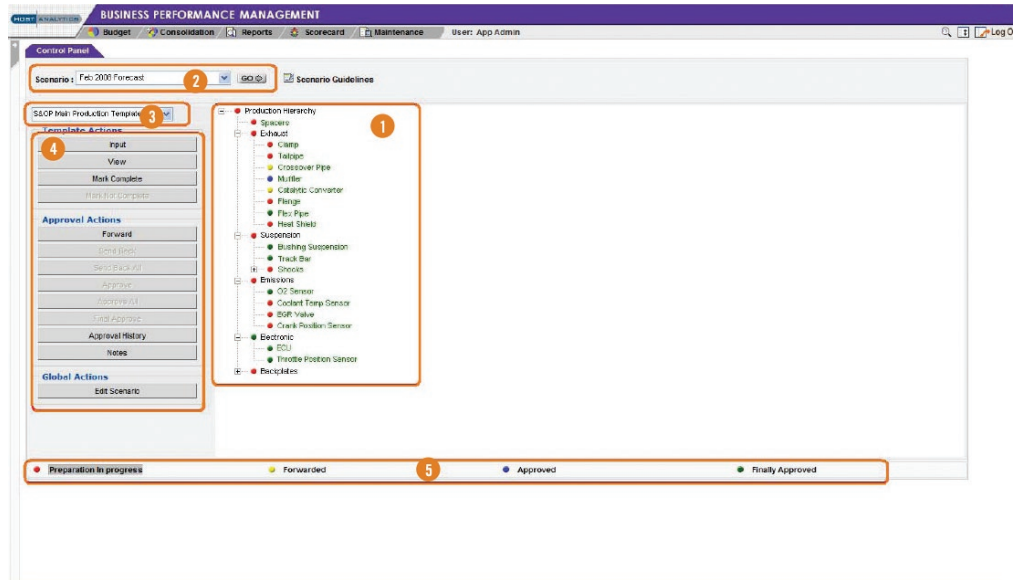
The screen below provides a sample Host Analytic Budget template that looks like Excel in the browser (no *.xls files to maintain), provides for the necessary inputs for the S&OP process and saves the information to a database.

		2002	2003 YTD	Past Due	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02	Dec-02	Jan-03	Feb
6	1				1215	1533	1364	2692	582	1531	1373	
7	2				1340	1717	1500	3015	1740	1715	1510	
8	3	14555	16001	0	504							
9	4					1300	1200	2989	1560	1402	1000	
10	5			0		1279	1625	1432	2854	1661	1623	1442
11	6					1908	1667	3350	1933	1905	1678	
12						98%	95%	75%	70%	70%	70%	
13						1869	1584	2512	1353	1334	1175	
14					1500	1500	1700	2000	2000	1400	1300	
15						25%	-7%	25%	-32%	-5%	-10%	
16					0	0	0	0	0	0	0	
17					0%	0%	0%	0%	0%	0%	0%	
18					0	0	0	0	0	0	0	
19					0%	0%	0%	0%	0%	0%	0%	
20					0	0	0	0	0	0	0	
21					987	1242	1105	2181	1281	1240	1112	
22					1085	1391	1215	2442	1410	1389	1223	
23		12129	11429	0	205							
24						1053	972	2421	1264	1136	810	
25				0		1036	1316	1160	2311	1345	1315	1168
26						1545	1350	2713	1566	1543	1359	
27						79%	77%	75%	70%	70%	70%	
28						1227	1039	2035	1096	1080	951	
29					1215	1215	1377	1620	1620	1134	1053	
30						1%	-25%	25%	-32%	-5%	-10%	
31					0	0	0	0	0	0	0	

In the diagram above:

- 1 Area 1 identifies the current actual results for the last twenty four periods.
- 2 Area 2 identifies external forecasts, the first line is input provided by customers on their expected purchase over the next 12 months. The second line is a calculated forecast using “best fit” predictive techniques.
- 3 Area 3 identifies the prior month forecast.
- 4 Area 4 identifies additional production forecast input from different sources, in this case the input is from the Product Manager and Operations.
- 5 Area 5 identifies the consensus forecast arrived at during the S&OP meeting. This will become the “Prior Month Forecast” next month.
- 6 Area 6 provides a link. If the user clicks on the “N” they can add an assumption to the line item. In the example rows 10, 16 and 18 have notes attached to them.

Another feature of CPM software is workflow that displays a hierarchy divided on the basis of how products are sold (for sales) for sales planners and how products are manufactured (for production). Colored icons in front of the product family identify the stage of the plan (for example, submitted for approval, pending review by Finance, etc.). We have seen a number of our customers initially manage this process via spreadsheets, but it is difficult if you have a number of data items to be updated every month multiplied by a couple of hundred product families. The screen example below shows sample workflow status organized by the way the products are manufactured (Sales would have different workflow hierarchy organized by the way the product is sold).



- 1 Area 1 identifies the workflow hierarchy. Each node represents a unit of work. In this example each node represents a group of products manufactured together in the same process. The colored icons indicate the status of that portion of the forecast. Refer to area (5) for the meaning of the status indicators. Workflow is highly configurable.
- 2 Area 2 identifies the current forecast scenario. For the S&OP process companies may use a new scenario every month as actual results and updated forecasts are entered. They can also use multiple scenarios for “what if” analysis. In the S&OP process “what if” analysis translates to “how will we handle production if we get that big order”.
- 3 Area 3 identifies the template to be used. The system can be configured with an unlimited number of templates. Typically different templates are used for products that use different processes, have different production, sales, or inventory characteristics.
- 4 Area 4 identifies the workflow menu. This is security driven, it provides for the ability to forward a forecast, approve or send back a forecast as well as to review approval history. When a workflow item is forwarded the system has the option of sending an email to the next person in the approval process.
- 5 Area 5 identifies the S&OP workflow item states. This is configurable. The legend identifies the description for the status indicators in the workflow hierarchy. Refer to area (1) above.

Production planning is another area that benefits greatly from the use of CPM software. Once a sales forecast is prepared, the Production group can compile a production plan. The product plan is a marrying of a number of existing plans including:

- The Procurement Plan – when and how much raw material must be purchased to meet the production plan.
- The Inventory Plan – identifying required inventory levels to meet the sales plan and customer service levels.
- Customer Service Plan – identifying any constraints that will impact customer service. The production plan and supporting plans are not created individually. It is a highly collaborative environment that attempts to balance potentially conflicting objectives and constraints. It requires a system that can:
 - Convert the sales plan from the way product is sold to the way product is manufactured.
 - Allow for multiple inputs from multiple sources on their best estimate of what targets are truly achievable based on any procurement and facility constraints.
 - Easily pull and integrate information from different sources including, inventory levels, manufacturing lead times, production plans, and backlog.

Why not just use spreadsheets?

Each year several organizations will join together to conduct a survey of several hundred organizations around the globe, and the results are still surprising. Many organizations still rely on spreadsheets to create and manage their S&OP plan. The advantages of using spreadsheets include:

- Specialized calculations are easily accomplished in a spreadsheet.
- The user interface requires minimal training because spreadsheets are ubiquitous.
- It is easy to create flexible input areas to solicit input from different sources (production planning, procurement, inventory control).

However, functional areas don't just plan for one product family or a single production line. What will work with a few product families becomes unmanageable with just a few more product families added to the task. Also, as new product families are added, and some discontinued, the maintenance of spreadsheets quickly becomes "spreadsheet hell". Coupled with version control issues, spreadsheet aggregation issues and scalability issues, and providing collaboration, spreadsheets just aren't intended for this level of planning. What is required to support collaboration of all functional areas in the S&OP process is a system that has the following attributes:

- Looks and feels exactly like a traditional spreadsheet.
- Runs in a browser so it is accessible from anywhere and writes back to a central repository.
- Builds parameter-driven/database-driven spreadsheet templates that are centrally controlled and easily updated by all constituents.
- Stores the sales and production data in a database and retrieves up to the minute information from the database when a user requests it.
- Includes a workflow engine so the control point can measure when all forecasts are completed for all product families.

Driving accountability across all functions

Corporate Performance Management software has an added benefit that is typically overlooked. CPM software supports multiple inputs to the plan from different sources. Additional inputs are typically included for comparing statistical forecasts, customer purchasing forecasts and different manager or executive forecasts. Understanding and benchmarking which forecasting methods are the most accurate, creates a new level of transparency and accountability and serves to drive toward more accurate forecasts in the future. Accountability can be enforced at all levels of the organization: sales forecasts can be frozen a few months out and sales accuracy measured so that salespeople clearly understand how their accuracy or inaccuracy impacts plant production and production costs. Production can be held accountable for what Sales has requested from the frozen forecast as well as the planned increase/decrease in inventory and customer satisfaction. Inventory Control can be held accountable for purchasing the material required for the planned output.

Continuous refinement

It is important to remember that S&OP is an ongoing process of learning, tuning and refinement. Many implementations fail due to impatience or lack of management commitment to continuous improvement. Most elements of the sales and operations planning process already exist; they just aren't fully integrated and coordinated with sufficient collaboration, documentation, accountability and management support. Implementing a S&OP process involves changing behavior and changing the way people think, and it takes time. Companies that fail to obtain value from the S&OP process typically don't spend enough time working the process to configure it to their environment. Once some of the overall S&OP process is automated, companies realize what S&OP really is and the implementation gains momentum and justifies the ongoing time spent with further refinement.

S&OP can be the answer for optimizing and synchronizing what a company can produce and sell. This is just another example of how combining best practices with CPM software can provide a real benefit across all functions.

For more information, please visit www.hostanalytics.com or call 866 391 HOST (4678)

About the Author

Ric Ratkowski, Vice President of Product Strategy. Ric manages our overall product strategy and brings over 25 years experience in Finance and Accounting. He has held strategic roles in the design of financial analytic and performance management applications within the top software companies in the industry including Braun Technology and Arbor Software. Additionally, Ric held financial executive level positions at multi-national corporations with first-hand involvement in the financial planning and budgeting process. He has been a key member of the executive team at Host Analytics since 2002 and pioneered the SaaS infrastructure at Host Analytics. Ric has a Masters in Finance and a Bachelors degree in accounting from St. Louis University and is a CPA. He lives with his family in St. Louis, Missouri.

About Host Analytics, Inc.

Host Analytics helps executives see the full implications of decisions – both risk and reward. Our leading on-demand corporate performance management solution helps financial executives improve their budgeting, forecasting, financial consolidations, dashboarding, scorecarding, reporting and analysis. Most importantly, it helps drive fact-based decisions based on sound financial justification. Host Analytics delivers its product suite using Software-as-a-Service (SaaS) on-demand delivery to increase security while reducing cost and deployment time. Founded in 2000, Host Analytics serves the enterprise, large and midsize companies across industries. Host Analytics was included in JMP Securities' prestigious "*Hot 100: The Best Privately Held Software Companies*" and was the recipient of the Best of SaaS Showplace Award from market research firm THINKstrategies.

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