

# SALES AND OPERATIONS PLANNING

## PART I: THE PROCESS

By Larry Lapide

*(This is an ongoing column in The Journal, which is intended to give a brief view on a potential topic of interest to practitioners of business forecasting. Suggestions on topics that you would like to see covered should be sent via email to llapide@mit.edu. Ed)*

The Sales and Operations Planning (S&OP) process has been around for quite some time. I started including it in many of my presentations on forecasting in the mid-1990s. As I polled audiences along the way, I found that about one-third of the early ones had implemented an S&OP at their company, while lately, the number has been hovering over 80%. Clearly the S&OP process was becoming more prevalent over the last decade or so, with a crescendo of interest in the last couple of years.

### HEIGHTENED INTEREST IN THE S&OP PROCESS

An indicator of the interest in the S&OP process is the fact that, according to AMR Research (my former employer), companies have spent over \$12 billion in supply chain planning application software over the last 6 years. Yet while spending significant sums of money on S&OP-related software, they were not seeing the benefits they expected, because many did not change the process to fully leverage the enabling technology. So, companies are now starting to adjust their S&OP process to do that.

In addition, a few studies, including one done by AMR Research, are

indicating that companies that fully embrace the use of the S&OP process operationally outperform companies that don't use the process as much or at all. These study findings indicate that companies can meet customer demands at the highest levels, while at the same time, maintaining reduced inventories and minimized supply chain operating costs. Publication of these findings is partially



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responsible for some of the heightened interest in S&OP. The increased interest led me to write a column on the S&OP process in the Summer 2002 issue of the Journal of Business Forecasting, which was titled, "You Need Sales and Operations Planning."

In this issue's column, I'm kicking off a three-part series on the S&OP process. Coverage includes (in this order): 1) the process itself, 2) its enabling technologies, and 3) a diagnostics tool I have developed to assess where a company is in its evolution of the process and the use of enabling technology.

### S&OP SUCCESS FACTORS

To kickoff this series of columns, I'm first discussing the factors that can make an S&OP process successful. In Figure 1, there is a list of a dozen factors that can help lead to operating an S&OP process that maintains exceptional supply chain operational performance over time. These factors are detailed below:

**1. Ongoing, Routine S&OP Meetings:** A key aspect of an S&OP process is that it is comprised of routine meetings that are held on a periodic basis. In terms of frequency, a decade ago, these were often held on a quarterly basis. However, recently many companies have evolved to holding them monthly. In addition, most companies I've talked to conduct three types of meetings. The first is focused on establishing an unconstrained demand plan and forecast, and this is followed by a second meeting to establish a draft or rough-cut supply plan and a constrained demand plan. These are followed by a third meeting

to fine tune and finalize the alignment of the demand and supply plans.

**2. Structured Meeting Agenda:** Since the S&OP meetings need to be routine, they should follow a fixed agenda in a pre-specified amount of time (e.g., two to four hour meetings or for some companies, a whole day). While my prior S&OP article went into more depth on how to run these, generally the meetings need to include a review of how well previous plans were met, including a root-cause analysis of any plan variances. The meetings need to eventually have discussion that leads to the alignment of demand-side plans of Marketing and Sales with the supply-side plans of Operations and Supply Chain management. Finally, closure needs to be established at the conclusion of every meeting, so that plans can be published and distributed around the company on a timely basis. This helps to foster a 'single number' planning environment.

**3. Pre-Work To Support Meeting Inputs:** A baseline demand forecast and rough-cut demand and supply plans need to be brought into the S&OP meetings. These need to be aggregated, synthesized, and translated for management prior to the meetings. The baseline demand forecast should be unconstrained and incorporate all known factors that could impact future demand, including new product introductions and promotions. In addition, rough-cut demand and supply plans should include all known impacts on the future, including details on marketing and sales actions, as well as supply capacities and limitations — such as scarce inventories and future plant shut-downs. Thus, a lot of homework needs to be done in advance of an S&OP meeting and its importance to the process should not be underestimated.

**4. Cross-Functional Participation:** As

**FIGURE 1  
SUCCESS FACTORS OF SALES & OPERATIONS PLANNING  
(S&OP) PROCESS**

1. Ongoing, routine S&OP meetings
2. Structured meeting agendas
3. Pre-work to support meeting inputs
4. Cross-functional participation
5. Participants empowered to make decisions
6. An unbiased, responsible organization to run a disciplined process
7. Internal collaborative process leading to consensus and accountability
8. An unbiased baseline forecast to start the process
9. Joint supply and demand planning to ensure balance
10. Measurement of the process
11. Supported by integrated supply-demand planning technology
12. External inputs to the process

the name implies, the S&OP process needs to be a cross-functional process that involves demand-side managers from Sales, Customer Service, and Marketing, and supply-side managers from Manufacturing, Logistics, Procurement, and Supply Chain. In addition, Finance personnel are also involved to help marry the operational plans established with the financial objectives of the company. Multi-functional attendance and involvement alone in meetings, however, is not sufficient towards making the S&OP process successful. There also needs to be active participation during the meetings, with each member having a role to play that contributes to the process. All members need to represent their functional area's perspective to the fullest extent, and give it priority by routinely showing up, or sending a proxy to ensure participation in all the meetings.

**5. Participants Empowered To Make Decisions:** Participants in the S&OP process have to make decisions on the operational plans and forecasts that will be followed. Therefore, they need to be empowered by the executive team to make decisions based on their beliefs and interactions with other participants during the meetings.

While this can be accomplished by holding meetings that involve only senior managers, such as SVPs and VPs, most company executives empower their subordinate director-level managers to attend the meetings on behalf of their department and to make decisions they will support. To avoid bogging-down the S&OP process, as mentioned above, the meetings need to achieve a closure. Therefore, there should be no option of going back to get executive-level approvals before decisions are made.

**6. An Unbiased, Responsible Organization To Run A Disciplined Process:** S&OP needs to be conducted as a repeatable process that runs on-time and according to a schedule. To accomplish this, it needs to be organized and run (but not dictated by) a responsible organization. This organization takes on a charter to run an extremely disciplined process through scheduling meetings, setting the agendas, moderating the meetings, and ensuring that the pre- and post-meetings work is done in a timely fashion. The person in charge of the S&OP process is usually not a high-level executive — as such an individual might dominate the meetings by demanding acceptance of

his or her point of view, rather than driving towards consensus.

**7. Internal Collaborative Process Leading To Consensus And Accountability:**

To ensure that supply and demand plans become accountable and get buy-in from all stakeholder functional organizations, a collaborative process designed to lead to consensus-based plans is required. This means that every stakeholder needs to be able to quickly create, review, and revise plans. To do this, a process needs to be set up that allows all members to easily provide feedback, on an equal basis, to work-in-progress plans.

**8. An Unbiased Baseline Forecast To Start The Process:**

For more detail on this success factor, see my Winter 2003-2004 Journal column titled, "Make the Baseline Forecast Your Trusted Advisor." In it, I detailed the importance of the baseline demand forecast in the S&OP process and described what is needed to develop it. Generally, the baseline forecast is important because it forms the working-draft from which S&OP participants develop final supply and demand plans. As such, it should be unbiased, unconstrained, and incorporate all known impacts to future demand. To keep it 100% factually-based, the baseline forecast is most often developed using statistical forecasting methods.

**9. Joint Supply And Demand Planning To Ensure Balance:**

As stated to me by a manager that runs his company's S&OP process, one "needs a process that is able to chase demand or supply quickly." Most S&OP processes in place today tend to fail in this regard. The major issue is that they tend to presume a given set of marketing and sales plans. In these cases, the S&OP process primarily entails developing supply plans that meet the demand forecast based on relatively inflexible marketing and sales plans, to which

very little modification is made during the S&OP meetings. When this is the case, the meetings are driven by supply-side operational managers largely trying to adjust rough-cut supply plans to meet a pre-specified demand plan.

This approach to S&OP has at least two problems associated with it. The first is that there is virtually no role for Marketing and Sales to play at these meetings, so they tend not to actively participate in or even bother to show up for them. The second, and most important problem, is that it tends to hide potential revenue opportunities that could be generated by taking advantage of opportunistic and/or excess supply capacities. A better process solves these problems by assuming (that like the supply plans) the marketing and sales plans are rough-cut plans that will be revised during the S&OP meetings. Thus, both the final supply and demand plans are developed concurrently.

**10. Measurement Of The Process:**

Like any process, the performance of the S&OP process itself should be measured so it can be improved through learning over time. Most current S&OP processes tend to measure demand forecast accuracy, which is probably the most important metric to track. However, to help improve the process, other metrics such as variance to baseline forecasts and budgets, as well as adherence to sales, marketing, and operations plans, should also be tracked over time.

**11. Supported By Integrated Supply-Demand Planning Technology:**

I will go over this in more detail in my next column. Today a big problem in this regard is that many S&OP processes are supported by myriad spreadsheets that are not synchronized. Companies tend to solve this by implementing a demand forecasting or planning software package. However, while this helps immensely, to fully support the

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S&OP process, supply-side software applications need to be integrated with these types of demand-side packages, as well as with some type of S&OP workbench software that is used to bring together the views of supply and demand needed to support S&OP meetings.

**12. External Inputs To The Process:**

The S&OP processes in place today primarily use internal supply-demand data, such as customer orders, shipments, on-hand inventories, and plant capacities as inputs. More recently, however, with co-managed inventory programs – such as Vendor Managed Inventories (VMI), Collaborative Planning, Forecasting, and Replenishment (CPFR) and the sharing of downstream data like Point-of-Sale (POS) information – companies have greater access to external information about future supply and demand from their customers and suppliers. Some leading companies are starting to incorporate this type of external information to support their S&OP process.

**CONCLUSION**

The dozen factors for success mentioned above represent a checklist that can be used to gauge how well your S&OP process is doing in improving and sustaining operational performance. In the next column, I'll discuss the technology required to best enable the S&OP process, and follow that up with the third article, which will offer a diagnostic tool that can be used to help improve your S&OP process. ■