

Structure of the S&OP Standard System

The Sales and Operations Planning Standard System describes a simple set of software functions, primarily those in the areas of aggregate sales planning, aggregate supply¹ planning, aggregate inventory or backlog planning, reporting and display of key performance and planning information, rough-cut (capacity and material) planning, and financial planning. It describes the activities that are part of a working sales and operations planning process, as well as an explanation of the assumptions and the experience that led to these functions. In addition it describes some of the key interfaces that must exist with other essential company functions. For example, the S&OP Standard System describes the interfaces to resource planning functions like master production scheduling and sales planning, and the interfaces to lean manufacturing functions like takt time calculations.

The book is organized into the following chapters.

- The S&OP Process
- S&OP Basics Including Calculations and Reporting
- Additional Reporting Considerations
- Additional Issues – Managing Change, Validation, and Linking
- Rough-Cut Planning
- Feeding Financial Analysis
- Measures of Performance
- Graphical Displays of S&OP Data
- Functional Checklists
- Reference Software

¹ Even though S&OP is increasingly being applied to situations where the production activities are completely or nearly completely outsourced, a high percentage of the number of S&OP users are still using it to plan their own production facilities. Rather than risk confusing the reader with a term that covers only one (although predominant) of the supply situations, I've chosen to use a term that seems to describe both outsourced supply and internal production: "supply planning". Consequently, throughout the book the term *supply planning* and *supply plan* will be used instead of *production planning*, *supply (production) planning*, *production plan*, or *supply (production) plan*.

One part of the S&OP Standard System is reserved for sample or reference software illustrating some of the concepts described in the text. The software included with the book demonstrates how these functions would typically be provided in an S&OP system, and can be modified and adapted to your own company.

Functions in the reference software include a simple menu system and reference formats for:

- Make-to-stock S&OP
- Make-to-order S&OP
- Finish-to-order S&OP
- Profit projections
- Cash flow projections
- Rough-cut capacity planning

The idea of providing the reference software is to help:

- Reduce some of the software design and programming effort required to build a company specific S&OP system.
- Evaluate and select commercial software.

The software was not designed as a complete system that could be implemented “out of the box”, and doesn’t have all the functionality described in the Standard System itself. What it does have are the most common functions and examples of how the core functions of S&OP should work. As a result, it could be used as the foundation upon which a full system is built.

Limits to the S&OP Standard

The Sales and Operations Planning Standard System covers S&OP and closely related topics like rough-cut planning, performance measurements, and financial integration. It explains the core functionality that must be present in S&OP software to truly call it S&OP. It is not all the functionality that might be part of a system – some companies may develop additional specialized functionality because of the nature of their markets, customers, regulatory environment, etc.,

but most companies trying to operate an effective S&OP system will need this core.²

The functions described here are limited to those required to support communication and decision-making focused on volume related issues. It does not attempt to describe all the key resource planning functionality of a modern ERP system (forecasting, demand management, master scheduling, detailed material and capacity planning, etc.) or the tactical activities involved in managing detailed supply and demand (sales management, customer management, materials management and supply chain management, etc). While these functions and activities are important to overall company performance, and are driven by the S&OP process, they are not S&OP per se and therefore are not described here.

Terminology³

Over the years, the term “sales and operations planning” has been used in a variety of ways:

- Some people use the term to describe the process of developing a forecast or sales plan, and improving the accuracy of that plan.
- Other people use it to mean a process whose primary focus is producing an aggregate supply or production plan (similar to the older term "production planning").
- Still others use it in an expanded sense to include the managing of both volume and mix, so that the processes of weekly item level forecasting, customer order management, and master scheduling are part of S&OP.

² Companies implementing the concepts of lean manufacturing may have aligned their resources with the product families for S&OP and may not need much if anything in the way of rough-cut capacity planning, but may use rough-cut material planning to project their material requirements in lieu of detailed material planning.

³ This discussion of terminology has been adapted from “Sales and Operations Planning – Best Practices” written with John Dougherty in 2006. See Appendix C for additional information about this book.

- Others would include all the tactical activities to manage demand and supply in the definition of S&OP if those tactical activities are triggered by the S&OP decision-making process. (S&OP by this definition might include elements of sales management, customer management, marketing promotion and pricing, supply chain management, and other similar activities.)
- Some consultants have coined new terms to describe what has been commonly known as S&OP. These include “Sales, Inventory, and Operations Planning (SIOP)”, “Executive S&OP”, “Enterprise S&OP”, and “Integrated Business Management”. There are probably others, and doubtless more will be added to the list in the future. While we’re sympathetic to the intention of these consultants – trying to “unmuddy” the terminology waters – the unintended consequence of new terminology may be to add to the confusion over what S&OP is.

Throughout this book, the term “sales and operations planning – S&OP” will describe a **communication and decision-making process focusing on volume issues**. The intent of sales and operations planning is to get supply and demand in balance in aggregate, to develop a sensible strategy for dealing with mismatches in what the marketplace wants and what the supply chain can deliver (again in volume terms), to link the business’ strategic planning and budgeting processes that are oriented towards the long term with the detailed and tactical day-to-day processes that handle mix issues, to ensure that both unit and financial plans are sensible and being met. S&OP engages key people across the company, as well as up and down the organizational hierarchy. Sales and operations planning is the key process needed to engage senior management so that they can see and influence the future results of the enterprise.

The terms *sales forecasting*, *demand management*, *customer order management*, *master scheduling* and *capacity planning* will be used to reference the related detail-level tools for the managing of mix. While closely related to S&OP, they are not part of S&OP itself.

The term *resource planning* is the umbrella used in the book to describe the complete set of planning activities that include both volume (S&OP) and mix (master scheduling, sales forecasting, demand management, material and capacity planning, etc.).