



S&P

How to successfully implement Sales and Operations Planning (S&OP)

What you'll find in the White Paper

- State-of-the-art S&OP process
- The S&OP 5-stage maturity model
- Tips and guidelines for successful implementation from three Senior Leaders
- Mistakes to avoid

Preface



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Advance School, leader in management training in **Supply Chain and Operations Management**, has as part of its mission the objective to create advanced skills in professionals and business organisations. In this White Paper we wanted to address the **Sales and Operations Planning (S&OP)** theme, identifying some of the **key factors for a successful implementation**. To this end, we asked the Universities of Padua and Udine, which had already carried out important research work in this area, to begin a collaboration with us on this subject. As part of our investigation, which leveraged the APICS supply chain management best practices and the university's research work, we involved and interviewed 3 Top Managers and SMEs on some key aspects of the S&OP process: their experience has certainly highlighted a number of critical aspects concerning organisation, people, change management and technology, which should not be underestimated.

I hope you enjoy reading this document and that it will help you in the process of continuous improvement within your company.

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Today, the Supply Chain is an undisputed source of business value.

Nowadays, companies are faced with increasingly complex scenarios characterised by high levels of digitalization and globalization. These factors have provided companies with a number of interesting opportunities such as the access to new and broader markets, but at the same time they have also created additional challenges for supply chain planning. Globalization has led to stronger competition and an increased level of uncertainty on both the demand and supply sides. Customer bases are heterogeneous and more and more demanding, while supply structures have become increasingly more complex, making their management more difficult than ever.

Against this background, business success depends on the ability of a company to adapt its organizational model to an environment that is in constant flux.

A company that aims to support its growth process, while maintaining its competitive position, must be able not only to **optimize communication** and **information sharing** between its business functions, but must also ensure that its **operational plans** and long term **strategic goals** as defined by its executives are in line with each other.

Seen from this viewpoint, close cooperation between academic research and the real business world can offer interesting and helpful insights into **how to manage company planning processes** by implementing **Sales and Operations Planning (S&OP)**.

This paper aims to help the reader to define and **understand S&OP**, which in the author's view is a key component in company success. Our intention with this paper is to provide **guidelines to the successful management of S&OP implementation** and to flag up some of the potential pitfalls in implementation.

Defining Sales and Operations Planning (S&OP)

Sales and Operations Planning is a well-known process that **helps to improve communication and collaboration between the business departments of a company**, making it possible to synchronize and align them with a shared overall direction. If a firm is dominated by a silo culture, where the various business functions work independently, do not exchange information and have limited mutual trust, the **introduction of S&OP is the right choice to solve these problems**.

Indeed, the main purpose is not just to create feasible plans, but to provide a complete set of integrated and aligned plans: **from marketing and demand to supply and operations, passing through inventory, procurement and finance**.

The idea is to **balance all departmental activities** and horizontally align company processes and procedures.

With this approach, when a problem arises, or imbalances between plans occur, each company function **collaborates to find the appropriate solution**, without focusing on its own goals but trying to find the **best compromise** for the entire company.

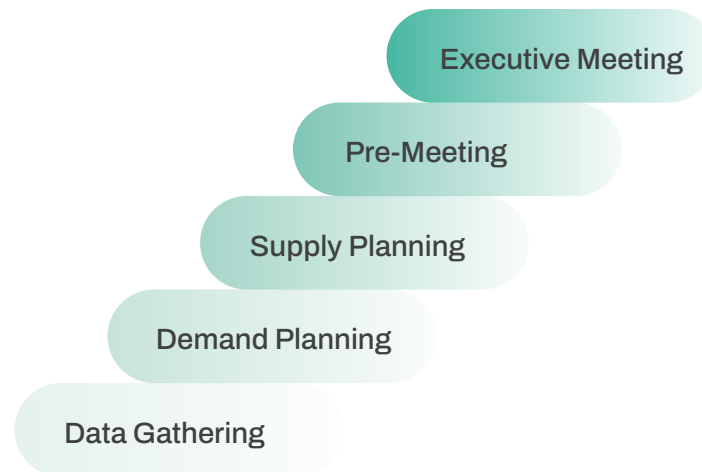
Another important characteristic of S&OP that is worth emphasising is its role in enabling **vertical alignment**. In effect, by implementing S&OP a company can easily translate long-term strategic plans into the daily operational activities, which are by definition more practical and short-term oriented. S&OP can therefore be located at the **tactical level**, helping to cover the **potential lack of continuity** between top management and subordinated plans. S&OP has its origins in the 80s, when companies started to feel the need to go beyond traditional operations planning and control systems and overcome the disadvantages resulting from an over-differentiated planning basis. It then progressively evolved, going through different stages and, after the advent of Internet, became even more extended, promoting cooperation not only within the organization but also outside the company, with supply chain partners.

Overall, the importance of an S&OP implementation is widely recognised by managers, who attribute to this process a major role in achieving and sustaining competitive advantage. Indeed, besides the alignment of demand and supply plans, S&OP provides several other benefits that have an **influence on numerous functions** within a company and whose nature is not only **quantitative** but also **qualitative**.

The process **improves forecasting accuracy** and **productivity**, **increases customer service levels** and **product availability**, **reduces inventories** and **solves obsolescence problems**. In addition, it **encourages the commitment of personnel** and **improves the flow of information** between business functions. All these features result in a higher quality of planning processes and of the relative outputs. The implementation of S&OP also benefits the introduction of new products, since it promotes collaboration, leading to an overall reduction in lead time. Despite its proven benefits, the **implementation of S&OP** is still considered a **major challenge** and it is thus still quite difficult to find well developed processes inside companies. One of the biggest obstacles is the pervasiveness of the changes required by S&OP, which involves many organisational levels and many business functions. Furthermore, the introduction of this process is often not accompanied by appropriate change management, meaning that the top management support may be lacking, the participation of personnel may be insufficient and training may be inadequate.

The Five Steps of S&OP Process

Sales and Operations Planning is typically realized following a **five-step process** that has a monthly or weekly frequency and is applied to product families. Each of the five steps forming the **S&OP process** involves people belonging to different areas and the time horizon covered by their activities goes from 12 up to 18 or even 24 months.



Data Gathering

In the **first step**, the main data from previous months are collected and **analysed to evaluate past trends and performance**. To do this, appropriate KPIs for both individual business units and the overall organization are identified and measured. These KPIs cover several company areas and include **actual sales, production and inventories**, but also **forecasting errors** and **production rates**.

Using this historical data, the sales department calculates a **statistical forecast**, completely independent from any future marketing actions of the company; the result is used as a basis for the realization of the second S&OP step.

Demand Planning

During the Demand Planning step, the representatives of sales and marketing departments meet to discuss information on past trends and analyse the statistical forecast generated in the previous step. The primary goal is to **create the demand plan**, which represents an unconstrained forecast of future sales that takes into account not only historical data but also all the promotional activities and marketing campaigns organised for the near future. The idea is to **provide a plan reflecting what the customer demand over the S&OP time horizon will be**, irrespective of what the company will actually be able to produce.

Supply Planning

The Supply Planning step is characterised by an **analysis of the unconstrained demand plan**, which is compared with the inventory and capacity constraints of

the company. The aim here is to evaluate the feasibility of the demand plan through the realisation of a resource plan. If the available resources are not enough to satisfy future customer requirements, different scenarios may be simulated to identify the most appropriate compromise between **market demand** and **company constraints**. When operations and supply departments are not able to find such a compromise, the relative issues are presented at the following preparation meeting.

Pre-meeting

The Pre-meeting involves the **cross-functional S&OP team** that, in this step, develops the final operating plan for the next month and **prepares recommendations and feedback** to be communicated in the following executive meeting. In particular, the scenarios previously developed are presented to top managers who then express their opinion; the participants can also solve minor and less important issues, such as adding a work shift or postponing a marketing action. The pre-meeting **prepares a financial report regarding the proposed plans**.

Executive meeting

In this final step, all the **proposed plans** (namely demand, supply and finance) are **approved and confirmed**. If necessary, executive managers solve any problems reported by the pre-meeting participants, discussing possible changes in production or procurement rates and taking the final decisions in case of significant costs or other important implications. Finally, **appropriate KPIs** that measure the overall business trend are **analysed and compared to company goals**.

A Maturity Model in S&OP

A question that may arise at this point is the following: *Why do some companies obtain better results than others from the implementation of an S&OP process?* The reasons can be several, but what matters most is the fact that **S&OP can have different stages of development**, each of which is typically associated with a different level of performance.

A widely recognised approach to measuring this development is a model based on **five maturity levels** that go from the total absence of collaborative planning processes to high cooperation and integration of plans, both internally and with Supply Chain partners.

This evolutionary path is typically described using a specific number of dimensions, which assume specific characteristics in each of the five maturity stages.

The three dimensions are as follows:

People and Structure	People and organizational structure, this refers to factors such as personnel skills, personnel planning culture, the clear assignment of roles and responsibilities and the commitment of executives to the process.
Process	Process, which is linked to the content and the formalisation of the characteristic S&OP steps.
IT	Information technology (IT), which is related to the development of supporting and enabling technologies.

The evolution of these three dimensions can be described as follows.

- **In stage 1**, companies typically **have no S&OP process**, are characterised by poor communication and information sharing and use just a basic technology (e.g. individual spreadsheets) to support the planning activities.
- **In stage 2 of maturity**, called “*Reactive*”, some collaboration between demand and operations departments exists and an **informal and simple S&OP team** can be defined. However, the supporting IT structure is still weak.
- **In stage 3**, “*Standard*” organisations adopt a **formal and structured S&OP process** that balances not only demand and operations but also financial plans. They use advanced and integrated technologies to realise their planning activities.
- **In stage 4**, named “*Advanced*”, organisations are characterised by their **collaboration with main suppliers and/or customers** that communicate and share information with the company through **appropriate IT structures** or web-based platforms. Therefore, at this maturity level, the planning processes, besides being internally well developed, are also improved thanks to the inclusion of external information and data.
- **In stage 5**, called “*Proactive*”, **S&OP teams are cross-organisational**, thanks to the participation of Supply Chain partners and the relative meetings are event-driven and focused on long-term strategic issues; IT supports real-time monitoring of the entire Supply Chain.

S&OP dimensions	Stage 1 “No S&OP Process”	Stage 2 “Reactive”	Stage 3 “Standard”	Stage 4 “Advanced”	Stage 5 “Proactive”
<i>People and organizational structure</i>	Independent and misaligned planning	Initial cooperation between departments	Strong commitment and formal S&OP team	Cooperation with main supply chain partners	S&OP extended to partner participation
<i>Process</i>	Absence of a formalized process	Process focused on demand and supply alignment	Formal process, with financial alignment	Process that supports partners involvement	Event-driven meetings
<i>Information technology</i>	Individual spreadsheets	Function-related technologies	Technologies internally aligned and integrated	Technologies that support communication with partners	Advanced technologies to monitor supply network

Development of S&OP: tips and guideline

The **maturity models**, like the example described in the previous section, are very important tools for companies and can be used not only to assess the level of **development of an S&OP process**, but also to define a roadmap for improvement, by looking at the characteristics required to move to the successive stages.

However, how can such an improvement be realised in practical terms?

What differences are there between the five maturity levels?

The answer is not simple, but there are many recommendations that companies should follow in order to achieve **effective and successful improvement in their planning processes**.

First of all, the improvement actions must involve all the three **critical dimensions of S&OP**, regardless of process maturity. The recommendation is to avoid focusing only on new processes or better technological tools, as is often the case, but to dedicate the right attention also to another **fundamental component of S&OP** which is often neglected: **people and organizational structure**.

Furthermore, as in all the most effective change processes, these improvements

should follow the well-known “**people-process-tools**” sequence.

This means that changes at the organisational level should be implemented before the others, in order to **develop the proper capabilities**, create a **shared culture** and **obtain commitment to the project**.

After this, companies should proceed to the introduction of appropriate methodologies and processes which must first be standardised and then **optimized** with the introduction of **appropriate supporting technologies**. If this sequence is not followed at each maturity stage, there is a risk that all efforts will be rendered useless and ineffective. Obviously, as process maturity increases, the changes required to move towards advanced S&OP levels are more profound and wide reaching and focusing on just one S&OP dimension at a time becomes more difficult. The dimensions become increasingly more interdependent and should therefore be managed in parallel. The general sequence, however, must not be changed.



Kurt Coffyn | Unilabs

I totally agree with the proposed sequence, but I would make a distinction between people and structure, which are both important for the success of a project.

People has 2 levels:

1. **Capacity and Capabilities.** *This means that you must have people with the right skills (capabilities), but you must also have enough people with these skills (capacity). Although you have smart people, you may not be efficient if there are not enough of them for the scope of the company.*
2. **Structure.** *It is important to define a proper structure so that people with capacity and capability can function in a clear way. You can have the right capabilities and capacities, but when the structure is not clear, these people cannot work well together. Too often I see companies underestimating the importance of structure.*

→ **My sequence would be: people-structure-process-tools.**

Personally, I would not deviate from this sequence and, for me, it is the same at both the low and high maturity levels. It is a continuous loop that always starts with people. If a company has an advanced tool, without having the right people to use it and/or the right process in place, the tool will not be useful at all.



Eric Wilson | IBF

I approve the sequence, but I would add two other pieces.

1. **First, I would highlight the importance of organization**, distinguishing it from people. S&OP is a business transformation and thus culture and business organizational aspects acquire a fundamental role in this.
2. **Second, I would separate tools from data and the analytical side of it.** S&OP is going to become a digital process in the future generations, so the way you look at data will be a fundamental aspect, too.

→ My sequence would be: **organization, people, process, analytics, tools.**

An **S&OP dimension** that deserves particular attention is that concerning **people and organisational structure**. This component is not just the first step of the implementation sequence, it is also the most important and difficult aspect to manage during an **S&OP journey**. Indeed, changes and improvements in organisational structure and people's behaviour should not be limited to the first maturity stage, when a new S&OP culture is introduced in a company, but they must accompany the process throughout its development. In addition, as the company matures, these organisational changes become **more profound, wide reaching and pervasive**, resulting in a potential implementation barrier when they are not properly managed. In this context, there are two fundamental results that must be obtained to make the S&OP process effective: **top management commitment and personnel engagement**.

Top management commitment is the main prerequisite of a successful S&OP process. This means that a company with a **stage 1 of S&OP maturity** must first of all work to get strong **sponsorship and support from its executives**. Without this the process cannot be properly implemented. In addition, once the S&OP journey starts, it must also make sure that **the same strong commitment is maintained over the years**.



Jesús Franco-Tubío | Noventure

The stronger effort required in stage 1 of the S&OP journey is certainly the endorsement of the company board, which is of vital importance to progressing to the following maturity stages, but also to involving top-down all company managers in the S&OP transformation.

The approach to convincing the board must be strategic, meaning that you must envision and explain S&OP as an enabler of the company strategy. This involves

storytelling in financial terms, which is the language they well understand. Tell them about the financial plan arising from the operational plan, projecting the P&L, highlighting the gap between that P&L and the strategy, and proposing actions to fill that gap and realign sales & operations with the strategy.

If you go there to talk about service level, inventory turns or forecast accuracy, they get bored and you will never gain their support.

When we started to implement a capable S&OP in 2010, my first challenge was convincing the board that S&OP was the only way forward to coordinate a successful launch of strategic brands worldwide to double sales in 5 years, under a one and only business plan company-wide. And people came first, since there were inappropriate behaviours harmful to business performance that can no longer be accepted, either because of change aversion or biased attitudes.

Only when you get full top-management endorsement, conveying top-down that S&OP is not negotiable and misbehaviours will not be tolerated anymore, you can cope with people and the organizational dimension, the most challenging of the three throughout all stages.



Eric Wilson | IBF

When you start an S&OP you certainly need the executive sponsorship, but I would say that is not hard. The hard thing is maintaining that sponsorship over the years. The problem is that executives want to see the financial returns after months, not after years; they want to see an improvement of their KPIs in the short term, but many companies do not show an impact on them. And, first and foremost, executives look at S&OP as a project and not as a transformation.

They look for a deliverable at the end, but there is no end date. S&OP is about changing the way you are doing business and so it is a continuous improvement that must be constantly managed. For all these reasons, keeping the executives engaged for a long time is far from being simple and guaranteed.

Besides top management, all the other figures involved in the **planning processes** must be engaged in the **S&OP journey**. Since S&OP aims to promote a new **organizational culture** based on **collaboration** and **integration**, this is not a simple task and requires changing not only the way of doing business, but also the way of managing all the planning activities in the company. In other words, S&OP is about defining **new roles** and assigning **new responsibilities**.

It is also about training people and creating **common and shared goals**, as opposed to the functional ones that are typical of too many companies. The actors to be involved in the S&OP journey are different according to the maturity level of the company because, as the maturity level increases, the people involved in the process change and their number increases. In the first two stages, the improvement actions required are limited to a few functional areas, usually demand and supply.

In the more advanced stages, it becomes necessary to progressively involve also **other function managers**, from procurement and new product development through to marketing and finance. Thus, the goal should be to get on board all these figures that must not only understand S&OP and its importance, but also **internalize its mechanisms** and acquire a proper awareness of the impact of their decisions on the entire company.



Jesús Franco-Tubío | *Noventure*

During a S&OP implementation many functional areas show biased attitudes and behaviours aimed at preserving the status quo, avoiding transparency and preventing scrutiny. Or at just keeping things running as before. Once a top-down message is conveyed stating that S&OP deployment is not optional or debatable, different functions show their reluctance in a different manner. Some examples illustrate this.

Finance and Controlling areas perceive this as an intrusion of the supply chain function in what they consider to be their area of competence; they lose full control of the business plan and feel uncomfortable about that. To overcome this, it would be advisable to give the Finance function an S&OP overall coordination role.

Brand managers, when integrating the product portfolio plan with the demand plan and the supply plan, feel they are losing full control on the portfolio plan, since before S&OP they controlled all launches and were the only owners of product change planning without integration with demand and supply.

Likewise, sales managers and country managers do not accept the challenge to their demand plans because they think they know their territories better than anyone else and are not used to providing explanations.

Again, a lot of effort is needed to engage everyone, but if you do not get everybody on board, you cannot go ahead with S&OP and implement the organizational changes required.



Eric Wilson | IBF

60% of a good S&OP implementation is transformation management, but many people underestimate the transformation that must take place inside the organization for S&OP success. This transformation is more unpredictable and experimental than traditional project or program management and I would thus suggest 12 steps to successfully implement it:

1. *Admit you have a problem*
2. *Engage Leadership*
3. *Form a Powerful Coalition*
4. *Listen First*
5. *Create a Vision for Change*
6. *Show Passion*
7. *Continuous Engagement*
8. *Training*
9. *Be Able to Adapt*
10. *Credibility*
11. *Transparency*
12. *Anchor the Changes in Corporate Culture.*

Finally, it is worth dedicating some words to **information technologies**. The importance of IT is fundamental, as all the other dimensions of S&OP, but again its role changes according to the maturity level of the process.

Indeed, while in stages 1 and 2 the improvements required can typically be supported by the existing technologies and Excel or Access files are temporarily enough, when the maturity increases the **process needs more advanced tools**, essential to **realizing the targeted integration**. Indeed, the single planning processes (e.g. demand or supply planning) are more advanced and need proper enabling software. In addition, the number of plans to be integrated into a single business plan increases and thus requires **appropriate IT platforms** to share information and data from different sources, both inside the company and, in stages 4 and 5, with Supply Chain Partners.

Therefore, the suggestion is to forget about technologies in the first two stages and to look for advanced IT tools only when it is time to move towards stage 3 and beyond, obviously without forgetting that the organisational dimension must always be the first step of the ladder.



Jesús Franco-Tubío | Noventure

When we started the S&OP journey with stage 1, our IT department came asking us what tool the project was about. But in these early stages, IT hindered work making us lose focus firstly on people and secondly on process, so we kept them aside for a while. We started using the IT tools we had at that time and only one year later when we realized the need for an appropriate forecasting tool did we start to work in a more collaborative way. Then, later on, we implemented an integrated product planning tool to track launches.

What often happens with many projects, and not only within the IT department, is that we think that a project, such as an S&OP one, is just a tool implementation and nothing else. This is clearly a mistake. The approach is wrong.

Another aspect to highlight is that IT tools, and particularly data analytics and collaboration tools, are gaining increasing relevance, especially as regards demand planning. These tools go far beyond just statistics as they include data analytics that find correlations between unstructured data and help identify consumers patterns and foresee consumer behaviour. Collaboration tools throughout all supply chain partners, from customers to suppliers, are also gaining increasing relevance.



Eric Wilson | IBF

Tools are one of the reasons why 66% of companies are not able to go beyond a 2.7 maturity stage in the model. While you can reach level 1 with good people and hard work and you can get to a level 2 just implementing best practices, in order to reach a stage 3, you need tools. It is impossible to get there without tools.

Furthermore, even if the drivers of an S&OP will always be culture and people, tools will gain a strategic importance in the future. In my opinion, they will not just offer a solution to our core processes, but they will offer a whole complete process.



Kurt Coffyn | Unilabs

The last important point I want to emphasise is the positioning of S&OP. In my opinion, before introducing a S&OP, there are other aspects of supply chain management that require improvement. A company must be able to manage the short/medium planning and the 3-month horizon in the proper way and not use S&OP to compensate for these eventual weaknesses. What happens frequently is that companies, in the absence of supply chain basics and still having trouble in properly managing the 3-month horizon, go immediately to S&OP, which in my opinion is wrong. Thus, it is important to position S&OP in the right place and to define what is needed to get there.

Conclusion

Sales and Operations Planning has a fundamental role in **improving company performance** and **gaining competitive advantage**.

However, its implementation is not free of difficulties, barriers and potential causes of failure. In order to manage the **process** in the proper way and successfully implement it, the following **guidelines** are provided:

- **Follow the sequence “people-process-tools”** to successfully implement the S&OP journey, repeating it at each maturity level. Thus, when a stage is completed, start again with people and organization to create the improvements required in the successive stages.
- **Build state-of-the-art capabilities** within the organization for S&OP design, implementation and continuous improvement. Create an appropriate and clear organizational structure to effectively support the process.
- **Get strong sponsorship and commitment** from the executives and work to maintain it over time. Remember to explain the process in terms of EBITDA and P&L to successfully convince and involve them.
- **Engage all the personnel involved in planning activities**, starting from demand and supply managers in the first stage and extending it to finance, brand and NPD managers from stage 3 of the maturity model.
- **Look for an advanced software** only when stage 2 has been fully achieved with the result that a good structure is in place and current practices have been improved.
- **Before introducing S&OP**, make sure that short-term planning, and in particular the 3-month horizon, is managed in the right way.

Upcoming APICS courses are listed on the websites:

Italy: www.advanceschool.org

Switzerland: www.advanceschool.ch

Bibliography

- APICS CSCP (Certified Supply Chain Professional) Programme
- APICS CPIM (Certified in Production & Inventory Management) Programme
- IBF CPF (Certified Professional Forecaster) Programme



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