

## S&OP Performance Management



# 5 easy steps towards value-oriented S&OP

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# How to achieve stage 5 of S&OP maturity?

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The **ultimate goal for companies is level 5 of the S&OP maturity model** / Maturity Journey from Gartner (2019). The value-oriented S&OP approach allows critical resources to be planned and distributed in such a way that customers are satisfied, costs are minimized, and the competitive advantage is continuously secured. How? Through data integration, efficient and effective collaboration, and the constant optimization of processes.

According to a study<sup>1</sup>, once optimal S&OP processes according to **stage 5** of the maturity model (see Chapter 1) are implemented, forecasts are **20-50% more precise, storage costs reduce by 10-30%, production time savings range from 5-15% and a 5-10% increase in delivery time can be achieved.**

Most companies, however, are in maturity phases 1-3 of the maturity model<sup>2</sup>. They lack the **right technology** to perform S&OP balancing. The strategic and operational plans of a company are not linked, so there is no balance between supply and demand<sup>3</sup>. If you use the right CPM software that allows and enables fully integrated corporate planning, the highest levels of maturity can be achieved quickly. In this paper you will find out which steps you have to take and how the company benefits from them.

Even if an S&OP optimization process has already been initiated within your company, you are sure to find one or two helpful tips for process improvements. The journey to the value-oriented S&OP approach is worthwhile. Just take a look in the next chapter to see which S&OP maturity phase your company is currently in and how many steps away you are from your goal.

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<sup>1</sup> Hinkel, J., Merkel, O., Kwasniok, T., Good Sales and Operations Planning Is No Longer Good Enough. Supply Chain Management Review, 2016.

<sup>2</sup> Lapide, L., Sales and Operations Planning Part III: a diagnostic model. The Journal of Business Forecasting, 2005, 24, 1, pp. 13-16.

<sup>3</sup> Shedlawski, J., APICS S&OP Performance: Advancing Sales and Operations Planning. 2017. APICS Insights and Innovations, pp. 1-44.

# 1. The journey to S&OP maturity - how far is it to the goal and where do you stand?

The maturity model<sup>4</sup> from the scientific literature describes the stage of development a company is in pertaining to a certain area, here S&OP. It allows a detailed analysis and identifies potential for improvement and growth.

In practice, many interested parties refer to the Maturity Journey by Gartner (2019), which builds upon this model and uses it with graphic support (see Figure 1).

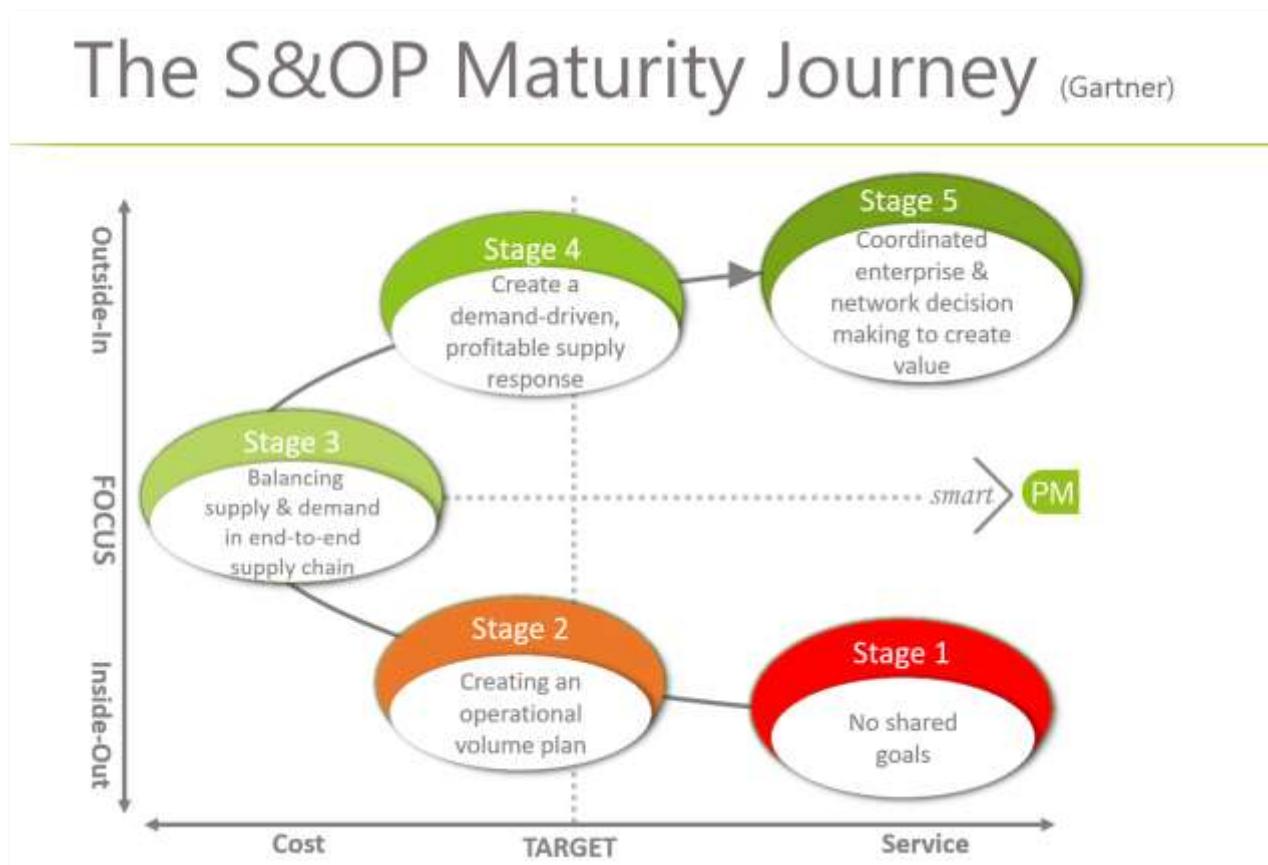


Figure 1: The S&OP Maturity Journey (see Gartner 2019)

<sup>4</sup> Lapide, L., Sales and operations planning Part III: a diagnostic model. The Journal of Business Forecasting, 2005, 24, 1, pp. 13-16.

## Stage 1: No shared goals

The **first stage** presents the worst-case scenario for S&OP planning. There are no common goals or plans for all departments involved in the S&OP process. Information needs are met through informal meetings, if necessary. There are no scheduled meetings. Production does not know the marketing plan and capacity planning is not coordinated with expected market demand. Working separately in numerous self-created Excel files and data from the ERP system leads to massive inefficiencies and errors in the S&OP process<sup>5</sup>. **Silo culture, a lack of consensus and short-term planning are hallmarks of companies in this phase.**

## Stage 2: Operational sales planning

Companies in the **2nd maturity stage** of the S&OP life cycle are already creating simple operational plans in order to match supply and demand. The driving force in this phase is the optimization of the supply chain. Simple tools for volume-based planning are used that can also create forecasts. There is a supply chain planning as well as an optimization of logistics and warehousing. The **departments work largely independently of one another** or meet, by chance, in routine meetings. With stand-alone Excel planning or technology systems, an imbalance between supply and demand is inevitable. The **processes** can be described as **reactive**.

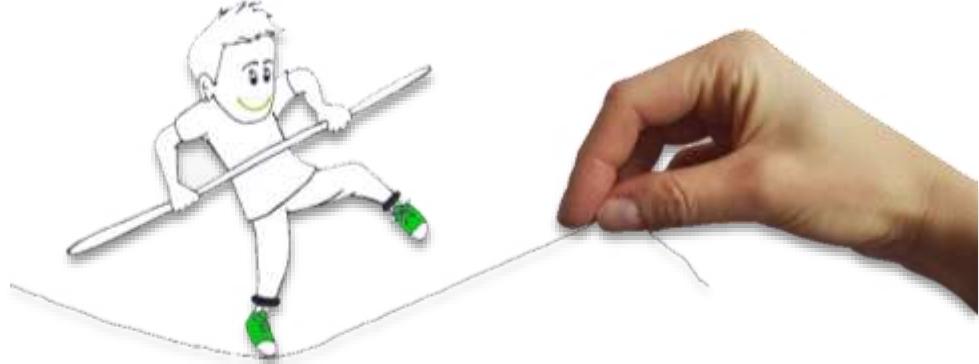
## Stage 3: Demand and supply balancing within an end-to-end Supply Chain

In **stage 3**, supply and demand are aligned with an **integrated CPM platform**. Many software products continue to focus on an intra-company or process perspective rather than an integrated perspective of the entire company. Quantity-based planning and material flows are usually in the focus. The value-driven approach that is achieved through the integration of financial flows is still missing here. Even in this phase, it is important to ensure that the right software technology is purchased, which allows modular extensions up to fully integrated business planning. In this phase, external

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<sup>5</sup> de Man, J., Strandhagen, J. (2018), Spreadsheet Application still dominates Enterprise Resource Planning and Advanced Planning Systems. IFAC-PapersOnLine, 51, 11, pp. 1224-1229.

information is usually entered manually into the process. For this purpose, demand forecasts and plans as well as supply plans are created and linked with one another.



Fixed meeting dates with the participation of all responsible persons enable coordination. There is an (external) collaboration with a limited number of suppliers and customers. The focus is on profitability and efficiency gains are the goal of this phase. At this stage, key financial figures are used to measure results - such as order fill rate, forecast errors, inventory turns and functional costs. The responsible persons in the S&OP department coordinate the process. The processes can be described as proactive.

## Stage 4: Demand-oriented, profitable product/service mix

In **stage 4**, the **purely quantity-based planning is supplemented by the financial perspective** in order to be able to determine the influence of logistical decisions and to expand this focus to supply chain value drivers. The focus is on the impact of decisions on company results. Therefore, processes are measured and controlled. **Studies show that from stage 4 onwards, software technology for integrated corporate planning is required** that can link production, procurement, warehousing and transport decisions with the marketing strategy including product development, consumer insights and financial results as well as the corporate strategy. Demand forecasts are made using mathematical & statistical models. This phase is characterized by **smooth cooperation** between all those involved, including ownership for the processes by top management. Formal meetings are held regularly with everyone involved and the results are communicated. There is a horizontal integration between all functions as well as a vertical integration based on the corporate strategy. Demand-driven strategic plans are the driving force. Marketing and sales plans are linked to those of production and management. Different customer segments and the demand at the product level are considered. Objectives such as preferred delivery to top-customers or certain products can be taken into account. The supply chain is fully integrated. **Financial metrics** such as customer satisfaction, working capital, total costs and demand errors **help to evaluate and improve plans** and must be

integrated into S&OP meetings in order to align budgets and financial targets with expected sales and planned production volumes. The goal of profit maximization stands behind the S&OP plan. There is an external cooperation with most of the suppliers and customers.

## Stage 5: Coordinated, connected company with added value



In **stage 5**, the maturity model reaches its **highest level of maturity**. This phase is the **goal** of a modern company **with optimized S&OP processes and maximum collaboration**. **Automation and seamless integration** make decision-making easier. One speaks of a **coordinated operation** that works in a **highly value-adding and event-driven manner** through integrated planning in the network.

The aim is the constant and continuous improvement of processes through performance analyzes. Lessons learned are documented and implemented with action plans, automated task assignments make coordination easier. This enables cost and time savings to be achieved.

According to a study<sup>6</sup>, once optimal S&OP processes according to stage 5 of the maturity model are implemented, forecasts are 20-50% more precise, storage costs reduce by 10-30%, production time savings range from 5-15% and a 5-10% increase in delivery time can be achieved. Planning takes place in real time and enables **agile and proactive decisions**. **Scenario-based what-if simulations** show the impact of planned measures on company results and capacity conditions. S&OP planning is **embedded in the entire corporate planning with integrated CPM technology**. The efficiency of the S&OP plan is continuously assessed and can be adapted in good time. In addition to **regular meetings, event-driven meetings take place**.

Next, the path to maturity stage 5, the value-oriented S&OP approach, is presented. Numerous real-life examples, taken from different companies illustrate how analyzes and reports can maximize decision-making quality.

<sup>6</sup> Hinkel, J. Merkel, O., Kwasniok, T., Good Sales and Operations Planning Is No Longer Good Enough. Supply Chain Management Review, 2016.

## 2. Value-driven S&OP – an integrated, 5 step journey

Figure 2 gives an **overview of the value-based S&OP performance management approach**. After classifying the company in the maturity model based on the parameters: technology used, coordination processes / meetings and the degree of coordination between supply and demand (see Chapter 1), the maturity level for the company can be determined and measures to improve S&OP maturity can be determined. Using the corporate performance management software from smartPM.solutions, the following example shows how the strategic and operational success of S&OP can be secured in five steps.



Figure 2: Value-oriented S&OP approach

Before the start of S&OP planning, measures are taken to increase the degree of maturity and to secure the strategic corporate goals. The first step of the value-oriented S&OP approach deals with the optimization of the product portfolio. In steps 2 and 3, demand and supply planning and S&OP balancing follow. Step 4 focuses on the pre-S&OP meeting with those responsible from the Marketing, Sales, Operations, Procurement, Logistics and Controlling departments. The final decision is made based on the analyzes and suggestions of the pre-S&OP meeting in the 5th step of the model, the executive meeting. All steps are described in detail below and the support from smartPM.solutions performance management analyzes, and reports is shown for the respective phases. By using a value-oriented S&OP approach, reliable, well-founded decisions can be supported on the basis of data and company results can be improved significantly.

**The starting point is company-wide data integration:** Depending on the IT landscape and the data quality, all relevant data is collected, cleaned, and can be accessed by those responsible within the department. The actuals (e.g. sales, production, and warehouse data) are analyzed and KPIs are calculated. This can and should also be done continuously. FP&A plays a major role in terms of cost

savings and highlighting potentials. So-called APS systems (Advanced Planning & Scheduling Systems) offer classic functions of quantity-based planning and planning of the supply chain with a focus on logistics processes. New developments in the software market supplement this perspective with a company-wide view and further integrate and link financial data. This supports in-depth analysis. **smartPM.solutions S&OP Performance Management links integrated corporate planning with S&OP processes and pursues the maximum value-oriented approach.**



**Stephen Dews**  
**CFO Keylane**

‘We were looking for a flexible reporting and planning solution to cover our requirements in S&OP, Project / Client Performance Management and Integrated Financial Planning.

What we gained was a very open and configurable CPM platform (Unit4 FP&A) which was set up using expert implementation support from smartPM.solutions. They understood our business cases quickly and managed to help us obtain real value from the solution straight away.’

## Steps 1 & 2: Product- and Demand Planning

In steps 1 and 2, those responsible from marketing and sales discuss the expected market development, entry into new markets, optimize the product portfolio (obsolete products, innovations, etc.) and **define a sales forecast and a demand plan for a time horizon of at least 12 months.**

(New) product launches, competition, promotions, and external factors are included in the planning. Planning risks are also evaluated. These can, for example, be taken from the forecast errors of previous periods. With the integrated corporate performance management software solution from

smartPM.solutions, all common and AI-supported forecasting methods are calculated in order to achieve the highest forecast quality. All relevant factors and their interactions can be taken into account. **AI-supported forecasting methods**, such as neural networks, can be particularly useful here due to the possibility of integrating many influencing and codependent factors. A recommendation system based on scientific and practical knowledge not only suggests relevant influencing factors on the forecast result, but also recommends the forecast with the most precise result. All other forecasts and their error values are also prepared graphically and made available for comparison. What-if simulations can also be carried out on the company's financial results, which show the impact on the business plan. Statistical expertise is not necessary for the user. The flexible S&OP software enables reliable, up to date analyzes and forecasts. The ongoing, automated review of the forecast is helpful as well. This allows for quick and well-founded decision-making. Future changes in demand from the customer's point of view are integrated into the analyzes and plans. A short-term reaction to fluctuations can be prevented by long-term precise forecasts. The analysis of external, promising markets (go-to-market analysis) can identify new, unplanned sales opportunities.

## Step 3: Supply Planning & Supply-Demand Balancing

The product and demand planning is now enriched by supply chain related information. The operations or **supply chain team** creates a **plan for internal capacity**, such as storage capacity and storage strategy, production, logistics and supply chain capacities. In addition, possible problems such as capacity bottlenecks, delivery times, etc. are included. The **supply plan** meets the requirements of the forecast demand plan while minimizing production and warehousing costs. The plans are automatically linked in the integrated system.

The following Figure 3 shows the AI-supported forecast of the expected future demand based on different probabilities. In addition, the **comparison with top-down targets and available capacities** is shown. Figure 4 shows an AI-supported production plan optimization, which takes constraints as production line availability, safety stock requirements, production shifts, mold cost etc. into account.

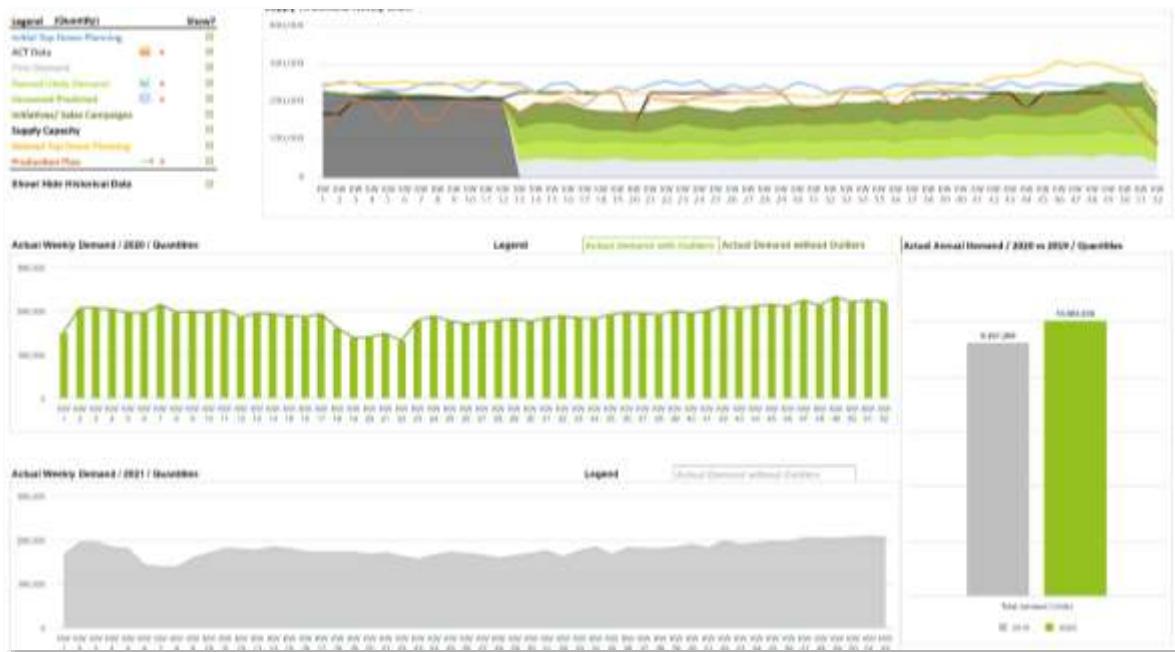


Figure 3:balancing of supply & demand within the forecast, adjustment of top-down targets



Figure 4: Production plan optimization on weekly basis

## Step 4: Pre-S&OP-meeting

**Then supply and demand plans are used as input. There is an evaluation of alternatives with regard to the business plan and the company goals with the prospect of minimal costs, high profitability and customer satisfaction.**

The cross-functional S&OP team, which consists of those responsible for sales, marketing, product development, operations and controlling, analyzes the actual figures for performance and the achievement of financial goals in the past period. This allows the forecast quality, performance, and plan fulfillment to be evaluated. Unforeseen situations, such as the sudden failure of a factory, are also evaluated. Monthly bottom-up demand plans based on geographic market and product are automatically linked to the supply plans and if demand collapses, those responsible for the supply chain can make adjustments to inventory, while marketing can possibly boost sales with a short-term promotion. Depending on the corporate structure and culture, the **S&OP meetings** can take place at different management levels (e.g. country-specific management / top management etc.) in order to ensure the vertical coordination of the S&OP plan with the corporate strategy. The time horizon of the meetings is monthly. The responsibilities, roles, and decision-making powers of those involved are clearly regulated. The goals and incentive systems must be clearly visible to everyone and defined in a way that is conducive to the company's goals. Competing goals, such as fast delivery times and minimal transport costs, can be achieved. If, for example, a dispatch of plants is used, the dispatch takes place only after the complete order has been placed in a box due to the lower delivery costs. This can take up to a month. Even if the transport costs are higher for this example company due to the individual deliveries, this is accepted approvingly in order to meet the overarching goal of "fast delivery & high customer satisfaction".

**The S&OP team decides in a joint meeting on the final S&OP plan for the planned period in coordination with the strategic company goals.** A list of priorities is drawn up and those responsible for ensuring compliance are defined. **Various scenarios and their consequences, risks and opportunities are analyzed and included in future planning.**

The final plan is passed on to the next management level together with recommendations. Scenario-based "what-if" analyzes simulate different market conditions (e.g. conservative planning vs. optimistic planning) and allow the planning of initiatives or adapt to changes in demand. For example, the influence of sales promotions such as discounts, which are now to be extended to the summer months and usually only take place in winter, on turnover and sales can be determined. In addition, analyzes of capacity utilization provide information on unused capacities or bottlenecks. Several production facilities with different equipment are taken into account.

**The planning of the staff** according to their skills is also part of the standard. **Risk-value and price optimization analyzes** support decisions. Fully integrated, cross-departmental planning provides maximum decision-making support as well as AI-supported recommendations for improvements. Optimized S&OP processes can primarily be achieved through continuous monitoring and control of the relevant KPIs. The smartPM.solutions S&OP module is supported by dashboards that show numerous relevant metrics (KPIs) and assess the efficiency of the S&OP plan. The effect on the company figures and the reliability and time savings in analyzes through the **daily updated, comprehensive information** is noteworthy. The cooperation of all those involved is facilitated, which has a positive effect on the corporate culture.



Figure 5: Resource optimization, prognosis of bottlenecks

Figure 5 shows future available capacities or resource bottlenecks in the HR area, including planned vacations, holidays and availability of key resources.

The following figure 6 shows a best practice approach for scenario-based top-down target setting and the closing of gaps between top-down and bottom-up planning through strategic measures or initiatives.



Figure 6: Top Down Turnover Target Setting

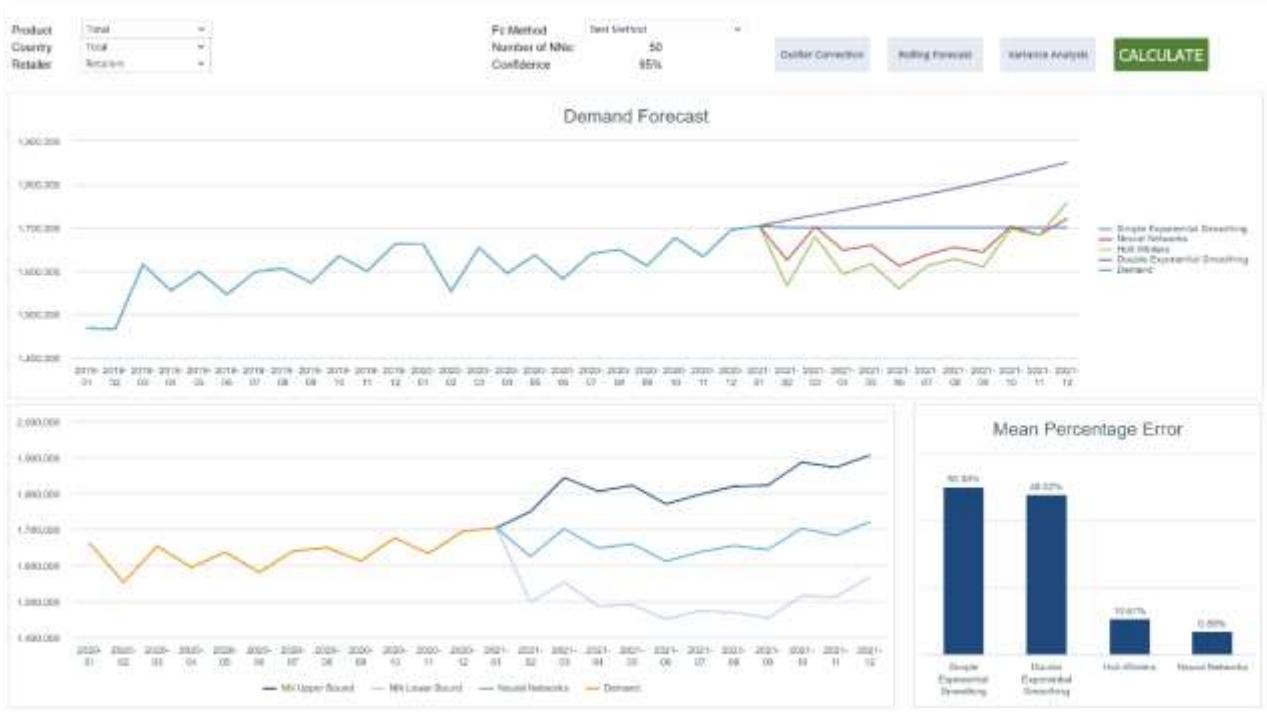


Figure 7: AI helps predict future demand and minimizes forecast errors

Figure 7 shows how the system forecasts demand with built-in AI, allowing for optimizing production on a weekly basis and, for example, “smoothing” demand peaks by bringing forward production.

## Step 5: Executive S&OP Meeting

Now the developed and agreed plan from the pre-S&OP meeting is presented to the **Executive Board**. They evaluate company critical KPIs and confirm the financial impact of the new S&OP plan on the strategic company plan. Strategies and actions for the implementation of the plan are defined and any unresolved issues from the previous S&OP meetings are addressed.

The **new S&OP plan** is recorded in writing, communicated to all employees concerned and implemented. Marketing pays attention to the promised sales quantities, while the operations department must adhere to the specified production quantities and delivery times. The measurement of the success of the S&OP process and its goals are continuously measured, communicated and, if necessary, adapted using KPIs (Key Performance Indicators). A meeting can be called automatically here if e.g. the system calculates a deviation of more than 8% from the forecasts. With the help of communication tools that are integrated into the CPM system, feedback loops can be set up to bring continuous improvement and eliminate unwanted fluctuations in planning.

With the **end-to-end performance management S&OP solution** from smartPM.solutions, all phases of the S&OP process can be monitored and notifications in the event of deviations can be carried out automatically. The S&OP process is strategically, tactically, and operationally supported (preview of the user interface - smartPM.solutions S&OP module see Figure 8).



Figure 8: Highlighting PPM from different perspectives, Integrated Business Planning

Access is cross-functional and geared towards integrated corporate planning. Best-practice templates for value-based S&OP processes facilitate compliance with structures and the S&OP steps. A cloud server, a simple user interface and access for everyone involved to the latest data via the browser or mobile device is a given.

**The Sales & Operations Planning module from smartPM.solutions** links all relevant S&OP data from different systems (including ERP, CRM systems) in a **multidimensional data model** and **combines the 5 steps of the S&OP process in one user interface**: Demand planning, supply planning, S&OP balancing, corporate planning and continuous plan monitoring and improvement. Planning problems such as multi-period capacity planning and campaign planning can be easily solved with the software. **Calendar functions and Microsoft teams and planner integrations make it easier for those involved in the S&OP process to work together.**

Tried and tested applications can be used in a standardized way or flexibly adapted to ones needs. This not only enables maximum time savings, but also unmatched adaptability to individual requirements. The user interface is close to Excel and achieves the highest levels of satisfaction among users. According to users of the software, the reduction of planning errors, faster planning, cost savings due to more efficient processes and a reduced number of plan changes are the greatest benefits.



Figure 9: simulation and comparison of different scenarios of S&OP impacts on P&L/balance sheet/Cash Flow

# Conclusions and management tips

In practice, there is a strong tendency towards an integrated S&OP data system to which all parties involved have access and which can be gradually expanded. SmartPM.solutions also pursues this approach and has built an integrated, modular S&OP model on the experience of many successful projects. Here are our recommendations, gathered from research and projects:

- Decisions have to be based on a **reliable database**. This is only possible if you work on a consistent technology platform and a seamless connection to the ERP and other upstream systems is guaranteed. Excel-based planning or reporting is not recommended, as any recommendation based on it can be questioned by management due to poor data quality and lack of transparency. Incidentally, a planning solution can be introduced independently of ongoing technology changes.
- The **linking of internal and external planning data** is the greatest benefit from a corporate perspective.
- According to scientific studies, the **maximum value-adding stage 5 of the S&OP process can only be achieved with suitable, supporting software technology**. Numerous parameters in S&OP planning must be continuously monitored, evaluated, compared, and optimized.
- Scenario-based "**what-if**" **analyzes** allow various strategies to be compared and thus the simulation of effects on the project portfolio and the company's success can be shown.
- Utilize **rolling forecasts** to keep costs and risks in the S&OP area under control at all times. Increase your forecasting precision by 20-50%.
- **Reduce storage costs, production times and maximize your delivery punctuality.**
- The use of a **common communication and reporting platform** for all S&OP participants is of great benefit. Common calendars, tasks, responsibilities, roles, milestones, and alarms are defined for pre-S & OP meetings as well as executive meetings.
- **Integrated personnel planning** is the key to success in order to secure the right qualifications for important projects and to keep the associated costs under control.
- The acceptance of an S&OP tool must be promoted internally and supported by management.

Find more information in our [S&OP knowledgebase](#). Save your spot in one of our [Online Training](#) or get to know our Sales & Operations Performance Management solution [with a customized Demo](#).



## Integrated Planning. Ad-hoc Analysis. Precise Forecasts. Perfect Reports.

Our **fully integrated CPM (Corporate Performance Management) applications** for sales- and project driven companies are designed as a one-stop shop approach for better decision making. smartPM.solutions are based on market leading<sup>7</sup> CPM technology and work with multi-dimensional Data Cubes, connecting financial data of many different sources (e.g. ERP-System, CRM-System etc.) for agile decision taking. Starting with Finance-connected **Go-to-Market** Top-Down target setting, smartPM.solutions cover **Marketing, Sales, S&OP PM, Project PM** and **Integrated Financial Planning** in an integrated business planning approach. AI-based Sales Performance Forecasts allow for a precise, integrated and most efficient prediction of the corporate performance. Compared to other Software vendors we stand out with our best-practice, pre-defined but still flexible modules, easily configurable with standard Excel knowledge.

<h3>10 good reasons for smartPM</h3>					
	Most competent consulting team > 500 projects closed	We listen carefully and follow through	Dedicated Data Science-Team for precise forecasts with AI	One integrated platform connecting all source systems	Rapid implementation (o within 3 month)
	Latest technology & low total cost of ownership	Bullet-proof, predefined solutions	Precise analysis & forecasts at your fingertips	50-60% time-saving in planning processes	100% data reliability and very happy clients

Another key differentiator from smartPM.solutions? The experience as well as economical and technical background of our **consulting-team**. More than 500 successfully completed projects with very happy clients, and a short implementation-time of 3 month tell a lot about our approach. We support the complete control cycle on the strategic, tactical, and operational level with an excellent price performance ratio - because we love what we do.

<sup>7</sup> BARC: The Planning Survey 2020

