

# WHITE PAPER

## 21 design tips for successful sales & Operations Planning



If a company is producing at the limit of its capacity, there are ongoing tensions between the requirements of sales and the possibilities of production. Balancing these and finding the best possible compromise between the requirements of all areas is the task of Sales & Operations Planning (S&OP).

Dr. Götz-Andreas Kemmner

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**If a company is producing at the limit of its capacity, there are ongoing tensions between the requirements of sales and the possibilities of production. Balancing these and finding the best possible compromise between the requirements of all areas is the task of Sales & Operations Planning (S&OP). The following 21 design tips, condensed from many projects, may help you to set up an effective and cost-effective S&OP process.**

The ideal of modern production logistics is shaped by the idea of market-synchronous production: what is produced is what the market needs. Ideally not in advance, but just in time. This ideal version of market-synchronous production is hardly economically feasible in any company today - if it ever was.

Customers and markets are far too "impatient" for that. They demand a high level of readiness to deliver, want short delivery times and on-time deliveries. The increasing variety of variants in product portfolios exacerbates this problem even further. As a result, a moderately increasing demand is usually spread across a broad product portfolio, which reduces demand for the individual product and causes it to fluctuate overall.

In practice, when we try to produce this widely distributed and fluctuating demand in sync with the market, we regularly hit the ceiling: the production capacities, the available personnel or the delivery capability of the suppliers are not sufficient.

## Five Strategies for Balancing Demand and Supply

**There are five strategies available to you to overcome this challenge:**

1. You increase production flexibility so that you can follow every twist and turn of market demand. This usually requires maintaining higher production capacities or, if you are not already producing 24 hours a day, 7 days a week, allowing staff capacity to fluctuate.

However, this not only costs overtime and special bonuses, but often also requires a generally higher number of employees. The advantage of this strategy is usually low inventories in the value chain.

2. Instead of demanding a high level of flexibility from the value chain, you can also try to isolate production from the firestorm of the markets by creating a firewall of stocks. Such a firewall is always possible at the logistical decoupling point.

At stock manufacturers typically in the finished goods warehouse, variant manufacturers in the component warehouse before assembly. Although this results in high inventory costs and ties up a lot of liquidity, it saves you flexibility costs in production.

This comparison of flexibility costs with inventory costs is always the first strategic starting point in the economic optimization of the supply chain. It is not uncommon for the total costs to remain too high and we must try to take further measures.

3. A frequently used method is to reduce the level of readiness to deliver. As we all know, the required safety stocks explode when the level of readiness to deliver exceeds 95%. Every half a percent of reduced readiness to deliver can save considerable inventory costs and thus of course also increase liquidity.

4. Just as reducing the readiness to deliver reduces the required inventory costs, an accepted delay in delivery reduces the required flexibility costs in production.

Of course, these two strategies are not free. At the very least, there is a risk that customers will leave and you will lose sales to competitors.

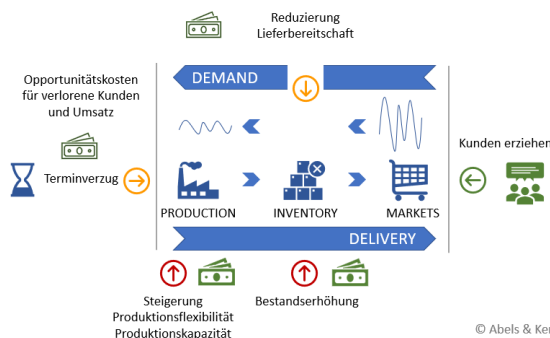
Unfortunately, it is rarely possible to calculate exactly how high the opportunity costs are. However, anyone who has had a few years of practical experience knows that these costs do arise.

5. As a last resort, you can try to train customers to be patient and build up a queue of customer orders. The European automobile industry is particularly successful in this supposedly ideal path. We are conditioned to develop doubts about a selected car when we find out that the car we want to order has a short delivery time.

But even the automotive industry is losing customers because of delivery times that are too long. This strategy can only be used by de facto or perceived monopolists. There are few of the former, but a whole lot of the latter - who would drive the "wrong" make of car, buy the "wrong" make of watch, or switch from one long-standing and cheap supplier to another?

If customers absolutely need the products, a monopolist may be able to ask them to wait grudgingly in the short term. But perceived monopolies cannot endure this for long!

**Aufgabe des Sales & Operations Planning:  
Die Marktversorgung trotzdem so wirtschaftlich wie möglich sicherzustellen**



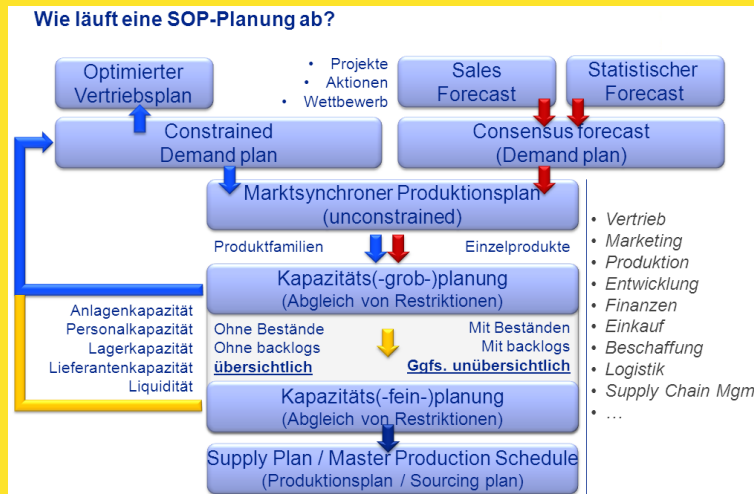
The core task of Sales & Operations Planning consists primarily in ensuring the most economical market supply possible through a suitable mix of the five strategies mentioned above to balance demand and supply. This is a noble demand that many companies fail to meet in practice.

**In addition, S&OP usually has to deal with two other tasks:**

In general, markets and demand on them develop differently than the original business plan once envisaged. Deviations from the sales plan, including the associated development of inventories, capacity utilization and human resources, must be identified and analyzed. This is the only way to draw the right conclusions with regard to investments and marketing. Identifying such deviations from the plan and coordinating the necessary measures should also be done as part of the S&OP process.

Ultimately, the launch of new products and the discontinuation of old ones represent an essential planning task of S&OP. To ensure that the markets are supplied in a timely and sufficient manner on the one hand and that no surplus or residual stocks arise when products are discontinued on the other, Sales and Operations Planning required.

The individual conditions of a company and its markets shape the Sales and Operations Planning strong. For this reason, there can be no "standard S&OP process". Nevertheless, certain basic mechanisms can be identified that regularly occur in S&OP processes and the following design tips refer to these.



## Tip 1: Consider the different mindsets of all those involved

### Develop an understanding of the different mindsets of everyone involved.

To ensure the quality of the input information for the S&OP process, a cooperative collaboration between sales and supply chain management is required. This is not always easy. Sales is generally concerned with increasing sales, while supply chain management keeps an eye on the total costs of the value chain.

When it comes to considering future requirements, sales usually thinks in terms of money and product groups and is interested in the long-term trend of market development. Supply chain management, on the other hand, plans in units of individual products or SKUs and is more interested in the short- to medium-term, planning-relevant changes in requirements.

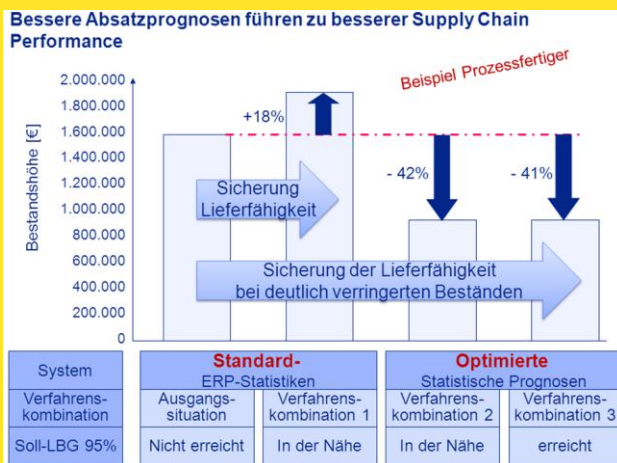
## Tip 2: Start with a statistical forecast

It is usually useful to use a statistical forecast as the starting point for an S&OP process. This statistical forecast can then be adjusted more or less by sales.

The importance of a good sales forecast for the outcome of the entire S&OP process, the supply chain and market supply is often underestimated.

These drastic figures from a project at a process manufacturer are intended to illustrate the true importance of a good sales forecast.

Our analyses in this project showed that, given the existing quality of the sales forecast, almost 20% more inventory would have had to be built up to ensure the required delivery capability. On the basis of an improved statistical forecast, however, the required delivery capability could be achieved with 40% less inventory.



### Tip 3: Do not ask the sales department to make statements about individual products

If you start the S&OP process with statistical suggested values and do not ask the sales department to provide information on all individual products, you are already on the safe side. This is because it is often sufficient to request sales information only for those items for which the statistical information is not sufficient.

### Tip 4: Projects, campaigns and market changes

**Sales must provide projects, campaigns and market changes.**

Basically, for the planning process you need statements from sales about projects or campaigns as well as information about specific market developments.

## Tip 5: The S&OP process requires statements about actual demand

### **The S&OP process requires statements about actual demand and not the sales budget.**

It is important to ensure that sales speak about future market needs and not about their original expectations, which are relevant to the budget. The focus of sales on the budget rather than on the actual emerging market needs is an ongoing problem for many companies in the context of sales forecasting and sales and Operations Planning represents.

With the statistical values and the sales information, a first coordinated “Demand Plan” (“consensus forecast”) and from this a market-synchronised production plan can be derived, largely mechanically, which does not take into account any major restrictions on the available capacity.

Depending on whether the sales plan was developed at the product family level or directly at the individual product level, the market-synchronized production plan also focuses on product families or on individual products.

## Tip 6: Break down the capacity balancing

### **Break down the capacity leveling into a rough and a detailed planning step.**

The next step is to carry out more or less detailed capacity planning. The most important restrictions that may need to be taken into account are:

- the plant capacity,
- the personnel capacity,
- the storage capacity,
- if necessary, the transport capacity,
- the unfortunately often neglected supplier capacity and
- possible liquidity constraints.

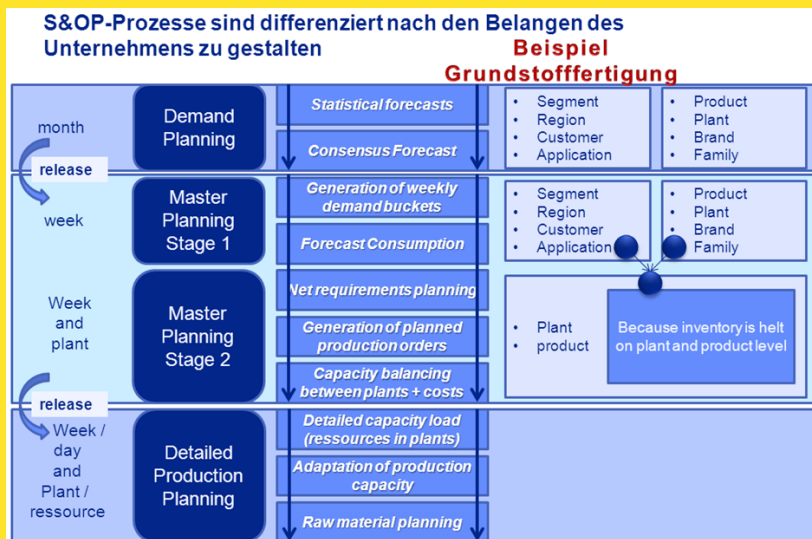
If planning is done at the product family level, it is usually not possible to take open stocks and possible backorders into account in capacity planning because these two variables always refer to a specific material number or a specific article.



Planning at the level of product groups or product families is less precise, but it is clearer.

If capacity balancing is carried out at the individual product level, you can plan more precisely and take stocks and backlogs into account when balancing capacity. However, this also makes capacity balancing more complex and confusing. Breaking down capacity balancing into a rough and a detailed planning step is therefore often the method of choice in order to make use of both advantages.

The figure shows the concept of a global S&OP process that we developed for a group in the basic materials manufacturing sector. Two essential elements of this process are the statistical forecast and the two-stage capacity balancing.



The statistical forecast at the start of the process is intended to ensure that an objective planning basis is used, which sales can then further specify. The two-stage capacity balancing enables a simpler, initial capacity balancing at a rough level, before the stocks and order backlogs are taken into account in a second, more detailed step at the individual product level and the remaining capacity imbalances are balanced out.

### **Tip 7: Check capacity expansion options and costs**

If capacities are not sufficient, you should check which bottlenecks can be expanded, at what cost and within what time frame, and which production volumes can possibly be relocated to other production locations. A second planning run against the expanded resources shows what additional demand could be met by expanding capacity.

### **Tip 8: Costs of delivery delays and unmet demand**

#### **Estimate the costs of delivery delays and unmet demand.**

It makes no economic or strategic sense to satisfy every demand at any price, even if the temptation is sometimes great in sales. Just as the supply side has to examine the possibilities and costs of expanding capacity, the demand side should also estimate the costs of postponed delivery quantities and the lost revenue due to sales losses. This is the only way to provide a reasonably objective basis on which possible capacity expansions and production relocations can be compared with losses in demand and delivery delays.

Of course, not all the consequences of not reliably meeting demand can be quantified economically. Latent customer dissatisfaction is a serious problem and must be taken into account when making decisions. However, if no rough cost assessment is carried out on the sales side, there is a risk that sales will be fought for "at any cost" and pushed through the supply chain.

Ultimately, the comparison of capacities and requirements leads to a corrected demand plan. This must now be implementable with the available resources. At the end of the S&OP process, there is also a production plan that can be implemented with the available capacities and resources, and this must be implemented!

### **Tip 9: Use free capacity and excess inventory**

However, capacity balancing can also reveal capacity reserves that are available for the production of certain products beyond their actual required quantity or show excess stocks of products. The fine art of Sales & Operations Planning. The question now is to decide which of these surplus quantities will be sold on the market through sales activities and customer intent could be sold and which free capacities should be used to produce additional products beyond the expected requirements.

## Tip 10: Be fair and stick to the S&OP compromise

The results of the S&OP process naturally affect a whole range of areas in the company, which are often difficult to reconcile:

- Distribution,
- Marketing,
- Supply Chain Management,
- Production,
- Shopping,
- Procurement,
- Logistics,
- Finance and
- possibly also development

everyone wants their priorities and needs to be taken into account.

Perhaps the greatest management challenge of S&OP planning is finding a fair and feasible compromise that all parties agree on. This is one of the reasons why there is no standard S&OP process.

## Tip 11: Run the S&OP cycle monthly

Good S&OP requires a lot of cross-departmental communication, especially between SCM and sales. To keep the effort to a minimum, some companies try a quarterly S&OP process. This almost inevitably means that every new plan leads to drastic changes. The jumps in change are smaller with monthly planning, however. Too much of a good thing, as always, has undesirable side effects: S&OP planning on a weekly level becomes too complex and can lead to you chasing after every little snag that the market throws at you.

## Tip 12: Consider interim information during the month

At the very least, you should track the plan/actual deviations during the month and adjust your planning accordingly if defined thresholds are exceeded. This way, you can identify shifts in demand earlier and significantly reduce the number of drastic planning fluctuations.

If you supplement the monthly S&OP cycle with interim information every other month, you will in most cases be well positioned in terms of planning frequency.

**Note:**

Those who recognize developments earlier can react sooner – those who recognize developments too late have to take action.

### **Tip 13: If possible sale-like use data**

The quality of the input data used in an S&OP process is of great importance for the reliability of the results.

Is it possible to forecast demand for the entire supply chain based on the point-of-Sale data, this not only enables significantly lower inventories at all warehouse levels, but also more flexibility and faster reactions throughout the entire supply chain.

In the form of a CPFR (Collaborative Planning, Forecasting and replenishment), few industries are already trying to do this. In most industries and companies, however, requirements are passed on from one inventory level to the next up the value stream - from distribution to procurement.

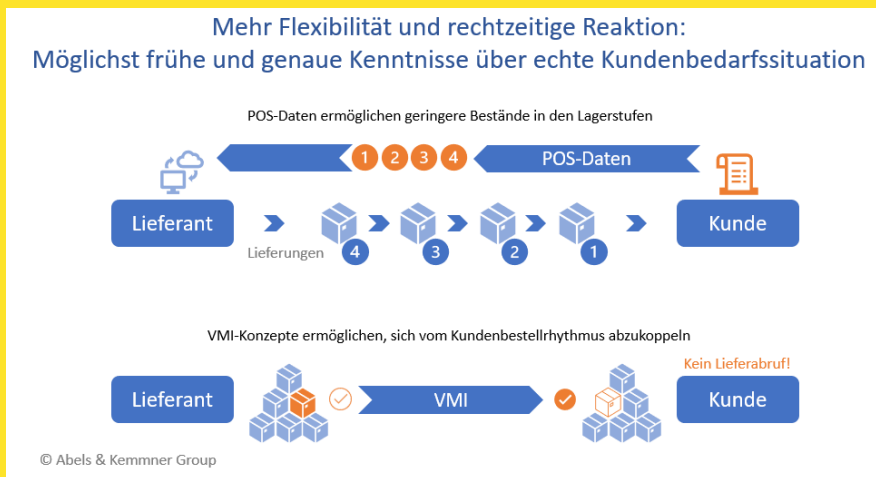
### **Tip 14: Plan replenishment of storage levels centrally**

However, the entire supply chain can react much more precisely and quickly if the outgoing data of the last inventory level, often the sales figures at the point-of-Sale, passed on directly and used for central planning. In order to keep planning and stocks consistent, the control of the replenishments then also take place centrally.

### **Tip 15: Gain delivery flexibility through VMI solutions**

Another helpful tool for identifying customer needs earlier and responding more flexibly is VMI solutions (Vendor Managed Inventory) with customers. Instead of working together in the classic way through ordering and delivery, the VMI concept enables customers to replenish supplies independently and frees them from waiting for customer orders and from meeting strict delivery deadlines.

This VMI process is usually controlled by a minimum and a maximum inventory, which decouples the supplier from the customer's order dictates and thus enables more flexible capacity planning. VMI concepts with customers are not part of the actual S&OP process, but when used consistently, they significantly increase the flexibility of capacity balancing within the S&OP process and thus simplify the entire planning process.



## Tip 16: Provide suppliers with demand forecasts

Close communication is not only beneficial with the customer in order to be able to react quickly in the supply chain and to reduce the burden on S&OP planning. Correct coordination with suppliers is also important. It should be a matter of course in an S&OP process that an agreed supply plan is passed on to suppliers as a result of an S&OP process - but this is often not the case.

## Tip 17: Coordinate supplier flexibility

**Precisely coordinate the required flexibility of suppliers with them**

Not only our own production, but also suppliers are struggling with limited capacities. In practice, the required flexibility of suppliers is often not precisely coordinated with them.

**Example:**

A statement such as "20% more within 2 months" is not a sufficiently precise statement, but only raises new questions! Should 20% more quantity be delivered once after two months or should 20% more quantity be possible every two months? Does the delivery quantity have to be increased spontaneously and continuously to 20% more quantity after two months or is it sufficient if the additional quantity can be delivered at the end of the two months?

**Tip 18: Realistic material release and ordering horizons**

The material releases and order horizons required for the desired supplier flexibility, within which suppliers must react, are very often underestimated by customers and suppliers alike and are coordinated far too closely.

**Tip 19: Reduce restrictions – don't nurture them**

The results of a sales and Operations Planning. The quality of the S&OP process does not improve so much by becoming increasingly better at dealing with the existing restrictions. It is much more important to continuously reduce the number of restrictions to be taken into account. The basic rule here is that the more restrictions there are, the more planning effort and opportunity costs of possible sales and customer losses increase, while at the same time the quality of the planning result decreases. A strategic task of S&OP planning must therefore be to continuously reduce the number of planning restrictions to be taken into account in the S&OP process.

One driver of planning complexity also depends on the level of matching between demand and supply, as we have already recognized.

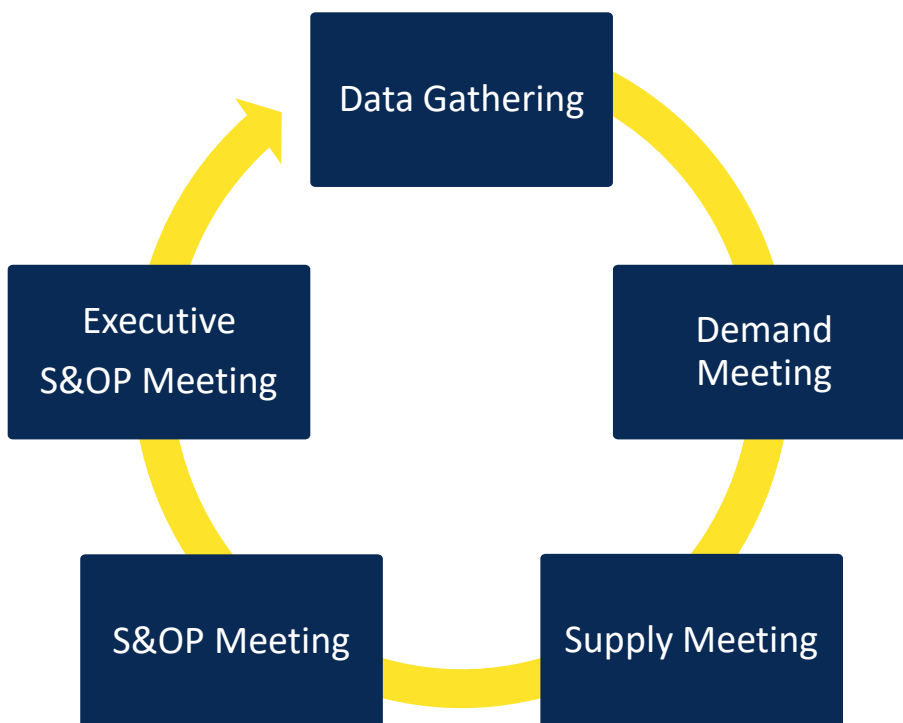
**Tip 20: Ensure a consistent planning process**

When detailed analyses of the entire planning process are carried out, the planning chain is often interrupted by over-controlling the requirements planning at the production control and operational procurement levels, or, to put it bluntly, throwing it in the trash. The operational planners do not believe the target values and try to work on the basis of their own experience and gut feeling.

Ultimately, the effort involved in an S&OP process is only justified and meaningful if its results are consistently used.

This sounds banal, but it is not.

Of course, you have to avoid such a break in the planning chain. However, the cause of this behavior is often more due to the poor quality of the S&OP planning results than to a lack of discipline on the part of the operational planners. Only communication and a clean S&OP process can help the planners to trust the values provided to them.



Source: Wallace & Stahl 2008

## **Tip 21: Understanding demand and supply as a rope team**

### **Understanding demand and supply as a rope team that secures each other**

Sales and Operations Planning is not a one-way street from sales to supply chain. In order to successfully climb the mountain ridges of S&OP planning, the demand side and the supply side must see themselves as a rope team. Sometimes one secures the other, sometimes it is the other way around. The supply side should not only try to meet the needs of the demand side, but the demand side should also strive to sell what supply side can be provided. Best of class is to direct customer demands towards existing products and surplus quantities.

The less capacity restrictions can be compensated by warehousing, the more important it is to have efficient and effective Sales and Operations Planning. If you manage to take the design tips presented into account, you will have laid the essential foundations for this. What organization and IT cannot replace is the royal competence to bring all the "electors" to the table and to a joint decision.