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Abels & Kemmner

WHITE PAPER

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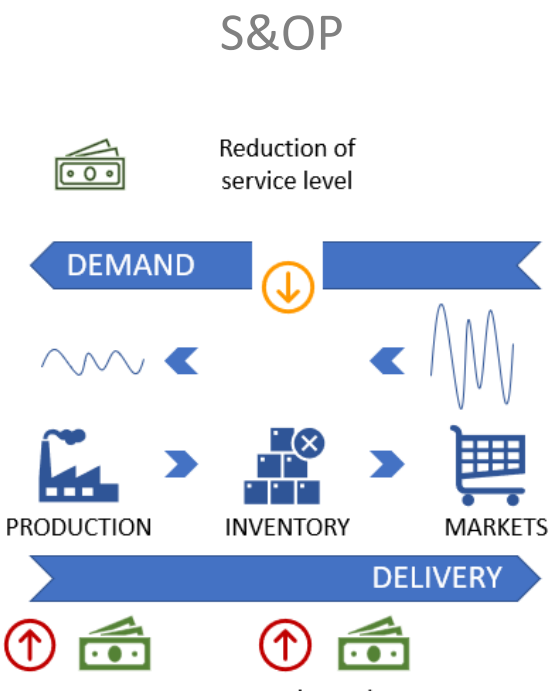

21 DESIGN TIPS FOR SUCCESSFUL SALES & OPERATIONS PLANNING

Content

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A QUANTUM LEAP AHEAD

Abels & Kemmner brings the optimisation potential of supply chains to light and replaces gut feeling with facts.

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Best practice rules for a powerful sales forecast

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If a company is producing at the limits of its capacity, there are constant 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 build an effective and cost-efficient S&OP process.

The ideal image of modern production logistics is characterised by the idea of market-synchronised production: what the market needs is produced. 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 high service level, want short delivery times and on-time deliveries. The increasing diversity of variants in the product portfolios further exacerbates this problem. Mostly, therefore, only moderately increasing demand is spread over a broad product portfolio, which lowers demand for the individual product and causes it to fluctuate overall.

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

Five strategies for balancing demand and supply

There are five strategies (Figure 1) to help you meet this challenge:

1. You increase production flexibility so that you can follow every hook that market demand throws up. This usually requires you to maintain higher production capacities or, if you are not yet producing around the clock and around the week, to let the personnel capacity fluctuate.

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

2. Instead of demanding high flexibility from the value chain, you can also try to seal off production from the firestorm of the markets with a firewall of inventory. Such a firewall is always possible at the logistical decoupling point.

   In the case of make-to-stock manufacturers, this is typically at the finished-goods warehouse, and in the case of variant manufacturers, at the component warehouse before assembly.

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Although this results in high inventory costs and a lot of liquidity is tied up, you save on flexibility costs in production.

By the way, this comparison of flexibility costs with inventory costs is always the first strategic starting point for the economic optimisation of the supply chain. Not infrequently, the total costs still remain too high and we have to try to take further measures.

3. A frequently used remedy then is to reduce the service level. As we all know, the required safety stocks virtually explode at service level above 95 %. Every half percent of reduced readiness can save considerable inventory costs and, of course, increase liquidity.
4. Just as reducing service level reduces the required inventory costs, an accepted delivery delay reduces the required flexibility costs in production.

Of course, these two strategies are not free. At the very least, there is a risk that you will lose customers and turnover 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 still try to educate customers to be patient and build up a queue of customer orders. This is the supposed royal road on which the European car industry wanders with particular success. After all, we are virtually conditioned to develop doubts about a chosen car when we learn that the car we want to order has a short delivery time.

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

   If customers absolutely need the products, a monopolist can perhaps expect them to grudgingly wait in the short term. But perceived monopolies do not last long!

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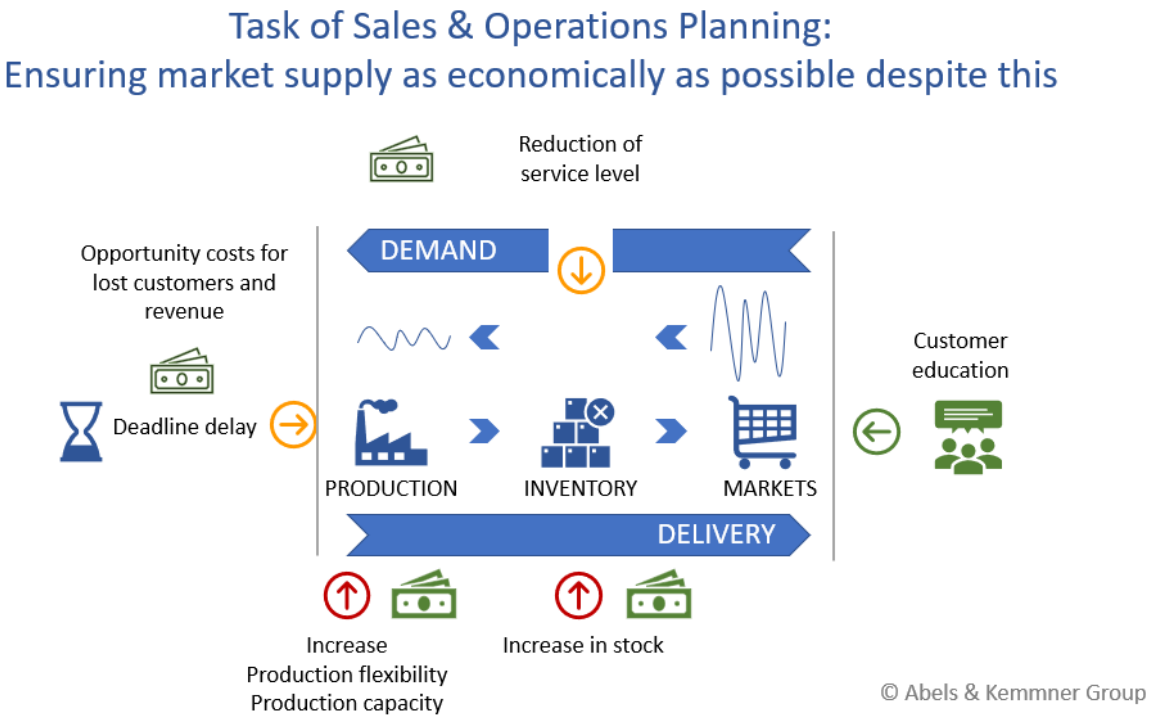

Figure 1: 5 strategies within the S&OP

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

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

In general, markets and the demand on them develop differently than the original business plan once envisaged. Deviations from the sales plan together with the associated development of stocks, capacity utilisation and personnel resources must be recognised and analysed. Only then can the right consequences be drawn with regard to investments and marketing. Detecting such deviations from the plan and coordinating the necessary measures should also be part of the S&OP process.

Ultimately, the start-up of new articles and the discontinuation of old ones represent an essential planning task of S&OP. Sales and Operations Planning is also required to ensure that the markets are supplied on time and in sufficient quantities and that no surplus or residual stocks are created when products are discontinued.

The individual boundary conditions of a company and its markets strongly shape Sales and Operations Planning. 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 (Figure 2) and the following design tips refer to these.

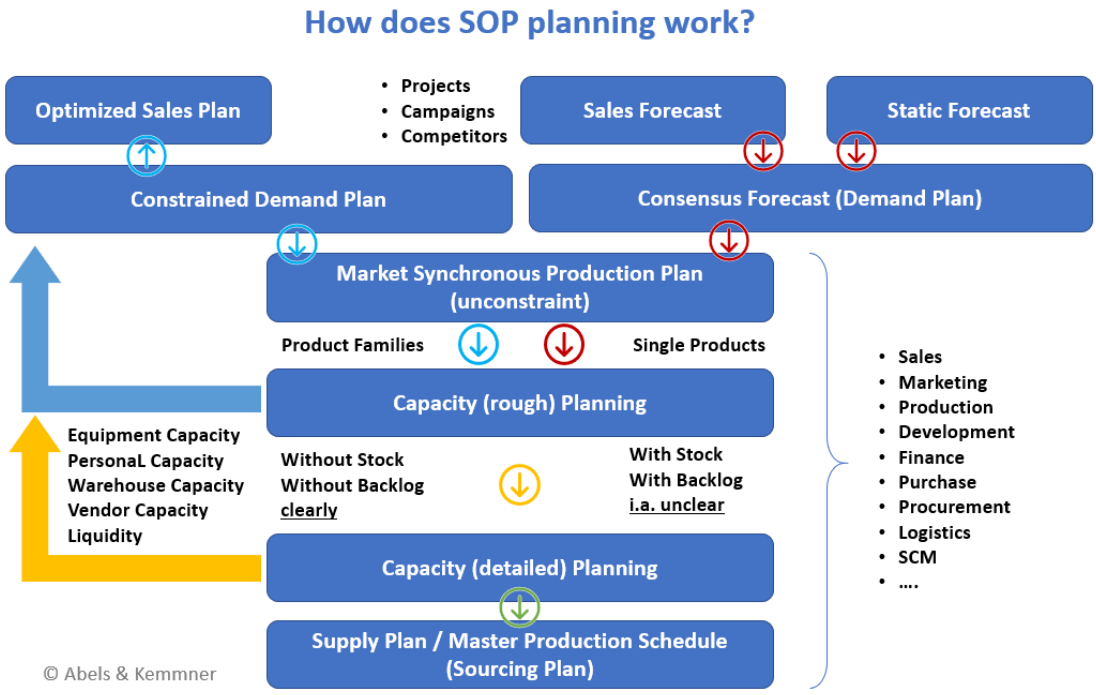

Figure 2: Sequence of the S&OP process

Tip 1: Consider the different ways of thinking of all participants

Develop understanding for the different ways of thinking of all those involved.

Ensuring the quality of input information for the S&OP process first requires cooperative collaboration between sales and supply chain management. This is not always easy. Sales is generally concerned with increasing sales, while supply chain management is concerned with the total cost of the value chain.

As far as the consideration of future demand is concerned, distribution mostly thinks in terms of money and commodity 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 changes in demand relevant to scheduling.

Tip 2: Start with a statistical forecast

It usually makes sense to make a statistical forecast the starting point of an S&OP process. This statistical forecast can then be more or less adjusted by the sales department.

The importance of a good sales forecast for the result of the entire S&OP process, the supply chain and market supply is often underestimated. These drastic figures from the project at a process manufacturer are intended to illustrate the true importance of a good sales forecast.

Our analyses in this project showed that with 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, on the other hand, the required service level could be achieved with 40 % less inventory.

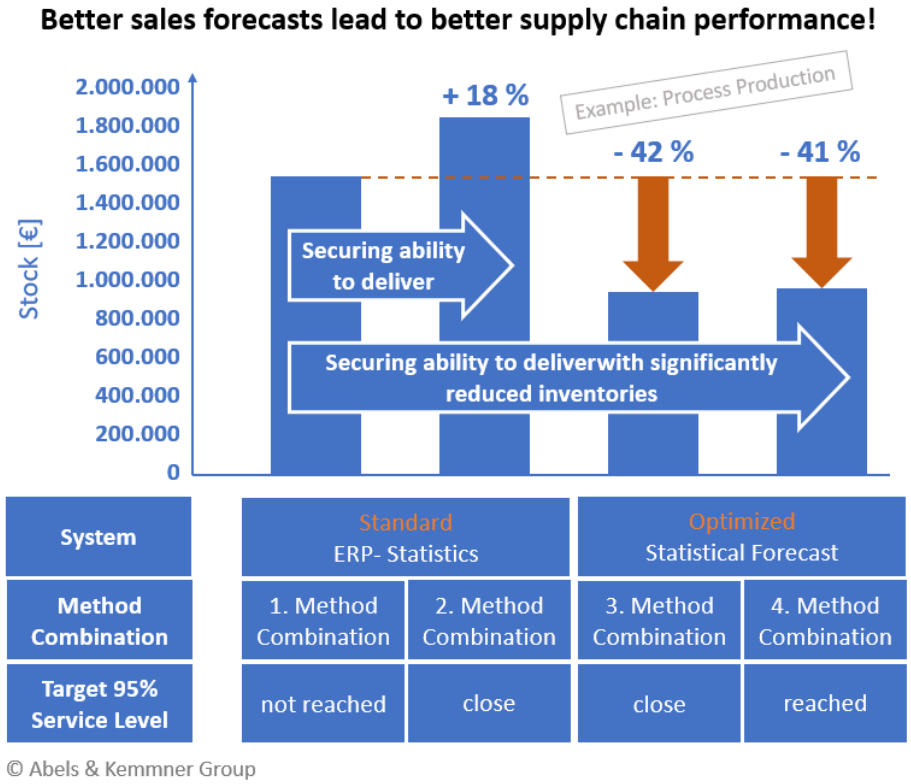

Figure 3: Increasing performance

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

If you start the S&OP process with statistical default values and do not ask sales to provide information on all individual products, you are already on the safe side. Often it is sufficient to ask for sales information only for those articles for which the statistical statements are not sufficient.

Tip 4: Projects, actions and market changes

Projects, actions and market changes must be provided by the sales department.

Basically, however, for the planning process you need statements from the sales department on projects or campaigns as well as information on special market developments.

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

The S&OP process requires statements on actual demand and not on the sales budget.

It must be ensured that the sales department comments on future market needs and not on its budget-relevant original expectations. The focus of sales on the budget rather than on actual emerging market needs is an ongoing problem in sales forecasting and sales and operations planning in many companies.

With the statistical values and the sales information, an initial coordinated "demand plan" ("consensus forecast") can be developed and from this a market-synchronous production plan can be derived largely mechanically, which does not take into account any major restrictions with regard to the available capacity.

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

Tip 6: Dismantle the capacity alignment

Break down capacity alignment into a rough-cut and a detailed planning step.

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

- the plant capacity,
- the staff capacity,
- the storage capacity,
- if necessary, the transport capacity,
- the unfortunately often neglected supplier capacity as well as
- possible liquidity restrictions.

If planning is done at the level of product families, it is normally not possible to take into account the open stocks and any backlogs 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 leveling is carried out at the individual product level, it is possible to plan more finely and take stocks and backlogs into account in capacity leveling. However, capacity leveling also becomes more complex and unclear. Dividing capacity leveling into a rough-cut and a detailed planning step is therefore often the method of choice to make use of both advantages.

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

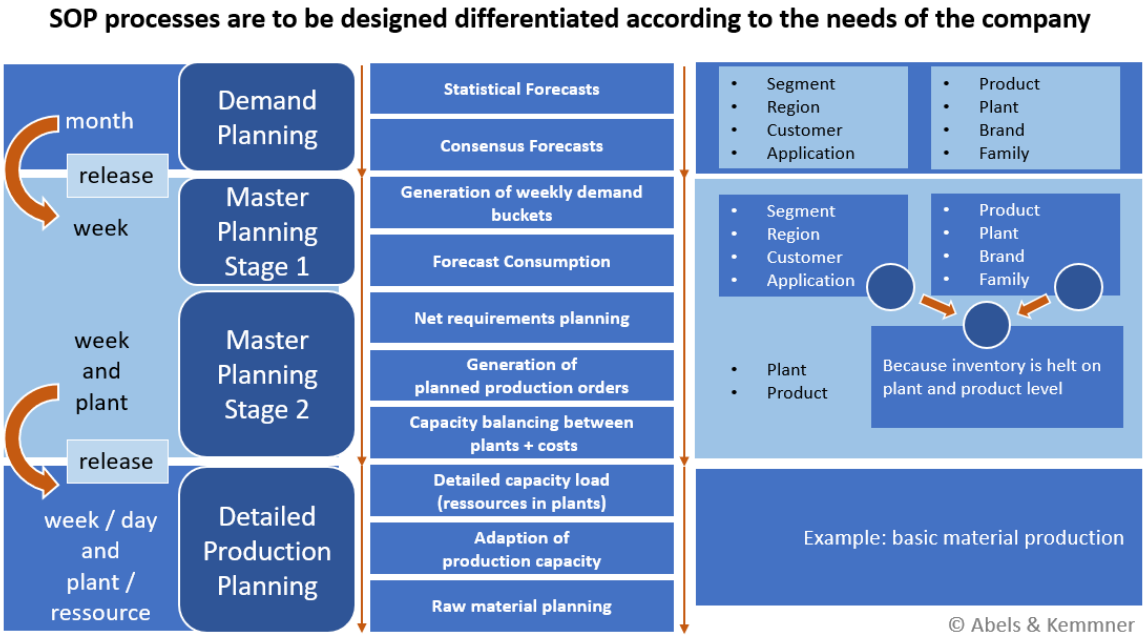

Figure 4: Planning processes adapted to companies

The statistical forecast at the start of the process is intended to ensure that an objective planning basis is assumed, which sales can then specify further. The two-step capacity leveling process allows for a simpler, initial capacity leveling at a coarse level before, in a second, finer step at the individual product level, the stocks and backorders are taken into account and the remaining capacity imbalances are balanced.

Tip 7: Check capacity expansion options and costs

If the capacities are not enough, you should check which bottlenecks can be expanded at what cost and in what timeframes, and which production quantities can possibly be shifted to other production sites. A second planning run against the expanded resources shows which additional demand could be served by the capacity expansion.

Tip 8: Costs of delivery delays and unmet demand

Estimate the costs of delivery delays and unservable demand.

It makes neither economic nor strategic sense to satisfy every demand at every price, even if the temptation to do so is sometimes strong on the distribution side. Just as the supply side has to examine the possibilities and costs of a capacity expansion, the demand side should also estimate the costs of postponed delivery quantities and the lost income due to lost sales. Only in this way is there a reasonably objective basis on which possible capacity expansions and production shifts can be balanced against demand losses and delivery delays.

Of course, not all consequences of not reliably serving demand can be economically quantified. Latent customer dissatisfaction is a serious problem and must be taken into account in decision-making. But if there is no rough cost assessment on the distribution side, there is a danger that sales will be fought for "whatever the cost" and pushed through the supply chain.

Ultimately, the comparison of capacities and needs leads to a corrected demand plan. It must now be possible to implement this plan 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!

Tip 9: Use free capacities and surplus stocks

However, capacity balancing can also reveal capacity reserves that are available for the production of certain products in excess of their actual demand or reveal excess stocks of products. The fine art of Sales & Operations Planning now consists in deciding which of these surplus quantities could be sold on the market through sales activities and customer incentives and which free capacities should be used for the production of further products beyond the expected demand. The corresponding quantities should be included in an extended sales plan as sales targets for the sales force.

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,
- Purchasing,
- Procurement,
- Logistics,
- Finances and
- Possibly also development

all want to be considered with their priorities and needs.

Perhaps the greatest management challenge of S&OP planning is to find a fair and feasible compromise that all parties stand by. Not least for this reason, there is no standard S&OP process.

Tip 11: Run the S&OP cycle monthly

Good S&OP requires a lot of cross-functional communication, especially between SCM and sales. To keep the effort in check, some companies try a quarterly S&OP process. This almost inevitably means that each new plan leads to drastic changes. The leaps in change, on the other hand, become smaller even with monthly planning. Too much of a good thing has, as always, undesirable side effects: S&OP

planning on a weekly level becomes too burdensome and can lead you to chase after every little hook the market throws.

Tip 12: Consider sub-monthly interim information

At the very least, however, you should track the plan/actual deviations below the month and the planning should be adjusted accordingly if defined thresholds are exceeded. This way you can detect shifts in demand earlier and significantly reduce the number of drastic planning fluctuations.

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

Notice:

Those who recognise developments earlier can react sooner - those who recognise developments too late have to hit a snag.

Tip13: Use data as close to sales as possible

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

If it is possible to build up the demand forecast for the entire supply chain on the basis of the point-of-sale data (Figure 5), this not only enables significantly lower inventories at all warehouse levels, but also more flexibility and faster reactions in the entire supply chain. A few industries are already trying this in the form of CPFR (Collaborative Planning, Forecasting and Replenishment). In most industries and companies, requirements are passed from inventory level to inventory level 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 issue data of the last inventory level, often the sales figures at the point of sale, are passed on directly and used for central planning. In order to keep planning and stocks consistent, replenishment should also be controlled centrally.

Tip 15: Gain delivery flexibility through VMI solutions

VMI (Vendor Managed Inventory) solutions with customers are another helpful tool for identifying customer needs earlier and responding more flexibly (Figure 5). Instead of working together classically through ordering and delivery, the VMI concept enables the customer to replenish stock

independently and frees them from waiting for customer orders and meeting strict delivery deadlines. Typically, this VMI process is controlled by a minimum and a maximum stock level, which decouples the supplier from the customer's ordering dictates and thus allows him to plan capacity more flexibly. VMI concepts with customers are not part of the actual S&OP process, but if applied consistently, they significantly increase flexibility in capacity balancing within the S&OP process and thus simplify the entire planning process.

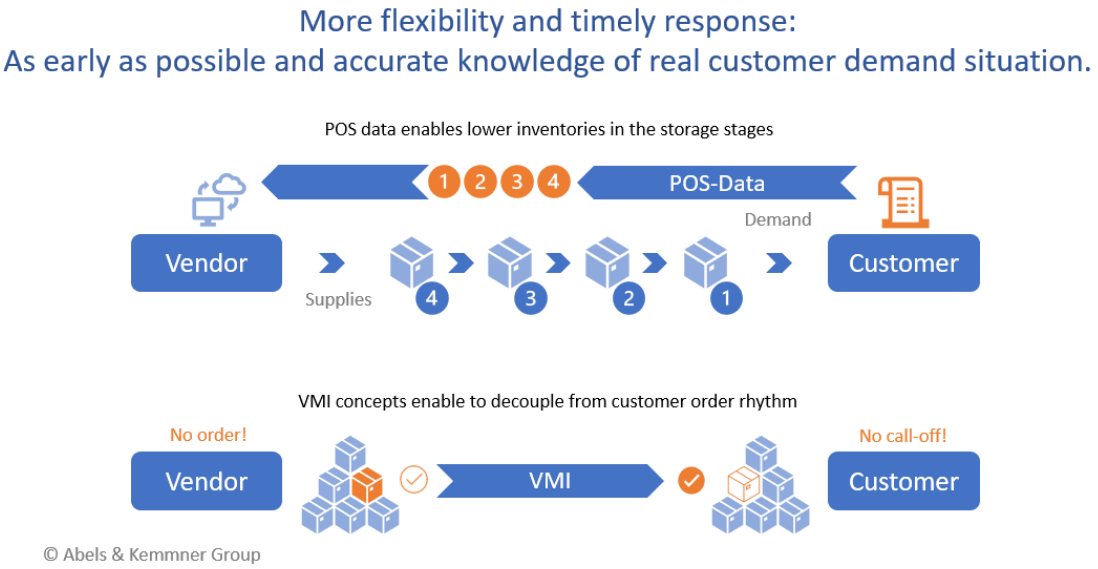

Figure 5: POS data and VMI increase flexibility and response

Tip 16: Provide suppliers with demand forecasts

Close communication is not only advantageous on the customer side in order to be able to react quickly in the supply chain and to relieve the S&OP planning. Proper coordination with suppliers is also important. It should be a matter of course in an S&OP process that a coordinated supply plan is passed on to the suppliers as the result of an S&OP process - but it is often not.

Tip 17: Coordinate supplier flexibility

Precisely coordinate the required flexibility of suppliers with them

Not only the company's own production, but also suppliers are struggling with limited capacities. In practice, the required flexibility is often not precisely agreed with the suppliers. Example: A specification 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 feasible every two months? Does the delivery quantity have to be spontaneously and continuously increased 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?

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Tip 18: Realistic material release and ordering horizons

The material releases and order horizons required for the desired supplier flexibility, in which the suppliers have to react, are very often underestimated by the customer, but also by the supplier, and are coordinated far too tightly.

Tip 19: Reduce restrictions - don't cherish them

The results of a sales and operations planning process do not improve qualitatively so much by becoming better and better at dealing with the existing restrictions. Rather, it is important to continuously reduce the number of restrictions to be taken into account. As a general rule, the number of restrictions increases the planning effort and opportunity costs of possible turnover and customer losses, while at the same time the quality of the planning result decreases. One strategic task of S&OP planning must therefore be to continuously reduce the number of planning restrictions to be considered in the S&OP process.

A driver of planning complexity also depends on the level of alignment between demand and supply, as we have already recognised.

Tip 20: Ensure a continuous planning process

In detailed analyses of the entire planning processes, the planning chain is often interrupted by overriding the demand planning at the level of production control and operational procurement, or, to put it drastically, throwing it in the wastepaper basket. The operative planners do not believe the default values and try to work on the basis of their own empirical values and gut feeling.

Ultimately, the effort of an S&OP process is only justified and meaningful if its results are also worked with consistently.

That sounds banal, but it is not.

Of course, you must avoid such a break in the planning chain. Often, however, the cause of this behaviour lies more in the poor quality of the S&OP planning results than in a lack of discipline on the part of the operational planners. Only communication and a clean S&OP process can help here, so that the planners gain confidence in the values provided to them.

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 the supply chain. To successfully climb the 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 round. The supply side should not only try to meet the needs of the demand side, but the demand side should also try to sell what can be provided by the supply side. Best of class is to direct customer demands towards the available products and surplus quantities.

The fewer capacity restrictions that can be compensated by warehousing, the more important efficient and effective sales and operations planning becomes. If you succeed in taking into account the design tips presented, you will have laid the essential foundations for this. What organisation and IT cannot replace is the kingly competence of bringing all "electors" to one table and to a joint decision.