

SaleS&OPerations Planning (S&OP)

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Chapter 1: Introduction

- 1.1. What is S&OP? In this booklet we will go more deeper into the process of S&OP but first let's make clear the purpose of S&OP. Why are we doing it? The purpose of S&OP is to routinely review customer demand for different products and the sources of supply for those products, and then re-plan or adjust existing plans to best match supply with demand. For me 'process' is an important word. Every month you have to walk through a certain process every month again. S&OP is 'cross functional' which isn't said in this definition but very important as well I believe. Maybe this process is one of the most important processes within a company and all the functions within a company are involved in getting the balance right between supply and demand. That's third important word 'balance' in between supply and demand. So summarized the most important words are: 1) process; 2) cross-functional; 3) balance.
- 1.2. What are we doing in this paper? As said we will go into more detail into the S&OP process but before doing that we will discuss why S&OP is such a hype. It isn't really that spectacular you would say at a first glance, isn't it? Let's be honest 'reaching the balance between supply and demand'; Come on! We always try to do that, don't we? So what makes S&OP a hype of a sudden? So after dealing with the hype we will talk you through the different steps within the S&OP-process which are so essential as said earlier for the success of S&OP. Then we thought it's good to pay some attention to some subjects within the surroundings of S&OP. For instance we want to discuss hierarchy of data. Then we go to the system & technology part. Don't worry we won't go too much in detail on this subject but we think we should touch at least the main topics within systems and technology in relation with S&OP. KPI's are important during the S&OP process so we will show you the KPI-pyramid and tell which are the most important KPI's / formula's to be used. Of course we will end up with a summary.

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2. Chapter 2: Why S&OP has becoming a topic?

2.1. S&OP isn't something very new, in fact 'old wine in new barrels'. That is often the case with these kinds of topics. But it seems that S&OP now lands better than previous attempts. Why? Answering that question will be covered in this that chapter. Why? Because if we know better what the real drivers are for the success of S&OP, it will help to understand S&OP even better.

Generally speaking, the main drivers can be summarized as: -

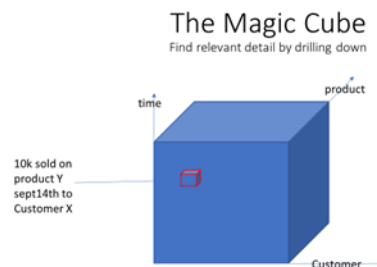
- Magic 'cube'

- more integrated, less in functional columns ('pillars') Functional fields have been and are still developing further and at the same time we become more process-oriented

- A consistent pyramid of KPI's have been build

- A sound structure behind it (meeting frequency, agenda)

In this chapter we will go deeper into these main drivers why S&OP is so successful nowadays.



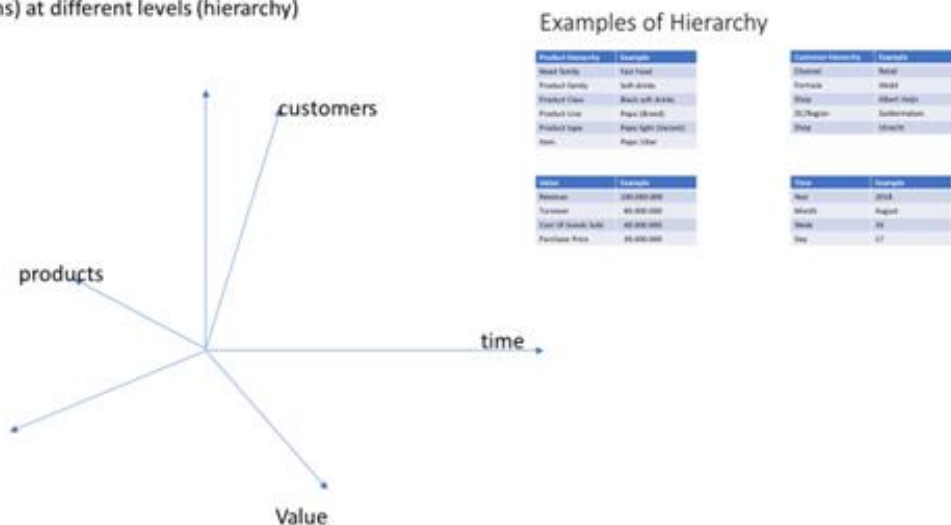
2.2. The magic cube

2.2.1. What is meant with the magic cube is that all the relevant data is stored in one database accessible from all angles/dimensions. It's possible to enter the same data from different directions. The Salesman wants to know for instance what's the sales of a specific item in a specific timeframe of a specific customer, while the Supply Chain Manager wants to know the inventory on that same sku. Different queries from different angles by different users on the same sku in this instance.

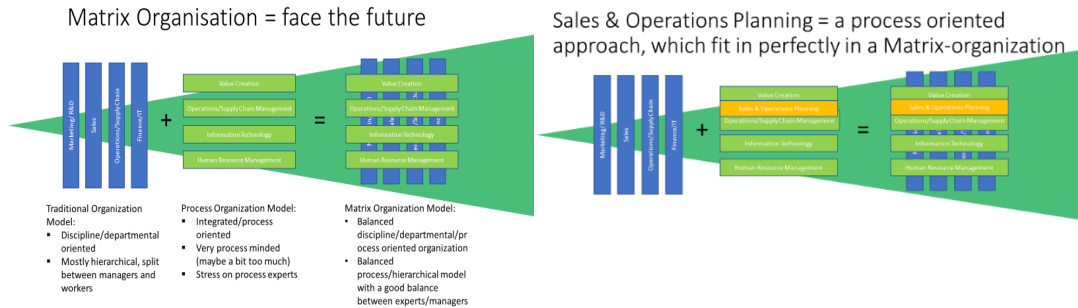
2.2.2. The way this is solved technically is that you have a database which is filled from the different systems/software you're using.

2.2.3. Big data is often seen as a 'problem'. The way handling these amount of data is by using layers (hierarchy) and groupings. See picture below:

Increase in processor capacity and development in Big Data makes it possible to look at something from different angles (dimensions) at different levels (hierarchy)

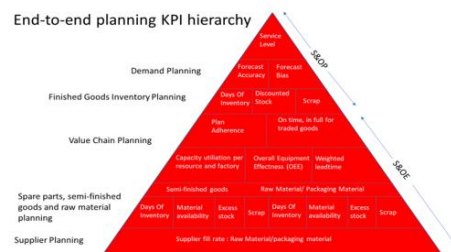


- 2.2.4. Ideally the data you use for Demand Planning is based on Point Of Sales information, so based on real sales in the shops. Point Of Sales is aggregated information based on cash-registration in the shops. The big advantage is that you use the data at the moment it is created and changed, it's real live data. It's a big improvement for the shops themselves and also for Demand Management. For the shops themselves it means directly processing this information so that you can update your inventory control and financial position immediately. You only do counting once a month or so to check if your systems are accurate enough, but you don't have to check it every day as it was in the past. For Demand Management very interesting because it's real sales data created at the moment of sales and very detailed. If you're lucky you can get even information of the shoppers themselves (via loyalty programs for instance), although you're bouncing against the privacy regulations.
- 2.2.5. Not having a magic cube doesn't mean you couldn't do S&OP. You can always start S&OP by using Excel but you will experience in time that having a magic cube makes life easier, you can get better answers on your question. By saying that using just excel means you can't be that exact and detailed as you want to be so you have to rely on estimations which isn't great but still workable.
- 2.3. Developments more in process/functional fields.
- 2.3.1. At the same time as technology, we have seen enormous changes in fields such as Supply Chain, Marketing & Sales and others. In chapter 6 we will elaborate that a bit more. What we can see is a shift into more a more 'process-approach'.
- 2.3.2. S&OP is a perfect example of a process how to come from a longer term planning to a daily supply of your products to your customers. It's developing more and more in a solid process, cross functional.



2.4. A consistent pyramid of KPI's is available to support the process. So in every meeting these KPI's are input for discussions and actions. In chapter 7 we will elaborate more on these KPI's.

Key Performance Indicators (KPI's)



Source: Orkla presentation on S&OP

- 2.5. A sound structure behind it (meeting frequency, agenda). The monthly rhythm (drumbeat) is one of the main succesfactors of S&OP. Clear meeting agenda's with clear issues are supporting this process.
- 2.6. Summary: Supply Chain, Sales and Technology all three were developing and came together in S&OP at the same time and at the right time, so made S&OP more than just a concept, it could be realized. it's the real fundamental process integrating the different business functions supported by systems

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3. What is S&OP?

- 3.1. So S&OP is basically getting the balance right between Supply and Demand discussed within the organization in a honest, balanced way. The key-words are here: honest and balanced:
- 3.2. With honest is meant: put the relevant issues on the table without hesitation. Put the pro's and con's to it, discuss it properly and than the chance that you solve this issue is the biggest. With balanced is meant that you should put the Demand on the table and really look if it is feasible to produce. How often does it happen that a demand is pushed although involved people know it's not feasible for whatever reason. Just don't do that, no one gets happy by doing that.

S&OP is about balancing Demand and Supply in an honest way



- 3.3. The steps. Of course, there different models with different steps. I this booklet several existing models are mixed into one. The most important steps within a monthly cycle are:
Step1 : Analysis Sales&Forecasting

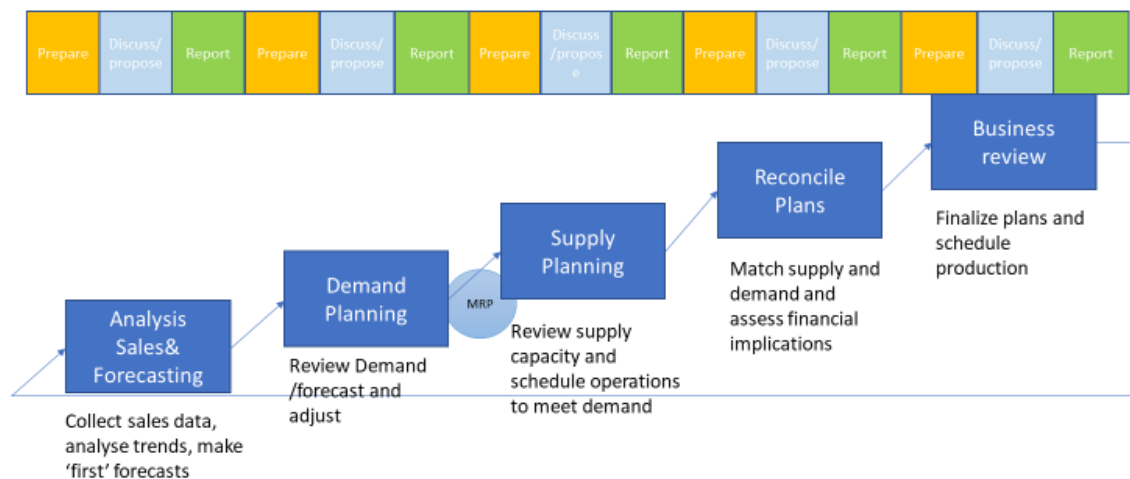
Step2 : Demand Planning

Step3 : Supply Planning

Step4: Reconcile Plans

Step5: Business review

S&OP-Steps



Source: Essentials of supply chain management / Michael Hugos.
3rd ed. ISBN 978-0-470-94218-5, John Wiley & Sons 2011

- 3.4. Before going into more detail on the steps themselves I would like to highlight 2 points:
- 3.4.1. The steps/meetings aren't very effective and certainly not efficient if those steps/meetings aren't properly prepared and reported. So take proper time to prepare and report.
 - 3.4.2. Not only the meetings within one cycle but also the cycles themselves are dependent on each other. The outcome of every step/cycle is very important for the next step/cycle. These 5 steps should be done within a month's cycle.
 - 3.4.2.1. You should focus on getting the main issues out of every step within the monthly cycle. So for instance the issues raised in step1 go in to the meeting of step2 and should be further discussed in step2. Add knowledge and facts to it. So add matters, new issues or remove them if you think they're solved and no issue anymore. Make good notes of what and why you are doing and proposing, elaborate and discuss where appropriate. See that this agenda-item 'issues raised' is one of the most important agenda items to be covered. The outcome of step2 is again 'issues' to be covered in step3 etcetera. In Step5 you should really take decisions and close the monthly cycle off with a really good communication around it to a broad audience which decisions were taken and why.
 - 3.4.2.2. The aim within the next monthly cycle should be that you do it better than the former one. This can be small steps, doesn't matter as long as you try to improve somehow. This can be better Forecast Accuracy, or even better decision making.
 - 3.4.3. It's important to have a linking pin between the different steps who sees that the process is walked through well. So when for instance a report is not clear this person can explain it. So this person should be someone who understands the process but also has a good feeling what's done intrinsic as well. It shouldn't be a management team member if possible. Sometimes you see that the Supply Chain Director is doing this, but this person is too much a decision maker, it's not ideal to combine this role with the linking pin. If you can't find the right person or you can't afford it, the demand manager is the preferred person to play this role because it's in his/her interest, has no hierarchical position but is probably well respected, understands the subjects most of the time. It's important that the linking pin is a personality. Has to stand up when necessary, prepare presentations etcetera.
- 3.5. So, let's first go into more detail on the S&OP steps.
- 3.5.1. **Step1: Analysis Sales & Forecasting.**
 - 3.5.1.1. Analysis of Sales & Forecasting is very product-category/sku focused. Therefore, the information should come from the product manager in the first instance. The Demand Manager should lead this process of getting the right information on the right product-level.
 - 3.5.1.2. You need to prepare per category what the situation is. Do you meet the budget? Are you growing like you want, do you make the turnover/margin/profit you wanted? When not, what are important reasons you didn't succeed the goal. What can you do to repair?
 - 3.5.1.3. Evaluation of the innovations and new product-introduction is also very important in this step. Do you achieve what you wanted to achieve? What did you agree last time you wanted to do on the new activities. Has that been done? Did you receive the goal? Why not?
 - 3.5.1.4. It's better to separate the budget from a risk and opportunity list. Risks and opportunities are minuses and plusses on top of the budget but not necessary likely to happen, therefore you can put them better in a separate list. Think of that you need to talk this very good through with the other disciplines. For instance if you want to follow an opportunity you have to see that material and

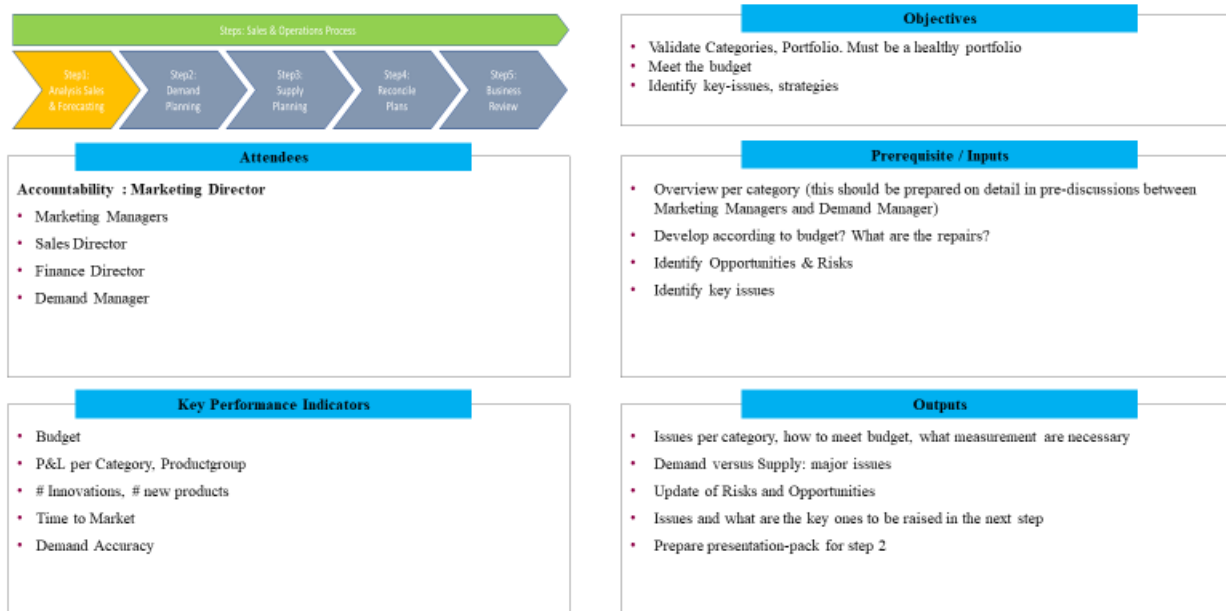
capacity is reserved somehow without really counting on them to happen. So do you take them in the MRP or not?

3.5.1.5. To feed the meeting it's helpful to report some KPI's like forecast accuracy.

3.5.1.6. Step1 should result in a summary which goes into Step2 with clear issues.

3.5.1.7. The meeting itself should be very short, 1,5hours on average is the maximum. So, preparation is key to stay within this time limit. What I have seen very often that the Demand manager is doing the coordination of this process of getting the information and the issues. The presentation is already ready for 80% before the meeting, so the focus can be really on the last 20%. In the meeting you discuss the issues, if needed in detail so that every participant understands the issues. This is teamwork, so see really that everyone understands the issues and agrees that this are all the relevant issues for this month. Marketing is chairing the meeting and should therefore take the lead.

Step1: Analysis Sales & Forecasting



3.5.2. Step2: Demand Planning

3.5.2.1. This is mainly the Sales-angle. How are customers performing, according to budget?

3.5.2.2. For managing Demand we have the input from step1 which is basically on the Category/Sku level. Sales however is more thinking on channel/customer level. So, we need preferably the information from step1 translated in information per channel/customer and of course aggregated again. Systems nowadays are getting better on this but today it's still very often a hurdle to make that translation from Category/Sku to Customerlevel.

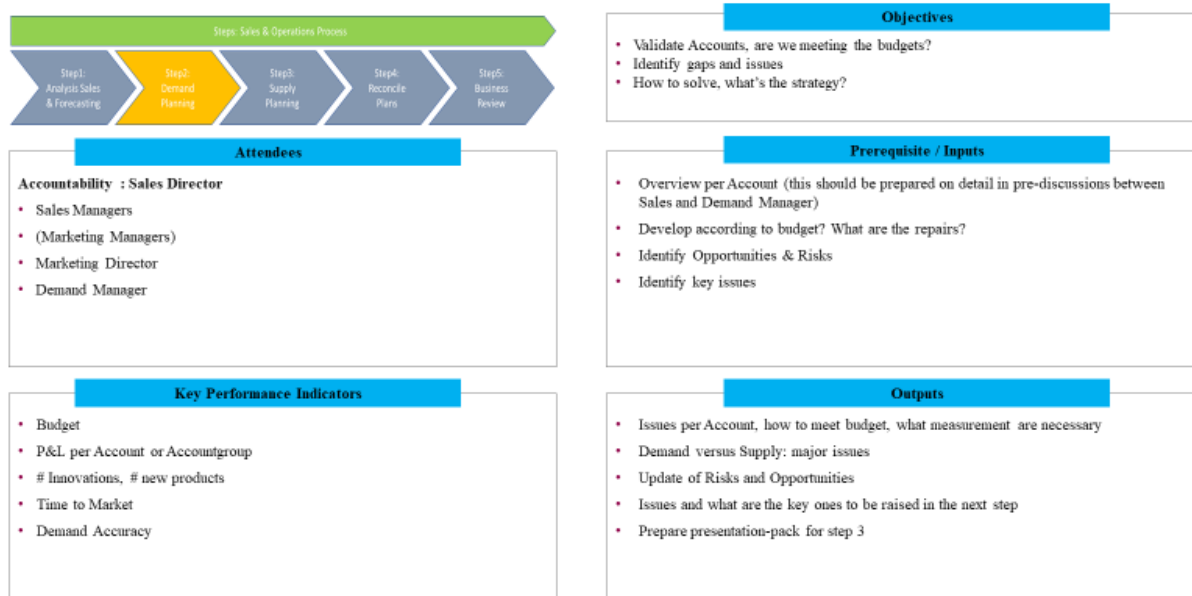
3.5.2.3. Discussion will be merely on this level. Important to see if we reached our goals on this level again on the level of turnover/margin/profit. If the goal isn't reached what are we doing to get it right? Since we are more focusing on more Customer/Channel you would expect that questions to be answered here are

more like: ‘which customer/channel is overperforming underperforming? Why? What do we need to do? Promotions? Payment-issues? Here it’s teamwork again to get the solutions necessary to reach our goals. The issue list should contain the necessary measurements to be taken.

3.5.2.4. Here the Risk&Opportunity list should be updated. What does this mean for investments, what are the possible revenues?

3.5.2.5. The Demand manager plays an important role in preparing this meeting again by coordinating and preparing the presentation. Chairman is Sales and should take the lead in this meeting.

Step2: Demand Planning



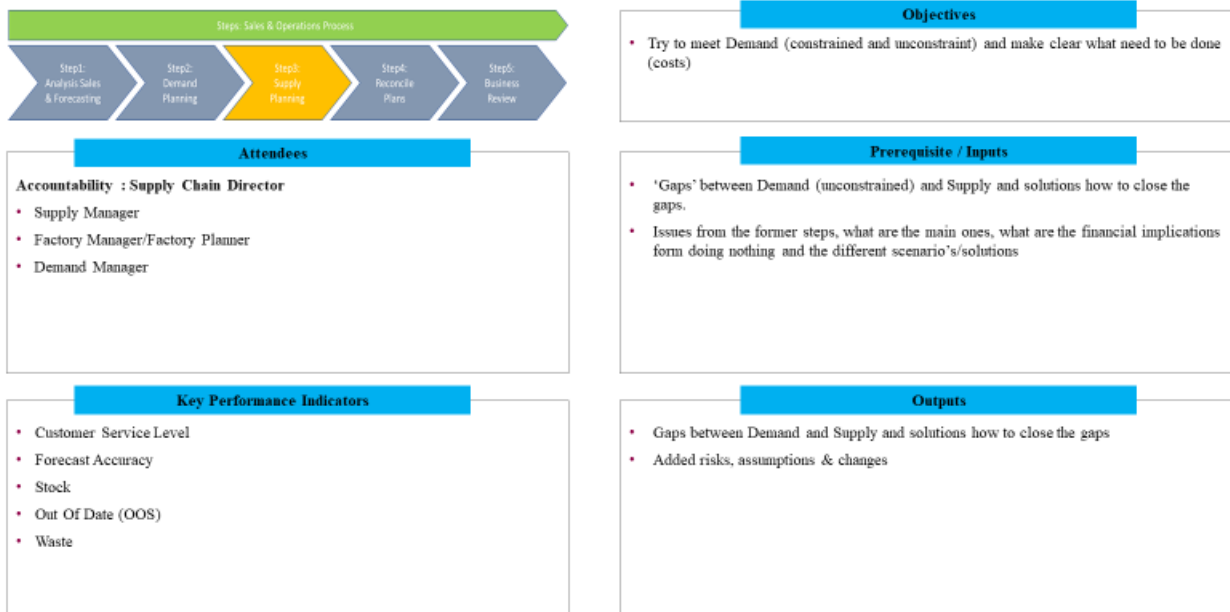
3.5.3. Step3: Supply Planning

3.5.3.1. After that the Demand is looked at, it’s time to turn more to the Supply side of the coin. Again also here good preparation needs to be done. The most important thing to do is to see that the Demand is properly recorded in the ERP-system and then turn the MRP-engine on to look what this means for capacity and material. What are the bottlenecks and the issues attached after you have done the MRP-calculation?

3.5.3.2. To record the proper Demand sounds easy but isn’t. You need to have the system running on the most realistic demand scenario to be sure that you can meet the obligations you made in the past for the coming nearby future. So, the best way is to work with scenario’s which is a possibility in the most commonly used ERP-systems. So, a typically scenario would be something like: ‘if we want to run that promotion in weeks XX to YY than this will be solution we propose’, typically solutions to this scenario will be: ‘so buying more expensive, or we need to work a 3shift or whatsoever’. This is the type of decisions you want to discuss in the supply meeting first and then in the finally meeting as well but very well prepared, so you can do a proper decision as a management team.

- 3.5.3.3. MRP-logic. ERP systems aren't that complicated as they sometimes seem to be. The MRP-logic is calculating the need for material and capacity. To do so you need a Bill-Of-Material (BOM). This means that you need a clear product number and a BOM which tells you which material is needed and how much time (man- and machine hours) you need to produce. Problem is always if you start by using a primary BOM you don't need to forget to make it final.
- 3.5.3.4. We need to talk a bit on the horizons and the possibility to influence within which time zones. This is very often not well understood and almost automated expected by Supply Chain people. It's so logical for them that they don't understand/see that others can't see that so easy:
- 3.5.3.4.1. Long-term: 1-1,5 years. This is to secure crops, shift patterns in a factory. Therefore, if they are new products it's important to have that information as soon as possible. Also, important to record that in the system otherwise it won't happen, certainly for specific material needed. So, you need to have an item number and a first Bill-Of-Material
- 3.5.3.4.2. Mid-term: this is typically around 3-4months. Most of the lead times for material is around this time. This is sometimes difficult to understand but suppliers need to their Leadtime as well. So, for instance the packaging industry is a large industry with big companies who need to produce very efficient to obtain reasonable prices. They are mostly organized like 'produce local for international', so produced in Spain to be used in the UK for instance. So you need to calculate with efficient productionleadtimes in the factory in Spain for instance, efficient transporttimes to the UK and efficient stockage in the factory in the UK. This all adds up and therefore 12wks isn't really unrealistic for normal products. If you have to deal with new products, the whole design-leadtime comes to it which is something like another 3 months at least again: you have to specify, to do trials etcetera. For capacity you must look how you can load your machines and use you people. Again, to be efficient. Also, here typically you need that 12 weeks minimum. People must be selected, to be trained etcetera. So, Mid-term is the most important period where you must get you man- and machine hours and materials secured to be on time.
- 3.5.3.4.3. Short-term: this is mostly the coming 1-2 weeks on average, of course there are always deviations you can think off. But at least you need a 'fixed' period to produce. This is like a flight-schedule. You need to prepare which machine is occupied with which products. Also, the sequencing of products is very important in this time-frame. Within the 1-2 weeks you can't change much anymore.
- 3.5.3.5. So, in summary 'Managing Supply' is basically a reaction on the Demand-meeting. What's possible and what is only possible if It gives the counterbalance to the issues until then raised. This meeting is chaired by the Supply Chain Director and prepared by the Supply planner. The supply planner is heavily relying on the MRP-system.

Step3: Supply Planning



3.6. Step4: Reconcile plans

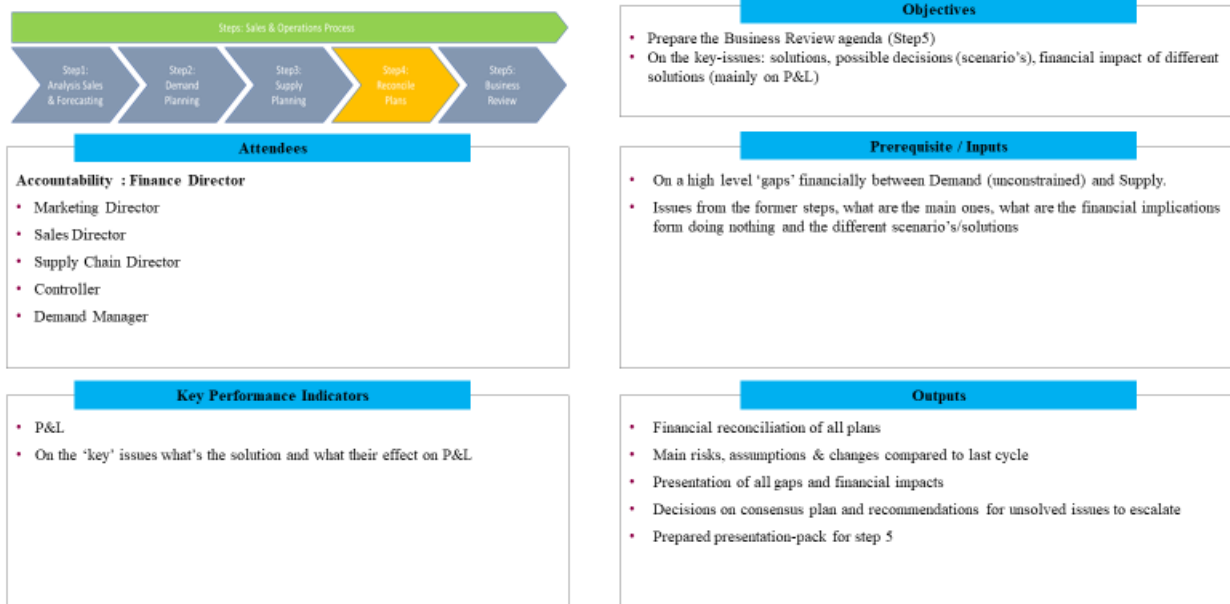
3.6.1.1. This is the meeting where the outcome of the former meetings is summarized, financially checked and rectified. It's basically the preparation for Step5 which should be merely a decision-taking meeting. This makes a good preparation key, you should avoid discussing too much on the pro's and con's. It's more a matter of weighing them. The task of Finance is to be objective, fact-based as much as possible. Here the success of S&OP becomes visible, you're building on issues to take decisions on those issues that really exist in your company and are blocking to become more successful or better or whatsoever. By sorting and discussing the issues in every former step you're nearer to the top of the mountain.

3.6.1.2. So it's important for this meeting to have all the issues on the table from the former steps and make them stronger by putting the pro's and con's, the investment and the earnings together. There are several models helping you in getting these issues right on the table. I like myself root-cause analysis, within one of the companies I worked for they used the 6-box principle a lot. I don't want to exaggerate on which model you're using to be honest that's not really an issue, watch for it that you don't kill the creativity of the people involved.

6-Box Analysis Tool

Assumptions <ul style="list-style-type: none"> We need promotions Customer X to meet our sales growth Therefore we launch product T and put price promotions to it 	Opportunities <ul style="list-style-type: none"> We grow Sales by 5% per year Try out of new product with more leverage 	Decision we made <ul style="list-style-type: none"> Try to discuss this with Customer X in Feb Start with productdevelopment so we can offer at least a more tangible product
Assumption changes <ul style="list-style-type: none"> Customer X isn't really interested, but Customer Y is interested, less growth potential initially 	Risks <ul style="list-style-type: none"> Less Salesgrowth as originally expected, will be around 2% We loose a bit of time, instead of Feb we will speak customer in May, so 1 quarter delay. ROI will take longer, but since we have that leverage effect it's still interesting to do Risk is less since the impact is less 	Decision we require <ul style="list-style-type: none"> Approach customer Y with proposal Start productdevelopment

Step4: Reconcile Plans



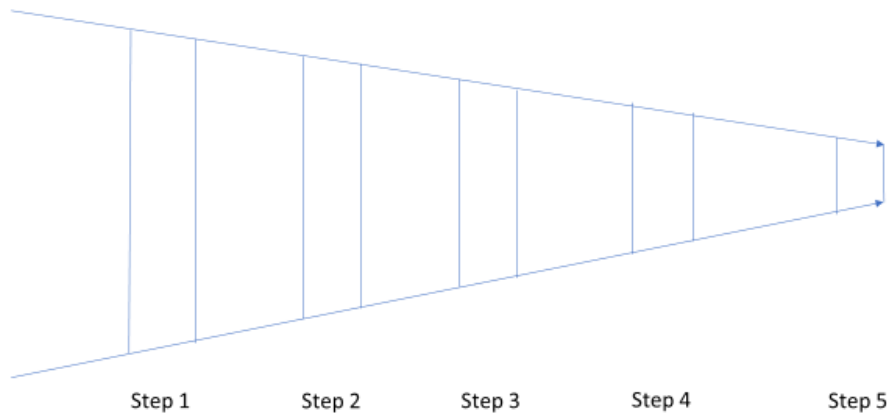
3.7. Step5: Business review

3.7.1. This doesn't mean this is the most important step. If you value every step also step 5 will receive it's value, taking decisions on real issues.

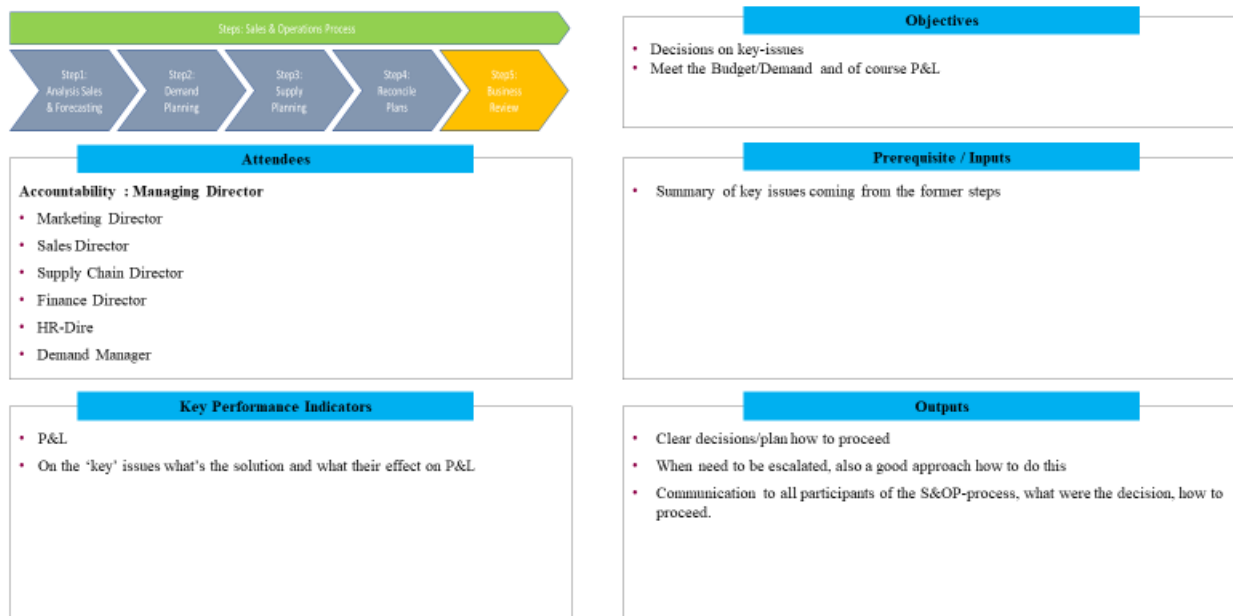
3.7.2. Of course you can do it your way but I think it's good to start always every step with: KPI's, main issues, actionlist until now, risk&opportunity list and then start the meeting on getting the 'new' issues.

3.7.3. Organizational assumptions

The amount of issues diminishes during 1 cycle but the importance of the remaining issues is rising



Step5: Business Review



SO WHAT'S DISCUSSED IN A S&OP MEETING?

(Or ... what they really should be discussing!)

1

HISTORICAL PERFORMANCE ANALYSIS

- ☐ Review Last Period (Week/Month) and Year to Date
- ☐ Review Financial KPIs
- ☐ Review Forecast Accuracy at Product Family Level
- ☐ Review Forecast Bias at Product Family Level
- ☐ Review Operations Plan Accuracy at Product Family Level
- ☐ Review Cost to serve at customer account level
- ☐ Review Historical wastage and Returns

2

REVIEW PLANNING CRITERIA (WHERE NEEDED)

- ☐ Review warehousing /Manufacturing capacity
- ☐ Review any changes in prices
- ☐ Review Product Range changes
- ☐ Review merger/divestment of business areas
- ☐ Review any planned systems functionality changes
- ☐ Review Key manpower and resourcing issues
- ☐ Review product Hierarchy changes

3

REVIEW DEMAND PLAN (14 TO 52 WEEK HORIZON)

- ☐ Aggregated Demand Plan (Category/ Brand by Month)
- ☐ Forecasted Demand Vs Sales Vs Financial Targets
- ☐ GAP Analysis
- ☐ Major events and promotions forecasts
- ☐ Planned New Product launches
- ☐ Review any planned Sales Organization Restructuring
- ☐ Major competition activity
- ☐ Market Share Review

4

REVIEW SUPPLY / PRODUCTION PLANS

- ☐ Expected Production constraints (14 to 52 week horizon)
- ☐ Alternate sourcing options (if needed)
- ☐ Production Prioritisation (for key products / customers)
- ☐ Special pack requirements
- ☐ Review Manufacturing Capacity utilization

5

REVIEW INVENTORY AND CUSTOMER SERVICE

- ☐ Projected cash stuck in inventory
- ☐ Projected annual inventory turns
- ☐ Safety Stocks for Major Events
- ☐ Stock Liquidations
- ☐ Customer Service Levels
- ☐ Key Account Orders
- ☐ Key Customer Promotions
- ☐ National Campaigns

6

CONTINUOUS IMPROVEMENT PLANS AND INITIATIVES

- ☐ Update on Lean Projects in specific areas
- ☐ Update on Cost Reduction Programmes
- ☐ Update on Inventory Reduction Programmes
- ☐ Update on any systems implementations or changes
- ☐ Updates on key new resources
- ☐ Updates on any future training opportunities / needs

7

S&OP ACTIONS AND NEXT STEPS

- ☐ Summarise detailed action points and ownership.
- ☐ Summarise escalations and next steps
- ☐ Specify post S&OP communication and ownership
- ☐ Agree any agenda changes for next S&OP Meeting



Of course, from time to time, some of these may become irrelevant, and may be dropped, while other points may assume higher priority. The ground rule for any additional/new agenda points should be – IF YOU DON'T HAVE NUMBERS TO SUPPORT IT, IT DOESN'T GET TABLED! S&OP is too important to start getting into opinion driven discussions

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Step5: Business Review



Attendees

Accountability : Managing Director

- Marketing Director
- Sales Director
- Supply Chain Director
- Finance Director
- HR-Dire
- Demand Manager

Key Performance Indicators

- P&L
- On the 'key' issues what's the solution and what their effect on P&L

Objectives

- Decisions on key-issues
- Meet the Budget/Demand and of course P&L

Prerequisite / Inputs

- Summary of key issues coming from the former steps

Outputs

- Clear decisions/plan how to proceed
- When need to be escalated, also a good approach how to do this
- Communication to all participants of the S&OP-process, what were the decision, how to proceed.

4. Exploring a bit more the surroundings of S&OP

4.1. Viv

4.2.

4.3. Demand side

4.4. Detail aggregation need

- 4.4.1. To be able to analyse you need an information system where you constantly can go from the most aggregated form to the very detail, change where you want to change and continuing analysing again. This is basically the work of the Demand Planner. But this person needs to have the input from productmanagers and accountmanagers.

Examples of Hierarchy

Product-hierarchy	Example
Need family	Fast Food
Product family	Soft drinks
Product Class	Black soft drinks
Product Line	Pepsi (Brand)
Product type	Pepsi light (Variant)
Item	Pepsi 1liter

Customer-hierarchy	Example
Channel	Retail
Formula	Ahold
Shop	Albert Heijn
DC/Region	Geldermalsen
Shop	Utrecht

Value	Example
Revenue	100.000.000
Turnover	80.000.000
Cost Of Goods Sold	40.000.000
Purchase Price	30.000.000

Time	Example
Year	2018
Month	August
Week	33
Day	17

4.4.2. Organization Demand side

- 4.4.2.1. So, if the Demand is to be discussed in the first 2wks the preparation needs to be done more heavily in the second half of the month before. This is the work of the Demand planner(-s). In small meetings (sometimes just with one person) the Demand Planner will update the system with the latest knowledge.
- 4.4.2.2. In the Demand meetings the Demand Planner will give a wrap-up of the major changes to inform at least the participants but also to discuss and see if everyone is on the same page and agreeing with the changes made. Of course, the consequences of these changes are to be agreed upon as well, this will be probably the 'issues' which will come out of these meeting and going into the next steps.
- 4.4.3. Constraint demand/unconstrained demand, Base Forecast. Demand is a lot about scenario's. Constraint demand is basically the most realistic scenario you're working on, considering constraints on man/machine on the one side and material on the other side. So, what was basically agreed upon the step5 last month. Unconstrained demand is showing all the demand without any hesitation. Every month you should look at this because this telling your which scenario you should be working on when there wouldn't be any restriction to capacity/material. Base forecast is the forecast which you try to realize without considering additional forecast consisting mostly of promotions.

- 4.4.4. Forecasting. As described in the introduction Forecasting was mostly done separately in the past but nowadays this has become a part of ERP or separate software tools. These tools all work a bit the same way: -
 - 4.4.4.1. Automatic forecasting formula's
 - 4.4.4.2. If you want to apply forecast rules you need to change the history and temporarily remove promotions:
 - 4.4.4.2.1. History: you need to be sure that at least one full year (because of the seasonal effect) but if possible minimum 3years (to have an average pattern) to apply the forecast rule the right way
 - 4.4.4.2.2. Promotions are usual exceptional events which disturb the demand pattern so therefore you have in a lot of system the possibility to remove temporarily the promotions to apply the forecast rule and once done you add the promotion back again.
 - 4.4.4.2.3. Once run you add all the changes you have got from the different meeting during the month
 - 4.4.5. So, in summary the Demand Planner starts to create a new forecast/demand pattern for the coming months directly after step2 and incorporates the decisions after step5. The Demand Planner makes the changes during
- 4.5. Marketing: category driven, longer term, new products, right portfolio
- 4.6. Sales: channel/customer driven, more midterm, promotions
- 4.7. Aggregational level as an outcome
- 4.8. Systems
- 4.9. Supply side
- 4.10. Long-term, mid-term, short-term
- 4.11. Constraint, unconstrained demand
- 4.12. MPS/MRP/Scheduling
- 4.13. S&OP answer raising the issues
- 4.14. Forecast-analysis distinction between unconstraint demand and constraint demand. Based forecasts and promotions
 - 4.14.1.1. When you do forecast the distinction is made between 'base' forecast and promotions. Why? Well if algorithms are applied to should take the base forecast as the starter to calculate the forecast. Promotions are mostly added to the forecast, they are agreed for a certain period. Of course you should keep history profiles of how promotions are run. You can use those when you plan 'new' promotions. But to apply an algorithm the right way you should base the history on real statistical forecast and therefore we call that 'base' forecast. In most systems you will be ask to split the forecast-history in base and promotions. Once you did the forecast-calculation you can 'restore' the history again.

Before you go into supply planning you should have the possibility to run MRP in different scenario's: constraint demand and unconstrained demand. Unconstraint demand is demand without making any restrictions, so you assume that you can make the demand as it is suggested to take place. Constrained demand means that you can't fulfill the demand as it is suggested to take place because you have constraints, you don't have the capacity of the material available on time to fulfill the demand on time. So constraint demand is mostly the outcome of the supply planning part of the S&OP-process, when you have to conclude you can't fulfill demand as it is coming.

5. Systems/technology

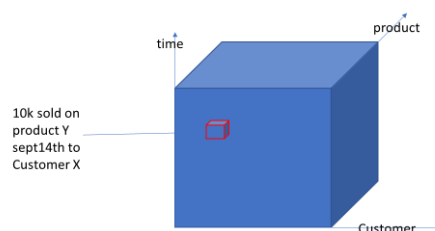
5.1. Introduction

5.2. Analysis Sales & Forecasting.

5.2.1. S&OP always starts with the analysis of Sales while generating first forecastshots (a kind of outlooks) as well. There are people saying you shouldn't look back. I don't think it's that easy just looking back or in front of you. You need to be looking around you in small circles but also in bigger ones. You need to look back but also in front of you all the time. You need to learn from history but you to anticipate at the same time as well.

5.2.2. So start with collecting sales data, analyze them while making also a first shots of forecasts as well. If you see for instance a strange forecast your first thing you will probably do is asking yourself: 'can I explain this strange forecastpattern by looking at history?'.

Find relevant detail by drilling down



5.2.3. Try to look at the bigger picture and start from there looking at the details. So for instance a handy way of doing that is to gather Sales and Budget data on product/productgroup or category level and total level. Start by looking at the totals. If you see big discrepancies try to look above if you can explain that by looking at certain productgroups or category and then within certain productgroups on productlevel.

5.2.4. In order to collect sales data and analyze them you ideally what's called earlier the 'Magic Cube' or something similar. This can be in the start also an excel-sheet but you will see quite soon that's very limited, but as a starter fine. So main functions are:

- Drill down/bottom up. In the demand area there is a need to look at the different hierarchies from different angles. So for instance you want to see the whole turnover per week for instance but directly the next question is what's causing you aren't hitting the budget. So you want to drill down what the reason is. Is there a certain customer letting you down or the availability of a certain product is the problem. So going through these kinds of analysis requires the possibility to scroll down but also up again. There is a lot of software on the market which is supporting this
- Combination of different dimensions. So you want to see turnover of a certain product at a certain customer in a certain week. This requires you can combine different combinations.

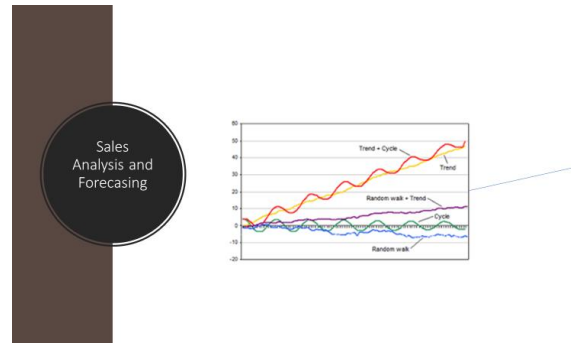
5.2.5. For selection criteria Software this means:-

5.2.5.1. *Drill down/bottom up functionality (Sales data)*

5.2.5.2. *Combination of different dimensions.*

5.3. Demand Planning/Forecasting

- 5.3.1. Differentiate between normal demand and special demand. Normal demand is the normal ordering pattern. Can be seasonal. See that you have always a full year. Ideally you have 2-3 year history so can see the seasonality better. And if you compare the normal demand per year for each year you can see also if there is growth or not. Special demand can be special occasions like Eastern/Christmas etcetera or promotions. In certain industries promotional effect can be very high so quite substantial when you do your analysis.



- 5.3.2. History. Before you start forecasting you need to 'change' history. This means you need to take out special occasions and promotions but on the other hand maybe to compensate you have to make the history a certain percentage higher. So you need to manipulate history a bit to have a good start to forecast
- 5.3.3. Forecast. There are different models ranging from simple exponential smoothing until Holt-Winters and all the variations in between but in practice a simple rule is still: take 3 years history and take the average yearly pattern of those 3 years and put a growth figure on it and you have a very good base forecast. But you can play around with the different formulas. The systems and algorithms are available. Personally I would want to know which formula is used so I can understand how the forecast is generated but in all honesty I am not sure if everyone needs to know that nowadays. After all who knows nowadays how a motor within a car is functioning. If you can trust it why do you want to know, it quite complex after all.
- 5.3.4. This makes it even more important that you analyse you salesdata quite good so you can rely on the system pretty much that the forecast is generated the right way. I think to be sure you should always check certain instances. I wouldn't rely for the fully 100% it's done always the correct way.
- 5.3.5. Unconstraint and constraint demand. Constraint demand means that somehow you can't cope with all the demand because of supply issues like capacitylimits or materialsshortages. The demand is then adapted to what's possible. Unconstraint demand is demand without any such limitations, so you show demand as it really is. If you're busy with forecasting you should always have the possibility to look at both situations.
- 5.3.6. Software-requirements are:
- 5.3.6.1. *Possibility to correct history*
 - 5.3.6.2. *Use algorithms automatically choosing the right algorithm to be used.*
 - 5.3.6.3. *Make visual which algorithm has been used, so you can always check when needed.*
 - 5.3.6.4. *The possibility to look at unconstrained and constrained demand-patterns.*
- 5.4. Supply side. Review capacity and ingredients/parts side and schedule operations to meet demand.

- 5.4.1. ERP is the tool Supply Planning is normally using. So the Forecast/Demand Plan is loaded into an MPS (plan on productlevel in which the actual inventory is taken into account). Then with MRP the demand is distributed along: -
 - 5.4.1.1. The routings and this step will show the load on the machines (capacity), so what's asked (Demand Plan) against the available capacity per machine;
 - 5.4.1.2. The Bill Of Material (Recipe etc) and shows the demand on certain raw material and packaging material, so the demand versus availability on RM and PM level
- 5.4.2. Use a software to support S&OP, it's too complex to do it manual or with Excel. When you start you can start with Excel but already soon you will discover that Excel has it's limits. You definitely need the magic cube for instance and a lot of the software requirements mentioned in this chapter.
- 5.4.3. Available mature software-packages. Main systems as ERP-systems have become mature. There's a Top4 consisting of: SAP, Oracle, Info and Microsoft on the more generic ERP-systems followed by a large number of good software for a smaller dedicated market. Also in the surroundings of ERP-systems you see on specific area's like scheduling, forecasting, CRM-systems also very good software-developments which can be easily connected with ERP-systems. Of course the software can be always better, nicer etcetera but isn't really an issue anymore. So all in all very nice and good software is available which wasn't certainly not the case a decade ago. Choosing the right combination for you is maybe becoming more an issue. All the software systems are covering some kind of business planning model ranging from strategic long planning via midterm planning to short term planning/scheduling, which is key for doing S&OP.
- 5.4.4. Capacity-requirements
- 5.4.5. Material-requirements
- 5.4.6. Software requirements are:
 - 5.4.6.1. *Capacity constraints on machine/machinegroup level;*
 - 5.4.6.2. *Material constraints on Raw- and Packing material level.*
- 5.5. Reconcile plans. Match supply and demand and assess financial implications. Is basically picking up the issues from the former session and preparing a balanced decision. Not very technology driven as well. Probably better to use estimates and simple calculations everyone can follow and understand.
- 5.6. Business review. Finalize plans and schedule production. Is basically taking up the output of the step before, which contains the issues where a decision is required. Is more a Powerpoint-exercise and a decision making process. Is not very system/technology-driven.
- 5.7. General on technology
 - 5.7.1. Processor capacity. Maybe even more fundamental what has been developed is the processor capacity. The processor capacity is on such a level that it can cope with the developments we're making. Of course we will be making better and better programs and algorithms so this is the reason processor capacity has to increase continuously as well. But the developments on processor capacity can cope with the needs we have. Memory isn't a problem at all anymore, there is always a solution. So technically seen there is no issue at all anymore it's more a software and solution problem we're facing.
 - 5.7.2. X
- 5.8. Software
 - 5.11. Traditional selection process starts with drawing up the requirements, in fact we have indicated the number above, but that is just a selection. Once the requirements are clear, you send them to long-list candidates. These are 10 possible suppliers that you

approach with a short requirements list that you have. You also ask the suppliers a number of fairly standard questions such as, can you interface with my ERP, where are you located, who are your customers, what are the sectors where you work etcetera. Then, based on the answers, you bring the number of longlist candidates back to 3-4 shortlist candidates with whom you enter into a discussion, organize a workshop, and so on. It is useful to organize a workshop where you provide your data that the supplier must then put in the package. If you don't do that, they'll come up with a fairly generic case, which is a shame because you invest energy, time and money from both sides. It is therefore better to offer a clear case that you want to be presented by the 3-4 selected shortlist candidates. Keep a score during the workshop based on the requirements list. Define the knock-out criteria in advance (criteria that ensure that you ultimately do not go further with a candidate) You ultimately make a choice. Practice often teaches that it is not so much the KO criteria that are decisive, but rather more qualitative factors, such as the supplier understands our business, the look and feel with regard to the software shown, etc.

5.11.1. Where do you choose for ERP applications and when for stand-alone applications. People are often afraid of interfacing. I think that is outdated. Demand and Supply also lends itself extremely well to fairly independent software. Interfacing is certainly very important because a lot of data has to go back and forth. Advantages of ERP applications are: data do not have to be entered twice, look & feel the same, no other supplier / party, ... Dedicated

5.9. x

1. Voor demand planning kiest de software automatisch het meest geschikte forecastalgoritme per product-marktcombinatie.
2. De software kan verschillende productsegmenten onderscheiden, hier een financiële impactanalyse voor maken en bijvoorbeeld verschillende serviceniveaus definiëren.
3. De software beschikt over functionaliteit voor het managen van productintroducties, productwijzigingen en de uitfasering van producten.
4. Het is mogelijk om een supply planning te maken met meerdere tijdhorizons, capaciteits-buckets, randvoorwaarden, regels en doelen.
5. De software kan what-if-scenario's doorrekenen en zo de impact bepalen van gebeurtenissen en beslissingen op verkopen, kosten en financiële waardes.
6. Interne partijen zoals Sales en Marketing kunnen gemakkelijk de demand forecast aanvullen en aanpassen.
7. De demand forecast en de daadwerkelijke sales zijn inzichtelijk op verschillende aggregatieniveaus (bijvoorbeeld in termen van product, klant en tijd).
8. De software genereert overzichtelijke productieplannen, inkoopplannen, voorraadplannen en distributieplannen.
9. De software ondersteunt strategische voorraadbepalingen en kan optimale veiligheidsvoorraden en lot sizing berekenen.
10. De softwareleverancier geeft een duidelijk implementatiepad met verschillende stadia en voldoende aandacht voor het betrekken van verschillende stakeholders.

Article the journal of business forecasting, fall 2004, 'Sales and Operations Planning Part1: the process' by Larry Lapide

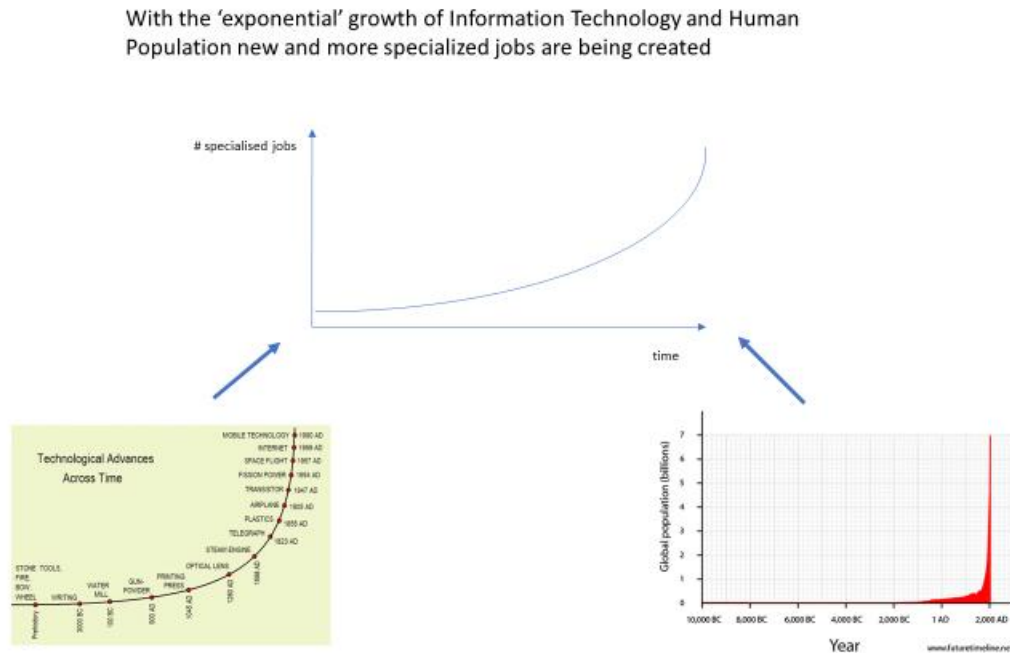
• Figure 1: success factors of sales&operations planning (S&OP) process

1. Ongoing, routine S&OP meetings
2. Structured meeting agendas
3. Pre-work to support meeting inputs
4. Cross-functional participation
5. Participants empowered to make decisions
6. An unbiased, responsible organization to run a disciplined process
7. Internal collaborative process leading to consensus and accountability
8. An unbiased baseline forecast to start the process
9. Joint supply and demand planning to ensure balance
10. Measurement of the process
11. Supported by integrated supply-demand planning technology
12. External inputs to the process

6. Organization

6.1. Growth of Information Technology and People.

6.1.1. The biggest changes of the last decades are the development of Information Technology and the exponential growth of the human population. They grew both steep hand in hand. This enables us to specialize more and more. New jobs and new job-titles are created continuously. Nowadays we have experts on a detailed level we weren't aware they would exist years ago.



6.2. In parallel with the development of information technology also the functional pillars started shifting. Let's discuss a bit these changes, where we stand and what that means for S&OP. Traditional hierarchical functional pillars are: Marketing, Research & Development, Sales, Supply Chain and HR.

6.2.1. Marketing.

6.2.1.1. In the 70/80's Marketing was very focused on 'segmentation'. The idea was if you could put customers in groups you could better detect trends so you got to know which new products and services to be developed to suit the needs of groups of customers. In the meantime individual customers seem to become even more individual than before. Mass customization is the key-word here. The new insight became: it's difficult to put customers in groups (segments), they have individual needs. Certainly with the development on Big Data data-gathering becomes easier and you get to know every detail of every consumer if you want.

6.2.1.2. Information technology made also possible to gather information at the Point Of Sales. It possible nowadays to know exactly when a product has been bought by which consumer at which shop (on address-level). Point Of Sale is actually synonym for the cash register. At the time of sales you can record all sorts of data on the consumer who does the purchase, so you can approach the

consumer very individually with special products, deals and promotions etcetera. 3D printing technology will make it possible to make those products very personalized at a low scale (even 1to1). This brings us to R&D.

6.2.2. Research & Development.

6.2.2.1. Also there is a huge shift going on in R&D as well. CAD/CAM and 3D-printing makes it possible not to go for economy of scale that much anymore but you can design quite fast and cheap individual products.

6.2.2.2. Economy of Scale in Manufacturing forced R&D into a very technical role. But with the mentioned development design itself becomes more important again. In the same time you see people come from universities with a very good technical/technological background, very capable of making the translation of consumer needs and what that means for product development. The bridge between Marketing and R&D became smaller, they understand each other better and are working more together.

6.2.3. Sales

6.2.3.1. Manufacturing companies became bigger, international and more professional. The same happened in Retail. In the same time Sales grew from hard local sales into what's called account management. We don't need a salesman anymore to sale a product to you it's becoming much more sophisticated. You need to build an environment in which the consumer feels comfortable to buy your product.

6.2.3.2. Products must be brought to the attention of the Retail who makes the choice whether a product is included in the assortment or not. It is not so much the consumer who makes that choice, Retail makes that in principle. Account managers must bring their assortment to the attention of the Retail and must convince Retail to explain why certain products should be included. It is then category management, how do you put your product on the shelves of Retail. You often see that the largest and most important suppliers determine what the shelf looks like.

6.2.3.3. In Retail you see the distinction in channels and categories more and more. Buyers are organized in that way as well. So, the best answer from the Sales side is to be organized in that way as well, so that means the account manager is talking to buyer, both working for the same category/channel combination. Like said it's more about the relation, see that the product is listed and from there the Customer is ordering to you

6.2.3.4. Customer service organization are picking up those orders. This becomes more and more automated and EDI-driven. This brings us to Supply Chain Management.

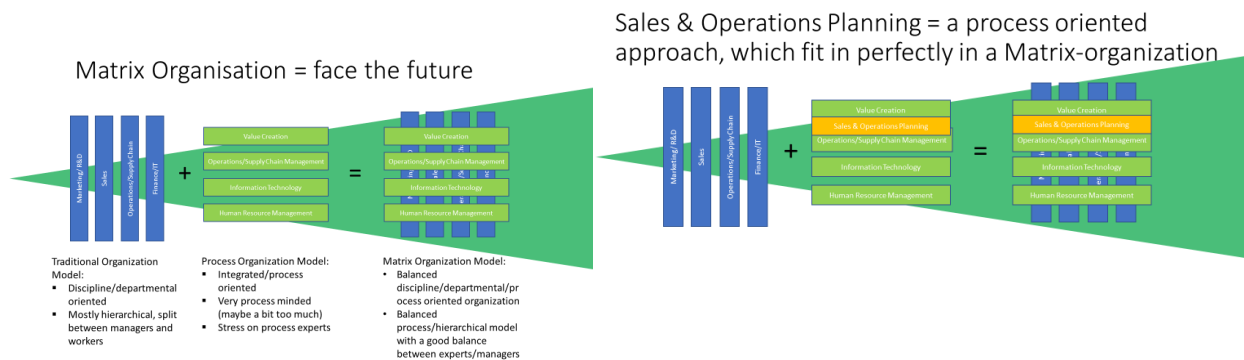
6.2.3.5. Supply Chain Management. So the whole SCM becomes more automated. Order intake becomes EDI-driven. We need Demand Managers to translate the needs of big Retail-organisations into supply from Manufacturer's. Demand Manager help the Retail with this translation. They can understand the trends going on with the products they supply. They forecast the normal demand patterns but also can support with promotions. They become really a service function to Sales.

6.2.3.6. Supply Planners have to take over from Demand Planners to turn the demand into supply and manufacturing. And there we see S&OP developing as the main process for the supporting functions for Marketing & Sales.

6.3. Process organization. There is clearly a shift from a more functional organization to a more process organization. Processes become more important than the functional/hierarchical structures. Specialisms become more professional, more important

and more self-sufficient, people need less hierarchical structures to work in. Team-approach is becoming more needed. We worked already a lot in Matrix-structures but this will become more predominant.

- 6.4. Value Creation. Value Creation is the process where Marketing and R&D are working more integrated together. They are busy with developing new products and new markets, they are busy with the future of the company for the next 3-4 years, beyond what's happening the next year. What's happening next year has been developed last year already.
- 6.5. Operations/Supply Chain Management. Is busy to realize the coming 1-1,5 year in more detail on a monthly/weekly level. They can pick up the demand and pull it through what that means for Supply (including Manufacturing).
- 6.6. Information Technology. Is not a side function anymore but becomes more and more a basic function. You need to compete nowadays with IT. Integration of the old and new economy will be key for the next coming years. Amazon needs also conventional warehouses but in a modern suit.
- 6.7. Human Resource Management. Life time employment is over, specialism goes on and on, people are more and more motivated and not just employees/workers anymore. You need to be attractive as a company to attract the best people. Attracting the best people is key for the survival of companies. Being an nice big brand is not sufficient anymore.
- 6.8. S&OP is more developing itself as an important process for internal matters like Supply Chain and Finance. This is surely helping S&OP becoming more popular nowadays.



7. KPI's etc.

7.1. Tracking KPI's is always important to do. It's a sport to have some very good ones and not too many. It's important that you have here drill down functions as well, so you can analyse quickly what's the cause that a KPI is different from last time. So you need just a few KPI's which cover a large field. For instance the Customer Service Level is always a good one as also the inventory is. They are the top of the ice-berg. You need drill down functionality to see what's the cause of a difference to last time you looked at it.: -

7.2. Controlling S&OP these are the most important KPI's to track: -

- Budget/Sales
- Innovation rate
- Effectiveness Promotions
- Customer Service
- Forecast accuracy/bias
- Less waste
- Out Of Date Risk
- OEE

7.3. Budget/Sales.

7.3.1. Mostly your yearly Budget is broken down in a monthly target, where you have always the problem that some months consist of 5 weeks and most in 4. Sometimes you see that companies are working with Periods of 4 weeks, can be handy but monthly is the most commonly used

7.3.2. In S&OP you always measure if you're hitting the budget target this months and how does that look like the coming months. You need to analyse the deviations of the past months. That the preparation that needs to be done before you start with the first step. It's important to find out the trends, be aware you are not distracted by the details.

7.3.3. Of course you need to compare the monthly Sales with the Budget and try to explain the differences and as said see that you focus on the trends and how they will continue in the future

7.3.4. Nowadays you have beautiful analysis tools to compare budget and sales. But also with Excel you can come quite far. As stated earlier you need to drill down and to look at a difference from different angles (dimensions) to understand what's happening. You need that flexibility.

7.3.5. To track the Sales I must say that a weekly meeting is necessary to see if you are hitting the monthly results. Focus in this meeting just on Customer Service level and the weekly Sales. Are you hitting the targets on certain promotions for instance. Doing this on weekly level keeps you sharp and you can really influence the current week and therefore current month.

7.4. Innovation rate.

7.4.1. For future growth you need to innovate. A lifecycle difference of course per market but on average you see products growing up for 3 years and then you need new ones. So that means that every year one third of your products needs to be replaced by new ones. So determine what your innovation rate needs to be and track it. This can be quite simple by setting a goal that you need 50 new products per year for instance, draw a line during that year and track per months the new products you're launching for instance.

7.5. Effectiveness Promotions.

7.5.1. In parallel to new products promotions are mostly a very important instrument. You need to check simple things like are the promotions planned the right way. Mostly it's you as a supplier telling the retail how the promotions should be run. You have the most experience. Retail has a lot of promotions going on the same time from

different suppliers so they mostly are lacking the overview and experience. They're dependent on you as a supplier. Don't be too modest. You can determine a lot. So track if the promotions are launched the way agreed and follow them very well so you can immediately react if necessary. Nothing is so difficult as to forecast promotions, it's dependent on so many factors, almost impossible to predict upfront. So the best thing is to do, is to watch them in a very high frequency. Supply Chain People can support Sales here very well. Measuring promotions is very easy. You have a plan how many you want to sell per week and just track if you're meeting those targets.

7.6. Customer Service.

- 7.6.1. As already announced in the introduction of this chapter CSL is a very powerful KPI. It's the top of an ice-berg, so you need to have a lot under control to reach a high CSL. Your plans needs to be predictable so you have the right products on stock.
- 7.6.2. Customer service is simply measuring what are customers ordering and are you able to deliver it.
- 7.6.3. There is always a difference between measuring on orderlevel or on orderlinelevel. It's important to measure on orderlevel since that really tells if the customer really gets what he/she wants. On orderlinelevel it's easier to reach a higher CSL, if you have many orderliness just missing some doesn't have much influence.
- 7.6.4. Predictable Sales is important to reach a high CSL, so you need to have your customer under control has well. They need to order what you expect them to do.
- 7.6.5. I think it's better to measure CSL on a daily pattern, you can directly act if you're not meeting the CSL-targets. Typically 98% is an average most companies want to reach. I think it's also powerful to mention 'missed sales', which is the inverse of the CSL. It's more powerful to talk about 'missed sales' I think, impact is higher.

7.7. Forecast accuracy/bias.

- 7.7.1. Like CSL Forecast accuracy/bias is a very powerful KPI as well. It tells you if you are in control on forecasting. Accuracy tells you how big the deviation is, bias helps you if you're continuously under of overforecasting. If the latter is the case you can easily adjust the future forecasting of course. These KPI's are the instrument for the Demand Planner and of course interesting information for Sales. In the end the Salespeople are responsible for the forecasting and not the demand planner. That's very often a misunderstanding. The demand planner can make is visuable, can analyze but in the end the Salespeople should know the best how the forecast is looking like. More and more I see companies making forecastaccuracy and bias being part of the targetsetting and bonusarrangement for salespeople.

Forecast Accuracy and Bias

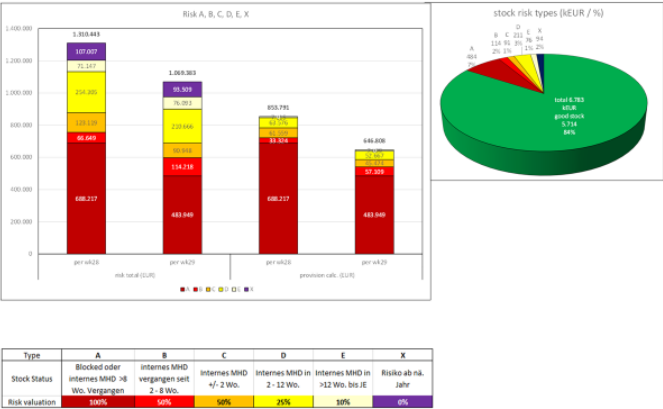
Measuring Accuracy, Forecast Errors						
<ul style="list-style-type: none"> To compare different time series techniques or to select the "best" set of initial values for the parameters, use a combination of the following four metrics: Mean Absolute Deviation (Most popular) Mean Absolute Percent Error (Should be used in tandem with MAD) Mean Square Error Root Mean Square Error 						
			$MAD = \frac{\sum_{i=1}^n A_i - F_i }{n}$			
			$MAPE = \frac{100}{n} \sum_{i=1}^n \frac{ A_i - F_i }{A_i}$			
			$MSE = \frac{\sum_{i=1}^n (A_i - F_i)^2}{n}$			
			$RMSE = \sqrt{MSE}$			

Material	Forecast	Sold	ABS variance	Bias (+Sold/-Forecast)	Accuracy (+1-(ABS variance/Forecast)
A	200	205	5	0	100%
B	50	50	0	0	100%
C	30	29	1	0	97%
D	40	25	15	15	63%
Total	220	209	21	15	95%

7.8. Less waste.

- 7.8.1.
- 7.9. Out of Date.
- 7.9.1. One thing I learned the passed years when you're busy with Waste, the best thing you should do is also here like maintenance 'preventive', once it's waste it's difficult to get rid of easily at a reasonable price. Out Of Date is when you can sell it anymore in a normal way. Normally this is happening at 1/3 of the total shelf life. Normally you are selling goods when they have still something like 2/3 of the shelf life. So once it's going into the 1/3 something strange happens mostly in organization. It's not for normal sale anymore so you 'block' it. Block is mostly a status you use when the quality is poor or you're waiting on a discussion what should happening with this stock. But when it's just below 1/3 of the shelf life doesn't mean it's not to be consumed anymore. 2 things happening: by blocking you go probably out of stock and second you have to steer this OOS manually which is pretty dangerous in the current big organisations we have created. There is not an easy solution.
- 7.9.2. I would install a warning signal just before 1/3 of the shelflife is reaching so you can see how you can manage the stock before it turns below the 1/3 of the shelflife. But once it's below the 1/3 shelflife the longer the shelflife is the better still you can sell, so what I did is defining categories. The category just below the 1/3 shelflife should be sold to normal customers but with a discount and the customer should also give a discount to their consumers. When that's not possible anymore you should give it away to charity or special retailer dealing with these kinds of products. When really not possible anymore you have to destroy it. But I guarantee you by doing this you really prevent a lot of waste.
- 7.9.3.
- 7.9.4. But you should try to sell it still but with a discount.
- 7.10. OEE.
- 7.11. On the supply side the factories play an important factor in the availability of products. OEE is a known KPI to measure the efficiency in a factory. Efficiency is an important KPI to judge if the factory is run well.
- 7.11.1.

FP Obsolete Stock Risk Analysis



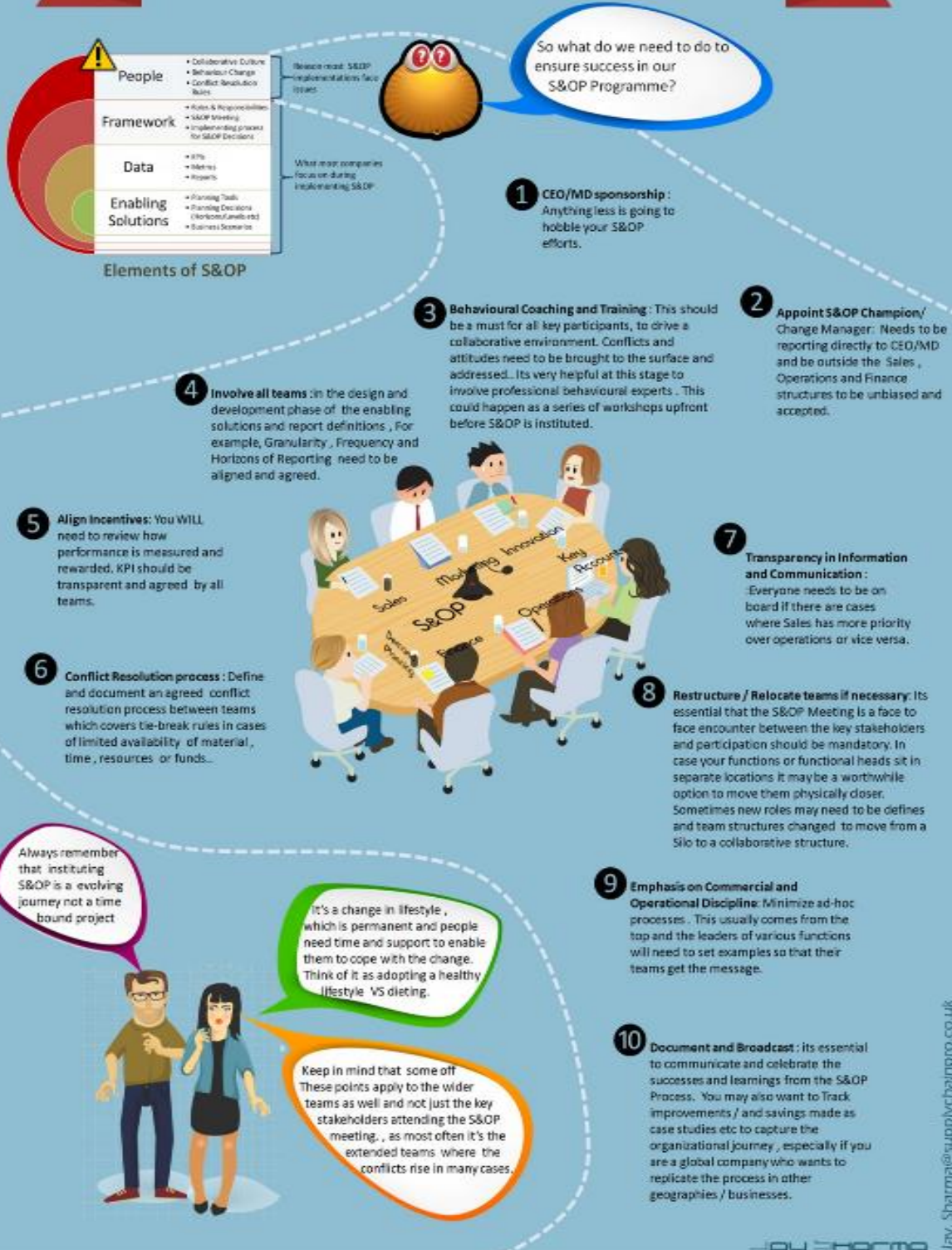
8. Summary

9. Why should you do S&OP, what are the benefits?
 - 9.1. As already said in the introduction S&OP is not something new. In this chapter we want to focus on the different aspects helping making S&OP one of the most integrated supportive processes within organisations.
 - 9.2. As said in the introduction S&OP is a logical process which can be technologically supported well today. Furthermore it's integrating the different functions very well. But it is also asking for a very routine, disciplined approach supported by Management. So nothing spectacular and nowadays reachable, there is nothing from stopping you to do it. So there is no really reason not going for it and within reach S&OP can become a really important tool/process to link the operational supportive roles with the commercial ones. Let's go through the different aspects once more:
 - 9.3. **Logical Process.** Two main developments to mention here:
 - 9.3.1. The S&OP-steps are steps in a very logical process, not very complicated and nowadays possible. Nowadays possible because we were lacking for a long time a good tool to analyze and to connect demand-management with ERP-systems. Analysing tools looking from different angles and with drilldown function are now now available. ERP wasn't until recently not really functioning fast and without mistakes. So the technology is there now, so on that aspect there's no excuse to run this process well.
 - 9.3.2. The other important development which was stopping using S&OP fully is development of Sales into more an Account-approach-role. With that development Sales had to rely more on Supply Chain and Operations to support them. Also Supply Chain and Operations from their side developed tremendously as well and was becoming more and more really a servicing function to Sales. Now they are dependend on eachother. Also here technology is no excuse anymore, it's available. People need just to do it.
 - 9.4. **Integrated.** S&OP steps are linking the different functions to eachother, it's really integrated. No one is more important than the other, so functions are balanced and respected.
 - 9.4.1. See that every Management Team Member is responsible for one of the steps and together for step5. Use a linking pin to connect the steps with each other
 - 9.4.1.1. See that every MT-member is responsible for one of the steps, in that way the responsibility is clear and forces a team-decision.
 - 9.4.1.2. See that there is a linking pin between the steps. This person isn't the chairman but is really the linking pin and sees that the issues are understood and handled in the right way within an agreed time-slot.
 - 9.4.1.3. Very often this is a Supply Chain person because naturally they are more able and equipped to do this kind of work. But it's also stronger when this person comes from another department, preferably Sales.
 - 9.5. **Routine and disciplined**
 - 9.5.1. Run in a routine S&OP-meeting
 - 9.5.1.1. See that every month the 5 steps and the preparation are done on the same moment. Set those meetings and moments clear in the agendas of the people involved, so everyone is aware and responsible to keep these dates. Discipline keeping these dates is important otherwise you shift and the process slips
 - 9.5.1.2. You can do step1,2,3 in the first 3 wks., and step5 in the 4th week of the month. Step4 can be done very short after step4. Try to do the meeting on the same day in the week to force the discipline, everyone knows, and this makes the discipline easier to keep, but isn't always possible because of bank-holidays etcetera. Don't calculate too much with personal agendas. For instance, if 1 person can't make it than that person should be caring for a replacement.

- 9.5.2. Use a clear agenda with 'input' and 'output' (issues) use KPI's
 - 9.5.2.1. Try to be clear on what the input is (mostly issues coming from the former step plus extra information), use normal meeting-rules like (start on time, keep the time, be clear on the agenda etcetera).
 - 9.5.2.2. Output should be issues for the next steps. It's better to keep some minutes so people not taking part in the meeting can understand what the issues was, they can get somewhat more context in which the issue has been raised.
- 9.5.3. Do preparation well
- 9.6. **Supported by Management.** Is becoming a bit an 'open door' but with having every step chaired by an Management Team member and step5 by the Managing Director they need to perform and more committed and prevents from being just words.

THE DIFFICULT PART OF S&OP?

(Converting Stubborn & Obstinate People into a Synergistic & Optimistic Pack!)



1. CEO/MD responsibility

Klinkt altijd weer als een open deur maar daarmee niet onwaar. Kan ik eigenlijk alleen maar beamen. In begin is dat natuurlijk altijd een de kat uit de boom kijken maar als eenmaal de eerste succesje binnenkomen zie je eigenlijk ook wel dat het commitment van CEO/MD toeneemt. In stap5 moet je echt zorgen dat het volledige management team er is inclusief de CEO/MD. Besluiten moeten in stap4 knettergoed zijn voorbereid zodat stap5 eigenlijk alleen maar een formalisatie is. Je zult zien dat er dan echt een positieve spiraal gaat ontstaan. Meetings worden natuurlijk altijd een beetje als 'tijdsverspilling' op zijn minst niet zo effectief gezien. Aanwezigheid van een ieder in iedere stap vermindert het totaal aantal meetings, ook dat is wel mijn ervaring moet ik zeggen.

2. Appoint S&OP champion

Ja is ook zeer belangrijk. Zoals hierboven gesteld moet die persoon echt proberen onafhankelijk te zijn, in iedere stap aanwezig en proberen net als in een estaffeteloop het stokje van de ene stap in de andere te brengen. Niet te nadrukkelijk aanwezig zijn maar wel in iedere meeting letten op:

- a) Dat het proces goed doorlopen wordt, timemanagement etcetera
- b) Dat iedereen goed luistert, actief meedoet
- c) Telkens weer samenvat terugleggen en door
- d) Zorgt dat er een duidelijke verslaglegging of eigenlijk meer een duidelijke actielijst wordt neergelegd.

Achtergrond van een champion is meestal marketing/sales of supply chain. Probeer echt een champion te vinden en eigenlijk mag het niet uitmaken uit welke discipline die persoon komt.

Conflict resolution process

Praat zaken goed door, luister naar elkaar, het is echt een team effort.

Belbin

3. Behavioural coaching and training

Overleggen zijn echt interdisciplinair, de 'echte' organisatieissues komen op tafel dus ligt het voor de hand dat dit ook de nodige stress en druk op de participanten legt. Enige voorbereiding is dus essentieel. Resultaat is een echt een team-resultaat. Niet echt een oefening voor Alpha-mannetjes. Je moet je rol en plaats kennen.

4. Involve all teams

Wees duidelijk over wat er van wie wordt verwacht, hoe en wat gerapporteerd wordt etcetera. De overzichtjes die in hoofdstuk .. zijn behandeld zouden eigenlijk aan het begin van de meeting (zeker in het begin) op tafel moeten liggen en afgelopen moeten worden als leidraad voor de meeting. Aan het einde checken of aan alle punten is voldaan.

5. Align incentives

Belangrijkste KPI's zijn: FA/Bias, leverperformance, Badstock en de opvolging ervan, Stockdays. Dit moet ook verankerd liggen in de bonusstructuur wil e.e.a. echt effect hebben.

6. Conflict resolution process

Als er

7. Transparency in information and communication

8. Restructure or relocate if necessary

8. zorg voor een vergaderdiscipline

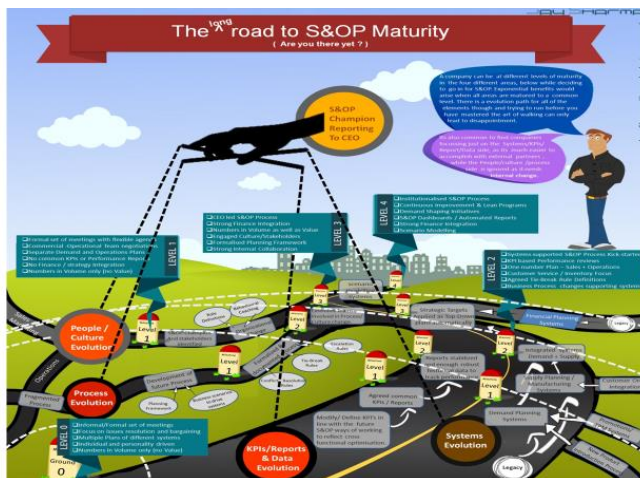
Dat betekent op tijd beginnen, goede agenda hebben en dergelijke, duidelijk weer verplicht aanwezig moet zijn, wie toehoorder mag zijn. Verplichte personen moeten voor vervang zorgen als ze zelf niet kunnen.

Emphasis on commercial and operational discipline

Hamer er inderdaad op dat men zich aan de afgesproken vergaderdiscipline. Andere meetings in dit verband zijn echt niet nodig. Belangrijk is de drumbeat vast te houden. Dus stap1 in de eerste week, stap2 in de tweede week, et cetera. Dat maakt dat vanzelf de behoefte om nog meer te vergaderen afneemt. Een ieder weet welke stap wanneer plaatsvindt, bereid dat goed voor.

10. Document and broadcast

Zie er inderdaad op toe dat aan het einde van de meeting er een duidelijk verslag ligt en een duidelijke actielijst. Successen moet je vieren en vertellen.



Sources: -

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3. Donald H. Sheldon, World Class SaleS&OPerations Planning, ISBN 978-1-932159-53-0
4. David Simchi-Levi, Operations Rules, 978-0-262-01474-8