

Re-engineering the Business through Sales
and Operational Planning

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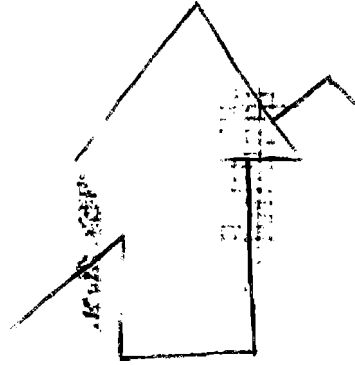
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Abstract:

Many companies have difficulty establishing a valid plan for sales, production, and inventory levels. The result is that:

- performance suffers
- customer service is poor
- production is inefficient, and
- inventories are too high.

The missing ingredient in these companies is a rigorous Sales and Operational Planning (S&OP) process. The purpose of this paper is to introduce the reader to the basic principles of the S&OP process, to present its objectives and key factors for success, to framework the process as to how and when it will take place, who will attend it and what the agenda should be. In addition, it aims to assist the reader, through a detailed analysis, to appreciate how a correct use of this mechanism combined with the full and enthusiastic participation of the management will help to achieve better performance and meet business objectives, through a balanced demand and supply, and by establishing the overall level of inventory and production required to satisfy customer orders and planned demand. The introduction of a well and disciplined S&OP process could be the right tool to begin with when reengineering or improving business process as it provides informed and multiple levels decisions about allocation of resources.

Key Words: Sales and Operational Planning, S&OP, Logistics, Supply Chain, Demand, Supply, Re-engineering.

Περίληψη:

Πολλές εταιρίες έχουν δυσκολίες στο να δημιουργήσουν ένα έγκυρο πρόγραμμα για τις πωλήσεις, την παραγωγή και το ύψος των αποθεμάτων τους. Αυτό έχει σαν αποτέλεσμα:

- η απόδοση τους να μην είναι η αναμενόμενη
- το επίπεδο εξυπηρέτησης των πελατών τους να είναι ανεπαρκές
- η παραγωγή τους να μην επαρκεί για την κάλυψη των αναγκών τους και
- τα αποθέματα τους να είναι πολύ υψηλά.

Αυτό που λείπει σ' αυτές τις εταιρίες είναι μία αυστηρή διαδικασία Σχεδιασμού Πωλήσεων και Λειτουργικού Προγραμματισμού [Sales and Operational Planning]. Ο σκοπός αυτού του άρθρου είναι:

- να εισαγάγει τον αναγνώστη στις βασικές αρχές της διαδικασίας Σχεδιασμού Πωλήσεων και Λειτουργικού Προγραμματισμού,
- να παρουσιάσει τους στόχους και τους παράγοντες κλειδιά και
- να ορίσει τα πλαίσια τρόπου και χρόνου στα οποία θα κινείται η διαδικασία, ποιος θα την παρακολουθεί και ποια θα είναι η ημερήσια διάταξή της (agenda).

Επιπλέον, στοχεύει να βοηθήσει τον αναγνώστη, μέσω μιας λεπτομερούς ανάλυσης στο να εκτιμήσει πως η σωστή χρήση αυτού του μηχανισμού σε συνδυασμό με την πλήρη συμμετοχή της διοίκησης θα βοηθήσει να επιτευχθεί καλύτερη απόδοση και να εκπληρωθούν οι στόχοι της εταιρίας, μέσω ισορροπίας προσφοράς και ζήτησης, καθιερώνοντας το συνολικό επίπεδο αποθεμάτων και παραγωγής που απαιτείται για να ικανοποιήσει τις παραγγελίες των πελατών και την προγραμματισμένη ζήτηση. Επίσης η εισαγωγή μιας πειθαρχημένης διαδικασίας Σχεδιασμού Πωλήσεων και Λειτουργικού Προγραμματισμού δημιουργεί τις σωστές προϋποθέσεις και είναι το ενδεδειγμένο εργαλείο σε περιπτώσεις ανασχεδιασμού ή βελτίωσης των εταιρικών διαδικασιών καθώς παρέχει εμπειροστατωμένες και πολλαπλών επιπέδων αποφάσεις σχετικά με την κατανομή των πόρων.

Introduction

Balancing demand and supply is a continuous struggle. In fact, this is one of the most difficult and interesting problems in the industry, especially if someone considers the market-pressure from customers who demand

urgent and just in time deliveries, the production purchasing materials shortages, the products with deep and complicated bill of materials and the eroding prices and margins.

Manufacturers and customers are in a continuous trade-off process where the first are challenged to outperform in order to cope with the requests of the latter who in extreme cases lose faith in the company if they are not satisfied. But failure to satisfy customers, because companies fail to meet this challenge, affects not only production but also the entire business trading network and consequently the company itself. Companies fail to match supply with demand for a number of reasons. Maybe they do not have the right component in hand to produce the forecasted product or they are short of components for new products (phase-in) about which they have never heard of in the past or inventories were mistakenly kept for slow-moving or phase-out products, etc. Of course, some of these problems may be overcome with an increased cost. For example, urgent orders are put into suppliers with increased prices in order to satisfy the unexpected and unscheduled demand. Unscheduled production changeovers are met with increased production costs in order to meet unplanned demands. The consequences of increased costs, poor customer service, high inventories, etc leads to failure in meeting business objectives. Success, on the other hand, requires a working balance process which will intelligently optimize supply and demand to assure that business has future visibility that could enhance financial success and profitability. Such a business is the Sales & Operations Planning (S&OP) process.

In the past, S&OP was used by manufacturing as an internal activity, but in recent years, its role has been reviewed, just as the role of supply chain has been reviewed. Prior to adopting S&OP, individual teams made independent decisions and consequently applied independent measurements to sales and production. The annual planning meeting or ad-hoc meetings, if they ever took place, were the means to bring all sites into a common denominator. The new role of supply chain, together with the S&OP meeting, has overcome the deficiencies of the past, as it gives management a way to blend all these internal goals and decisions into the best of drivers for the whole company. Now, with price harmonisation, new software tools and the internet, where S&OP can take place across plants and countries, without any barriers, it can even more effectively balance supply and demand.

Re-engineering the process

The basis of success of every company is:

- to be successful with customers
- to sustain and defend competitive advantage, and
- to manage effectively its resources as a company.

Companies have to realize that it will be difficult to succeed if they do not use resources effectively, i.e. people, equipment and capital. A company's business performance is reflective of how well its resources are utilized. But how can a company best allocate and manage resources to get the maximum benefit? Obviously, by using a structure that can link the demand side and the supply side of the business, i.e. a process which will anticipate demand and plan/schedule resources while simultaneously fulfilling demand, executing plans and producing products. A discipline or a structure which will bridge the gap of demand and supply focused on the communication and interaction between the various functions/processes of the company. The introduction of a formalized management process like S&OP could be beneficial here. It is the tool to use when beginning the reengineering or improving business process as it provides informed decisions about allocation of resources.

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S&OP began in the course of Manufacturing Resources Planning (MRP II). Sometimes it operates inside organisations under different names and often without any reference to Materials Requirements Planning (MRP) activities. For example, a company might operate with an S&OP process but not using MRP or follow Just-In-Time (JIT) technology but not having a well structured S&OP process.

Its goal is to review performance and direction and facilitate the continual integration and synchronisation of information inside a company with a view to ensuring that all departments worked with a single set of numbers.

Sales & Operations Planning (S&OP) is a business process, supported by intelligent planning and optimisation tools, that helps companies to better manage supply and demand. The S&OP process could be defined as the function of setting the overall level of manufacturing output (**production plan**) and other activities to best satisfy the current planned levels of sales (**sales plan/forecast**), while meeting general business objectives of profitability, productivity, competitive customer lead times, inventory, etc., as expressed in the overall **business plan**.

A properly addressed S&OP meeting aims to achieve control over the business, by:

1. balancing demand and supply
2. improving responsiveness to customers through more efficient operations of production and distribution (the aim is to plan what is to be sold and not to sell what is made)
3. reducing inventories (which are the results of the variances of supply and demand)
4. minimizing lost sales
5. avoiding stock shortages for phase-in products and stock surplus for phase-out and no/slow-moving products
6. optimizing purchasing of materials to meet production needs
7. improving forecast quality of products and services
8. minimising warehousing and distribution costs.

AMR Research [1] has benchmarked high-performing companies and found that S&OP was one of the most important best-practice processes in its operational success. One finding showed that best-in-peer companies across four industries—Consumer Products, Bulk Chemical, Industrial Electronic Equipment, and Tier Automotive—maintain up to a 10% advantage in perfect order fulfillment.

Sop objectives:

The objectives of S&OP process is:

1. to set up an organizational structure which ensures efficient SOP
2. to review and redefine terms of reference of management committee and other current committees
3. to formulate, review, update, complete and document policies and ensure that these reflect the needs of the business
4. to establish need-oriented, user-friendly and integrated information facilities and technology
5. to improve the company's response capabilities by the integration of planning and implementation through:
 - review of existing planning processes
 - set-up of short-, mid- and long term planning horizons
 - establishment of planning procedures that enable ambitious yet realistic forecasts
 - introduction of key parameters to monitor deviations of

implementation from plans and allow early corrective measures in a proactive manner.

6. to establish key dimensions to monitor and ensure optimal use of resources

While S&OP is a very distinct and definable process, it is not a “stand alone” process. In fact, it is very much connected to other business process, as shown graphically in Fig.1, with no barriers between functions, thus providing:

- true management on supply constraints
- visibility into sales, and
- communication across the company.

It is a proactive meeting which predicts future demands. It aligns inventories and production plans to changes in the demand plan in order to fulfill customer orders while meeting business objectives of productivity, profitability and customer service levels.

In summary, S&OP process ensures that business opportunities are optimally exploited via utilisation of a comprehensive and structured process.

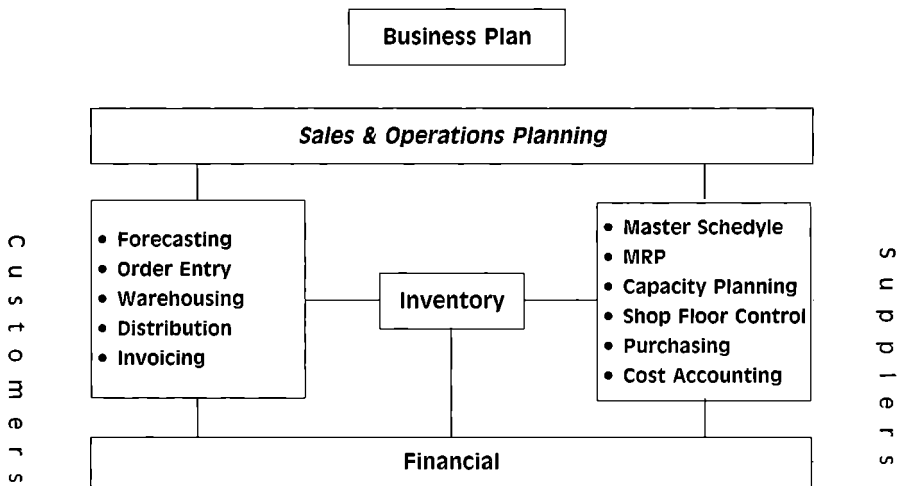


Fig.1. The fundamentals of Sales & Operational Planning (S&OP)

Key factors for success

Although a successful S&OP would reflect its results in being responsive

to customers and keeping the minimum required inventory, its real value is in decisions; decisions that should not only be taken, but followed up and finally implemented on a timely basis. A successful S&OP process is based on the following key factors:

- ✓ it deals with the right problem, i.e. what to make (in terms of products), where (in terms of facilities), and when (in terms of time).
- ✓ owner must be the Managing Director (or country manager or equivalent person) of the company and fully committed to the concept
- ✓ must be seen as a total business review rather than supply related issues
- ✓ required data must be available prior to the meeting
- ✓ participants must be fully prepared.

The outcome of the meeting requires that:

- each participant should have a crystal clear understanding of the opportunities and limitations on the health of the business
- agreements and decisions have been taken
- action plan (who-what-when) has been identified, and
- there is a follow up of action plan.

Participants

As the S&OP process is considered a decision making process which affects business operations directly, the process itself has to be very effective with all attendees needing to be synchronized, galvanized and directed towards implementing a disciplined process. This, in turn, requires a strong leadership coupled with an implementation process that demands total commitment. Specific items that need to be put in place include:

- The Managing Director (or country manager or equivalent person) must participate and lead the meeting as chairman as he is accountable for the profit and health of the business
- Synchronisation of participants. In nearly all companies, the two primary functions involved in making operational decisions are marketing/sales and supply chain/manufacturing. Sales/Marketing deals with sales volume, revenue, profitability; while supply chain/manufacturing reconciles the expected demand to available capacity. Though points of view may differ as to how they see business, their synchronization is essential to maximize productivity
- Continuous and active participation of the person that has P&L (profit

and loss) accountability. Due to the fact that most of the discussion in an S&OP meeting is focused on the supply-demand issues, sometimes it seems that the presence of other people, especially financial manager is superfluous. This is a mistake as that person is accountable for financial commitments, so his presence is considered absolutely essential.

- ✓ The meeting should be attended by all the participants. In case of absentees, these should be replaced by equivalently designated persons in authority
- ✓ Minutes should be held by someone with a good grip of the agenda discussed and who are not so directly involved in the meeting-discussion
- ✓ Other participants/functions could be present depending on the meeting agenda and the item(s) being discussed
- In general the persons participating in an S&OP meeting should include:
 - Managing Director
 - Marketing manager
 - Sales manager
 - Finance manager
 - Supply chain manager
 - Logistics manager
 - Plant manager
 - Registration & development manager
 - Any other participant, at the discretion of the usual attendees

Agenda

An agenda with key issues is essential to deliver a successful S&OP process. It should be short but compact, displaying the key business drivers. In principal, it must contain those measures or data that will enable the company to achieve its strategic plans. Therefore, sales, capacity and human utilisation, working capital in terms of inventories, portfolio management, etc are some of the issues that should be addressed and aligned with the attitudinal effort outside the company, in the form of customer satisfaction measures that are the company's strategic intent. A typical agenda may have the form of that of Table 1.

Timing

Though S&OP is a process and not just another meeting, it has to be

timed to be performed each month on fixed dates scheduled at the beginning of the year, so all participants make the necessary arrangements to be present. In principal,

- It must held once per month at fixed dates
- It is desirable to be held two working days before the next higher meeting
- It should not last more than two hours
- It should review business proactively, but with a time visibility of the next eighteen months.

All minutes should be completed and sent to the next higher meeting one working day in advance.

TABLE 1: PROPOSED AGENDA

TOPIC (ISSUES)		Input from Participants
i.	REVIEW OF PENDING ACTIONS [Review the past month's pending actions]	All
ii.	SALES VS PLAN	
2.1	Past performance Major Deviations [Review the past month's actual sales]	EF
2.4	Sales Projection [Latest View] – Major Variances [Investigates, explains and revises future sales]	
2.2	Tenders and special deliveries [Any special sales-opportunities such as tenders, etc]	AB
2.3	Competitor activity – Market Outlook [Provides the view of the market dynamics]	CD
iii.	LOSS OF SALES	
3.1	Deviations from Budget	AB
3.2	Missed Opportunities	AB
iv.	PORTFOLIO MANAGEMENT	
4.1	Phase-In & Phase-Out [Present and discuss the status and impact of any new product introduced and any old ones withdrawn from the market]	CD
v.	SUPPLY ISSUES	
5.1	Production plan	GH/TF
5.2	Significant changes to plan/Re-work	GH
5.3	Issues with suppliers	GH
vi.	INVENTORY	
6.1	Volume, Value, Monthly sales coverage	MN
6.2	Excess stock	MN
6.3	Stocks near expiry/Aged stock	MN

6.4	Products Disposal	MN
vii.	DEBTOR/CREDITOR SITUATION [Comments on debtors with significant overdue payments]	FIN
viii.	CUSTOMER SERVICE	
8.1	Returned products	MN
8.2	Quality problems	ALL
8.3	Customer complaints	MN
ix.	PERFORMANCE MEASUREMENTS [Key metrics on how well the business balances demand and supply]	
x.	SAFETY, HEALTH & ENVIRONMENT [Issues relating to incidents or injuries – Transport accidents]	ALL
xi.	ANY OTHER ISSUES/ACTIONS	ALL

Process

The agenda displayed in Table 1 is the means to an S&OP process. However, depending on the size and complexity of the company, a number of other distinct meetings [2] may be included in a company with local, intra-regional and inter-regional environment (facilities, factories, etc). Obviously, the agenda will be different for each process depending on the nature and scope of the meeting itself. Only some of the most important meetings at the lower level of the organisation will be addressed here. The attached figure 1 illustrates how these meetings fit into a timetable for a company organised regionally [3].

Forecast Meeting

Sometimes called demand planning. It is the responsibility of Sales and Marketing functions. Its scope is to prepare the new forecast, taking into consideration market targets and outlook, customer needs and opportunities, past performance and possible variances in order to use it as an input to the S&OP meeting. The intention is to aggregate the figures from the sales people so that detailed discussion will be amongst the interesting parties involved only, thus not wasting the time of many other uninterested people. The meeting must be fitted ahead of the monthly (Pre- or)S&OP meeting.

Pre-Sales & Operations Planning (Pre-S&OP) Meeting

One of the critical elements of the S&OP process is the pre-S&OP

meeting. This is where plans are reviewed and possible scenarios are tested in preparation for the main S&OP monthly meeting. More specifically, in order to ensure that the SOP meeting at the country (region and global levels) runs smoothly, efficiently and to time, it is necessary to hold pre-S&OP meetings amongst the various functions attending the SOP. The most obvious example is with Sales/Marketing and Supply Chain/Manufacturing; where representatives from Sales, Marketing, Demand Management and Planning get together for this purpose. Pre-SOPs should be held only where necessary, the objective being to resolve problems and highlight issues ahead of the main S&OP meeting, in other words, to skip the crowd of details, separating the important from the trivial.

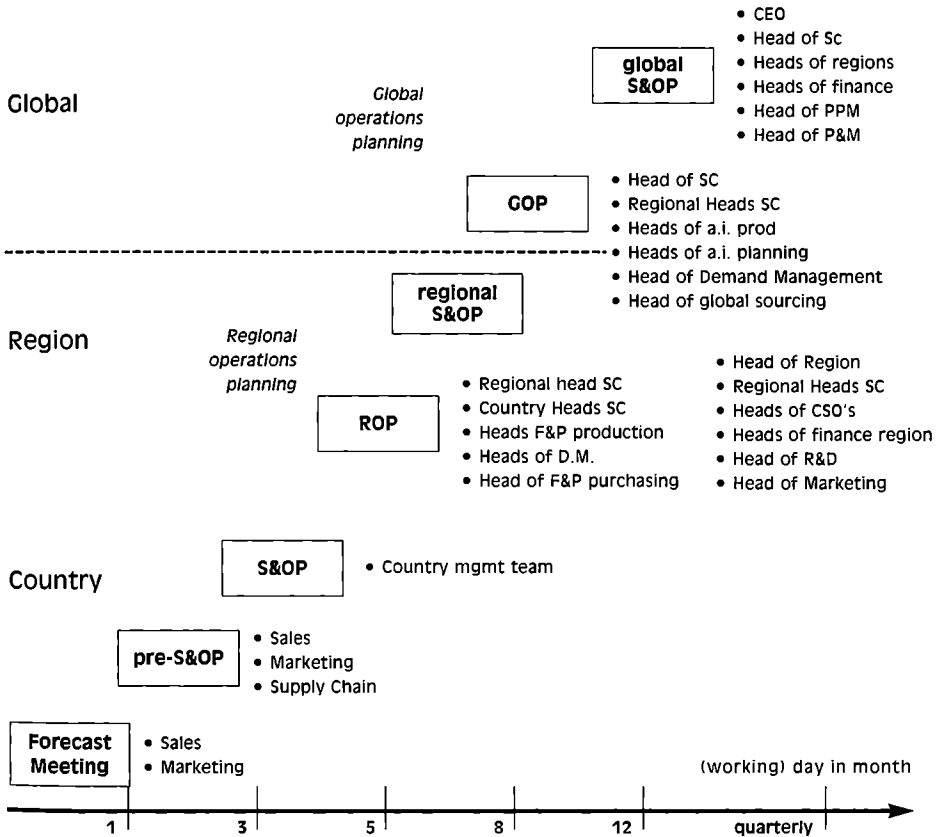


Fig.2. S&OP processes for a multinational company

Requirements and Operations Planning (ROP) Meeting

A ROP meeting (sometimes called Production Planning) involves Production and Planning personnel, and is a SOP meeting without Sales and Marketing, i.e. which takes the sales forecasts as given and identifies/resolves issues around the implications for manufacturing. ROP meetings will be site-based and will be held monthly for all sites including toll-manufacturers. Separate ROPs may be held for each major family of products or active ingredients on a site.

Missing key to success

Important parameters that have to be taken seriously into consideration when implementing an S&OP process are:

Software

In some companies there is some confusion as to what S&OP means. Some think it as a software which gives solutions to Demand [Demand Solution] by combining forecasting and fulfillment applications; while some others capitalize on money investment on supply chain software, etc. They put all the effort into the software and do nothing with the process. This confusion is supported by some software companies which claim they offer S&OP capabilities and go as far as to call them "S&OP modules" [4,5]. These tools do nothing more than data warehousing and simple family aggregations. As the concept of an S&OP is to ensure that business opportunities are optimally exploited via utilisation of a comprehensive and structured process, the recommendation is *"Do not put the emphasis on software but on the S&OP process; then employ software to effectively execute the process"*

Push vs. Pull

An effective S&OP process needs the enthusiasm not only of the senior management but also from the people at the bottom, as those are the ones who will provide the huge but accurate amount of data which will finally be aggregated to some key figures upon which all important decisions will be taken by the senior management during the S&OP meeting. Therefore, top management enthusiasm should be shared by these people too and all information should follow the pull approach, rather than the push one, if the aim is to have a successful and effective decision mechanism

Accountability

Both during the meeting but most important after that accountability should be identified for the actions that have been agreed, in order to have an efficient follow up in terms of person(s)/functions, responsibilities and time.

Check-list for S&OP Excellence [6]

In order to generate and retain a valid S&OP process, a self assessment checklist is proposed in Appendix 1. It has two elements, which primarily focus on the following areas:

- i. a questionnaire to evaluate process efficiency, and
- ii. performance measurements to indicate tangible benefits.

Primary users are the people involved in the S&OP process as well as the users of policies and procedures. They should be the ones that will provide the answers, indicate improvements, where needed and in general assess the company's status with minimum resources and effort.

Conclusion

Synchronising and balancing supply and demand is a natural way in any company. The question is when, how and who will bring this balance for the company's best interest. S&OP fits that need perfectly. S&OP is the link that connects the marketplace needs with the plant's output. Effective and efficient management requires the proper application of the techniques described in this paper in order to improve company performance. It is the mechanism for bringing together the right people and the right information to the right decision on a timely basis. When S&OP is done well, demand matches supply, thus yielding:

- Lower inventories
- Reduced operating costs
- Maximized customer service and revenues
- Increased profitability and Return on Assets (ROA).

A successful S&OP process requires an unconditional commitment from senior management with regular and active participation by all managers. S&OP is the ability of an organisation not only to supply and serve but also to visibly coordinate plans and actions across all aspects of the company. It plans in advance to ease things during execution, in other words it follows the old saying *"Plan 80% and Action 20% result success; while Plan 20% and Action 80% result disaster."*

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Appendix 1. Check-list for S&OP Excellence

A/A	Description	Tick
	Organisation	
1	Does a formal and minuted S&OP meeting take place to review performance against plans and to decide on key actions regarding demand and supply ?	
2	Is the S&OP meeting attended, at least, by Sales and Marketing, Supply Chain, Production and Finance?	
3	Is the ownership and accountability of the S&OP process established at the Managing Director[MD] (or equivalent) level?	
4	Is accurate data on supply, sales, inventory, etc available prior to the S&OP meeting (together with backing documents, if needed)?	
5	Are the S&OP and MD roles clearly and formally defined and documented?	
	Policies & Procedures¹	
	Are there written and implemented policies and procedures for:	
6	Maintaining and distributing policies and procedures?	
7	Production- and toll-manufacturing planning?	
8	Warehousing- & Distribution-planning (in-house or outsourced)?	
9	Inventory management?	

1. **Policy** refers to a brief, management owned document giving guidance for decision making by empowered employees as well as defining major accountabilities.

Procedures describe in detail how work processes flow, the required standards and the detail responsibilities.

- 10 **Customer service (incl. product complaints, returns and recalls)?**
- 11 **One set of numbers throughout the company (including latest estimation)?**
- 12 Preparing and reporting S&OP meetings (e.g. definition of input material, agenda, distribution of minutes, etc)?
- Performance*
- 14 **Are S&OP decisions converted into operational action with due dates and responsibilities?**
- 15 Are S&OP decisions requiring action always followed up at subsequent meeting until resolved?
- 16 Does S&OP review product introduction and withdrawal?
Are measurements conducted and targets established for:
- 18 Forecast Accuracy
- 19 Inventory levels
- 20 Customer Service (incl. Complaints and returns)
- 21 Lost Sales, Slow- and No-Movers
- 22 Conformance to MPS
- 23 Receivables and days outstanding?

