SCOR: Supply-Chain Reference Model

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1. INTRODUCTION

The Supply Chain Operations Reference – model (SCOR) has been developed and endorsed by the Supply–Chain Council (SCC) as the cross-industry standard for supply chain management.

The SCC was established in 1996 by Pittiglio Rabin Todd and McGrath (PRTM) and Advanced Manufacturing Research (AMR), and initially included 69 voluntary member companies. The SCC is an independent, not-for-profit, global corporation with membership open to all companies and organizations interested in applying and advancing state-of-the-art supply chain management systems and practices.

All who use the SCOR-model are asked to acknowledge the SCC in all documents describing or depicting the SCOR-model and its use. All who use SCOR are encouraged to join the SCC, both to further model development and to obtain the full benefits of membership. The SCOR-model is still being developed the latest version of SCOR-model is numbered 7.0.

SCOR is a management tool. It is a process reference model for supply-chain management, spanning from the supplier's supplier to the customer's customer. The SCOR-model has been developed to describe the business activities associated with all phases of satisfying a customer's demand. By describing supply chains using process building blocks, the model can be used to describe supply chains that are very simple or very complex using a common set of definitions. As a result, disparate industries can be linked to describe the depth and breadth of virtually any supply chain. The model has been able to successfully describe and provide a basis for supply chain improvement for global projects as well as site-specific projects.

The first step the SCC made was to establish a standard vocabulary and a notation that could be used to describe any supply chain. Therefore the first step for a team that wants to use SCOR must be acquiring the same vocabulary, to assure they all talk about the same things in the same way.

SCOR methodology assumes that all supply chain processes can be subdivided into one of five general subtypes: *Plan, Source, Make, Deliver,* and *Return*. Complex supply chains are made up of multiple combinations of these basic processes.

SCOR also defines 3 levels of details (*top, configuration and process element*). In top the scope and content for the supply chain are defined, at the configuration level the company's supply chain is configured in order to company strategy, at the process element level there is a "fine tuning" of company's operations strategy and consists of: process element definitions, inputs – outputs, process performance metrics, best practices.

SCOR uses the historical data of the supply chain to see how it performs and develops, it defines five generic performance attributes and three levels of measures that the analysts can use. Once a company has a good understanding of the strengths and weaknesses of the As-Is process, they are in a good position to think about how they want to compete and what they will have to do to implement regardless from a supply chain strategy they choose. In essence, the SCOR methodology helps companies to create new designs, and then assumes that individual companies will determine how to implement the changes.

2. LEVELS OF ANALYSIS

SCOR analyzes a company's supply chain operation in three levels.

The model is based on five different management processes. The processes *Source, Make* and *Deliver* of the company, together with those of clients and suppliers, form a "supply chain" planned as a whole by the different actors in the process *Plan*. Additionally in all the "contact links" *Deliver-Source* is included the process *Return*, for the management of returns.

LEVEL 1: Top Level (Process Types)

At this level 1, companies using SCOR establish basic strategic objectives regarding their operations areas. Level 1 defines the scope and content for the Supply Chain Operations Reference-model. Here basis of competition performance targets are set.
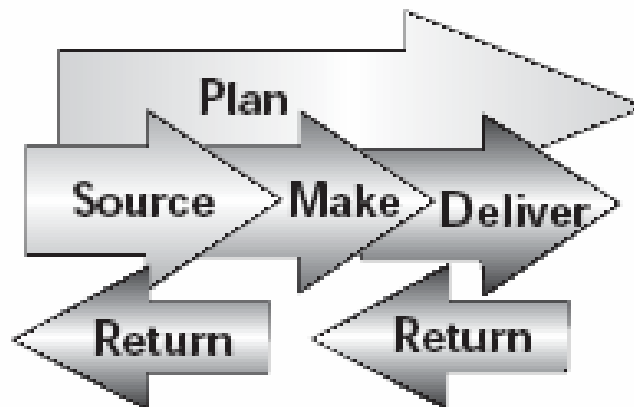
PLAN: Processes that balance aggregate demand and supply to develop a course of action which best meets the established business rules.

To plan the acquisition of prime matters in *Source*, to plan adequately the production in *Make* and to fulfil the clients requirements in the delivery in *Deliver*, it is necessary to be conscious of the demand's variability along the whole chain to avoid the unwanted effect Bullwhip (Accumulation of high inventory levels in the stages of the supply chain that are farer from the final client, which face great variability of demand in comparison with the distributors or retailers). For this is necessary to establish narrow relations with suppliers and clients to plan production in agreement to the demand of the final product. When the product is perishable, it is necessary to have a constant supply system. Every day it is necessary to have fresh inputs, necessary for the production of the day or the week. Likewise the capacity of the productive process must assure a volume adapted to satisfy the internal demand and that of exportation; as for the distribution, the deliveries must be focused to satisfy the delivery times, preserving the quality. Under these considerations arises the need to plan the production according to the different types of demand, for which is indispensable to share information in benefit of all the parts involved (from the supplier's supplier up to the client's client).

However, for selected companies that produce raw ingredients and sell processed consumer products, such as dairy co-operatives, problems exist. Inventory planning assumes control of at least one end of the chain – either demand or supply. Inventory planning for agricultural businesses is very difficult. If a business can know exactly the quantity and quality of the harvest, the business can then plan the inventory that balances supply and demand. If not,

the company quickly loses its ability to manage the chain optimally. The best it can achieve is sub-optimal performance.

SOURCE: Processes that procure goods and services to meet planned or actual demand.

The prime matters are an essential part to assure the quality of the final products. That's why quality standards must be established by the suppliers, to satisfy the final clients.

However, the chain must recognise that uncontrollable events will affect the product procured. In the case of agricultural products, input quality variation can depend on environmental and biological factors (rain, disease, etc.). A vendor may have a contract, to clearly identify standards and be a certified supplier, but factors completely outside of the vendor's ability to control, could result in a product delivered that doesn't match established parameters.

The inputs can be divided in perishable products (ex: agricultural products) and not perishable (ex: packages). For the case of the perishable inputs, it is necessary that the supply interval is short to support a minimal inventory, the necessary quantity for the daily production. In this point it is very important to support a good coordination in the supply chain, with the purpose of avoiding from high costs of storage for concepts of refrigeration, or for caducity of prime matters.

MAKE: Processes that transform goods to a finished state to meet planned or actual demand.

In this process it is necessary to take into account all the activities of the transformation process from the raw material to the final product, as well as the flows of material and information of the productive process. When programming the activities of production process, it is necessary to have in mind that production is done according to request. Besides, to continuously improve the process, the preferences of the consumers must be considered. To satisfy these needs of the final client, methods and quality standards will be proposed in order to support the control of the productive process stepwise.

DELIVER: Processes that provide finished goods and services to meet planned or actual demand, typically including order management, transportation management and distribution management.
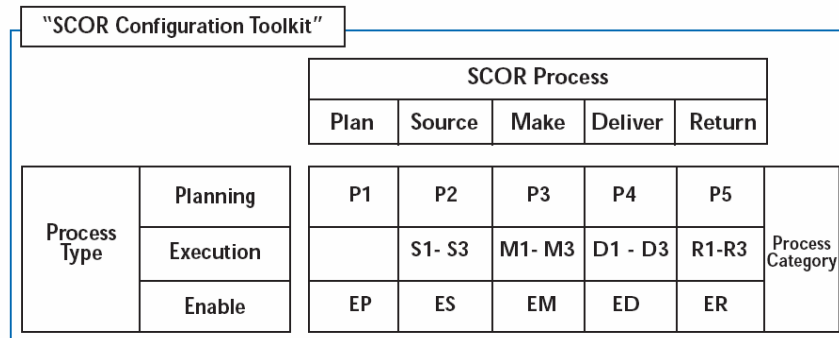
To deliver the products, the volume that the client needs will be assured avoiding excessive deliveries, unnecessary costs of transport, etc. The clients' portfolio will be defined. In this process it is managed from the questions and requirements of the clients up to the shipments of the product and the selection of logistic companies.

RETURN: Processes associated with returning or receiving returned products for any reason. These processes extend into post-delivery customer support.

To do a good returns management and returns of raw material can be an important source of competitive advantages. It is necessary to assume that, in spite of the good practices to deliver a quality product, there can always be motives for which our products, or our prime matters, will be returned by the clients or to our suppliers respectively. Because of this, it is proposed to offer to the client an efficient service of management of returns, which allows to answer in time to this type of situations, minimizing a potential deterioration in the relation with the clients, and also to manage the process of returns with suppliers in case of receiving defective, expired or excessive inputs. There must be channels of communication and procedures properly studied to do this process, in such a way that this situation does not turn into an unexpected complaint, but it works as a good system of feedback in the post sale, with the objective of minimizing the costs of the return and at the same time, to be in good relations with clients and suppliers.

LEVEL 2: Configuration Level (Process Categories)

In this level, companies configure their supply chain. A company's supply chain can be "configured-to-order" at Level 2 from 30 core "process categories." The Process Categories are defined by the relationship between a SCOR Process and a Process Type. The Process Categories are selected from the SCOR configuration toolkit, in agreement to the type of products and to the market, to represent the supply chain configuration. Each product or product type may have its own supply-chain.

"SCOR Configuration Toolkit"		SCOR Process					
		Plan	Source	Make	Deliver	Return	
Process Type	Planning	P1	P2	P3	P4	P5	
	Execution		S1- S3	M1- M3	D1 - D3	R1-R3	Process Category
	Enable	EP	ES	EM	ED	ER	

The type of process *Planning*, consists of periodically aligning the necessary resources to get the requirements of demand: in this one the demand, internal or for exportation, is agreed with the necessary supply for the production. The type *Execution* is unleashed by the current or planned demand; here the state of the materials is changed, and implies the transformation of the product, programming and sequencing the production. The type *Enable* corresponds to processes that prepare, support or handle information or relations on which depend the processes of Planning and Execution.

In the following figure, it is shown the Level 2 Toolkit of the SCOR Version 7.0:
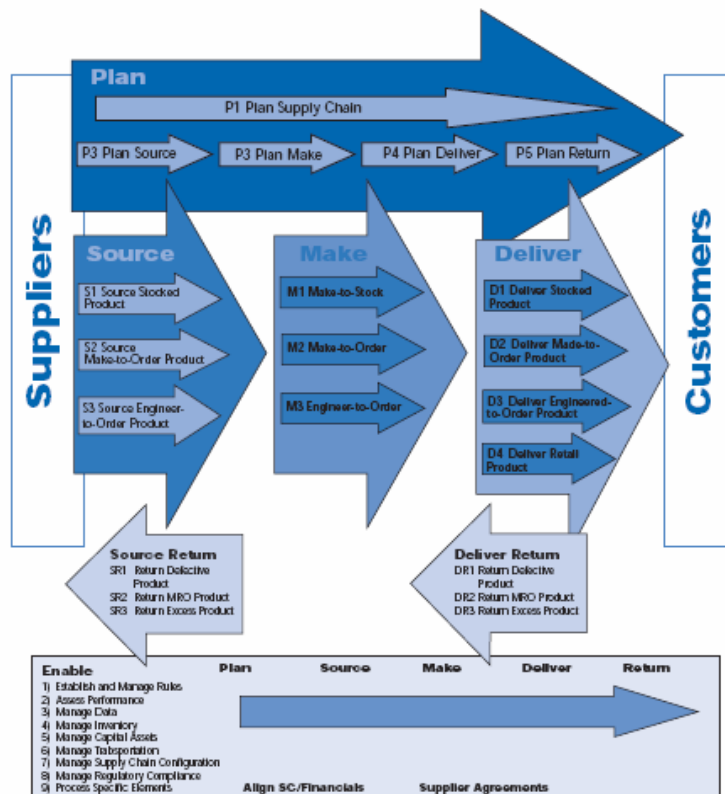
LEVEL 3 Process Element Level (Decompose Processes)

In this level, detailed process element information for each level 2 process category is presented. Level 3 defines a company's ability to compete successfully in its chosen markets, and consists of:

- Process element definitions
- Process element information inputs, and outputs
- Process performance metrics
- Best practices, where applicable
- System capabilities required to support best practices
- Systems/tools

It is at this point where a company using SCOR will learn what information *Inputs* are needed for each of the *Process Elements*, and what *Outputs* to expect.

In this level, some considerations regarding the main processes should be:

SOURCE

It is recommended to have a differentiated treatment for the inputs and prime matters, according to their caducity. Hereby, agricultural products must have a political of inventory different from the packages, which can be stocked for more time. In this link of the chain, it is of great utility to use tools that allow the analysis of the provider companies, in order to identify their strengths and weaknesses, to establish the interrelationships between the links Source and Deliver in the best possible way. It is recommended the use of tools of strategic analysis of provider companies. Another important matter in this process, is the maintenance of the quality of the inputs and products along the whole chain, since for being foodstuffs, an efficient system of monitoring and control is needed.

MAKE

In this level the information of the process elements from levels 1 and 2 is presented in a more detailed way. For example, here would appear the flows of material of the process (Make), the sources of the income (Source) and the destinies of the products (Deliver). Here the phases of the process of production are taken into account: stew, cooled, packed, etc. As well as the later phases: storage, freezing up to the distribution.

DELIVER

It can also be taken in account if the management of the orders from different clients needs a different treatment: for example orders from normal clients or orders from retailers. With the last ones, the orders could be bigger, and as the capacity of production is limited and the times of delivery must be short, in that case, these orders should be reported with major fluency and anticipation. Also, it is necessary to know if the cool chain must be kept during the transport or not, to keep the quality of the final product, etc.

3. STRENGTHS AND WEAKNESS OF THE METHODOLOGY

According to a wok done by Advanced Integrated Technologies Group, Inc. and SCE Limited, the strengths and weaknesses of the SCOR methodology are those mentioned below:

Strengths:

– Structured methodology for alignment of Strategic and Operational metrics and goals to identify business improvement opportunities

– Standardized Supply Chain process reference model and framework

– Standardized multi-level process performance metrics

– Industry and competitive benchmark data sources

– "Macro-level" approach for identification of improvement opportunities

– Level 1-3 material, work and information flow analysis

– Source for best-in-class supply chain management practices

– Identifies enabling IT capabilities to optimize the Supply Chain

– Delivers a comprehensive opportunity and project portfolio with detailed ROI analysis

Weaknesses

– Inadequate organization-wide training and development

– Few analytical tools for causeeffect analysis and problem solving at the "macro-level"

– Inadequate tools, methodologies, or techniques to focus on executing projects identified by the SCOR efforts

– Little programmatic infrastructure for organizing and managing concurrent project activities

4. SCOR METRICS

Measuring Performance (Metrics)

Measuring how well the supply chain performs is as essential as understanding how it operates

- Measurements must link to business objectives
- Measurements must be repeatable
- Measurements must provide insights into how to manage the supply chain more effectively
- Measurements support conflicting targets (Balanced SCORe Cards)

SCOR defines five generic performance attributes and three levels of measures that the analysts can use. Diagram below depicts where could measure a supply chain process.

In the case of $m0$ measures, we are measuring the performance of the organization, as a whole and attributing it to the overall effectiveness of the supply chain. In the case of $m1$ measures, we are measuring the performance of the supply chain as a whole. (SCOR refers to $m0$ measures as Internal Facing Measures and to $m1$ as Customer Facing Measures.) $m2$ measures check on the performance of one of the Level 2 processes, while $m3$ measures check on the performance of specific sub-processes within a Level 2 process.
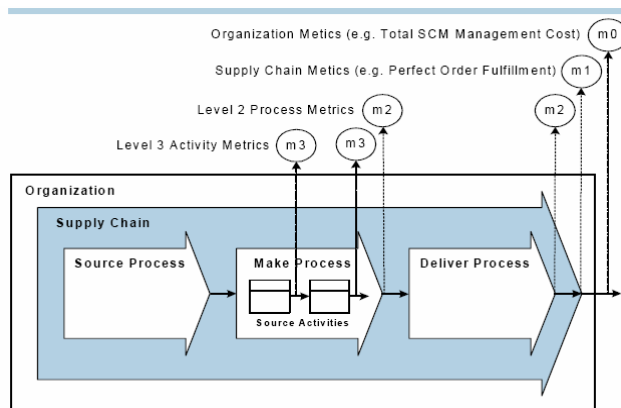
The following table shows how SCOR defines the five performance attributes and the Level 1 measure. Different companies or consultants use some of the terms listed in table in slightly different ways. Similarly, some industries rely on some of these measures and not on others, or give the measures a different name to emphasize what the measure focuses on within the specific industry. Thus, once the SCOR team has scoped the As-Is supply chain, it can begin to review historical data and determine which measures they can use to define their specific supply chain. (In many cases, the supply chain managers will already have data on the measures most commonly used at their company.) SCOR relies on variations and refinements of the measures shown in diagram above to measure sub-processes or activities. The SCOR team will probably be satisfied with the Level 1 measures. If a team decided it wanted to study a S1 process in more detail, however, it could look in the SCOR manual and find the following table, which specifies the measures that SCC companies have found most useful in analyzing the Source Stocked Products process.

Linking Supply Chain Performance Attribute and Level 1 Metrics

	Performance Attribute	Performance Attribute Definition	Level 1 Metric
Customer Facing Attributes	Supply Chain Delivery Reliability	The performance of the supply chain in delivering: the correct product, to the correct place, at the correct time, in the correct condition and packaging, in the correct quantity, with the correct documentation, to the correct customer.	Delivery Performance
			Fill Rates
			Perfect Order Fulfillment
	Supply Chain Responsiveness	The velocity at which a supply chain provides products to the customer.	Order Fulfillment Lead Times
	Supply Chain Flexibility	The agility of a supply chain in responding to marketplace changes to gain or maintain competitive advantage.	Supply Chain Response Time
			Production Flexibility
Internal Facing Attributes	Supply Chain Costs	The costs associated with operating the supply chain.	Cost of Goods Sold
			Total Supply Chain Management Costs
			Value-Added Productivity
			Warranty / Returns Processing Costs
	Supply Chain Asset Management Efficiency	The effectiveness of an organization in managing assets to support demand satisfaction. This includes the management of all assets: fixed and working capital.	Cash-to-Cash Cycle Time
			Inventory Days of Supply
			Asset Turns

Example of Performance Metrics:

Customer-Facing			Internal-Facing	
Reliability/Quality	**Responsiveness**	**Flexibility**	**Cost**	**Assets**
% Perfect order fulfillment time, quantity, quality	*Perfect Inquiry to order (rate)*	*Number of new services developed*	*Margin Price-cost*	*Inventory Value*
Fill rate	*Inquiry answering time*	*Ability to roll-out new services*	*Cost of goods sold*	*Cash-to-cash cycle time*
Performance ex. deliv. Date	*Lead time*	*Number of order changes during order life cycle*	*SC Cost/… customer*	*Inventory days of supply*
% confirmed del. time met	*Claim resolution time*	*Customer perceived flexibility*	*EBDIT of order*	*Inventory carrying costs*
% of orders not fulfilled in customer eyes		*Time allowed to amendments (possible)*	*% optimal route/used route*	
Forecasts Accuracy			*% standardized value offer*	
Number of quality claims			*% info in standardized form*	
Customer feedback positive and negative				
Customer satisfaction				

Delivery performance – definition	
The percentage of orders that are fulfilled on or before: customer requested date original scheduled or committed date Components Total numbers of orders received # of orders scheduled to customer's request date Total numbers of orders delivered % of orders delivered on time (to request date) # of orders delivered on-time to commit date % of orders delivered on-time to customer commit date	Calculation [number of orders delivered on time and in full] / [total number of orders] P&L Impact Revenue Balance sheet impact Accounts receivable

In the beneath table SCOR refers to as a SCORcard. It shows the performance attributes, a set of metrics and the benchmark data for a hypothetical company. In the right hand column there are some "guesstimates" about what kind of value the hypothetical companies might achieve, assuming it could move its supply chain process closer to the average for the industry. SCOR terms the comparison of the company's actual, historical performance, with the benchmarks for the company's industry as a gap analysis, and uses it to determine if redesign or improvements in the As-Is supply chain will really justify an investment.

Supply Chain SCORcard

	Overview Metrics	SCOR Level 1 Metrics	Actual	Industry Benchmarks			Value from Improvements
				Parity	Advantage	Superior	
EXTERNAL	Supply Chain Reliability	Delivery Performance to Commit Date	50%	85%	90%	95%	
		Fill Rates	63%	94%	96%	98%	
		Perfect Order Fulfillment	0%	80%	85%	90%	$30M Revenue
	Responsiveness	Order Fulfillment Lead Times	35 days	7 days	5 days	3 days	$30M Revenue
	Flexibility	Supply Chain Response Time	97 days	82 days	55 days	13 days	Key enabler to cost and asset improvements
		Production Flexibility	45 days	30 days	25 days	20 days	
INTERNAL	Cost	Total SCM Management Cost	19%	13%	8%	3%	$30M Indirect Cost
		Warranty Cost	NA	NA	NA	NA	NA
		Value Added Employee Productivity	NA	$156K	$306K	$460K	NA
	Assets	Inventory Days of Supply	119 days	55 days	38 days	22 days	NA
		Cash-to-Cash Cycle Time	196 days	80 days	46 days	28 days	$7 M Capital Charge
		Net Asset Turns (Working Capital)	2.2 turns	8 turns	12 turns	19 turns	NA

When there is a good understanding of the strengths and weaknesses of the As-Is process, it is a good position to think about how to compete and what will have to be done to implement whatever supply chain strategy is chosen. We have to consider an organizational plan and a generic corporate strategy. One may have very precise statements about how the company wants to position its products, its various product lines and so forth. One probably also has statements about the company's current strengths and weaknesses and some idea of how senior managers perceive the threats and opportunities the company faces. SCOR suggests that one consider the supply chain performance attributes we have already

encountered and decide where the company's supply chain is superior, has an advantage, has parity, or is below average. Specifically, we should fill out the chart illustrated below. The SCOR card already developed provides a good picture of how your supply chain ranks, compared with others in your industry. The goal now, is to decide how you want your supply chain to be in the future. You should assign one black ball to the box beside the performance attribute that you expect to dominate. You then assign one or two bold circles for performance areas in which you expect to be above average, and narrow circles for the remainder, where you expect to be at least on par with the competition. The constraints on the assignment of balls simply reflects reality. You can't expect to be superior in every category, and you should expect to be very good in at least one or two.

Competition Model		
Perfromance Attributes	Perfromance versus the Competition	
	As-Is	**To-Be**
Supply Chain Reliability		
Responsiveness		
Flexibility		
SC Management Costs		
SC Mang Asset Utilization		

● Superior ◎ Advantage ○ Parity

Obviously assigning the black ball is a strategic decision. If you decide that your company's success will depend on always getting products to your customer on time, then delivery reliability might be your highest priority. If, on the other hand, you operate in an industry in which there is great flexibility in demand, you might decide that corporate success will depend on being able to scale product up or down with a minimum of fuss, and stress flexibility. Obviously if you intend to be the low cost provider of the product, overall supply chain costs will be very important. Once you have considered your supply chain strategy and assigned priorities, you are ready to think very seriously about where you stand, relative to where you will need to be to achieve your strategy. If you assign the highest priority to delivery Reliability, and your historical data and the benchmark data indicate that your supply chain is already Superior, then you are in good shape. On the other hand, if you decide your strategy depends on superiority and you are only par, then you know where you need to focus your initial efforts. Assuming you are superior where you want to be, but only par everywhere else, you will probably want to consider how to improve one or two other performance areas that will support your overall strategy. You can, of course, also examine the gap between where your supply chain process is now, and where it would be if it were to achieve the targets you assigned and determine what the difference might earn your company. If your supply chain is performing very nearly on target and the gaps are small, you might want to focus your attention on some other processes – on sales and marketing, or on new product development, for example. In most cases, however, companies identify significant returns that they can achieve if they improve their existing supply chain. Moreover, since the benchmarks are usually quite specific, we can usually choose specific measures and assign specific numbers as targets for any redesign effort. If you are trying to determine where to focus your first improvement effort, is to determine how your company's practices compare with the best practices described in the SCOR for specific processes and sub-processes. (Recall that when we looked up S1 in the manual, we not only found metrics, but a list of best practices for S1.) The manual identifies best practices used by superior companies for all Level 2 and 3 processes. If we decide to attempt to improve the existing supply chain, we should also have assigned targets for each performance attribute and have selected and prioritized gaps or opportunities to focus on in a redesign effort.

## 5. IMPACT OF THE SCOR MODEL ON THE OPERATION OF A SUPPLY CHAIN

SCOR Model defines basic processes of the supply chain and groups them into five categories as Plan, Source, Make, Delivery and Return. SCOR exactly names the main process in each of these groups. The operations which are in the range of SCOR model are:

- All supplier / Customer interactions
    - o order entry through paid invoice
- All physical material transactions
    - o from your supplier's supplier to your customer's customer, including equipment, suppliers, spare parts, bulk products, software etc.
- All market interactions
    - o from the understanding of aggregate demand to the fulfillment of each order
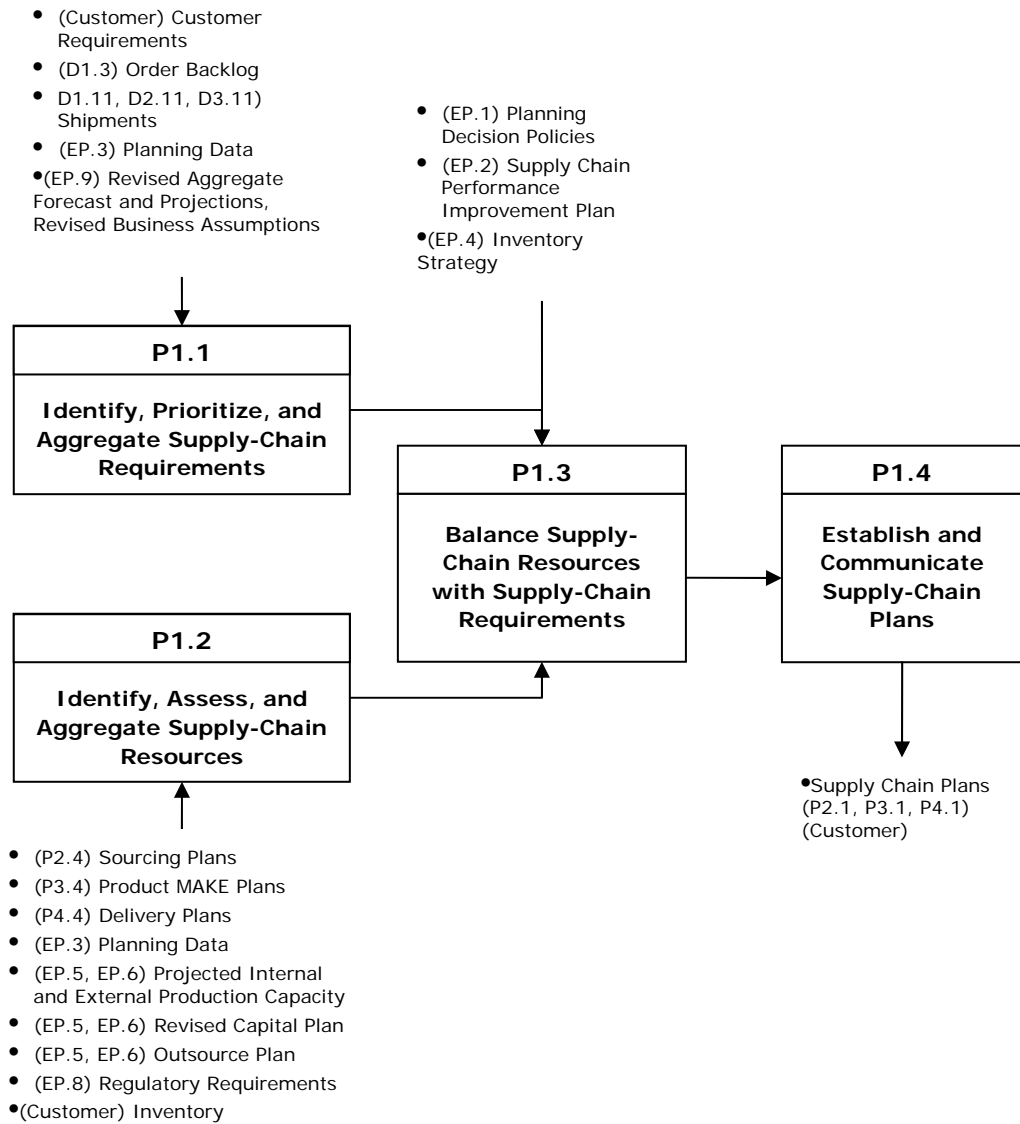- Returns

SCOR does not include:

- Sales administration processes
- Technology development processes
- Product and process design and development processes
- Some post-delivery technical support processes

The diagram below shows how SCOR groups and names the operation in the SC:
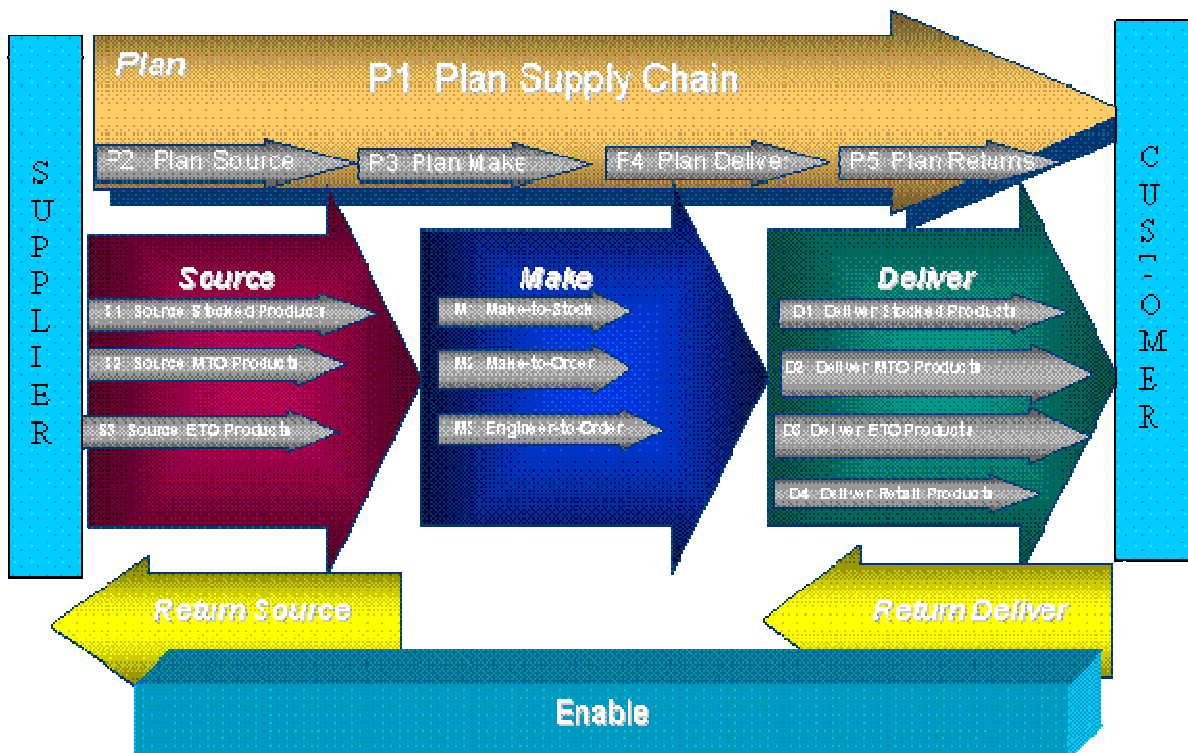
Going further the SCOR defines more detail processes of the above and operations concerning them. For example below diagram shows *sub-processes and its operations of P1 – Plan Supply Chain*.

- (Customer) Customer Requirements
- (D1.3) Order Backlog
- D1.11, D2.11, D3.11) Shipments
- (EP.3) Planning Data
- (EP.9) Revised Aggregate Forecast and Projections, Revised Business Assumptions

- (EP.1) Planning Decision Policies
- (EP.2) Supply Chain Performance Improvement Plan
- (EP.4) Inventory Strategy

P1.1

Identify, Prioritize, and Aggregate Supply-Chain Requirements

P1.2

Identify, Assess, and Aggregate Supply-Chain Resources

P1.3

Balance Supply-Chain Resources with Supply-Chain Requirements

P1.4

Establish and Communicate Supply-Chain Plans

- Supply Chain Plans (P2.1, P3.1, P4.1) (Customer)

- (P2.4) Sourcing Plans
- (P3.4) Product MAKE Plans
- (P4.4) Delivery Plans
- (EP.3) Planning Data
- (EP.5, EP.6) Projected Internal and External Production Capacity
- (EP.5, EP.6) Revised Capital Plan
- (EP.5, EP.6) Outsource Plan
- (EP.8) Regulatory Requirements
- (Customer) Inventory

For each of these processes and process elements SCOR recommend to make a process definition table which contains the process name, description, performance attributes with the metrics assigned to them. Best practices known with its features to these processes or part of them, Inputs and Outputs for the process elements.

Process Element: Identify, Prioritize and Aggregate Supply Chain Requirements	Process Element Number: P1.1

Process Category Definition

The process of identifying, aggregating, and prioritizing, all sources of demand for the integrated supply chain of a product or service at the appropriate level, horizon and interval.

The sales forecast is comprised of the following concepts: sales forecasting level, time horizon, and time interval. The sales forecasting level is the focal point in the corporate hierarchy where the forecast is needed at the most generic level. i.e. Corporate forecast, Divisional forecast, Product Line forecast, SKU, SKU by Location. The sales forecasting time horizon generally coincides with the time frame of the plan for which it was developed i.e. Annual, 1-5 years, 1- 6 months, Daily, Weekly, Monthly. The sales forecasting time interval generally coincides with how often the plan is updated, i.e. Daily, Weekly, Monthly, and Quarterly.

Performance Attributes	Metric
Reliability	Forecast Accuracy
Responsiveness	None Identified
Flexibility	None Identified
Cost	None Identified
Assets	None Identified

Best Practices	Features
Collaboration among Supply Chain partners extends outwards to customers, spanning the supply chain. Planning Replanning Business Rules Plan Changes	None Identified
Collaboration among Operations Strategy Team	Supply Chain Advanced Planning Systems Supply Chain Integration Systems Integration between supply chain advanced planning and ERP execution systems Supply Chain Capacity Planning Systems B2B Integration and Application Server Systems
Digital links (XML Based, EDI. Etc.) among supply chain members.	Real-time exchange of supply chain information between supply chain members Collaborative planning systems, Internet Trading Exchanges, B2B Integration and Application Server Systems
Joint Service Agreements (JSA)	Collaborative Planning Systems
"Push-based" forecasts are replaced with customer replenishment "pull-based" signals	Standards Based (RosettaNet, eBXML, OAGI, etc) B2B integration tools and systems
Systems support accurate on-line visibility of full-stream demand requirements and priorities	Advance Planning and Scheduling System Supply Chain Event Management Software

Inputs	Plan	Source	Make	Deliver	Return
(Customer) Customer Requirements					
Order Backlog, Shipments				D1.3, D1.10	
Planning Data	EP.3				
Revised Aggregate Forecast and Projections, Revised Business Assumptions	EP.9				
Outputs	**Plan**	**Source**	**Make**	**Deliver**	**Return**

As we go through the SCOR Project Roadmap, we have three SCOR levels and the level 4 which is company specific. The SCOR methodology at level 1 defines competitive performance requirements, performance metrics, supply chain scorecard, scorecard gap analysis and project plan which all concerns a company strategy. At level 2 which is a configure of supply chain we focus on geographic maps and thread diagrams we analyze how it is now that's AS IS maps and diagrams and design TO BE thread diagrams and geographic maps. At Level 3 where the process are decompose to the process elements like P1 Plan Supply Chain to the P1.1, P1.2, P1.3 and P1.4 as on the above example. Some of the process elements are still be decomposed in level 4 at implementation level. Re-design of processes can concern this high level process from level 1 and also its sub-processes and process elements on level 2, 3 and 4. For some strategies some changes has to be done only at the low levels of the process. Sometimes in order of our plan and strategy we can see some changes are needed at high level of processes these change follows the other changes at low levels of the processes.

According to the company strategy we should change only those processes and operations which have impact to achieve the goals determined in the competition model and in the scorecards. The processes and supply chain operations in the company have to be changed, replaced or stay as they are according to the new TO-BE diagrams and new goals to achieve.

Assuming the SCOR method has a big influence on the company operations in their supply chains and the supply chains in whole. For example if we want decrease some costs of stock of the sources or raw materials we need a better coordination of our work with supplier. Better cooperation between a producer and supplier can lower a cost, give a better performance of deliveries sources which improves a whole supply chain not only from the point of view of a single company but the whole supply chain.

6. ADVANTAGES FOR THE COMPANIES

In conclusion the SCOR model is a powerful tool of analysis to support the definition of competitive strategies for one company. On having shared information, handling quality politics with suppliers and planning in a joint way the demand and the supplies, many opportunities of optimization are opened.

Some advantages that an effective SCM would grant to a company could be:

- Better management of inventories, which is translated in reduction of costs. If the suppliers can accede on line to the information of the stores and to the needs of production, it is possible to optimize the management of stocks and avoid collapses in the production.

- A narrower relation with clients supported by a better communications infrastructure, which lets efficient flows of information that allow a better answer to the new requirements of the market.

- Strategic integration with the suppliers, enabling channels of feedback, sharing information and risks of the supply in some cases.

- Improvement in the management of supply faults along the chain. This will allow building a unified, efficient and solid productive block, which will be very well valued in the market and principally by the clients.

7. SOURCES

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