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# SCM – What is it?

Supply Chain Management (SCM) is typically perceived as the ability to control inventory from the raw state of material to the consumption of the combination of materials in one end product by the consumer. When we think in those broad terms we essentially think of planning and controlling material so that it moves with the maximum speed and lowest cost from the ground up through various levels of manufacture and distribution. However, SCM also needs to plan and control the resources required to manufacture and distribute the products being delivered to the customers in the chain and the end consumer.

In order to plan and control the supply chain, or any other business process, several components need to be in place.

- **Timely, accurate information** is essential throughout the supply chain to communicate forecasts, actual demands, movement activities and messages regarding capacity changes within the components of the chain.
- **ERP** systems that are properly configured to utilize the information and assist decision makers in executing their part of the chain.
- **Personnel skills** that facilitate good decision-making based on the information presented.

Much has been made about SCM software functionality. The essentials of SCM functionality can be determined by looking at the various links in the supply chain beginning at the consumer end of the chain.

The recognition and timing of demand is dependent upon the type of consumption environment (e.g. make-to-stock - MTS, make/assemble-to-order – MTO/ATO, engineer-to-order - ETO, etc.). In the MTS environment, an SCM solution needs to have a solid forecasting solution in order to determine the likely demand of the consumed product before it happens. In an MTO/ATO environment, the forecasting component must have additional functionality to be able to forecast common and significant components of the end item so that they can be purchased or produced prior to the final product being configured by the consumer. In both of the above situations, there is the additional requirement to have the products at the closest available distribution point to the end consumer hence the need for advanced logistics planning. In an ETO environment the forecast of resources is normally based on quotation cycles that are in progress and product has an expected lead-time for delivery. Therefore, the forecasting of resource demand is much different in terms of time period and types of items forecast. For the purposes of this article, we will concentrate on the MTS, MTO and ATO environments.

Once the end consumer demand has been forecast, the supply chain needs to exchange information in a rapid manner. Resource netting, the activity of recognizing the demand and determining the plan for supply, occurs at each level of the chain. Moreover, the time periods required for transportation of goods between the links of the chain need also be recognized and need to be relatively stable. At the very least, the SCM software must be able to recognize that transportation lead-time may vary by season. If any partner in the supply chain has manufacturing plants that ship to regional

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distribution centres (RDC) and then from the RDC to local distribution centres (LDC), then a function that the internal ERP solution must have is multi-level Distribution Resource Planning (DRP). Without this function, Master Production Scheduling (MPS) cannot be utilized properly and the supply chain breaks down.

Once the distribution plan has been netted, then MPS prepares the internal supply plan to meet the external demand. Once the MPS has been properly balanced, then MRP and CRP (material and capacity planning) prepare the departmental production plans and the purchasing requirements. At this point, the external factors of SCM come back into the picture.

If a supplier is in a position where there could be a work stoppage (e.g. strike), is experiencing financial troubles or has any other issues that could interrupt the flow of material and/or services the customers in the supply chain should know about it in advance. This is where there are pieces of information that should be gathered and maintained within the SCM/ERP software. For instance, the contract expiry date of a unionized supplier might be stored with a warning flag set a couple of months in advance for the buyer to react to. The buyer needs to ensure that the contract talks are going smoothly or make alternative plans for supply.

If possible, the customer should be able to also know the status of any potential supply issues of critical resources that could affect their direct supplier as it may be an issue residing two levels down that halts the flow of resources. Therefore, the SCM functionality should be able to connect critical suppliers of suppliers together to create a critical supply profile. The interesting part of this is that the second-level supplier may also be a direct supplier to the customer and one flag will produce many others being raised. The system also needs to be able to identify the second-level supplier as one that is not authorized for direct purchase and not allow requisitions or purchase orders to be raised on the supplier.

The total effectiveness of a chain is based on the strength of its weakest link. SCM is a great methodology. However, it depends on information being able to flow amongst the trading partners involved in the supply chain and having the trained personnel in place to be able to make the fast, accurate decisions necessary to make it all work. The weakest link can be a trading partner, the information in the chain or the people executing it. Understanding what SCM is and the components that make up the chain is the first step in mastering it.

### *About the author*

*Ken Cowman has over 11 years experience working in operations management and over 26 years of management and enterprise solutions consulting experience. With over 25 years of executive management experience and 6,500 hours of education and seminar leadership experience, he has the experience to be able to view the organization from all levels and ability to provide the appropriate level of teaching and/or consulting to effectively assist organizations in their quest for continuous improvement.*