Balance Supply and Demand at Maximum Profit
Using Strategic and Tactical Planning

By Vicky Hyde

Summary: In the second article of her series on Advanced Planning and Scheduling, Vicky Hyde, a leading fashion industry consultant, explains why effective strategic and tactical planning is of critical importance to sewn products companies and how it provides the key to balancing supply and demand at maximum profit.

Ask almost any sewn products company to describe its planning process and the ‘nutshell’ response is that planning is thorough and extensive. Probe a little further and the company generally agrees that, in reality, the majority of its planning is focused at an operational level where, it says, the issues are frequently the most pressing on a day-to-day basis.

While this may be true, the emphasis on addressing short-term issues may be a self-perpetuating cycle. More effective planning at the strategic and tactical levels, i.e. before supplier relationships are finalised and production has been started, supports the smooth running of the operational and executional processes and prevents problems from occurring in the first place. Ultimately, it allows sewn products companies to add measurably more value to their businesses by enabling them to achieve their overall goal: to balance supply and demand at maximum profit.

Strategic and tactical planning is relevant to all sewn products companies because it enables an effective sourcing plan to be developed based on forecast demand. To produce such a plan, and to make effective decisions about the most profitable route for sourcing, requires thorough analysis of the entire supply chain. To do this effectively has historically been an extensive and time consuming task, which to some extent explains why many companies have based product sourcing rules on ‘rules of thumb’ or past experience. This approach may create stable plans, but they are frequently not the most effective at meeting actual demand at lowest cost and therefore do not best serve the company’s overall operational and financial performance.

While all fashion companies carry out a degree of long-term planning in advance of production, it is an unfortunate reality that the majority still only undertake individual pockets of planning for different business areas and frequently use spread sheets to effect this process. As a result, they have no coherent overall sourcing plan and the plans that they do have are incapable of integrating with other key business systems.

To remain both competitive and profitable in today’s business environment, companies in the sewn products industry need to continually analyse sourcing strategies. As the global pattern of labor and material costs changes, and with the rapid approach of quota removal in 2005, many companies have to make radical changes to their overall approach to supply.

Assistance in these tasks comes from the new generation of enterprise resource planning solutions that seamlessly integrate Advanced Planning and Scheduling (APS). Such systems provide sophisticated supply chain planning tools that support companies through the complex decision making process at the strategic and tactical planning levels. These tools can perform cost and profit optimisation on as many simulated scenarios as necessary before arriving at the final cost optimum sourcing plan for the business.

Before looking more closely at how such tools work, it is important to clarify what is meant by strategic and tactical planning.

Strategic Planning

When a company plans strategically, it is focusing on identifying the most effective and profitable way to run the business in the long-term. For sewn products companies, this means looking ahead at anything from between 18 months and three years and making a series of high level decisions. These include deciding on the number of collections that the company can profitably run in a year, the sort of production capacity that will be required, the most profitable way to source materials, whether own production or sub contract production should be used, and the most effective distribution policy.
Tactical Planning

In contrast, tactical planning focuses on the medium term, which can be anything from six months to 18 months depending upon the type of company concerned and takes as its starting point an outline demand plan. This is a plan that includes a high-level estimate of demand by market, as well as the number of collections and/or styles that the company wishes to produce over a particular time period. When planning tactically, companies are typically deciding which raw materials suppliers to use, which styles to produce in which production units, which goods to sub-contract and which goods to stock in which distribution centers.

Planners also need to decide which styles to build inventory for and which to manufacture as late as possible in the production cycle in order to minimise the company’s exposure to risk. They will also have to identify the markets they should fully service with certain ranges, in contrast to those in which they should restrict their service. These are the decisions that determine a company’s profitability.

The objective of the tactical planning process is to develop a sourcing plan that gains the commitment of all parties, including all in-house departments and key members of the extended supply chain.
The number and complexity of decisions to be made, particularly given the ever-changing nature of the market place, is daunting. However, by looking more closely at how a supply chain planning tool within an APS solution supports the decision-making process, say at a tactical planning level, the value of such a tool becomes clear.

Supply Chain Planning Tools

Supply chain planning tools have the ability to take into account the whole of a company’s supply chain network. They allow planners to define a company’s complete supply chain network, including the constraints within all aspects of that network. The planning process then starts with an outline demand plan consisting of information from various sources, such as forecast demand from customers and product managers. Typically the demand plan will be at a ‘grouped’ level, perhaps starting at the range or collection level, and gradually being refined down to style and style/color level as the company progresses towards finalising production or purchase details. Using supply chain planning tools a company can perform iterative optimizations of the supply process, and can identify and define a sourcing plan allowing it to meet its demand in the most profitable way.

A Sample Scenario

Perhaps the easiest way to understand the way in which a supply chain planning tool could be utilised is to describe a possible scenario.

Firstly, planners would define the company’s supply network. This might consist of a main plant, a number of possible sub-contractors, different suppliers for different fabrics, trim and packaging, etc. Rules would be defined in the tool indicating who supplies to whom and what groups of items can be manufactured in which locations. For example, certain sub-contractors might have direct fabric supply while others will be supplied through the company’s main plant. The tool should also allow planners to define the individual distribution centers, the constraints within the network and, of course, the various elements of cost throughout the network. Companies using a full-fledged integrated ERP-based planning system can easily obtain relevant capacity and cost-related information by simply transferring information from the system’s executitional tool.

Once the network, and the constraints and costs within the network, have been defined, the supply chain planning tool can then be used to identify the optimum way to meet the forecast demand. Planners can run as many detailed ‘what if’ simulations as necessary before deciding on the appropriate course of action. Starting with infinite capacity throughout the network, planners can gradually introduce finite capacity constraints for manufacturing, warehouse and transportation resources, as well as lead time constraints, stock coverage periods and minimum delivery quantities, reoptimizing each time to see the impact of the change and how it compares with previous scenarios. With a good supply chain planning tool,
planners should not only see the capacity, resources and proposals for how to source, but also the impact of the change on the organisation in terms of revenue and profit.

Running a profit optimization on a particular scenario also reveals invaluable information. The report not only identifies the point at which maximum profit is achieved, but also shows the number of potential sales missed in achieving that profit. By drilling down into data, the planner can see when and in which markets sales will be missed; management can then make informed decisions about whether they are prepared to miss these sales. If they are not, the planner can input the necessary demand levels into the system for that particular market, and the profit optimization can be run again.

**Benefits of Long Term Planning**

The beauty of undertaking long term planning using a sophisticated APS-based decision support tool, such as a supply chain planner, is that it enables sewn products companies to replace traditional rough-cut capacity planning with valuable optimization and simulation techniques. These enable them to identify their overall demand for capacity and blanket material requirements, and to make strategic procurement decisions before they have completed their material and production planning. In addition, the delivery and profitability consequences of the tenders from various alternative suppliers, covering different quantities and prices, can be simulated to identify the effects on bottom line profitability.

During the planning process, a backward smoothing of production occurs, thus evening out the peaks and troughs in demand, which result from the seasonal nature of the industry. Through the use of finite capacity, the flow of material through the supply chain can be synchronized to ensure that all or as much demand as possible is met on time and ‘stock build’ plans are developed. The more advanced supply chain planning tools also offer additional facilities such as opportunity planning to make use of spare capacity and full two way synchronization with Demand Planning.

As planners progress through the strategic and tactical planning process, a good supply chain planning tool provides them with an interactive decision-making environment consisting of a unique scoreboard with exception-based performance records and an extensive range of graphical maps and flexible ‘explorer’ reports.

**The Business Value**

In summary, the benefit of investing time and resources in comprehensive long- and medium-term planning is that it delivers the all-important sourcing plan, which not only effectively balances supply and demand at maximum profit, but also provides the sourcing rules for the operational and executional levels. These can be fed back into the operational and executional systems, increasing efficiency and reducing the potential for problems to occur.

As well as increasing profit, effective strategic and tactical planning makes sewn products companies more successful at meeting market demand, avoiding inventory obsolescence, streamlining administration and delivering to customers on time, all of which add significant value to the overall business.

*About the Author: Vicky Hyde is a highly experienced fashion industry consultant who focuses on the business issues faced by companies and the ramifications of change. Formerly with IBM, she has worked with a range of fashion and related companies, from yarn spinning and textiles to apparel. She has been engaged in the industry as a project management leader, developer and presenter of educational programs. As Movex Fashion Industry Application Center Director for Intentia, Vicky Hyde has conducted numerous seminars and given presentations extensively throughout Europe and around the globe. Email address is vicky.hyde@intentia.co.uk.*

October 2002