Planning and the Process Industries

To build for future success, process companies and others that operate in industries with a high fixed-cost asset base need to evaluate their current people, processes and systems.

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Supply chain planning and optimization present a range of challenges in both good and bad economic times. Those companies that take a disciplined approach to balancing cost, inventory and service can best optimize their margins, helping them to enjoy significant competitive advantage.

The need to excel at supply chain planning is taking on increased importance during the current global economic downturn. In particular, it’s brought unprecedented uncertainty and change to the process industries—chemical companies, oil refiners, mining operators, and similar operations—and calls for adoption of a new approach to supply chain planning.

Supply chain planning is typically performed on three different time horizons, ranging from the high-level strategic work that is embarked upon every few years to the monthly planning that takes place at the operational level. In between lies tactical planning, which uses the annual budget, sales forecasts, and scenario planning to plan demand, production, inventory, logistics, and finances. Given today’s uncertain economic environment, companies need to be acutely aware of impending risks and have contingency plans in place before risks materialize.

During times of uncertainty, process companies should refocus their supply chain planning efforts by:

- Expanding the scope of inputs to increase the understanding of value chain dynamics.
- Shifting the balance from planning precision to big-picture understanding and risk awareness.
- Retaining flexibility and exploiting market opportunities.

This column takes a closer look at the key changes that process companies need to make in order to navigate in today’s uncertain business climate.

Expanding the Scope of Inputs

Companies typically employ both bottom-up and top-down approaches to demand planning. In bottom-up planning, the sales department forecasts anticipated demand to develop scenarios that are then rolled up to the sub-regional and regional levels. The top-down approach looks at market trends in order to anticipate demand. The two different sets of forecasts are then rationalized against one another to determine the demand target, which is typically pegged within a narrow range.

In the current environment, this rationalized approach will not yield the desired results. Consider the challenge of exporting from the Middle East to markets in Asia and Europe. Lengthy, marine supply chains always call for detailed planning, as maritime transportation has characteristically long lead times. When the global business climate is stable, companies typically employ a model that allows them to succeed despite the long lead time disadvantage. But because regional demand plans in the current volatile climate can be so inaccurate, supply chain execution plans must now be based on...
multiple demand scenarios.

A top-down approach to demand planning is superior in uncertain times, as the volatility in local markets leaves the bottom-up approach fraught with inaccuracy. While macro trends and indicators are not an especially accurate way to project demand, this type of big-picture, forward-looking philosophy brings a global perspective. Macro-level demand planning by geography and end-use market is a simplified approach that forces the planning team to grapple with and come to understand the market itself rather than the company’s own potentially limited internal numbers.

By planning more frequently, companies can better respond to a changing business environment. Undertaking frequent reevaluations of their strategic parameters (such as service levels and make vs. buy decisions) helps companies improve their ability to make changes that enable them to quickly adapt and work through the current situation—and ultimately position themselves for success when conditions improve.

Standard service levels, including fill rate, lead time and cost to serve, need to be continually reviewed in order to retain existing customers. Many U.S.-based chemical companies, for example, have adjusted service levels downward as part of a move toward explicit service-level pricing, which allows them to share cost benefits with customers. Make-versus-buy decisions need to be challenged as it may be possible to exploit economies of scale or oversupply when determining whether precursor materials should be processed in-house or purchased. To illustrate, supply-and-demand balances in key regions have been affected by recent capacity adjustments, such as the reduced demand for ethylene derivatives from the U.S. Gulf Coast.

Embracing Risk Management

Companies that integrate risk management into the supply chain planning process are better prepared for the supply chain disruptions that are almost inevitable during uncertain times. The supply chain team should be included in the risk management process in order to heighten awareness of potential risks and prepare supply chain risk mitigation strategies.

Risk management tools are essential to understanding and classifying risks. Those risk areas with the highest potential business impact and probability will require detailed mitigation plans. One significant risk that many companies face is potential business disruption brought about by financially distressed suppliers and customers. This speaks to the importance of the continual monitoring of these external parties’ financial well being. In addition, on the supply side, capacity adjustments are bringing about supply disruptions in many industries and material value chains.

Exploiting Market Opportunities

Every crisis offers opportunities. However, it is those companies that retain supply chain flexibility that will be prepared to take advantage of the market opportunities that will open up when demand returns. Process companies that position their key assets to restart quickly will enjoy a head start when demand increases. These assets must be carefully prioritized on the restart timeline. Performing opportunistic maintenance during times when contractor resources are available and lining up their support services for restarts will help avoid delays when demand recovers.

While merger-and-acquisition activity has been static for more than a year, many chemical and refining assets likely will be made available by financially stressed companies over the next year. Those that feel confident will buy; those that lack confidence will look to exit some parts of their business. Supply chain leaders should work with senior management to evaluate potential buying opportunities. Those companies that opt to sell distressed assets can use their supply chain managers’ market awareness to help identify potential buyers.

Process companies and others that operate in industries with a high fixed-cost asset base need to evaluate their current people, processes and systems and measurements in order to build for future success. Linkages between resources that are engaged in the collection and comprehension of macro trends and the supply chain must be forged or reinforced. Similarly, those in charge of asset disposal need to be engaged with the planning team to rationalize future network capacity. Steps must be taken to ensure that the planning process properly factors in risk. Macro scenarios must be continually updated and reviewed, and woven into the planning and hedging process.

While this discussion has emphasized practices to be followed by companies in the process industries, it goes without saying that every company is looking for ways to make it through the period of current economic uncertainty. The ones that will be best positioned for success when conditions improve will be those that have taken a forward-looking view.