

The Race is On for Supply Chain Success

The balance of power in the chemical industry is shifting from a model in which suppliers push their product out to the marketplace to one in which customer demand for total solutions drives the chain. In reaction to this shift, the race to build new supply chain solutions is underway in the boardrooms of leading chemical companies around the globe. Fueled by the new capabilities of their information architecture and the rapidly expanding capability of the Internet, leading players are jockeying to secure the long-term loyalty of their most precious customers. In this paper, we look at the ingredients for supply chain success and how ultimately to win the race.

Fasten Your Seat Belts ...

When motor racing champion Ralph Schumacher takes the wheel of his Williams Formula 1 racing car, his success depends as much on the efficiency of the supply chain that supports him as it does on the slick teamwork of his pit crew. The racing strategy requires that information, materials, and service be delivered to the point of need in split-second timing – a supply chain that squeezes every ounce of competitive advantage for the driver on race day.

In the chemical industry, the leading players have emulated the Formula 1 model by making Supply Chain Management an integral part of their winning strategies. Just as Formula 1 relies on the latest technologies, chemical companies are starting to embrace e-commerce as a means of sharpening their supply chain edge. So, if you have not yet designed your supply chain strategy, start worrying. Your customers are hard at work designing it for you.

As a collection of related supporting functions, Supply Chain Management's early origins were internally focused. Recently, however, the supply chain has matured and become more sophisticated. It has taken on an external focus, incorporating suppliers and customers in new value-sharing arrangements, with the series of traditionally separate supply chain functions integrated into a seamless whole.

Today, supply chain strategies operate on the basis of "demand-pull" rather the historical

"supply-push" model. Customers no longer want just materials. They demand solutions composed of products, services, and information. Rely on old business models and practices that deliver only products to customers and you're missing two-thirds of the value that could be captured by taking a new approach.

Research by Andersen Consulting revealed that while key customers of the chemical industry are adopting supply chain strategies, the industry itself lags behind other sectors. In consumer and packaged goods, for example, supply chain initiatives outnumber chemicals 7 to 1; in electronics and high technology, 5 to 1; and in automotive, it is 4 to 1.

Experience in these sectors shows that benefits on the order of a 40% increase in sales, a 30% reduction in inventory, and a 95% increase in service performance coupled with a 25 to 50% in inventory velocity can be achieved.

Bolting in another software package is not enough to make these gains. Success comes from defining a strategy and implementing it vigorously along the supply chain.

What It Really Means

We hear a lot about developing a supply chain strategy. What does this really mean?

Supply chain strategies are designed to simultaneously lift revenue, lower cost, and improve capital utilization. Because the emphasis is on improving quality and flexibil-

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ity while at the same time cutting overall costs, reducing complexity is the cornerstone of a competitive, effective supply chain strategy.

As the balance of power shifts from supplier to customer (witness the evolution in the automobile, consumer, and high-technology industries), the chemical industry segments closest to these businesses are being pulled into new relationships. In turn, they're discovering the potential of Supply Chain Management.

Today's challenge is to tie Supply Chain Management closely to the overall business strategy to substantially increase shareholder value.

Competitive Advantage in the New "Demand" Economy

News from chemical industry leaders is encouraging, with several embracing supply chain strategies as means of competitive differentiation. Early-stage implementations of demand-driven customer segmentation and channel strategy initiatives are forming the basis of supply chain programs that go beyond the cosmetic. A global petrochemical company, a regional polymer player, and a global specialty company are each developing cost-to-serve profiles for their customer bases. Once defined, this value-based segmentation becomes part of the fabric of daily operations and drives the development of unique service offerings, tailored to key customers. Declaring victory is premature, but early results confirm that value can be captured at multiple points in the

supply chain to the benefit of all the stakeholders.

Gaining Pole Position in the E-Commerce Supply Chain

Studies by Andersen Consulting confirm the chemical industry's keen awareness of the Internet and provide a healthy debate

Supply Chain Excellence

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on how to lead the field. Companies across all segments are expressing interest in low-cost channel strategies.

Global interest in e-procurement (the combination of leading practices of strategic sourcing with Web-based technologies), aimed at non-production materials, is running high in both Europe and the United States. Initial success in e-procurement suggests that savings of \$3 million to \$20 million per billion dollars of revenue can be achieved. Low-risk, high-return projects are emerging among leading companies in multiple segments of the chemical industry, such as diversified, specialty, and global petrochemical.

Nonetheless, many chemical companies remain stalled on the grid in a race where the prizes are substantial. To turbocharge your business, you will need to blend all the elements of e-commerce into your supply chain strategy.

The Key Elements

You've told me why a supply chain strategy is important. What are the key elements to consider?

service architecture, product portfolio management, customized logistics networks, integrated supply and demand planning, strategic sourcing, information technology enablement, and supply chain metrics. Each company should select the elements that give them a competitive advantage.

Excellent Supply Chain Management transforms traditional transactional exchanges into supply chain partnerships, boosting revenue, improving cost efficiency and effectiveness, and significantly enhancing the use of both fixed and working capital.

Supply Chain Information Technologies

Information technology is a key enabler of future supply chain success. Recent investments in enterprise resource planning systems provide the foundation for timely and accurate transactional data. Advanced planning systems improve the speed and accuracy of decision-making and the ability to balance supply and demand in complex, extended supply chains. The ability of advanced planning systems to cope

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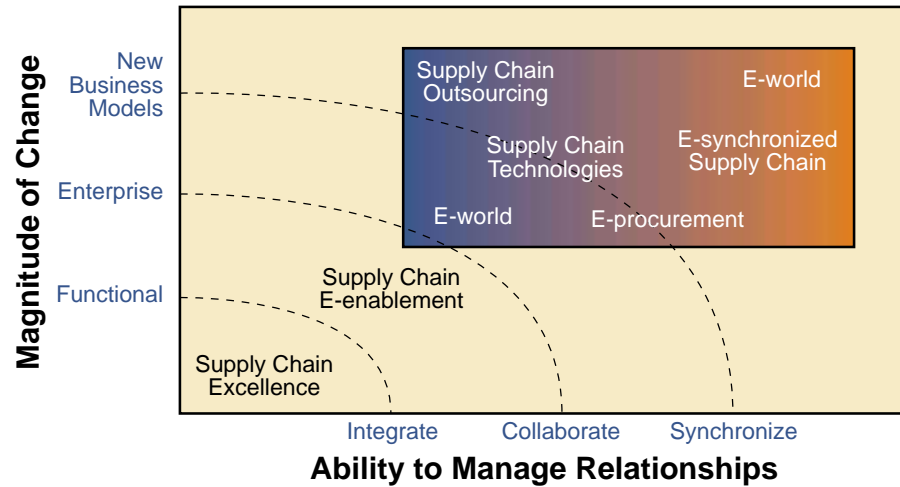


Figure 1.0 How change effects the ability to manage

with the planning needs of process industries, including the chemicals industry, is improving all the time. The best enterprise resource planning and advanced planning solutions also provide the “available-to-promise” capability that is essential to support sales via e-commerce.

E-commerce provides the opportunity to transform functional processes. The impact of e-commerce can already be seen in the procurement arena. Many e-procurement initiatives are reducing the cost of goods and services and freeing up purchasing professionals to manage qualified suppliers, negotiate better practices, and examine spending behavior. This leads to higher overall productivity. E-procurement also improves the quality of information and provides an opportunity for collaborative planning with suppliers to reduce capital needs and lower required inventory levels.

New Business Models

In addition to transforming existing supply chain processes, e-commerce has the potential to fundamentally change the way chemicals are sold and how customer demand is fulfilled via the supply chain. Already, new players are emerging in the form of virtual distributors, auctions and

exchanges (for example, eChemicals, PlasticsNet, ChemConnect, ChemMatch and fobchemicals). Existing producers and distributors are also rapidly developing e-commerce capabilities; there is a new venture or alliance announcement that signals a new development in this area almost every week. This market space is incredibly dynamic and it remains to be seen who will be the ultimate winners.

Supply chain capability, in the form of physical infrastructure, operational excellence, and Supply Chain Management, is critical to the success of these new ways of doing business. Web-enabled supply chain solutions provide the opportunity to manage supply chains collaboratively and to synchronize operations. However, technology is only one part of the solution. New forms of relationships between trading partners will need to be developed and imaginative outsourcing solutions will need to be adopted to provide the necessary supply chain capability, speed, and flexibility.

A good example of an imaginative outsourcing solution is the joint venture logistics operations where the venture has access to world-class capabilities beyond the reach of the single enterprise. This reach enables the delivery of a step change

in the cost of the operation, plus continuous improvement of total delivered cost.

An alternative business model is the virtual enterprise in which the Web is used as an integration tool to allow a number of companies to behave operationally as a single enterprise.

Another rapidly emerging business model is that of the Internet-enabled trading community in which a group of buyers and sellers agree to trade on a single platform such as MySAP.com or TradeMatrix.

So What Else Do I Have to Think About?

Mergers, Acquisitions and Alliances

In 1998, merger activity in the chemicals industry was estimated to be more than \$100 billion and, according to an Andersen Consulting study, chemical industry alliances will account for \$600 billion in revenue by 2005. In the wake of this hyper-activity, Supply Chain Management is topping boardroom agendas as a vital part of the “race-day” capabilities required for successful mergers, acquisitions, and alliances.

The boom has increased attention on Supply Chain Management as many mergers, acquisitions, and alliance deals are now announced with specific supply chain benefits baked into the value equation. This new facet in deal-making is not surprising considering that as much as 80

Converting Supply Chain Programs into Significant Business Benefits

Revenue increase: 1 to 3 percent

Supply chain cost reductions:

- Strategic sourcing of raw materials: 5 to 15%
- Strategic sourcing non-production materials: 3 to 12%
- Logistics networks: 15 to 25 %

Reduced working capital: 10 to 50%

Fixed capital impact: 10 to 15%

percent of a company's expense is linked to the operations and supply chain functions that consequently offer the majority of the synergistic opportunities.

Mergers, acquisitions, and alliances provide opportunities to undertake an analysis of redundancies and synergies between two companies. Program management skills will be essential in most post-merger environments. The combination of cultural and geographical elements with the new products, customers, and suppliers defines a project whose successful completion requires huge amounts of data, strong supply chain skills, and the excess capacity to deal with the analysis and decisions of the new environment.

Growing Supply Chain Skills

The supply chain organization of the future will lose its internal focus and a re-skilled workforce will be required to operate in the new, more complex external environment. Commercial and logistical skills must be elevated to the same stature as the engineering skills that have historically been a prerequisite for career success. Creating a nimble environment, capable of initiating and sustaining change in ever-

decreasing cycle time characterizes the new supply chain era.

There is no doubt that, in chemical industry boardrooms around the world, the phrase "supply chain" is gaining common currency. There is a growing recognition that the opportunities for deriving sustainable business advantages from changes to the supply chain are immense. But beware the strategists who simply re-label processes without instituting real and lasting change. The full benefits will only be achieved if the supply chain strategy is linked to the business strategy and when implementation embraces the organizational changes required to support the transformation.

External Focus and Forces

The dominant theme is that e-commerce will transform the way supply chains are formed and operated as well as the way supply chain partners interact. While the rate of change will vary by industry segment and world geography, supply chain strategy will have a profound impact on the conduct and results of the businesses that make up the chemical industry.

The leading players of the future will extend their reach way beyond existing

boundaries in response to the shift in the balance of power from the supplier to the customer. The extension will occur as part of a selection process that emphasizes collaboration and synchronization among multiple layers of the networked supply chain.

There are many opportunities to begin creating this future. Fine-tuning and tightly coordinating the company's internal operations to world-class levels can be a good start. The Internet will do more to transform supply chains than can be imagined today and e-procurement is just the first of many ways in which the Internet will revolutionize supply chain activities. The potential to form supply chain partnerships through merger and alliances will grow as companies adapt their traditional business models to remain competitive. The Internet sales channels being created by pioneering chemicals companies show how the Internet will challenge the very structure of how chemicals are produced and sold. The first movers to build strong Internet and supply chain capabilities by grasping these opportunities will be the true winners.

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