

High-performance business through a differentiated supply chain: How chemical companies can achieve logistics breakthroughs

By Christopher F. Lange

Low profitability is a worn out story for key players in the US chemical industry. In recent years, chemical companies removed plant bottlenecks, added the latest process control technologies and found ways to squeeze out manufacturing costs.

Chemical companies' supply chain costs are second only to manufacturing and conversion costs—the areas historically given the greatest amount of attention. Yet focusing on those areas is not enough to improve the overall financial performance of most chemical companies—but supply chain may. As part of Accenture's major research program to identify the characteristics of the high-performance business, a global study by Accenture, INSEAD and Stanford University shows a clear link between supply chain and financial performance.¹ Improving supply chain performance is positively tied to improvements in corporate financial performance, creating new opportunities for shareholder value creation.

As part of the Accenture research program, we have also studied high performance in the chemical industry.² The results show chemical high performers apply three key building blocks to their business: market focus and positioning; distinct capabilities that create and sustain meaningful differentiation, and a performance culture that out executes the competition. Digging deeper, we find that high-performance chemical companies, which have managed to consistently deliver superior returns to their stakeholders over many years and are likely to continue to do so, employ strong operations management capabilities with their manufacturing and supply chain functions.

For chemical companies, Accenture believes the supply chain may be the next frontier of value generation. In fact, according to the Accenture supply chain study, leading supply chains have enterprise values that are 7 percent to 21 percent higher than their peers. Outside of immediate improved profitability, companies that implement supply chain improvements also positively impact customer relationships through better service, offerings and innovations. So, for companies that have implemented some of the obvious efficiency and costs measures and want to witness a startling change in their relationships with their customers, it makes sense to revisit the supply chain in their quest for high performance.

Evaluate business holistically

Many companies still manage portfolios of businesses as separate entities to keep the attention of the portfolio management team focused on the profitability of the business. But best practices would also suggest that a holistic view of logistics (people, process, technologies and hard assets, as well as warehouses, leased tracks and rolling stock) would enable the parent company as well as its subsidiaries to improve overall financial and customer performance. Successful companies across several industries that focus on a holistic view of logistics significantly outperform the industry average. Consider holistic approaches to distribution networks and trading partner negotiations.

Distribution networks. Most chemical companies strive to maximize production runs and minimize transitions. They are not situated next door to

their customers, so it is difficult to accurately predict their level of consumption. Chemical companies have to develop distribution networks to meet the service commitments they've made to their customers while minimizing inventories. They may also have to work within the structural constraints of their business, being far from customers and raw materials and utilizing older, more expensive production assets. Many companies set up their distribution networks separately for each business unit. However, with a holistic approach, companies model the proper network to address the holistic view of the business and potentially leverage the needed assets. Assets also can be shared to improve service to customers, reduce operating expenses and improve the use of working capital.

Trading partner negotiations. Similar to the distribution network discussion, many companies negotiate contracts with their trading partners at the portfolio company level. They do not take advantage of leverage across the portfolio(s). In doing so, they leave cost reduction and service improvement opportunities on the table. High-performance businesses leverage the volumes across the portfolio to assist in breaking the stranglehold a rail carrier might have on a single-served plant, to improve equipment availability in the current tight truck market, or to improve overall costs and services.

Over the past year "expressive bidding" has emerged as a popular model to balance the volumes and service requirements a chemical company has with the available capacity and desires of the trading partner. Companies with a holistic view of their business submit volumes by lanes to carriers and ask for quotations. High-performance businesses showcase the movement history and allow the providers to come back and propose ways that would minimize their costs.

Actions of high-performance chemical companies

Evaluate decisions from a total cost perspective. Many chemical companies make decisions about their logistics operations based on a narrow definition of cost. For example, it is fairly typical for a chemical company to compare the transportation cost to deliver product by rail or by truck. In so doing, more often than not, the truck option will be more expensive. Our research suggests that

high-performance chemical companies opt for a more comprehensive view of total cost comparison: With total cost comparison, it becomes clear there are significant additional expenses—like long cycle times and variability in using a rail fleet—which can add up to 20 percent to 25 percent to the delivery cost. In fact, there are times when it is less expensive on a total cost evaluation to move a product by truck.

Use assets for their intended purpose. There are many logistics assets that were bought or designed to accomplish a specific goal. With time, the goal has been forgotten, but the assets still exist, such as warehouses and leased tracks. High-performance chemical businesses understand the forecasted demand for product, as well as the consumption rates of their customers. They put product into a device best suited to meet the needs of the customer at the lowest cost.

Leverage market imbalances. As service providers develop their capabilities to meet the perceived need of their target customer base, structural imbalances can and often do occur. For example, as steam ship lines develop their routes from Asia to the United States to respond to the already large and still growing imports from that region, an imbalance is created as ships sail to the United States with full containers, but return with empty ones and excess capacity. This extends beyond just the ocean leg of the movement as full containers are brought inland to go back across the United States empty to be repositioned. Again, industry trading partners can work together collaboratively to further optimize logistics. The savvy logistician takes advantage of the imbalances to receive very favorable pricing on the repositioning of containers. This concept can be applied to virtually all aspects of logistics to include transportation, warehousing and leasing of assets.

Take advantage of existing technologies and capabilities.

For instance, telematics are successfully being used in other industries to provide real-time data. Sensors connected to remote communication devices can track the temperature of refrigerated trailers to ensure an adequate band of temperature is maintained. Receiving the data is an example of one-way communication. However, some devices are designed so that the temperature can be reset to get the temperature back in line with the needed tolerance.

Conclusion

The US chemical industry is undergoing significant change highlighted by prolonged periods of poor profitability. However, opportunities exist to close the gap. All high-performance chemical companies have successfully differentiated their products and services to satisfy specific customer needs. These high-performance businesses use a first-rate distributor network, engage in more productive trading partner negotiations, better utilize assets and implement new technology. Accenture knows there are no easy fixes that will magically turn the industry around, but tough choices and bold moves to achieve high performance can offer both financial and customer benefits.

Christopher F. Lange is a partner in the Accenture Supply Chain Management service line who specializes in the chemical industry.

¹For the full report, see "Connecting with the Bottom Line: A Global Study of Supply Chain Leadership and Its Contribution to the High-Performance Business" on www.accenture.com/supplychain.

²For more about how differentiation is crucial to chemical companies' successful operation and high performance, see "Driven to differentiate," *Outlook* journal, No. 1, 2005 or www.accenture.com.

This article is adapted from "Extreme Makeover: Supply Chain Edition" by the author, published in *Chemical Market Reporter*, November 2004.

Accenture is a global management consulting, technology services and outsourcing company. Committed to delivering innovation, Accenture collaborates with its clients to help them become high-performance businesses and governments. With deep industry and business process expertise, broad global resources and a proven track record, Accenture can mobilize the right people, skills and technologies to help clients improve their performance. With more than 110,000 people in 48 countries, the company generated net revenues of US\$13.67 billion for the fiscal year ended Aug. 31, 2004. Its home page is www.accenture.com.

The views and opinions expressed in this article are meant to stimulate thought and discussion. As each business has unique requirements and objectives, these ideas should not be viewed as professional advice with respect to your business.

Copyright © 2005 Accenture
All rights reserved.

Accenture, its logo, and High Performance Delivered are trademarks of Accenture.