

By John P. Collins, CFPIM, CSCP, and Eric P. Jack, Ph.D., CFPIM, CSCP

# Charting a Fluid Supply Chain

*Open communication is the conduit to smooth information flows*

*Editor's note: The editors of APICS magazine would like to welcome John P. Collins, CFPIM, CSCP, and Eric P. Jack, Ph.D., CFPIM, CSCP, as the authors of "Building Blocks." This new department offers readers interesting and innovative ideas that are valuable to new members of the profession and industry veterans alike.*

Here in the 21<sup>st</sup> century, operations management "building blocks" must function in a very different environment than they did even a mere 10 years ago. The new global supply chain is highly competitive—speed-to-market is critical, products mature in months, and competition is supercharged.

When we took the APICS Certified Supply Chain Professional certification course, we learned that supply chain management strategies are critical to achieving competitive advantage. The tools enable effective use of real-time information, making it possible for businesses to meet customer demand, while decreasing the amount of inventory throughout the supply chain.

Simple supply chains can have as few as three echelons (supplier, producer, and customer); complex ones have more (tier 2 and 3 suppliers, distributors, retailers, and so on). As more echelons are added, the complexity increases significantly, sometimes becoming so intricate that the resulting supply chains are better described as networks or webs.

What is really interesting is that, regardless of the size or complexity of the supply chain, there are essentially four types of flows that can be used to describe the interactions involved.

These are

- the flow of information up and down the supply chain
- the flow of money from the customer up through the supply chain
- the flow of products from the lowest echelon down to customer delivery
- the reverse product flow that handles returns, reuse, and recovery.

What exactly are supply chain managers trying to accomplish with these four flows? Well, the answer depends on the business strategy of the dominant member of the supply chain. The level and velocity of inventories and cash flows also rely on such operational strategies as make-to-stock, build-to-forecast, configure-to-order, assemble-to-order, or engineer-to-order. Plus, a company can use different operational strategies for different product lines.

It also is noteworthy that the decision to deploy each of these strategies hinges on the amount and accuracy of information about customer demand, along with the corresponding lead times required to satisfy that demand. However, despite the use of these methods, supply chain managers substitute information for inventory at each echelon in the supply chain.


In order to substitute information for inventory, these professionals put their trust in real-time information management tools, such as enterprise resources planning (ERP) systems. They help handle vast amounts of data and track, trace, and deliver customer orders on time. The secret to managing supply chain flows is effectively using ERP systems to substitute information for inventory. When deployed effectively, firms benefit from lower inventory levels,

increased cash flow velocity, and higher customer satisfaction.

## Another possibility

It certainly is feasible to improve flows without an integrated ERP system. One steel fabricator took a more basic approach, incorporating a vendor-managed relationship into its materials management system. The company managers approached their most important supplier with a simple request—help us be a better customer.

The ensuing discussion enabled them to openly address many issues negatively affecting the accurate flow of information, including late payments, expedited orders, long lead times, backorders, and incomplete purchase orders. Despite the lack of a sophisticated ERP system, the flow of information improved significantly; costs were reduced for both the fabricator and supplier; and, as the fabricator converted to a speed-to-market business model, order-to-delivery times were cut from four weeks to four days.

It's difficult to be a competitive, world-class company without the tools necessary to manage the four basic flows in the supply chain. But an easy way to start is by picking up the phone; calling your key supplier; and asking, "Can we talk?" 

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