

# *How Cost and Service Goals Drive Inventory Strategy*



*Logistics managers explain how they mold inventory strategies to serve business objectives.*

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**"O**ver the past decade, just-in-time strategies have squeezed labor and costs out of the supply chain by moving inventory to production lines exactly as needed. This strategy creates a more efficient but delicate supply chain web," says Ron Schaefer, public sector logistics business director for Transentric LLC, a provider of supply chain and connectivity solutions.

Today, these streamlined supply networks face new challenges. Schaefer claims the grave events of 9/11 put this nimble management system to the ultimate test. In spite of interruptions, managers still must get the product from origin to end consumer. "Yet they cannot afford to return to the stockpiling age," Schaefer continues. "Managers cannot ignore the immense savings produced by just-in-time strategies. The US auto industry alone reports these strategies save more than \$1 billion a year in inventory-related costs." He suggests companies with such significant savings can survive a couple of outages without short changing profitability.

Today, supply chain managers have access to sophisticated connectivity and visibility solutions. Says Schaefer, "Technology lets them see the product's location at any point in the supply network so they can substitute quality information for stockpiles of inventory. And they can share these data with trading partners to make sound decisions real-time."

## Building Profitability Through Trust

Along with technology tools, logistics professionals are finding better ways to work together such as CPFR (collaborative planning, forecasting, and replenishment). Larry Roth, senior consultant with Kimberly-Clark, claims publication of case studies is helping make it work—success stories from manufacturers and retailers who trusted enough to try CPFR and found positive results. Roth sees a slow trend toward more collaboration. More retailers are talking about sharing with key suppliers.

"As more and more retailers see the benefits of programs such as CPFR, suppliers get access to new levels of data and more of the supply chain. The cooperation and collaboration through CPFR allow us to spot problem areas and dig down to solve the issue with the customer," says Roth.

When he works with customers that have embraced CPFR, Roth can look at sales rate by store, for example, and subtract inventory on hand to calculate best order quantity for promotions. "Visibility into the supply chain allows us to get it right more often than ever before," notes Roth.

"CPFR is all about collaboration and trust," says Roth. "The customer has to trust us with valuable information. Once we discover issues, we have to talk about the correct solution and how we execute."

For every benefit manufacturers receive, there's usually a similar benefit to retailers. Roth credits CPFR for better business planning and execution at the store level as well as improved supply chain coordination and cost avoidance.

More visibility on the manufacturer

side benefits the retailer as well. "If you have to rush truckloads of product to the retailer, that generates cost to us and to retailers—in handling, in lost sales," he explains.

CPFR is an exceptions driven process, notes Roth. "While there's a new level of visibility through the collaborative process, you can bury yourself in data. Early on, we even buried ourselves in exceptions—several hundred per week. Now we've prioritized exceptions so we focus on those that are truly important to the business."

## Managing Major Change

It's especially important to keep an eye on what's important to the business when the business is changing rapidly. David Kratochvil, senior vice president, supply chain management and distribution operations with Herbalife International, took on that daunting task about four years ago. At that time, Herbalife had one primary supplier for its nutrition products. The company rapidly diversified to 30 different suppliers scattered around the globe. Diversification affected order quantity and order cycle as well as consolidation practices. Kratochvil's team had to adapt the forecasting process and transportation program. Results have been outstanding.

"We cut inventory in half in just three years," says Kratochvil. "Now we're getting into the hard part of the business but we expect to take out another 10%. We're getting closer to continuous flow inventory. We're planning flow of inventory from the time we forecast to delivery, to arrive nearly JIT. We allow

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just a little extra time because our policy is never to run out of product. You cannot tell someone on a diet supplement to come back next week,” he explains.

Due to the policy never to run out of product, Herbalife spent two years studying anticipated effects of changes. When implementation began, a suite of software packages eased the transition. The key function allows Kratochvil’s team to see what’s going on inside each supplier. “We send forecasts; they translate those forecasts into a production schedule. The software shows us when they are in produc-

tion and tracks supplier inventory,” says Kratochvil. When fully implemented, the software will generate alerts when something is not happening as it should. “We can look by order line to see what’s in production. But we only need to look at it when there’s an alert, as in not enough raw materials,” says Kratochvil.

“Our goal was to improve supply chain performance, reduce inventory, and improve productivity while changing manufacturers. We changed our whole forecast methodology,” says Kratochvil. “We had to change how we forecast by

product and by the 56 countries in which we operate while accounting for seasonal needs. We’ll use true forecast rather than averages based on seasonality of product.”

The test model has been running about six months and Kratochvil states inventory forecasting accuracy is in the high 80s. While that’s good for Herbalife’s industry, he is aiming for the 90s.

### Integrate for Success

Mike Edie, vice president materials and logistics with Hayes Lemmerz International, notes it’s fun-

## Pros and Cons of Postponement

By Jim Hicks, *Application Consultant, Lilly Software Associates*

At its simplest, postponement manufacturing means storing generic product—such as computer components—so final assembly can be performed quickly and inexpensively to fill an order. Postponed manufacturing moves light manufacturing steps—kitting, assembly, or customization—into the warehouse. This blurs the lines between manufacturing and distribution, creating the need for new information systems that integrate these dual roles.

Postponement manufacturing can reduce back orders and inventory costs. But this creates challenges for the distribution center, beginning with the need for a cultural change away from forecast-centric thinking toward demand-centric thinking. Manufacturing and distribution information have traditionally been handled by systems that rarely exchanged information. With postponement manufacturing, companies need integrated manufacturing execution and warehouse management systems that communicate continually and provide supply-chain-wide visibility to employees, customers, and partners.

As markets become more complex, many companies are forced to consider manufacturing and marketing to individual customers. Building to order has enormous

advantages: Postponed manufacturing allows for personalization of generic product quickly and inexpensively once actual customer demand is known. Inventory levels are lower because each work-in-process inventory item can fill many possible bills of material. Building to order substantially reduces the risk of obsolete inventory and associated rework.

Postponed manufacturing usually means a large number of inventory items to stock and every SKU is active all the time. At the same time, pressures to reduce inventory carrying costs increase the importance of inventory and order accuracy.

Where information systems are concerned, the most basic requirement is integration between the manufacturing execution and warehouse management systems. Inventory must be managed much more carefully than in a traditional build-to-forecast environment.

The need to build to order while remaining competitive, from a delivery lead time perspective, with companies that follow traditional build-to-forecast models places a premium on inventory volume accuracy. Location accuracy becomes far more critical. Optimization at all levels of the supply chain also becomes more critical as in the ability to pick up all components for a single order and

drop them at appropriate manufacturing cells based on their workload level.

This calls for a completely integrated system that provides visibility across the supply chain by integrating manufacturing, distribution, transportation, order management, procurement, replenishment, labor management, third party billing, vendor managed inventory, as well as B2B and B2C e-commerce.

Learning Resources is a good example of a company that has saved hundreds of thousands of dollars a year in inventory and fulfillment by using postponed manufacturing methods. The producer of children’s educational toys previously hired outside jobbers to perform assembly during peak seasons. In the past, the company frequently experienced back orders because the right goods weren’t in stock and it had to incur the costs of contracting the jobbers and shipping the goods to them and back to their site. Since the company has implemented a postponed manufacturing strategy, they have reduced their back order rates to 0.02% while substantially reducing inventory levels. The company’s ability to track orders and productivity has also increased substantially.



damental to a company's success to integrate operations. Hayes Lemmerz went from a \$360 million wheel manufacturer with 8 plants to a \$2 billion global company with 44 plants. Yet, notes Edie, every plant operated as a separate P&L with no leveraging of material purchasing or IT, no common format or software for financial reporting, and no exchange of best practices.

His team helped centralize IT and purchasing with a common report platform and common ERP. "We developed common processes for how we receive goods, report purchasing throughout the organization, and report financial and operating data," says Edie.

One of Edie's cost-saving strategies that's paying off is in the area of MRO (maintenance, repair, and operations) purchases. He negotiated a national agreement with a third party procurement company that specializes in indirect materials. "They aggregate orders from a variety of clients. We place the purchase order from a customized catalog. The catalog, which sits on our indirect purchasing system, is updated each night with new SKUs or new volume pricing," says Edie. Even though the MRO project is in the beginning stages, Edie expects full year-one savings of \$2 million plus.

### Prime Vendor Program

The Defense Logistics Agency (DLA) is using a similar strategy to improve the way federally funded agencies purchase materials. The program designates one source as the approved supplier for all MRO materials, allowing the agencies to easily purchase, track and manage their MRO material needs.

The DLA selected SupplyCore as the prime vendor to cover all US military bases in Japan, including

Okinawa. Users log into the SupplyCore Website to place requisitions. SupplyCore then sources the products from the appropriate suppliers and manages the material flow from supplier to customer. Users can track the status of their order, create custom catalogs and aggregate purchasing information for better materials management and planning.

Before using the prime vendor solution, Kadena Air Force Base in Okinawa averaged nine to twelve months from requisition to receipt on an order to the US. Now it takes about fifty days. In emergency situations, items can be delivered in as few as seven to ten days. The six-month's worth of inventory kept to make it through the long wait has been cut to about one month's worth.

While the direct beneficiaries of the SupplyCore solution understood the value of the new system, an independent study was necessary to accurately measure the success of the program. In its evaluation, KPMG visited three bases in Okinawa including Kadena (Air Force), Torii Station (Army), and Camp Butler (Marine Corps).

The three bases' total costs decreased 14% overall. Inventory levels were reduced, time and costs associated with materials management were minimized, personnel were redirected to more strategic issues, and products were delivered in a reliable and timely manner. Perhaps most importantly, the human element of purchasing and logistics costs went down 20%. Use of the MRO system made personnel more productive.

Each of the bases also saw a dramatic improvement in logistics response time—from 178 days to 52, with improved consistency of response time. Instead of using traditional military shipping, which often bumped MRO supplies in favor of higher priority products, the

prime vendor program used commercial shipping. With the commercial shipping, logistics response times improved while costs decreased and reliability skyrocketed.

Most impressively, work order completions for the Air Force 18th CE at Kadena increased 103% with implementation of the prime vendor program. Since SupplyCore provided materials consistently and reliably, craftsman had the materials they needed to complete work orders successfully.

Logistics professionals have a multitude of strategies to keep inventory costs in line. Match the strategy to your business needs.

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