

## Inventory Velocity and the Velocity-Driven Organization

By Carolyn Dunn

---

It may sound a little space-age or high-tech, but inventory velocity is a pretty simple concept—to turn the warehouse inventory faster than before. What gets a little more complicated is exactly how to do that. Thankfully there's a wide range of steps organizations can take to improve inventory velocity. From cleaning house to taking on an electronic tracking system, cutting the time your product is in the supply chain can quickly accelerate your cash flow and profits.

### Paring down the warehouse

“One way to improve inventory velocity is to identify and remove products that have become obsolete. If there is dust on the cartons, it is reasonable to assume that there has been no activity,” advises leading warehouse authority Kenneth Ackerman

When any inventory has not moved for the past 12 months, it is sensible to question why that product is even kept in the distribution center, Ackerman says. Some organizations maintain separate warehouses for extremely slow moving items that must remain in the line, and the distribution center is reserved for the currently popular merchandise.

Still, the first rule of improving inventory velocity: Any item that has not been received or shipped during the past 12 months must be removed from the distribution center.

### Streamlined supply chain

Supply chain consultant Brooks Bentz maintains the benefits generated by streamlining the supply chain and reducing the inventory and carrying costs dwarf the benefits produced by any other type of improvement.

“To truly take out inventory you have to work with your channel partners to find ways to totally remove it—not just relocate it,” adds Doug Christensen, CEO of logistics provider NAL Worldwide.

In the grocery sector, where profit margins often are in the single digits, organizations have reduced order-to-delivery cycle times to less than four days on average and are targeting even shorter cycle times of three days.

Leaders achieve such success, in part, by changing the way they view and manage inventory. This change takes four distinct forms according to Sridhar Tayur, CEO of software firm SmartOps. First, recognize that uncertainty is real and won't go away. Second, realize that uncertainty varies over time. Third, understand that inventory is a network problem, not a single stage or node problem. Finally, learn that inventory optimization is not a one-off issue.

As part of their inventory streamlining efforts, organizations constantly work to improve forecast accuracy. The best forecast in the world, however, won't make a difference unless the supply chain is predictable.

“What's really important in managing inventory is service predictability,” says Tayur. “Without a predictable supply chain, there's only one solution—buy more products further ahead of time. This leads to a repetitive cycle of excess inventory, lower margins and returns, and reverse logistics. If a company's supply chain is 21 days door-to-door and it hits that 99 percent of the time, it can ease up on buying.”

### A better view of the supply chain

Better visibility across the supply chain is critical to enabling predictability and improving inventory velocity. For example, if a category manager for shoes can see all inventory in the pipeline—not just what's in the distribution center but what's in transit, at the receiving port, on the vessel, at the port debarkation, at the consolidator in Asia, on the manufacture's shipping dock—he can make dynamic decisions about deploying inventory. If a trailer load of patent leather pumps is bound for New York, but

they are selling hot in Seattle and inventory runs out, the category manager can strip that container when it arrives at Long Beach and send half those shoes to Seattle.

“Visibility is important because knowledge of inventory in transit enables companies to better plan manufacturing, kitting, or assembly lines,” notes Claude Germain, COO of Schenker of Canada Ltd. “Knowing where products are, with a fair degree of predictability in transit times, allows companies to lean out the supply chain.”

For warehouse operations and order fulfillment, the most significant approaches to improving inventory velocity are based on inventory management practices designed to improve operator productivity. This allows the operation to respond rapidly to customer orders.

“Inventory accuracy is critical to all aspect soft supply chain management,” says Jon Chorley of Oracle Corp. “Supply chain visibility is compromised with inaccurate inventory.”

Better inventory management isn’t all about visibility and technology, however. There are other strategies and tactics that make a tremendous difference.

Factoring postponement into product design can help cut inventories. Dell, for example, has base desktop computer chassis sitting in vendor managed inventory waiting to be configured to orders. LL Bean stocks men’s pants in waist sizes and cuts the length only when it receives a customer order.

### **Doing it right at three places**

IBM has been in the process of transforming its supply chain for a number of years, shifting to a demand-driven integrated global operation. The company has done a lot of work around speed and responsiveness. For example, they used to capture an order and put a block on it until someone verified it. These manual processes could take three days to execute an order. Now, IBM can receive an order, schedule it within seconds, and begin executing right away. Over the last decade they’ve cut time to process a purchase order from one month to less than one day and saved more than \$2 billion.

John Deere adopted an inventory planning and optimization solution from SmartOps. The system gave Deere better data, visibility into actual demand and inventory throughout the pipeline, and tools to more effectively forecast consumption. They reduced total inventory by \$1 billion.

Like Dell, Plantronics’ strategy for optimizing inventory is to keep product in the facility at the generic level and configure it when an order comes in. “We can take a generic headset with no logo, customize it to order within 24 hours, and ship it to the retailer,” says Terry Walters, senior vice president of operations at Plantronics.

### **Perfect partners**

To really drive down average inventory and increase turns requires an integrated approach to the supply chain—and that means collaboration between supply chain partners.

At Dell, overall inventory turns were 91.25; in the factory, the turns were more than 500. Inventory is constantly in motion at Dell. This is achieved by a direct connection between the customer order, the supplier, and the Dell manufacturing and distribution operations. Each customer order triggers inventory delivery from suppliers and a work order release to the Dell factory floor.

Amazon.com is another prominent example of supply chain velocity in action. The Amazon.com business model fundamentally relies on leveraging transaction speed and inventory velocity. While inventory is received and stored in the warehouse an average of 19 days until shipped to the customer, the customer payments are received only three days later through credit card purchases. The net result is that Amazon.com is able to ship product, get the money from customers, and earn interest, all before having to pay the supplier.

### **Custom solutions**

“To increase inventory velocity, a holistic approach is necessary,” concludes Oracle’s Chorley. “There are a lot of interrelated components—from the basics of inventory management to the sophistication of inventory redeployment and collaboration. Every company has a set of options that will work best in their industry and circumstances.”

### **Resources**

“6 Common Sense ‘Rules’ Help Logisticians Manage Warehouse Productivity.” *IOMA Report on Managing Logistics*. November 2002.

Banham, Russ. “Amazon Finally Clicks.” *CFO.com*. March 15, 2004 (retrieved March 2006)

Harrington, Lisa. “Inventory Velocity: All the Right Moves.” *Inbound Logistics.com*. November 2005. (retrieved March 2006)

Zeiler, Jeff. “The Need for Speed.” *Multichannel Merchant*. April 1, 2004.

*Carolyn Dunn is a freelance writer working in Manitowoc, Wisconsin.*