

Strategic Supply Chain Execution

# MATERIAL HANDLING Management

December 2009

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## *The* **Audacity** *of* **2010**

Washington's legislative agenda could result in serious repercussions for material handlers.

p.10

**Equipment:  
The Way to  
a Profitable  
Loading Dock**  
p.21

**Technology:  
Smart Devices  
for the Factory  
Floor**  
p.28

**Label Printers:  
Beyond  
Product ID**  
p.31



# Improving Warehouse Profitability in Difficult Times

Reducing variable warehouse labor costs can improve profitability.

**By Chris Carey**

**W**e are in the midst of one of the most difficult economic periods. Third-party warehouse operators are especially hard hit as excess capacity has driven unit prices down and operators scramble to keep facilities fully utilized. The industry is experiencing a wave of deflationary prices not seen before.

Assuming that the costs of facilities and equipment are fixed, the single largest manageable cost is direct labor. During more robust times, operators who took a less-than-systemic approach to labor management could pass along inefficiencies to the market in higher prices and charges for ancillary services. As customers drive prices down, third-party logistics (3PL) operators are forced either to take dramatic action to raise productivity and lower costs or sustain losses until demand increases.

In a recent three-year study, my firm discovered that the application of customer lifecycle measurement tools, combined with redesigned business processes for labor management, produced a significantly improved level of profitability. The three warehouses in the study had similar customers and pricing and spanned 350,000 to 400,000 square feet, with average revenues of \$9 million to \$14 million. All had the same labor costs and used a core group of full-time workers, with temps for peak periods. In three years, with the application of productivity and labor management tools, the operators reduced the month-by-month variability of gross profit margin while experiencing a 27% improvement in gross profit (see Figure 1 on p.16).

To achieve these results, we worked with the managers in

each facility to modify business processes and apply tools for managing labor, evaluating client costs and profitability and pricing new opportunities. We eliminated prior approaches, which were based on gut feel and inaccurate information. Overtime was employed only when paid for by customers or as a solution of last resort. All the operators were able to increase profitability significantly while improving customer service (see Figure 2 on p.16).

These results were produced through a systemic approach to measuring, forecasting and budgeting. Your team can realize similar results if you follow this five-step process:

## **Step 1: Performance Measurements**

Evaluate every client account and define the number of distinct tasks for processing the business. Even with highly complex fulfillment operations, the task count should be as small as possible. You then can determine current productivity measurements represented as units per hour.

## **Step 2: Daily Forecasting**

Solicit your next-day activity from customers. How many units will you be receiving? How many units or cases will be picked, packed and shipped? Apply your productivity metrics to these tasks for the number of hours required to meet customer demand for the next day. Allocate the labor to each account, scheduling just enough workers to get the job done without overtime.

## **Step 3: Customer Profitability**

Start with customers' forecasts reported as monthly totals. Apply your unit prices to the estimated volumes to determine

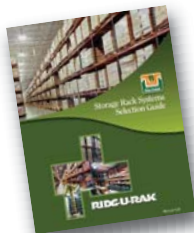


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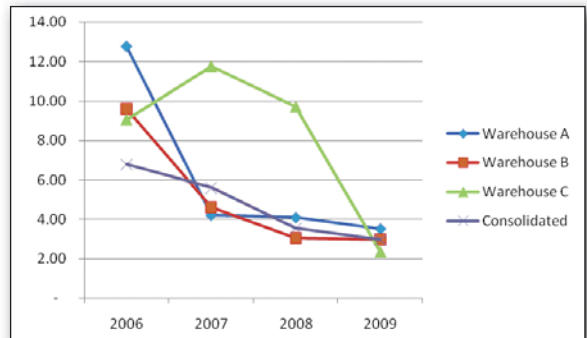
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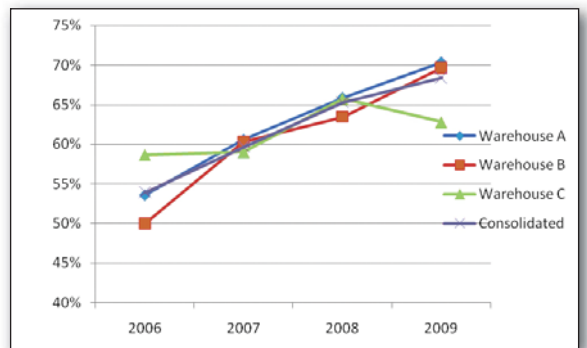
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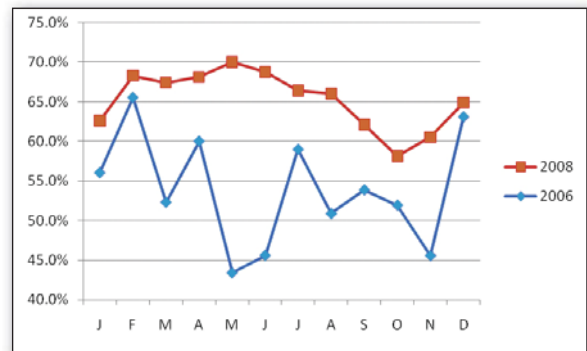
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**Figure 1. Reduction in variability of gross profit margin month by month.**



**Figure 2. With an average revenue model of \$10 million per year, these gross profit improvements resulted in an increase of \$1.4 million in profitability per DC.**



**Figure 3. Monthly gross profit performance, before and after the three-year study.**

monthly revenue.

Next, apply the labor productivity metrics to these volumes by month. With an average labor cost per hour (without overtime), you can forecast your monthly labor costs by customer.

Add to your model the average cost per unit of cartons and other supplies. You now have all variable costs and can determine your estimated

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gross profit for a client.

Develop an accurate CAD layout of your facility and assign the space allocated to each client on the floor. Chart your fixed personnel and the portion of their time devoted to each customer. You'll then have all fixed costs by customer and can estimate each account's net contribution.

#### **Step 4: Business Unit Forecasting**

Most 3PL operators have multiple clients in each warehouse. You can combine customer-costing models into one expanded spreadsheet to develop a business unit budget.

#### **Step 5: Estimating and Pricing**

You can plug new opportunities into your forecasting models. Apply the appropriate productivity metrics, supply costs and fixed costs to determine pricing based on forecasted net contribution.

Armed with this information, you can develop action plans to increase profitability. These could include:

- Productivity improvements;
- Labor cost reductions;
- Labor reallocation;
- Material and supply strategies for just-in-time and reducing waste and cost;
- Process improvements to eliminate design defects;
- Pricing changes and strategies;
- Determining what the market will bear;
- Pricing alternatives, such as "fixed with variable fees";
- Off-peak pricing scenarios;
- Better utilization of fixed assets;
- Changing layout to increase capacity;
- Mechanization to improve productivity and use of space;
- Customer mix;
- IT solutions;
- Warehouse management systems to improve information flow and use;
- Systems for space assignment.

The key is to reduce the month-by-month variability of labor costs, which by its nature, will improve gross profit. This improvement is best shown from our three-year study as a before-and-after monthly gross profit chart (see Figure 3 on p.16).

Changing the design of your business with detailed forecasting will take diligence. However, the potential for increased profits is well worth the investment of time and energy in this tough economy. **MHM**

Chris Carey is president of New York-based Chris Carey Advisors ([www.chriscareyadvisors.com](http://www.chriscareyadvisors.com)), which specializes in working with companies to increase profitability and improve performance.



**Companies that adopt lean flow in the warehouse are not only reducing inventories, but are also improving their service levels.**

**By Preston J. McCreary**

**T**he current focus of lean implementations in the warehouse—whether it be wholesale/retail warehouses, distribution centers (DCs) or the finished goods inventories of manufacturers—is the elimination of waste and the changing of business processes. However, applying a lean flow distribution strategy is about more than just eliminating waste. It is also about creating a replenishment strategy that focuses on pull, uses a statistical approach to sizing the right inventory levels and ensures the business reacts quickly to changes in demand. Implementing these types of lean flow principles to inventory models can greatly improve operations, inventory days of supply and much more.

Before proceeding, let's answer what seems like a basic question: What is the purpose of a DC or warehouse?

- To be able to ship product when it is sold. You can't sell it if you don't have it or quick access to it.
- To supply it to customers when they want it. This means high service levels, fill rates and on-time delivery performance.
- To keep costs low. Any cost of distribution or shipping is non-value added and takes profit directly from the bottom line. What is the biggest expense in the warehouse/DC? It's all of the finished product ready to sell, i.e., the inventory.

How does a warehouse/DC improve performance to achieve these purposes? One way is to employ a lean flow distribution strategy. However, with many traditional lean implementations in warehouses, there is so much focus on the elimination of labor waste and improving business processes