THE INVENTORY REDUCTION TRAP

By Dr. Albert D. Bates

During the Great Recession many distributors faced severely low cash positions. Seemingly, an implied consensus emerged among firms in the industry that running short of cash was not going to happen again. One result of this cash focus was a decade-long movement to lower inventory levels to free up cash. It is a movement that continues even now.

Programs that eliminated dead or redundant items to generate cash were highly successful initially. However, there has been an almost endless effort to keep reducing the inventory investment further. In too many instances the reductions have crimped service levels and probably resulted in lost sales.

This report will examine the nature of inventory reduction programs. It will do so from two distinct perspectives:

1. The Inventory/Sales Trade-off - An analysis of the break-even point for an inventory reduction that also results in a reduction in sales.
2. Inventory Reduction Guidelines - A discussion of the opportunities to reduce inventory without having a negative impact on sales.

The Inventory/Sales Trade-off

Most inventory reduction programs are predicated on the assumption that reducing inventory will have a two-pronged financial impact. First, the inventory reduction will be converted to cash to provide financial stability for the firm. Second, lowering inventory will increase profits because the cost of carrying the inventory will be reduced. There is seldom any consideration that the reduction in inventory could negatively impact sales.

Exhibit 1 examines the nature of the tradeoff between inventory and sales for the typical DHI member based upon the latest PROFIT Report. As can be seen in the first column of numbers, the firm generates $15.0 million in revenue, operates on a gross margin percentage of 30 percent of sales and produces a pre-tax profit of $300,000 or 2 percent of revenue.

There is also a memo item for the total investment in inventory. In the case of the typical firm, this is $1.4 million. It is a substantial figure. The idea of reducing inventory is enticing.

To understand the impact on both inventory and sales it is necessary to break the firm's expenses into three categories. These are Inventory Carrying Costs, variable expenses and fixed expenses.

The most important of these for analyzing inventory is the inventory carrying cost. The ICC is the cost of carrying inventory for a year. It includes interest, obsolescence, shrinkage and the like. It is typically estimated by inventory specialists to be around 15.0% of the inventory investment each year. Using that figure, the ICC is $210,000.

Variable expenses are the costs that rise and fall right along with sales. The most important of these is commissions. For purposes of the exhibit, variable costs are assumed to be 5 percent of sales, or $750,000.

Fixed expenses are overhead expenses. They are the costs that must be covered each year regardless of sales volume. For ease of calculation, they represent all of the remaining expenses, or $3,240,000.

The second column of numbers examines the impact of a 10 percent reduction in inventory. That is a sizeable reduction and would require concerted effort on the part of the firm. Inventory is becomes $1,260,000 due to the 10 percent reduction. The ICC also falls by 10 percent and is now $189,000. Sales, gross margin and all of the other expense items remain the same. As a result, the entire reduction in the ICC goes to the bottom line.

The final column of numbers looks at how much sales would have to fall to offset the profit impact of the inventory reduction. This simply means the sales decline necessary to return profit back to the original level of $300,000.

For the typical DHI member, the sales decline is only 0.6 percent. Sales, cost of goods sold, gross margin and variable expenses all fall by this percentage, while fixed expenses stay constant. As a result, profit falls back to its original level. The impact of even a modest decline in sales is pronounced.

The firm does continue to have its improved cash position, of course, even if sales do fall. However, in the long term cash is produced by generating sales at a profit. The inventory reduction effort has somewhat stymied that effort. This suggests that inventory reduction programs should be approached with caution.

EXHIBIT 1: THE TRADE-OFF BETWEEN INVENTORY AND SALES FOR A TYPICAL DHI MEMBER

Income Statement	Current Results	10.0% Inventory Reduction	BEP Sales Reduction
Net Sales	$15,000,000	$15,000,000	$14,916,000
Cost of Goods Sold	10,500,000	10,500,000	10,441,200
Gross Margin	4,500,000	4,500,000	4,474,800
Expenses			
Inventory Carrying Cost (15% of Inv.)	210,000	189,000	189,000
Variable Expenses (5% of Sales)	750,000	750,000	745,800
Fixed Expenses	3,240,000	3,240,000	3,240,000
Total Expenses	4,200,000	4,179,000	4,174,800
Profit Before Taxes	$300,000	$321,000	$300,000
Inventory	$1,400,000	$1,260,000	
Sales Decrease to Break Even			0.6%

Inventory Reduction Guidelines

Few analysts would argue with the idea that the inventory investment can be fine-tuned. Offsetting that is the almost universal desire of customers for distributors to actually *increase* their inventory investment.

The issue of what customers want from distributors has been researched extensively for more than four decades. Almost every research project reports the same top two desires of customers:

- **Enhanced In-Stock Position**—Customers continually argue that distributors are out of stock too often.
- **Greater Depth of Assortment**—Customers are also looking for the opportunity to engage in one-stop shopping.

Both of these approaches strongly suggest that distributors should carry more, not less, inventory. Reconciling this need with the desire to develop a strong cash position requires fine-tuning the inventory. Certainly, it cannot support the heavy-handed across the board cuts that are utilized too frequently.

The real solution is two-fold. This involves eliminating redundancies and continual sales monitoring.

Redundancies—Most of the problems with dead inventory can be attributed to redundant items. That is, there are slow-selling items that are basically duplicates of faster selling ones. In some industries the slow sellers are non sellers. There are large chunks of items that simply haven't sold at all in the past six months or a year. These need to be eliminated, even if it means selling them below cost.

Sales Monitoring—In a fast-paced world items move through their life cycle with greater speed than ever before. Today's great-selling item often becomes a good seller sooner all too quickly. Eventually it may be yet another problem item. Efforts need to be made to clear inventory as soon as the item is past its prime. If not, the entire excess inventory issue will arise again. Constant sales tracking is essential to this process.

Moving Forward

Firms face a continual challenge to maintain an adequate cash position, particularly as they increase their sales. However, efforts to increase cash by reducing inventory must be thought through carefully. Any inventory reduction program that reduces sales, or even diminishes sales growth, must be avoided. The trade-off is clearly in favor of sales over inventory. ■

DR. ALBERT D. BATES is Director of Research at the Profit Planning Group. His recent book, *Breaking Down the Profit Barriers in Distribution*, is the basis for this report. It is available in trade-paper format from Amazon and Barnes & Noble.