



REDUCING TOTAL INVENTORY COST

A Roadmap to Higher ROI

EXECUTIVE SUMMARY

Inventory represents a significant investment at many companies. While effective inventory strategies can elevate a company's performance, inventory is often misunderstood and under-measured. This paper identifies three simple questions that can be used to help reduce inventory investment without risking profit dollars. Thinking through these three questions – on inventories of raw materials, packaging, and finished goods – can yield improvements in inventory return-on-investment.

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INTRODUCTION

Businesses succeed by selling more products at better margins. The best companies fuel their growth and margins by mating outstanding market and consumer insight with effective product development and robust supply chain and operations practices. Inventory management and inventory strategy are key elements of these operational practices.

Inventory is a significant asset on the balance sheet of manufacturing companies. Depending on the industry sector, inventory can represent 10% to 20% of total assets, with inventory of packaging supplies often representing a sizeable portion of this value. Further, the effectiveness with which a manufacturing concern handles its inventory is closely tied to overall financial success. A 2009 study published in the International Journal of Operations & Production Management, for example, showed a significant positive correlation between financial performance and inventory performance (see On the Relationship between Inventory and Financial Performance in Manufacturing; you can locate this article at: www.emeraldinsight.com/journals.htm?articleid=1800686).

Building the optimal inventory strategy is complex, but answering three simple questions can help illuminate ways to reduce inventory investment without risking profit dollars. Addressing these three questions – on inventories of raw materials, packaging, and finished goods – can yield improvements in inventory return-on-investment (ROI).

1. HOW MUCH DOES YOUR INVENTORY COST?

Most of the time, the true costs of inventory are underestimated and incomplete. Many companies view the cost of inventory as the “cost of capital” of the inventory asset. So a company with \$15 million in average packaging inventory and an 8% cost to raise money (the blended rate of the return needed to pay stockholders, bondholders, and/or private parties to borrow money) sees a carrying cost of \$1.2 million per year. But the actual cost is far greater than just this cost of capital. Consider the following costs associated with holding and handling this inventory:

DIRECT INVESTMENT EXPENSES

- The cost of capital invested in the inventory (as discussed above)
- Insurance on the inventory
- Yearly loss stemming from pilferage and shrinkage
- Yearly loss stemming from obsolescence

COST OF HOUSING THE INVENTORY

- Depreciation or rent on the building holding the inventory (or the portion of the building used for inventory)
- Heat and utilities on the building holding the inventory
- Janitorial, security, and routine maintenance on the building
- Taxes and insurance on the land and building
- Cost of capital invested in the land the building sits on

HANDLING OF THE INVENTORY

- Depreciation or rent of material-handling equipment (e.g., forklifts)
- Direct operating costs of material-handling equipment (e.g., propane tanks)
- Employee costs to receive, stack, and maintain materials
- Freight and transportation costs borne by the company

ADMINISTRATION AND MEASUREMENT EXPENSES

- Employee costs to account for and measure the inventory
- Top management time spent on solving inventory issues

COSTS OF SYSTEM FAILURE

- Lost business and profits or impaired goodwill from improper management or late delivery of materials

When these additional costs are taken into account, the total cost of holding inventory can represent 25-30% of the inventory's book value. For the company with \$15 million in packaging inventory, that translates into holding costs of \$4.5 million per year – about 4 times higher than the cost-of-capital calculation. The bill can climb even higher if improper inventory management is involved.

Getting an accurate measurement of what inventory truly costs is a smart first step in enhancing inventory ROI. Then attention can turn to defining the right amount of inventory to carry in the system.

2. HOW TO RIGHT-SIZE YOUR INVENTORY?

Finding the right stocking levels involves balancing many factors. Having too much inventory leads to unneeded costs, but having too little risks stock-outs and difficulty meeting customer demand.

Four elements are included in the calculus of how much inventory to carry. The discussion below uses examples related to packaging inventory, but the same logic applies to raw materials and finished goods.

EXPECTED DEMAND

Overall, how much of a package is needed in a year? Past history may be a guide, but the best efforts include a thoughtful forecast given the planned marketing or sales initiatives and a look at the latest demand indicators. Because this exercise should be done at the product-line or SKU level, this is a tricky but critical process. Getting it right defines the total buy, but not how much to carry at any one point.

ORDER FREQUENCY

The more frequently you can order, the less inventory you need to carry as you can replenish more regularly. But more orders can lead to higher piece-prices (as one large buy is broken up to many smaller buys) and more freight costs (as one truck-load receipt is turned into multiple LTL receipts) and

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may violate vendor minimums. On the other hand, the less frequently you can order or replenish, the greater the inventory level required to meet a certain demand.

LEAD TIMES

If you can order a package on Tuesday and receive as much as you need on Wednesday, then lead times are simple and not a factor. But often lead times can be long and variable. Lead times may vary for many reasons: type of product (commodity vs. unique part), number of potential suppliers (few vs. many), locations of the suppliers (e.g., domestic vs. international), and buying power of the purchasing company (market mover vs. tiny player). Longer lead times require more precise planning, causing many companies to opt for higher inventory levels.

SAFETY STOCK

The more uncertainty there is in the supply chain, the greater the cost of failure and – therefore – the more likely a company will want to carry more inventory or safety stock. Uncertainty can come from many factors, including variability in supplier lead times as well as quality concerns or unevenness. Inability to manufacture due to input stock-outs leads to a “cost of failure” such as customer/retailer dissatisfaction, consumer loss of loyalty, and overall brand impairment. Safety stock is an insurance policy against risks in the supply chain or miscalculations in inventory planning.

Identifying the amount of inventory to have on hand does not mark the end of inventory optimization. There are still ways to drive down inventory on your balance sheet by finding other places to locate the assets.

3. WHERE BEST TO PLACE YOUR INVENTORY?

Your own warehouses or manufacturing plants are certainly places to locate inventory. These locations offer the highest levels of visibility, control, and ownership. But they also come with the high carrying costs outlined earlier.

There are two other partners that may be able to accept your inventory and provide a better balance of costs and benefits. First, for finished goods, you may be able to push inventory downstream to your customers. For differentiated products in high demand and with little pricing risk, this may be a real option.

Second, for packaging and raw materials, you can look to your suppliers. Not all suppliers are adept at managing inventory; you need a supplier you can trust who also has operational expertise, financial stability, and the same goals as you. Indeed, a thorough vetting process is required.

But the right supplier can inventory your packaging (for example) and, with proven and reliable just-in-time delivery, substantially lower your inventory and subsequent carrying costs. With lower assets (less inventory) and higher profit dollars (lower carrying costs), your overall return on assets can improve dramatically.

A large red square containing the white number "5".

Take the earlier example of the company with \$15 million invested in packaging inventory. What if a supplier can reliably take half that inventory, store it at a nearby warehouse, and ship it to the company in daily releases? With a 30% carrying cost, the supplier has just saved their customer over \$2 million annually. This is real partnership and value creation.

GETTING STARTED

Effective inventory management is a cross-functional issue. From finance to marketing, sales, procurement, manufacturing, and warehousing – touch points across the entire organization have a role in building and applying a system to improve inventory ROI.

This cross-functional team needs to consider three fundamental questions in regards to packaging, raw materials, and finished goods inventories:

1. How much does your inventory cost?
2. How to right-size your inventory?
3. Where best to place your inventory?

Each business has different dynamics and imperatives. Answering question #1 will help prioritize inventory optimization in light of other corporate needs. Then functional expertise can help unlock the savings opportunities presented in questions #2 and #3. But be sure to keep your mind open to new paradigms and opportunities for partnership across the supply chain.

SUMMARY

Inventory planning and management are neither simple nor sexy, but they can play a critical role in a company's success. Given the enormous amount invested in inventory (over \$600 billion in the United States across all manufacturing firms as of Q3 2010) and the often-underestimated cost of holding this inventory, a company can elevate above its competition through smarter inventory strategies.

The actions outlined in this paper – quantifying your true carrying cost, defining the right amount of inventory to carry within the system, and then locating that inventory across your suppliers, you, and your customers – provide a simple roadmap to higher ROI. There are pitfalls along the way, but with vigilance and the help of experts and partners where needed, you will be able to capture profits and efficiencies that boost your bottom line.

ABOUT BERLIN PACKAGING

Berlin Packaging is North America's premier Hybrid Packaging Supplier of plastic, glass and metal containers and closures. With over 33,000 available SKUs, over 100 packaging consultants, and more than 80 sales and warehouse locations across North America, the company has the right products, expertise, and geographic proximity to help customers increase their net income through packaging products and services. Berlin Packaging supplies billions of containers and closures annually as well as warehousing and logistics services for customers of all sizes in all industries. It is the only company in its sector to be ISO 9001 certified, to have Customs-Trade Partnership Against Terrorism (C-TPAT) certification, and to achieve 99% on-time delivery of its shipments every month for over six years. Related services include Studio One Eleven, a full-service custom packaging and graphic design division; Berlin Global Packaging Group, a global sourcing solutions provider including custom packaging, order and quality management, and logistics; E3, a consulting division that helps customers unlock profit; Berlin Financial Services, which provides financing for equipment and capital improvements; Dangerous Goods, offering safe, economical, UN-certified packaging solutions for shipping dangerous and temperature-sensitive goods; Freund Container & Supply, a need-it-now packaging and industrial supplies provider with no minimum order requirements; and Qorpak, a global supplier of laboratory packaging and supplies. The company can be reached at 1-800-2-BERLIN, BerlinPackaging.com, and on LinkedIn and Twitter.