



WHITE PAPER

Understanding the True Cost of Inventory

Best Practices for Reducing Costs & Managing Inventory

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There are many conflicting opinions concerning inventory management. Minimizing lead times while reducing costs is a daily juggling act that all procurement and inventory management professionals face. While there is no silver bullet or quick fix to this complex issue, there are ways to better control your inventory without sacrificing service.

Too much vs. not enough inventory

Companies seem to have a love-hate relationship with this necessary evil. On one hand it is a constant reminder of the cost of money, while on the other it is a necessity whose importance goes far beyond its cost. Companies need enough stock to get product to market faster, increase market share, capture opportunistic sales, and ultimately exceed their customers' expectations.

Inventory is not just an up-front cost. It actually becomes increasingly expensive over time – especially if the inventory turnover rate is low (frequency with which a company liquidates or sells all inventory before replacing it). The longer a company holds its inventory or is unable to sell it, the more costly it becomes. What makes the situation even worse is the fact that most companies are unaware of and/or fail to measure the true cost of their inventory.

Procurement professionals operate in a calculating, number-crunching world where their success is measured mainly by their ability to minimize unit costs while still meeting the immediate requirements of sales. Unfortunately, many companies do not understand the real cost of inventory, and so purchasing departments tend to rely on two popular techniques to mitigate their inventory cost:

1) Using a method of spot order fulfillment, which entails purchasing only what's needed to fill that particular order. This often limits a company's ability to use economies of scale and bulk purchasing power to negotiate better pricing. This can also lead to delays, if the product is not readily available, or high freight costs for rush shipments.

2) Compromising their selection criteria for good suppliers by purchasing the cheapest available option. This can negatively impact quality, service and delivery.

These approaches will often limit a company's ability to put its best foot forward in price negotiations with its suppliers, and will inevitably put them at the bottom of the priority list when it comes to being serviced.

In order to address the issue of inventory costs and how to reduce it, we first need to properly identify and understand the real costs of inventory. This includes a number of factors that often go unmeasured.

To illustrate the severity of some of these factors, we have put an estimated dollar value on each cost. Consider the example on the following page, which is based on \$1,000,000 worth of inventory and \$5,000,000 in annual sales.

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CATEGORY	\$ ANNUAL COST	% COST*
Freight costs: If inventory is not available you must pay for expedited orders and rush shipments to your customers.	\$15,000	1.5%
Lost business due to late deliveries & lack of inventory: Estimate that 2% of those customers are going to leave to buy elsewhere due to lack of inventory and poor service.	\$20,000	2.0%
Overtime in shipping & receiving: Employees need to arrive early or stay late to meet customer demands due to a lack of inventory or late deliveries.	\$15,000	1.5%
Cost of money: To sustain an adequate inventory level assume you borrow \$1M at 7.5%*	\$75,000	7.5%
Inventory damage: Estimate \$25,000 of inventory lost to poor handling and storage methods.	\$25,000	2.5%
Cost of managing idle parts: Products with strong sales histories that suddenly stop selling and remain in inventory.	\$30,000	3.0%
Dead stock: Products forecasted by sales that are no longer required due to obsolescence. These are often sold at a discount or scrapped – a cost that is often hidden or ignored.	\$20,000	2.0%
Warehouse cost: Cost related to rent, maintenance, electricity, general utilities etc...	\$60,000	6.0%
Extra warehouse space: Assuming 20%-30% of your warehouse space is occupied by dead or slow-moving inventory, you must rent additional space to meet the demand of faster-moving products.	\$30,000	3.0%
Cost of managing excess inventory: Costs include overtime spent handling, counting, and managing excess inventory.	\$10,000	1.0%
REAL INVENTORY COST	\$300,000	30%

(* rates subject to fluctuate)

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Not all companies face the same issues, but all are surprised to find that their inventory is costing them more than they would like in ways they never anticipated. Inventory cost is not simply the unit cost of the item, but includes all of the items listed above as well.

Now that we have properly identified a company's true cost of inventory, we can analyze how to reduce that cost. Companies typically use rough estimates to figure out their cost of inventory. As we have shown above, the standard rule of thumb is roughly 30% of inventory value on hand. More importantly, managing idle parts represents 3% of that cost. This is not to be confused with dead stock. Idle stock can be defined as products that have a strong sales history, albeit cyclical, but suddenly stop selling and remain in inventory for extended periods.

The question everyone wants answered is: "How can I reduce my inventory costs, minimize inventory levels, and at the same time be able to respond to the immediate demands of my customers?"

The best way to do this is to create a synergy and cooperation across all key contributors to your supply chain. More than just standard terms and conditions, you need an agreement that will minimize the lead time for stock replenishment. Limiting your stock replenishment time will result in less "emergency freight costs" from your supplier, and will also limit the number of rush shipments you must make to your customers due to late deliveries.

As mentioned, your inventory cost is made up of more than just the cost of the product. Freight cost to and from your warehouse is a huge component of your overall inventory costs. Finding ways to limit the impact of this cost will help your bottom line. The Blanket Order / Kan Ban Hybrid is an ideal way to accomplish this by ensuring the agreements with your suppliers limit your lead times.

Blanket Order / Kanban Hybrid Strategy

Under this type of agreement your supplier will maintain an agreed upon finished product inventory for you. These are products that are completely packaged and ready to ship. Your supplier will also maintain semi-finished product ready to replenish the finished product inventory, thereby minimizing your future stock replenishment time. A good rule of thumb is a 2:3 ratio. This will account for any unforeseen spikes in demand.

The time needed to convert the semi-finished product inventory into finished product inventory should be no more than a week. When negotiating inventory volumes you should try and come as close to your supplier's EOQ (Economic Order Quantity) as possible. This is the volume whereby any additional amount ordered, does not lower their costs or your price. It may not be possible to always reach this amount, but discussing it up front with your supplier will help open the door to lower pricing. Purchasing one widget at a time for ten straight days will never be as cost effective as ordering ten widgets in a single shipment.

**FINISHED
PRODUCT INVENTORY**



10 units ready to ship

**SEMI-FINISHED
PRODUCT INVENTORY**



10 semi-finished units



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What does a Blanket Order/Kanban Hybrid agreement mean for your company?

1) You must commit to a fixed quantity of finished product inventory for each shipment. Since you own this stock and are in charge of this quantity, you can limit your exposure to risk. As part of the agreement, your supplier will be responsible for maintaining a consistent inventory of both finished and semi-finished product as a key contributor to your supply chain. For this strategy to be successful, however, you cannot change these volumes at a moments notice since it will no longer be a win-win situation for both parties.

2) The finished product inventory is a “closed sale” for your supplier, meaning these products are a guaranteed sale – although when they will be shipped and invoiced or how long they will be held is up for negotiation.

3) You will monitor your own quarterly sales volumes and confer with Sales and Inventory Management, before suggesting any changes to these volumes with your supplier.

4) If possible, it will involve regular visits to your supplier to ensure that your inventories are being maintained. Any failure by your supplier to maintain these levels or any shipment that is lower than the agreed upon finished product inventory would result in a penalty that could equal your 2-3% cost of managing idle parts.

Remember, your supplier is going to put aside product for you that could otherwise be sold to a competitor, so don't give them a reason to do it. Respect the agreement in place, because in the end, you want to deal with well managed companies who understand the importance of partnership. Lead by example and weed out the weak performers.

How does this help?

1) It will better control freight costs and ultimately lower a key cost of your inventory.

2) Using both finished product and semi-finished inventory levels will strengthen your negotiating power. Volumes are a powerful tool.

3) It could actually save you the 2-3% cost of managing idle parts as your supplier will share the burden of your inventory costs.

4) It will reduce the risk of damage to your inventory, which we have shown can represent 2.5% of your inventory cost. As long as the inventory remains at your supplier, they are responsible for any damage incurred to it.

The End Result

Freight cost represents a huge portion of your inventory costs. Using the approaches mentioned in this article across your entire inventory will result in significant overall savings. Reducing your cost of inventory coupled with minimizing your product to market lead times for your clients, is a realistic goal. Identifying the areas where you can use these practices, will result in being more efficient and effective in your inventory management practices.

You may not be able to use this approach with your entire inventory, but identifying those areas in which you could, may result in significant savings.

For the average Fortune 1000 company, a 5% decrease in supply chain management cost translates into a \$20 million increase in profits. Even if you're not working for one of the big guys, there is a common yardstick measurement for cost savings that translates into real profit. One dollar saved in cost (total cost of ownership) translates into an average of \$8 in direct profit. That's an 800% return!

Best in class companies (defined as the top 20% in efficiency by the Performance Measurement Group) spent only 5.8% of their expenses on their supply chain, compared to the average 12.2%. Are you losing 6.4% straight off your bottom line?

Be on the lookout for our next article as we examine the role of an Asset Manager and how they can have an even bigger impact on inventory cost reductions.

For more information on improving relationships with suppliers and negotiating stocking agreements, please read the article *Just-in-Time? Not so fast.*

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About Vicone

Vicone High Performance Rubber is a leading edge company specializing in a select group of high performance rubber products for the industrial manufacturing market. The company's value-added consulting services, procurement expertise, and extensive knowledge of the rubber industry are helping customers design, specify, prototype or troubleshoot new and existing products. Vicone draws on over ten years of experience to ensure top quality products, unparalleled customer service and 100% Just-On-Time™ delivery for the lowest total cost of ownership available.

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