

LEAN THINKING IN WHOLESALE DISTRIBUTION...



The Future of Inventory & Supply Chain Management & Execution For Wholesale Distributors



*A Thought Leadership White Paper
By
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Where Are We Today?

Wholesale Distributors have been in the business of managing their inventories for years...even generations. Yet most appear to be satisfied with the typical 3 to 4-inventory turns a year (some a little more, some a little - or a lot less). Frankly, I don't understand why this is acceptable in an era where profits, cash flow and competitive advantage are critical success factors.

Incremental change in the way wholesale-distributors manage inventory and their supply chains has often been a safe, but very slow process. Incremental change has often forced them to make changes only from an existing foundation. I believe we need to step back, consider a more strategic approach and one that “changes our thinking”.

There is a substantial amount of inventory, and cost, in distribution; therefore it should be a natural target for all kinds of continuous improvement efforts. Unfortunately, certain assumptions have also been made and built into the fabric of wholesale-distribution organizations and their supply chain processes and systems. For instance, freight savings goes directly to profitability improvement and encourages an ongoing emphasis on reducing freight costs (maybe by ordering more). Traditional cost savings efforts and tactics have often been focused on these narrow individual considerations, call them “disconnected optimization silos”, at the expense of **real** improvement in inventory turns. While the purchased unit cost is low, the decision to buy may actually turn out to be very costly in the long run; using valuable space to store it, monitoring and cycle counting the

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inventory, maybe some obsolescence and/or shrinkage along the way. The total cost gets completely lost in the total financial picture.

The same goes for other commonly used inventory management tactics; like eliminating/reducing slow-moving and obsolete inventory, improving your technology utilization, A-B-C stratification (“ranking”), EOQ’s, fixed or variable lead-times or safety stock parameters, cycle counting (to improve on-hand balance accuracy) and...oh yes...forecasting. Surely, focusing on these traditional tactics are good candidates, yet, I believe, that changing the way you think, and improving your inventory and supply chain **strategy**, can have a more positive impact.

How is it, that despite newly installed and/or upgraded ERP systems, many wholesale distributors still experience too much inventory, not enough of the right product at the right location, the constant “re-balancing” of inventory between their stocking locations, and yes – **only** 3 to 4 inventory turns?

There are huge savings that can result from improving inventory and supply chain practices. Just by improving one (1) turn, a typical wholesale-distributor can save hundreds of thousands of dollars; over and above the cash-flow implications! Consider this example:



XYZ Company

Cost of Goods Sold	\$20,000,000
Total Inventory Value (average)	\$ 5,000,000
Days of Inventory	91
Inventory Turns	4.0
Annual Carrying Cost	\$ 1,000,000
Cash Tied Up in Inventory	\$ 5,000,000
If “XYZ” increased their Turns by “1”	
Your Inventory Turns	5.0
Days of Inventory	73
Annual Carrying Cost	\$800,000
Annual Carrying Cost Savings	\$200,000
Cash Tied Up in Inventory	\$4,000,000
One Time Cash Savings	\$1,000,000

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What Is The Change In Thinking?

For the first time in years, Inventory and supply chain planning for the wholesale-distributor and their suppliers is undergoing a most fundamental change! A major development is finally moving from “talk” to practice. If you are a wholesale distribution leader and/or have any involvement in supply chain management, and with your Enterprise ERP system, you would be wise to catch up with this. And yes, there is something in it for your manufacturers/suppliers too!

Many years ago our ERP systems evolved beyond utilizing manually set fixed reorder points and reorder quantities. The big conceptual breakthrough was the advent of methodologies exactly like, or similar to, what was described in *“Distribution Inventory Management (for the 1990”s)”* by Gordon Graham and the MRP (materials requirements planning) systems used by manufacturers. Software developers latched on to it as the primary “engine” contained in several popular ERP inventory and purchasing modules. Yes, it was an improvement - but has remained essentially unchanged.

In practice, it relied heavily on demand forecasts to drive inventory planning and reordering, and used safety stock inventory to mitigate variability in demand forecasts (forecast error) and lead-times. The results were better, but I believe still resulted in “more inventory than you need immediately”. By focusing on “how much inventory we have”, we sacrificed a focus on - “where inventory should be”, particularly in terms of distribution center and branch warehouse inventory replenishment, how wholesale distributors go about ordering product from suppliers, and how suppliers react.

Along the way, “other passes on improvement” have been attempted, at least in part as a desire to obtain some better outcomes. Often, oversimplified versions of Just-In-Time (JIT) appeared, taking its’ queue from the quality management and lean movement in Japan in the 1980’s. JIT relied on simple “demand signals” from customers - to suppliers up and down the supply chain. JIT looked at inventory as “waste”, as opposed to an asset, and sought to minimize it - by minimizing the variation in demand and supply, as well as reducing re-order quantities. But its’ emphasis on just inventory reduction, a lack of a systems-wide view of inventory, and an incomplete planning equation often created an inflexible supply chain subject to disruptions.

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Embracing “Pull” Inventory & Supply Chain Management

Strategy

Fortunately, something did emerge from all of this. If not completely new, it built upon and extended some of the best features of JIT as well as from the lean movement. Called **“Pull Inventory & Supply Chain Management”**, it sought to align efforts and resources as close as possible to actual customer demand, while at the same time providing more visibility to the total inventory requirements and inventory status across the entire supply chain. It didn't necessarily view inventory as waste nor did it seek to establish safety stock levels in some static way. **Rather it sought:**

- **to hold the right amount of inventory, at the right place in the supply chain, to promote inventory flow (pulling inventory, not pushing inventory), while minimizing working capital**
- **to size and dynamically adjust stock positions based on focusing heavily on the “inventory drivers”**
- **to reduce the emphasis on that elusive goal of forecast accuracy in driving supply plans; instead demand was driven almost entirely by actual customer demand – often called the “buy signal”**
- **a “new collaboration” approach with manufacturers/suppliers in sharing “buy signals”; in other words fostering the opportunity to share data**

These are just a few of the key concepts. Now, are you thinking; **“Pull Inventory & Supply Chain Management”** is just a nice theory? Not so. The benefits have been amply demonstrated in several industries. The problem is, that many wholesale distributors and their suppliers think they are a lot different – as opposed to thinking; **“supply chain is supply chain – no matter who you are”**. As a result, they have settled for incremental improvement - rather than more radical change - not learning from the “new chapters” in supply chain management and accelerating the time-line for adoption.

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The Forecasting Facts of Life

Now, I'm not suggesting that we do away with demand forecasting, but the current practice of demand forecasting, as a business process, seeks to use forecasts as a way to optimize the distribution of product to customers and among company locations (warehouse/DC and branch warehouses) as well as providing for an inventory ordering/replenishment plan from suppliers. These forecasting processes or models tend to **push** product downstream, closest to the customer; on the surface, a great idea. But, there are some real "facts of life" to consider. The fact is; that for more than thirty years, companies have focused on improving forecasting accuracy; **yet forecast variance is still rarely less than 20%**. Have you measured it recently? The fact is; that the narrower the aggregation, the worse the answer becomes; meaning that the question of "how much will I sell of a product overall" will provide a better answer than the question; **"how much will I sell of the product at a specific location.** The statistical truth is; fluctuations among locations average out in the aggregate.

For instance, if you are a distributor with, let's say, 10 different stocking locations, and asked someone to predict sales of a product, we might get an answer that sales, for a product in an average location, will range from 10 to 25 units per day and amongst all locations in total, maybe 100 to 250 per day. If we just looked at the highs and lows at each location, an even different picture would emerge. What are we to believe? Then add to all that, **how much inventory** do you keep at a central DC and how much at each branch?

So the forecast of a single SKU, at a specific location, is subject to these "facts of life" – fluctuation and uncertainty – and as a sole factor, as an inventory driver, it can be unreliable for determining the stock level of a SKU - at a location.

Now, as a wholesale-distributor, don't you really want to answer three basic questions?

1. How much inventory do we order from our vendors?
2. How much inventory do we keep "upstream" at our Distribution Center (DC)?
3. How much inventory do we keep "downstream" at our branch warehouses?

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A Strategic Approach

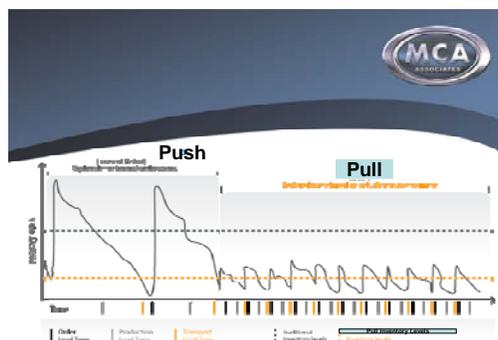
Each link in a “**Pull Supply Chain**” is meant to concentrate on improving speed of replenishment and ordering smaller quantities – more frequently. Pull uses “actual demand data” to drive replenishment from the source. Only immediate customer requirements are drawn from the protective inventories upstream (DC or Supplier). The preponderance of inventory remains further up the supply chain, closer to the source (exactly where there is less statistical variation and less safety stock!).

By acting on actual demand, statistical variations are minimized rather than magnified. The very nice consequence of the latter is - less safety stock – due to where inventories are predominately held.

So what if you took a more strategic approach by focusing on two initiatives?

1. Managing and constraining the major “inventory drivers”
2. Creating a “continuous flow” of product from supplier > to distribution center > to branch warehouses – **increasing the velocity of the supply chain.**

To illustrate, take a look at this picture:



Now here’s a picture truly worth a thousand words! Notice the right side of this picture? **Average inventory is lower. Inventory peaks are lower. The inventory “lows”, on the right side, is actually higher than those on the left side.** Why these results? **Because, inventory replenishment is occurring more frequently to start**

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with and because of a constant flow of inventory – shortages can be reduced (improving service levels).

So recognizing all this, your focus should turn to a **strategy of focusing on these major “inventory drivers”**:

1. Using “actual demand” to drive immediate replenishment needs
2. Shortening replenishment order frequency
3. Shortening actual replenishment lead times
4. Reducing order sizes
5. Minimizing safety stock needs – this results from #1 thru #3

Think about it; it’s nothing “high-tech” to do. **Steps 1 thru 4 foster replenishment cycles that will occur more often – plain and simple. Less safety stock, #5, is the result, as well as a significant and added benefit. Why? Less vulnerability to demand variance.**



The Outcome – Replenishment Aligned With Actual Demand

This strategy change results in three major outcomes:

1. A “continuous flow” of product, rather than those high peaks you saw on the left side of the picture above
2. Improved demand accuracy; now there is more reliance on what customers have **actually bought** during the replenishment cycle
3. Safety stock is reduced/minimized because you are reacting to **actual demand**. More like “just-in-time”, rather than “just-in-case”.

The major overriding difference of our new strategy – is that we are now “Pulling” inventory between supplier, DC and branches, rather than “Pushing” it.

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This “Pull mechanism”, from a supply chain perspective, is what we want to “connect” to, throughout the total supply chain; between suppliers, our DC’s, warehouses, and branch stocking locations. **“Pull” is an important linkage that synchronizes the supply chain to actual customer demand.** Focusing on the inventory drivers, and this linkage, in wholesale distribution supply chains is what results in significantly improved inventory turns - and the positive cash-flow impacts.



Moving Forward

So, if you will consider a real change in your thinking; then you will want to think about inventory as an orphan – ugly enough not to be adopted. **Think strategy, not tactics.** You shouldn’t have to accept 3 to 4 inventory turns as the norm any longer! An effective supply chain is not just about technology, **it’s about the process. It’s not a technology project, but rather a business project. It’s about doing the right things.**



The Future?

If there is any obstacle to the adoption of this new inventory and supply chain thinking, it will be “the change in thinking” by wholesale distribution leadership and the general level of supply chain skills required of purchasing, inventory and supply chain managers to execute. Conceptual education will surely be one of the keys – not just some eventual software training. Understanding the impact for both wholesale-distributors and their suppliers will be another; finally an attempt at a win-win relationship through flexibility in their supply chain delivery approach, the sharing of information and a true alignment of interests.

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Inventory and supply chain management at all channel levels is going to be an even more critical objective. Of course it has always been important, but will become more critical, **competitively**, as some companies adapt...and others don't. This is no longer just a back-office function consideration. It's about competitiveness and your company's resource management; its' impact on profits, cash flow and customer service levels.

I believe enterprise software vendors are going to move pretty quickly to begin to incorporate, more fully, these concepts into their systems. But, even before they do, **there are several steps you can take right now**, with little or no software support!

Implementation of "Pull" in your supply chain doesn't have to feel like a larger than life decision. Spend a little more time thinking about the entire system. Start slow; Take the right steps. Make the right decisions.

For more on this topic, request the two additional "white papers", described below, that explain the "how-to" (it's not about technology and/or software), **including the impact on supplier relationships** as well as some other critical success factors to consider. They describe **what you can do right now!**

- ***Lean Principles In Wholesale Distribution Supply Chains Do You Pull or Push?***
- ***You Know Your Supply Chain Needs To Be Updated When... The Business Intelligence & Supply Chain Management Challenge: Create Profit, Service Level & Working Capital Improvement***

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