Operational Excellence in
Wholesale Distribution

Lean Principles In Wholesale Distribution Supply Chains
Do You Pull or Push?

A Thought Leadership White Paper
By
Howard W. Coleman & Jack McGowan

Part 1 - Introduction

Strategic & Executive Overview – Looking At The Supply Chain In Total

Some recent client engagements have brought to mind Einstein's quote – "Doing the same thing over and over expecting different results, is insanity."

Whether forced to, or by choice, some major corporate entities are changing how they conduct their businesses and are evaluating the landscape they operate in – looking for ways to change it….change meaning speeding up, eliminating waste and redundancies, new partnerships, new types of relationships, etc. Everything is being evaluated. Now, just because these entities are measured in billions, and you're not, isn't any reason why you shouldn't be doing the very same exercise.

The development cycle for "supply chain" concepts and methods has traditionally come from larger corporations, actually many in retail, who have invested millions in business process re-engineering, software, and I/T, as a platform to conduct their business. What happens is that these "new chapters" in Supply Chain are then passed along from company to company, for years, and then "elements" of the new developments leak down to different industries and smaller sized business entities. This slow progression often takes fifteen to twenty years, during which the benefits may be lost to you.

Accelerating The Time Line

We don't believe it should remain this way. There is a need to accelerate the time line. There are developments going on, currently, that you should be aware of and should be considering for your operations. For example:

- Changing from "Push Replenishment" models to "Pull Replenishment" models
- Viewing costs for the whole Supply Chain and not just for some elements of it
- Entering into truly collaborative relationships

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- Viewing your distribution network from the product source all the way to your customers

This “incremental change” that often occurs has been safe, but very slow and a long time coming. This incremental change, though, forces us to make changes only from an existing foundation. We must step back, look at all the development work that has been done, take advantage of the investment of others, and use them to leverage your own businesses; **consider it radical versus incremental change**. Remember, “Supply Chain is Supply Chain”, regardless of the industry you are in; there’s inventory, moving it, storing it, and getting it to the customer. It doesn’t matter if you are a retailer or a wholesale distributor, the principles are the same. Not so long ago there weren’t any company positions titled, “Supply Chain _____.” Today, many companies have such a person or persons on their teams.

This white paper is intended to describe a different approach, for the wholesale-distributor, to product inventory management, distribution and supply chain issues, by incorporating “Lean Principles” to transcend many of the ingrained business processes and “roadblocks to improvement” that exist, and towards the goal of reducing inventory and supply chain costs.

In many cases, certain assumptions have been made and built into the fabric of our organizations and processes, without being fully challenged. “Lean Principles” can bring these to light. There is a substantial amount of cost and inventory in distribution; therefore it is a natural target for all kinds of profitability improvement efforts. For instance, freight savings goes directly to profitability improvement and encourages an ongoing emphasis on reducing freight costs. As a result, traditional cost savings efforts have been focused on narrow individual “components”, one of disconnected functional silos, possibly sub-optimizing the overall Supply Chain; rather than starting with the “total” and working back to those individual components, how they are processed and executed, and fit within your inventory, distribution network, and supply chain strategies.

The approach outlined in this white paper is to radically move supply chain thinking forward, by skipping the incremental development, within the wholesale distribution arena, and to begin looking at the supply chain in total; what it potentially means to inventory planning, product distribution, product procurement, warehousing, finances, supplier relationships and customers. Overall, it is a focus on the distributor processes; demand planning, supply planning, and overall product distribution methods.

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Lastly, as the economy emerges from recession, inventories will begin to grow once again. This only adds to the impetus to try something new.

This white paper will start with a discussion of the framework for a "Lean Principles" approach; describe the necessary changes in thinking required, and finally how to go about executing some of the major operational changes and strategies.

Where Are We Today?

Supply chains today operate in a way that seems to make a lot of sense. It seems that everyone, manufacturers and distributors alike, have installed new ERP systems or other forms of "automation" to help manage their inventory and supply chains. How is it though that many still experience problems in managing their supply chain; too much inventory, not enough of the right product at the right location, and the constant "re-balancing" of inventory amongst their stocking locations?

From the wholesale distributor's point of view, they 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?

What seems a natural tendency, is to keep stock as close to the customer as possible, because if the product is not close to the customer or point of consumption - the smaller the chance of a sale. In most cases of everyday business, customers don't want to hear that they can have it in a few days; instead they want it "right away". This is typical "push behavior"; push the product downstream, closest to the customer. However, this push behavior requires a good forecasting model in order to predict what location will need stock and when that stock will be needed.

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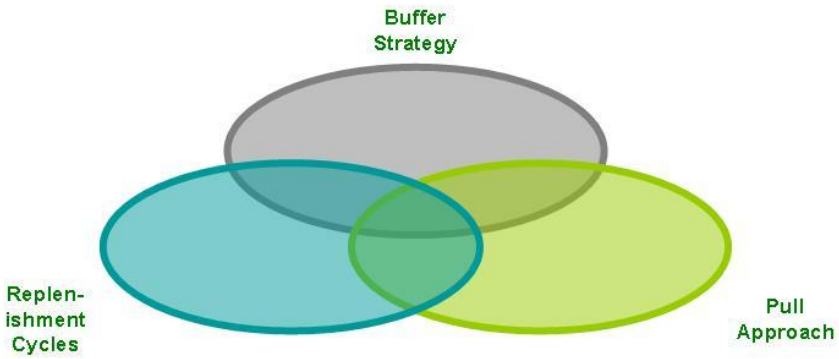
The Framework For A Lean Principles Approach



Granted, improved information technology and demand/sales forecasting algorithms, inherent in today's ERP systems, have brought improvements to the basic weakness of sales/demand forecasting in general – handling the variability in demand. The problem is; high forecast accuracy still remains an elusive goal and the result is often inventory that is "out of balance" - either in the aggregate, by location, or at the SKU level.

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The current paradigm 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 replenishment plan from vendors. But, there are some real "facts of life" to consider.

The fact is; that for almost thirty years, companies have focused on better planning, specifically better forecasting.

The fact is; that the narrower the aggregation, the worse the answer becomes; meaning that the question of "how much will I sell of the product overall" will provide a better answer than the question, "how much will I sell of the product **at this location**? The statistical truth is; fluctuations average out in the aggregate.

For instance, if we were a distributor with 25 different 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 425 to 550 per day. If we just took the lows and highs at each location, it's 250 to 625 per day. What do we believe?

So the forecast of a single SKU, at a specific location, is subject to this "fact of life" – fluctuation and uncertainty – and a poor base for determining the stock level of that SKU - at that location.

A New Paradigm – Is It Time For Something New?

Maybe there is a new paradigm; a more simplistic and flexible approach that could be built around "Lean Principles In Distribution and Supply Chains", that replaces the old paradigm, standing in our way.

Keep an open mind now and begin to think about it from these "ideal" perspectives:

1. An ideal situation would be to fill all customer orders "direct" from the vendor, completely eliminating the costs of inventory involved in planning and

executing shipments from one of your own company locations. Or, try this one……

2. An ideal situation would be for you to replenish inventory, at a location, on a "sell one-buy one" basis. Wouldn't that be great? Just replenish "one" from your vendor or DC, each time you sell "one".

Now, before you start thinking that "these guys have really gone off the deep end", we surely agree that these perspectives are "ideal" and a "stretch towards perfection" and may in fact be unobtainable in almost all business environments. But, we do suggest that in incorporating some "Lean Principles" we could take a step in the right direction by increasing flexibility and simplicity to achieve better results, because with Lean Principles; process and performance improvement is focused on different methods of replenishment, reducing lead times, reducing lot/order sizes, reducing safety stocks, and increasing the reliability of the supply. **They are all linked**.

This is often a tough paradigm shift, may even be seen as counterintuitive, and just as often difficult to believe or understand; because the old paradigm is so ingrained.

To state the differences another way, our typical forecast based inventory planning is focused on planning a product purchase or inventory transfer, etc., in order to minimize costs (delivery, freight and stock-out costs). A Lean approach seeks to create flexible distribution operations that can respond to **customer needs as they currently are – and as the conditions change.**

The "Lean Principles" solution therefore is based on a constant "renewal", a "continuous flow" of the stock we sell, recognizing that the forecast we use will never be perfect and there will always be some forecast error. So our emphasis now has to turn to:

1. How **best** to replenish and deploy inventory closer to the customer's "buy signal", wherever and whenever it occurs.
2. Knowing that we have forecast error, what are the alternatives can we develop that can be immediately executed to offset the error.

This is comprised of several steps:

1. Aggregating inventory as much as possible at the DC to support branch locations

2. Setting target inventory levels at the DC and branch warehouses
3. Shortening replenishment lead times as much as possible
4. Replenishing inventory as frequently as possible, that replenishes "real consumption"
5. Reducing order sizes as much as possible
6. Developing and monitoring the "target inventory levels" and then readjusting them as necessary to arrive at a better balance.

The important component of this "Lean Principles" model, for managing the supply chain, is to keep stocks, at the DC and using a "pull mechanism" (we'll explain later) to support demand at the branch warehouses, based on "actual consumption" at those branch warehouses. Put another way, it is the DC where we want to keep **most of the stock**. Why? This aggregation provides a more stable system than just using a forecast, at each location, to plan and **push inventory to those locations**. At the branch warehouse, the amount of stock is intended to be "limited", as much as possible, and once a branch sells "some" - "some" will be replenished – an approximation of the "sell one – buy one" objective.

Part 2 - Changes In Thinking

So there are several dilemmas here. The first is; how do we get around the forecasting roadblock?

Is There Another Approach To The Roadblock?

Long ago, manufacturing companies employing Lean and Six Sigma initiatives learned that variations in their production processes were a primary cause of poor product quality. This concept of "variations" has not sufficiently moved into distribution forecasting, inventory planning, product buying and inventory transfer planning. Our organizations seem to have taught us all; that forecasts provide sufficient planning and that if we only execute - we'll be ok! This completely ignores the fact that forecasts, by nature, cause "ripple" and "see-saw" effects, which often begin to "snowball" quickly, because of the frequent variation present in demand and lead time.

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Let's put it another way; with forecast variation and lead time variation present, there is rarely a case where we **exactly** know when to order inventory so it arrives **exactly** on time. Now agreed, many of our contemporary ERP systems try to do their best to compensate for the variations. **Of course, this is why we have that dreaded "safety stock".**

So as this article's title implies, we want to employ some Lean Principles, so that we can deal with the realities of what we face. The work we have cut out for ourselves is to deal with the variation, cycle times (order cycle and lead time), and the nurturing of our own improved internal supply chain flexibility.

Therefore, we have some "linkages" here between customer demands, our inventory replenishment processes, and of course, our suppliers and their lead time – all of which are subject to variability. And yes, now I'm going to throw-in one more "linkage"; let's simply call it "lot sizes" or "order quantities" - the quantity of each product (or in total) that we buy – or transfer. Why order quantities? Well, those same manufacturing companies and large distribution companies who for some time have employed Lean Principles also learned that reducing lot sizes – order quantities - enabled lower product, inventory and supply chain costs.

Our operational costs are driven by these linkages and therefore it's those "drivers" that that we need to pay attention to. It's those drivers that ultimately show up in our measures of results, that is, our financial reporting; for freight, labor, inventory, and the like, and of course, any service level reporting we may have.

Now, before we move on to a more detailed explanation and addressing of these linkages, using a "Lean Principles" approach, let us throw one more "term" at you that we have only alluded to so far - and that is - ***"Pull Replenishment"***.

Pull Replenishment

Remember, how earlier we talked about "sell one – buy one" and it being an "ideal" - a stretch towards perfection? What if we could at least "approach" or "approximate"

allowing a customer shipment, from a location, to **"pull" an inventory replenishment right behind it?**

What if we were able to trigger inventory replenishment into our DC's, warehouses and branches, **based on actual demand represented by shipments to customers**, rather than just relying on **the forecast** of customer demand to replenish the inventory? This is what is called "Pull Replenishment" - versus the "Pushing" of inventory that forecasts cause to happen. This "pull" mechanism is what we want to "connect" to, throughout the total supply chain; between vendors, our DC's and warehouses, and branch stocking locations.

This Pull approach, in turn, can provide the buffer inventory, the safety stock and replenishment cycle strategies that can bridge the gap between how we operate and meet customer needs, according to our individual company service policies.

So how, in summary, is this Lean approach really different?

- First, we said that Lean Principles focus on replenishment based on actual shipments to customers, not a forecast. This is an important linkage that synchronizes the supply chain to customer requirements.
- The quantity replenished is focused on "approximating" the customer shipments that actually occurred, to maintain a **continuous flow**, rather than utilizing some fixed order quantity or Economic Order Quantity (EOQ) thinking or assumption.
- This actual customer shipment demand is reported back to your replenishment system to be combined and then filled, from the DC or Vendor, based on whatever your replenishment policies are (lead time, the frequency of replenishment and the policies used for order quantities).
- Inventory levels at a branch stocking location are based on "target inventory levels" (we'll explain)
- Focusing on these "linkages" is the "heart" of the Lean Principles
- Remember; Lean Principles desire "Pull Replenishment".

Can We Manage Uncertainty With Lean Principles?

Yes we can, if we employ the appropriate "buffer strategies". First, we have to understand that safety stock adds significant costs - and directly impacts stock-out risk. We know from our own experience, that we can safely say, that the approach to safety stock can elude many. Why? Stock-outs are an emotional topic; the feedback when it occurs is almost immediate and there are often severe penalties! But, our concern for

inventory levels may occur only monthly or quarterly when someone reviews financial reports. The difference is the frequency of the measures used. The result is that safety stock is often set “high enough” to cover all the variations from customers and vendors that we experience.

Our ERP systems often take different approaches to safety stock; a set number of weeks supply, a percentage of demand, or a more statistical approach that sets safety stock based on demand and lead time variation. The latter method is generally preferred and many ERP systems today provide that capability, therefore allowing us to at least begin to move away from the “gut-feel” approach to setting safety stock levels.

Regardless of how we calculate safety stock though, the fact is; shorter lead times reduce the need for safety stock. The better we can handle forecast variation, through “Pull Replenishment”, the less the need for safety stock. So, we’re right back to our original premise; focus on reducing lead time and forecast variability issues.

What’s The Safety Stock Strategy?

It seems that one of the things we’ve all learned, and it is ingrained in us, is that because we maintain inventory close to customers at branch warehouses, that’s where the safety stock should also reside. This “knowledge that somehow got into our genes” says that if customer orders are to be shipped from a branch warehouse point, then we have to maintain some safety stock level, there, to protect against spikes in demand. Customer service is the objective, isn’t it?

That “dreaded safety stock” and the strategies we use to meet customer needs are a critical component, used to mitigate the variation that occurs throughout our supply chains. It is where we should start, because it leads us to where they should be strategically placed.

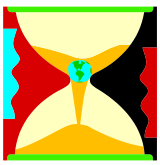
As we stated earlier, variation in product demand, at a DC (based on the sum of all the demands, for a product – from all branch warehouses) is usually less than the variations at individual branch warehouses. It’s simply a statistical thing that says variation drops as demand is summed or added up amongst all the shipping points. What’s the effect? Inventory at the branch shipping points will necessarily be higher because demand

variation is greatest, closest to the customer. It is a statistically sound principle, but often difficult to accept due to the urgency and desire to meet customer order demands. At the DC level, we are often able to "see" the demand as more consistent, allowing for a more stable and realistic inventory replenishment process. Therefore, your safety stock inventory strategy is a key component in managing the entire distribution strategy.

Is there an alternative? Well safety stock at the branch warehouse, or at least "some" of it, could be maintained at the DC. The benefit, if we could pull this off, is lower overall inventory **and** still adequate protection against spikes in demand. Of course, there must be confidence that the DC can ship inventory quickly to the branch warehouse to replace and/or cover large spikes in demand at the warehouse, to maintain this **"continuous flow".**

The Lean Principles suggest that safety stock at branch warehouses **only cover the time necessary (lead time) to replenish inventory from the DC.** This approach begins to move us closer to the "ideal" we discussed earlier. It's like water flowing through a pipe - the next drop flows to replace the last drop used – a continuous flow. It is "ship one – replenish one", or as close as we can get to it.

So what becomes the focus of our efforts to bring this about? Well, it's the lead time and order quantities used as replenishment parameters to feed the warehouses from the DC, as well as reacting to actual customer demand. You see how we keep going back to these same parameters and drivers? It's the focus of incorporating "Lean Principles".



Managing Replenishment Lead Time

The size of replenishment needs at a stocking location is dependent upon two, totally different, factors:

1. **Demand** – the rate at which stock is depleted or consumed
2. **Supply** – how quickly the consumed units can be replenished

We often find the "supply factor" ignored as a tactical and strategic consideration in decision making. Most improvements seem to be directed at the "demand factor",

especially trying to come up with better forecasting mechanisms or just using safety stock as a last resort.

We can define “Replenishment Lead Time” (RLT) as the total time it takes to replenish inventory, from the source; including from the time a unit is consumed, an order issued to replenish it, the source filling the order, through the transportation time it takes to get product to the stocking location.

“Lean Principles” asks us, challenges us, to find ways to trim these various elements of “RLT” to a bare minimum; as we often find them, generally, to be too long and impacting the “safety factors” used. Doing this makes the “supply factor” a very important consideration for the following reasons:

- Stock levels at the stock location will be lower, since it needs to cover less demand days
- Fluctuations in supply time demand become smaller as supply time becomes smaller
- The forecast being used at a stocking location is more accurate, the shorter the “RLT”
- The ability to respond to actual demand, is quicker

A question that is often raised at this point is; “what will this do to my transportation costs?” Frankly, it is not a question that can be answered with a flat statement or “truism”. It has to be compared to your current practices in managing your supply chain. Replenishment decisions have several variables, among them, product cost and discount structures, freight terms, transportation capability, and often the desire to replenish as much as you can “once”, even if it means ordering some product that may not be needed “right now”, etc. Lean Principles allow you to assess cost trade-offs on a structural level, by distribution paths, rather than just focusing on specific transactions.

There is a tradeoff between increasing the frequency of replenishment and lower inventory – and better stock availability (increased revenue). In many cases, any extra transportation costs can be offset. In actuality, it usually requires a close examination of your own particular distribution network and service policies.

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What's The Impact Of Reducing Order Quantities?

Reduction of inventory and better synchronization of the supply chain should be the correct answer. Order quantities have a direct impact on costs and our flexibility; larger order quantities often don't reduce sourcing costs as it may first appear to. Smaller order quantities, regardless of whether we are replenishing a warehouse from a DC or replenishing the DC from a Supplier, results in more frequent replenishment, lower overall inventory, and serves our "ship one - replenish one" objective.

Of course realism must be considered; we don't patronize a supermarket and just buy "one egg"; instead we buy the whole dozen (although we recently noticed that at several supermarkets, eggs are now being sold by the half-dozen). Those same large manufacturing and distribution companies, we've mentioned a few times now, are driven to "everyday low purchases" rather than "periodic orders," "special or one-time deals."

What's The Effect On Supplier/Vendor Relationships?

Now a real difficult part of the equation – the balancing act! All this focus on lead times and order quantities! This can be a "tough nut", not an easy task, particularly when considering the impact on Suppliers/Vendors. There are cost related trade-offs, based on quantity discounts, freight considerations, etc., to consider. We have often wondered whether inventory decisions based on these latter factors, and their narrow focus, really allows us to understand their impact on total supply chain inventory costs, as well as whether the impacts are really well recognized or quantified. We can say though, through observation, that fewer and fewer purchasing decisions are being made based on the "time value of money and discount approach". That is one of the lessons and outcomes of "Lean Principles".

Suppliers/Vendors, who have not embraced "Lean Principles" internally, typically react negatively to any suggestion that might reduce order quantities or cause more frequent replenishment demands upon them. It's difficult to come up with one solution for all,

what with different policies for different vendors, their proximities, the nature of their products, etc. It would seem to me that some form of "cost-sharing" needs to be part of the relationship. Otherwise, it becomes the "same old story" – an attempt at a win-lose relationship – either with the buyer seeking lower costs only – or the supplier, standing by their guns, inflexible in their supply chain delivery approach.

We've always thought that this could be fertile ground for the buying groups to delve into on behalf of their members. Not just price negotiation, but a collective effort to bring mutual advantage to Supplier and Distributor, based on "Lean Principles." It surely beats each wholesaler and supplier trying to wade their way through the process individually.

Part 3 - Execution Strategies

By this time, we hope you have gotten the "flavor" of "Lean Principles"; bridging a gap, the gap between what customers wants and your own internal flexibility and capabilities to provide it.

Caution: If you are going to really change your thinking; then think about inventory as an "orphan – ugly enough to not to be adopted".

Target Inventory Levels (Buffer Inventory)

A sufficient level of inventory; a **"target inventory level"**, must be maintained If we are to apply a "Pull Replenishment" methodology successfully. There has to be a very tight linkage in terms of what we expect, or calculate, our inventory needs to be so we can isolate both our customers and our own internal operations from daily gyrations and variability.

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Historically, many companies have used some “rule of thumb” for inventory targets; a number of weeks supply, a targeted inventory turn ratio, etc. These rules of thumb often get applied to large groups of products, at different locations, without respect for the fact that individual products may not “fit” the quantity “calculated” by the rule of thumb. What historically happened here is that more rigorous methods for calculating target inventory levels just gave way to simplicity.

The target inventory level formula we propose is proven, straight forward, and can usually be accommodated by most ERP systems, in use today. Check yours; we bet you will find that your system already does this. For each SKU, typically, it is nothing more than:

Target Inventory Level = demand x lead time x (some “factor” for safety stock that guards against variation in demand and lead time)

Once we set or calculate target inventory levels, the next step becomes managing this buffer inventory.

Buffer Inventory Management

This is not an exact science, as operating parameters and variability factors will never be perfect. “Lean Principles” challenge us to define our buffer stocks and constantly monitor how well they are being used, at each location. Our objective should be to have buffer inventory in the right places so that we have more stationary targets, rather than the moving target of a forecast.

One key here is to have our Purchasing Managers and Buyers spending less time on day-to-day purchase orders and transfer orders, and more time on managing the target inventory levels, the replenishment components, and the total replenishment process – as “Inventory & Supply Chain Managers”.

How Do I Set Up & Measure Buffer Zones?

We usually suggest approaching this by using the “rule of thirds”; a “zone” being set to one-third of the target inventory level. Not exactly scientific, but does give us something

to start with and, importantly, something that can be monitored, measured and improved upon.

Our target inventory levels, our buffer inventory, we suggest, can be split into three (3) zones; call it green, yellow, and red – just like a traffic light. In reality, our inventories, at each location, can go through a green-yellow-red process at any time during their normal replenishment cycle processes and can serve to tell us when action is required.

- **Green** – All is well, inventory is adequate; This zone represents products that have a sufficient quantity to meet demands prior to the next replenishment cycle. Products too frequently in the green could have too much inventory though.

- **Yellow** - Inventory is adequate; A solid working level of inventory. But replenishment is required.

- **Red** - Danger, a risk of stock-out or stock is already depleted; Inventory level where replenishment should already be in progress. Trouble may be brewing and requires monitoring and expediting.

We can further define the “penetration” of the “green-yellow-red” zones as follows:

- **Green** – less than 33% buffer penetration

- **Yellow** – Between 33% and 67% buffer penetration

- **Red** – Between 67% and 100% buffer penetration

As an example; if the stock buffer size for a product is 100 units and currently at the location we have 40 units, we expect 60 more units to be on the way from the source. The buffer penetration is at 60% ((100 – 40) / 100). This item, therefore, would be in the “yellow zone”.

So we now can set up a monitoring device, a mechanism, to track the status for all products, at all locations - across all these zones – to summarize and track the zone measures. We know that over time, inventory will move through these zones, so we can now look at the actual distribution of all products, by location, by zone.

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Further, the "beauty" of establishing these zones is that they can send "signals" to the source (for instance, your DC), as to what the priority for this product is, and the location that needs it the most!

These simplistic traffic signals may actually sound a little complicated to identify. But they don't have to be. Just recognize the individual target zones and then work to refine their calculation as time goes on; focusing on replenishment lead time and order sizes.

What can we learn? Too many in the green zone may mean inventories are too high or demand has not met expectations. On the opposite side; too many in the red zone may mean problems with replenishments or higher demand then expected. Surely in a world where variation exists, the red zone will be important to customer service. The question to be answered is whether there are too many products in the red zone - or for that matter, the other zones.

If we accept this "rule of zones' and the need to track and monitor, so we can act quickly, what information do we want to "visualize"? It could take some of these forms:

- **Time In A Zone** - The length of time a product has been in one zone. For instance, if a product has been in the red zone longer than it takes to replenish it, it surely requires some expediting and follow-up. Products in the green zone longer than it takes to replenish it may have opposite issues.

- **Number of Products Within A Zone** – The number of products, their dollar value, etc., can be a measure of the overall health of the inventory. It can tell you whether replenishment processes are working effectively. For instance, if one-half of the inventory dollars are in the yellow zone, this may indicate that replenishments are working pretty well for the majority of inventory flow. One-half of the inventories in the Green or Red zones, tells a different story.

- **Impacts of Zone Measures** – This can tell you the actual and potential for stock-outs and lost sales caused by replenishment failures due to one of the components of target inventory levels, being amiss. Maybe some of the other replenishment processes need some work.

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Monitoring the buffer inventory creates simple and effective guidelines on how much inventory to hold without worrying about forecasts, that by definition are unreliable, and that just look at one-half the picture; the demand side, when the supply side is as important. This type of dynamic buffer management aims to provide something simple to use and that can be simply understood. Now we can measure the actual utilization of inventory and readjust the inventory buffer levels accordingly. By meeting this challenge, we can more easily arrive at the "real" stock we need to keep at a location in order to cover "actual demand".

Transformation & Implementation

The desire for Pull replenishment requires a focus on a smooth a flow of inventory, as is possible, across the entire distribution network, to avoid delays or overages at any point in the network. A shift for Purchasing Managers and Buyers away from purchase order and inventory transfer planning towards target inventory calculation and monitoring is an important aspect of the change required. Their total time required may not be less, but rather more value-added time.

The results we obtain from target inventory level monitoring become a critical measure of our entire replenishment and supply chain process. The focus on maintaining the right inventories, despite variation, is the critical part of the "Lean Principles" and towards our objective of "sell one – buy one".

Implementing these "Lean Principles" are not without challenge. Many existing norms will need to be questioned; the status quo challenged. Current operations and "the way we do things" need to be examined. All the operating levers that impact inventory; safety stock, lead times, order sizes, your own internal processes, and vendor flexibility and collaboration have to be examined. Ask**, what adds value - or only cost?** The "system" works as long as these key fundamentals are focused on. The "system" works to deliver benefits in customer service, total costs, and asset utilization, as long as it is focused on executing the components of pull replenishment.

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Part 4 - Overcoming The Hesitation

Possibly the greatest roadblock to accepting the “Lean Principles” outlined here, is the “benefits claim”. Anyone taking the lead to “sponsor” an initiative such as this typically hesitates because of the risk. Who wants to be out front (or even associated with) an initiative that may not deliver results?

Overcoming this hesitation is best accomplished by recognizing and understanding the linkages we have described, that there are no longer independent functional silos and the same is true for all the relationships you have; suppliers, customers, and the components of your specific distribution network. If not, then all possible advantages will be lost.

Another way hesitation is often overcome is by “piloting”; experimenting to see whether the “Lean Principles” to be adopted make sense and bring results. Try a few major product lines and/or a few branch stocking locations as a start. Go through at least a few replenishment cycles to evaluate the impact. Typically once you do, the conversation will often shift to a “non silo” approach to assessing, documenting, quantifying, and agreeing on the barriers to be overcome towards implementing the “Lean Principles” in your organization. Agreement on the problems, direction, solutions, implementation requirements and a full implementation plan itself will soon occur.

Ultimately confidence will build as these and more steps are taken. You’ll have the beginning of a paradigm shift and internal operating process change; a clear cause-and-effect linkage between change, benefits – and bottom line improvements.

Enjoy your journey!

Operational Excellence in
Wholesale Distribution

Lean Principles In Wholesale Distribution Supply Chains Do You Pull or Push?

Howard W. Coleman, Principal
MCA Associates

Jack McGowan, Senior Consultant
MCA Associates

MCA Associates, a management consulting firm since 1986, works with wholesale distribution and manufacturing companies that are seeking operational excellence. Our staff of Senior Consultants provides operational excellence – idea leadership - and implements continuous improvement solutions focused on business process re-engineering, inventory and supply chain management, sales development and revenue generation, information systems and technology, organizational assessment and development, and succession planning. MCA Associates may be contacted at 203-732-0603, or by email at hcoleman@mcaassociates.com. Visit our website at www.mcaassociates.com.

A Call To Action:

MCA Associates is seeking to collaborate with two (2) additional progressive multi-location wholesale-distributors (must be non-competing). Collaborate with us in piloting, and then implementing, a "Pull Replenishment Supply Chain and Distribution Network" as described in this "White Paper*" – "Lean Principles in Wholesale Distribution Supply Chains – Do You Pull or Push?"* Contact us if you are interested in further exploring this radical change methodology.

The potential benefits to your organization are:

1. Improved profitability
2. Improved operational service performance
3. Reduced inventory
4. Total supply chain cost savings
5. Competitive advantage

A substantial portion of our compensation to be based on documented improved performance and cost savings - a "win-win" for everyone.