

# LEAN THINKING IN WHOLESALE DISTRIBUTION...



## *It's a Game of Minutes...in Your Warehouse – DC... Don't Rely On Your Step Child for Efficiency*

### **Executive Summary**

There has been, I believe, a certain degree of a “step-child” approach to DC’s and warehouses; it’s called putting it on the “back burner”. It’s all that stuff done “back there” - by the “Picker-Packer-Rack-Stackers”, It’s sometimes often done under severe constraints; whether it’s space, obsolete storage methods, outdated receiving and picking methods, the absence of or under-utilization of technology, etc.

While historically a DC or warehouse facility has been a large box used to store inventory for periods of time, I believe that these facilities need to be thought of more as “distribution activity hubs” - adding value to the processing and flow of product to external and internal customers. The value-added activities are labor intensive and speak to the need to focus attention on productivity and operational efficiency. I suspect you have given thought to being able to expand the number of shipments you can make. Maybe you need more picking areas, more pick slots and a better way to store backup inventory. The purpose of your DC/warehouse may have changed and its design may be in need of change also.

I think part of the problem for many smaller to medium size DC/warehouse operations is that much of the available information out there focuses on the larger, more automated, facilities despite the fact that 90% to 95% of warehouses in operation today fall outside of the typical “Top 100” classification. As a result, many of the suggestions and recommendations (though not all) don’t apply or apply only in a partial sense.

Now, there are some wholesale-distributors who long ago recognized that bringing “back there” into the mainstream would be a wise investment, financially measurable, and a verifiable and tangible return in terms of reducing order transaction costs and improving their supply chain relationships. Even improvement opportunities related to “following the paper trail” were expected and achieved. With some, customer mandates drove their decision (if the company’s relationship with such customers was critical, the decision became a strategic and tactical “no brainer”). To them, it was a matter of competitive advantage, cost savings or future cost avoidance, inventory control and the ability to finally measure what quantitatively goes on - “back there”.

When it comes to the issues of “cost savings vs. cost avoidance”, will we be able to handle the projected increase in sales with the same warehouse workforce? Wholesale-distributors try to fill

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orders with the current workforce or prudently plan hiring. There is a certain degree of being gun-shy about adding to the workforce in preparation for future growth. So, a logical and acceptable alternative should be “cost avoidance”. And this is just where “thinking differently” needs to come into play, particularly in light of the current low cost of capital.

## Thinking Differently...When Is The Right Time?

When should we think differently? When is the right time? I guess the right answer should be “all the time”. It’s what stimulates us towards “creative thinking” rather than just thinking for the moment, the hour, the day...next month, etc. In other words; not just more of the same thinking!

I want to apply this particular line of thought to how we organize and manage our distribution centers and warehouses, particularly within the industrial supply sector. Why? Well, because it’s where I have spent the better part of my consulting career and continue to find that many wholesale-distributors have not, in many instances, budged an inch or have been slow to adopt new ways of thinking in terms of how they have organized their distribution facilities; the facilities that service their customers and/or act as a central distribution source for inventory replenishment to other company locations (branches).

It’s true; better warehouse performance and throughput improvements typically require a revamping of the warehouse facility. The goods news is; it can be done in stages.

## Some Observations

First, let me give you some examples of what concerns me (based on some real-life observations):

- I don’t often see any conveyor systems being used, whether gravity fed or powered conveyor. Is this really because we would prefer to see a Picker walk all the way to a staging area from wherever the last pick was? As much as 70% of a Picker’s time may be spent walking. The answer is obvious, but yet the situation persists.
- Why, after all that has been written on the subject of Pareto’s Law (A-B-C, 80-20 rule), do we persist in storing product within like product groups rather than by “slotting” based on ordering velocity/frequency (i.e.; “hits”) and which establishes an effective pick path, while fostering the picker’s “least travel time”. Yes, it does require some “stock-locator” technology.

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- Why do we still see DC's or warehouses all with 11' to 12' aisles? Hasn't anybody heard of "narrow aisle stockpickers"? Maybe you don't need more space after all! Just reduce the aisle width.
- Why aren't batch, zone and wave picking methods used more often? Yes, it does require a technology investment to accomplish, but the potential for productivity improvement is tremendous. The R.O.I. is huge!
- Picking, packing and staging stock transfers, versus customer orders, are often not recognized as "different animals" (most often in terms of "lines per order" and/or the need to pick carton quantities versus "eaches"). They require different warehouse storage and order processing methodologies. Many companies don't recognize the differences in the order processes required.
- Why don't I see flow racks used more often in industrial supply warehouses? Product remains better organized and easier to find/pick. Restocking from the rear and picking from the front pick face can be performed without interference and with minimized travel time. Flow racks continue to evolve to the point where "roller runways" can now be installed into existing pallet racks and even be moved and reinstalled into new positions, creating entirely new lane configurations.
- How come only a relatively few companies have tried "direct load", i.e.; picking customer orders by delivery route and directly loading onto delivery trucks, in reverse order of actual delivery sequence - by-passing any staging function? "Less touches"!
- I can't tell you how often I observe a lack of encouragement of feedback from warehouse employees. You may be surprised at the good ideas you get and where they come from. They are like you; they want their job to be easier! They also want to know where they stand.
- Frequently, there is a lack of any basic productivity measurement. Somewhat perversely, it makes me "chuckle" sometimes. How do you know what to improve? I've observed instances where absolute productivity is perceived as actually declining over the years. Sure, there could be many reasons for that, but it needs to be recognized – whether it's based on orders or lines processed per hour, sales dollars per square foot of warehouse, etc. The old axiom; you can't improve what you don't measure is as true as it has ever been. Once you have the information, you are on your way to drafting an action plan for improvement! Of course, there are mutual expectations here too; your employees must

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see the measurements and be aligned with the processes, and any organizational and behavioral improvements - to be best able to deliver on the expectations.

- Sometimes I see inefficient cube utilization where space has not been configured properly. It's sometimes characterized by every product being allotted the same amount of storage space regardless of sales dollars or unit volume, or the physical characteristics of the product. This is a major cause of multiple storage locations for the same product. Sometimes storage locations are sized for maximum inventory levels, while in reality the locations, on average, are only half-full.
- Often I see inventory sitting in the aisles, multiple SKU's in a storage location or on the same pallet. This plays havoc with your productivity. It plays havoc with everything a warehouse was designed for, and is one of the worst operating practices that continues to take place, to this day!
- Why, even after implementing "Bar Coding and Radio Frequency (RF)" do some insist on replicating the "old ways of doing things"? In other words; not getting the full R.O.I. on the technology investment. Is it just because "we've always done it that way"?

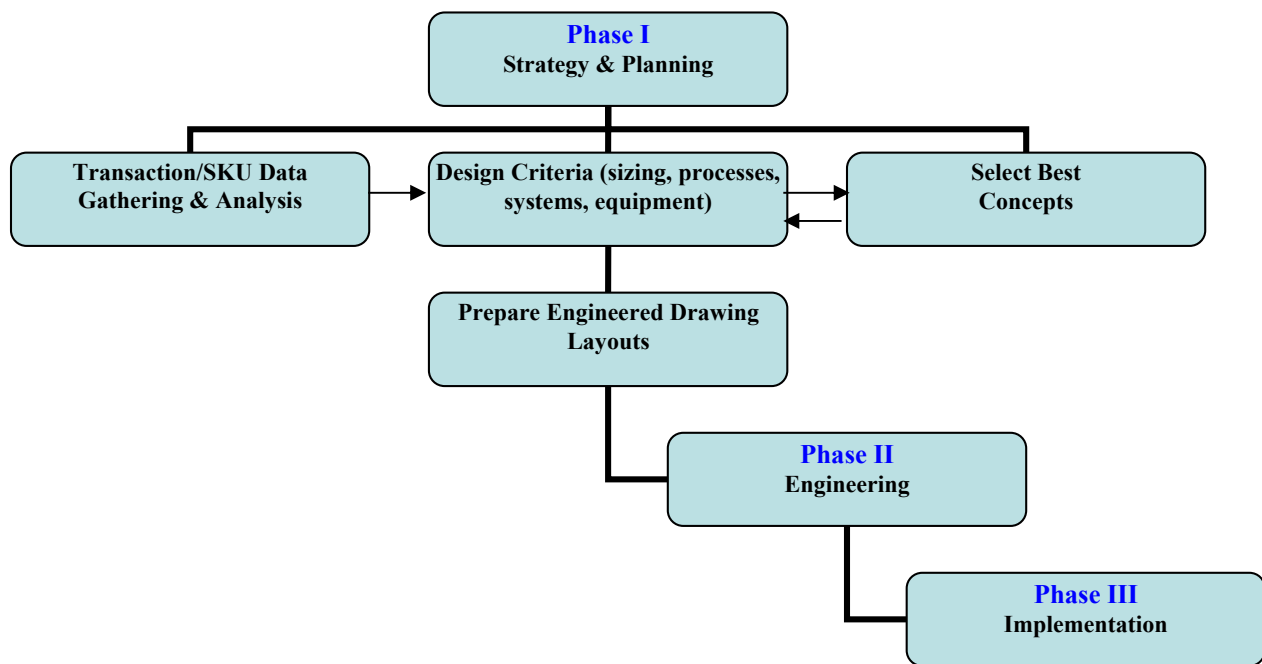
These observations are not intended to be all inclusive. I could go on. Rather, it's really meant to highlight the "race" you are in; operating costs vs. throughput rates. If your DC/warehouse design no longer fits, your operating costs are going to go up. Your costs per unit, rather than going down based on higher volume, will go up. Your labor costs on a per unit pick basis will go up.

Sometimes, short-term fixes are required and are adequate - for the short-term. But when "fixes" become the standard, it's definitely time to consider re-designing your facility. You've reached the point where what you are doing is - making exception the rule.

## **The Need to Change – It's a Game of Minutes**

There is a design approach I use. It looks something like this:

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Warehouse design and modification solutions need to focus on:

- **Materials flow** – how and in what direction product flows through a warehouse
- **Process flow** – the means, the best practices to use to control the flow and the fluidity of the order fulfillment system
- **Information flow** – the visibility and the means to gauge order processing status and operational results, in “real-time”

Why? My own informal survey seems to indicate that key forces are driving the need for change:

- Warehouse and distribution managers are being increasingly tasked to reduce costs in existing operations, without increasing staff, in anticipation of increased sales,
- When you ask warehouse managers how to improve performance, the majority say they believe investment in new technology would enable them to gain back productivity. At

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the same time, many under estimate the value of looking at every workflow detail to help achieve savings or future cost avoidance. So reviewing the workflow and the infrastructure for the adoption of technology may be a good place to start to recognize and remove bottlenecks and constraints.

- If each warehouse worker loses “just” 15 minutes of productivity in an 8-hour work day, that’s approx. 60 hours a year = 8+ working days a year. Depending on headcount, you can be talking about hundreds or even thousands of hours a year! Clawing your way back to greater productivity is a “game of minutes”.
- Picking, packing and loading, and inventory control appears to be where approximately 40% of the inefficiencies occur and where cost savings could most likely be achieved.
- Typically it’s a matter of workers taking fewer steps, making fewer touches. It’s been said before.
- Most shocking is that often improvement efforts don’t seem to begin until customers start yelling (yes, it’s hard to believe in today’s environment where every customer is hard to get...and even harder to keep!) or because owners and senior managers begin to complain about overtime.

## Resistance to Change

Yet the resistance to change is still out there. While distributors focus on “more likeable and friendly” topics like increasing sales, pricing optimization to positively impact gross margins, and more recently e-commerce applications, and may possess the metrics to measure effectiveness in these areas, adequate metrics often don’t exist for DC’s and warehouses. As a result, the improvements and gains made in these more likeable and friendly areas get whittled away by unnecessary cost at the back-end.

Most managers speak to continuous improvement in profitability. Less actually possess the means to measure the “profitability” of the warehouse. It makes me somewhat pessimistic about the future of the competitive position of some wholesale-distributors if they remain satisfied - with either too little or a reliance on incremental change in their warehouse operations - while facing market penetration advances by their competitive adversaries. In other words; making changes only from an existing foundation, if at all, and not considering more radical change.

In the early to mid-nineties when warehouse technology really came into its own, many let it pass by. Today, competition is too intense. National competitors, regional competitors and the

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ongoing consolidation of the independents, in almost all the industrial supply verticals, have only made it more imperative to embark on a wide range of process improvement initiatives. This may be the last chance for many wholesale-distributors that have historically “kicked the can down the road”, hit the wall on productivity, who possess a layer of WMS tools that they don’t use, or have not been able to scale their systems to meet their drive for growth while positively impacting transaction costs.

Today’s warehouse management systems (WMS) are time-tested and mature and payback can often be achieved within the first year or two. If any WMS is “worth its salt”, it will provide:

- RF capability for data capture (still the least costly technology to use)
- Receiving and directed stock put-away
- Directed order picking and picking optimization
- Route delivery and load planning
- Cross docking or “tagging” of orders
- Cycle counting and scheduling
- Sometimes, task interleaving of work

## Here’s a Good Place to Start

Although there are many components of improvement opportunities to consider, let me suggest where I think you could start and get some real “bang for the buck”! It does require technology, so go for it!

(1)



(2)



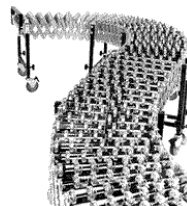
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(6)



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*Why not start with how we store and pick the “fast-movers”, our “A-items”? Take a look at pictures #1 thru #3. This “high velocity pick zone” scheme, or something similar (it can vary), as part of a zone picking concept, typically allows us to slot and store a very high percentage of these fast-moving SKU’s, using flow rack only or a combination of flow rack and shelving. Notice the narrow aisle and conveyor. Pickers can pick alternatively, picking from one side to the other, and place products in cartons or totes as they move down the line (picture #4). Near the line’s end, powered conveyor (picture #5) moves the product to a staging area for consolidation, packing and routing - consolidating with other SKU’s picked from other zones, for the same customer.*

That’s it, in about 120 words. Sure, there’s more to it than that. What I don’t understand, though, is why the objective (a directed pick path, which determines the flow, and results in less pick travel time) is not more often adopted in industrial supply settings, and at this level of sophistication. My belief is – here’s where to start!

Equally as important, is that the warehouse can be redesigned in stages; addressing a host of improvement opportunities related to the key functionalities and the layout of the DC/warehouse.

For instance, narrow aisle storage and retrieval (picture #6), batch picking, wave picking – all make for a new millennium in DC and warehouse effectiveness that you should be grabbing onto.

The technology can be unleashed at the speed that you can adopt it. So, I urge you to move forward. It’s time; don’t rely on that step-child too much longer!



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