Distribution Center MANAGEMENT

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From the Golden Zone

Five signs you need material handling automation

By John T. Phelan Jr., P.E.

So you aren't Walmart or Dell, and you don't have at your disposal some of the world's most advanced supply chain infrastructures with multiple highly automated distribution centers and an inventory and order tracking system that can identify where every single widget you store and sell is located in real time.

In fact, you're the exact opposite. You have a single warehouse or maybe a couple warehouses, and although you are using the exact same processes and systems that allowed your business to grow in the past, you seem to end your days scratching your head saying, "Why was today so difficult?"

If you have been fortunate enough to grow your business using traditional manual processes but you're at a point where it just seems harder than it used to, you should consider implementing some automation in your operations. There are five signs that it's time.

Sign 1: Your cost per unit shipped is going up

If any indicator could slap you in the face, it would be this one. This one is easy to determine so long as there is some type of fluctuation in shipments, whether up or down.

To establish a baseline, figure out your cost of operations over a specific period of time, say a week or a month, then divide by the total number of units that were shipped.

In times when your units shipped goes up, the cost to ship the increased number of units should go up proportionately. If the number of units decreases, the cost to ship the smaller number of SKUs should go down proportionately as well.

If your cost per unit rises disproportionately, look to inefficient labor practices around receiving, storage, order picking, replenishment, and shipping. If you're touching an item more than once per major activity, you're probably wasting labor.

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In a manual operation, a single order may require multiple ventures into the storage or picking area. When the order is complete, someone must consolidate the batches, then audit the contents for accuracy. After that, someone else in the shipping department must sort through all the orders, build pallets, or organize the orders in a logical manner for the delivery truck.

Sign 2: Your returns are increasing

If any indicator would cause your customers to slap you in the face, it's this one. Handling returns is rarely efficient, requiring as it does a lot of manual labor to support. Therefore, if you notice that your return processing area is getting bogged down or is requiring more and more effort, do a root-cause analysis.

Even simpler, do you hear an increasing amount of negative customer feedback due to inaccurate shipments?

Inaccurate shipments and their subsequent returns typically are due to mispicks in the form of either the wrong number of SKUs in the order (and usually too much is not an issue) or the wrong SKUs being sent. Not only does this have a negative impact on customer satisfaction, the mispicks also wreak havoc with inventory accuracy, which can affect the proper fulfillment of future orders with other customers.

Sign 3: Your inventory accuracy or inventory control process is getting worse

No matter whether you do cycle counting or periodic physical inventories and reconcile the results with a spreadsheet, if the inventory accuracy rate decreases or the time required to take the inventory increases, consider addressing the issue with an automated process.

Another test is as easy as watching the warehouse operators do their business, whether they are storing or picking product. If they are working from memory and not being directed by some type of real-time system, then as business grows and inventories grow, the number of headaches will grow.

There are low-level warehouse management systems (WMSs) that won't break the bank but can provide huge benefits to the efficient operation of a fulfillment center. Implementing either dedicated storage or random storage methods driven by a WMS that ties into the receiving operations, inventory control system, and order management system will replace reliance on institutional knowledge and allow for greater flexibility, capacity for growth, and a more accurate inventory.

Sign 4: Your warehouse is getting messier and more disorganized

If you're embarrassed to walk your boss around the warehouse, or if you are the boss and you are embarrassed to walk a customer around your warehouse, then you might want to consider ways to tidy things up. Everything should be in the proper place and in the proper condition in order to run smoothly and effectively.

Clues that things are no longer shipshape include shrinking aisle space in the floor-stack storage areas, pallet staging that crowds the shipping apron, more travel and less picking by your operators, or longer times to put away staged pallets on the receiving apron.

Many warehouse managers fight the clutter by expanding. This is often not necessary and sometimes, by reconfiguring the warehouse to use more of the cubic vertical space, some of the floor space can be recaptured and freed for other operations. Cubic space utilization can vary by using simple means such as static storage rack or a mezzanine or more complex methods such as ceiling supported conveyors and multi-level pick modules. Taking advantage of all of the open space in your facility and maintaining a disciplined routine of tidiness will boost productivity.

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Sign 5: Your business is losing market share

If you notice that market share is diminishing, the reasons could be the result of some of the inefficiencies in the warehouse. If your costs per unit shipped are going up, then you are either absorbing the reduced margin by maintaining pricing with your customers or you are increasing your prices to maintain margin. Both are bad.

A reduced operating budget usually follows a reduction in gross margins. Loss of customers usually results in increases in prices. Customers also switch suppliers when supplier shipment accuracies continually get worse.

Additionally, customers may switch to a competitor if the competitor can offer better services such as quicker lead times or later order cutoff times for the same delivery dates. These causes of reduced market share can be combated through process improvement and system automation.

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