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Final Thoughts

Optimization is a four-letter word

By Mick Mountz

Have you ever ordered a product online and chosen free shipping? It feels good to save that \$8 until you get the confirmation e-mail stating that your order will be shipped in five to nine business days. That's optimization — it almost always comes at the expense of some other metric.

One type of optimization that is taking place in the order fulfillment and distribution space has to do with picking and packing the order itself. In typical operations, processing of customer orders is delayed by one or two days so that enough orders may build up to feed the pick-pack optimization engine. Software programs literally run over night to find the optimal picking solutions for the next day. This strategy is an example of batch processing that is designed to increase productivity but which results in delaying the customer orders by one or more days. Tradeoffs like this are a natural side-effect of old-school material handling approaches.

Despite over 15 years of spending on supply chain optimization packages, demand planning and forecasting tools, and real-time everything, these small tradeoffs still exist throughout the chain, and they can add up to substantial customer angst. Until now, investment has been focused on inventory questions like how much, where, when and what kind. Now, with the relentless pressure of consumer expectations and e-commerce growth, more companies are focused on how to actually move the inventory, and many have begun automating the distribution center to reduce and eliminate the hidden tradeoff of batch picking.

Imagine clicking "Submit Order" on your Internet page or restocking application and having equipment in the distribution center jump immediately into action to deliver items to operators preparing your shipment. That is how real-time material handling automation breaks the batch paradigm. By eliminating the time-consuming activities associated with finding and fetching inventory, automation allows the operator to focus on the value-added processes associated with packing the order. Instead of waiting for a batch of orders, the material handling equipment takes actions in real-time on your order the moment it is submitted. The first and only e-mail you should receive from this merchant

is "Thank you for your order, it has now been shipped," and this should hit your inbox only moments after you submit the order.

Not surprisingly, the correct automation can pay for itself quite quickly. Distribution centers are, by their nature, located within close shipping reach of the customer base, and the direct labor required to run those facilities is becoming more scarce and more expensive each year; you cannot move your distribution center to China. It is also well known that 60 to 70 percent of an operator's time can be consumed with non-value-added walking and searching activities in classic pick-pack operations, while correctly designed automation eliminates that waste. In addition to direct labor savings, automated material handling increases quality, improves order speed, reduces the days-on-hand of inventory and can even increase the flexibility of the distribution center in some cases.

These cost reduction factors alone create the return on investment for automated material handling in the distribution center, and when you layer on top the customer-facing service-level benefits, it becomes clear that the top line stands to grow as well — while your competitors' customers are left muttering four-letter words when they are forced to make those optimization tradeoffs.

About the Author: *Mick Mountz is CEO and founder of Kiva Systems, provider of the Kiva Mobile Fulfillment System for automated real-time material handling in the fulfillment center environment. More information at www.kivasystems.com.*

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