Warehouse Cross-Docking in a Connected World

By Hassan Mahdavi

Most warehouses and distribution centers are looking for the quickest path from receipt of goods to shipment of orders. Any processes that can be implemented to reduce or eliminate the movement of goods to storage can help speed turn-around thus reducing processing time and better utilization of warehouse square footage.

A common solution is the notion of cross-docking, defined as a distribution method in which the goods flow in an unbroken sequence from receiving to shipping (dispatching), thus eliminating storage. Also called flow through distribution. (BusinessDictionary.com, 2018)

However, the notion of cross-docking is not always straightforward and potentially fraught with misunderstood or unknown roadblocks. One example inherent in some operations is an operational catch-22 dilemma between ERP systems and warehouse management systems (WMS). Typically, the WMS requires demand (or an order) for the inventory to already be in the system before it can process the cross-docking demand. However, most ERP systems will only download the orders when the inventory is available.

Needless to say, implementation of cross-docking policies will likely entail customization of existing systems to address otherwise disconnected data and processes. This could represent an extraordinarily intensive effort to properly setup the multiple systems involved to effectively accommodate cross-docking. And it could take a significant amount of time and money to make it work effectively.

The good news is that there is a digital transformation happening in many companies today. Distribution and fulfillment centers have been moving quickly toward new connectivity technologies such as those embodied in the Internet of Things (IoT). Having a platform for direct and easy access to all systems or multiple systems with the warehouse or across multiple locations is changing the way intra-system data can be better utilized to enable better management of processes such as cross-docking.

Consider an IoT platform such as PTCs ThingWorx, where amazing dashboards can quickly be designed and implemented to extract real-time data from multiple systems to create a "mashup" (or mixture of elements) view, virtually eliminating many of the time-consuming and costly application integration roadblocks, including cross-docking catch-22 issues.

The Retail Enterprise supply chain example above shows the potential for a real-time information flow between the company ERP system and the warehouse management system. With such a mashup, the order manager can look in to current scheduled shipments as well as high priority orders and can download the order from the ERP system to the warehouse management system to create a cross-docking demand.

To see more information about how smart connected products are transforming the way companies are doing business, download the Harvard Business Review article here. Get more information about PTCs MOVE warehouse management system here.

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