

Ongoing Labor Shortages Underscore the Need for Optimized Warehouses

By **Brian Kelly**

Workers across the U.S. received raises on Jan. 1, 2018, as several states and cities implemented minimum wage increases. When fully phased in, as many as 15 million workers will see a bump, going to \$12-\$15 an hour, according to the National Employment Law Project. This trend is only expected to continue through 2018 and succeeding years.

While some may see this as good news for workers, it is certainly making life difficult for multichannel merchants and their distribution center operations. The final outcome may not be good news for workers either, as more companies are looking to automate functions formerly performed by humans.

"The law of supply and demand takes over when considering the labor market, as companies are forced to pay higher wage rates for workers," said Kirk Anderson, Vice President of North American Sales for WMS provider Snapfulfil. "For example, California has been raising its hourly wage which is forcing companies to consider moving fulfillment operations out of state to stay competitive."

Finding workers to staff distribution and fulfillment centers is a problem that's not likely to go away soon, and companies are looking to fill the gaps through optimization techniques and best practices.

One increasing option is automation. "Warehousing and distribution operators need to look at robotics or automation to replace the labor they've used in the past," said Chris Elliot, Consulting Manager for Blue Horseshoe. "It's not the case of automation replacing



workers but a byproduct of the reality that the labor is just not there to hire."

In the hotter ecommerce fulfillment markets, the need for workers is so acute that competitors can poach the best talent for as little as 50 cents an hour more, driving labor costs up for everyone. With national unemployment hovering around 4% as of early March 2018, labor markets are more or less bereft of viable workers. Primary markets are approaching crisis-level labor shortages, and secondary markets are seeing labor needs grow at an unprecedented rate.

"Labor shortages are very acute around core logistics hubs like Newark, Columbus, Memphis and (California's) Inland Empire," explains Elliot. "It happens first in the hubs that could traditionally pull in people from surrounding rural areas. But the labor pool just isn't there to pull from any more. People won't necessarily move to hubs like Columbus because the hourly wages are just not attractive enough."

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Given the current environment, including poor retention rates at high-paced ecommerce fulfillment operations, and aversion by younger workers to night shifts, more companies are considering automation or robotics, Elliot said.

A February 2018 report from Bain and Company estimates that massive investments in automation may eliminate 20% to 25% of current jobs by 2030, hitting middle- to low-income workers the hardest. “The pace at which displaced workers retrain and migrate toward higher-skilled jobs will likely be too slow to alleviate shortages,” Bain stated in the report. “The challenge for companies will be attracting, growing and retaining highly skilled talent and maximizing worker’s productivity by rethinking how their businesses are structured.”

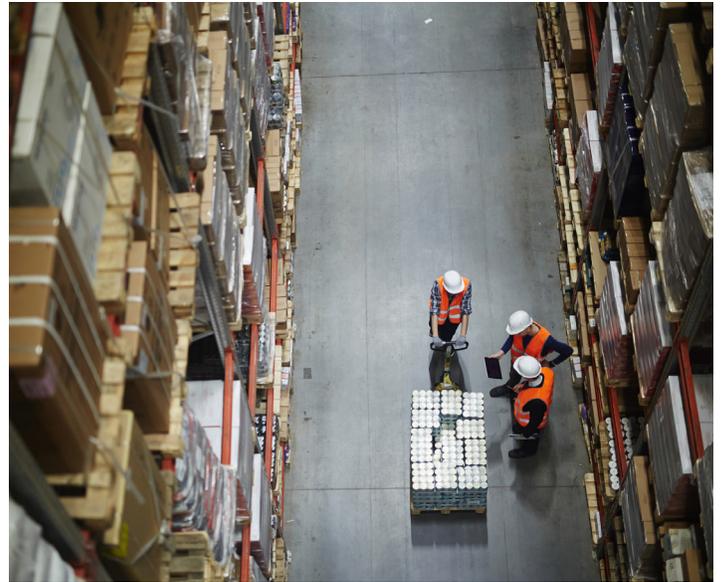
This Is Not Your Father’s Distribution Center

Even the nature of the work done in distribution centers is changing. Due mainly to the booming ecommerce market and subscription services, order profiles have evolved to smaller, more frequent orders requiring labor-intensive picking. Customer expectations for faster shipping continue to skyrocket and returns are increasing, creating a greater need for more distribution assets and workers.

“We’re seeing a fulfillment shift to smaller regional fulfillment centers vs. centralized distribution centers that support other sales channels,” Anderson said. “In an ecommerce model, clients typically start with a coastal fulfillment strategy to reach a high percentage of their market in a short delivery window, then add additional facilities in the central U.S. to keep their inventory position and SLA level high, so they can deliver products in one to two days to nearly all their customers.”

Given rising customer expectations, fulfillment and distribution executives are forced to get creative, fast. And labor costs are often a key determinant in a company’s profit or loss.

In addition to higher wages and benefits, some creative incentives include well-lit facilities with better HVAC systems, upgraded locker rooms and gym facilities, or freebies like catered meals and on-site childcare. This might attract new workers, but what happens when the competitor down the street counters? Or



Amazon blows into town and breaks ground on a mega-FC offering perks and wages you can’t compete with?

Exploring New and Existing Technologies

Some industry observers feel merchants may already have purchased all the tools they need to combat changing order profiles and continued labor shortages, but aren’t taking full advantage of them. “The technology is all already out there,” Elliot said. “You don’t need groundbreaking new systems. Successful companies are running bare-bones solutions, or not using all their WMS functionality.”

For one thing, many aren’t leveraging labor management system (LMS) functionality already built in, which can help them gain efficiency with a reduced workforce. He added order flow solutions are likewise not used to full advantage.

“Voice and vision technology have been around for 20 years, and some companies still aren’t using them,” Elliott said. “Using these technologies is worth it in the long run. Our clients usually see a 20% efficiency gain with voice.”

As labor costs increase, merchants are also seeking to get a grip on warehouse space optimization. Using all the capabilities of a modern WMS may help avoid the major capital cost of adding facilities/footprint.

“We’ve gone from pallet pick and ship to not even shipping pallet quantities,” said Elliott. “You might be

shipping case quantities to an ecommerce seller. Most warehouses were designed to ship pallets and they need to look at new technologies.”

Most optimization involves simple errors, inefficient workflows and siloed information between operations and IT. Many warehouse managers find they can surmount these challenges with a modern WMS capable of handling management systems and automated material handling and data collection.

Stepping Up to a Modern WMS

Legacy WMS systems often can't "talk" to automated systems, as Loot Crate found out. The subscription company for "gamers and nerds" has a DC in Los Angeles and opened a second one in central Pennsylvania. The company ships in excess of 650,000 orders every month.

As order volumes increased the company ran into inventory management and fulfillment challenges. To support continued growth in both subscription and ecommerce, Loot Crate needed a WMS that could scale with its business. System requirements included the ability to handle warehouse transfers, track purchase orders, increase put-away efficiency and support same-day shipping of ecommerce orders.

"A modern WMS if integrated and managed correctly should be able to provide granular KPIs with regards to individual employee and overall pick/pack/ship areas," said Peter Lai, COO of Loot Crate. "Measurement, optimization and continued improvement should be ongoing efforts."

Volumetric information is key in a WMS, Anderson said. Core functionality should include the ability to know physical warehouse space, including locations sizes and product sizes to optimize what's available. "The WMS will use algorithms to identify where product should be put away and identify opportunities to consolidate product to free up available space."

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With a new WMS in place from Snapfulfil, Lai has seen a number of process improvements. "We are employing several strategies, including accurate demand forecasting for labor planning, automation to avoid human input errors, dock-to-stock and order-to-ship SLAs and improved system integration."

"The new WMS is specifically designed to take a physical map and then watch the entire shipping process as it moves around the warehouse," said Erich Gazai, CIO of Loot Crate. "We can then optimize our warehouse as that visibility shows us what the system says at each step, and why it reports that back. We can now find and correct our automated process issues as well as our human process issues."

Gazai added Loot Crate was able to move to a smaller facility and not lose throughput because of efficiency gains. "In our new location, we have conveyors set up for every crate, for refunds and replacements. We found that proper space planning tied to WMS has a significant upside."

Additional warehouse space expense, like outside storage and expanded footprints, can often be avoided when maximizing the current facility. "We find all too often that companies have moved to larger warehouses when they could have stayed in their current location by maximizing space utilization with a WMS," said Anderson.

Proper space planning can also have such hidden benefits as finding open floor space to take advantage of strategic buying opportunities at reduced prices that can boost margin and entice customers with lower prices. Newer WMS systems can provide valuable feedback on space availability for incoming product. Without this capability, outside storage may be required, negating the value of the purchase and eating into margin.



Getting Operations and IT on the Same Page

One of the more troubling aspects of the labor shortage is a dearth of manager candidates as well as associates. Some observers suggest the lack of proper training for the next generation of DC leadership is a cause for concern.

"After kids go to college, studying supply chain management from a high level, they all naturally want to work in corporate and not operations," Elliott said. "Our training system does a great job in preparing them for corporate logistics, but not operational logistics. You have to pull them out and take the time, energy and expense to train them."

Gazau acknowledges that before Lai came onboard at Loot Crate, he really didn't feel he had a proper insight into operations. But once the silos separating operational data from IT process planning were breached, the entire operation started running more efficiently.

"I had no real stakeholder in the operations department, just to answer basic questions like how much is on order, and how many things shipped today," he said. "IT needed to get data back for processing, so we can see how to help operations with technology. Now we can get back very granular aspects of shipping and tracking, and continually improve processes."

Performance tracking and management is another important functional area for a WMS in the currently tight labor environment.

"This is information that operations can provide us through individual KPIs and overall functional areas," Gazau said. "The process within the WMS knows what the role is doing, not just a specific person. SLAs, the QC process, inventory – you can track the entire system. But it's also easy to do on an employee basis if you wanted to."

A modern WMS can track every task and activity with time stamp, while also noting and logging when activities were completed. Standard times for activities can then be set and variances measured, to determine if the standard time is accurate. Reporting and dashboard tools allow managers to quickly see problem areas and individuals falling below the curve for corrective action, while also identifying opportunities to reward top performers.

"KPI reporting can drive behavior," said Anderson. "When you measure and reward based on performance, you'll see an efficient operation take shape. Without the tools to measure there is no recourse for poor performance and no ability to justify corrective action. A WMS keeps everyone honest and performing at their own peak optimal performance level."

Faced with the ongoing labor shortage, increased wage pressure from competing industries and the need to retool and rethink DC operations in the ecommerce era, many merchant companies would be well served exploring opportunities for efficiency gains through increased automation and an advanced WMS.

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