The background features a complex, abstract graphic design. It consists of multiple overlapping layers of geometric shapes, including squares, circles, and rectangles, arranged in a grid-like pattern that recedes into the distance. The colors used are vibrant and varied, including shades of purple, teal, yellow, orange, and red. The overall effect is one of dynamic movement and depth, suggesting a multi-dimensional or digital environment. The text is overlaid on this graphic, with the number '4' being particularly prominent.

**Change Your  
Perspective:**

**4**

**Keys to Effectively  
Adapting to Rapid  
Change in Distribution  
Center Environments**

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# Change Your Perspective: Four Keys to Effectively Adapting to Rapid Change in Distribution Center Environments

**S**o much is changing in distribution center (DC) environments that it's all but impossible to count on steady fulfillment requirements. That's because the only real constant the last few years has been the steady growth of e-commerce and the elevated consumer expectations that comes with it.

According to Forrester Research, U.S. e-commerce sales will grow at a 9.5 percent rate over the next five years, to reach \$414 billion by 2018. That's a healthy clip—roughly twice the pace of overall retail sector growth—but mobile commerce via smart phones and tablets is growing even faster. By 2018, Forrester expects mobile commerce will top \$293 billion, or about 54 percent of total U.S. e-commerce sales.

What do such numbers mean for managers responsible for DCs? In a word, it means change. Rapid change is being driven by consumers who have grown accustomed to ordering online one day and getting home delivery the next, or same-day pick up at a store. Online consumers also expect free or low cost shipping, free or low cost returns, along with other options such as being able to return online purchases at stores. Meanwhile, shoppers in stores are more connected. According to a survey by CFI Group, 57 percent of consumers now use smart phones to assist in shopping activities while at stores.

In essence, consumers are driving demand in a much more direct and item specific way.

The “consumerization of IT” may have started with the smart phone, but now all that consumer empowerment needs to be backed up by systems for order fulfillment and new, better ways of item-level fulfillment in DCs.

Jeff Waller, vice president of retail supply chain solutions for Peach State Integrated Technologies, a firm that provides strategic supply chain consulting, and DC and materials handling services and solutions, believes the rate of change and the need for creative thinking is just as pressing today as it was during the first rush of e-commerce innovation during the “dot.com” boom of the late 1990s, an era he was involved with as a co-founder of an e-commerce business.

“Now with omni-channel, mobility and all the ways that consumers have to order and return products, the rate of change in the distribution arena is just as significant as I saw from 1999 to 2001,” says Waller. “The foundational elements are many, but the core thinking comes back to creativity and preparedness for change. Perhaps you’ve been successful adapting your DC operations the last 10 years. That’s fine, but you better be ready for more change, because the next 10 years will see even more change than the last 10 years.”

Effective adaptation to today’s megatrends starts with changing your perspective. It calls for a fresh look around four key issues:

1. The impact of e-commerce and consumer choice on information flow and order profiles.
2. The need for process modernization to adapt to today’s “each world.”

3. The importance of rapid payback on new systems and “small wins” in efficiency.

4. The importance of flexible, adaptable systems.

### Omni-channel's information flow

Omni-channel—the name given to the challenge of fulfilling orders for multiple channels through a cohesive distribution network—turns the information flow found in traditional supply chains on its head.

The days when fulfillment meant replenishment to stores or larger business-to-business (B2B) orders are fading away. Instead of forecasting regular replenishment, executed with full pallets, DCs now involved with omni-channel need to fill item-level orders. It's all because connected consumers are triggering the information flow, rather than internal forecasting or marketing processes.

“Consumer choice is driving operations more than ever before,” says Scott Deutsch, director of marketing for Honeywell's Vocollect Solutions. “It's forcing—not just influencing—operational changes in the warehouse. To adapt, leaders need to think about ways to support speed, accuracy, efficiency and flexibility.”

While a few years ago, many supply chains could afford to think of e-commerce as an insignificant pressure—just a percentage point or two of the overall business—today the tipping point has been reached. Many are already involved in multi-channel fulfillment. According to the *2014 DC Operations Survey* by Peerless Research Group, only 16 percent of respondents report their DC operations service only one channel, while 34 percent of respondents across all industries service an e-commerce channel.

While the omni-channel trend isn't new, companies are still trying to figure out how to adapt. “The retailers we talk to are very much in the process of trying to figure it out,” says Waller.

Omni-channel issues to consider, explains Waller, include how to best use your entire logistics network, including inventory held in stores, to fill e-commerce orders. Some retail-

ers are beginning to put warehouse management system (WMS) instances in stores to support e-commerce fulfillment, says Waller.

DCs which have been accustomed to picking full cases or pallets also need to examine their processes and systems for item-level and broken-case picking, says Waller. This may include a redesign of rack or pick modules, as well as systems that support productive and accurate item picking.

### Top Challenges Driving Change in Distribution Centers

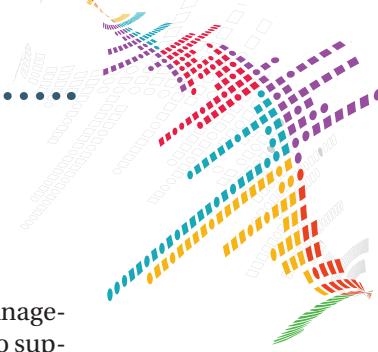
- Greater speed and velocity. More frequent, smaller orders are the pattern. While e-commerce orders typically are items or “eaches,” orders to stores increasingly also are at the split case or item level.
- More stock keeping units (SKUs) to keep up with the “long tail” of inventory associated with e-commerce. But at the same time, to keep holding costs down, SKUs need to be kept in relatively smaller quantities than in the past. This raises the bar on accuracy in the warehouse.
- New competition from e-commerce vendors and traditional retailers reinventing themselves means that supply chains also frequently need to change. This begs for systems that carry rapid payback and bring many “small wins” in efficiency.
- Retail supply chains need to excel at returns processes. Some retailers will choose to resell e-commerce returns as clearance items at stores they are returned to, but when reverse logistics is needed, this creates a need for more item handling back at the DC.

### Process modernization

The process requirements within DCs are driven by the “each world” of e-commerce orders, as well as a greater mix of stock keeping units (SKUs) needed to meet customer demand.

While e-commerce giants such as Amazon have made consumers accustomed to a very broad inventory assortment—the “long tail” of inventory sold online—DCs serving conventional channels also must deal with more SKUs. According to a report from McKinsey & Co., “The Decade Ahead: Trends that Will Shape the Consumer Goods Industry,” in the U.S. grocery channel from 2003 to 2010, the number of SKUs grew by 50 percent.

Companies have responded by SKU rationalization programs, but the fact is that SKU growth has filtered down to DCs serving brick-





and-mortar channels, as well as those involved with omni-channel.

“The concept of customer choice has a deep impact on logistics, and on your warehouse operations, especially when it comes to efficiently dealing with each-level order fulfillment,” says Deutsch. “Management needs to rethink the processes and systems they have in place to carry out their operations more profitably, while providing customer service levels that meet or exceed the levels of today.”

To adjust to changing order profiles and SKU mix, companies are rethinking processes that include:

- Reconfiguring rack systems to create more

logistics. While some retailers are finding it efficient to try to resell e-commerce returns at local stores where they are returned, some supply chains need to establish processes for packing items for easy consumer returns, and established returns processing lines or work areas in DCs.

### Rapid payback and flexibility

Because of the rapid rate of change fueled by e-commerce, DCs need systems that carry a relatively fast ROI. Decisions on systems that go into a DC—and even the design of DCs—also need to be made with flexibility in mind.

Consumer goods companies increasingly want DCs that are designed to be easily expandable, notes Waller. This might include preplanning areas where operations like item picking, packing or value-added services like kitting can be performed, so that as those needs grow, the area to perform the work is there or can be easily set up. Expandability also might mean designing the structure to make it easy to add dock doors.

More attention also is being paid to flexible sortation, such as choosing a sorting technology that allows for a broader mix of boxes and envelopes to be handled, Waller adds. There also is interest in materials handling systems and picking solutions that are relatively easy to reconfigure as SKU mix, slotting or other factors change.

“We look at flexibility all the way through the engineering process with DCs, whether its conveyor and sortation choices, the picking solutions to have in place, and the design of the DC itself,” says Waller. “You don’t want to be in the situation of having the business environment change quickly, which will call for changes in operational processes, and not having a plan to adapt.”

Voice picking solutions support flexibility because the interaction is voice driven and relies on simple operator responses/confirmations to voice commands, rather than on sen-



**Voice picking supports peak season and variable SKU locations.**

pick modules and item picking zones, along with ample conveyor and packing/parcel shipping capacity.

- Considering solutions that directly support efficient item-level picking, such as voice picking systems, and warehouse control/WMS features that support batch picking in which items from multiple order lines can be picked simultaneously.
- SKU rationalization efforts at the enterprise level, as well as segmenting inventory as to how fast they sell or by margin. This drives a need at the warehouse for more frequent slotting.
- Greater attention to returns and reverse



sors, vision systems, or other automation that may require specialized programming. With Web-based administrative software, it is relatively simple for end users to reconfigure voice picking processes, add new users, or new verification steps.

A voice picking solution typically provides pay back in nine to 12 months. Via integration to WMS or other inventory systems, a voice picking solution can easily adapt to change in SKUs. While other systems such as conveyor and sortation will likely be part of adapting to the “each world” needs of omni-channel, today, flexible systems that bring rapid payback and contribute to small, quantifiable wins (e.g., more order lines picked per hour) are needed.

### Time to change

While it’s a given that omni-channel fulfillment will involve operational changes, it’s easy to get bogged down with equipment choices, and lose sight of the strategic issues at play. It’s the larger trends such as omni-channel and its each world impact, SKU growth, and the need for greater velocity and accuracy in fulfilling item level orders which should drive tactics.

Finally, another critical issue is the graying of the workforce. The reliance of many DCs on Baby Boomers is becoming a major concern for executives, according to Ralph Henderson, executive director of the National Logistics and Distribution Conference (NLDC), an annual summit and think tank for supply chain executives. Attendees are concerned there is a generational gap developing, with a need to recruit more Millennials, while also using technology to capture knowledge currently known to older employees, but not captured within a system. “The generational gap and how to address it has become one of the biggest issues for supply chain executives,” says Henderson.

Voice picking, because it relies on voice commands and spoken interaction rather than manipulation of a keypad or menus on a device, simplifies training for workers of all ages, while appealing to Millennials for whom mobile devices and wearables are second

nature. Voice picking can also be set up in multiple languages, which can support organizations with global operations or in areas where English is often a second language for many front-line workers. In short, voice technology is highly adaptable to shifting labor demographics.

According to Waller, it’s important to get front-line employees involved in process modernization, especially experienced staff. “By using your workforce to help develop new processes and best practices, you can capture that knowledge base and you also get their buy-in for the new processes,” says Waller.

“The tipping point for serious consideration to handle e-commerce fulfillment in-house usually starts at about 5 percent,” says Deutsch. “When you get into that 8 percent to 10 percent range, the business typically has reached a threshold where e-commerce fulfillment needs to become a core competency.”

—Scott Deutsch, director of marketing for Honeywell’s Vocollect Solutions

It’s not only time to change perspective around issues like omni-channel and rising power of connected consumers, it’s time to think about ways to adapt to these trends. While tactics and systems choices will vary by company, to summarize, the foundational elements to consider are:

- Facility layouts and systems will increasingly need to support item-level fulfillment—the “each world” driven by e-commerce.
- DC designs, materials handling systems, and picking systems need to be as flexible as possible to adapt quickly to changes in demand.
- Process modernization is a must, but new systems should carry rapid payback due to the rapid shifting of fulfillment requirements.

The best overall advice for today’s challenging conditions is to be creative in how you design and adapt your DC operations. As Waller explains: “The companies who are able to think creatively about how to adapt their processes and enable their supply chains with current technology are the ones who will come out on top out on top.” □



### **For More Information**

Contact a voice specialist at 412.349.2515 or [VocollectInfo@Honeywell.com](mailto:VocollectInfo@Honeywell.com)

### **About Honeywell's Vocollect Solutions**

Honeywell is a leading provider of innovative voice technology solutions, saving companies more than \$20 billion annually. Every day, Vocollect voice empowers nearly one million distribution center mobile workers worldwide to move \$5 billion worth of goods. With a global team of over 2,000 certified professionals, Honeywell helps companies optimize and streamline their workflow processes, provides actionable performance insight solutions, and helps improve maintenance and inspection operations efficiency. Vocollect voice integrates with all major WMS, ERP, materials handling systems, as well as most MRO/EAM solutions and supports the industry's leading mobile computing devices. For more information, please visit [www.vocollect.com](http://www.vocollect.com).

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