

E-Commerce and Omni-Channel



■ Trade and Transportation

By Thomas O'Brien

The approaching end of the academic year does not bring me the same sense of closure it once did. Yes, students graduate; and this is a source of tremendous pride. But like my chosen discipline – logistics – education is much more of a just-in time business these days. Students are much more demanding about what, when and how they study. And a lot more of the educational product is customized, once again just like an agile supply chain. If school is not yet a 24/7 operation, it is at least a year round one.

I'm ok with that. You can't take a summer off when your focus is an industry as dynamic as global trade. And the changing nature of my classroom lectures and presentations reflects the changing priorities of key goods movement stakeholders. A few years ago, we weren't discussing omni-channel retail in the classroom. This year, we spent a lot of time discussing the changing nature of retail, including e-commerce and product customization, and what it means for not only distribution but the entire supply chain.

The advent of omni-channel retailing reflects the changing shopping patterns of consumers. Supply chains no longer serve only the ship-to-store shelf model. They have to accommodate home deliveries centered around Internet sales or deliveries to stores that act more like showrooms, stock room fulfillment centers or return centers than traditional retail establishments. The U.S. Department of Commerce reports that online sales now make up more than 5 percent of total retail sales in the U.S.; and projects that this figure will double by 2017.

This has tremendous implications for distribution networks.

Distribution centers (DC) are increasingly built-to-suit or owner built to ensure more customized material handling. The standard DC with 20-foot- to 24-foot-high ceilings has evolved into one with up to 40-foot-high ceilings that allows for more pallet positions on multiple levels for picking and packing, all in the service of daily fulfillment of online orders. Greater depths and wider column spacing also facilitate wide variations in volumes. Successful operations depend upon sophisticated technology and management systems, usually customized as well.

Outside of the building, the new designs accommodate an increased number of trucks and trailers that support more rapid flow-through of goods. The location of these facilities is also changing. The need to fulfill orders using same day or next day business models is creating a demand for mega-fulfillment centers in or near major metropolitan areas with access to large markets.

The impacts are felt beyond the DC however. Delivery companies are modifying fleets in order to be able to respond to the changing density of deliveries. More deliveries to the home mean fewer larger shipments, creating demand for different kinds of vehicles and vans. It also means less standardization in packaging, forcing shippers to respond to a whole host of challenges that include figuring out ways to meet customer demand while minimizing cost. Packaging also has to become "smarter" so that it can be read by smart devices. Amazon's decision to change the way it prices its Prime delivery services suggests that the cost of serving the last mile (when that last mile is to each and every home) is becoming a concern.

The cities and regions that host ecommerce facilities are also concerned. They're concerned about increased truck and van traffic, the impact of 24-hour operations on local communities, and the proliferation of large, trade-related facilities that don't necessarily fit into a pedestrian-serving or smart growth planning model. On April 1 the State of Minnesota began collecting a 6.5 percent services tax on commercial and warehousing facilities. This experiment will have other states looking to see if it's an option for them as well.

The changes in retailing and distribution may mean good news however for the workforce. Customization and the increased handling of individual items – in addition to cases and pallets – make for a more labor intensive operation. And the increased use of technology provides opportunities for people with skills in systems design, integration and maintenance.

Those opportunities also mean more work for us at the university. We have to read the signals from the marketplace as well when it comes to designing our various educational programs. But that's a good problem to have. A dynamic industry means we get to be dynamic too, even if it also means a shorter summer vacation.

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