# **CASE STUDY: The Changing Logistics of Grocery Delivery: It’s in The Bag**

**December 10, 2018** | By <Karen> M. Kroll – **Inbound Logistics (https://www.inboundlogistics.com/cms/article/the-changing-logistics-of-grocery-delivery-its-in-the-bag%20/)**

Food retailers are working to satisfy consumers' growing appetite for rapid delivery of everything from tomatoes to orange juice. To feed this demand, they're educating personal shoppers, developing new technologies to handle the last-mile, rethinking distribution networks and inventory planning, and partnering with technology companies.

Depending on your age, you might recall a milkman making stops at homes around town. By the 1950s and 1960s, however, home delivery of milk and other dairy products largely died out, a victim of the popularity of supermarkets, better refrigeration, and suburban sprawl, which forced milkmen to drive longer distances, increasing their costs.

Fast forward to 2018, and home delivery of all types of groceries is surging. Many consumers head online, order just about any grocery item from just about any grocer, and either pick it up or have it delivered, often within hours.

This shift in consumer behavior shows no sign of slowing down. Seventy percent of consumers will engage in online grocery shopping within the next five to seven years, according to Digitally Engaged Food Shopper, a 2018 study by the Food Marketing Institute (FMI) and Neilsen Holdings plc. Online food and beverage spend could reach $100 billion by 2022, says Mark Baum, FMI's senior vice president of industry.

**MANAGING CONSUMER PREFERENCES**

Even as the convenience of online grocery shopping attracts consumers, many grocers are struggling to determine how to satisfy this surging demand without decimating their bottom lines.

The challenges are daunting. For starters, consumers are notoriously picky when it comes to food and other consumables. That makes it difficult for a store's personal shopper to know, for instance, exactly how ripe a particular consumer prefers their bananas.

Education and technology can help. At Shipt Inc., an online delivery service company, Shipt Shoppers receive instruction on identifying the best produce and meat, says spokesperson Julie Coop. They shop frozen and refrigerated items last to ensure they'll be fresh at delivery. To maintain cold-chain integrity, shoppers store all items in separate insulated bags while choosing items and during delivery.

Technology also comes into play. At grocery delivery service Instacart, a data science team reviews historical data to most efficiently route its shoppers through stores. The company also leverages machine learning and real-time location technology to most effectively batch deliveries and route drivers.

Such training and technology require both time and money, which can cut into grocers' bottom line. Yet grocery margins already are thinner than for many other products.

Some delivery companies charge membership fees and/or require minimum order levels to gain free shipping. For instance, as of early November 2018, Shipt was offering an annual membership for $99, or a monthly plan for $14. It delivers orders of more than $35 for free.

Another challenge is the last mile. Moving food from a warehouse or retail location to a consumer remains a complicated, expensive endeavor. Unlike fashion or other merchandise, grocery deliveries must be made within a narrow time window, given the perishability of the items, notes Natan Reddy, analyst with CB Insights, a research and analysis firm.

**MAINTAIN THE CHAIN**

Cold chain integrity must be maintained throughout delivery. Today, that typically means the consumer must be home to accept the groceries, which reduces the convenience of online delivery. "The first retailer that can crack the code to affordable last-mile grocery delivery will win," Reddy says.

One potential solution is micro-fulfillment centers, Reddy suggests. These compact warehouses are small enough to fit into dense urban areas, where they're close to many consumers. They rely on artificial intelligence and robotics to efficiently fill orders.

In November 2018, Albertsons Companies announced a partnership with TakeOff Technologies to pilot a micro-fulfillment center that will streamline e-commerce fulfillment. TakeOff's technology, enabled by artificial intelligence, will handle much of the fulfillment process, reducing the time required to process orders.

Another option is BOPIS—buy online, pick up in store. This offers most of the online convenience, but eliminates the hassles of last-mile delivery, Reddy notes.

Autonomous vehicles may eventually help grocers tackle last-mile challenges. Because the vehicles are designed to carry cargo rather than people, they tend to be smaller and less expensive to fuel than traditional delivery vehicles. And, of course, they lack drivers who need to be paid.

"Autonomous ground delivery can fundamentally move the needle forward by shedding the cost of human delivery drivers," Reddy says. In June 2018, Kroger and Nuro, a maker of self-driving vehicles, entered a partnership to pilot autonomous last-mile deliveries.

An especially confounding part of the last-mile challenge is "the last 10 yards," or moving groceries from the vehicle to inside the consumer's home, while maintaining temperature controls. In a future with autonomous vehicles, consumers may go to the vehicle, flash an identification tag, and then retrieve their groceries, says Joe Bobko, vice president of transportation with [Boxed.com](http://boxed.com/), an online bulk shopping market.

In the next evolution of this technology, the autonomous vehicle may actually house a smaller autonomous vehicle that brings a customer's groceries to the front door or garage, or to a lock box. Further into the future, new homes may come equipped with robots that retrieve the groceries.

**MANAGING THE DISTRIBUTION NETWORK**

Grocers also need to determine where best to fill online orders. Obviously, retailers and delivery service companies can use physical stores, as the inventory and locations already exist. However, using stores this way presents its own challenges. To start, "retail real estate is expensive," says Yemisi Bolumole, associate professor of supply chain management at Michigan State University. In addition, most retail workers aren't trained to efficiently pick items.

Yet moving the process to a warehouse, and layering online orders on top of traditional pallet orders becomes cumbersome and inefficient. "It's mixing two very different types of work—that of a personal shopper and a traditional warehouse function," Bolumole says. As the volume of online grocery orders grows, more retailers should find it easier to justify an investment in a separate network for this part of their business, she adds.

Another challenge that arises as grocery shopping straddles both the online and physical worlds is accurately planning inventory. Most retailers determine their replenishment system based on their ability to build a reasonably accurate demand profile, Bolumole says. The growing number of consumers shopping through multiple channels adds complexity.

One solution is to develop online subscription services, particularly for laundry detergent and other bulky items that consumers prefer not to lug around, Bolumole says. Of course, for these to work, online consumers have to maintain their shopping patterns.

"This falls apart if consumers buy online today, and go into a store next week," she says. To minimize this risk, retailers may offer incentives to keep customers online.

**TECH PARTNERS**

In their efforts to develop reliable, cost-effective delivery capabilities, some retailers are partnering with technology companies—Albertsons' partnership with TakeOff Technologies is one example. These partnerships enable retailers to scale more quickly than most could by building capacity.

"We're in a golden age of experimentation," Baum says. Many retailers are both building their own capabilities and partnering with other firms that can bring technological expertise.

And even as many grocers build out their online options, most still are keeping their brick-and-mortar stores. "Brick-and-mortar stores are essential to business," Baum says.

One reason is the impulse shopping that often occurs once consumers are inside a store. Consumers tend to be more disciplined about sticking to their lists when shopping online, especially if they're replenishing basics such as milk and flour.

"We haven't yet found the silver bullet," says Florian Neuhaus, partner with consulting firm McKinsey & Company. Industry players are still searching for the right balance between cost and service levels.

Ultimately, it's likely that several grocery delivery options will prevail, says Vishwa Chandra, a McKinsey partner with a focus on grocery and retail. Consumers likely will vary their orders, depending on whether they need groceries immediately or in a few days. "There won't be one dominant solution," he adds.

It's a lot for grocery retailers to chew on moving forward.

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1. Watch the video on grocery delivery at <https://www.youtube.com/watch?v=9ztd8oDfLTo>
2. Answer the following (in complete sentences):
   1. The Challenge
   2. The Solution
   3. The Results