

Final Delivery: A Technology Perspective on Omnichannel Retailing

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Introduction

Final delivery is the recasting of the traditional online delivery model to support the new omnichannel world.

Final delivery is hardly a new concept for online and multichannel retailers. But the retail landscape has changed dramatically since the early days of on-line shopping. The lines between store and online shoppers have become blurred.

Customers still buy online and in stores. But they now also buy using mobile devices and kiosks. They order in-store with fulfillment being done by another facility or store. Delivery options have expanded too. Store pickup, third party services, pick up and drop off (PUDO) services, and delivery lockers have joined homes as final mile destinations. Retailers also have more delivery carrier options. In addition to the traditional national parcel carrier services, there is a robust ecosystem of regional and local carriers, courier services, and white glove delivery services providing more options and rate competition.

Final delivery is the recasting of the traditional online delivery model to support the new omnichannel world. This omnichannel delivery model starts with network design and positioning of fulfillment centers. Then it includes network-wide inventory visibility, distributed order management, vendor drop shipping, store fulfillment, and shipping. The model ends with the final mile delivery.

This provides the omnichannel retailer with the ability to increase product selection, save sales, and avoid markdowns through endless aisle functionality. Retailers can offer more expedited delivery services while reducing delivery costs. All in all, this model makes the omnichannel retailer more competitive.

The Role of Final Delivery and its Drivers

Final delivery is the fulfillment of customer-direct orders within an ecommerce and omnichannel framework. It covers processes and related systems, from order capture to final mile delivery. The role of final delivery is an integral part of the omnichannel landscape, where it provides the basis for fulfilling and shipping customer-direct orders. It also directly interjects the customer into the fulfillment process, by providing detailed visibility to inventory positions by facility, and supporting customer in- store pickup.

Final delivery impacts systems and processes across the entire retail landscape. A retailer's network of fulfillment facilities is governed by the final delivery operation, affecting how these networks should look and how they operate. Other industries that use final delivery processes are branded manufacturers and consumer products companies with direct customer sales.

The key drivers of final delivery are:

- **Competition.** Amazon continues to expand its dominant position in the ecommerce world by focusing on delivery as well as selection and value. It is building out a network of fulfillment centers that will allow it to support same-day and next-day delivery for its Amazon Prime members. Walmart and other big-box retailers are responding by leveraging their stores as forward fulfillment centers for customer-direct orders. This competition is impacting the business models of retailers of all sizes, which must change to effectively compete against Amazon and other big-box operations.
- **Endless Aisle.** Selection is a competitive advantage for any retailer. But stocking too much physical inventory has an adverse impact on profitability. Endless aisle allows a retailer to leverage vendor and supplier inventory through drop shipping. It also makes store inventory available for customer-direct order fulfillment. It provides opportunities for margin improvement by selling 'stranded' store inventory without the need for markdowns. It provides the customer with what she wants; a one-stop shopping experience.
- **Quicker Fulfillment Expectations.** In the omnichannel world, customer expectations only continue to grow. This applies to order fulfillment and delivery. Expedited service has become the norm, with same-day and next-day delivery representing the high ground. Convenience has become an integral part of customer delivery expectations. The customer wants her order delivered now according to her terms.
- **Profitable Growth.** As retailers seek to meet changing customer expectations, they must also pursue new opportunities to increase margins. These opportunities include

cost reductions on inventory, transportation, and fulfillment operations, as well as revenue growth, due to increased inventory availability and reduced mark downs.

Technology Challenges

Final delivery presents significant technology challenges for many omnichannel retailers. While many omnichannel retailers have made significant investments in their technology landscapes, their solutions are incapable of effectively supporting final delivery. These landscapes have been typically built on the premise that each channel operates independently. Final delivery requires systems that provide seamless execution across channels with a single customer experience, from order initiation through delivery. A single view to customers, orders, and inventory across channels is a necessary part of this equation.

Additional functionality beyond traditional order management and fulfillment is needed to support endless aisle and same-day and next-day delivery. Scalability across an extended fulfillment network, including retail stores, is a necessity.

Final delivery is an essential cornerstone of a demand-driven value network (DDVN). It requires that retailers focus on customer demand beyond the four walls of the store and fulfillment center. It supports a truly demand-driven operation where customers generate demand signals and pull inventory through the supply chain.

Responsiveness to customer demand is the key to making the sale. Since a retailer's supply chain typically crosses multiple echelons and parties, integration plays a critical role in supporting DDVN. Latency in processing demand due to ineffective integration between internal and external systems is unacceptable. Final delivery requires a multi-enterprise integration approach and platform fully capable of supporting a DDVN.

Technology Boundaries

There is no one-size-fits-all final delivery systems solution.

From a technology perspective, final delivery encompasses the systems that support the fulfillment and delivery of customer-direct orders. Final delivery is an integral part of an omnichannel retail model that supports:

- Buy anywhere – ecommerce web site, call center, mobile device, or in-store.
- Fulfill anywhere – fulfillment center, vendor drop ship, or in-store.

- Ship anywhere - residential address, store for customer pickup, third-party pick up and drop off (PUDO) service, or delivery locker.

Final delivery is inexorably linked to the fulfillment of customer-direct orders. As such, it can involve a variety of systems, from order capture through proof of delivery. It impacts retail merchandise management, inventory management, web commerce management, order management, customer service, supplier relationship management, store operations, warehouse management, and shipping. **There is no one-size-fits-all final delivery systems solution.** Requirements can vary significantly by retailer type and size. A mall-based fashion retailer has different needs than a grocery chain or department store.

A retailer's existing technology landscape also shapes its final delivery approach. Strategic enterprise platforms and directions place both constraints and opportunities on how a retailer pursues final delivery. However, the key drivers remain constant, regardless of retailer type and existing technology landscapes. Competition, endless aisle, and the need to support more expedited delivery services have a direct impact on final delivery systems.

The remainder of this paper will examine the technology required to make final delivery meet its full potential for a retailer. This paper will describe:

- Core requirements for an effective final delivery solution.
- Key factors that shape final delivery functionality and its deployment approach.
- Functional components which are inherent in a final delivery solution.
- Final delivery's position within the enterprise technology landscape.
- Deployment approaches.
- Technology challenges and enablers.
- Path forward in pursuing final delivery technology.

Core Requirements and Foundation

While final delivery solutions can vary in functionality and scalability, an effective systems platform must be based on these foundational concepts and core requirements.

- **Seamless Customer Experience.** Channel is an irrelevant concept to the customer who expects a seamless experience regardless of how her order was initiated, where it was fulfilled from, and how it was shipped to her for final delivery. This extends to the underlying systems and devices (desktop/notebook browser, mobile app, kiosk, etc.) that support final delivery. The customer expects a choice in how to interact with the retailer through the order fulfillment process. But she will not accept being forced to use separate systems at each step in the process.
- **Single View of Inventory, Customer and Order Data.** A seamless customer experience is impossible without a single view of inventory, customers and orders. These views cannot be siloed by channel, device, or underlying system. A consistent view to available inventory, customer information, and order status must be presented to participants in the process at all times. These participants include the customer, merchandise planners and managers, customer service representatives, store associates, fulfillment center staff, and delivery personnel.
- **End-to-end Visibility.** Visibility is essential to both fulfillment execution and customer satisfaction. A single view of data must be available, from initial customer interaction through post delivery. Available-to-promise must account for every network node, whether it is a regional fulfillment center, retail store, or vendor. The retailer must provide the customer with a complete view of order status from entry through final delivery, regardless of where the order is fulfilled and who delivers it.
- **Integrated Order Management Backbone.** Final delivery cannot meet customer expectations without an integrated order management solution which provides flexible, rules-based order brokering functionality. Sourcing orders across the network cannot occur on a rigid, batch transmission basis with a one-way information flow. It must occur near real-time with exceptions and status updates flowing back from fulfillment execution systems to order management systems.
- **Effective Orchestration.** Fulfillment of any customer order can involve multiple internal and external entities, including customer service representatives, fulfillment center personnel, store associates, vendors, and delivery services. The steps and processes involved in final delivery must be effectively orchestrated across all these entities so that a seamless experience can be provided to the customer. This includes vendors providing endless aisle drop ship services, as well as supporting endless aisle across internal fulfillment centers and stores.
- **Efficient Execution and Delivery Processes.** As customer expectations continue to increase, systems related to final delivery must support rapid fulfillment and expedited delivery processes. Fulfillment centers must contend with tighter cut-off windows and

more carrier/courier services when same-day and next-day services are offered. Order cycle time will only increase in importance. The execution systems that support fulfillment centers from dedicated national/regional facilities to individual stores must provide functionality that allows these operations to meet increasingly aggressive timelines. This need for efficient execution extends to final mile delivery, which can be performed by internal fleet, national/regional parcel carrier, local courier service, or white glove service. Efficient delivery execution can go beyond meeting service commitments, to include addressing specific customer delivery requests, notifications, and installation services.

Key Factors that Shape Solutions



The systems and modules that make up a final delivery solution can vary by retailer. The specific functionality required is dependent on the retailer's business and operational requirements. Consequently, there is no single final delivery package that can meet the needs of all omnichannel retailers. Given final delivery's business and operational footprint, it is highly likely that an individual retailer will employ multiple applications in a final delivery solution.

The specific applications and related functionality that make up a final delivery solution are shaped by:

- **Network Configuration.** This consists of the type and nature of distribution / fulfillment centers that make up a retailer's distribution network. Fulfillment and shipping functionality required for a specific fulfillment facility is directly dependent on its size and relationship to the overall network. For example, a national fulfillment center may need a top-tier WMS, while a lower- end, cloud-based package might be a better fit for a regional or local fulfillment center. A retail store fulfilling customer-direct orders would likely need an entirely different execution system.
- **Retailer Type.** From a final delivery perspective, this refers to the nature of a store network (big box, department store, discount, grocery, fashion, and specialty) and locations (anchor, mall- based, strip mall, free standing, and urban store front). A retailer's type determines its operating models as well as network configuration. This in turn drives functional requirements. Retailer type influences delivery service requirements (e.g., is white glove needed?), distribution center and fulfillment center

operational characteristics, and store layout (e.g. is there a large backroom operation?). Consequently the requirements for a store fulfillment application may vary significantly between a home appliance retailer and a mall-based fashion chain store.