

# MEETING LAST-MILE CHALLENGES IN A POST-COVID WORLD



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Grocery retail has long been used to a traditional way of delivering products to the customer. While the size, location, and function of stores might have shifted over the past decades, the basic logistics setup has largely remained the same. Although online grocery shopping is generally less mature than other retail sectors, it has seen rapid growth in recent years and a true step change during the COVID-19 pandemic.<sup>1</sup> This has placed the logistics model under strain as retailers have had to rapidly adapt to new demands and improve profitability in this critical channel.

Several solutions and online shopping formats have emerged, aiming to find the optimal handover point between retailer and customer. The growth in new consumer offerings varies by market but is largely driven by bigger, traditional, players. The models are increasingly being challenged, however, by startups and technology companies that are reinventing the grocery retail supply chain. To gain a competitive advantage, retailers must respond to major trends in consumer behavior and last-mile logistics.

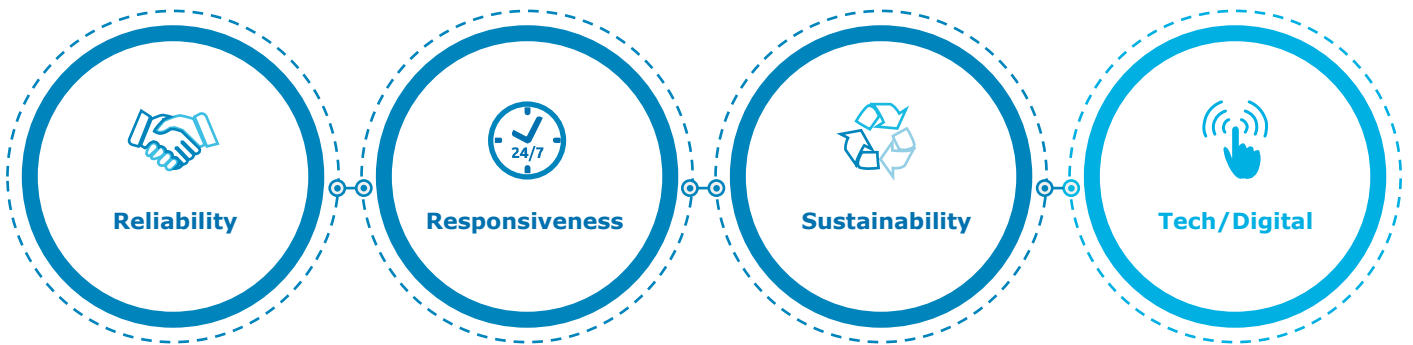
Due to the onset of the COVID-19 pandemic, some grocery retailers that did not previously prioritize online sales channels, have now had to scurry to keep up with a rapidly changing market and a shift in customer behavior. **“For others, the COVID-19 outbreak has accelerated their online transition efforts much faster than expected.”**<sup>2</sup> A recent survey<sup>3</sup> in the US shows that nearly 80% of US consumers now buy groceries online, which is an increase of 39% since before the pandemic. In China, we have seen astonishing numbers in online channel increase.<sup>4</sup> Although the exact future trajectory of online grocery is hard to predict, the step change seen through the COVID-19 pandemic has clearly embedded changed customer behavior with online being the new normal.



## Create competitive advantage by identifying the business levers most relevant to your customer

The pace of change has been punishing in grocery retail and consumer expectations continue to rise even as consumer offerings improve and mature. Grocers must naturally continue to focus on their customers when designing their last-mile strategy to ensure that the logistics cost base truly matches what delivers customer value. Therefore, it is essential to map the customer's last-mile demands from the retailer, based on which the retailer should develop its value proposition and fulfillment solution design.

In this point of view, we explore the levers that create value and deliver competitive advantage by responding to changing consumer behavior. At a time when many COOs and supply chain directors are faced with critical investment decisions, we look at what is required to align these with emerging customer desires.



**Figure 1: Levers for organizing a competitive last-mile**

As with any aspect of a grocer's operating model, last-mile delivery needs to be tailored to the needs of the retailer's target market segment. Some customer groups will value cost over convenience, for example, while others are prepared to pay for short time slots and lead times. **"Three levers and a supporting layer help to generalize these trade-offs when making investment decisions."**

**Reliability** – Ensuring that a delivery chain performs consistently at the right level is, of course, key for a grocery retailer. Having a high performance in on-time delivery and having a high availability of products in the online channel are among the KPIs most frequently used. Factors influencing this lever are, among others, network design (as this will affect the available range and inventory at the picking point), and the length of delivery slots made available to the customer. Another factor that should not be neglected is customer perception of reliability, which is heavily influenced by, for example, the availability of online tracking of the delivery.

**Responsiveness** – This includes the ability to scale up or scale down capacity to fulfill the required demand, but also to quickly add and include new consumer offerings in the retailer's portfolio. We saw an extreme case of this at the beginning of the COVID-19 pandemic, when customer demand for online groceries rose sharply, leading grocers to rapidly increase capacity in their entire supply chain to respond. Factors influencing this include both network design but also openness to novel partnerships (such as Hema's "resource leasing" model in China<sup>5</sup>).

Next to capacity, additional consumer offerings frequently drive the need for responsiveness and this is often competitor-driven (e.g., introduction of one-hour delivery to the local market). Having the responsiveness to meet these demands requires flexible IT systems and the ability to adjust internal and partners' processes.

**Sustainability** – The past decade has shown a tremendous increase in consumers' understanding that this world does not have unlimited resources. This has filtered through to purchasing decisions and expectations of companies to adopt sustainable business practices. Grocers are having to choose how to respond to this trend: whether to simply conform to regulations or to make sustainability a core part of their brand. Within last-mile logistics, this has resulted in players in several markets introducing electrical or other low-emission vehicles and working with packaging solutions to reduce plastic use. Optimal route planning (e.g., milk run concept) and timely communication of the expected delivery time also contributes to a sustainable last-mile and reduces the needs for a second delivery attempt or route re-planning.

**Tech/Digital** – Technology and digital processes are a supporting layer for the three levers above. Use of digital tools (e.g., autonomous planning and forecasting tools, AI/ML platforms to capture and analyze data from multi-channel customer interactions) enables understanding customer behavior and makes the change in the last-mile operating model possible. Technology can be both retailer-owned (ERP systems, apps for the customer, etc.), or consumer-owned (e.g., a smart door lock on the home or car to enable unattended deliveries).

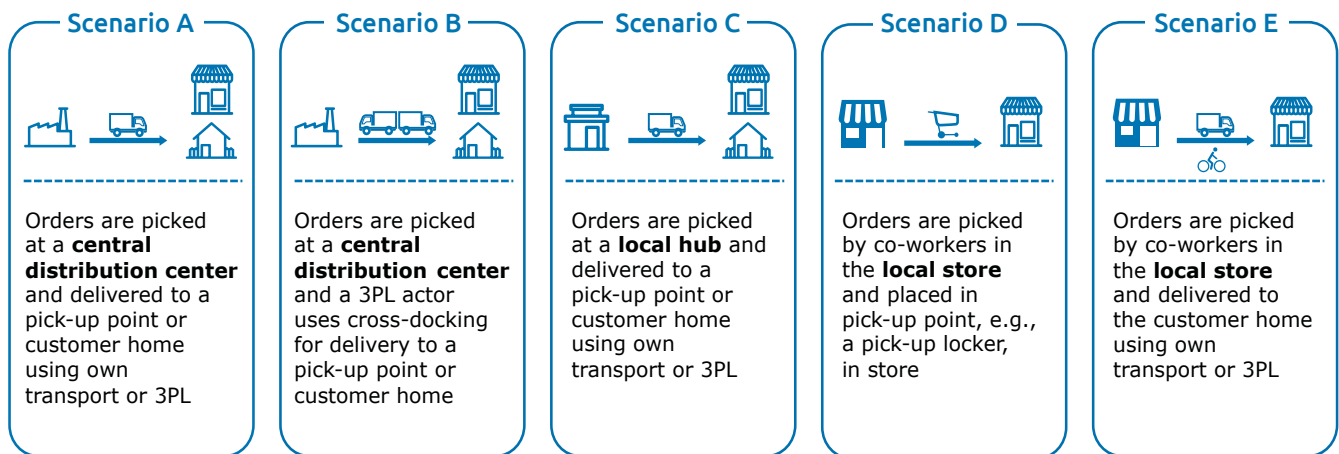
Having had a look at the last-mile business levers, what is the optimum? In practice, of course, that depends on the individual retailer and the market strategy they have chosen. Consumers clearly expect a different quality and service level from higher positioned brands in comparison with low-cost grocers. Higher reliability would typically mean higher spare capacity in the last-mile transport fleet to cope with sudden high demand swings, in turn leading to higher fixed costs.

Another example, this time for the sustainability lever, is introducing an electric last-mile fleet. A greener image may mean higher transportation costs, at least in terms of capital expenditure, but there will be an offset from the additional revenue realized because of the improved brand image. The exact impact will again vary greatly from market to market and from player to player.

Optimization of the business levers is to find a balance between forecast revenue and the cost base. This is at the heart of the investment decisions being made by grocery retailers as they adjust their last-mile models. But how do you strike a balance between these?

**Optimization of the business levers** – Capgemini views the last-mile as the part of the supply chain that commences when the consumer order is received and ends when the order is handed over to the end user of a product, for example by direct home delivery or delivery to a pick-up location.<sup>6</sup> The costs incurred during this process are strongly influenced by many factors, including network design, consumer offerings, and the level of automation. **“As network setup should be optimized to maximize reliability, responsiveness, sustainability, and cost-efficiency, getting full transparency in last-mile cost drivers is a pivotal exercise in setting up the last-mile.”**

To illustrate how cost drivers vary in different last-mile setups, we look at a range of scenarios (Figure 2), and investigate two of these in detail.



**Legend :** Central distribution centre Local hub (e.g., darkstore, small DC) Local Store Pick-up point Customer home

**Figure 2: Illustration of five different last-mile setups.**

Note that this is a non-exhaustive list and that other setups are possible.



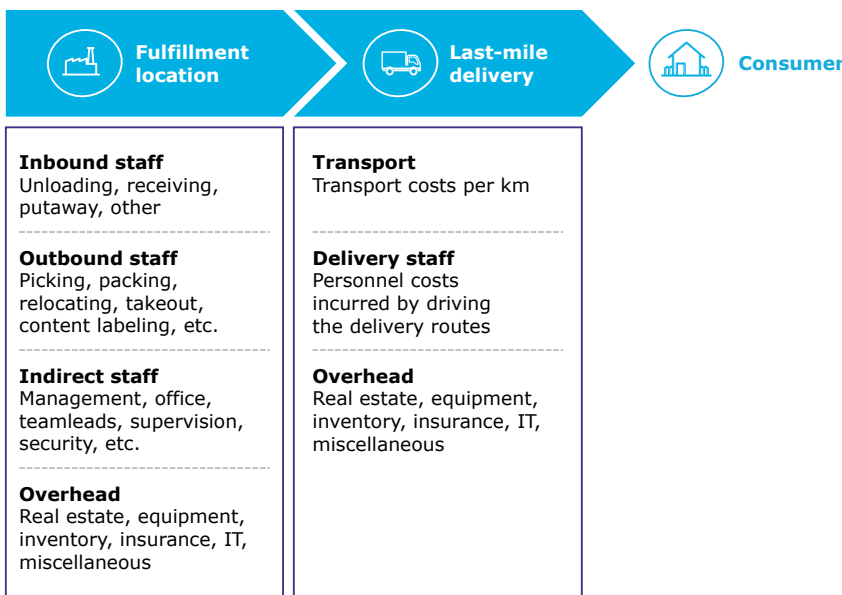


## Scenario A: Central distribution center

### Scenario focusing on cost effectiveness and robustness.

Although this simplified scenario (Figure 3) is rare in most geographies, it helps to illustrate some of the challenges that need to be addressed in the last-mile. We consider a grocery retailer that organizes its last-mile from one central fulfillment center. All orders are received, picked, and packed in the central hub and planned and loaded onto routes with nation-wide coverage. The home delivery routes all depart from that same central hub, aiming to deliver directly to the consumer's home. In case of unsuccessful delivery, the orders are taken back to the fulfillment center, frozen and refrigerated goods are stored accordingly, and a second attempt is planned for the next day.

This scenario enables lower inventory, handling, personnel and equipment costs, as all activities are performed centrally and the network can be optimized. Additionally, by eliminating intermediate hubs, overhead costs (especially real estate), indirect staff costs and costs incurred by duplicate handling activities are eliminated. This is, however, offset by the fact that delivery routes with a central departure point are generally longer in both distance and duration. This in turn leads to higher transport costs and longer order lead times. Of particular importance to the customer experience is the much greater uncertainty in delivery times as the longer routes incur a much higher risk of delay due to heavy traffic or other incidents.



**Figure 3: Scenario A: a last-mile setup with direct home delivery from a central distribution center**

■ Level 1 process step

□ Cost driver

## Scenario C: Local hubs with a central replenishment center

### Scenario focusing on flexibility and customer centricity

In scenario C (Figure 4), we consider a network setup that consists of a central fulfillment location and a set of smaller local hubs that are strategically located near areas with high order density. Orders are picked and packed in the local hubs, which serve as the departure point of the delivery routes. Being located significantly closer to the consumer, the local hub structure allows for quicker delivery in typically densely populated areas. As local hubs are generally a lot smaller and can hold less stock, the central fulfillment location serves as a replenishment center for the local hubs.

There are several interesting variants on this scenario that can be explored in the cost model. The local hub can be a dark store, for example, leveraging store real estate that is no longer performing. Alternatively, operations can be rapidly scaled through leasing of industrial units to rapidly set up local e-commerce hubs to cope with demand peaks until a more permanent change to the network can be made.

The decentralized scenario leverages proximity to the consumer to offer higher delivery speed and a superior sustainability proposition. Cost implications of this model are primarily infrastructural: the network of hubs poses higher overhead costs (real estate, equipment, etc.) and direct and indirect staff costs. As the process requires handling of orders in both the replenishment center and the local hub, direct staff and inventory costs are likely to be higher as well. This scenario, however, has the potential to save on transport costs as last-mile routes are significantly shortened by more cost-efficient long-haul bulk transport to the local hubs. This not only introduces transport cost benefits, it also allows for the allocation of zero- or low-emission vehicles (with typically shorter range) to contribute to sustainability objectives.

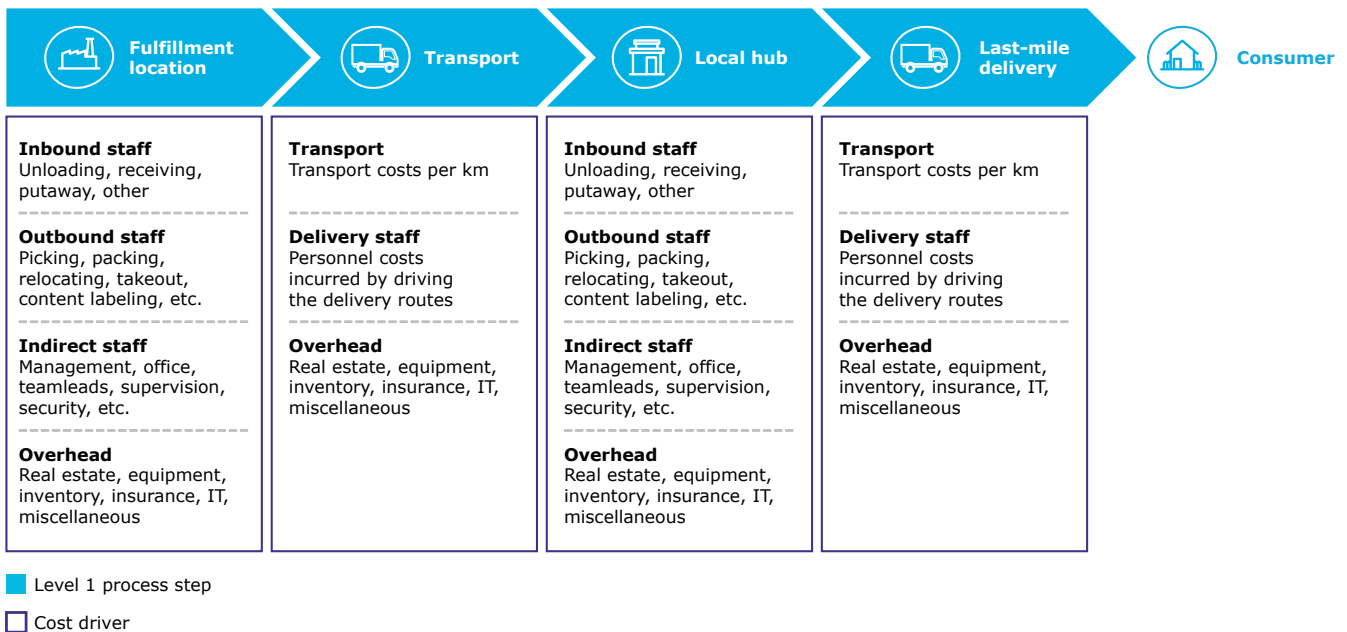


Figure 4: Scenario C: a last-mile setup with a network of local hubs

## What's next

Contrasting the two sample scenarios highlights the inseparability of last-mile ambitions and the need for a thorough business case. Last-mile cost composition is strongly dependent on strategic and tactical network decisions. While the business levers are a useful instrument to design the last-mile to maximize customer value, the ability to achieve optimal cost-efficiency directly impacts your bottom line.

In markets where last-mile costs are generally not passed on to the consumer (or in other words where online grocery is not yet profitable), this calls for COOs to have a thorough understanding of the cost drivers in the last-mile to make unbiased optimization and investment decisions.

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<sup>1</sup> <https://www.theguardian.com/business/2020/may/05/uk-online-grocery-sales-lockdown-internet-coronavirus>

<sup>2</sup> <https://on.ft.com/3jmFYwN>

<sup>3</sup> <https://www.supermarketnews.com/online-retail/nearly-80-us-consumers-shopped-online-groceries-covid-19-outbreak>

<sup>4</sup> <https://www.capgemini.com/2020/03/lessons-learnt-for-grocery-and-fresh-food-distribution/>

<sup>5</sup> <https://www.capgemini.com/2020/03/lessons-learnt-for-grocery-and-fresh-food-distribution/>

<sup>6</sup> Capgemini Research Institute, "The last-mile delivery challenge: Giving retail and consumer product customers a superior delivery experience without impacting profitability"

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