ORIGIN
MERCHANT PARTNERS

SOLVING THE FINAL MILE

Online Acceleration

It is indisputable that online shopping is in rapid growth. While shopping in all forms was shifting online well before the pandemic, its onset has accelerated the expansion of online shopping by at least five years. Every major retailer has experienced significant growth in their e-commerce businesses since March. **In their latest quarters, Walmart's e-commerce was up 79%, Target up 155%, and even Amazon was up 37%, while online grocery sales in Canada grew by 86% in the summer of 2020.** In total, online sales are expected to account for 20% of all American retail purchases in 2020, and approximately 12% of all purchases in the less developed Canadian market.

Exposing Problems

This sudden acceleration in online shopping brought the future of retailing forward, but also exposed deep problems in the system. Many e-commerce networks were not ready for the spike in volume, and the consumer experience of online shopping – which was already problematic – worsened as demand soared. Website functionality, unclear product information, out-of-stocks, pricing anomalies, fraud, complicated return processes, and uncertain delivery times have been flagged in consumer surveys as areas of concern. Food shopping has been particularly problematic: an October 2020 AC Nielsen survey reported that **70% of Canadian shoppers still prefer in-person shopping for groceries over online.**

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The Last Mile for Consumers: Slow and Unreliable

Issues associated with home or consumer delivery – known generally as the "last mile" – present a particular problem. A survey taken during the pandemic found that 36% of consumers have been let down by an online order since the pandemic started; 45% say deliveries are taking longer to arrive, and 42% say that unreliable delivery has lessened their trust in online shopping. Clearly, shoppers want faster delivery, more reliable delivery, more flexible time slots, and better security. On that last point, more than 4 in 10 shoppers have had a package stolen before it could be delivered. **According to Rensselaer Polytechnic Institute, 1.7 million packages per day were lost or stolen in the US every day – and that was pre-pandemic.** Although order pick-up points are growing in number (Amazon, Penguin, Click-and-Collect), they represent a small fraction of the consumer physical inter-face, and carry a high (i.e. inconvenient) price to pay for security and flexibility.

Purchases are not satisfactory
36%

Deliveries taking longer
45%

Less trust in online retailers
42%

Experienced stolen packages
40%

The Last Mile for Businesses: Expensive and Complex

As troublesome as physical package receipt is for consumers, the last mile physical delivery is also expensive and complex for businesses. These issues are exacerbated by consumer demand for faster delivery, which by nature is more expensive. **A recent survey found that 87% of consumers identified shipping speed as a key factor in the decision to shop with an e-commerce brand. As a result, same-day and instant delivery are the fastest-growing delivery segments.**

Retailers have responded to this pressure by investing heavily in methods to process, pick, pack and load goods faster, but the speed of last mile itself has barely changed, and the costs of that mile have risen. Generally, the last mile constitutes between 25 and 30% of the cost of picking, packing and shipping. High-profile investments in last mile improvements have been in the areas of driverless technology and electrified vehicles, neither of which addresses speed or, to any great extent, costs. More meaningful investments have been in route optimization and tracking, but to date, these have had a minimal impact on cost reduction.

One last mile dream for ecommerce companies is frictionless customer contact. Deliveries without customer interaction are highly efficient and lower cost. COVID deliveries (essentially drop-and-runs) have shown this to be true, but may not be effective in a post-COVID world due to package theft and spoilage.

Everybody Pays

Retailers, grocers and restaurants try as much as they can to pass delivery costs onto consumers, leading to a wide range of delivery charges ranging from free to expensive, depending on memberships, promotions, distance, weight, cube and sometimes the actual cost of the delivery itself. Most retailers and grocers, despite the delivery charges they command, cannot come close to covering the actual cost of the physical delivery. Those costs, depending on the density of the truck route, congestion, the sensitivity of the product to temperature, weight and cube, can run anywhere from $8 to $40 per delivery.

It is notable that DoorDash, UberEats, Postmates and Grub-hub each charge **30%-40%** of the value of the food they deliver, yet still don't generate a profit.

Larger Societal Problems

Layered onto the consumer problems and business costs of home delivery is the social and societal toll. In urban centers, parcel delivery vehicles block lanes and add to traffic congestion and pollution which, underline without intervention, will much get worse as volumes grow. This is exacerbated by e-grocery, restaurant food and meal kit deliveries, all done with a variety of vans, trucks, bikes and scooters. Driverless technology and electrified vehicles do not address congestion, and only the latter addresses pollution, while drones remain a remote and small possibility. This would be less of a problem if e-commerce congestion was offset by a reduction in consumer-to-store traffic, but analysis by Euromonitor and others suggests that direct deliveries only reduce consumer-to-store shopping traffic by 30%.

In addition, we have the plight of the drivers and couriers themselves. **From January 2018 to January 2020, the fastest growing category of US employment was the "courier and messenger" industry.** These "gig economy" workers are poorly paid, under immense pressure to speed, and occasionally in danger.

Modest Efforts

Improving the last mile is a recent focus of retailers, shippers and technology companies. But efforts so far – in relation to the enormity of the problem – have been either misguided or modest.

Converting delivery vehicles to alternate energy sources reduces pollution but does little else. Alternate smaller delivery vehicles such as electric cargo bikes (like those used in Montreal's Colibri project) address pollution and congestion, but are restricted in load size and weather management. Systems such as Joyrun, (recently purchased by Walmart), peer-to-peer systems employing vehicle capacity among consumers, have capacity to combine shopping trips, but are essentially not experts, just neighbours.

Software companies are developing suites of solutions that can be matched to various last mile delivery problems. These include relatively mature technologies such as route optimization, delivery tracking and automatic dispatch; all contribute to overall improvement, but on a discreet basis.

There have also been attempts to develop secure porch systems. Low-tech designs such as Parcel Guard and Clevermade parcel lock boxes are basically small safeboxes; slightly more sophisticated systems such as HomeValet (now in test with Walmart) require electricity for refrigeration and use WiFi to communicate with couriers. None of these are fully integrated with package tracking and consumer data technologies.
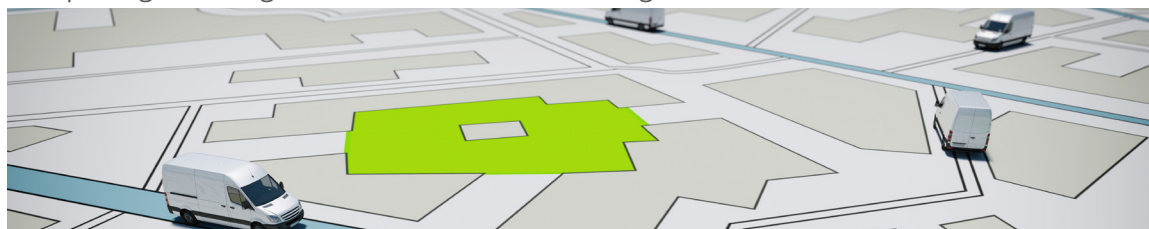
Wanted: A Complete Re-Think

As mentioned, there are a number of initiatives worldwide directed at lowering costs, reducing congestion and improving the customer experience in this "least-efficient mile". These range from governmental programs, to public-private projects, to entrepreneurial solutions. Current efforts are far from yielding concrete results and few are even in test. But for investors, this will and should be an area of focus – breakthroughs here could yield big returns while solving some growing societal problems.

We would segment this necessary last-mile re-think into these areas:

The Vehicle

The bulk of last mile vehicle work has been about converting petroleum engines to battery or hydrogen; route optimization; making the vehicles driverless; or replacing them with drones. In our view, considerable work should be done on related vehicular areas: combining and consolidating loads – particularly from a variety of retailers, suppliers or categories; real-time tracking of the packages within the truck, rather than just tracking the truck itself; dynamic re-routing; and night-time deliveries.

The Customer Experience

Customers want flexibility, speed, low cost, no friction and reliability. Why can't customers be informed at every moment of the location of their package? Why does a customer usually have to be home to receive a delivery? Why can't customers return a package without leaving their home? Why shouldn't every delivery to a customer be priced exactly for the service (i.e. faster = more expensive)? Why can't consumers get one delivery with multiple orders on it? If we are truly interested in getting the customer experience right, these must be solved.

Security

In normal times, people are not home for the delivery, and a missed delivery combined with a trip down to the UPS outlet destroys the customer experience. Through the COVID era, the theft of unattended packages has soared, and delivery reliability has plunged. This will be exacerbated post-COVID, as consumers will no longer be at home to receive or check for deliveries. Observing these deliveries from remote locations via Nest or Ring cameras may be interesting, but does not mean that packages can get inside the door. Efforts to solve this problem could include deliveries to on-premise secure boxes, car trunks, or lockers. Some these are beginning to appear, but few are porch systems, and none are fully integrated into the networks of grocers, shippers and data analysts.

There has been plenty of talk and analysis of the last mile, along with early efforts to solve pieces of what may be the most intractable e-commerce problem. "Since 2015, start-ups focused on last mile delivery solutions have seen $11.1bn injected into the industry, with $9.9bn of that going into firms developing unconventional delivery modes, such as crowdsourced delivery, drones, autonomous vehicles and shipments to parcel lockers". (Source: The Loadstar) These have been a series of discreet investments in individual technologies. No doubt, some will pay out handsomely. But the capital markets have not yet begun to think about this as an entire system, with benefits to consumers, businesses and societies.
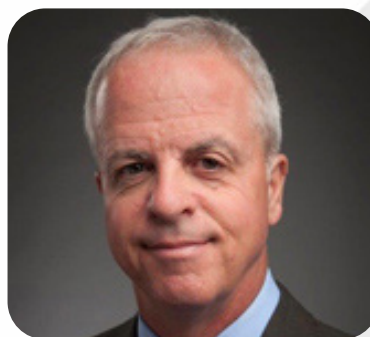
The last mile is a big question that demands bigger thinking and bigger solutions.

If you would like to discuss opportunities in the last mile space, please reach out to...

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