

“The logistics industry is currently besieged by new innovations with on-demand and autonomous deliveries expected to change the way parcels are expected to be delivered in the future”

“Click & collect model will still be relevant in the future and will transform into a click & commute model. Retailers will continue to partner 3rd party firms and startups to offer dedicated collection points such as tubes, railway stations, etc to provide for more convenient solutions to the end consumers “

“Car boot is emerging as the new locker box for deliveries. Recently Swiss Post in collaboration with Volvo and Le Shop.in trialed delivering packages to the boot of the car. Using a temporary digital key provided by Volvo, Swiss Post is able to make deliveries on behalf of Leshop”

Innovative solutions in logistics have started to transform the way goods are being delivered, especially in the last mile. Retailers and consumers have started to become more demanding, with user experience and instant deliveries becoming critical factors within the market. This is largely coinciding with an influx of tech-savvy startup firms within this space that are introducing newer value-added services not previously witnessed. Currently, the last mile is considered one of the biggest hurdles within Logistics. Recent research suggests that roughly two-fifth of the overall logistics costs are being spent on the last leg. This has resulted in logistics and transportation firms looking at technology and new business models as alternate means to address the growing issue of the last mile. Integration of connected devices, data analytics, machine learning, innovative stock management systems, and other related technologies are becoming pivotal to driving some of these new business models.

Here is a view on some of the major business models that Frost & Sullivan has identified from its comprehensive research and analysis on the various last mile delivery solutions.

Business Model Scenario 1: The Case of Click & Collect

High direct costs of failed first time deliveries have forced traditional and online retailers to explore click & collect type delivery solutions to minimize the costs on the last mile. By increasing the number of collection points positioned closer to end consumers, retailers are providing consumers with flexible options of collecting their parcels at a time of their convenience. For instance, majority of Walmart's stores are found within 5 miles of 70% of US population and the firm is looking to expand its click & collect solutions. Another classic example is that of John Lewis that is using click & collect delivery model as a dual edged strategy that encourages consumers to shop both online as well as in-store when collecting their purchases. This allows the firm to increase footfall in its stores.

While the click & collect model is largely dominated by some of the big retailers, it is also creating opportunities for eCommerce technology providers such as MetaPack that provides for an effective delivery management tracking software that facilitates real time inventory updates to provide retailers for a more effective click & collect solution.

Business Model Scenario 2: Locker boxes to replace Click & collect?

A digitally more secure form of click & collect solution is the locker box delivery solution. Many delivery firms are looking at locker boxes as an alternative address location to deliver parcels to. For instance, DHL's secure electronic parcel locker box solutions that it terms as Packstation was introduced by the firm as an alternative to home deliveries where consumers can collect parcels at no additional costs. DHL's solution was considered to be very convenient solution given that 90% of German population was roughly 10 minutes away from such locker boxes. It provided more flexibility to consumers as they could have access to such solutions 24/7.

The locker box model has not yet gained the same level of traction as that of the click & collect model. They are considered more expensive in terms of setting up and maintaining such forms of solutions. However, firms are becoming more innovative and tech savvy when it comes to providing similar solutions. For instance, logistics providers are collaborating with automotive majors and retailers to having packages delivered to car boots that act as locker boxes.

Business Model Scenario 3: Micro Distribution centers

High costs associated with congestion, parking fines, and stricter regulations have resulted in traditional van truck deliveries becoming highly unfeasible. With more emphasis on the environment, local governments have started to impose massive fines running into millions of dollars of annual costs. Furthermore, the local bodies have started to regulate the entry of delivery trucks during peak periods. Most countries across Europe have started to have strong environmental laws that ban or minimize freight traffic between 10 AM and 4 PM. In that sense, the future of urban deliveries could well be the use of cargo bikes. Logistics providers have started to use micro distribution that will incorporate 2 wheeled and 3 wheeled e-cargo bikes to have packages delivered to the end consumers. DHL Express as part of its "GoGreen" environmental protection program has recently adopted a novel city hub solution that will make use of cargo bikes for inner-city deliveries. By adopting such modes, DHL is able to drastically reduce emissions with its solutions expected to replace 2 traditional vans saving about 16 tons of CO₂ annually.

Business Model Scenario 4: Next day to Same day to Same hour deliveries – On-demand solutions

Growing E-commerce market coupled with seamless connected technology will allow service providers to deliver packages real time. Mobile apps and crowd sourced platform based solutions are essential to provide for a pervasive on the go type delivery solutions. In that sense, more providers are expected to be forced to provide same-day type solutions, which is likely to be the true alternative for the current next day delivery solutions. Such types of solutions are also set to eat into the market share of other business models such as the click & collect and locker box solutions.

The on-demand market is expected to be flooded by innovative asset-less start-up firms. Firms that provide app-based solutions will be able to effectively integrate consumers, retailers, and service providers under a single platform. A growing trend is where these start-ups partner and work exclusively with some of the small and mid-sized enterprises that are not locally present to assist them shipping from stores. This would allow them to compete with the large online players within this segment. Uber is the latest entrant to the on-demand race in logistics with the firm looking to unleash its technology by replicating its on-demand taxi model to facilitate food and grocery delivery.

"Dutch firm Urban Arrow recently introduced its e-cargo trike that has the potential to replace delivery vans for the last mile. Currently its solutions are tested by the Dutch supermarket Albert Heijn for its deliveries in Amsterdam as part of its zero-emission mission objective"

"A leading German start-up has come up with a service delivery platform comprising strong technology to initiate a system where the consumer is in control of deliveries by making them seamless and as exciting as online shopping, everything being a click away. Its dynamic consolidation and route optimization tools allow the firm to bring in additional shipments to the delivery process The firm is expanding its solutions by currently rolling out its crowd sourced platform that will allow it to integrate anyone within 3-5 minutes "

“One of the biggest retailers within the fashion industry in Europe provides an execution platform for other professional brands and its partners for fulfillment and logistics services. The firm has invested heavily in last mile solutions by coordinating not only with standard carriers but also with local startup players by setting up same day networks to facilitate flexible and convenient solutions for its end German consumers. Lastly its recently launched project also covers the returns aspect of the business”

“Regulatory challenges have resulted in new autonomous solutions such as Delivery Bots gathering momentum for the last mile. While firms such as Starship are already known for its solution for urban last mile deliveries, there are not many that concentrate on semi-urban and rural deliveries. Teleretail, a Swiss startup, is one such firm that is positioning its Delivery bot solution for semi urban on-demand deliveries. The firm is looking to partner the major carriers across Europe such as Swiss Post and French Post to target this portion of the market“

Growth in real-time solutions also results in providing more use cases for dynamic route optimization and investment in analytics. For instance, Amazon had patented its solutions to predict or anticipate where and when the next shipping could likely come from. Firms are also looking to expand their gamut of operations to cater to the returns part as well. Firms such as Happy Returns have introduced a business use case that largely targets the pain points of online retailers that do not have a physical brick & mortar presence within the United States. Current return policies for most online retail players only provide for a “free return by mail” process that is largely cumbersome and a time consuming process. By providing for centralized in-person returns services to online retailers, Happy Returns is able to create an infrastructure to structure the returns process within the market. In future the firm is looking to provide for real time solutions that will allow the firm to facilitate a more transparent and seamless solutions for returns logistics.

The future is largely moving toward instant deliveries. There is already enough to suggest that this is likely to happen with same hour type deliveries expected to be the norm. Majority of deliveries are expected to be urban deliveries, with food, groceries, and clothing expected to be the major products that consumers are likely to order online.

Business Model Scenario 5: Autonomous solutions driving Logistics – Rise of Delivery Bots

Autonomous solutions are expected to dominate logistics by 2020. Fusion of machine learning, algorithms, and IoT will allow machines to sense their surroundings and function autonomously in a real time setting. There is already a lot of buzz on drone deliveries. Amazon has started to research and test its drone solutions through its Prime Air project. Another example is that of the drone startup, Matternet, which assisted in delivering crucial supplies of food, and medicines after the earthquake in Haiti. Furthermore, the firm has already completed test run of its drone delivery network in Maseru, capital of Lesotho. Matternet’s drone network is creating tremendous value in Lesotho, which is largely characterized by scarcity of paved roads thereby making transport of goods very difficult. The firm is able to transport blood samples from clinics to hospitals so that these could be analyzed for tests or research.

However, there have been a lot of regulatory hurdles when it comes to legalizing drone solutions that have resulted in the concept yet to be commercialized. This has given rise to other forms of autonomous solutions such as Delivery bots to deliver packages for the last mile. The Delivery bots are gaining a lot of traction given that the regulations are not as complicated to those of drones. Moreover, many see that the Delivery bot solution is expected to gather momentum for urban and semi urban deliveries given its ease-of-use and scalability of operations. Most parts of Europe and Americas have already legalized the concept of Delivery bots that has resulted in many firms testing this solution. Starship technologies, one of the major providers, are ready to commercialize its Delivery bot solution. The firm in collaboration with on-demand food and grocery firms has trialed the use case of integrating such solutions for packages not in excess of 5 kgs within a 5 km to 10 km radius.

So where are we heading?

While service providers have already started to test the efficacies of different business models, the future can well see commercialization of autonomous solutions within Logistics. This will not mean that the other business models become redundant. However, we could well see a scenario where there would be a convergence of different business models to create more efficiency when delivering packages. Concepts such as van drone, van-delivery bots or even using Delivery bot for click and collect may not be a distant reality given the advancements we are currently seeing within logistics.