

# Entrepreneurship in last-mile delivery: The case of Burd Delivery

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The continued strong growth in e-commerce has prompted large delivery companies such as DHL or PostNord to adapt their last-mile delivery processes. These logistics providers usually have large infrastructures such as warehouses and terminals in place that cater more to the efficient handling of packages. While this drives down the per-unit costs of delivering packages, this very infrastructure set-up challenges these companies from offering high speed in their deliveries. Customer preferences, however, have moved towards ever-faster speeds in delivery, a speed that is only possible with superb technology set-up to optimize routing and secure customization through extended service concept beyond time and place of delivery. Burd Delivery is one of the new start-ups that have seen a business opportunity in the last-delivery market. We have talked to them.

## Entrepreneurship in last-mile delivery

Advancements in technology together with an increase in e-commerce has paved the way for opportunities for differentiation in the last-mile, especially for start-ups. The changes in consumer preferences and behaviour have led to the emergence of smaller, "entrepreneurial" companies providing service to markets that the more established players may have difficulties with or do not want to get into because of their current infrastructure. By leveraging advanced technology and innovative business models, they seek to satisfy the challenging and increasing consumer demands.

In this article, we want to highlight entrepreneurial activities in last-mile deliveries. More specifically, Effektivitet had the pleasure of meeting with Jakob Kristiansen, founder of the Danish start-up Burd Delivery (BD), which is an innovative Danish start-up that is poised to change the rules of the game in last-mile delivery.

## Burd Delivery: The business model

BD was established in 2016. In founding his own company, Jakob



Kristiansen took special inspiration from successful sharing economy companies like Uber and Airbnb. He admired both the technology-driven business models but also the values and entrepreneurial spirits of these companies. Uber for example uses advanced algorithms to navigate vast fleets of cars within the cities it operates and prides itself on being a service-minded company. However, BD has developed its own business model that – among other things - operates with an employment model that fits the Danish tax system better than a contracting model with delivery people. It is on the other hand an important part of the business model that the delivery people use their own equipment and vehicles (cars or bicycles) to pick up and deliver the packages. The delivery personnel are hired part time and include students, people with limited work capacity and those who just like a purpose for their bike trip. Just like the American platform companies, BD uses algorithms to manage the delivery process and ensure customer satisfaction of the highest order. The unique selling proposition of BD is same day delivery (speed) and service at the same time as being price competitive. With Jakob's own words,

“We empower the consumer to manage his or her own delivery”.

### Operations model

Customers place orders with one of BD's clients during the day. Today, BD cooperates with well-known Danish retailers such as Matas, Saxo and Mads Nørgaard. Their orders are collected by BD in the afternoon and already are delivered in the same evening in a time window where most people are at home. The receivers of the packages (consumers) can follow the delivery on their phone and can get in direct contact with the delivery person. Since the packages are delivered in the evenings between 18:00 and 22:00 when people are usually not at work, the deliverability rate of the packages is unusually high. Moreover, traffic activity is significantly lower in the evening which helps keeping costs down.

Larger logistics providers will – all other things being equal - suffer from a trade-off between speed and costs. If a company provides higher speed, it needs to use more cars / more rounds instead of waiting to consolidate packages in one large vehicle. This is also not good for the environment as more rounds driven means more CO<sub>2</sub> and other types of emissions. More delivery rounds also result in higher costs in form of higher operating and salary costs. BD mitigates this issue by using advanced algorithms that plan optimal routes, in which the distance is minimized and deliveries are optimally tailored to the needs of all stakeholders involved – BD, the driver (delivery person), the client and the consumer.

As a service, BD offers flexibility and customization. Using a browser, customers get a text message 45 minutes before delivery and can follow their packages using a tracker until delivery. In the near future, BD introduces a system that enables them to inform the customer within what hour they arrive, at around 17.00 and again send tracker information when the driver is within 45 minutes from the delivery address. In the pipeline is also a new system that allows consumers to book a delivery within a certain hour. Moreover, they offer the added flexibility

of delivering it to a certain location of a customer's choice. In the future, BD plans to utilize the growing network of delivery lockers in urban areas in providing the best-possible customer experience. As Kristiansen stated, within the next few years no person in Denmark will live further away than 300 m from a delivery box. Such a dense network of lockers will help BD in further optimizing its network and facilitating the delivery process within the urban areas. In case a package cannot be delivered to the customer, it could be placed in a locker and later be picked up by another delivery person. The lockers could thus act as potential “decentralized” city distribution hubs with much lower operating costs and no capital costs. Moreover, the company plans on adding value to ordinary delivery services by simplifying the dreadful return process. Instead of having to return the package to a post office or distribution point, BD users could simply order a driver to come and pick their return packages up from home. BD furthermore puts a strong emphasis on environmental sustainability and values social and ethical employment, which build the foundation for the company that seeks to be sustainable in environmental, social as well as economic terms.

### Sustainability

Sustainability has become an increasingly important topic in the transport industry, mainly because of the amount of carbon dioxide emissions resulting from fossil-fueled vehicles. However, from a triple bottom line perspective, true sustainability is the intersection of environmental performance, social and economic performance.

### Environmental performance

When asked about BD being a green company, Kristiansen argues that one needs to take a holistic perspective of a supply chain when answering this question. He explained that he does not consider BD a green company since they operate within the last-mile section of a supply chain, which only constitutes about 5% of a product's total emissions. “However”, he continued, “Burd takes every step necessary to carry out their part of a product's journey as green as possible”. Hence, Kristiansen mentions that BD is planting trees to compensate for their carbon dioxide emissions. Compensating for the emissions is good for the environment. “This activity alone, however, cannot be considered a fully sustainable initiative as it is not contributing to either the financial or social sustainability aspects of the triple bottom line”, he continues. Rather, he emphasizes that it is BD's technological focus and development that has a positive sustainable effect on the environment, as optimal route planning and allocation of packages to drivers can be improved by fine-tuning algorithms. Improvements in technology can maximize efficiency and thereby reduce the environmental impact of vehicles. It will also potentially reduce the delivery time and thereby have positive effects on costs.

Furthermore, BURD's sharing economy approach relies on drivers using their personal vehicles for delivery. Although the company actively promotes the use of bicycles, this aspect of the business model makes it difficult for BD to control and manage the carbon dioxide emissions generated from deliveries. Although bikes are preferable from an environmental perspective, Jakob explains that bikes are limited in terms of capacity and geographical reach, thus having a negative effect on the economic sustainability. To tackle this problem, BD is planning to incen-

tivize the use of cargo bikes by devising a funding scheme for employees. This will be done by offering employees to purchase cargo bikes by splitting the payment into the monthly salary. Even though cargo bikes will not solve the geographical reach problem, it will improve the capacity of bike deliveries and therefore be beneficial to use within city limits. More importantly, having a higher share of bike deliveries compared to car deliveries will lower the carbon footprint of their operations. Initiatives like this have the potential to satisfy all three aspects of the triple bottom line. It will have a positive environmental impact in that bikes produce less carbon dioxide emissions than cars.

### Social performance

Apart from having a green mindset, Kristiansen also puts a strong emphasis on being a good employer and providing an adequate employment package. The company operates socially in that the drivers will be fully employed by BD and are therefore eligible for holiday pay and ATP payments. Through this sharing economy approach, BD invites people to participate in the process of package delivery and creates shared value by closing a gap in the last-mile delivery process. On the one hand, they are able to offer new jobs and on the other hand, the company can use these new employees to carry out a fast and flexible delivery service. Essentially, BD adds low-skilled job seekers or low-salary workers as an additional stakeholder to the group of urban delivery stakeholders. Moreover, by offering employees to purchase a bike, which can also be used privately, through the aforementioned bicycle payment scheme, they effectively lower the entrance barrier of working in that industry. This gives people who would otherwise not have the adequate means, i.e. vehicles, the means to participate in the market.

### Economic performance

Economically, BD has seen a growth of several hundred percent in 2019, a growth that is expected to continue since their business is satisfying a customer need in conjunction with the growth of e-commerce. There are, however, concerns that BD needs to address. Firstly, they need to

figure out how to sustainably scale their operations in the future. Since paying driver salaries are one of the major expenses for BD and more deliveries can mean having to hire more people in the future, which would lead to more salary expenses, they will have to find ways to, for example, boost the capacity per driver. Their cargo bike-financing scheme might be one answer to this question. Furthermore, BURD needs to find better ways of coordinating delivery schedules with their customers' warehouses. Surprisingly, BD's customized deliveries sometimes become a problem because customers' warehouses can have a hard time matching speed with a mass production approach in their operations. If warehouses do not have enough time to pick and pack, there will be missing parcels for delivery, which hampers BD's operations and customer service. This can occur by coincidence or at consumption-heavy days like Black Friday. Since warehouses work with many transport companies based on mass production, BD needs to find better ways of coordination such as requiring priority of BD parcels. However, this will in turn require warehouses to create different picking systems for different delivery companies or speeds.

### Burd Delivery as player in a new economy

BD is already making use of some aspects of the new economy, we have outlined in this issue of Effektivitet. They seek to compensate for emissions in cities and apply a sharing economy approach. They emphasize and build on social sustainability in seeking to be a good and responsible employer also for people who are not fit for a full time job. Still, they are integrated in their clients' (retailers and producers') electronic platforms but may establish one of their own through a BD app. As they emphasize that economic sustainability is the foundation of the business, they are working hard to find ways to improve environmental sustainability as well. As e-commerce will most likely only increase in the coming years, this will benefit not only cities and citizens but also BD itself. We look forward to following BD and other players in the last-mile logistics market in the coming years and wish them the best of luck.



### Author: Kien Do Trung

Kien Do Trung is a graduate student in Supply Chain Management at Copenhagen Business School. He is currently working as a student assistant with TINV to find sustainable last-mile delivery solutions in the face of increasing urbanization and the growing e-commerce sector in Copenhagen. Kien is passionate about urban freight logistics and has studied the subject in four different universities on three different continents. He has previous experience in the research and energy sector.

### Author: Viggo Norell

Viggo Norell is currently pursuing a master's degree in Supply Chain Management at Copenhagen Business School. Parallel to his studies, he is employed by TINV as a student assistant while writing his master thesis. The thesis will examine last mile deliveries and the effect of increasing urbanization and a growing e-commerce sector. Viggo has previous experience from the transport & logistics industry where he worked as a dispatcher for a Swedish transport company.



### Forfatter: Britta Gammelgaard

Britta Gammelgaard er en erfaren professor med stærke uddannelses- og forskningsfærdigheder i Supply Chain Management, Supply Chain Innovation, indkøb og City Logistics. Britta er CBS akademisk ansvarlig for det tre-kontinentale bachelorprogram Global Supply Chain & Logistics Management i samarbejde med kolleger i Kina og Canada. Hun er projektleder under TINV4 og er desuden faglig leder og koordinator af Minor i Strategic Procurement på cand. merc., hvor hun også vejleder specialestuderende samt Hun er redaktør af det videnskabelige tidsskrift International Journal of Logistics Management. Derudover er hun medlem af bestyrelsen af Effektivitet samt medlem af effektivitet.dk's redaktionskomité.



## KOMMENDE AKTIVITETER

### LEAN OG OG INDUSTRI 4.0 KONFERENCE 2020

30. SEPTEMBER

Ekspertter og visionære Lean-specialister samles til DI og effektivitet.dk's Lean konference 2020 for at dele deres viden og indsigter med dig, så du bliver inspireret og forberedt til at følge med den hastige udvikling. Igennem inspirerende oplæg, workshop og networking får du mulighed for at stille skarpt på Lean og Industri 4.0 i din virksomhed.

### DEN DANSKE SUPPLY CHAIN KONFERENCE

3. NOVEMBER

Vær med, og hør hvad eksperterne synes skal til, for at skabe den mest holdbare og bæredygtige Supply Chain. Sidste års vinder var Nilfisk for den transformation og de resultater, de har skabt indenfor supply chain området, samt for det meget bevidste design af en stærk platform for den fremtidige udvikling og transformation af Nilfisk.

**OBS: Sæt mennesket forrest i implementering af Industry 4.0 Workshops i København og Aarhus samt Lær Lean ved kilden – tag på kaizen Tour til Japan afholdes til efteråret.**



## KOMMENDE UDDANNELSER

### BRING SDG-ERNE I SPIL – TIL GAVN FOR FORRETNING OG SAMFUND

19.-20. MAJ

SDG-erne er kommet for at blive FN's verdensmål, Sustainable Development Goals eller SDG-erne er i fokus, og virksomheder forventes at arbejde aktivt med SDG-ere. Hvis indsatsen planlægges og udføres effektivt, har det positiv virkning på både bundlinjen og samfundsøkonomien.

### APICS CPIM – PART 2

START 15. SEPTEMBER

The APICS Certified in Production and Inventory Management (CPIM) program is recognized worldwide as the standard in production and inventory control, one of the most critical functions within an organization for reducing costs and achieving a competitive edge. Through the CPIM preparation and exam process, you will gain knowledge, learn skills and best practices required to execute, control and improve all of the internal operations within the four walls of your company.

### APICS CLTD

START 17. SEPTEMBER

The APICS Certified in Logistics, Transportation and Distribution (CLTD) designation provides a comprehensive body of knowledge, best practices and standards for those in the logistics, transportation and distribution industries. The APICS CLTD designation serves the needs of both professionals and employers around the world by reducing the impact of industry skills gaps as well as assisting employers in developing the personnel needed to meet customer demand and impact bottom-line results.

## **ADFÆRDSDESIGN FOR FORANDRINGSAGENTER**

**22. SEPTEMBER**

Mange forandringsprojekter fejler, og ofte skyldes det, at forandringer kræver at mennesker ændrer adfærd. Men vi glemmer nok alt for ofte, at adfærdsændringer ikke sker automatisk som følge af holdningsændring men via handlingsændringer i den virkelige verden.

## **APICS CPIM – PART 1**

**START 29. SEPTEMBER**

The APICS Certified in Production and Inventory Management (CPIM) program is recognized worldwide as the standard in production and inventory control, one of the most critical functions within an organization for reducing costs and achieving a competitive edge. Through the CPIM preparation and exam process, you will gain knowledge, learn skills and best practices required to execute, control and improve all of the internal operations within the four walls of your company.

## **APICS CSCP**

**START 1. OKTOBER**

The APICS Certified Supply Chain Professional (CSCP) program is the first and only supply chain certification that encompasses the end-to-end global supply chain. APICS CSCP designees gain the skills to effectively manage global supply chain activities that involve suppliers, plants, distributors, and customers located around the world. Earning the CSCP credential makes you a recognized expert in the supply chain field. This professional distinction sets you apart from your colleagues, proving your high level of knowledge and skills. It makes you a more valuable asset to your organization, keeping you and your organization more competitive in today's economy.