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Delivery Modes in the Dutch Parcel Market – No Man’s Land in Leadership?

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Abstract

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Within the rapidly growing market of e-commerce, last-mile logistics are seen as mean to increase customer service and retention. By offering sophisticated delivery options e-tailers are able to stand out in highly competitive markets. In countries like Germany, the UK or Estonia locker points and reception boxes have gained considerable significance. With developments in speed and flexibility (e.g. same-day) on the Dutch market however, delivery modes seem a neglected field of innovation.

The purpose of this paper is to explain why innovation in parcel delivery modes in the Netherlands is stagnating and why a new leadership role is needed to accelerate innovation.

E-tailers see evident need for more choice and higher efficiency in delivery modes. Unattended home delivery and locker points are expected to increase convenience of home delivery through automation or allow for reliable and efficient 24/7 delivery. Three perspectives are used to analyse why innovation in this sector is stagnating: A market strategy perspective using Porter’s Five Forces, an innovation lifecycle perspective and a leadership perspective.

Findings substantiate the concern that there are very few threats to established carriers, the most relevant one is Buyer Power. This variable however hasn’t proven sufficient to enforce innovation from an e-tailer perspective. From a lifecycle perspective there’s no willingness among stakeholders to carry initially higher costs of new innovations in delivery modes. The absence of real carrier threats leads to a lack in character traits needed for innovation

leadership, such as a sense of urgency and risk-taking attitude. Carrier reluctance is increased by means of cost leadership focus and lack in dominant design.

In order to overcome this deadlocked situation, e-tailers need to offer consumers more choice in local delivery options. Collaborations with local service providers (De Buren; Fiertskoeriers.nl) enable innovation on a small scale, and disintermediate larger carriers. With growth in further stages, these approaches can develop towards serious carrier threats and outperform established modes by means of new technology. An example for this strategy is the collaboration of Zalando, Notebooksbilliger and Liefery in Germany. Established local delivery networks like these can subsequently be extended with new delivery mode concepts step by step.

In the long term these approaches lead to serious carrier threats and speed up innovation throughout the market by the emergence of true innovation leaders in parcel delivery.

Keywords: Last Mile, Innovation, Leadership, E-Commerce, Netherlands, Delivery modes, Carriers, Trends, Market Segmentation, Developments.

1. Introduction

The emergence of e-commerce throughout the last decades and consumer need for quick and reliable parcel reception have led to a broad variety in logistic concepts for parcel delivery. For instance drone delivery, automated reception and locker points. These developments also influence the role of parcel carriers, as e-tailers need to offer broad delivery services in order to maintain competitiveness and satisfy consumer needs. While parcel delivery covers various attributes (figure 1), this article aims to determine the role of innovation in delivery modes, the technical approach of delivering a parcel to the consumer. Contrary to a broad scale of innovation in other attributes, a panel of Dutch e-tailers claims that innovation in mass-market delivery modes has been limited throughout the last decade. It is argued that developments focus on speed and flexibility, and that these aspects are perceived as



Figure 1 Attributes of parcel delivery

adequate, while delivery modes remain traditional. In consideration of these circumstances one could assume that the Dutch parcel market holds significant differences with regard to innovation compared to other EU markets. The purpose of this paper is to explain why innovation in parcel delivery modes in the Netherlands seems to be stagnating and why a new leadership role is needed to accelerate innovation. The study is based on explorative research on market developments and needs among a panel of large Dutch e-tailers. Theories on business strategy (Porter, 2008), innovation lifecycles (Utterback and Abernathy, 1975) and innovation Leadership theory are used to clarify why e-tailers and carriers seem reluctant to innovate in parcel delivery modes. Finally, suggestions are made on how this innovation leadership crisis can be resolved.

2. Delivery mode innovation – An overview

We define the term delivery mode as the technical procedure of parcel delivery, considering both place of delivery and degree of automation as variables. Parcels can either be delivered consumer homes or a proximate location elsewhere. The mean of delivery can then either be automated or involve personnel. When combining these variables, one obtains the four delivery modes in figure 2.

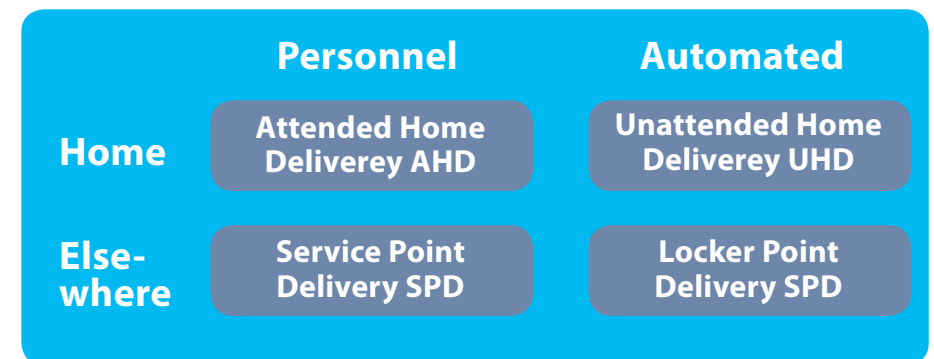


Figure 2 Delivery mode segmentation, based on Weltevreden and Rotem-Mindali (2009)

Any hypothetical delivery concept can be classified using this approach. Delivery modes are increasingly relevant as they can facilitate reliable delivery for consumers not willing to take the risk of either missing a parcel delivery due to lack in home attendance or willingness to pick up parcels from distant locations with limited operation hours.

2.2 Dutch delivery modes

The delivery modes in the Netherlands are dominated by just two types: Traditional AHD (84%) represents the most common mode with SPD (15%) in second place. While most carriers maintain service points, growth potential seems limited. Market leader PostNL announced the closure of many service points (1500 / 2500) due to cost reduction (TMG, 2014). Smaller players, like GLS, maintain about 550 locations nationwide. Experts indicate that service points won't be subject to significant growth in share (Weltevreden, 2008; o.d.). Other modes have very limited market share (figure 3).

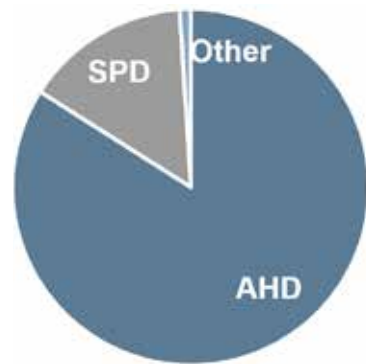


Figure 3 Segmentation delivery modes. (o.d.)

The largest provider of LPD infrastructure, De Buren, maintains about 50 locations (Van Essen, 2014). PostNL and DHL maintain a total of about 9 / 10 LPD locations each. While PostNL started field testing in 2012, no noteworthy services were introduced. DHL is currently extending its LPD network by installing a small number of lockers on train stations (DHL Group, 2015). Both market leaders with a combined market share of over 85% have not published their roadmap or plans for further extension of their LPD networks.

UHD has not been introduced as service in the Netherlands yet. So far, only minor field tests were performed by PostNL and DHL. Efforts of PostNL were limited to field tests of a delivery box which is transported by the van driver and secured with a pre-installed wall mount at the front door. Representatives state that the system works, but that "...this mode is extremely cumbersome in daily operations" (Van Essen, 2015). While competitor DHL announced the introduction of a parcel reception box by mid-2015 (Schouten, 2014), no further progress could be observed to this day. Both systems represent closed systems indicating that carriers do not allow competitors to use their delivery box. Hence, comprehensive and open UHD solutions cannot be found.

2.3 International delivery modes

The number of inhabitants per locker location varies vastly among European countries (figure 4). Coverage of LPD infrastructure in the Netherlands is reduced by a factor of up to ten compared to other countries. In Germany, LPD accounted for 4% share by 2012 (figure 5). In addition, 5% of consumers stated it is their preferred delivery mode by 2015. DHL Germany maintains about 3.000 lockers with 250.000 compartments.

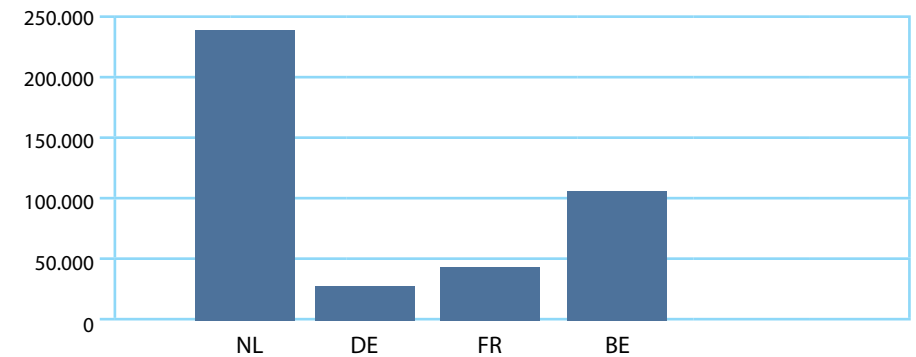


Figure 4 Population per locker point location - less is better. (o.d.)

UHD is available to German consumers for more than two years. DHL's Paketkasten can be ordered by consumers, yet precise data on utilisation is not available. There are claims of "several thousand units" by 2015, and statements of DHL extending UHD to meet the needs of apartment buildings, installing "...thousands of additional units in Berlin by 2016" (Krisch, 2015). DHL maintains a closed-carrier solution limiting accessibility for its competitors. In response, DPD, GLS and Hermes will launch an open UHD solution in Germany by mid-2016. The ParcelLock system is said to be mass-market ready, supporting signed deliveries and returns (DPD, 2015).

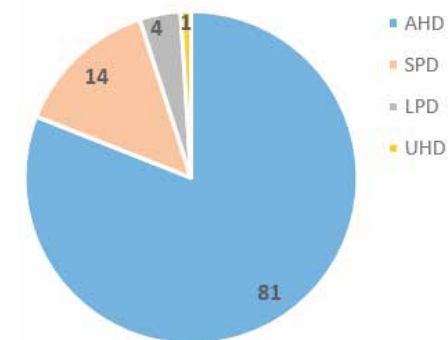


Figure 5 Delivery modes Germany (A.T. Kearney, 2012)

3. An E-tailer perspective on delivery mode innovation

Question remains which innovations e-tailers would expect to enrich their last-mile services. Figure 6 indicates to which extent modes are currently utilised by the panel of participants. SPD/LPD are offered by about 50/30%, while share in deliveries lies around 15/1%. In both cases utilisation is significantly higher than share in volumes. Hence, modes are implemented more extensively than they are used.

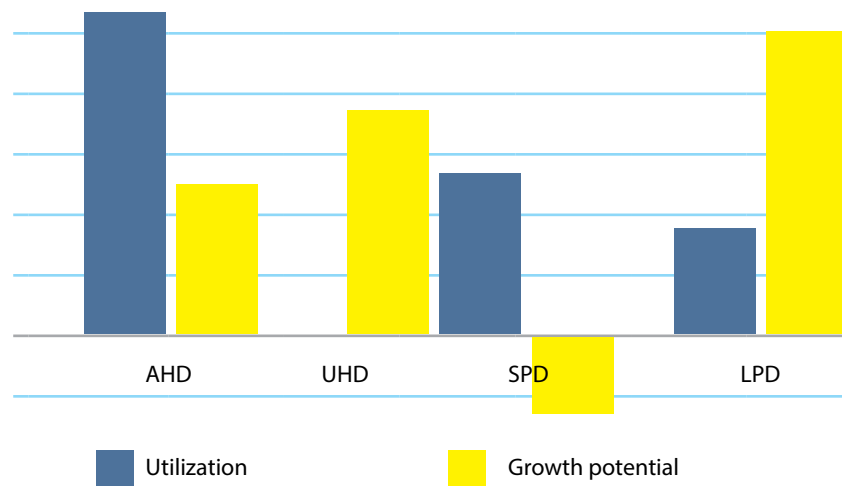
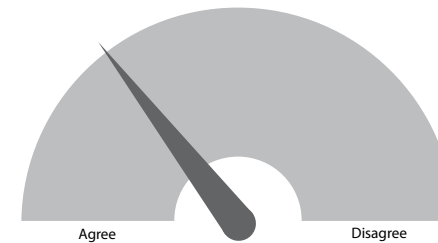


Figure 6 Utilization vs. growth potential (o.d.)

Opposing utilization to growth potential indicated by e-tailers (Likert scale) gives insight on future expectations. Growth potential for AHD indicates steady significance in future years, while negative values for SPD indicate decline in relevance, either due to a rise in other options or limiting factors as consumer acceptance. UHD bears comparatively large potential according to e-tailers. While this seems logical due to lack in availability, participants indicate it to be highly favourable, yet entailing problems needing to be resolved. The largest potential is indicated for LPD. This is substantiated by availability of small-scale infrastructure. Data with regard to largely unutilised modes will be discussed individually.

3.1 LPD



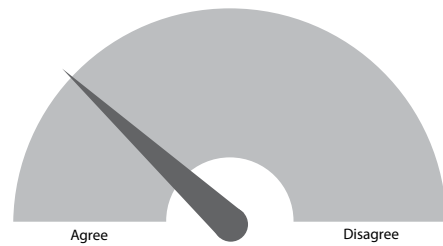
E-tailers prefer LPD as the mean for parcel delivery to alternative locations. While SPD has a justifiable position in the range of modes, participants see automation as an improvement to accessibility, flexibility and efficiency (figure 7). Additionally, establishing LPD networks is seen as a chance to start from scratch as participants argue that service points are located disadvantageous:

Figure 7 "In my opinion LPD outperforms SPD"

"It has to be in the daily routine of the consumer. A lot of PostNL service points are located [...] in urban areas. Consumers don't want to drive there. [...] Then they have to wait because the sales personnel is selling books. That just sucks. It's got to be on their way home. Then it would be a very interesting delivery option." – Participant

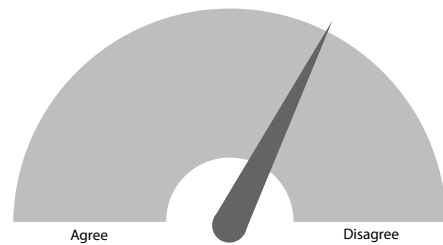
It seems conflicting that SPD delivery seems to pay off for carriers, while there is substantial lack in LPD infrastructure, bearing further cost advantages and e-tailer preference. Hence, lack in LPD approaches and infrastructure represent an issue to online retailers.

3.2 UHD



As home delivery remains a core objective to most consumers it needs to be complemented by means of a reliable home delivery solution. Participants agree that savings can be achieved (figure 8 & 9) using UHD, and that it represents a logical enhancement over AHD.

Figure 8 "AHD causes unnecessary costs compared to UHD modes."



Nevertheless growth potential is not rated quite as high as for LPD. An explanation could be a general rejection towards closed-carrier models, such as DHL's Paketkasten. Furthermore, functional maturity appears to be questionable:

Figure 9 "Our carrier contributes to last-mile savings."

"The potential is pretty high. If I could get a decent solution, I'd have it tomorrow." – Participant

Statements as these indicate that none of the current concepts is regarded as comprehensive or feasible, yet there's a clear demand.

3.3 The paradox

There is a common need for efficient and flexible delivery modes (particularly LPD and UHD), yet these services are not offered or planned by market leaders in the Netherlands (PostNL and DHL). E-tailers do not seem to take action either and expect carriers to make the first step, hence there's no party innovating significantly in this domain.

4. Analysing the Innovation Paradox

Three perspectives are deployed to cast a light on the paradox discussed. A market strategy perspective using Porter's Five Forces, an innovation lifecycle perspective analysing innovation patterns and a leadership perspective assessing the innovation leadership role.

4.1 Market strategy perspective

Porter's Five Forces (figure 10) are used in a strategic context, examining market threats from a carrier perspective. The goal is to facilitate a comprehensive view on carrier strategy.

The Dutch carrier market is characterised by few Competitors. PostNL has a market share of about 77%, the runner up DHL owns 15% (Libbenga, 2015). The market structure represents an oligopoly containing a dominant player and a challenger. While large carriers (PostNL) compete on a price-basis by utilising scale economies, small carriers maintain share based on specialisation (courier- / international services). Scale economies make it difficult for competitors to increase market share, and enable PostNL to use pricing as competitive advantage.

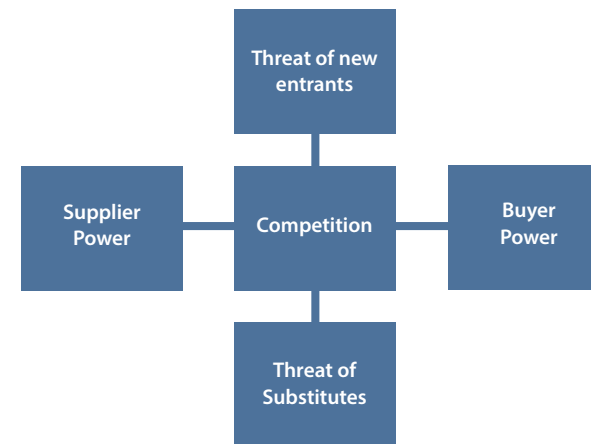


Figure 10 Five Forces (Porter, 2008)

Scale economies are also used to keep Entrants from accessing the market. The only viable threat remaining are larger e-tailers trying to enter the market by means of large volumes and new, discrete delivery services. Supplier Power of LPD/UHD suppliers is practically not given. Parties as De Buren suffered from the carriers' unwillingness to cooperate and now focus on local commerce, for instance LPD for pharmacies (De Buren, 2015). Carriers only consider them a threat when offering independent services, including a discrete transport

network. In terms of Buyer Power there is tough price competition, yet no e-tailer bears sufficient volumes to enforce innovation. Even with millions of shipments the investments needed can't be compensated by one e-tailer. The only option here seems parcel volume aggregation of several e-tailers, leading to the introduction of a profitable pilot project for a new delivery mode. This could compensate the initially high cost of new modes (figure 11). Potential carrier Substitutes, such as Uber or Trunkers.nl are still in their infancy (Boogert, 2015). Responsibility issues and strict regulations represent core handicaps, leading to the conclusion that there is no serious threat to be found. Experts also indicate that new delivery modes are seen as a substitute for current ones, and are therefore not wanted as they could decrease carrier margins due to higher efficiency.

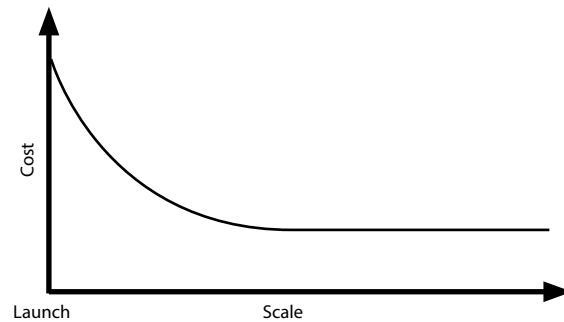


Figure 11 Innovation pricing (Varian, n.d.)

A real threat to carriers can hardly be found throughout Porter's Forces. With little competition and no serious market entrants, carriers seem to be in a comfortable position, only considering buyer power a serious threat. This dimension led to low pricing, but is not enough of an issue to enforce innovation. Cost leadership helps carriers in claiming market share, but in this strategy investments in innovation seem too much of an unnecessary risk.

4.2 Innovation lifecycle perspective

According to Utterback & Abernathy (1975), in the beginning of new services a variety of different features and systems are introduced in search for consumers (product innovation).

As more consumers express their needs and experiences, successful features are adopted by other suppliers and unsuccessful features are dropped: A dominant design evolves. Ultimately the best solution prevails and process innovation takes over to realise this product or service as efficient as possible.

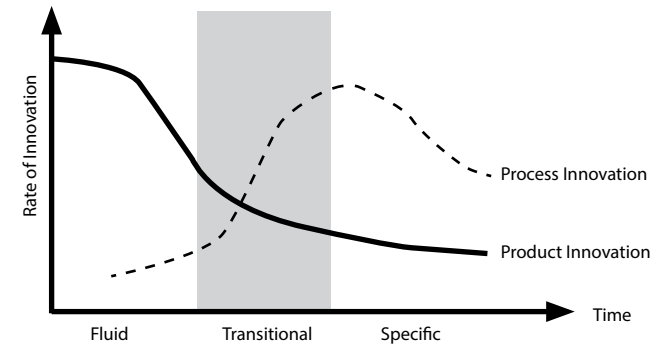


Figure 12 Model of dominant design (Utterback & Abernathy, 1975)

While AHD is the dominant design in parcel delivery with a focus on process innovation, LPD and UHD seem to be stuck in the fluid section as less successful (more costly) features in home delivery.

With a rise of new consumer needs, the market of reliable delivery services could be defined as a new market in itself. In this perspective, there is still a need for product innovation regarding business model, location of infrastructure, and supply chain integration. While dominant design evolves through innovative approaches, this hasn't happened as e-tailers need to act as primary customer of new service providers offering innovative concepts. Furthermore, e-tailers need to explore to what extent they are willing to pay for services differing from traditional concepts.

4.3 Innovation Leadership perspective

Porter's Forces have shown that buyer power is the only serious threat to carriers, with the exertion of this power resulting in cost leadership strategies. Despite of this, carriers are in a highly comfortable position as a steady growing market, a limited number of competitors, and a high barrier for entrants are only few of the beneficial factors.

These factors ultimately prevent character traits compulsory for innovation leadership. A sense of urgency, willingness to take risks and a bold attitude towards what's possible are only a few of them (Bagley, 2014). The result is a conservative, laid-back attitude enabling carriers to "experiment" with systems and infrastructure already in existence (same-day, weekend delivery), but causes reluctance towards bigger challenges, disruptive innovation and ground-breaking change as needed for new delivery modes. This attitude is intensified by traditionally scarce financial resources in cost leadership strategies. It's unclear whether

investments will be profitable due to the large variety in concepts and lack in dominant design.

In the event of emergence of a dominant design, carriers are better implementers in adapting this design (McElheran, 2013), hence they are able to take an observing role in innovation leadership. It is therefore legitimate to state that the carrier market is in clear need of a new innovation leader, stimulating both pace of innovation and competition. Carriers seem in a constant struggle to absorb the steady-growing parcel volumes by means of price competitiveness, but for innovation to thrive a party deploying differentiation as competitive strategy is needed. Only this would enable the emergence of dominant design and a true innovation leader throughout the carrier market.

5. Conclusion

Research has shown that the market of delivery modes is stagnant compared to other EU countries. E-tailers want more variety in delivery modes (LPD/UHD) as new solutions increase reliable, convenient and flexible parcel delivery and facilitate cost reduction in the long term. Despite of this, carriers do not offer these modes and new solutions remain in small-scale stadiums or even field testing.

Stagnation can be explained looking at strategy on both carrier and e-tailer side. Carriers are not willing to take risks in innovation as they are facing extensive market growth already. Their innovation is therefore limited to the utilisation of existing assets and infrastructure, preventing radical innovation in delivery modes. In addition, large carriers focus on price competition, avoiding external parties from challenging them by using new, initially expensive concepts.

At the same time, e-tailers demand nationwide coverage for new modes, and they're not willing to enter the parcel market in collaboration with challengers of larger carriers, ultimately leading to a lack in concepts for alternative delivery modes.

Nationwide coverage of new delivery modes is not feasible, this is why e-tailers need to offer consumers more choice in local delivery options. They must establish collaborations with small suppliers (e.g. De Buren) on regional or local levels, facilitating urban distribution and disintermediating traditional carriers stepwise. This scalable approach involves comparatively low investments and risk. An example is the collaboration of Zalando, Notebooksbilliger and Liefery in Berlin (Krisch, 2016). A collaboration of even more e-tailers can increase efficiency in further stages.

Approaches like these challenge established carriers, increase the pace of innovation and facilitate true innovation leadership roles throughout the parcel market.

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