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How Are Logistics Service Providers Adapting to Omnichannel retail?

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Abstract: An increasing number of retailers are moving towards an omnichannel model, by integrating online channels with a physical (or 'offline') store network. Logistics service providers, who used to be largely invisible to consumers, are becoming the primary point of contact in this omnichannel environment. To respond to this evolution, the logistics industry in general and certainly urban logistics players are introducing new developments and innovations. The goal of this research is to identify if and how traditional logistics service providers are adjusting to e-developments in retail. Our results show that their adjustments can be categorised into four strategies: business partnership, customer service, acquisition and expansion. Drivers behind these adjustments are the need to customise, specialise and extend their offer, to respond to retailers' and consumers' demand and to address sustainability matters.

Keywords: Urban freight, City logistics, Last-mile distribution, Omnichannel retail, Retail supply chains

1. INTRODUCTION

Digitalisation has pushed retailers to redefine their business models towards cross-, multi- and omnichannel retail. In general terms, these models indicate that retailers develop an online presence, next to a physical (or 'offline') store network. The most advanced model is omnichannel retail, which implies a complete integration of a retailer's sales and communication channels, in such a way that consumers can use the channels simultaneously and interchangeably (Ailawadi & Farris, 2017; Verhoef et al., 2015). The main drivers behind these developments are fuelled by the internet. It created the possibility to become an influential retailer without needing to have a store, removed barriers for manufacturers to service their final customers without intermediaries, offered consumers a platform to develop commercial activities with other consumers and provided opportunities to small and medium sized firms (SMEs) to serve consumers around the world (Hagberg et al., 2017). The internet also contributed to empowering consumers, leading to so-called '*prosumers'* or '*logsumers'* and ultimately to intensified consumer expectations (Savelsbergh & Van Woensel, 2016; Ritzer & Jurgenson, 2010).

In the omnichannel environment, where products are delivered to the store and to the home, logistics service providers (LSPs) have become important links between retailers and their customers. Many regional, national and international reports have been published about changing consumer behaviour and online purchase behaviour. Often stressed in such reports is the importance of delivery service in consumers' purchase processes. According to a study by MetaPack (2016), in which 3589 consumers in the US, UK, France, Germany, Spain, the Netherlands and Italy were surveyed, 38% of consumers would never shop with an online retailer again, following a negative delivery experience. Moreover, 45% of consumers has abandoned an online basket because of unsatisfactory delivery options. In return, 87% of consumers is likely to shop again with an online retailer, following a positive delivery experience. This evolution in consumer expectations not only affects pure online retailers.

Also for omnichannel retailers, delivery service is a key issue (Piotrowicz & Cuthbertson, 2014). Thanks to consumers' new home delivery habits and retailers' tendency towards logistics outsourcing, LSPs' services have become a 'competitive advantage' or 'unique selling proposition' (Xing et al., 2011). Their employees, including delivery (wo)men and customer service agents on social media, are becoming the primary point of contact. In times where retailers experience intensified competition and consumer expectations, it is important for LSPs to be able to develop qualified solutions for their retail customers (Ocicka & Raźniewska, 2016). Research shows that last mile transportation is much more affected by the omnichannel retail model than transport operations between warehouses and stores (Buldeo Rai et al., 2017).

To respond to this matter, and to other pressing issues such as environmental concerns and changing regulation, many developments, experiments and innovations that differ from traditional practices are introduced in logistics (Mckinnon & Bilski, 2015). This is also true for the business-to-consumer (B2C) market. Behind these developments are often start-ups with disruptive business models, who detect and try out the market's needs and demands but do not (yet) capture large parts of the existing parcel volume (Ducret, 2014).

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Therefore, this research focuses on 'traditional LSPs' in the urban parcel market and how they adapt their offer, activities and/or behaviour to the omnichannel retail environment. Following the classification of Mckinnon and Bilski (2015), the paper provides an overview of developments, experiments and innovations in B2C logistics in the literature section. The methodological approach is introduced in the third section. The fourth section describes the research results and the fifth section ends with concluding remarks.

2. LITERATURE

Mckinnon and Bilski (2015) classify innovations in logistics in three categories: physical innovations, conceptual innovations and innovations related to information technology. First, *physical logistics innovations* relate to vehicles (such as modes of transport) and equipment (such as containers). Focused on the current context of urban logistics for B2C deliveries, this entails bicycles and all sorts of electric vehicles such as tricycles, cargo-bicycles, quadricycles, clubcars and segways (Arvidsson & Pazirandeh, 2017; Lebeau et al., 2015). Driverless vehicles are also operational in some cities to deliver food and parcels, in the shape of robots, droids and drones (Mckinnon, 2016; Bouton et al., 2017). With crowd logistics, also regular passenger cars are part of the urban delivery fleet (Buldeo Rai, Verlinde, Merckx & Macharis, 2017).

Second, *conceptual innovations* apply to the overall design of supply chain systems or operational practices. An example of the 1970s is the development of hub-and-spoke distribution networks. Applied to urban logistics, current innovations relate to the locations where products are delivered and where they are coming from. In the omnichannel environment, delivery destinations include people's home, workplace or neighbours' address, attended and unattended pick-up points and even cars, fridges and consumers' precise geolocation (Pan et al., 2017; Allen et al., 2017; Reyes et al., 2017). Products can be sent from a traditional distribution centre or originate from urban, micro, mobile or satellite hubs that are located in and around the city centre (Verlinde et al., 2014; Arvidsson & Pazirandeh, 2017; Browne et al., 2011). Mobile or satellite hubs can take many forms, including freight bus, truck, barge and tram. In omnichannel retail, retailers' stores serve as local fulfilment centres and departure locations for online ordered goods (Piotrowicz & Cuthbertson, 2014). Next to achieving environmental benefits, these facilities enable to meet new service standards, including fast, free and around the clock delivery (Graham, 2017).

Third, logistics innovations relate to *information technology*. Mckinnon and Bilski (2015) mention barcoding, radio frequency identification (RFID) and vehicle routing software. They refer to cloud computing, big data, GPS and mobile phone apps for current developments. For urban deliveries, such innovations allow consumers to receive real-time information and to have last-minute flexibility in delivery time, location and method (Postnord, 2014; International Post Corporation, 2017). Mobile apps have enabled consumers to become carriers of goods and their houses to become the neighbourhood's local pick-up point for parcels (Buldeo Rai, Verlinde, Merckx & Macharis, 2017).

Last mile innovations in the B2C market are mostly implemented by start-ups. According to Ducret (2014), these new players tackle market niches, providing innovative and high-value delivery solutions that are dedicated to the last mile or committed to a more sustainable environment. These innovative solutions attract attention in the business of retail and logistics and are widely studied. It is unclear though which strategies traditional LSPs follow to meet current market demand and face competition. The goal of this research is threefold. First, we investigate if traditional LSPs already adjust their offer, activities and/or behaviour to the omnichannel retail environment and, if so, in what way. Second, we identify how traditional LSPs expect to do so in the near future. Third, we explore the main drivers behind these adjustments.

3. METHODS

To address our research questions, we propose an exploratory approach consisting of document analysis. This is a systematic procedure for reviewing and evaluating printed and electronic documents (Bowen, 2009). This approach is appropriate for under-represented and under-studied subjects (Miles & Huberman, 1994), like the European parcel market (Ducret, 2014). We focus on seven key logistics players that are active in the Brussels-Capital Region: DHL, GLS, bpost, PostNL, UPS, FedEx and DPD. Some of these players are rooted in national postal services and all have been founded before the rise of online commerce. Together, they control 80% to 85% of the courier, express and parcel market in Brussels (Strale et al., 2015), but their business models and ways of operating are under pressure.

For the document analysis, we reviewed two sources of information: annual reports of the LSPs and news articles on the LSPs' urban B2C logistics initiatives. We retrieved the annual reports from the LSPs' websites and searched for articles on two logistics news portals: Flows (2018) and Logistiek.nl (2018). These portals are among the most important news providers on logistics in the region. We analysed 21 annual reports and 191 articles published between 2014 and 2017 (annual reports for 2017 were not available at the time of research). We managed, stored, organised and coded the data that we collected in the computer-assisted software NVivo (www.qsrinternational.com/nvivo/), using the approach proposed by Bowen (2009). This approach combines content analysis with thematic analysis. We organised relevant information that we found in the documents into categories that related to the central research questions. Afterwards, we performed a more focused re-reading and review of the data, to identify patterns and themes. In this way, we characterised the LSPs' adjustments and categorised them into strategies. Furthermore, we captured the retail and e-tail related drivers behind these strategies.

The document analysis responds to the call of Calantone and Vickery (2010), who have urged logistics researchers to make better use of archival and secondary data, and allowed us to

gain insight in the adjustments in offer, activities and/or behaviour of the LSPs and the stated drivers behind these adjustments. We elaborate on our findings in the next section.

4. RESULTS

An analysis of the figures reported in the annual reports shows that traditional LSPs increased both their parcel volumes and parcel revenues over the last three years. Indisputably, the parcel market represents growth opportunities for these players and they have succeeded in capturing an important share of this market. To achieve and sustain this, LSPs made important adjustments to their offer, activities and behaviour. These adjustments can be categorised into four strategies: business partnership, customer service, acquisition and expansion. The black bars in figure 1 represent these strategies. We identified six retail development related drivers that are behind these strategies: offer customisation, specialisation and extension, retailers' and consumers' demand and sustainability. The white triangles in figure 1 illustrate these drivers. Strategies and drivers are described in the next sub-sections.

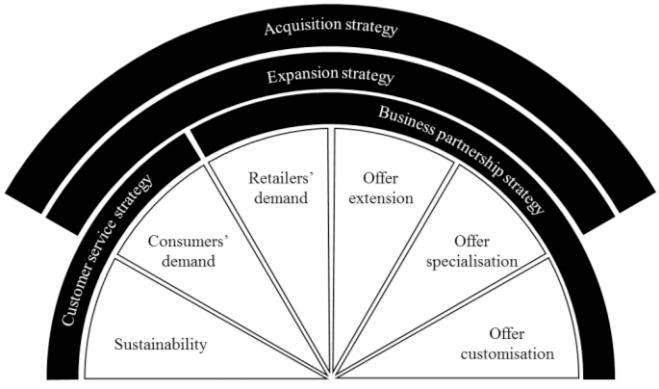

Fig. 1. LSP strategies and their drivers

4.1 Business partnership strategy

A first strategy that LSPs apply is focused on business-to-business partnerships. A review by Selviaridis and Spring (2007) documented the strong presence of partnerships in logistics and developed a list of success factors. We found that LSPs create intense collaboration and formal partnerships with retailers, shippers and other logistics players to offer extensive, customised and specialised solutions, as increasingly asked for by their customers. PostNL, for example, extended their offer with food delivery services by collaborating with two local food retailers in pilot studies. They also partnered with a leading fashion and shoe web-shop to add a 'return on demand' option to their offer. Working closely with several major shippers allowed bpost to extend their delivery times to evenings and weekends. For GLS, collaborating with another LSP in China provided their customers with track-and-trace options.

Second, partnerships also facilitate offer customisation. Working closely with e-retailers and omnichannel players enabled bpost to develop personalised e-commerce shipment solutions, GLS to be more flexible about the parcel dimensions that they can deliver and UPS to offer ship-from-store deliveries to their collaborating customers.

Offer specialisation is a third driver and responds to the trend of outsourcing in retail (Selviaridis & Spring, 2007). With 'Extra@Home', PostNL offers their customers a specialised delivery and set-up service for large and heavy items, such as washing machines and bicycles.

A fourth and final driver of the business partnership strategy, is retailers' demand. This concerns four types of partners: omnichannel retailers, online marketplaces, manufacturers and SMEs. Such partners see opportunities for business in the current omnichannel environment but also experience logistics challenges (Ocicka & Raźniewska, 2016). To meet retailers' needs, LSPs launched dedicated solutions for SMEs (for example DHL's and PostNL's online portal). To serve manufacturers that are looking to build direct distribution channels, UPS and PostNL created solutions for delivery and stock management. LSPs also partner with online marketplaces. According to Delfmann et al. (2002), such marketplaces want closer ties with LSPs to provide higher service levels to their customers. DHL is the logistics partner of Allyouneed.de (online supermarket), PostNL is tied to Retourplaza.nl (seller of discounted returned products) and GLS is partnering with Mallzee (personal shopping app). Collaborating with omnichannel retailers enables LSPs to create appropriate solutions covering the entire logistics chain, including reverse flows for product returns. Working with their retail partners contributed for example to FedEx' peak-season success, an important challenge for retailers and LSPs alike (Tsai et al., 2012). DHL creates retailer cooperation through their parcel point network and bpost launched a click-and-collect service for their retail customers.

4.2 Customer service strategy

A second strategy that LSPs apply, is focused on the customers (C) of their customers (B). As earlier clarified, the rise of e-commerce and associated home deliveries created a direct link between LSPs and end-consumers. Also traditional LSPs are implementing physical innovations, conceptual innovations and innovations related to information technology. Drivers behind these implementations are consumers' demand and (urban) sustainability needs.

Categorised as physical innovations, LSPs are investigating, testing and financing alternative vehicles to cover the last mile. Such vehicles contribute to consumers' demand for convenience and flexibility. Examples are DHL's parcelcopter and UPS' drone pilots. But vehicle innovation is primarily introduced to generate environmental benefits. For example by implementing electric vehicles, such as PostNL's e-scooters and DHL's StreetScooters, and complementing their fleet with vehicles on natural gas or biogas.

Conceptual innovations relate to the locations where products are delivered and where they are coming from. In 2014, Le Groupe La Poste – the group to which DPD belongs – reported that e-commerce had completely transformed consumption patterns, impacting the structure of various

delivery options. In this regard, LSPs are dedicated to strengthening their parcel and locker point network for pick-up and returns of online orders. Key to this development is proximity to the consumer. Traditional LSPs often originate from national postal organisations and have always been close to consumers in their domestic market, a model they intend to expand to other markets for their parcel activities. For DPD, the goal is to ensure that 95% of Europeans are located no more than 15 minutes from a pick-up or drop-off point, to which they have already succeeded in France, in Germany and the Benelux. LSPs are also innovating in other ways to offer consumers more proximity and flexibility. Examples are GLS' and PostNL's secure parcel box systems, DHL's 'click-to-car' and 'smart lock' pilots and GLS' 'nominate a neighbour programme'. According to bpost, customer closeness is an important opportunity for growth. More closeness is also introduced in urban B2C logistics by developing hubs in and around the city. PostNL is experimenting with floating depots and bpost now disposes of urban consolidation centres at the edge of several Belgian cities. These conceptual innovations are implemented in response to consumers' intensifying expectations but they also create opportunities for more sustainable deliveries. Working with urban hubs enables to use bikes and cleaner vehicles to cover the last mile (Arvidsson & Pazirandeh, 2017) and a dense and close pick-up point network is a more sustainable alternative to home delivery (Taniguchi & Kakimoto, 2003).

Innovations related to information technology are implemented to respond to consumers' demand for a better delivery service. In this way, LSPs offer faster deliveries, expanded delivery days and times, increased delivery flexibility, smaller delivery time windows, improved customer service and new platforms. DHL's 'digital delivery graph' project, for example, aims to realise more flexible planning in real-time. PostNL launched two pilots, 'Mytime' and 'return on delivery' to enable specific two-hour delivery time slots and home pick-up of returned products. Their app also enables to reroute parcel deliveries. Bpost launched a crowd logistics platform called bringr and offers a delivery service to consumers' smartphone geolocation, instead of a fixed address. FedEx' 'Delivery manager' allows consumers to personalise their delivery experience and UPS' 'My choice' programme facilitates to adjust timing and location of deliveries. Such developments are increasingly offered for domestic purchases but remain a challenge for internationally purchased products. According to PostNL, however, consumers expect international service levels to equal domestic service levels.

4.3 Expansion strategy

Consumers want to make purchases around the globe and retailers are dedicated to ship their products internationally. Consequently, LSPs are expanding their geographical presence. DHL opens fulfilment centres in the US, India and Mexico, FedEx expands their services to China and Japan and PostNL focuses on Belgium.

This expansion strategy also applies to regions where LSPs are already operational with parts of their comprehensive service offer. By developing their existing parcel and locker point networks, LSPs create proximity to a larger group of consumers. Additionally, LSPs expand their customised, specialised and extended offer to markets where it was not available yet. Examples include GLS' 'Parcellock system' in Eastern Europe, PostNL's food box deliveries in Belgium and UPS' premium services in Asia. LSPs' expansion strategy allows them to test, try out and improve their service offer in one region and roll it out in other parts of the world, in this way responding to retailers' and consumers' demands. DHL states that their general objective is to increase their presence where the long-term growth potential is greatest.

4.4 Acquisition strategy

To reach their goals, LSPs acquire firms that are promising, innovative or fill in their service and/or geographical gaps. Often, it concerns logistics players. DHL took over UK Mail Group, who operates one of the largest integrated networks for processing parcels and mail items in the UK, still Europe's biggest e-commerce market. PostNL acquired HubHub, a C2C delivery platform for large goods to easily access their large goods services. For FedEx, acquisitions strengthen the link between emerging economies and the global marketplace, providing them with growth, productivity and profitability in Europe, Latin America and Africa. UPS invested in Deliv, a same-day retail delivery startup and Optoro, a reverse logistics firm. Finally, following bpost's 'merger and acquisition strategy', they acquired LSPs in Belgium and abroad (including Lagardère Travel Retail, Success Partners Europe and DynaGroup) and took a stake in innovative start-ups such as CityDepot, BubblePost, de Buren and Parcify. In this way, they contribute to their core business in both the domestic and international parcel sector. As FedEx states it, acquisitions change what's possible for customers.

However, LSPs also show financial interest in other types of firms. DHL acquired StreetScooter GmbH, to develop and produce electric vehicles and PostNL took over Yourzine and Searchresult to improve their direct marketing services.

5. CONCLUSION

The development of online retailing has created a need for new business models that support the importance of logistics. In many cases, it has created new logistics tasks (Delfmann et al., 2002). In response to the omnichannel environment, in which store networks are integrated with online sales channels, the logistics B2C industry is bound to innovate its offer. Although many innovations are introduced by start-ups and players who more recently entered the market, traditional LSPs still cover the parcel market's largest share. Consequently, they remain the primary players to serve the changing retail environment. Our research focuses on these LSPs and how they are adapting their offer, activities and/or behaviour to the omnichannel retail environment. By applying a document analysis, we found that LSPs' adjustments can be categorised into four strategies: business

partnership, customer service, acquisition and expansion. Drivers behind these adjustments are the need to customise, specialise and extend their offer, to respond to retailers' and consumers' demand and to address sustainability matters. Following up on this research, we will interview LSPs to find out how they perceive current e-developments in retail and how cities influence the ways in which they respond to this.

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