The Missed Chance to Cut Logistics Costs

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ABSTRACT
The purpose of this paper is to analyse the current characteristics of the distribution logistics sector, assess the current status of logistic collaborations, as well as the readiness of the industry for horizontal shipper collaboration. Reviewed case studies prove that these collaborations can cut logistics costs. The data was collected from 158 shippers via an online survey. The research uses structural empirical methods to analyse the data. Practical case studies show the benefits of horizontal shipper collaboration. The focus of the research is to identify the current status of collaborations in distribution logistics and show with case studies that horizontal shipper collaboration is possible. Even though supply chain collaboration is widely discussed in the literature, it does not address horizontal shipper collaboration in distribution logistics adequately. The results educate managers to understand that horizontal shipper collaboration is an effective alternative to cut costs in distribution logistics.

KEYWORDS
Co-Loading, Cost Reduction, Distribution Logistics, Horizontal Shipper Collaboration, Logistics Sharing, Survey, Supply Chain Collaboration

INTRODUCTION
The efficient execution of last mile logistics challenges shippers, as the market and consumer behaviour has changed (Dong and Zhu, 2015; PriceWaterhouseCoopers, 2016; Cordon et al., 2016). The individualization of the consumer market and the request for technological innovations shortens product life cycles, increases the number of variants and intensifies the complexity of logistics processes (Leukel et al., 2011). These developments effect the last mile of shippers. The main transport mode for the last mile is the truck, because of its flexibility but given current developments, the complexity of logistics processes is expected to increase further (Dekker et al., 2012). On the one hand, the government and non-governmental-organizations have increased pressure on shippers with new regulations and city access permits (Prater et al., 2001; Gracht and Darkow, 2010; van de Klundert and Otten, 2011), and on the other hand, delivery frequencies are increasing while truck utilization is decreasing (Hesse, 2002; van de Klundert and Otten, 2011). The developments in consumer behaviour have transformed the shipment structure to an atomization of shipments, which finally hinders bundling effects (Piontek, 2013). Shippers have to put in more effort to harvest economies of scale because shipment numbers increase while shipment sizes decrease.

From an economic point of view, the main issue for shippers today is that logistics costs on the last mile are increasing disproportionately (Wannenwetsch, 2014). High logistics cost and low

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profit margins on the last mile are currently typical for the distribution logistics market (Pateman et al., 2016; MacCarthy et al., 2016; Wildemann, 2017). The reason for this is that the last step of the delivery to the customer is logistically challenging, complicated and therefore very expensive (Boyer et al., 2009). However, firms should take this part of the supply chain into account as it is the last face to the customer (Hausladen, 2016).

Also, there is a need for action from an ecological perspective. The unused bundling effects not only increase efforts and costs but also increase the carbon emission for each transport unit (Lochmahr and Boppert, 2014). Furthermore, practical problems occur for the urban traffic distribution due to limited infrastructure in cities. In large cities, private cars block 95% of parking space and hinder LSPs to complete their delivery orders. Everyday observations show that delivery vehicles park in the second row and cause traffic jams. Loss of time and therefore higher costs are also effects of these developments and motivate shippers and LSPs to optimise the logistics processes.

Also, the rising e-commerce business requires actions as more and more goods, not only clothes or luxury goods but also food and medicine, are expected to be shipped on the last mile (Amaranath et al., 2012). Especially the latter have more complex requirements that should be considered in urban logistics strategies. Furthermore, the store and storage sizes in urban and suburban areas decrease and require more frequent deliveries and buffer zones in suburban areas (Auffermann and Kaleck, 2011; Amaranath et al., 2012).

The developments show that it is necessary for distribution logistics to develop innovative, customer and environment-friendly solutions (Lehmann, 2015). This paper focuses on the German logistics market from the shipper’s perspective and aims to understand the current characteristics of the shipper’s distribution logistics and discusses horizontal logistics collaborations as such a solution. Therefore, the goal of this paper is to show current shapes of logistics collaborations and outline the readiness of the industry for horizontal shipper collaboration with the support of a structured explorative survey, which allows to derive associated characteristics implying horizontal collaboration potential.

It is stated in this paper that to solve last mile logistics problems, it is necessary to optimise the material flow in distribution logistics at the source. Which means that shippers should be the initiators of efficient distribution logistics. They can trigger optimised logistics from the beginning by defining the product design, packaging, bundle size and the right mode of transport that fits best to the purpose. More importantly, shippers usually do not compete among each other in terms of logistics, which allows equal products to travel on the same truck and reduce traffic on the last mile and therefore save time at the customers unloading docks (Heuvelmans, 2009, 2011). Another reason why shipper should be the drivers for optimised logistics is that in Germany in the early 90s carrier collaborations failed due to competition and mistrust among the participants (Klein-Vielhauer, 2001; Wolpert, 2013).

The findings about the current shapes of logistics collaborations and the readiness of the industry for horizontal shipper collaboration are presented in this paper in a structured way. In the first step this paper presents reviewed literature and the common research clusters about horizontal logistics collaborations. In the following chapter, it is reviewed what kind of problems in distribution logistics are already covered and what areas are yet to be researched on. Following that the selected research methods to cover the elaborated research questions are introduced and the retrieved data as well as the findings are presented. The conclusions show the new discoveries and lead to limitations and further research, which is discussed in the last chapter.

**LITERATURE REVIEW**

Developments like supply chain management (SCM) have evoked an integration of supplier and customer within the supply chain of shippers (Wallenburg and Weber, 2005) and started research on the area of supply chain collaboration (Sahay, 2003; Simatupang and Sridharan, 2004; Holweg
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