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Value co-creation in the interface between city logistics provider and in-store processes

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Abstract

This paper develops a framework for understanding how city logistics service co-creates value with users. The users' perspective in city logistics research is limited, and value added services are rarely emphasized. The framework developed is based on literature on value in business markets, and in-store processes. Two case stores and their use of city logistics demonstrate how value is co-created when changes in delivery patterns and value added services affect especially the use of store employees. Further, we show that there is a barrier to the co-creation of value when services get close to core activities in-store operations.

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1. Introduction

City logistics based on Urban Consolidation Centres (UCC) have been tested in many European cities (Browne et al, 2005); often without the success that stakeholders expected and wished for. One reason for this may be that projects have not emphasized the needs of users. As a business model for city logistics is presently lacking (Pålsson, 2014), this paper seeks to contribute to such a model by emphasizing how city logistics providers potentially co-create value with users.

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This paper deals with the possible business benefits and value drivers of stores as users of city logistics. City logistics users have been a rarely treated actor group in city logistics literature. Users of UCCs represent an important stakeholder as they, according to e.g. van Rooijen and Quak, (2008) can choose whether or not delivery in cities has to be made via a UCC. Thus, *benefits for users* is a mechanism for attracting necessary freight volumes for UCC based systems. However, only few contributions outline possible value adding services from UCCs (e.g. Browne et al, 2005; van Roijen & Quak, 2008; Aastrup et al., 2012), and only a few contributions take a users' perspective (e.g. Hvass & Teilmann, 2012; Pålsson, 2014, Hofenk, 2012), and no-one the interface between logistics service provider and store. The value adding processes in city logistics schemes seem to be poorly understood.

In this paper we therefore analyze value drivers for stores from using city logistics services. We address both the value of the basic delivery parameters as well possible value adding services. Theories of value in business markets, co-creation of value and models of in-store logistics and operations will be applied to get this deeper understanding of the interface between city logistics service provider and store/consignee and therefore how value is co-created.

The purpose of this paper is to develop and exemplify a framework for understanding how activities and services can add value for users and consignees in city logistics schemes based on UCCs. This is captured in the research questions below:

- How do value adding services co-create value in the interface between city logistics provider activities and instore processes?
- How value adding services affect in-store processes and resources? Which benefits and sacrifices are perceived by users from these activities?

Section two introduces city logistics literature addressing UCCs and the users' perspective. Section three develops a framework of potential UCC based value drivers for stores using city logistics. Section four presents the findings from two case stores, both users of city logistics services in Copenhagen. Section five and six discuss the findings and conclude the paper.

2. City Logistics and value adding services

City logistics is about having an urban geographical perspective on the supply and distribution chains generating traffic activity in cities, and to regulate, organize and consolidate those activities, i.e. a destination perspective (van Rooijen and Quak, 2008). City logistics can be defined as "all co-ordinated measures comprising logistic collection and delivery activities of logistic service providers in urban areas..." (BESTUFS, 2007).

The definition of city logistics does not necessarily imply the use of consolidation centres. However, this research will address city logistics schemes based UCCs. The basics of a UCC is to separate the distribution activities in and out of the urban area from the distribution activities to and from the urban area. We use the term UCC as: "a logistics facility that is situated in relatively close proximity to the geographic area from which consolidated deliveries are carried out within that area. A range of other value-added logistics and retail services can also be provided at the UCC." (Browne et al, 2005).

The potential gains typically addressed is environmental and social benefits as result of factors such as reduction in vehicle trips in the city, fewer trucks, better utilization and consolidation of vehicles (Browne et al, 2005; BESTUFS, 2007; Quak, 2008). The raison d'etre of UCC schemes lies in activities of *consolidation and transshipment* also crucial in the definition above. Through consolidation activities the number of vehicles in the city can be reduced, and through transshipment the freight will be transferred to vehicles more expedient for city distribution, e.g. lighter/smaller vehicles, vehicles using alternative fuels or perhaps bicycles.

Besides the two crucial activities of transshipment and consolidation, a third element in the definition above is the possibility of supplying value added retail and logistics activities from the UCC. Consolidation and transshipment activities address how to carry out given distribution activities in a more efficient manner when it comes to cost as well as externalities. The value adding activities, on the other hand, address benefits for users that such a city logistics scheme can provide, and they open up for a possibility of reconfiguring logistics activities (Halldorsson, 2002).

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