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Variety in freight transport service procurement approaches

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Abstract

Freight transport is featured by complexity owing to interdependences within supply networks. The aim of this paper is to explore the variety in freight transport service procurement approaches and how these impact on vehicle utilization. The paper relies empirically on a case study featuring different conditions for, and approaches to, transport services from the perspectives of buyers and suppliers of transport services. Three particular dimensions are identified; (1) the nature of the transport needs, (2) the buying firms' share of and influence on the utilization of vehicles, and (3) the division of labor with regard to how the firms handle their needs for transport services. The paper concludes that the variety of transport service procurement approaches impacts heavily on the conditions for vehicle utilization.

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1. Introduction

Transport efficiency is growing in importance. Efficient use of heavy vehicles, as a key aspect of transport efficiency, is also one of a set of issues subject to increasing attention following the growing concerns of the climate effects of freight transport. All in all, road transport encompasses around 20% of the total carbon dioxide emissions in Europe, with heavy-duty vehicles standing for a quarter of these emissions (EU Climate Action). In order to improve the utilization of vehicle capacity it becomes essential to better understand the conditions for this utilization.

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In this paper we take one such step by exploring the variety in transport service procurement approaches since these approaches are assumed to impact on the conditions for vehicle utilization. The case study is grounded in the specific supply network contexts of the transport services, i.e. we take a micro level perspective on the conditions for transport service procurement and how this impact on vehicle utilization.

Recent empirical studies of transport service procurement suggest that logistics managers prioritize reliability, transport quality, geographic coverage and low price when selecting transport suppliers, and that price is most important when selecting transport solutions (Lammgård and Andersson 2014). However, low price relate to efficient resource use and can thus be achieved by collaborative approaches wherein adjustments of the transport service setting are made to enable more efficient use of vehicles to reduce cost. Moreover, transport service procurement efforts carried out to achieve full truck-loads reduce both emissions and the cost of transport services (Basu et al. 2015; Evangelista, 2014). In more general terms ‘environmental purchasing’, i.e. environmental actions of a firm in relation to its upstream supply chain, has been found to have a positive impact on firm performance (Carter et al. 2000).

Through exploration of the variety in transport service procurement approaches we set out to identify a set of dimensions with regard to the conditions for vehicle use. The context on which the efficiency depends includes the business networks of the firms that are involved in buying and selling of transport services. Hence, links to the wider business context of these firms are considered as of importance for the understanding of their vehicle utilization. In this regard the study draws on previous studies and notions on the complexity of the business networks in which transport services are embedded. For instance, Sternberg et al. (2013: 493) note that in contrast to how research focusing on transport activities are typically depicted “...a closer look into real-world road freight transport systems reveals more complex constellations involving multiple actors with different functions, leading to a fragmentation of transport planning and control activities and accordingly inefficient execution of road freight transport”. In addition, Rogerson et al. (2013) emphasize the influence of contextual factors on the purchasing process for freight transport services.

The aim of the paper is to explore the variety in transport service procurement approaches and how these impact on vehicle utilization. The theoretical framework guiding our exploration is grounded in the industrial network approach (see e.g. Håkansson and Snehota 1995, Håkansson et al. 2009) and especially the role of the relationships between buyers and suppliers of (transport) services and products (subject to transport) (Gadde and Hulthén 2009). The paper is based on an ongoing case study of how three firms approach transport service procurement and how these approaches, and the supply network settings on which these depend, affect the conditions for vehicle utilization.

Transport services are featured by certain unique characteristics compared with other ‘transformation’ activities. First, they always in one way or another include at least three actors; the transport service provider, the buyer of the transport service and a third party being either the buyer or supplier of the goods subject to transport (depending on who is buying the transport service – the buyer or supplier of the goods). Hence, we draw on the notion of ‘the transport service triad’ including buyers and suppliers of goods and of transport services (Andersson et al. 2014). However, in many cases the network setting is much more complex and includes a great variety of other actors (Sternberg et al. 2013). Therefore, we extend the analysis of the transport service triad to include other actors influencing the transport activities. Second, every company involved in production of physical products depends on transport activities both up- and downstream. These activities may, or may not, be subject to interdependence that requires management by the parties involved. Third, transport activities are special with regard to the space dimension since they connect other transformation activities (e.g. refinement and/or storage of physical products) that are bound to different locations.

In the next section we present the frame of reference followed by section three in which the method is described. In section four the three cases are presented. Section five contains the case analysis. The paper ends with conclusions and implications for research and practice.

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