

Horizontal cooperation in logistics: Opportunities and impediments

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Abstract

This paper presents the results of a large-scale survey on the potential benefits of and impediments for horizontal cooperation in Flanders. The main findings are that in general Logistics Service Providers strongly believe in the potential benefits of horizontal cooperation to increase their profitability or to improve the quality of their services. The impediments for cooperation that are perceived or expected by the non-cooperating Logistics Service Providers prove to be experienced by the cooperating Logistics Service Providers. Finding a reliable party to lead the cooperation and constructing a fair allocation mechanism for the benefits are the impediments that respondents agree with most.

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1. Introduction

Fierce competition in global markets, the introduction of products with shorter life cycles, and the heightened expectations of customers have forced shippers and Logistics Service Providers (LSPs) to invest in developing stronger and mutually beneficial relationships with each other. Such vertical cooperation, involving suppliers, manufacturers, distribution centers, customers and LSPs, is supported by extensive academic research. As indicated by Gibson et al. (2002), research has mainly focused on identifying potential benefits

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(e.g. Gentry, 1993), the critical success factors (e.g. Tate, 1996) and partner selection criteria. The most common and best-studied type of vertical cooperation involves shippers hiring third-party LSPs (3PLs) to perform all or part of their materials management and product distribution function (Simchi-Levi et al., 1999). Tyan et al. (2003) describe the supply chain advantages of consolidation of logistics flows by 3PLs. The increased economies of scale make it for example possible to acquire large equipment that would have been too expensive for the individual shipper. Leahy et al. (1995) assess the determinants for a successful vertical cooperation between shippers and a 3PL.

Horizontal cooperation is defined by the European Union (2001) as concerted practices between companies operating at the same level(s) in the market. Horizontal cooperation in logistics is mainly gaining momentum in Western Europe. In Belgium and the Netherlands, the European logistics centers of gravity, the authors are aware of over 30 formal logistics partnerships. Through close collaboration, the partnering LSPs aim at increasing productivity, e.g. by optimizing vehicle capacity utilization, reducing empty mileage and cutting costs of non-core/supporting activities to increase the competitiveness of their logistics networks.

The literature on horizontal cooperation in logistics is, however, still in its infancy. While for maritime shipping (see e.g. Shepperd and Seidman, 2001) and the airline industry (Fan et al., 2001; Oum et al., 2002) horizontal cooperation is quite common and well studied, the literature on horizontal logistics cooperation is scarce. This matter has only been studied by Bahrami (2003), Cruijssen and Salomon (2004), Erdmann (1999), and Vos et al. (2003), where the emphasis is on (1) quantifying the potential cost savings through cooperation by means of simulation studies and on (2) reporting a limited number of successful cases.

This paper describes the first large-scale study on empirical evidence on the potential benefits of horizontal cooperation in logistics, as well as on the major impediments for starting and maintaining logistics partnerships in practice. The remainder of the paper is structured as follows. In Section 2 research questions are formulated for surveying a large sample of LSPs in Flanders, the main logistics region in Belgium. The survey is discussed in Section 3. Section 4 reports on the results of a factor analytical study based on the gathered data. Section 5 concludes with the main results of the paper and identifies avenues for further research.

2. Research propositions

Although the literature on horizontal cooperation in logistics is scarce, cooperation between autonomous firms, such as strategic alliances and joint ventures, has received extensive attention in the management literature. This literature forms the basis of a set of propositions regarding opportunities and impediments for horizontal cooperation in logistics. The development of these propositions is also based on a series of five pilot interviews with LSPs. For the survey a large number of managing directors of LSPs were asked about their opinion on these propositions.

2.1. Opportunities

The driving force behind the formation of alliances is each participant's expectation of a net positive value to the expected alliance outcomes (Parkhe, 1993). By cooperating, partners can generate so-called relational rents. Dyer and Singh (1998) define relational rent as "a supernormal profit jointly generated in an exchange relationship that cannot be generated by either firm in isolation and can only be created through the joint idiosyncratic contributions of the specific alliance partners". They argue that collaborating firms can generate relational rents through relation-specific assets, knowledge-sharing routines, complementary resource endowments and 'effective governance'.

In a logistics context, relational rents can be 'hard' (e.g. economies of scale) and 'soft' (e.g. learning). Bartlett and Ghoshal (2000) mention three ways in which strategic alliances and networks allow participating firms to reap the benefits of scale economies or learning: by (i) pooling their resources and concentrating on (core) activities, by (ii) sharing and leveraging the specific strengths and capabilities of the other participating firms, and by (iii) trading different or complementary resources to achieve mutual gains and eliminate the high cost of duplication. Kogut (1988) summarizes the advantages of cooperative alliances in terms of reducing the transaction costs resulting from small number bargaining, enhancing the competitive position or market

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