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A qualitative investigation of innovation between third-party logistics providers and customers

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ABSTRACT

Despite the challenges of creating innovation in third-party logistics (TPL) provider–customer relationships, little is known about how TPL providers and customers engage in joint innovation projects and the benefits that can be obtained from such innovation activities. Therefore, this exploratory study investigates contingency factors that are important in joint TPL provider–customer innovation projects, and the project outcomes for TPL providers and TPL provider–customer relationships. The study applies a multiple case study research design to examine four TPL provider–customer innovation projects. Cross-case analysis reveals that several contingency factors (e.g., high integration with customer, establishing links to customers insisting on new services, complementary relationship-specific investments, agreement of benefit sharing) influence the joint TPL provider–customer innovation projects. Furthermore, the analysis shows that such innovation projects allow the TPL providers to upgrade their positioning, intensify customer relationships and lead to higher performance. Furthermore, this research underlines that innovation in logistics services can be a source of sustainable competitive advantage for TPL providers.

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1. Introduction

Service outsourcing literature has indicated that outsourcing performance should not only be assessed in terms of cost reduction for the outsourcer, but also on added benefits such as improved margins for the outsourcing service provider as well as improved service and innovation (e.g., Tate et al., 2009; Vitasek and Ledyard, 2010).

Likewise, a survey of third-party logistics (TPL) customers showed that after price and service quality, customers of TPL providers value the improvement of service levels (indicated by 67% of the respondents across the world), a broader range of value-added services (62%) and innovative IT support (61%) as most important in their selection of a TPL provider (Georgia Institute of Technology et al., 2007). In other words, TPL providers must possess the capability for continuous change and innovation, be able to develop new, and improve existing processes and services. For logistics service providers (LSPs), offering simple transport and warehousing services with a short-term operational approach is no longer sufficient to satisfy and retain customers, even less to capture larger shares of the market and maintain growth. More than ever, a firm's competitiveness and

performance depend on its ability to develop innovations that add value to the customers' bottom line.

Some leading LSPs have recognized this need and adopted innovation practices. Deutsche Post DHL, for example, opened its Innovation Center in 2006 and defines it as a "space for new ideas, for forming innovative networks and developing solutions, from prototype to market launch." (Deutsche Post DHL, 2012) Kuehne+Nagel received the German Logistics Prize for an innovative concept for the aviation industry in 2005 (Kuehne+Nagel, 2005), and the Swiss Innovation Prize a year later (Kuehne+Nagel, 2006). Despite these promising examples, innovation management has assumed only a marginal role in many logistics service firms, and the innovation activities of firms in this industry and the proportion of innovators are much lower than in other industries (Oke, 2007; Wagner, 2008).

The criticality of being innovative and becoming an innovator, coupled with the low level of innovation realized by logistics service firms and TPL providers, raises the question of why this situation exists and what can be done to improve innovation integration in the industry. Some initial recommendations can be derived from commonly observed barriers to innovation in the logistics service industry (Oke, 2008) and the pitfalls that logistics service firms face in innovation processes (Gammelgaard, 2008). However, since the ability to work collaboratively with customers will determine the future success of TPL providers (Deepen, 2007; Georgia Institute of Technology et al., 2007; Tian et al., 2010;

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Wallenburg, 2009; Wong and Karia, 2010) and innovation in logistics services occurs at the customer interface (Flint et al., 2005; Franklin, 2008; Oke, 2008), a much deeper understanding of the cooperation between TPL providers and their customers in innovation projects is needed.

Since research on innovation at logistics service firms and TPL providers is still in an early stage, the objective of this article is to develop a number of empirically grounded explanations of how innovation occurs at the TPL provider–customer interface. More specifically, we aim to answer the following two research questions: What are some contingency factors that are influential in a joint TPL provider–customer innovation project? When these factors are considered, what is the outcome of the project, for the TPL provider, and for the TPL provider–customer relationship? The findings of our exploratory study can guide future theory development, inspire empirical studies, or inform analytical modeling approaches.

This article is structured as follows: In Section 2, we review the work on third-party logistics (TPL) and relevant literature on innovation in general, and innovation at logistics service firms in particular. Furthermore, we discuss the strategic positioning of TPL providers, and the relationship between TPL providers and customers. In Section 3 we will discuss how we collected and analyzed the case data. The results of the analysis are presented in Sections 4 (within-case analysis) and Section 5 (cross-case analysis). Section 6 presents the discussion, managerial implications, and advances research propositions. The article ends with limitations and an outline for future research (Section 7) and a summarizing conclusion (Section 8).

2. Literature review

2.1. Third-party logistics

The landscape of LSPs is multifaceted. Depending on the LSP's service capabilities and the type of services offered to the customer (shipper), these service capabilities and offerings may cover at least transportation functions and may extend to services, such as warehousing, inventory management, information-related services, or even the assembly and manufacturing of products for the customer (Lai et al., 2004; Persson and Virum, 2001). LSPs which manage, control, and deliver the latter – more complex – logistics services are often referred to as TPL providers. Since the empirical setting of our study focuses on TPL provider–customer relationships, it is warranted to define TPL and to summarize the changes and developments in the TPL industry which are relevant in the context of TPL provider–customer interaction and innovation.

While there is agreement that TPL is characterized by the execution of more complex logistics services, some authors define TPL more broadly than others (Marasco, 2008). Under a *broad* definition, TPL involves the outsourcing of logistics activities to a LSP that have previously been executed in-house by the customer (e.g., Lieb, 1992; Stank and Maltz, 1996). Following a *narrow* definition, several characteristics must be present before a logistics outsourcing arrangement between a LSP and a customer can be considered as TPL. Such characteristics may include the provision of a wide range of services, a customer-specific solution, the establishment of a contract, a long-term duration of the relationship, joint efforts to advance the cooperation, and a fair sharing of benefits and risks (e.g., Berglund et al., 1999; Murphy and Poist, 1998; Skjoett-Larsen, 2000).

The TPL industry has undergone several changes and developments in the past decade. Since this industry has implications for logistics service innovation, these changes will be discussed next.

Customers have outsourced a broader range of logistics services (e.g., financial services, contract manufacturing, procurement support) and some customers even desire 'one-stop shopping' with a lead logistics provider which offers a variety of outsourcing services through a single point of contact. Such a provider must be able to offer wide geographical coverage and sophisticated technological solutions (Rafiq and Jaafar, 2007; Tian et al., 2010). TPL providers that cannot meet such demanding customer requirements might be forced to serve as subcontractors to lead logistics providers, incur the risk of lower profit margins, and experience fewer growth opportunities. Lieb (2005) describes several avenues for TPL providers to expand their service offerings. A TPL provider may (1) initiate new services on its own, (2) acquire a company that provides those services, or (3) develop operating alliances with other TPL providers (or other LSPs such as transportation carriers, freight forwarders, warehousing companies, software vendors, and financial service companies) that possess the desired capabilities. This research sheds light on a fourth avenue: innovation, the improvement of processes, and the development of new services in collaboration with customers.

The TPL industry also faces technological challenges (e.g., Anderson et al., 2011; Lai et al., 2008). On the one hand, a challenge to the industry is the high cost and low return on IT investments. This problem stems from the rapid changes in technology, the customers' demand for systems customization, and the customers' unwillingness to pay the true costs of these applications. On the other hand, TPL providers must invest in technology because customers demand more technological competences and IT solutions. Customers increasingly rely on their TPL providers for expertise in complex technologies such as transportation management systems (TMS), warehousing management systems (WMS), supply chain event management (SCEM), and international trade logistics systems (ITLS). TPL providers acquire valuable technology-specific knowledge and expertise by working with multiple customers. Thus, the TPL providers can maximize the productivity of the technology. Therefore, customers favor TPL providers who can afford upfront investments in technology and have multiple customers. In sum, IT enables TPL providers to enhance productivity, reduce costs, provide innovative and customized services, and improve service quality—consequently circumventing competitive pressures (Bitran et al., 2007; Lai et al., 2008; Mortensen and Lemoine, 2008).

Another trend in the TPL industry worth mentioning in the context of our study is customer selectivity of the TPL providers (Lieb, 2005). TPL providers are typically looking for customers of certain sizes in certain industries that are interested in developing collaborative and long-term relationships. As a result of this selectivity, TPL providers anticipate higher margins and yields. These TPL providers will either close accounts yielding marginal returns or aggressively seek price increases at contract renewal time.

We expect these changes and trends in the TPL industry to also become evident in how TPL providers engage in innovation. Innovative services will be reliant on technology and IT solutions. Through innovation, TPL providers can offer a broader range of services meeting specific customer demands. Furthermore, customers that will be partners for TPL providers' innovation activities will be those who offer a greater potential for growth and profitability.

2.2. Innovation

In this research, innovation is defined as the degree to which customers of TPL providers perceive services offered by the TPL providers as a new and useful solution to satisfy their needs (Schumpeter, 1934). The ability to innovate and offer innovative services faster than competitors can be the basis for first mover

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