

Greening propensity and performance implications for logistics service providers



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ABSTRACT

Stakeholders in the logistics industry have growing concern about the damage caused by logistics operations to the environment. Logistics service providers (LSPs) have taken steps to pursue environmental objectives by involving customers in their operations. This study defines greening propensity (GP) as “involvement of customers to perform logistics activities to achieve environmental performance”. We analyze survey data collected from the logistics industry in Hong Kong to address the following questions: What are the categories of greening capability in LSPs? What are the performance outcomes of LSPs’ greening capability? Theoretical contributions and implications of the study results are discussed.

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1. Introduction

Supply chain collaboration involves relationship development among parties in a supply chain to enhance mutual performance. Driven by growth in global production and consumption, supply chain activities have expanded in both scope and volume in recent decades. To succeed in the competition, many manufacturers and retailers dedicate resources to focus on their core businesses. Accordingly, many of them have chosen to outsource their non-core activities such as logistics operations to logistics service providers (LSPs). Due to the increase in outsourced activities at the global level, LSPs play a facilitating role for enterprises to improve their supply chain operations. Customers of LSPs (e.g., traders, manufacturers, and retailers) increasingly request more, better, and faster services in support of their global production and marketing activities (McGinnis and Kohn, 2002). Hence, it confers a competitive advantage on LSPs that provide comprehensive service menus to better satisfy customer needs (Lieb and Miller, 2002). In general, LSPs can be categorized into several types ranging from traditional freight forwarders to fully-fledged service providers. To satisfy the growing customer requirements for logistics operations, many LSPs have taken measures to broaden the scope of their services (Murphy and Daley, 2001; Murrphy and Wood, 2004). LSPs provide different logistics service bundles, which we define as “a group of highly related and complementary logistics activities that enables a firm to convert its business routines into a formidable means to satisfy different logistics service needs” in this study.

On the other hand, public pressure on firms to implement environmentally friendly operations in managing their global supply chains has been on the rise (Lai et al., 2013a,b). Green operations have become an important issue in today’s business activities as participating parties in the supply chain increasingly demand striking a balance between economic gain and environmental protection (Lun, 2011). Customer pressure on green operations has prompted many LSPs to cooperate with

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their customers and enhance their capability in greening with the aim to improve their firm performance (Lun et al., 2013). LSPs with a greening propensity are considered to have strong preference to perform their logistics services in an environmentally friendly manner. To adopt green operations for managing the supply chains of customer firms, LSPs need the participation of their customers to pursue environmental objectives jointly (Lai et al., 2013a,b; Yang, 2012). In this study, we define greening propensity as “involvement of customers to perform logistics activities environmentally to achieve firm performance”.

In logistics operations, better greening capability enables LSPs to deliver logistics services to their customers more efficiently. For instance, LSPs having close working relationships with their customers and understanding of customers’ environmental objectives can develop efficient business routines to better serve their customers (Wong et al., 2012). Hence, it is worth studying green operations that convert inputs into outputs, which are essential to developing the green capability of LSPs. In this study, we address the following key research questions concerning green operations in the logistics industry: Do service bundles exist in logistics operations? What is the status of LSPs with a greening propensity to adopt green operations to carry out their business activities? What is the relationship between greening capability and firm performance in terms of customer satisfaction and sales growth? Based on empirical data collected from LSPs in Hong Kong, we classify service capability into several categories relative to the results of an earlier study published by Lai (2004) to examine the dynamic service capability of LSPs. In addition, we use an input/output approach to determine the greening capability of LSPs. We also examine the relationships between greening capability and customer satisfaction and sales growth using various analytical tools to illustrate the presence of greening propensity.

2. Theoretical background

LSPs involve “customers’ external firms to perform logistics functions” (Lieb, 1992). Activities performed by LSPs range from the traditional arm’s length outsourcing of transport services to the provision of a broad range of logistics service items. According to Lai (2004), an LSP can be broadly defined as “a provider of logistics services that performs all or part of a client company’s logistics function”. LSPs have received considerable attention in the last few decades (Knemeyer et al., 2003). Comprehensive reviews of LSPs have been conducted by Razzque and Sheng (1998), Skjoett-Larsen (2000), Maloni and Carter (2006), and Marasco (2008) to examine various issues pertinent to third-party logistics operations. Nowadays, LSPs offer a broad spectrum of logistics service functions. By outsourcing logistics operations to third parties, business enterprises can focus on their core strengths. Activities performed by LSPs have experienced significant growth in recent years. The annual growth in third-party logistics services in China, the US, and the rest of the world are estimated to be 25%, 10–15%, and 5–10%, respectively (Koh and Tan, 2005; Yeung et al., 2012).

According to the National Bureau of Statistics of China, the total output of the logistics industry in China had shown a significant increase from less than RMB 20 billion in 1980 to more than RMB 100 billion in 2009. The growth of logistics outputs can be examined from two aspects (Lean et al., 2014): the first one is that the logistics industry has experienced rapid development and the second one is that logistics components are broadening. The recent trend of focusing on core competence by enterprises has contributed to the rapid development of the logistics industry. To compete with rivals, business enterprises focus on their core competence with non-core logistics activities being outsourced to third parties with the aim to create competitive advantage by forming long-term relationships with LSPs (Coates and McDermott, 2002; Yeung, 2008). To enhance their core competence, business enterprises adopt a global view on logistics management and consider LSPs as partners that provide them with a broad range of logistics services (Lemoine and Dagnaes, 2003). As logistics service management is a significant research area, it is essential to investigate LSPs’ green operations and their links with business outcomes.

This study uses the approach of “topology as a theory building” to examine the greening propensity of LSPs. Fig. 1 shows the proposed research model that guides this study. According to Doty and Glick (1994), topology “identifies multiple ideal

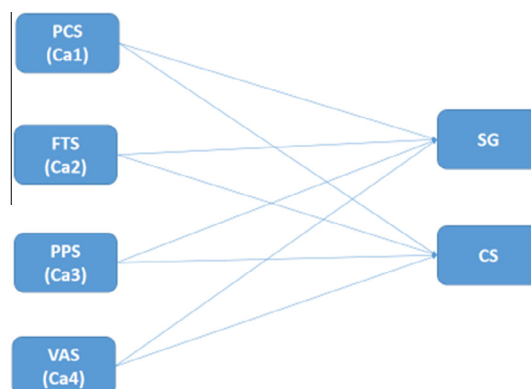


Fig. 1. Proposed research model.

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