E-Commerce Logistics: A Literature Research Review and Topics for Future Research

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ABSTRACT

E-commerce has attracted increasing interest at the beginning of the 21st century, in both academia and practice. Today, the Internet is commonly used by both consumers and businesses as a means of purchasing goods. The authors’ study focuses on e-commerce logistics, focusing on the physical delivery of goods sold over the Internet. Based on a systematic review of articles, the authors will summarize and analyze the main findings of academic literature and highlight certain research issues recognized on this topic. The main objective is to study the state-of-the-art of e-commerce logistics research and future research needs. The reviewed articles have been formed into seven categories, and each category is discussed in the paper. The largest categories discuss e-commerce logistics in relation to retail strategies, logistics strategies and structures, and buyer preferences. Although logistics is a critical part of e-commerce, it seems based on the review that not many e-commerce logistics solutions have been developed or studied in current research, and logistics has often been treated as only a minor issue among other issues in e-commerce.

Keywords: E-Commerce, E-Commerce Logistics, Logistics, Online Shopping, Systematic Literature Review

INTRODUCTION

In this study, we are particularly interested in the physical delivery of goods in e-commerce (e-commerce logistics). By e-commerce we mean Internet-based sales. In this context, we will focus on business-to-consumer (b-to-c), business-to-business (b-to-b) and consumer-to-consumer (c-to-c) e-commerce logistics. As e-commerce logistics often involves both consumer customers and business customers, and because the sales channel is separated from the delivery channel, deliveries can be handled in many ways. The delivery channel can adopt the traditional retail chain structure, for example, or it can be completely disintermediated (Benjamin & Wigand, 1995; Delfmann et al., 2002), resulting in a geographical fragmentation of delivery points. E-commerce also emphasizes the role of logistics companies as service providers and opens up business opportunities for them, as the logistical requirements differ from those of traditional channels and are not easily managed by retailers themselves (Delfmann et
al., 2002). The increasing importance of consumer delivery capabilities for LSPs has been reflected in the development of cost-efficient delivery networks that can reach consumers.

There are several issues that have motivated a review of studies conducted in the area of e-commerce logistics. E-commerce has taken off in the past decade, and, in many cases, has become business-as-usual. As a result, logistics should also have been developed to meet the challenges described in e-commerce studies. It can further be expected that studies have been made analyzing how logistics can help to exploit the opportunities and benefits of e-commerce, and what the customer requirements for logistics actually are. Thus, it is interesting to see what kinds of logistics issues have been researched, how such issues have evolved during the life cycle of e-commerce, and what issues still require further research. We also aim to discuss the lessons learned from past e-commerce logistics research and certain important issues for future research.

The following characteristics are typical for e-commerce logistics: (1) Market: In ‘traditional’ retail logistics, the customers of logistics service providers are usually only businesses, but in e-commerce logistics they are often both businesses and consumers. Operationally this means that the required network of delivery points is more dispersed than in the ‘traditional’ retail chain, as deliveries can be ordered to individual consumer addresses. Consumers are also often considered to differ from businesses in their preferences and decision making principles when choosing services. (2) Role of LSPs: Because the sales channel is separated from the delivery channel in e-commerce, suppliers without a retail and distribution infrastructure can sell their products globally to both business and consumer customers. This provides opportunities for LSPs to offer the required services. Moreover, small businesses may require different services than large retail chains.

The objectives of this study are threefold. First, we are interested in the aspects that have been studied in e-commerce logistics. Secondly, we aim to summarize interesting key research issues related to e-commerce logistics and discuss them. Thirdly, we seek to discuss future research issues that have not been resolved yet.

The paper is structured as follows. First, we will describe the methodology and objectives of the study. Then, we will discuss and analyze the articles reviewed and organize them under seven themes. After that, we will provide more in-depth discussion of the selected research issues and draw attention to future research needs. Finally, conclusions will be drawn.

**RESEARCH METHODOLOGY**

The objective of this study is to provide a systematic literature review of e-commerce logistics. A systematic review approach has been earlier conducted by e.g., Cooper (1989), Tranfield et al. (2003), Bontekoning et al. (2004), Pittaway et al. (2004), Karjalainen et al. (2009), and Islam and Scupola (2011). According to Cooper (1989, pp. 12-13) researchers usually conduct one of two possible types of literature reviews – an integrative research review or a theoretical review. The former summarizes and draws conclusions based on relevant studies, and the latter focuses on the theories employed to explain the phenomena and evaluates them. In this study the appropriate strategy is the integrative research perspective, because the focus of the paper is to discuss the aspects that have been studied in e-commerce logistics, to summarize the key issues studied by analyzing the state-of-the-art of research, and to identify important issues that were unresolved in earlier research, i.e., an agenda for future research arising from the literature review.

**Research Process**

Integrative research review methodology is applied by using the general steps proposed by Cooper (1989). Based on Cooper (1989, p. 14) the design of an integrative research review contains five stages: problem formulation, data collection, evaluation of data points, analysis and interpretation and presentation of results.
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