

Chapter 3

Collaborative Transportation Sharing: From Theory to Practice via a Case Study from France

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ABSTRACT

This chapter explores the role that information sharing has on the collective decisions made in supply chain management. The authors identify information sharing as the critical factor in reasoning that occurs as stakeholders along the supply chain collaboratively make decisions. However, a shared conceptual model is required for determining what information must be shared. Their model identifies five elements in information system management related to shared logistics projects: the enterprise's solutions (for each stakeholder and for the entire reasoning community), their deals, sharing management, organizational features and information and communication technologies related to the management of shared information. Moreover, the main accelerating and limiting factors are overviewed. The chapter illustrates the applicability of the model with a case study on the distribution of newspapers in France.

INTRODUCTION

The freight transportation industry is a major source of employment and supports the economic development of the country. However, freight transportation has many negative aspects including congestion and environmental disturbance,

which negatively affect quality of life, particularly in urban areas. Both the new trends in retail and commerce organization and the technological innovation in supply chain management and distribution planning have led decision makers to consider collaborative strategies to reduce overall cost and pollution emissions, and improve social management of the supply process (see papers

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concerned with sustainable development and transport and logistics management). In freight distribution, the most popular collaborative strategy is that of logistics sharing. This can take place at the transport level, but also in warehousing, inventory and other operations. These strategies are based on collaborative decision making and information sharing. They usually take the form of agreements and partnerships. The main aspects of collaborative logistics in production and supply management have been recently reviewed, however logistics sharing in freight distribution remains a less explored subject in the literature, but commonly observed in several real-life cases.

The aim of this chapter is to define the main concepts related to logistics sharing agreements and to present a conceptual schema representing the most important organisational aspects. We will focus on socio-economic and legislative aspects by making an analysis of feedback of several freight distribution experiences and introducing the main concepts of collaboration applied to this field. First of all we will present the main concepts of logistics sharing, based on the main definitions of collaborative logistics. After a brief presentation of the main background issues, the most important organisational aspects of this type of approach will be presented. Then, the socio-economic and legislative aspects of collaborative logistics sharing will be described. To illustrate the presented concepts and schemas, we propose an analysis of several experimental cases from the literature, and a case study from the French press distribution sector; a distribution company that started a collaborative logistics sharing project at the end of 2008.

BACKGROUND

In the last years, several strategies and logistics models have been developed in order to increase the supply chain effectiveness. Collaboration is one of the most promising areas of study in supply

chain management (Lambert et al., 1996; Barrat, 2004; Min et al., 2005; Simatupang & Sridharan, 2005; Lambert, 2008). In supply chain management, collaboration can take place at several stages of the chain and with different levels of interaction. These different levels of interaction can be classified as follows, by Crainic and Laporte (1997) for freight transportation and by Baglin et al. (2009) for collaborative logistics:

- **Transactional collaboration:** Logistics and transportation need consistent administrative practices and document exchanges. The first stage of collaboration consists of the common coordination and standardization of administrative practices and exchange techniques, requiring information and communication systems.
- **Informational collaboration:** This level of collaboration concerns mutual exchange of information such as sales forecasts, stock levels and delivery dates. It is important to note, that confidentiality and the process of competition can hinder collaboration.
- **Decisional collaboration:** This category concerns the different collaboration possibilities in planning and management decisions within logistics and transportation. These decisions can belong to different planning stages:
 - **Operational planning:** This planning stage is related to daily operations that can be coordinated or shared, like freight transportation or cross-docking.
 - **Tactical planning:** The middle-term planning stage involves several tactical decisions, like sales forecasts, shipping operational decisions, stock and production management and quality control. At this level, sharing decisions can establish a relation of trust between the collaborators.

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