

Chapter 13

Characterizing Coordination in Humanitarian Supply Chains: A Case Study in Colombia

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ABSTRACT

Coordination has been reported as a main issue in humanitarian supply chain. Although it is recognized as a potential driver for efficiency, it is not broadly studied in real cases. This chapter presents a case study for humanitarian supply chain. Using Lambert's framework for SCM, humanitarian supply chain is characterized identifying its structure, business processes, and management components. Once humanitarian supply chain is understood, a short review is performed to identify how coordination is being integrated into humanitarian supply chains body of literature, and principles, techniques, and technologies applied for coordination in humanitarian supply chain are identified. Finally, using content analysis methodology, coordination issues are mapped through humanitarian actors in Colombia by understanding the supply chain strategy of three principal actors for Colombian humanitarian supply chain.

BACKGROUND

Humanitarian logistics has received attention of the scientist since the events occurred in the Indian Ocean tsunami in 2004. In recent years the number, magnitude and impact of natural disasters has increased, and according with the United Nations Office for Risk Reduction, both natural and man-made disasters will continue to increase both in quantity and impact (Cozzolino, 2012; Leiras, de Brito Jr, Queiroz Peres, Rejane Bertazzo, & Tsugunobu Yoshida Yoshizaki, 2014).

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In this scenario logistics management is essential for reducing the impacts due to disasters since near the 80% of efforts in relief operations are related to logistics. The way in which different actors around humanitarian supply chain interact with each other can help logistics to be more effective. For instance coordination between actors is considered one of the main factors influencing logistics performance in disaster relief situations (Cozzolino, 2012; McLachlin & Larson, 2011; Seybolt, 2009).

Decisions in humanitarian logistics are taken under no standards, a lack of transparency and a high fragmentation, there's a poor coordination. Greater levels of coordination between the humanitarian supply chain actors, means greater performance level (Wassenhove, 2006). It is not enough with having more goods, services and funds, it is also important to understand and improve the relationships between actors through the humanitarian network, this could be achieved with adequate coordination mechanisms (Aslanzadeh, Rostami, & Kardar, 2009).

The following chapter presents a characterization for the Colombian care system for disasters in order to establish the actual deployment of coordination in the humanitarian supply network. For doing this a theoretical approach for the conceptual system of humanitarian supply chain is presented taking into account definitions proposed by (Lambert, Cooper, & Pagh, 1998), then the real system description for humanitarian logistics is discussed., introducing its principal actors, processes and relationships, finally using the methodology presented in (Perez-Franco, Singh, & Sheffi, 2010) the humanitarian supply chain strategy is assessed looking to find how coordination is involved in the strategy of the different actors of the humanitarian network in Colombia.

THEORIES AND APPROACHES

(Lambert et al., 1998) proposed a framework for understanding supply chains. This framework is composed of three elements: the supply chain structure, the business processes and the management components. Supply chain's structure refers to the setup of the different network actors, having into account from the raw materials suppliers to the end customer. Supply chain structure includes both horizontal and vertical dimensions. Examples of applications for Lambert framework can be seen in (Gonzalez-Feliu, Osorio-Ramirez, Palacios-Arguello, & Talamantes, 2018)

Regarding the business processes, Lambert (1998) defines eight key processes among the supply chain relationships: customer relationship management, customer service management, demand management, order fulfillment, manufacturing flow management, procurement, product development and commercialization and returns.

Finally, the management components are referred as the managerial variables by which business processes are integrated and managed, these are classified in those related with the physical and technical components (planning and control methods, work flow, organization structure, communication and information flow and product flow) and those related with the managerial and behavioral components (management methods, power and leadership structure, risk and reward structure and culture and attitude).

Differences Between Traditional and Humanitarian Supply Chain

There are multiple differences between traditional and humanitarian supply chain, understanding this difference is a first step in the characterization of humanitarian one. The first difference is about the

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