

Chapter 20

Towards an Empirical– Relational Model for Supply Chain Innovation

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ABSTRACT

Innovation is the key to sustainable performance in the current competitive market. Supply chains being network of firms entangled in exchange relationships; innovation in supply chains cannot be fully achieved without effective supply chain relationships. Hence the current study explores empirically the influence of dominant relational attributes viz. trust, commitment, communication, cooperation, coordination on supply chain (SC) innovation. As environmental uncertainty can moderate these relationships, hence the author includes the same as a moderating variable in the model. Based on a web based survey of 132 logistics professionals, the findings largely provide support for the proposed relationships.

INTRODUCTION

Emerging technologies have enabled firms to spread their supply chains across different geographic regions. This globalization of supply chains have been supplemented with the emergence of complicated and complex products catering to the diverse needs of customers. The base of recent competition has shifted from firms to their supply chains (Rice and Caniato, 2003). Hence, innovation has become the focus of every firm for gaining competitive advantage and that may be the reason for identifying the most innovative organization by ACSCMP (American Council of Supply Chain Management Professionals) and rewarding the same with their “Supply Chain innovation Award”. Arlbjorn et al. (2011) noted in this regard “.....among the nominees have been prestigious organizations such as the U.S. Air Force, Motorola, Kellogg’s, and Blockbuster Inc. The list of award winners includes companies like Intel, Cisco Systems Inc., and Hewlett-Packard. The winner is selected out of 45–50 submissions each year, based upon criteria related to the degree of innovativeness, impact on overall supply chain, and sustainability in results (revenue, cost savings, etc.)”.

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Another compelling reason for firms to opt for innovation in their supply chains is risk management. Recent increases in man-made and natural disaster have greatly disrupted supply chain operations. Therefore, firms are investing in finding newer ways of operations so that a minimal impact can be felt in case of a disruption. Hence innovation in the supply chain is the key to competitive advantage as well as for fighting disruptions (Flint et al., 2005). There has been a lack of investigation of supply chain innovation as a capability along with its antecedents and consequences. In this regard, the current study holds relevance in two important dimensions. Using the resource based view, relational view and dynamic capabilities perspective, it formulates first a conceptual model consisting of trust, commitment, communication, cooperation and coordination and SC innovation. Secondly, it considers the moderating role of environmental uncertainty on the proposed relationships. Thirdly, it empirically validates the proposed model based on a web based survey of 135 logistics professionals.

The paper has been structured as follows. The next section discusses supply chain innovation mainly from a logistics perspective followed by a discussion of the relevant theories and how they shape our proposed framework. The following section discusses the hypotheses development along with the antecedents (trust, commitment, communication, cooperation and coordination) and the moderator (i.e. environmental uncertainty). Finally, the last section discusses the data collection, analysis and results followed by managerial implications and limitations.

THEORETICAL BACKGROUND

SC Innovation

SC innovation and logistics innovation have been dealt interchangeably. However the literature on SC innovation is highly fragmented (Grawe, 2009) and multidisciplinary investigation have taken place (Flint et al, 2005). SC innovation draws mainly from the definition of Innovation given by Rogers (1995, p. 11): “*Innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption*”. Innovation in logistics need not be evolutionary but the same may result in providing a new service to its customers. For e.g. Flint et al. (2005) focused on innovation that is more helpful to customers for e.g. a better and enhanced service that is new. Though innovation emphasizes idea generation, but it’s not beneficial or deemed important in a supply chain perspective unless it results in something valuable to the customers. For innovation to happen, only idea generation may not be enough (Chesbrough, 2003); allied processes and technology must be emphasized for successful innovations (Christiansen 2000a, 2000b, Kahn, 2001). Literature also cites how the innovation takes place in organizations and markets (Rogers, 1995; Chesbrough, 2003). Firms are constantly thriving to develop and test new ideas, products and services. Mainly for service industries, supply chain innovation is a compulsory for ensuring effective service delivery (Chapman et al., 2003). Drucker (1985) indicated innovation as a tool directed specifically for entrepreneurs. Afuah (1998) defined innovation as:

A process of turning opportunity into new ideas and putting these into widely used practice. Innovation facilitates create new technical skills and knowledge that can help develop new products and/or services for customers.

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