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Joint planning and problem solving roles in supply chain collaboration

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Abstract This research attempts to uncover joint planning and problem solving roles in developing culture in supply chain collaboration (SCC). This research views collaborative activities as internal and external focussed functional areas. The model is validated with industry data using PLS approach. Findings show that joint problem solving and measurement are critical in developing collaborative culture and executing effective planning; hence it affects core and non-core activities of collaboration. Joint planning at operation level is very important in culture development. This research contributes in developing collaborative culture and making SCC effective. Finally managerial insights and future scope are highlighted.

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Introduction

From the last decade onwards, issues related to supply chain collaboration (SCC) have been of great interest to researchers in the field. With increasing globalisation and competition, firms have realised that they cannot sustain doing business alone. Aligned with their requirements they try to collaborate with supply chain partners to retain what they have and to generate what they do not have. There exist considerable number of studies which emphasise the outstanding

benefits that can be derived from supply chain collaboration (Daugherty et al., 2006; Dyer & Singh, 1998; Whipple et al., 2010). The benefits include reduction in inventory, lead time, bullwhip effect, development of unique capability, increased flexibility, greater end-customer satisfaction, increased market share and profits. Slone, Dittmann, and Mentzer (2010) and Stank, Dittmann, and Autry (2011) identified external and internal collaboration as a major broad research area which is one of the pillars of supply chain management (SCM). There is little doubt that collaboration is critical for a successful supply chain, yet few firms have realised real collaboration, suggesting collaboration capability is rare, valuable, and hard to replicate (Fawcett, Wallin, Allred, & Magnan, 2009; Frohlich & Westbrook, 2001). It also suggests much has to be explored through different perspectives which can help firms in implementing collaboration.

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There exists considerable literature which finds out antecedents of certain phenomena, features, and outcomes. Also the literature (Hadaya & Cassivi, 2007; Horvath, 2001; Singh & Power, 2009) on the driving forces, outcomes, and collaborative process of SCC is quite extensive. The literature (Richey, Tokman, & Skinner, 2008; Zacharia et al., 2011) also addresses complex issues such as technological readiness, absorptive capacity, and collaborative process competence; however, it appears that the existing literature is lacking on many fronts. The available literature is confined to studying a small number of factors within a specific functional area, neglecting complex interaction of collaborative activities which can impart a holistic understanding about collaboration. The literature is especially scant in addressing internal and external focussed functional areas, which is the main purpose of collaboration. The main purpose of collaboration is two-fold: one is to make internal functions effective and efficient, and the other is to retain/expand market share or to make market oriented strategies. So it is extremely important to explore collaborative activities in terms of internal and external focussed functional areas. Current literature seems to have little to say about a few basic yet very important concerns such as interdependency of core collaborative activities and their mediation roles, antecedents of collaborative culture, the role of problem solving, and influence of market potential (MP) on collaborative relationship. Extant literature supports the critical role of trust and commitment on information sharing, joint planning and activities. In this study, collaborative culture (CC) reflects these elements. The culture cannot be developed instantly; it has to be evolved over a period of time through real experience and understanding coming from working with the firms (Kumar and Banerjee, 2014). A collaborative alliance equipped with this knowledge can better understand the impact of strengthening a collaborative activity on other dimensions of collaboration. These issues require greater attention, and this study attempts to present a nuanced and realistic picture of interactions of collaborative activities by addressing these issues.

Drawing upon various theoretical perspectives—resource based view, knowledge based view, and relational view—to identify potential sources of competitive advantage emanating from collaboration in supply chain, this paper investigates inter-relationships of collaborative activities and their mediation effects. In order to investigate the aforementioned issues, this study developed and tested a conceptual model, grounded in the logic of various theories, using data collected from industries. In this way, the research gives directions to practitioners by imparting a rich knowledge about interaction of collaborative activities, and highlights theoretical contributions on the subject.

Literature review

In the early 1990s, partnerships in the form of efficient consumer response (ECR) attracted firms to achieve sustainable business. The ECR promoted various types of partnerships such as vendor managed inventory (VMI), continuous replenishment (CR), and collaborative planning forecasting and replenishment (CPFR) (Barratt, 2004). A detailed discussion on these relationships can be found in Yao and Dresner (2008). It is believed that with the initiation of CPFR, collaboration

emerged in the mid-1990s, and research and development of collaboration can be observed mainly after 2000.

Collaboration has been defined by various authors (Daugherty et al., 2006; Nakano, 2009; Simatupang & Sridharan, 2002), but the idea that flows through almost all definitions is that collaboration is to devise a set of strategies in which two or more independent external (firms) and internal (within the firm) actors with different complementary capabilities achieve their common aspirations and goals in a competitive environment that cannot be achieved individually (Kumar & Banerjee, 2012a). Collaboration is different from other relationships in terms of depth of relationship, planning horizon, presence of culture, sharing of goals/objectives/visions, fruits, and risks. There is a considerable amount of research which deals with the concept of collaboration and its understanding, such as that of Barratt (2004), Benson and Dresdow (2003), Matopoulos, Vlachopoulou, Manthou, and Manos (2007), Mehrjerdi (2009), and Simatupang and Sridharan (2004). Kumar and Banerjee (2012b) shed some more light on this and proposed that collaboration is a multi-dimensional concept, which is four-dimensional and a third-order construct. Collaboration is mainly grouped under three categories: vertical, horizontal, and lateral (Barratt, 2004; Simatupang & Sridharan, 2002; Soosay, Hyland, & Ferrer, 2008). Vertical collaboration is formed when members of a supply chain collaborate to achieve a greater success. Horizontal collaboration is formed when a firm collaborates with its competitors/non-competitors (in a different supply chain) to achieve greater innovativeness, for example. Lateral collaboration can be observed when firms are involved in a combination of both vertical and horizontal collaboration to gain more flexibility.

Another important issue in the research of collaboration is the enabler and interdependency of collaborative activities, and its performance. These issues are also widely discussed in the literature. Singh and Power (2009) investigated the impact of collaboration with suppliers and customers on firm performance. Rosenzweig (2009) developed a model and showed that e-collaboration is positively related to both operational and business performance. Zacharia et al. (2011) examined the effect of absorptive capacity and collaborative process competence on the outcome of an episodic collaboration. Fawcett, Magnan, and McCarter (2008) explored a three stage supply chain collaboration. Drake and Schlachter (2008) presented two important dynamics of supply chain relationships, namely dictatorial and sustainable collaboration, and analysed these types of collaboration from the lens of virtue and ethics. Sanders (2007) proposed a model of relationships between organisational use of e-business technologies, organisational (inter and intra) collaboration, and performance. McCarthy and Golicic (2002) provided guidelines for implementing collaborative forecasting. Similarly, Cadilhon and Fearn (2005), Daugherty et al. (2006), Jap (1999), Kumar and Banerjee (2012a), Min et al. (2005), Mishra and Shah (2009), and Oh and Rhee (2010) examined factors related to collaboration impacting performance, drivers of collaboration, and what makes collaboration sustainable and competitive.

By stressing on joint planning, information sharing, problem solving, performance measurement, and leveraging resources and skills, Min et al. (2005) give a roadmap for SCC; however, its measurement aspect at implementation detail

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