

Chapter 3

Understanding Supply Chain Collaboration and Risk Management

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ABSTRACT

Social network theory is an appropriate theory for understanding the relationships among the different parties in the supply chain. This article adopts the conceptual-theory framework to introduce arm's-length and close ties concepts into the field of supply chain risk management. The theoretical paradigm of social network theory is used to develop a framework and propositions for future empirical studies. Specifically, this conceptual article uses the idea of the social network theory to propose the need for firms to incorporate both the close and arm's-length ties in their supply chains. This approach of combining the two forms of ties as a composite tie within a supply chain could serve as an important supply chain risk management tool in relation to supply chain disruption and its mitigation, because of the synergistic benefits.

INTRODUCTION

Competitive performance is achieved in supply chains through supply chain management (SCM) strategy when the internal functions within and external function outside of firms are closely knitted (Kim, 2009; Qu and Yang, 2015). This close integration of supply chain partners enhances the movement of materials and final goods from the suppliers to the end users across different organisations (Kim, 2009). Furthermore, a proper coordination of the purchasing, manufacturing and logistics activities (Olhager and Rudberg, 2003) in a supply chain will facilitate the successful mitigation of supply chain disruptions. This is because visibility which is important for risk management is enhanced. According to Olhager and Rudberg (2003), the “real challenge and opportunity in the management of the supply chain is to create a balance among all parties along the supply chain by using frameworks and platforms like collaboration and cooperation”.

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Successful collaboration of all parties within the supply chains such as the suppliers, consumers and experts within firms will result in improved performance or competitive edge (Perez, 1997; Qu and Yang, 2015). Based on this fact, an effective risk management strategy should engage several firms and the focus should be beyond the immediate firm (Juttner, 2005). Similarly, Onwubulu, Haupt, De Clercq and Visser (1999) argued that effective collaboration among the supply chain partners should not be limited to the first two tiers in the supply chain. For example, risk evaluation and impact assessment is a challenging task for a single firm to manage because of the involvement of many interconnected firms within supply chains (Juttner, 2005). This task is even more challenging with the involvement of many firms with different cultural backgrounds (Zhang and Cao, 2018). Specifically, from the culture perspective, high risk avoidance and social trust are some of the factors that inhibit successful supply chain collaboration (Qu and Yang, 2015). Hence, achieving supply chain collaboration among the numerous supply chain parties is an arduous and difficult task (Kim, 2009) especially for a firm in isolation.

Extant literatures have emphasized the use of contingency, resource based view, institutional and resource dependence theories in the area of supply chain management (Oke and Gopalakrishnan, 2009; Paulraj, 2007; Zhang and Dhaliwal, 2009; Barratt and Oke, 2007; Sun, Hsu and Hwang, 2009; Kleindorfer and Saad, 2005). Some studies have analysed the usefulness of embedded or close ties in relationships (Barrat, 2004; Uzzi, 1997). Previous studies have literarily used collaboration to depict close relationships with little or no consideration that collaboration relationships could either be close or arm's-length (Cao and Zhang, 2011; Granovetter, 1983; Granovetter, 2005; Ralston, Richey and Grawe, 2017; Blome, Paulraj and Schuetz, 2014; Tsou, 2013; Zhang and Cao, 2018; Li et al., 2015; Ramanathan and Gunasekaran, 2014; Whipple and Russel, 2007). However, this study incorporates the benefits of arm's-length ties in the face of unplanned events or better still the combination of both close and arm's-length ties (from the Social Network Theory) for better maneuvering when a disruption occurs in a supply chain. Granovetter (1983) shared a similar perspective in his work titled "the strength of weak ties".

The research gap filled in this study is based on the theoretical view employed. In this conceptual-theory paper, we made use of of a non-logistic theory, that is, the social network theory in the area of supply chain risk management. This fulfils the call to integrate complementary theories to the field of supply chain management (Halldorsson, Kotzab, Mikkola and Skjøtt-Larsen, 2007). The social network theory is chosen because it emphasizes the notion that "economic action is embedded in social structure and has raised debates about the positive and negative effects of social relations on economic behaviour" (Uzzi, 1997). Soosay and Hyland (2015) in their exhaustive review of 207 articles from 69 journals identified the use of 12 theories excluding Social network theory in the study of collaboration which include Resource-based theory, Resource-advantage theory, Relational view, Social exchange theory, Dynamic capability view, Stakeholder theory, Signalling theory, Force field theory, Transaction cost theory, Contingency theory, Agency theory and Technology-Organisation-Environment theory. Similarly, Ralston et al. (2017), emphasized the use of several other theories for the supply chain collaboration studies except social network theory. Hence, there are two research contributions of this study to the body of knowledge. First, the use of the social network theory as the theoretical foundation towards better understanding of supply chain collaboration is a significant contribution to the body of knowledge. Second, the research contribution also relates to evaluating supply chain collaboration from the dual levels of collaboration which are close and arm's-length relationships also known as composite tie. Finally, the purpose of this study which also contributes to extant literature is to examine how collaboration among supply chain partners could help in supply chain disruptions management. The introduction of the social

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