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Using LSP network position to share supply chain risk information

Keywords: Risk information sharing, LSP network position, social capital, social network

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Purpose

This study aims to investigate how Logistic Service Providers (LSP) uses their network position and relationships for supply chain risk information sharing. The study builds on the argument that positioning a well-connected firm - especially LSPs for supply chain risk information is a means of building supply chain resilience thereby reducing supply chain disruptions (Ponomarov and Holcomb, 2009, Lin, 2003). This argument is supported by the operations of LSPs which encourages maintaining multiple relationships with various businesses (upstream and downstream) and also delivering goods to different locations. The nature of these operations means LSPs gain valuable information about transport and other external related risks of the focal firms and their supply chain network.

Given that supply chain involves two or more entities involved in the movement of products, service, finance, and/or information between parties in upstream and downstream (Mentzer et al, 2001), the roles of LSPs in moving products between various members of the supply chain continues to gain interest to both managers and academia (Bask, 2001). As supply chain risk persists in posing threats to operations, some firms have focussed on collaborating to prevent or manage supply chain risk using means such as risk information sharing (Li, Fan, Lee and Cheng, 2015). Another practice adopted by some firms to manage supply chain risk is to employ the service of specialised organisations which depend on their workforce and external relationships. Whilst being constrained to knowing mostly partner's external supply chain risk, LSPs have the physical presence and relationships that can enable them to gain and share supply chain risk information. In addition to transportation risks, LSPs possess knowledge of each of its partner's geographical environment – especially locations that they deliver or pick-up goods. LSPs also have understanding of the global economic environment and how it affects the need for services. It is essential to recognise the knowledge and network position of LSPs and investigate how it can assist in supply chain risk information sharing to improve supply chain resilience and reduce supply chain disruption. The network position occupied by LSPs is similar to a hub or 'ego' which social capital theorist suggested must be cognitively aware of the presence of resources in their relations and networks (Lin 2003). In this regard, risk information and LSPs relationships are considered resources available to both LSPs and their partners.

Consequently, an understanding of the contribution of LSPs network position is needed so that both focal firms and LSPs can share information about supply chain risks that exist in their network. A wide range of literature has investigated information sharing in supply chains (Li, Fan, Lee and Cheng, 2015; Li, Lin, Wang and Yan, 2006; Li, Ye and Sheu, 2014), however the literature relating to the effect of positioning on information sharing is sparse (Frazier et al., 2009) and focused on distributor sharing strategic information. LSPs are well positioned for both strategic and risk information sharing as they deal with all supply chain members in both upstream and downstream of the supply chain. Accordingly, based on the gap in the literature this study aims to answer the following research question: How can LSPs use their network position for supply chain risk information sharing?

Method

This study adopted an exploratory case study methodology (Yin, 2003). Specifically, data was collected through semi-structured interviews from multiple cases. The case study research methodology was chosen because of the nature of the objective of the study which involves a “how” reasoning (Yin, 2003). The case study provided a deeper understanding of how LSPs use their network position and relationships for supply chain risk information sharing. Using both theoretical and convenience sampling strategy, case companies were required to have an external partner so that multidirectional flow of risk information sharing between LSPs and their partners could be understood. LSPs that were subsidiaries - offering service to only their parent company were excluded. The reason for this exclusion criteria was because subsidiaries may be obliged to share risk information while external companies are only bound by the terms of their contract - which is primarily to provide logistics services. Further, using the snowballing approach to reach out to LSPs partner's, the study appealed to LSPs to suggest at least one partnering client for an interview.

The interviews were semi-structured and targeted managers either in operations, transport or marketing departments of case companies. The semi-structured interview was guided by themes from the literature (social capital, social network and supply chain risk information sharing) which informed the questions asked. Further, a semi-structured interview provides flexibility for the interviewee to seek clarifications from points made by the interviewee (Creswel and Poth 2018).

The interview questions focussed on collecting information about interviewee's knowledge of the types of supply chain risk that exists in their partner's supply chain network. Specifically, interview questions aimed to elicit a good understanding of how LSPs use their supply chain network position and relationships for risk information sharing.

Findings and Contribution

This paper contributes to research on how to make supply chains more resilient to disruptions. By investigating LSPs network position and supply chain risk information sharing; this study has opened a new dimension of building a resilient supply chain by leveraging on LSPs network position for risk information sharing. Further, this study extends the theory of social capital by using its argument to explore how LSPs network position can be used for supply chain risk information sharing. In this regard, the study creates a research agenda to investigate the application other dimensions of social capital and social network theory such as the argument on structural holes (Borgatti and Li, 2009) to investigate LSPs supply chain network position and supply chain risk information sharing. Further, this study aids supply chain managers as they continue to prepare against supply chain disruptions. In particular, managers will explore the information which LSPs have about the risks that can cause disruptions to their supply chains. As a result, the relationships that exist between partners will extend beyond general business or general supply chain information sharing.

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