



Investigating Supply Chain Management in the Chinese Textile and Apparel Industry

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Introduction: The textile and apparel (T&A) industry is an ideal exemplifier of the global supply chain (Su, 2013; Su, Dyer & Gargeya, 2009). In recent years, there has been an increased development of new manufacturing paradigms such as lean, agile, and mass customization in the global T&A industry. These paradigms have led firms to refocus their supply chain management (SCM) towards forming closer and deeper relationships. The purpose of this study is to investigate SCM issues in the Chinese T&A industry. Specifically, the study explores SCM practices, and particularly the barriers to managing supply chain, as well as the impact of SCM socialization practices, inter-organizational communication practices, and information technology applications on buyer-supplier relationships. China is a major player in the global T&A industry, however to the researchers' best knowledge, no empirical research has been done on global SCM issues from the perspective of professionals in the Chinese T&A industry. The study aims to fill this gap.

Theoretical Framework: A multi-theoretical perspective was employed in the study, including the resource dependence theory (Hillman, Withers, & Collins, 2009) and relational view of SCM (Dyer & Singh, 1998). Resource-dependence theory describes inter-organizational relationships to reduce domestic and international environmental complexity and gain resources (Hillman et al., 2009). The relational view of SCM argues that firms should view their ability to manage their inter-organizational relationships as a resource for building strategic advantage (Dyer & Singh, 1998). Both resource dependence theory and the relational view address the importance of effectively managing buyer-supplier relationships to facilitate better understanding of environmental complexity and competitive issues related to supply chain success. SCM issues such as socialization, communication, and information technology can facilitate knowledge development, build cooperation and trust, and enhance and sustain buyer-seller relationships. We examine these issues and specifically how they impact the buyer-supplier relationship.

Research Method: An empirical survey-based research method was used in the study. Translation and back-translation of the questionnaire were performed by four Chinese scholars who are fluent in both English and Chinese. To establish the content validity of each construct and associated scales, all survey items included in the study were developed based on an extensive literature review (Chen & Paulraj, 2004; Cousins & Menguc, 2006; Jayaram, Tan, & Nachiappan, 2010; Narasimhan, Kim, & Tan, 2008; Paulraj & Chen, 2007; Paulraj, Lado, & Chen, 2008), and refined based on the researchers' discussions with practitioners in the Chinese T&A industry. The items were measured using a five-point Likert-type scale with anchors "strongly disagree" and "strongly agree." The survey was pre-tested with 12 Chinese T&A industrial executives in summer 2017.

Considering the challenge of conducting survey-based empirical business research in China, data were collected from a convenience sample of Chinese T&A industrial practitioners. Survey invitations were distributed through WeChat, which is a popular social media platform in China, through which the researchers connected with Chinese T&A industrial practitioners. The target respondents were sourcing professionals. A snowball sampling method employing personal contacts was used to increase the sample size. The survey was distributed online using Qualtrics. To increase the response rate, along with the initial survey invitation, two follow-up invitations were distributed to 800 practitioners. A total of 91 valid responses were received, representing a response rate of 11.4%, which is an effective rate for research with industry (Chen & Palraj, 2004). **Results, Discussion and Conclusions:** Approximately 25 percent of responses came from the textile industry and 55 percent from the apparel industry. About 15 percent of responses were from the firms involved in both textile and apparel businesses. The titles of the respondents include Director of Sales and Marketing (24.2 percent), General Manager (20.9 percent), Buyer (12.1 percent), Supply Chain Manager (11.1 percent), Director of Purchasing/Sourcing (8.8 percent), CEO/President (6.6 percent), and Vice President of Production (5.5 percent). Descriptive analysis revealed that the top three SCM socialization practices were awareness of supplier issues, on-site visits, and communication guidelines. For the 25 SCM issues included in the survey, results show that determining customers' future demand, increasing the firm's Just-In-Time capabilities, and aiding suppliers to increase their Just-In-Time capabilities are the most important SCM issues, with the highest mean values and relatively small standard deviations. Use of informal information sharing with suppliers and customers and use of a third-party SCM specialist are the two least important SCM issues. Regarding the barriers of managing supply chain, lack of trust among supply chain members, competition from other supply chains and lack of cooperation among supply chain members are the top three barriers identified by the respondents in the survey; while suppliers' geographical distance and customers' geographical distance are barriers that least impact SCM.

A series of standard multiple regression analyses was performed with the buyer-supplier relationship as the dependent variable and supply chain socialization practices, inter-organizational communication practices, and information technology applications as the independent variables, respectively. Results indicate that among the eight socialization practices, communication guidelines ($\beta=0.377$; $p=0.002$) and on-site visits ($\beta=0.219$; $p=0.08$) are the practices affecting buyer-supplier relationship significantly. Among the six inter-organizational communication practices, only frequent face-to-face planning/communication ($\beta=0.396$; $p=0.002$) is significantly associated with the buyer-supplier relationship. Among the six different information technology applications, only using advanced information systems to track and/or expedite shipments ($\beta=0.535$; $p=0.000$) significantly and positively impacts the buyer-supplier relationship.

Although further investigation is needed on the topic, this is the first empirical study of global SCM from the Chinese T&A practitioner perspective. China has been the top supplier for the global T&A markets for the past 20 years; it is therefore important to understand the Chinese practitioner perspective regarding global SCM issues. Findings contribute to not only the T&A discipline, but also offer insight for research and practice in the SCM field.

References:

- Chen, I. J., & Paulraj, A. (2004). Towards a theory of supply chain management: the constructs and measurements. *Journal of Operations Management*, 22(2), 119-150.
- Cousins, P. D., & Menguc, B. (2006). The implications of socialization and integration in supply chain management. *Journal of Operations Management*, 24(5), 604-620.
- Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *The Academy of Management Review*, 23(4), 660-679.
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404-1427.
- Jayaram, J., Tan, K.-C., & Nachiappan, S. P. (2010). Examining the interrelationships between supply chain integration scope and supply chain management efforts. *International Journal of Production Research*, 48(22), 6837-6857.
- Narasimhan, R., Kim, S. W., & Tan, K. C. (2008). An empirical investigation of supply chain strategy typologies and relationships to performance. *International Journal of Production Research*, 46(18), 5231-5259.
- Paulraj, A., & Chen, I. J. (2007). Environmental uncertainty and strategic supply management: A resource dependence perspective and performance implications. *Journal of Supply Chain Management*, 43(3), 29-42.
- Paulraj, A., Lado, A. A., & Chen, I. J. (2008). Inter-organizational communication as a relational competency: Antecedents and performance outcomes in collaborative buyer-supplier relationships. *Journal of Operations Management*, 26(1), 45-64.
- Su, J. (2013). Strategic sourcing in the textile and apparel industry. *Industrial Management & Data Systems*, 113(1), 23-38.
- Su, J., Dyer, C. L., & Gargeya, V. B. (2009). Strategic sourcing and supplier selection in the U.S. textile-apparel-retail supply network. *Clothing and Textiles Research Journal*, 27(2), 83-97.