Supply Chain Management Practices (SCMP) andTtheir Impact on Competitive Advantage in the Bangladeshi Apparel Sector

Md. Sadaqul Bari, North Carolina State University
Haesun Park-Poaps, Ohio University

Bangladesh is currently the world's second largest apparel exporter after China with its 30.62 billion USD worth apparel exports in the 2017-18 fiscal year (BGMEA, 2018b). The apparel manufacturing has been the key export industry of Bangladesh for last 25 years. Also, this sector has been the biggest export earner of the country, accounting for 82.01% of its total export earnings in the 2015-16 financial year (Curran & Nadvi, 2015) and by the 2017-18 its contribution to total exports earnings have increased to 83.49% (BGMEA, 2018a). The industry has been a primary income source for over four million workers, mostly women. Among many reasons for its dramatic success, cheaper labor costs compared to other countries, duty exemption and reduced tariff have been the main accelerators of its development. Although Bangladeshi apparel manufacturers have enjoyed a competitive cost advantage as well as other benefits, they are facing some obstacles today: They have started seeing problems with sourcing raw materials, long lead time, and increasing manufacturing cost. Hasan (2017) pointed out that they were due to a lack of backward and forward coordination and domestic sources of raw materials. Likewise, a considerable number of experts (e.g., Berdine, Parrish, Cassill, Oxenham, & Jones, 2008; Hasan, 2017) emphasize the importance for the industry to effectively implement supply chain management practices (SCMPs) in order for it to develop in the competitive global market. However, until to this date, no empirical studies have been conducted to examine supply chain coordination and activities and their impacts on performance in the Bangladeshi apparel sector.

SCMPs can be defined as the management activities of flows of merchandises, information, and funds across the whole supply chain from suppliers to component producers to final assemblers to distribution and ultimately to the customers (Johnson & Pyke, 2009). Several studies contributed to identifying key dimensions of SCM (e.g., Wong, Arlbjørn, & Johansen, 2005) and others empirically tested their relationships some performance measures primarily in general manufacturing (e.g., Li, Ragu-Nathan, Ragu-Nathan, & Rao, 2006; Miguel & Brito, 2011). The literature generally agrees with certain key themes (i.e., dimensions) of SCMPs—strategic supplier partnership (SSP), information sharing with suppliers (ISS), information sharing with customers (ISC), and process integration (PI). On the other hand, competitive advantage (CA) is defined as the value that a firm creates for its customers through cost leadership and/or meaningful differentiation (Porter, 1985). Different aspects of competitive advantage, such as quality, lead time or delivery, or flexibility can be such meaningful differentiation (Li et al., 2006).

The purpose of this study was to examine the extent to which the dimensions of SCMPs affect competitive advantages (CAs) of Bangladeshi apparel manufacturers. An online survey was used to collect data for this study. The target population of this study was Bangladesh apparel manufacturing companies. A random sample of 1,000 companies was taken from the member list of the Bangladesh Garment Manufacturers and Exporters Association (BGMEA). Each survey was addressed to a management or executive level employee. The first email was sent to the prospective respondents along

with a link to the online survey where respondent could choose language, either English or Bangla. A reminder email was sent after one week of the first email, followed by another email after two weeks. A final attempt was made via phone calls. The total number of responses was 109 (10.9% response rate), among which 98 were useable.

The survey instrument of SCMPs consisted of 23 items (i.e., 7 for SSP, 6 for ISS, 6 for ISC, and 4 for PI). SSP was operationalized as the extent to which the long-lasting relationships among the organizations and their suppliers are sought. ISS was operationalized as the extent to which critical and exclusive information is communicated between organizations and their suppliers, while ISC was oriented to the same content but with customers. These three dimensions were adapted from Li et al.'s (2006) study. Reported reliability coefficients of the scales ranged from.78 to .86. The scale for the PI dimension, was intended to measure the degree to which organizations are willing to work together to have a continuous and efficient flow of materials and resources, which was adapted from Miguel's (2011). Reliability coefficient reported for this scale was .83. The measurement items of various CAs were adopted from Li et al. (2006) and Awwad et al. (2013) and consisted of 16 items (i.e., 3 for cost, 4 for quality, 3 for delivery, and 6 for flexibility). The scale for the cost CA were intended to measure the ability of the company to compete against major competitors based on low price. Similarly, quality CA included items to measure the ability of offering product quality and performance that creates higher value for customers, and delivery CA, the ability of providing the type and volume of product required by customers on time. These CAs measurement items were adopted from Li et al.'s (2006) which established their reliabilities (α>.70). The flexibility CA was intended to measure the ability to respond to changes in contractual agreements or market and was adopted from Awwad et al. (2013) (α>.70).

The majority of the respondents were males (96.6%) and 25-35 years old (86.6%), with an average of five years of work history (SD= 2.99) in current company. Cronbach's α coefficients ranged from .72 to .83 for all dimensions of SCMPs. SSP scored the highest mean among the SCMPs dimensions, followed by ISC, ISS, and PI (SSP: M=29.07, SD=3.77; ISS: M=21.47, SD=4.63; ISC: M=24.46, SD=3.91; PI: M=15.92, SD=2.92). A series of multiple regression analyses was used to test the influence of four dimensions of SCMPs on the CAs. The first regression model on the cost CA was insignificant. When quality CA was regressed on the SCMPs, only PI (β=.24, p<.10) was moderately significant [R^2=.11, F (3, 88) =3.695, p<.05]. Two dimensions of SCMPs, SSP (β=.20, p<.10) and ISC (β=.28, p<.05), were somewhat significant against delivery CA [R^2=.21, F (3, 87) =7.54, p<.01]. Only ISC (β=.26, p<.05) was significant on flexibility CA [R^2=.15, F (3, 87) =5.26, p<.01].

The finding that none of the SCMPs dimensions were significant predictors of cost CA might have been due to the fact that most Bangladesh apparel manufacturers have already been focused on the low-cost compared to other manufacturers in the global marketplace (Hasan, 2017). However, knowing emphasizing low cost products only has a limit as the industry matures (Hasan, 2017), they need to be more competitive in quality, delivery, and flexibility by implementing and practicing wide variety of SCMPs. They may be in an early stage of SCM where further knowledge or resources are required to facilitate SCMPs. While we did not find collective influences of SCMPs on CAs, we found that PI was significantly related to quality CA, SSP and ISC to delivery CA, and ISC to flexibility CA. Depending on

resources, product, and customer characteristics, manufacturers can strengthen certain aspect of CAs to successfully compete in the market. To do so, focusing on certain SCMPs could help them build the targeted advantage. Another noticeable result is on information sharing activities which significantly influenced delivery and flexibility CAs. This suggests that an advanced level of communication with customers leads to better performance in flexibility and on-time delivery. The findings and suggestions from this study are valuable resources for their further development and implementation of appropriate strategies to advance in the industry.

References

Asgari, B., & Hoque, M. A. (2013). A system dynamics approach to supply chain performance analysis of the ready-made-garment industry in Bangladesh. *Ritsumeikan Journal of Asia Pacific Studies*, *32*, 51–61.

Awwad, A. S., Khattab, A. A. A., & Anchor, J. R. (2013). Competitive priorities and competitive advantage in Jordanian manufacturing. *Journal of Service Science and Management*, *06*(01), 69–79. https://doi.org/10.4236/jssm.2013.61008

Berdine, M., Parrish, E., Cassill, N. L., Oxenham, W., & Jones, M. R. (2008). Analysis of supply chain strategies used by the United States textile and apparel industries. *Research Journal of Textile and Apparel*, *12*(3), 1–17. https://doi.org/10.1108/RJTA-12-03-2008-B001

BGMEA. (2018a). Trade information: Comparative statement on export of RMG and total export of Bangladesh. Retrieved December 8, 2018, from http://www.bgmea.com.bd/home/pages/tradeinformation

BGMEA. (2018b). Trade information: Value of total apparel export. Retrieved March 28, 2019, from http://www.bgmea.com.bd/home/pages/TradeInformation

Curran, L., & Nadvi, K. (2015). Shifting trade preferences and value chain impacts in the Bangladesh textiles and garment industry. *Cambridge Journal of Regions, Economy and Society*, *8*(3), 459–474. https://doi.org/10.1093/cjres/rsv019

Hasan, M. (2017). Supply chain management in readymade garments industry, Bangladesh. *Asian Business Review*, *7*(3), 103–110.

Johnson, M. E., & Pyke, D. F. (2009). A framework for teaching supply chain management. *Production and Operations Management*, *9*(1), 2–18. https://doi.org/10.1111/j.1937-5956.2000.tb00319.x

Li, S., Ragu-Nathan, B., Ragu-Nathan, T. S., & Rao, S. S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. *Omega*, *34*(2), 107–124. https://doi.org/10.1016/j.omega.2004.08.002

Miguel, P. L. de S., & Brito, L. A. L. (2011). Supply chain management measurement and its influence on operational performance. *Journal of Operations and Supply Chain Management*, *4*(2), 56. https://doi.org/10.12660/joscmv4n2p56-70

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. New York: The Free Press.

Wong, C. Y., Arlbjørn, J. S., & Johansen, J. (2005). Supply chain management practices in toy supply chains. *Supply Chain Management: An International Journal*, *10*(5), 367–378. https://doi.org/10.1108/13598540510624197