

Rethinking Global Textile and Apparel Supply Chain Management: Considering the Impact of the COVID-19 Pandemic

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Background. An uninterrupted supply chain network is critical to the success of firms. However, the supply chain network can easily be disrupted due to unavoidable disasters, including the recent pandemic (Shahed et al., 2021). The global spread of COVID-19 has affected every aspect of life. Beginning in early 2020, this extraordinary crisis caused a sudden stop in international businesses in various industries and the shutdown of economic activities in most parts of the world. Indeed, the COVID-19 pandemic has caused severe supply chain disruptions that have dramatically decreased the global GDP and left millions of people unemployed. Since lockdown and social distancing measures were imposed in many countries worldwide, COVID-19 has had a particularly significant effect on the textile and apparel (TA) industry (Majumdar et al., 2020; Zhao et al., 2021). For example, trade data shows that in 2020, the US imports of TA products (in US\$) decreased by more than 19% compared with 2019 (The International Trade Administration, 2021).

The TA industry, a classic representation of a global supply chain, relies heavily on worldwide logistics and brick-and-mortar distribution channels (Su, 2013). During the pandemic, a substantial number of firms experienced unfilled orders, order cancellations, shipping delays, and stalled production. In terms of social impact, thousands of industry workers faced the possibility of job loss or furloughs. Additionally, social distancing and the practice of remote working has shifted consumers' preferences in clothing and will likely have long-term effects on the global TA industry (Amed et al., 2020). Given these changes, it is critical to examine how firms in the TA industry manage supply chain disruptions. Thus, the purpose of this study was to investigate the impact of the COVID-19 pandemic on the global supply chain from the perspectives of the two leading TA production countries globally: Bangladesh and China.

Theoretical Framework. This study employed the theory of dynamic capabilities to address the purpose. Specific supply chain disruptions caused by the COVID-19 pandemic and how firms can adapt to the resulting changes that occur were examined through the lens of the theory of dynamic capabilities. Dynamic capabilities was first put forward by Teece et al. (1997) to explain competitive advantage and performance in dynamically changing markets (Eisenhardt & Martin, 2000). In Teece et al.'s (1997) seminal work, dynamic capabilities are defined as the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. Barreto (2010) defined a dynamic capability as the firm's potential to systematically solve problems, formed by its propensity to sense opportunities and threats, to make timely and market-oriented decisions, and to change its resource base. Thus, while the pandemic crisis has caused supply chain disruption risks for the global TA industry, at the same time it represents a real opportunity for firms to realize the full potential of their dynamic capabilities (El Baz & Ruel, 2021; Wang & Ahmed, 2007). In the context of the pandemic crisis, dynamic capabilities of the global TA industry can include recognizing the challenges, identifying new development opportunities, and reconfiguring resources to cope.

Method. To address the purpose, a qualitative research design was employed using interviews to collect primary data. After receiving Institutional Review Board approval, the researchers recruited interview participants using snowball sampling through their existing network connections with apparel industry practitioners. A total of 33 participants were interviewed, 15 in Bangladesh and 18 in China. Interviews

were conducted by phone or through Internet chat/meeting tools (WeChat, Zoom, etc.). The interviews lasted from 70 to 120 minutes and were recorded with participants' consent. Interviews began with the participant's description of the firm's business and background, followed by their individual responsibilities. This was followed by questions like, *What are the impacts of the COVID-19 crisis on your firm's business?* and *How can the crisis be used to make apparel sourcing and production more agile and sustainable?* Interviews with Bangladesh participants were conducted in English and interviews with Chinese were conducted in Chinese. Interviews continued until data saturation was reached (Hodges, 2011). All interviews were transcribed and then translated, if needed. All transcripts were analyzed collectively to identify common themes within the data (Braun & Clarke, 2006), and specifically the challenges and opportunities prompted by the COVID-19 pandemic. All members of the research team participated in identifying themes and articulating findings (Creswell & Poth, 2018).

Results. Figure 1 illustrates the themes that emerged across the interview data. It was found that four factors primarily impacted the extent to which COVID disrupted a firm's supply chain: firm size, channel diversification, sourcing method, and product type. For example, participants with larger firms in both countries reported major order cancellations but had the ability to manage it, whereas those with smaller firms faced greater difficulty. Channel type played an even more important role, with the online channel doing much better than pre-pandemic times, as one participant explained, "We have got some online retailers, their order quantities just doubled or quadrupled because their selling has really gone up in this pandemic situation" (B09). One firm's ability to produce activewear helped it survive, "In the activewear department, previously we were making only 350,000 garments, but now after COVID, it's about 700,000. So, it's almost doubled the quantity" (B01). Alongside the factors impacting the effects of the disruption, per the dynamic theory of the firm, the challenges that surfaced due to the pandemic were framed as opportunities. For example, the need for worker protection led to stronger employee programs and CSR initiatives. Likewise, some participants' firms shifted to local sourcing for necessary materials, "We used to focus on export, but the COVID situation overseas is still far from over. Therefore, we have increased our domestic channels drastically since the pandemic" (C08).

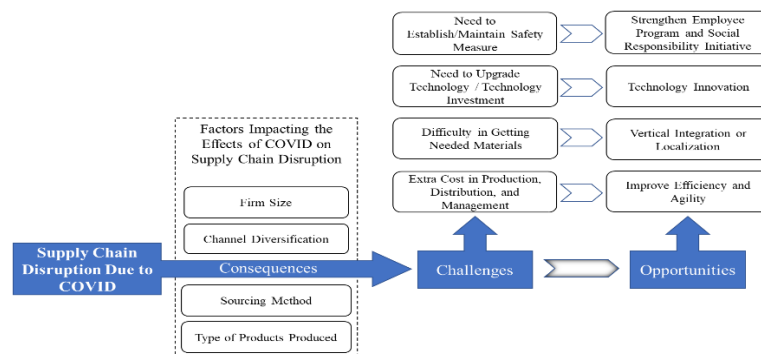


Figure 1. Supply Chain Challenges and Opportunities

Implications and Further Research. This study investigated the impact of a major supply chain disruption—COVID-19—while it was happening and within the two largest apparel producing countries globally: China and Bangladesh. Viewed through the lens of the theory of dynamic capabilities, key findings point to the need for firms to address challenges brought about by supply chain disruption by creating opportunities. Further investigation is needed to examine the more long-term effects of the pandemic on supply chain management in the global TA industry.

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