University of Rhode Island

DigitalCommons@URI

Major Papers by Master of Science Students

Textiles, Fashion Merchandising and Design

12-2020

Textile and Apparel Supply Chain during COVID 19: A Perspective from Bangladesh

Mohammad F. Ahsan

Follow this and additional works at: https://digitalcommons.uri.edu/tmd_major_papers

Textile and Apparel Supply Chain during COVID 19: A Perspective from Bangladesh

Mohammad F. Ahsan

Committee:

Major Advisor Dr. Ji Hye Kang

Dr. Linda Welters

Dr. Susan L. Hannel

Department of Textiles, Fashion Merchandising and Design
University of Rhode Island
Master's Non-Thesis Paper
December 2020

Abstract

The viral COVID-19 outbreak resulted in restricted movement of people and products. It followed one of the biggest recessions in the history of mankind. Apart from all other affected sectors, Textile and Apparel Supply Chain is in the most vulnerable position because of China is, the largest exporter of textile raw materials and was affected the most by the virus. An overall decrease in demand led to a substantial decrease in textile and apparel product manufacturing that ultimately shut down factories and laid off workers in Bangladesh, where four million people are employed in the sector. This paper illustrates the impact COVID-19 has had on the global textile and apparel supply chain, especially in Bangladesh where there has been supply chain disruption renewed working conditions, and changes in employment. Nonetheless there is hope for improvement in textile sectors late on 2020.

Introduction

The year 2020 started with the COVID-19 Pandemic (the Pandemic), a viral outbreak that originated in China and later disseminated worldwide. By November 2020, there were over 61.3 million globally confirmed COVID-19 cases, including more than 1.4 million deaths, reported by the World Health Organization (WHO). Across the globe, countries have implemented various measures to control the virus's spread including mandated mask-wearing, local movement restrictions, and physical distancing. In January 2020, the WHO declared a public health emergency of international concern in order to coordinate global responses to the disease.

The global outbreak of COVID-19 has forced countries to restrict the movement of citizens, and in some cases, enforce lockdowns, causing a decline in global economic activity, particularly in the manufacturing and service sectors (McKeever, 2020). As a result of the Pandemic, the World Bank forecasted a global contraction. The IMF's baseline forecast for the 2020 World Economic Outlook (WEO) predicts a 5.2% contraction in global GDP, the deepest global recession in decades, despite the extraordinary efforts of most major governments worldwide to counter the downturn via fiscal and monetary policy to support corporations, industries, businesses, and their citizens. Advanced economies are projected to shrink by 7%. This decline will affect emerging markets, especially in developing countries, which are expected to contract by 2.5% as they cope with their domestic outbreaks of the COVID-19 virus (World Bank, 2020).

Several economic sectors have been severely affected due to the restrictive measures, including travel, hospitality, finance, entertainment, and education, all of which received the first blow (Ozili & Arun, 2020). Among economic sectors, the textile and apparel supply chains are one of the most vulnerably affected sectors (Bain, 2020). The primary reason behind this is that

China, as the largest exporter of textile and clothing, followed by Vietnam and Bangladesh, was the first country infected by COVID-19. The subsequent strict restriction protocols following the COVID-19 outbreak have exposed millions of people dependent on this sector for their livelihood, leading to job losses and/or wage cuts of these workers who contribute to the clothing industry's success. China has been the primary source of raw materials and an important player in the textile and apparel supply chain (Majumdar et al., 2020).

Moreover, the supply of raw clothing materials from China was disrupted due to the lockdown in Wuhan, which started in January 2020 (Majumdar et al., 2020). The secondary reason can be attributed to the spread of COVID-19 in almost all countries and territories around the world, including Europe and the Americas. These two continents are the major destinations of apparel products. Demand for clothing sharply declined as lockdowns took place in parts of Europe during the second week of March 2020. The outbreak of COVID-19 has exposed vulnerabilities, such as the global clothing brands reacting by canceling confirmed orders or delaying payments. Across the globe, COVID-19 has brought shopping to halt for anything other than necessity commodities (Bain, 2020).

It is assumed that the clothing supply chain will take at least six to nine months to recover post lockdown as production will start in phases; therefore, labor requirements will be lower. The impact was greater in the case of Bangladesh, compared to China and Vietnam, as the economy is largely dependent on the export of ready-made garments (RMGs). About 80% of Bangladesh's exports are RMG products, and there are about 4 million RMG workers (BGMEA, 2020). This drastic decrease in the demand and, therefore, the purchase of RMG products has led to the shutting

¹ Vietnam surpassed Bangladesh in exporting apparel products by August 2020 (Ovi, 2020).

down of factories and laying off garment workers. A large portion of these workers have been pushed to a state of socioeconomic insecurity.

This paper looks into the impact of the COVID-19 pandemic on the global textile and apparel supply chain perspective, focusing particularly on Bangladesh. While looking into the Pandemic's effect in Bangladesh, this paper also reviews the renewed working conditions in the garment factories and changes in employment. Within the short period after the spread of COVID-19, several new studies emerged which focused on the textile and apparel industry's possible supply chain disruption. However, this paper not only collected facts and reasons behind the supply chain disruption but also collated the impact of this disruption in the RMGs industry in Bangladesh. The first section of the paper briefly explains the supply chain of textiles and apparel. The second section explains how the textile and apparel supply chain crisis started due to COVID-19. The third section covers the impact due to this disruption. The fourth section finds reasons behind the textile and apparel supply chain disruption, the fifth section illustrates the impact on workers in the apparel sourcing countries, while the impact in Bangladesh is discussed in the sixth section. The section seven explains the improved global supply chain and business situations' in Bangladesh. The paper concludes in final section, with a brief explanation of the improvements achieved in the second half of 2020.

Supply Chain in the Textile and Apparel Industry

A supply chain is the system of organizations, people, technology, activities, information, and resources involved in moving a product or service from supplier to customer. Supply chain activities transform natural resources, raw materials, and components into a finished product that

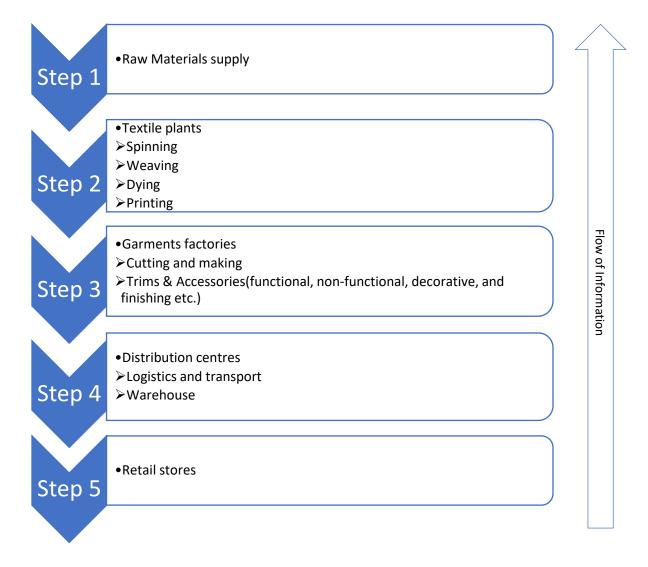
is delivered to the end customer (Nurruzaman et al., 2007). The supply chain process includes managing supply and demand, sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and management, distribution across all channels, and delivery to the customer (The Supply Chain Council). According to The Association for Operation Management (APICS), a supply chain is a total systems approach to designing and managing the entire flow of information, materials, and services-from raw material suppliers, through factories and warehouses, and finally to the customer (Chicago: APICS, 2009). Graham Stevens explained that the extent of the supply chain starts with the source of supply (raw materials) and ends at the store where the consumer buys. It extends much further than simply a concern with the physical movement of material and is just as much concerned with supplier management, purchasing, materials management, manufacturing management, facilities planning, customer service, and information flow, as with transport and physical distribution.

The components and nature of supply chains in the textile and apparel industry are dependent on factors including their products, target market, competitive priorities, global strategy, lead time, delivery delays, and supplier integration (Kim, 2013).

With so many actors and resources involved in this particular industry, the operational flow or supply chain, per se, is a complex phenomenon, linking the source of raw materials to the factories, which turn those materials into garments for the distribution network between the customers and the retailers and the manufacturers. They are like two blades of the same scissor (textiles and consumer): the textile sector is a crucial component of understanding the global supply chain of the textile and apparel sector (Zoltkowski, 2017). The simplest way to give a layman's idea of the working process is illustrated below (Nordås, 2004).

Figure 1

Supply Chain in the Textile and Clothing Industry



Note. Based on Nordås (2004) and Stotz & Kane (2015).

As seen in Figure 1, each stage in the supply chain is so interconnected that the flow of information or products or fund works in both directions. However, it also depends on customers' preferences for fashion trends, and the concurrent the rise of 'fast fashion.' Nevertheless, a simple description of Figure 1 can be narrated as follows: a retail store in Spain, for instance, 'Mango,' has sold around 1.7 billion USD worth of apparel products in 2012 alone. Mango, being part of the retailer industry, will decide the designing and/or branding of their products according to their customers' taste.

Based on the projected demand, textile plants will collect raw materials and produce textile products for the garment industry. Later on, the garment sector will take the responsibility of cutting the fabric, assembling the clothes, and coming up with the final product that meets the demands of the brand 'Mango.' Subsequently, with the help of the distribution centers, the intermediaries ensure a smooth flow of finished products from the raw material collection to display in retail stores.

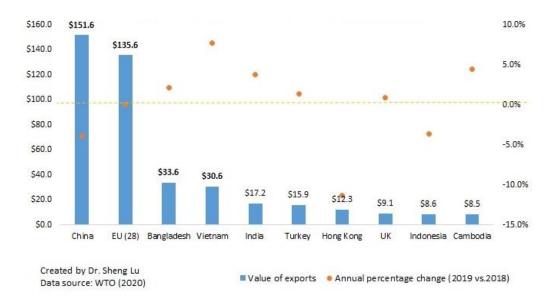
In 2018, China, also known as 'the world's factory,' exhibited its dominance over the global supply chain when it was shown that 53.7% and 60.6% of East Asian and Southeast Asian countries' textile imports, respectively, were made by China (World Trade Organization, 2019). Bangladesh imports more than 50% of raw materials and around 40% of the machinery and spare parts for its apparel industry from China, and similar dependence can be found for other big names in the garment industry, the likes of Vietnam, Cambodia, Sri Lanka, Myanmar, and so on (Perera, 2020). Besides raw materials, China, as a producer is incredibly competent; America, for instance, imports 40% of clothes from China (Schwab, 2020), and to make matters worse, a whopping 38% of the customers of the global textile and apparel industry are of Chinese origin(both domestic and overseas spending), compared to a mere 8% in 2003; the numbers in favor of Chinese supremacy is only growing (Russon, 2020).

According to Figure 2 and subsequent data available from Lu (2020)the sourcing of apparel from China is reducing. even though they, along with Bangladesh, the European Union (EU 28), and Vietnam, hold the positions for the top four apparel exporters in 2019. Vietnam has seen the fastest growth from 2018 to 2019, with an increase of 7.7%, while Bangladesh also gained momentum by a mere 2.1%. (Lu, 2020). The EU, US, and Japan remain the world's top three

apparel importers in 2019, consuming a sum of 58.1% of the global apparel sector. In addition, no country seems to be getting closer to replace China as the world's largest apparel exporter in the near future. However, the Chinese have started to consume more in the last decade. Their imports have gone up by almost 15% annually. However, China's supremacy over global exports and imports has played a huge role in the supply chain disruption during the 2020 COVID-19 pandemic.

Figure 2

Top Ten Exporters of Clothing, 2019 (\$billion USD and annual percentage change, %)

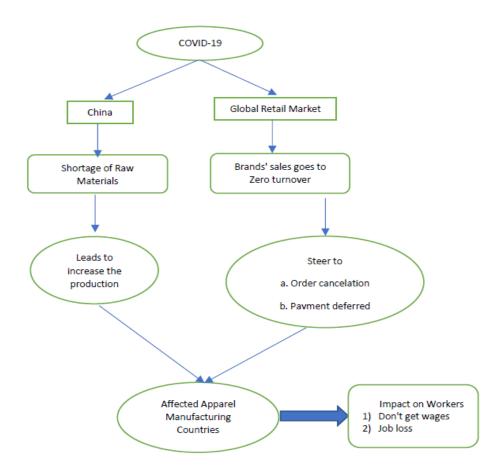


Note. This figure was produced by Dr. Sheng Lu in 2020, and it summarized the top ten exporters of clothing countries' value of exports and annual percentage change in the year 2019 versus 2018(as reprinted in Lu, 2020). From "WTO Reports World Textiles and Apparel Trade in 2019," https://shenglufashion.com/2020/08/03/wto-reports-world-textiles-and-apparel-trade-in-2019/. 2012-2020 Dr. Sheng Lu.

In order to better understand why and how the apparel industry of Bangladesh was bound to face such startling consequences due to COVID-19, one must look at the chain reaction that followed right after the emergence of the pandemic, the wrath of which Bangladesh suffered heavily in the first quarter of 2020 (Figure 3).

Figure 3

Flow Chart Showing the Trickling-down Economic Impact in the Apparel Industry



Note. This figure is updated. The flow chart shows the impact of COVID-19 on the whole apparel supply chain, which started in China and spread globally, leading the brands' showroom closed. Global retailers canceled orders and deferred payments to the manufacturers. Consequently, workers didn't get wages and became jobless. From "The Unprecedented Pandemic 'COVID-19' Effect on the Bangladesh Apparel Workers by Shivering the Apparel Supply Chain" by S. Sen et al., 2020, *SSRN Electronic Journal*, 11, 1-20, (DOI: 10.2139/ssrn.3598542).

COVID-19 pandemic has not only resulted in a global health crisis but has also had a devastating impact on the world economy (Sen, Antara, & Sen, 2020). Although every sector of an economy is somehow or another affected by the coronavirus, the apparel industry seems to be the most vulnerable one (Bain, 2020). In Asia, for instance, garment manufacturers in numerous countries have been forced to shut down production or lay off workers due to a breakdown of end-to-end global supply chains. In the West, most consumers of the textile and apparel sector are staying at home and refraining from shopping. What made the situation particularly challenging is that both the demand and supply side of global trade operations were affected (Jackson et al., 2020).

The primary reason behind the upheaval of the global textile and apparel industry could stem from the over-reliance of all stakeholders on China, the origin of the novel Coronavirus (Sen, Antara, & Sen, 2020). Needless to say, when China went into complete lockdown from January 2020, shutting down all factories (first in Wuhan province, later in Guandong, Jiangsu), to curb the spread of the virus, the global supply chain of the textile and apparel industry came to an unprecedented halt (Sen et al., 2020). Guandong and Jiangsu are the major provinces in China for the textile and apparel supply chain. on after January, when raw materials from China were suspended, many factories were forced to shut down temporarily. In the meanwhile, the Pandemic spread to Europe and the United States, and subsequently, their countries went into lockdowns, resulting in a fall in demand for apparel products. At the same time, the brands began to cancel and refuse to receive shipments of completed and/or in-production orders. An insurmountable number of workers were dismissed and sent home without any notice or pay as factories kept closing down. In Bangladesh alone, 72.4% of furloughed and 80.4% of dismissed garment workers were forced to return home unpaid in March 2020 (Anner, 2020). As problems began to surface

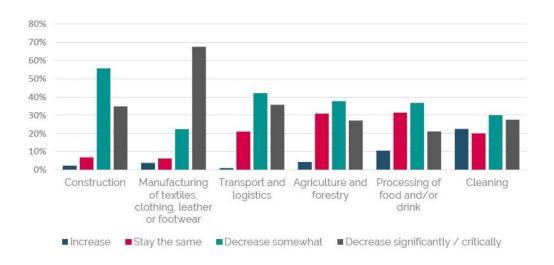
the month of March can be viewed as the critical point of downturn for Bangladesh's apparel sector. First, cancellation of shipments and orders were cancelled, then COVID-19 spread to Bangladesh. The president of Bangladesh Garments Manufacturers and Exporters Association (BGMEA), Dr. Rubana Huq, stated that in a single day in the 3rd week of March 2020, orders worth \$10 million were canceled across 20 factories (Cernansky, 2020). According to her, until March 24, 649.30 million pieces of RMG products, worth \$2.4 billion, from 738 garment factories had been canceled (Kamruzzaman & Sakib, 2020). In addition, based on a survey of Bangladesh suppliers conducted online between March 21 and March 25, 2020, it has been unearthed that 93% of them suffered from a delay in raw material shipments during the Pandemic (Anner, 2020) because shipments were coming from China. On March 24, 2020, the government of Bangladesh announced a 10-day lockdown till April 4, and understandably many garment workers went to their home villages but returned to their workplaces on April 5 with the hope of starting work again. To their surprise, after their return they learned that the lockdown had been extended until April 12, causing them to suffer from back and forth travel between their workplaces and home, during a time when the country had already imposed restrictions on transportation (Sakamoto, Begum, & Ahmed, 2020). Nevertheless, through a joint statement made by BGMEA and Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), the lockdown had been extended till April 25, 2020 (COVID-19: Country-specific Guidance, 2020). As a response to the crisis of workers sitting at home without any pay, the government of Bangladesh announced a \$588 million stimulus package, with a 2% interest on a loan to factory owners, and even so, instant distribution of the financial package covered the wages of 4.1 million workers of this industry for only one month (Hossain, 2020).

Disruption in the Textile and Apparel Supply Chain and its Impact

When China went into lockdown in January 2020, the textile and apparel sector came to an abrupt halt; both the demand and supply of trading were heavily affected, the consequences of which are still being felt by all the stakeholders of the industry (Sen et al., 2020), showing the extent of damage caused by COVID-19. Figure 4 shows data extracted from research conducted by Sedex², in April 2020 to find the impact of the virus on different businesses, based on responses gathered from 3,346 businesses in 118 countries (Sedex Insights Report, 2020):

Figure 4

Current and Future Revenue Impacts of COVID-19 in Different Sectors



Note: How the pandemic is impacting or expected to impact revenue, showing stark differences between "essential" vs "non-essential" sectors. Reprinted from "*Sedex Insights Report – COVID 19 Impacts on Businesses*," 2020, p. 5 (https://www.sedex.com/wp-content/uploads/2020/05/Sedex-Insights-Report-COVID-19-Impacts-on-Businesses.pdf).

² Sedex is a membership organization that provides one of the world's leading online platforms for companies to manage and improve working conditions in global supply chains.

Figure 4 clearly illustrates the massive economic impact COVID-19 had on the clothing and supply chain, but not just Sedex. Many other kinds of articles from experts in this field suggest a similar picture. McKinsey & Company, a US-based management consulting firm, suggests that the 2.5 trillion dollar industry will be hit hard from all cylinders because of its vast and complex global chain system, especially in places which would not even have adequate access to emergency support funded by governments (Nilsson & Terazono, 2020).

A recent report published by the International Labor Organization in October 2020 shows that imports of garments by the topmost apparel importers in the world the US, EU, and Japan, have declined by 26%, 25%, and 17% respectively in the first half of 2020. During the same timeline imports from Bangladesh fell by 32 percent compared to the same period in 2019 (Jackson et al., 2020). With a fall in demand for clothing, factory closures, long-running retailers like Debenhams, J. Crew, JC Penney, and a few others declared themselves bankrupt or had resorted to administration (TFL, 2020). This, in turn, resulted in a large number of order cancellations. For instance, according to a survey of suppliers of Bangladesh conducted by the Center for Global Workers' Rights in late March 2020, 72% of buyers by then had not paid for raw materials, and a daunting 91% had not paid for the production of already manufactured goods (Anner, 2020). Then another survey carried out by the Better Buying Institute in May 2020 found that among 179 suppliers from 30 countries, including Bangladesh, found that 64% of garment factories received cancellations from customers, 18% reported an irrecoverable loss from those cancellations, and 35% of factories stated that their buyers had asked for discounts of over 20% on the existing orders (Better Buying Institute, 2020). This strain in demand and supply is bound to affect the GDP of the developing countries, whose economies largely rely on the export of garment products (Amed et al., 2020).

Hence, it comes as no surprise when the UN estimates that the slowdown of the world economy will result in an overall fall of sales and profitability worth 1 trillion US dollars (Fibre2Fashion, 2020). The only, although not for all countries involved, salvation for the global textile and apparel players came by when some factories shifted their production to making health care supplies, like masks, gloves, hand sanitizers, and personal protective equipment. But understandably, this is a temporary reaction to the shift of global demand (Jackson et al., 2020).

Reasons Behind the Global Textile and Apparel Supply Chain Disruption

The COVID-19 pandemic surfacing there in December 2019 was declared a global pandemic by the World Health Organization in March 2020 (Armani et al., 2020). It would be quite easy to pin the blame on China for the abrupt disruption of the textile and apparel sector's supply chain due to the COVID-19 pandemic surfacing in December 2019. This only makes sense from a surface level understanding of the global textile and apparel sector's supply chain. The vulnerabilities of this particular chain had been exposed for years in the textile and apparel sector, with not enough lessons learned from the past, for example during the 2002-2004 SARS outbreak and various other natural catastrophes.

Firstly, to put things into perspective, one must understand that supply chains are at high risk during low-frequency-high-impact events, which tend to cause a 'ripple effect' through every organ of the chain. A pandemic caused by the coronavirus falls into that category of events (Ivanov & Das, 2020). To make matters worse, the fashion industry, in particular, adopts a fast-fashion model for the supply chain. Fast fashion is featured by high demand fickle consumer tastes, and hence low predictability and high impulse purchasing, which eventually leads to, unfortunately for

the manufacturers, short lead time at low costs (McMaster et al., 2020). Under such circumstances, when countries went into lockdown, not just the supply chain but the demand for apparel products got disrupted as customers stay at home and stopped purchasing non-essential goods. On the one hand, production got halted or delayed as many components of clothing products, starting from fabric, to zippers, to the buttons, and raw materials, each with different sourcing, could no longer be shipped because the global transportation system was on hold. In addition, demand for clothes was heavily affected by the lockdown. Therefore, within just a few weeks, all the components of the supply chain, from manufacturing to distribution centers to logistics and markets become paralyzed (Ivanov & Das, 2020).

Secondly the global apparel sector was especially susceptible to threats like COVID-19 pandemic. The constant need for cost reductions and over-reliance on a centralized production system, located in developing economies and China, the uncertainty of the market itself for which there is neither a sustainable planning nor a flexible capacity in place, the lack of localization and/or diversification of products basket, and the interdependent nature of the supply chain itself were all contributing.

Thirdly, there was a lack or resilience. Resilience is defined as the speed at which things go back to 'normal' in the field of supply chain management (Rahman et al., 2020). The strategies deployed to tackle the disturbances caused by COVID-19 seem doubtful because their implementations are more of a reaction to the disaster rather than a well-thought, long term plan. Due to the aforementioned supply chain disruptions, some apparel firms including those in Bangladesh, tried to diversify their product basket by making masks, hand sanitizers, and personal protective equipment. Others, with the help of technology like 3D printing, opted to make products for the frontline employers during the pandemic (Feldman, 2020). Policymakers were urged to

choose local suppliers and restore onshore or even near-shore productions (Bloomberg, 2020). Therefore, different channels or alternative solutions were proposed, but a holistic and sustainable model, or a new model, for the 'new normal' scenario has yet to be developed. The need for a complete revival of the present supply chain has never been needed.

Impact on the Workers in the Sourcing Countries

The genuine victims of this sudden collapse of the garment and fashion industry are the workers, the ones residing at the bottom of the food chain, especially in parts of Asia and the Pacific, regions which employ around 65 million textile and apparel workers and account for 75% of all textile and apparel workers worldwide (Jackson et al., 2020).

A massive number of workers have been dismissed due to COVID-19. 812,254 apparel and footwear workers in Indonesia according to Indonesia's Ministry of Industry by July 2020 (Lu, 2020), 22,000 workers in Myanmar (Peoples Dispatch, 2020), 150,000 workers in Cambodia (Sovanara, 2020), workers of 80% suppliers of Vietnam as reported by the Vietnam Textile and Apparel Association (VITAS) during April and May 2020 (Fibre2Fashion, 2020), and over a million RMG workers in Bangladesh have felt the wrath of this pandemic due to unemployment and experienced a complete pause of their livelihoods (Kabir et al., 2020).

Although factories have begun to reopen in the third quarter of 2020, the situation for the affected workers is far from improving. According to Better Work Bangladesh, at present 43% of garment manufacturers of Bangladesh are operating with less than 50% of their pre-pandemic taskforce and similar sights can be observed in other prominent export oriented RMG nations like Vietnam and Sri Lanka (Jackson et al., 2020). Also wage cuts of these unfortunate workers became

visible due to factory shutdowns. From March to May 2020, the Clean Clothes Campaign found that garment workers in Bangladesh, Cambodia, India, Indonesia, Myanmar, Pakistan, and Sri Lanka had suffered wage losses from 3.19 to 5.78 billion US dollars (Barradas et al., 2020).

Governments of these countries did step up and provide different stimulus packages or emergency support, but many are yet to receive full payments to cover their losses during the first half of 2020 (Jackson et al., 2020). Another significant aspect of workers' miseries is related to gender. 60 to 80% of export manufacturing workers are women. Their rights, wellbeing, and even their pay had not been up to the mark, in comparison to their male counterparts even before the pandemic. Things have only become worse because of COVID-19 (Jalan, 2020). The working women of the garment factories tend to have multiple responsibilities outside of their factory work. They traditionally, especially in Asia, take care of their families and their children. Therefore, when factories got shut down, and women were forced to stay home without pay, many of them also had to suffer the consequences of domestic violence (UN Women, 2020).

Henceforth, when a complex supply chain like that of the global textile and apparel sector breaks down, its economic ramifications are not limited to business losses only but spread out or trickle down to every tiny specimen within the industry and is still continuing to do so, which is why a new model of the supply chain is more necessary than ever.

Impact in Bangladesh

During the one-month lockdown of factories in Bangladesh, China and Vietnam resumed their operations. Hence, the BGMEA, fearful of losing markets, decided to partially reopen the factories; in phases from April 26, 2020, while following the national health guidelines given by

the government. There was no coordination between the decision and implementation as more than half of the factories in the capital Dhaka reopened, and many more followed in the passing days.

Although a lot of health and safety protocols were put in place, there seems to be little information on how many of them are being followed. According to some media reports, by May 8, 2020, 97 RMG workers had been infected by COVID-19 and more than half of them had been tested positive after the disorganized reopening of the factories (Sakamoto et al., 2020). However, the fear of starvation loomed more massive for the workers than the fear of getting infected by coronavirus as in numerous places they protested on the streets for their wages. (Arab News, 2020). Although the government urged the factories to pay up arrears and offered a stimulus package, the situation for the workers did not improve much; according to a comprehensive estimation by the Clean Clothes Campaign, the wage gap of RMG workers in Bangladesh for March to May (including Eid bonus) was around 501 million USD (Barradas et al., 2020). This came as no surprise because the factories themselves were not receiving payment from buyers. Some retailers sought deferred payments, some wanted more discounts, and some just refused to pay.

The severity of the overall situation can be felt in the statement of Dr. Rubana Huq, shared in her LinkedIn profile in March: "With brands handing out cancellations and deferments, we have no idea what tomorrow holds. Brands who were partners last month have all turned into strangers, unable to fathom our exposure to an existential crisis of handling the wages of 4.1 million workers. For us, it comes down to a level of bare minimum survival mode, while the western world has the privilege of having bailouts from their privileged governments" (Business of Fashion, 2020). Her pledge to the brands to 'just do the right thing by honoring their contracts' did not go completely unnoticed; after intense negotiation with the buyers both by the government and BGMEA, as of June 2020, a portion of the \$3.15 billion worth of work orders which got canceled initially due to

the Pandemic have been restored (Mirdha, 2020a/b/c). By that time, though shops in the EU and the US began to reopen, the buyers did not respond too positively with the suppliers of Bangladesh. First of all, the new orders that had been placed were 45% lower compared to 2019, then the buyers demanded to defer their payments by 180 to 220 days despite agreeing initially to clear all prices within 90 days. On top of that, some buyers had been looking for big discounts while threatening the suppliers that they would shift their orders to somewhere else next year (Mirdha, 2020a/b/c).

With lockdowns imposed in the aforementioned nations, buyers took the inevitable step: canceling orders. According to BGMEA, as of June 2020, orders valued at \$3.18 billion had been canceled in the first quarter of the year in an industry that employs around 4 million workers, mostly women (BGMEA, 2020). By June, 179 factories were forced to close down, with many more heading in the same direction (Becker, 2020). When asked in an interview about a factory closing a worker leader from Bangladesh, Babul Akhter, stated, "In our estimate, about 150,000 workers have lost jobs already, and termination continues every day. Moreover, senior workers who toiled in the industry for many years have seen their salaries cut significantly".

At the beginning of June 2020, Bangladeshi factories were operating at 55% capacity, with 90% of factories facing order cancellations and only 26% of buyers confirming to take the goods and make the payments. In such a situation, the BGMEA typically renegotiates terms, but the global consumption of goods, especially apparel items, declined by 65%. Thus, the future of RMG workers is looking grim (Mirdha, 2020a/b/c). Adding salt to the injuries faced by the RMGs sector of Bangladesh, western retailers tried to impose majeure clauses for suspending or canceling orders. According to a lawyer specializing in the fashion industry, Alan Behr, such clauses are unjustified "for most Majeure clauses do not consider pandemics as a reason for non-payment" (Gruhnwald et al., 2020).

Amidst all the chaos that had been going on in the apparel sector of Bangladesh, many helping hands did come forward. Besides the aforementioned stimulus package by the government, HSBC Bangladesh stepped up to help the industry recover by offering special short-term loans, with comfortable installment options (TFL, 2020). The Bangladesh government sought \$1 billion from the International Monetary Fund and the World Bank (Byron, 2020). Local stakeholders like Industrial and Centre for Policy Dialogue (CPD) in Bangladesh lobbied the government in their own ways, and even local organizations like Awaj Foundation, Pay It Forward Bangladesh, Honest, and the BUET Alumni Association, have been either gathering emergency funds or ensuring health and safety measures for the workers (Covid-19 impact and responses: Bangladesh, 2020), who have been working where social distancing is impossible (Sakamoto et al., 2020). Furthermore, H&M Foundation has decided to donate \$1.3 million to support female garment workers in Bangladesh (Wright, 2020), who represent 90% of the garment populace (Sakamoto et al., 2020). The support distributed in different ways, for instance, the government stimulated packages can avail of funds from the package at 2% interest to pay their workers' salaries for up to three months, the salaries must be paid to either a bank or mobile financial service account. H&M foundation are donating through country renowned NGO WaterAid, Save the Children, and CARE.

With buyers canceling orders and delays in the supply of raw materials, the government of Bangladesh announced a stimulus package of \$580M for the industry to pay the wages of workers. However, that certainly wasn't enough, and workers who had been furloughed or dismissed took to the streets, protesting for reopening of factories and their wages (Arab News, 2020). This came as no surprise because the workers in the RMGs industry of Bangladesh are known to live hand to mouth to support their families. Their monthly minimum wage is \$95, despite being the second-

largest garments manufacturer in the world is one of the lowest, whereas their competitors, the likes of Vietnam and Cambodia, have a minimum monthly wage of \$180 and \$182 respectively - a reason why buyers find it lucrative to place orders in Bangladesh (Asian Development Bank, 2020).

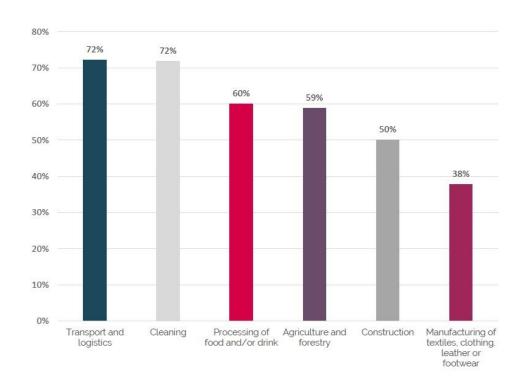
Therefore, despite the lockdown and some brands, including H&M and Primark, stepping forward to pay for all goods produced or in production, factories began to reopen at the end of April 2020. However, the damage was already done; RMGs export earnings in the first week of April declined by 78% in comparison to the corresponding month in 2019. According to BGMEA's estimation at the time, more than half, 2.28M workers, were affected. Initially, BGMEA claimed to have paid the March salaries for 98.5% of workers, but reports from various sources suggest otherwise (Leitheiser et al., 2020). Though a few brands began to accept goods, they preferred to defer their payment. Consequently, from March-May, according to a report of Clean Clothes Campaign, the wage gap of workers in Bangladesh, including festive bonus, resulted in an aggregate of 501 million USD (Barradas et al., 2020). This statistic makes sense in a way because it was forecasted that Bangladesh would lose 6 billion USD in export revenue in the current financial year, half of which had already happened by April 2020 (Paul, 2020).

Over the last three decades, Bangladesh has shown integrity and commitment towards growing businesses in the apparel industry with enormous promises. The industry had grown by 14.8% on average per annum and contributed about 84.2% of export earnings (Export Promotion Bureau, n.d). However, during the crisis, the industry in Bangladesh did not receive the required support from its long-lasting partners. As if order cancellations, deferred payments, and even downsizing the new orders were not bad enough, buyers began to demand discounts on prices. In some cases, Huq mentions that they demanded a cut of 20-50% from prices (Becker, 2020).

Situations were so dire that Huq had to pledge from her social media account to the buyers for payment of workers' wages. Additionally, an online campaign under the hashtag #PayUp was circulated during the March-April period to put pressure on the brands to pay for their orders (Kalra, 2020). Yet many refused to announce an official commitment to pay (Barrie, 2020). This attitude of the buyers is further reflected in the survey conducted by Sedex on the impact of COVID-19 on different businesses, as mentioned previously, with the following results (Sedex, 2020):

Figure 5:

Percentage of Respondents Who Answered "YES" to the Question: "Are your customers being supportive of your business during the COVID-19 Pandemic?" Across 6 Sectors



Note: Percentage of respondents of manufacturing of textiles, clothing, leather or footwear is less compare to others. Reprinted from "Sedex Insights Report – COVID 19 Impacts on Businesses,"

2020, p. 7 (https://www.sedex.com/wp-content/uploads/2020/05/Sedex-Insights-Report-COVID-19-Impacts-on-Businesses.pdf).

As seen in Figure 5, the RMGs sector has faced the least amount of support from its buyers, where it was needed the most. Nevertheless, as western economies have started to open up in the second half of 2020, and since the effects of COVID-19 were felt in some way or the other by everyone, one certain way of a speedy recovery for Bangladesh could be to diversify its markets, as suggested by Centre for Policy Dialogue (Jamal, 2020). For now, the World Bank forecasts the GDP growth of Bangladesh will be reduced by 1.6% in the fiscal year 2021 while the country is striving hard to minimize the losses incurred so far due to COVID-19 (FE Online Desk, 2020). In the meanwhile, the government of Bangladesh, has issued stimulus packages in three different stages worth total 10,500 crore BDT to support the RMGs industry in the nation (Alo & Uddin, 2020), They are now hoping to borrow 5714.5 billion BDT from different sources, both local and foreign, over the next 3 fiscal years to battle the economic difficulties brought upon by COVID-19 (Ferdous, 2020).

Improved Global Supply Chain and Business Situation in Bangladesh

Although the first half of 2020 proved to be economically fatal, for the global apparel industry due to supply chain disruptions, as of now, it can be concluded that not all hope is lost for this sector. Around the end of June 2020, as most of the western countries managed to curb the pandemic to some extent and markets and stores began to reopen, a revival of the intricate apparel supply chain seemed surprisingly plausible. Addressing the reopening of factories, Mohammad

Hatem, Vice President of BKMEA, stated, "We have to accept coronavirus as part of life. If we don't open factories, there will be [an] economic crisis".

Sourcing bases like Bangladesh, which had previously been hit hard by the pandemic with the canceling of work orders worth \$3.18 billion between April and May, have had started to operate factories almost at full capacity (Textile & Apparel, 2020). This is because 80% to 90% of those orders had been reinstated by the western brand. Big names like H&M, Primark, and Walmart had played a major role in this regard, according to BGMEA, who along with BKMEA have stated that currently, the demand for new orders has hit 60% of the usual monthly average enjoyed previously by the RMGs industry of Bangladesh (Wing, 2020). The value of US apparel imports witnessed a growth of 7.6% in August 2020 from July 2020, hinting towards a 'V-shape' recovery since May 2020 (Lu, 2020). This could help Bangladesh textile and apparel sector recover the loss incurred earlier in 2020. With Thanksgiving and Christmas coming up, when retailers usually stock up their inventory for holiday sales, this upward trend of imports among the western retailers seems to be continuity, which in turn would help Southeast Asian exporters like Bangladesh, Sri Lanka, and Pakistan (News & Analysis, 2020). But credit goes to these developing countries for being innovative during the pandemic. The improvement currently seen is not due to just the ease in lockdowns or the winter demand for clothes, it is also because they made the best use of their resources. For instance, in Bangladesh some garment manufacturers started to produce essential COVID-19 products like masks, personal protective equipment, gloves, and gowns, which enabled them to hang on (Kamal, 2020).

Gradually the supply chain for the apparel sector is getting back to the pre-pandemic state, but there seem to be some doubts about sustaining this recovery. This is primarily because the coronavirus is making a comeback in many countries in the European Union (Mirdha, 2020).

Health experts already fear a second wave of COVID-19 at the end of this year since such viruses thrive in low temperatures. Since every aspect of the global apparel industry is correlated, if the brooding second wave hits the markets, the hope seen for revival might not last long. Under such circumstances, the entire fashion industry finally thinks it's time they hit the reset button, and change must come from both brands' and manufacturers' ends (Bianchi, et al., 2020). A crisis like COVID-19 causes a change in consumer behavior, the most crucial factor in the entire supply chain, meaning in the near future, consumers could shop less or be pickier when they do. They could shift to shopping online rather than retail stores, or they could choose brands that operate socially and responsibly (Bianchi, et al., 2020), a factor worth mentioning because of the #PayUp movement. Therefore, brands certainly need to step up their game to avoid such crises in the future. On the other hand, manufacturers, or sourcing countries like Bangladesh who might focus in the short run on reinstated orders and stimulus packages to recover, must look beyond. In the long run, there is a definite need for diversifying their export destinations, range of products and secure trades which can keep the industry running (Wing, 2020). In the future the country does not want to succumb to circumstances where the president of BGMEA has to pledge publicly on social media to brands for the basic survival of millions of workers. Bangladesh was forced to lay off a daunting 324, 884 RMG workers during the pandemic. In order to avoid further such losses and sustain the recovery process, one must hope that the winter of 2020 does not get too cold.

Conclusion

This paper aimed to provide information regarding the effects of the COVID-19 pandemic on the textile and apparel supply chain industries throughout the world in general, and Bangladesh specifically. Though the early stages of 2020 seemed dire and took a heavy toll on this industry

due to mandates instated by most governments to counteract the spread of the virus, time and the relative improvement in the global situation has led to a rebound in the economic situation of the textile and apparel supply chain industry in Bangladesh. At present, a glimmer of hope can be seen for the apparel sector in Bangladesh. After hitting a rough patch in April; garment exports are on the rise due to a higher inflow of work orders from international clients, which could lead to a quick recovery from the BDT 20,000 crore loss incurred due to the Pandemic (Mirdha, 2020a/b/c).

With China also resuming normal operations, this looks like a good sign, although the suppliers are still unsatisfied with the prices of products. However, the recent trough of the apparel sector's business resulted in Vietnam surpassing Bangladesh and becoming the second-largest apparel exporter in the world (Ovi, 2020). According to experts, Vietnam's success stems from the fact that they handled the Pandemic better because that their factories remained open while Bangladesh's were closed. They also offer a more diverse range of products.

Interestingly, Bangladesh had been facing problems with the RMGs sector due to lack of compliance even before the COVID-19 crisis. In the July-January part of the fiscal year 2019-2020, the industry suffered a 5.71% fall in RMG exports (Zahir, 2020). Therefore, concerns regarding the future of the clothing and apparel industry of Bangladesh only seem logical. Moreover, due to the rapidly changing discourse on the global textile and apparel industry, with some experts suggesting use of e-commerce or digitalization as the reset button for the clothing supply chain (Russell, 2020) and others posing the age-old question of sustainability (Sakamoto et al., 2020), a refined model of purchasing practices and global supply chain seems imminent. The current practices within the supply chain have failed and left tens of millions of workers vulnerable to crises such as COVID-19 (Nova & Zeldenrust, 2020).

References

- Alo, J. N., & Uddin, J. (2020, July 23). *Another Tk3,000cr for salary support RMG when SMEs need more*. The Business Standard. https://tbsnews.net/economy/another-tk3000cr-salary-support-rmg-when-smes-need-more-110758
- Amed, I., Berg, A., Balchandani, A., Hedrich, S., Rölkens, F., Young, R., & Poojara, S. (2020).

 The state of fashion 2020. McKinsey & Company.
 - $https://www.mckinsey.com/\sim/media/mckinsey/industries/retail/our\%20 insights/the\%20 state\%20 of\%20 fashion\%202020\%20 navigating\%20 uncertainty/the-state-of-fashion-2020-final.ashx$
- Anner, M. S. (2020). Abandoned? *The impact of Covid-19 on workers and businesses at the bottom of the global garment supply chains*. Penn State Center for Global Worker's Rights & the Worker Rights Consortium.
 - https://www.workersrights.org/wp-content/uploads/2020/03/Abandoned-Penn-State-WRC-Report-March-27-2020.pdf
- Arab News. (2020, April 13). 'Starving' Bangladesh garment workers protest for pay during COVID-19 lockdown. https://www.arabnews.com/node/1658186/world
- Armani, A. M., Hurt, D. E., Hwang, D., McCarthy, M. C., & Scholtz, A. (2020). Low-tech solutions for the COVID-19 supply chain crisis. *Nature*, 5, 403–406. https://doi.org/10.1038/s41578-020-0205-1

- Asian Development Bank. (2020). COVID-19 and the ready-made garments industry in Bangladesh. https://www.adb.org/sites/default/files/linked-documents/54180-001-sd-04.pdf
- Bain, M. (2020, March 20). Coronavirus threatens the livelihood of garment workers around the world. Quartz. https://qz.com/1821511/coronavirus-threatens-jobs-of-garment-workers-in-southeast-asia/
- Barradas, S., Bienias, A., Begum, M. Foxvog, L., Gehrt, B. Griffiths, L., Gutierrez, L. Hachfeld, D, Miedema, M. N., & Yeung, J., Eds. (2020). *Un(der)paid in the pandemic. An estimate of what the garment industry owes its workers*. Clean Clothes Campaign. http://cleanclothes.org/file-repository/underpaid-in-the-pandemic.pdf
- Barrie, L. (2020, May 29). Survey finds 40% of fashion brands have not paid suppliers. Just Style.

 https://www.just-style.com/news/survey-finds-40-of-fashion-brands-have-not-paid-suppliers_id138836.aspx
- Becker, A. (2020, June 23). Coronavirus disruptions deal severe blow to Bangladesh's garment industry. Deutsche Welle. https://www.dw.com/en/coronavirus-disruptions-deal-severe-blow-to-bangladeshs-garment-industry/a-53895339
- Better Buying Institute. (2020, June 1). *Payment terms and the need for new practices*. Better Buying. https://betterbuying.org/wp-content/uploads/2020/06/Better-Buying-Special-Report-Payment-Terms-and-the-Need-for-New-Practices.pdf

- Bloomberg. (2020, April 9). Japan to pay firms to leave China, relocate production elsewhere part of coronavirus stimulus. South China Morning Post.
 - https://www.scmp.com/news/asia/east-asia/article/3079126/japan-pay-firms-leave-china-relocate-production-elsewhere-part
- Business of Fashion. (2020, May). COVID-19: The impact of the coronavirus pandemic on global fashion retail. Magzter. https://www.magzter.com/article/Business/Business-Of-Fashion/COVID-19-THE-IMPACT-OF-THE-CORONAVIRUS-PANDEMIC-ON-GLOBAL-FASHION-RETAIL
- Byron, R. K. (2020, March 26). *Govt seeks \$1b from IMF*, *WB*. The Daily Star. https://www.thedailystar.net/business/news/govt-seeks-1b-imf-wb-1886107
- Cernansky, R. (2020, March 19). As coronavirus spreads, supply chain workers face layoffs.

 Vogue Business. https://www.voguebusiness.com/sustainability/coronavirus-causes-closures-and-layoffs-for-workers-bangladesh-india
- COVID-19: Country-specific Guidance. (2020, May 13). *COVID-19 impact and responses:***Bangladesh. Fair Wear. https://www.fairwear.org/covid-19-dossier/worker-engagement-and-monitoring/country-specific-guidance/bangladesh
- Export Promotion Bureau. (n.d.). Export data. http://epb.gov.bd/site/view/epb_export_data/2018-2019/July-June
- FE Online Desk. (2020, October 8). World Bank forecast Bangladesh's GDP growth at 1.6 per cent in fiscal year 2021. The Financial Express.

- https://thefinancialexpress.com.bd/economy/world-bank-forecasts-bangladeshs-gdp-growth-at-16-per-cent-in-fiscal-year-2021-1602143815
- Feldman, A. (2020, March 19). Meet the Italian engineers 3D-printing respirator parts for free to help keep coronavirus patients alive. Forbes.

https://www.forbes.com/sites/amyfeldman/2020/03/19/talking-with-the-italian-engineers-who-3d-printed-respirator-parts-for-hospitals-with-coronavirus-patients-for-free/?sh=18ec6f4d78f1

- Ferdous, F. (2020, August 6). *Covid-19 fallout: Get set to go for huge borrowing. United News of Bangladesh.* https://unb.com.bd/category/special/covid-19-fallout-govt-set-to-go-for-huge-borrowing/55615
- Fibre2Fashion News Desk. (2020, March 21). *COVID-19 adversely hits textile, apparel, fashion sectors*. Fibre2Fashion. https://www.fibre2fashion.com/news/textile-news/covid-19-adversely-hits-textile-apparelfashion-sectors-265962-newsdetails.htm
- Fibre2Fashion News Desk. (2020, July 14). Falling textile garment exports in Vietnam threaten jobs. Fibre2Fashion. <a href="https://www.fibre2fashion.com/news/apparel-news/falling-textile-garment-exports-in-vietnam-threaten-jobs-268610-newsdetails.htm#:~:text=Vietnam's%20textile%20and%20garment%20sector,half%20of%20the%20year%20compared
- Gruhnwald, S., Jahan, D. A., Zeier, C., & Wermter, B. (2020, July 22). *How fashion companies abandoned RMG workers in Bangladesh*. Dhaka Tribune.

 https://www.dhakatribune.com/opinion/op-ed/2020/07/22/op-ed-fashion-companies-abandon-thousands-of-seamstresses

- Hossain, A. (2020, April 28). *Coronavirus: Two million Bangladesh jobs 'at risk' as clothes orders dry up.* BBC News. https://www.bbc.com/news/world-asia-52417822
- Ivanov, D., & Das, A. (2020). *Coronavirus (COVID-19/SARS-CoV-2) and supply chain resilience:*A research note. International Journal of Integrated Supply Management, 13(1), 90. https://doi.org/10.1504/IJISM.2020.107780
- Jackson, J. L., Judd, J., & Viegelahn, C. (2020). The supply chain ripple effect: How COVID-19

 is affecting garment workers and factories in Asia and the Pacific. International Labour

 Organization. https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/briefingnote/wcms_758626.pdf
- Jalan, S. (2020, October 26). COVID 19. What COVID-19 means for women in global supply chains and how companies can take action. United Nations Foundation. https://unfoundation.org/blog/post/what-covid-19-means-for-women-in-global-supply-chains-and-how-companies-can-take-action/
- Kabir, H., Maple, M., & Usher, K. (2020, July 31). The impact of COVID-19 on Bangladesh ready-made garment (RMG) workers. *Journal of Public Health*, *fdaa126*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7454782/
- Kalra, S. (2020, October 13). *The fashion industry is a major contributor to climate change are Canada's fashion schools keeping up*. The Peterborough Examiner. https://www.thepeterboroughexaminer.com/ts/business/2020/10/13/the-fashion-industry-is-a-major-contributor-to-climate-change-are-canadas-fashion-schools-keeping-up.html

- Kamruzzaman, M., & Sakib, S. N. (2020, March 25). *Bangladesh imposes total lockdown over COVID-19*. Anadolu Agency. https://www.aa.com.tr/en/asia-pacific/bangladesh-imposes-total-lockdown-over-covid-19/1778272
- Kim, B. (2013). Competitive priorities and supply chain strategy in the fashion industry. *Qualitative Market Research*, *16*(2), 214–242.
- Leitheiser, E., Hossain, S. N., Tasnim, G., Knudsen, J. S., Rahman, S., Sen, S., & Moon, J. (2020).

 *Early impacts of coronavirus on Bangladesh apparel supply chains. CBS.

 https://doi.org/10.13140/RG.2.2.18382.00329
- Lu, S. (2020, August 3). FASH455 global apparel & textile trade and sourcing. Shenglu Fashion. https://shenglufashion.com/2020/08/03/wto-reports-world-textiles-and-apparel-trade-in-2019/
- Lu, S. (2020, October 21). FASH455 global apparel & textile trade and sourcing. Shenglu Fashion. https://shenglufashion.com/tag/worker/
- Majumdar, A., Shaw, M., & Sinha, S. K. (2020). COVID-19 debunks the myth of socially sustainable supply chain: A case of the clothing industry in South Asian countries. *Sustainable Production and Consumption*, 24, 150–155.
- McKeever, V. (2020, March 19). Nearly 25 million jobs could be lost globally due to the coronavirus, UN labor organization estimates. CNBC.

 https://www.cnbc.com/2020/03/19/nearly-25-million-jobs-could-be-lost-globally-due-to-the-coronavirus.html

- McMaster, M., Nettleton, C., Tom, C., Xu, B., Cao, C., & Qiao, P. (2020, August). Risk management rethinking fashion supply chain management for multinational corporations in light of the COVID-19 outbreak. *Journal of Risk Financial Management*, *13*(8), 173. https://doi.org/10.3390/jrfm13080173
- Mirdha, R. U. (2020a, June 5). *A number of RMG workers may be lose jobs: Rubana huq*. The Daily Star. https://www.thedailystar.net/business/news/good-number-rmg-workers-may-be-terminated-jobs-rubana-huq-1909005
- Mirdha, R. U. (2020b, June 10). Fresh orders for apparel plunge 45pc. The Daily Star. https://www.thedailystar.net/business/news/fresh-orders-apparel-plunge-45pc-1911933
- Mirdha, R. U. (2020c, August 19). *Textile sector breathing a sigh of relief with the rebound of apparel export orders*. The Daily Star.

 https://www.thedailystar.net/business/news/textile-sector-breathing-sigh-relief-the-rebound-apparel-export-orders-1947365
- Nilsson, P., & Terazono, E. (2020, May 17). *Can fast fashioin's \$2.5tn supply chain be stitched back together*. Financial Times. https://www.ft.com/content/62dc687e-d15f-46e7-96df-ed7d00f8ca55
- Nordås, H. K. (2004). *Documents, data and resources*. World Trade Organization. https://www.wto.org/english/res_e/booksp_e/discussion_papers5_e.pdf
- Nova, S., & Zeldenrust, I. (2020, March). Who will bail out the workers that make our clothes?

 Worker Rights Consortium White Paper. https://www.workersrights.org/wp-content/uploads/2020/03/Who-Will-Bail-Out-the-Workers-March-2020.pdf

- Nurruzaman, N., Haque, A., & Azad, R. (2010). *Is Bangladeshi RMG sector fit in the global apparel business? Analyses the supply chain management*. The South East Asian Journal of Management, 4(1), 53-72. https://doi.org/10.21002/SEAM.V4I1.5631
- Ovi, I. H. (2020). *Vietnam beats Bangladesh in textile, clothing export*. The Dhaka Tribune. https://www.dhakatribune.com/business/economy/2020/08/14/vietnam-surpasses-bangladesh-in-textile-clothing-export
- Ozili, P. K., & Arun, T. (2020). Spillover of COVID-19: impact on the global economy. https://doi.org/10.2139/ssrn.3562570
- Paul, R. (2020, March 31). Garment exporter Bangladesh faces \$6 bln hit as world retailers cancel orders. Reuters. https://www.reuters.com/article/health-coronavirus-bangladesh-exports/garment-exporter-bangladesh-faces-6-bln-hit-as-world-retailers-cancel-orders-idUSL1N2BO1A2
- Peoples Dispatch. (2020, August 12). *Union intervention wins back garment workers' jobs in Myanmar*. PD. https://peoplesdispatch.org/2020/08/12/union-intervention-wins-back-garment-workers-jobs-in-myanmar/
- Perera, W. (2020, March 16). Bangladesh government downplays COVID-19 threat as job losses mount. World Socialist Web Site. https://www.wsws.org/en/articles/2020/03/16/bang-m16.html
- Rahman, S., Ahsan, K., Sohal, A., Wieland, A. Oloruntoba, R., Eds. (2020). The "New normal":

 Rethinking supply chains during and after COVID-19 global business environment.

 International Journal of Physical Distribution & Logistics Management. Emerald

- Publishing. https://www.emeraldgrouppublishing.com/journal/ijpdlm/new-normal-rethinking-supply-chains-during-and-after-covid-19-global-business
- Russell, M. (2020, July 22). *Does the clothing supply chain need to push the reset button*. Just-Style. https://www.just-style.com/analysis/does-the-clothing-supply-chain-need-to-push-the-reset-button_id139218.aspx
- Russon, M.-A. (2020, February 14). *Global fashion industry facing a 'nightmare'*. BBC News. https://www.bbc.com/news/business-51500682
- Sakamoto, M., Begum, S., & Ahmed, T. (2020). Vulnerabilities of COVID-19 in Bangladesh and a reconsideration of sustainable development goals. *Sustainability*, *12*(13), 5296. https://doi.org/10.3390/su12135296
- Schwab, K. (2020, March 23). Fall fashion braces for the effects of COVID-19. Marketplace. https://www.marketplace.org/2020/03/23/fashion-apparel-retail-supply-chain-china/
- Sedex Insights Report. (2020, May 26). COVID-19 impacts on businesses. Sedex. https://www.sedex.com/wp-content/uploads/2020/05/Sedex-Insights-Report-COVID-19-Impacts-on-Businesses.pdf
- Sen, S., Antara, N., Sen, S., & Chowdhury, S. (2020). The unprecedented pandemic 'COVID-19' effect on the Bangladesh Apparel Workers by shivering the apparel supply chain. Journal of Textile and Apparel, Technology and Management, 11(3), 1–20.
- Sovanara, K. (2020, July 16). Savagely battered Cambodia's garment industry seeks urgent help to stay alive. Khmer Times. https://www.khmertimeskh.com/744740/savagely-battered-cambodias-garment-industry-seeks-urgent-help-to-stay-alive/

- Stevens, G. C. (1989). Integrating the supply chain. *International Journal of Physical Distribution & Materials Management*, 19(8), 3–8.
- Stotz, L., & Kane, G. (2015). Facts on the global garment industry. Clean Clothes Campaign.

 https://cleanclothes.org/resources/publications/factsheets/general-factsheet-garment-industry-february-2015.pdf
- TFL. (2020, November 30). *Retail woes: A running list of fashion bankruptcies*. The Fashion Law. https://www.thefashionlaw.com/retail-woes-a-bankruptcy-timeline/
- UN Women. (2020). COVID-19 and ending violence against women and girls.

https://www.unwomen.org/-

/media/headquarters/attachments/sections/library/publications/2020/issue-brief-covid-19-and-ending-violence-against-women-and-girls-en.pdf?la=en&vs=5006

- World Bank. (2020). *Global Economic Prospects: June 2020*. The World Bank. https://doi.org/10.1596/978-1-4648-1553-9
- World Health Organization. (2020). *Coronavirus disease (COVID-19): Situation report*, 203. WHO.https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200810-covid-19-sitrep-203.pdf?sfvrsn=aa050308_4
- World Trade Organization. (2019). *World trade statistical review: 2019*. https://www.wto.org/english/res_e/statis_e/wts2019_e/wts2019_e.pdf
- Wright, B. (2020, July 10). *H&M foundation to support female garment workers in Bangladesh*.

 Just-Style. https://www.just-style.com/news/hm-foundation-to-support-female-garment-workers-in-bangladesh_id139144.aspx

- Zahir, S. (2020, June 30). What order cancellation means for the Bangladesh RMG sector.

 LightCastle Analytics Wing. https://www.lightcastlebd.com/insights/2020/06/30/what-order-cancellation-means-for-the-bangladesh-rmg-sector
- Zoltkowski, A. (2017, January 18). What on earth is a clothing supply chain. Good On You. https://goodonyou.eco/what-is-a-clothing-supply-chain