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Thesis Topic

Post-Pandemic Supply Chain of Bangladesh and Effective Way to Handle the Situation in the RMG Sector

Submitted To,

Department of International Business

Submitted By,

Nazam Bhuiyan

ID# 801827035

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Abstract

The year 2020 was a challenging year for the entire world because of the COVID-19 pandemic. Worldwide supply chain and logistics disruption happened. Bangladesh is an RMG export country. Due to the COVID-19 outbreak, the export of RMG decline. Because of the canceletion of shipments and lack of raw materials supply. Throughout this study, I try to determine the impacts of the COVID-19 pandemic. Identify the problems. How COVID-19 badly affect the supply chain and logistics of the RMG sector of Bangladesh. To know the effective way to find out the solution.

Effects of the COVID-19 in the RMG sector of Bangladesh. During this time, 250+ factories wholly shut down. Almost 1 million employees lost their job. There are lots of organization cut-off salaries of the employee to reduce their cost.

In this study, I surveyed some RMG sector employees to identify their views and thoughts regarding the situation. Total sample was 50 person. From the survey results, I try to find out some possible ways to handle any pandemic situation. Secondary data was collected from various sources like journals, articles, and newspapers to gather information.

New technologies can be used to handle any disruption in production. So that supply chain can run smoothly. Automation needs to be introduced in the RMG sector of Bangladesh. Because in near future technology will have a major impact in the RMG sectors.

In future if any kind of pandemic situation arise, manager or supply chain experts can take this paper for there reference. As I mention, in Bangladesh the overall export based on th RMG sectors. So, a smooth operation to run for the future manager can implicate from this paper.

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A supply chain can be liberally viewed as a combination of processes, functions, activities, relationships, and pathways. Products, services, information, and financial transactions move between enterprises from the original producer to the ultimate end-user consumer. Logistics management is a part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption to meet customer's requirements.

Supply chain management manages the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace. On the other hand, supply chain management coordinates the various activities necessary to produce and deliver goods and services to its customers. Depending on the business in question, this could involve monitoring the manufacturing of a product, shipping the product by air, sea, or land, ensuring that it meets quality standards, and delivering the product to customers (Investopedia).

Supply chain management represents an effort by suppliers to develop and implement supply chains that are as efficient and economical as possible. Supply chains cover everything from production to product development to the information systems needed to direct these undertakings (Investopedia).

Typically, SCM attempts to centrally control or link the production, shipment, and distribution of a product. By managing the supply chain, companies can cut excess costs and deliver products to the consumer faster. This is done by keeping tighter control of internal inventories, internal production, distribution, sales, and company vendor inventories (Sterling Development, 2020).

Supply chain management is based on the idea that nearly every product that comes to market results from various organizations' efforts that make up a supply chain. Although supply chains have existed for ages, most companies have only recently paid attention to them as a value-add to their operations (Investopedia, 2020).

In Supply chain management, the supply chain manager coordinates the logistics of all aspects of the supply chain, which consists of five parts (Investopedia, 2020):

i. The plan or strategy

- ii. The source (of raw materials or services)
- iii. Manufacturing (focused on productivity and efficiency)
- iv. Delivery and logistics
- v. The return system (for defective or unwanted products)



1.1 Background of the Study

At the end of the 2019 novel, Corona Virus COVID-19 was first discovered in Chain. Later on, from February 2020, it started to spread in the whole world. On March 8, 2020, the first COVID-19 patient was found in Bangladesh. After that, it spread in the whole country, and to date, 414,164 patients found positive among 6,004 patients who died for COVID-19 (November 5, Worldometer, 2020), for this whole world went for the lockdown to prevent this virus, which impacts the overall economy of the world. Borders were closed so that no one can

move from one country to another. Even for the goods and services, those impact every business's supply chain process (IFC, 2020).

Based on the background study Bangladesh faced a huge impact on the supply chain process of every business. COVID-19 impact badly the process of supply chain management, which impacts transportation cost, on-time shipping, and production as Bangladesh is RMG based sector that suffered a lot (May 31, The Financial Express, 2020). To overcome this situation through this study, I will try to find out the possible effective way to handle the situation.

1.2 Objectives of the Study

There are few objectives that I will try to focus on.

- Affect of COVID-19 in the supply chain and logistics of the RMG sector of Bangladesh.
- > To know the effective way to find out the solution.

1.3 Scope of the Study

The study is done based on secondary data. The information regarding the effect of COVID-19 in supply chain and logistics worldwide will be sourced through the government and nongovernment research data as well as the newspapers that have published reports on the effect of COVID-19 in the sector of supply chain and logistics. Moreover, a survey will be done to understand the effective way to handle any pandemic situation.

1.4 Limitation of the Study

The study has the following limitation in its operation:

- As the majority of this study will be done basically on the secondary data, the validity of the user data can be checked rigorously.
- For this COVID-19 situation, the survey was conducted through an online platform. There can be some issues that arise in terms of collecting data.

1.5 Organization of the Study

The study organizes into five different segments. In the first segment, a brief overview of supply chain management worldwide is explained, and the objective of the research is stated. The second chapter contains the literature review of this research and why this research is an important one. In the third chapter, this research methodology is described, such as the study's

mode, sampling method, and data analyzing process for the study. In the fourth chapter, there will be data collection and interpretation. And, lastly, recommendations and conclusions will be provided in the fifth chapter of this study.

Chapter 2: Literature Review CGGSJ

One of the main components of any kind of research study is the study of the literature. The previous literature study is crucial because it allows the research to know and understand what the previous research has been done on these sectors and the areas that the research lacks in facts and data. Moreover, it clarifies why this research is essential and areas the research should focus on. For this research, the previous studies done on government reports, non-government studies, and reports found in the newspapers will be scoured to create a strong literary background for this research and a critical explanation of all the found data provided along with it.

2.1 Review of the Literature

Due to COVID-19, the rate of shipment and transaction volume, on the whole, goes down rapidly (World Economic Forum, 2020). There was no future prediction of COVID-19, which impacts the traditional supply chain process. The Coronavirus flare-up has scrutinized the strength of the inventory network. In recent years, analysts and specialists have underlined the arrangement of methodologies, for example, lithe, lean, and flexible creation frameworks; omnichannel dissemination frameworks; ongoing checking frameworks; coordination and joint effort instruments; and permeability frameworks to upgrade production network strength and vigor. Be that as it may, these procedures have not been adequately viable to relieve inventory network hazards completely during the pandemic. (Emerald Publishing. 2020). For COVID-19, outbreak there are four risks to face in Supply Chain, which are: Capacity, fluctuating demand, geographic risk, inventory management (Agility, 2020). In this COVID-19 outbreak, there is a long-term shift in the global supply chain (April 24, Oxford Business Group, 2020).

Author	Title	Method
Jelena Koncar, Aleksandar	Setbacks to IoT	Survey-based
Grubor, Radenko Maric,	Implementation in the	
Sonja Vu [*] cenovic and	Function of FMCG Supply	
Goran Vukmirovic	Chain Sustainability	
	duringCOVID-19 Pandemic.	
Maureen S. Golan, Laura	Trends and applications of	Data based
H. Jernegan, and Igor	resilience analytics in supply	
Linkov	chain modeling: systematic	
	literature review in the	

	context of the COVID-19	
	pandemic.	
Konstantinos	Forecasting and planning	Data based
Nikolopoulos, Sushil Punia,	during a pandemic: COVID-	
Andreas Schäfers, Christos	19 growth rates, supply chain	
Tsinopoulos and	disruptions, and	
Chrysovalantis Vasilakis	governmental decisions.	
Kevin P. Scheibe and	Supply chain disruption	Formal interview and data-
Jennifer Blackhurst	propagation: systemic risk	based
	and normal accident theory	
	perspective.	

Table 2.1: List of journals

Numerous things won't change. Purchasers will keep on needing low costs (particularly in a downturn), and firms will not have the option to charge all the more since they produce in more significant expense home business sectors. The opposition will guarantee that. The strain on working proficiently and utilize capital, and assembling limit economically will stay unwavering (Harvard Business Review, 2020).

The test for organizations will be to make their stock chains stronger without debilitating their seriousness. To meet that challenge, managers should initially comprehend their weaknesses and afterward think about a few stages—some of which they ought to have taken some time before the pandemic struck (Harvard Business Review, 2020).



Figure 2.1: Post Pandemic Supply Chain Model (Harvard Business Review, 2020)

Chapter 3: Methodology

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This chapter mainly concentrates on the process and methodology the research is completed. The chapter includes the research approach, the nature of the research, data collection procedure, the data collection tools, and techniques. The tools used in data analysis and presentation have been used in this research and the ethical implication that the research has encountered in completing the research process.

3.1 Approach

There are two main ways to comprehend research. They are – inductive and deductive research. In inductive research, the research scope is narrowed down by using a set of research questions. On the other hand, in deductive research, a hypothesis of the research is set, and through using the deduction techniques, it is tied to prove that hypotheses right or wrong. Both of them are commonly used and have their different set of implications. Here in this research, the main objective is to understand the current pandemic situation of supply chain management and logistics worldwide and in Bangladesh. Identifying the best way and opinions regarding how to overcome the situation and can be developed from its current self in Bangladesh.

So, there is less opportunity for having a hypothesis and approaching it using deduction techniques. Rather, it is explorative research that is comprehended using preset questions found via explorative studies and surveys. So, in this research, an inductive research approach has been used.

3.2 Nature of the Research

This research's main objective is to understand the current scenario of supply chain management in Bangladesh and how to handle any pandemic and after pandemic situation of Bangladesh, which may lead to a better export environment for the RMG industry in Bangladesh. The issue here that doing a country-wide survey to acquire primary data is difficult for small-scale research like this. But there have several works that have been done that can assets this research. Moreover, the opinion of the stakeholders of RMG industries has been collected using questioner. So, this research is a mix of qualitative and quantitative studies.

3.3 Data Collection Procedure

This research requires data that can be collected from secondary sources. That means data will be collected from studying through the previous studies and surveying the supply chain management and logistics scenario in Bangladesh.

3.4 Primary Data

The survey was conducted in a group of employees of the RMG sector who work in supply chain management. Total Respondent (sample size) was 50.

3.5 Secondary Data

Several types of research have been done regarding the supply chain and logistics in the COVID-19 situation. And, among these researches, several have addressed the issues of the RMG industry of Bangladesh. This information has been used for the research. Moreover, different newspapers and journals have been published regarding supply chain management and logistics in Bangladesh's RMG industries in the COVID-19 situation. That source is also used for this research.

3.6 Data Collection Tools and Techniques

The secondary data is collected through the study of previous literature. The research paper, articles, journals are the primary tools for collecting the data.

3.7 Data Analysis and Presentation

After collecting data from all respondents, the data will be analyzed through the use of Microsoft Excel. In analyzing the data-chart, graphs, tables, and figures will be used as analytical tools.

3.8 Ethical Implications

One of the major concerns of the research is the ethical implications. The research needs to be within its ethical boundary to be considered valid research. All the personal data needs to be kept confidential. And, the survey needs to be voluntary. No kind of influence can be used to get a response from the respondents. And, this collected data can only be used for educational purposes.

Chapter 4: Data Analysis

As stated earlier, secondary data is used for this research purpose. So, the collected data in secondary sources are presented below-

4.1 Analysis of Secondary Data

The first two objectives of this research ask for the objective of the research states that-

- > Identify the problems.
- How COVID-19 badly affect the supply chain and logistics of the RMG sector of Bangladesh.

The secondary data are collected from various sources from the internet.

Export of Ready-made Garments from the Fiscal Year 2011 to 2020

FY	Total Export USD in Billion	Total RMG (Woven + Knit)	Percentage Share in Total Export
		USD in Billion	
2011	22924	17914.5	78.15
2012	24287.7	19089.7	78.6
2013	27027.36	21515.73	79.61
2014	30176.8	24491.88	81.16
2015	31208.94	25491.4	81.68
2016	34241.82	28094.16	82.05
2017	34655.92	28149.89	81.23
2018	36668.17	30614.76	83.49
2019	40535.04	34133.27	84.21
2020	33674.09	27949.19	83.00

Table 4.1: Export of Ready-made Garments from the Fiscal Year 2011-2020 (ADB, 2020)

From table 4.1 In the fiscal year 2011-2019, the total export value was increased from \$22924 billion to \$40535.04 billion. The percentage increased from 78.15% to 84.21%. Due to the COVID-19 outbreak in the last six months of 2020's fiscal year, the export value decreased to \$33674.09 from \$40535.04%. And overall percentage decreased to 83.00% from 84.21%, which is 1.21%. From the table, 4.1the figure 4.1 visually represents the total share of export in the RMG sector.



Figure 4.1: Fiscal Year Vs. % Share in Total Export (ADB, 2020)

Trends of Value Addition from the RMG Export in context of RAW Materials Import (Million USD)

FY	Total Export	RMG Export	Raw Materials Import	Raw Materials Import as a percentage of total RMG Export	Value Addition (Percentage Share)
FY 13	27027.36	21515.73	8226.97	38.24	61.76
FY 14	30176.80	24471.88	9663.53	39.49	60.51
FY 15	31208.94	25491.40	9591.72	37.63	62.37
FY 16	34241.82	28094.16	10210.63	36.34	63.66
FY 17	34655.92	28149.89	10760.12	38.22	61.78
FY 18	36668.17	30614.76	11957.80	39.06	60.94

FY 19	40535.04	34133.27	12178.31	35.68	64.32
FY 20	33674.09	27949.19	12160.33	43.51	56.49

Table 4.2: Trends of Value Addition from the RMG Export in context of RAW Materials Import (Million USD) (ADB, 2020)

Brands & Retailers Cancel Orders

As the coronavirus spread worldwide, various lockdown and stay-at-home orders were instituted throughout Europe and North America. With unemployment on the rise and stores closed, consumers in the Global North ceased shopping for virtually anything other than necessities. Thus, brands and retailers found themselves with large volumes of merchandise but few customers, inciting the need to revise their sales and sourcing strategies for the coming months.

With low turnover, brands and retailers started to drop orders with makers, referring to stores and distribution centers brimming with stock that they couldn't sell in the short term. Brands dropped orders and reported deferred installment terms by practicing the power Majeure provisos in their agreements, referring to the Covid spread and coming about store terminations as unexpected conditions. While lawful examinations generally uphold this utilization of the power Majeure provision, its conjuring will probably bring about claims. The Center for Policy Dialog Bangladesh is seeking after inspecting its utilization with the International Chamber of Commerce. The crossing out of requests and the deferrals of installments all around left providers stranded by moving expenses and liabilities from purchasers to providers. As the impacts of this started to swell through the business, brands and retailers have reacted differently.

BGMEA mentioned the brands and retailers not to drop orders and help to process plants. On March 23, the exchange affiliation distributed a video message where BGMEA President Dr. Rubana Huq engaged worldwide attire purchasers to venture forward and uphold the Bangladesh RMG area in this desperate time. She asked the purchasers not to drop orders for articles of clothing that were underway or effectively complete. For the texture that stayed whole, she suggested that creation proceed and merchandise be put away locally, and the purchasers could concede the installments if need be. She focused on that "On the off chance that we don't have the help for the following three months, we will have 4.1 million specialists in a real sense out in the city. Furthermore, this is social disarray we can't manage." She battled that giving some proportion of help to a country with whom all purchasing nations have been

accomplices for quite a long time is a little ask, proceeding to express that "this is a catastrophe that neither trade nor mankind can bear." She likewise noticed that purchasers' notorieties were on the line (Dhaka Tribune, 2020).

Purchasers' reactions differed to the boundaries. In the most horrifying cases, brands dismissed the supplications altogether and would not acknowledge orders previously created just as those as of now underway. As determined by the BGMEA, such brands have become the objectives of laborers' privileges advocates. The Workers' Rights Consortium initiated a tracker on their site to report which brands have focused on tolerating orders previously created and underway and those that have not, exhibiting how to center business capacities like sourcing, have a fundamental impact on brands' notorieties (Dhaka Tribune, 2020)

- > 72% of buyers refused to pay for raw materials already purchased by their suppliers.
- > 91% of buyers refused to pay the cut-make-trim costs of canceled orders.
- ➢ 97% of buyers refused to contribute to severance pay for laid-off workers, contributing to the 80% of workers dismissed without pay.
- ➢ 98% of buyers refused to contribute to paying furloughed workers' legally-entitled partial wages, contributing to the 72% of workers furloughed without pay.

Timeline of COVID-19 Effect in RMG Sectors of Bangladesh

Date 2020	Description
February 4	Suppliers begin receiving an influx of requests for delayed payment
	terms from buyers.
March 8	Bangladesh officially confirms the first COVID-19 cases.
March 17	Suppliers begin receiving an influx of requests for delayed payment
	terms from buyers.
March 20	\$100M in orders canceled, including for products already produced.
March 23	\$1.5B in orders canceled across 1,089 factories, affecting 1+ million
	workers.
March 24	BGMEA President appeals to international brands not to delay
	shipments or cancel orders, which she predicts could result in factories
	failing to pay workers.
March 25	The Accord on Fire and Building Safety in Bangladesh suspends
	factory inspections.

	Prime Minister announces \$580M in low-cost loans for export	
	factories to pay workers.	
March 26	Nationwide lockdown begins.	
March 27	Authorities announce that RMG factories can remain open during the	
	lockdown.	
March 28	Authorities backtrack on their decision from the previous day and	
	instruct factories to close. Factories with urgent orders for export or	
	which produce PPE are allowed to remain open.	
March 31	\$2.8B in orders canceled or postponed. Public transport is suspended	
	due to the lockdown, stranding thousands of workers in crowded	
	hostels, unable to go home to their villages.	
	H&M announces that it will accept all goods already produced or in	
	production, the first brand to make such a commitment.	
April 3	Primark announces the establishment of a fund to cover the wages of	
	garment workers.	
April 5	BGMEA and BKMEA recommend factories remain closed until at	
	least April 11.	
April 6	Workers return to factories - many walking long distances - in fear of	
	losing their jobs. Most were met at factory gates by police and told to	
	return home.	
April 7	More than 130 factories remain open or reopen in the Savar and	
	Ashulia areas.	
April 8	Commerce Minister requests factory owners not to dismiss employees,	
	even if the factories remain closed.	
April 10	BGMEA recommends factories remain closed until April 25.	
April 12	Thousands of workers protest at factory gates and in the streets to	
	demand payment of their wages from March.	
April 13	BGMEA estimates that RMG export earnings in the first week of the	
	month fell by 78% compared to the previous year.	
April 16	The extended deadline by the government for payment of workers'	
	wages for March. Thousands of workers continue to go without their	
	wages and continue to protest.	
April 17	1572 officially-confirmed COVID-19 cases.	

April 19	BGMEA President again asks global brands not to abandon
	Bangladesh's factories and workers during the coronavirus crisis.
April 20	BGMEA President tells media outlets that RMG factories will
	"definitely not" be reopening in April.
April 22	Government demands that suppliers pay their workers for March or
	face legal action.
	BGMEA estimates that about half of the industry's 4.1M workers have
	been affected by layoffs or furloughs.
	BGMEA releases official guidance on the health and safety measures
	required for factory openings.
April 23	BGMEA announces that it will support a phased reopening of factories
	and that only locally-based workers should return.
April 24	BGMEA claims that 98.5% of workers have received their March
	salaries, a highly-disputed figure. Most factories that suspended
	production only pay 60% of salaries during the suspension period.
April 25	Thousands of workers continue to protest because their wages have
	still not been paid.
April 26	Factories begin to reopen. As public transport is still suspended,
	workers walk long distances and crowd into delivery vehicles to reach
	their workplaces.
April 30	BGMEA reports \$3.18B in canceled orders, affecting 2.28M workers.
	Seven thousand six hundred sixty-seven officially-confirmed COVID-
	19 cases and quickly climbing.
September 30	250+ factories completely shut down due to the COVID-19 outbreak.

Table 4.3: Timeline of COVID-19 Effect in RMG Sectors of Bangladesh

4.2 Interpretation of Data Collection

Did your organization face any difficulties during the COVID-19 situation?



Figure 4.2: Did your organization face any difficulties during the COVID-19 situation?

Figure 4.2 represents, 80% of participants believe that 'Yes," their organization was faced difficulties during the COVID-19 situation. 14% denied the statement, and 6% of them said they are not sure of it.

Does your company lose any shipment contract which was done before the COVID-19 situation?



Figure 4.3: Does your company lose any shipment contract which was done before the COVID-19 situation?

Figure 4.3 represents that, 58% of participants said 'Yes' their organization lose shipment contract before the COVID-19 outbreak. 38% of them mentioned their organization didn't lose any shipment contract that was done before the COVID-19 outbreak. 4% of the Respondent was not sure about it.





Figure 4.4: How many (in percentage) shipments canceled in this pandemic situation?

Figure 4.4 represents, Big brands and companies that purchase our ready-made garments products canceled their order or shipments during this lockdown period. 34% of respondents mentioned that their organization faced 10 percent of shipments canceled in this COVID-19 situation. 30% of participants said their organization faced 20 percent shipment cancellation. 26% of participants said that their organization's 30-50 percent order got canceled. More than 50 percent of shipment was canceled 10% of participants said.

How much value in terms of money your organization loses in this COVID-19 situation?



Figure 4.5: How much value in terms of money your organization loses in this COVID-19 situation?

From figure 4.5 during the COVID-19 pandemic, the RMG sector loses lots of shipment contracts that make huge losses for the organizations. 36% of the participants said their organization lost \$10 million money during the COVID-19 period. 40% of the respondents mention that their organization lost \$20 million money because of the COVID-19 pandemic. 14% of the respondents said their company lost \$30 million money in this situation. More than \$50 million money lost by the organization during this pandemic, said 10% of participants said.

In the perspective of the Bangladesh RMG sector do you agree "Automation" is the best way to handle the future pandemic situation?



Figure 4.6: In the perspective of the Bangladesh RMG sector do you agree "Automation" is the best way to handle the future pandemic situation?

The RMG sectors need to prepare an alternative solution to handle any pandemic situation like the COVID-19 situation. According to the Harvard Business Review, there are alternative plans like- automation.

From figure 4.6, 16% of the respondents said that automation is the best way to handle any pandemic situation in Bangladesh. 72% of the participants said No, that automation is the best way to handle any pandemic situation in Bangladesh. 12% of the respondents not sure about automation.

New processing technologies" can be a better option in the future, do you agree with it?



Figure 4.7: "New processing technologies" can be a better option in the future, do you agree with it?

The RMG sectors need to prepare an alternative solution to handle any pandemic situation like the COVID-19 situation. According to the Harvard Business Review, there are alternative plans like- new processing technologies.

From figure 4.7, 84% of the respondents said that No, new processing technologies can not be a better option in the future from the perspective of the Bangladesh RMG sector. 10% said yes. And 6% of the respondents are not sure about new processing technologies.

Handling the future pandemic situation "Continuous-flow manufacturing" is a better option, do you agree with it?



Figure 4.8: Handling the future pandemic situation "Continuous-flow manufacturing" is a better option, do you agree with it?

The RMG sectors need to prepare an alternative solution to handle any pandemic situation like the COVID-19 situation. According to the Harvard Business Review, there are alternative plans like- continuous-flow of manufacturing.

From figure 4.8, 78% of respondents said that No, continuous-flow of manufacturing is not a better option to handling the future pandemic situation from the perspective of the Bangladesh RMG sector. 8% said Yes, it is a better option. And 14% of the respondents not sure about the continuous-flow of manufacturing.

"Hold intermediate inventory or safety stock" is the best option for the RMG sector in the future to handle any pandemic situation, do you agree with it?



Figure 4.9: "Hold intermediate inventory or safety stock" is the best option for the RMG sector in the future to handle any pandemic situation, do you agree with it?

The RMG sectors need to prepare an alternative solution to handle any pandemic situation like the COVID-19 situation. According to the Harvard Business Review, there are alternative plans like- hold intermediate inventory or safety stock.

From figure 4.9, 84% of the respondents said Yes, that hold intermediate inventory or safety stock is the best option for the RMG sector in the future to handle any pandemic situation from the perspective of Bangladesh. 6% of the respondents said No. And 10% of the respondents are not sure about this hold intermediate inventory or safety stock is best or not.

Does your company have enough space for holding inventory for the future?



Figure 4.10: Does your company have enough space for holding inventory for the future?

Organizations need to have enough space for holding inventory for the future. Figure 4.10 represents, 52% of the participants said that their organization has enough space for holding inventory for the future. 34% of the respondents said that their company does not have enough space for holding inventory for the future. 14% of the participants are not sure about it.

Do you think the government can play an essential role in helping the RMG sectors with the foreign government for proper shipment processes in any pandemic situation?





In terms of the betterment of the RMG sector government plays a vital role. Figure 4.11 shows, 54% of the respondents said the 'Yes' government could play an important to help the RMG sectors with the foreign government for proper shipment process in any pandemic situation. 14% of the participants said 'No' the government cannot play an important to help the RMG sectors with the foreign government for proper shipment process in any pandemic situation. 32% of the respondents are not sure about it.

Chapter 5: Findings & Implications

5.1 Findings

Overall findings of the study for the current situation is that the way to handle any supply chain disruption of the RMG sector in any pandemic situation in the future-

New technologies can be used to handle any disruption in production. So that the supply chain can run smoothly. Automation needs to be introduced in the RMG sector of Bangladesh. Because in near future technology will have a major impact in the RMG sectors. Every organization needs to build up extra space for holding the inventories for the future. A strong relationship with the supplier needs to improve more to supply the raw materials in any situation. Strong bonding with the foreign buyers needs to be improved not to cancel the order if any problem arises.

Government help is also needed so that government can keep a strong relationship with the foreign government. In the future, if any disruption arises, the shipment should be made on time, maintaining proper precaution.

5.2 Implications

In the future, if any kind of pandemic situation arises, managers or supply chain experts can take this paper for their reference. As I mention, in Bangladesh the overall export is based on the RMG sectors. So, a smooth operation to run for the future manager can implicate in this paper.

The supply chain manager can use this paper from an understanding of the Harvard Business Review model of handling the future pandemic situation from the perspective of the Bangladesh RMG sector. The result of this paper founds that hold intermediate inventory or safety stock is the best option for the RMG sector of Bangladesh in the future pandemic situation.

Chapter 6: Conclusion & Future Research Direction

6.1 Conclusion

Bangladesh earns a maximum of its money from the RMG sector. In 2020 Bangladesh earned 27.95 USD billion from the RMG sector. In this COVID-19 situation, it decreased a lot in the first six months during the lockdown period. To avoid this disruption, a smooth flow of the supply chain and logistics needed. The overall environment needs to be friendlier. With the help of the government, local sellers and foreign buyers can meet their desire goals and make proper use of every opportunity.

6.2 Future Research Direction

There is a lot of scope for study on this topic. Throughout this research, there are some limitations. This research can help in the future for the researcher as a simple base for their research. They can take data to conduct the secondary research for their thesis.

Reference

Ahmed, Z. (2020a). Coronavirus: Bangladesh's garment industry risks collapse. Retrieved April 27, 2020, from DW.com website: https://www.dw.com/en/coronavirus-bangladeshs-garment-industry-risks-collapse/a-52917410

Alo, J. N. (2020). Dhaka airport warehouse is overfilled with imported garment raw material. The Business Standard, p. 4. Retrieved from https://tbsnews.net/economy/ rmg/dhaka-airport-warehouse-overfilled-imported-garment-raw-material-73777

Anner, M. S. (2020). Abandoned? The Impact of COVID-19 on Workers and Businesses at the Bottom of Global Garment Supply Chains. Retrieved from https://www.researchgate. net/publication/340460592_Abandoned_The_Impact_of_____COVID-19_on_Workers_and_Businesses_at_the_Bottom_ of_Global_Garment_Supply_Chains

Bain, M. (2020). Coronavirus threatens the livelihoods of garment workers around the world. Qz.Com. Retrieved from https://qz.com/1821511/coronavirus-threatens-jobs-ofgarment-workers-in-southeast-asia/

Bangladesh Retrieved from

https://www.worldometers.info/coronavirus/country/bangladesh/

Bangladesh and ADB. (n.d.). Retrieved April 29, 2020, from Asian Development Bank website: https://www.adb.org/ countries/bangladesh/main

Bangladesh garment factories manufacture PPE to fight COVID-19. (2020, April 8). Retrieved April 23, 2020, from Apparel Resources website: https://bd.apparelresources. com/business-news/trade/bangladesh-garment-factories-manufacture-ppe-fight-covid-19/

Bangladesh Garment Manufacturers and Exporters Association (BGMEA), BGMEA Website, 2020, p. 2 https://www.bgmea.com.bd/> [accessed April 29, 2020].

Bangladesh Garment Manufacturers and Exporters Association. (2020). BGMEA at a Glance. (n.d.). Retrieved April 29, 2020, from BGMEA Website website: https://bgmea.com. bd/home/about

BGMEA wants to export PPE after meeting local demand. (2020, March 29). The Financial Express. Retrieved from https:// thefinancialexpress.com.bd/trade/bgmea-wants-to-exportppe-after-meeting-local-demand-1585477663

Brac Rapid Survey: 47pc garment workers yet to be paid. (2020, April 19). The Daily Star, pp. 1–6. Retrieved from https:// www.thedailystar.net/frontpage/news/brac-rapid-survey-47pc-garment-workers-yet-be-paid-1894444

Cookson, F. (2020a, April 22). Should the RMG industry reopen in May? Dhaka Tribune. Retrieved from https://www. dhakatribune.com/opinion/op-ed/2020/04/22/should-thermg-industry-re-open-in-may

Cookson, F. (2020b, April 22). Should the RMG industry reopen in May? Dhaka Tribune. Retrieved from https://www. dhakatribune.com/opinion/op-ed/2020/04/22/should-thermg-industry-re-open-in-may

COVID-19: A Wake-up Call for Global and National Supply Chains

https://databd.co/stories/covid-19-a-wake-up-call-for-global-and-national-supply-chains-12125

COVID-19 : BGMEA recommends closure of factories. (2020, March 26). Dhaka Tribune, pp. 1–3. Retrieved from https://www.dhakatribune.com/business/2020/03/26/ covid-19-bgmea-recommends-closure-of-factories

COVID-19 Tracker: Which Brands Are Acting Responsibly toward Suppliers and Workers? . (2020). Retrieved April 23, 2020, from Worker Rights Consortium website: https://www.workersrights.org/issues/covid-19/tracker/

Donaldson, T. (2020a). Bangladesh Factories 'Definitely' Won't Reopen in April: BGMEA President. Retrieved April 28, 2020, from Sourcing Journal website: https://sourcingjournal.com/topics/sourcing/bangladesh-garment-factories-reopeningcoronavirus-bgmea-rubana-huq-206396/

Donaldson, T. (2020b). Coronavirus Has Already Accelerated Non-China Sourcing Efforts, MAGIC President Says. Retrieved April 28, 2020, from Sourcing Journal website: https://sourcingjournal.com/topics/sourcing/coronavirus-china-sourcing-at-magic-india-bangladesh-mexico-supply-chain-194380/

Donaldson, T. (2020c). Primark Promises Wages for Factory

Workers After Invoking Force Majeure. Retrieved April 28, 2020, from Sourcing Journal website: https://sourcingjournal.com/topics/sourcing/coronavirus-primark-factory-worker-wage-fund-covid-19-order-cancellations-204373/

Donaldson, T. (2020d). Topshop Parent to Suppliers: Cancel Everything or 30 Percent Discount. Retrieved April 28, 2020, from Sourcing Journal website: https://sourcingjournal.com/topics/sourcing/arcadia-group-cancels-factory-orders-suppliers-discount-coronavirus-bgmea-topshop-205137/

Fernando. Supply Chain Management (SCM): What You Need to Know Retrieved from https://www.investopedia.com/terms/s/scm.asp

Global supply-chain effects of COVID-19 control measures Retrieved from https://www.nature.com/articles/s41562-020-0896-8

Global Supply Chains in a Post-Pandemic World Retrieved from

https://hbr.org/2020/09/global-supply-chains-in-a-post-pandemic-world

HowSupplyChainsWork.InvestopediaRetrievedfromhttps://www.investopedia.com/terms/s/supplychain.asp

'It's the best time to digitise the supply chain' Retrieved from https://tbsnews.net/economy/trade/its-best-time-digitise-supply-chain-139612

Jasmin Malik Chua. (2020). Protesting Bangladesh Garment

Workers: 'Who Will Save Us From Starvation?' Retrieved April 28, 2020, from Sourcing journal website: https:// sourcingjournal.com/topics/sourcing/bangladesh-garment-workers-coronavirus-starvation-protest-bgmea-clean-clothes-campaign-205802/

Kabeer, N. (2020). The evolving politics of labor standards in Bangladesh: taking stock and looking forward. In S. B. Saxena (Ed.), Labor, Global Supply Chains, and the Garment Industry in South Asia (1st ed., pp. 216–244). https://doi.org/https://doi.org/10.4324/9780429430039

Kabir, Covid-19: Diversifying supply-chain through technology and visibility Retrieved from https://www.thedailystar.net/bytes/news/covid-19-diversifying-supply-chain-through-technology-and-visibility-1899745

Kabir, F. H. (2020, February 11). Coronavirus impact: Disruption in supply chain worries garment exporters. The Financial Express. Retrieved from https://thefinancialexpress.com.bd/economy/bangladesh/coronavirus-impact-disruption-in-supply-chain-worries-garment-exporters-1581396740

Kelly, A. (2020). Primark announces a wage fund for garment workers. The Guardian, p. 6. Retrieved from https://www. theguardian.com/global-development/2020/apr/07/primark-announces-wage-fund-for-garment-workers

Legal action against RMG factories if wages not paid by tomorrow: Govt. (2020, April 15). The Financial Express. Retrieved from https://thefinancialexpress.com.bd/print/

legal-action-against-rmg-factories-if-wages-not-paid-by-tomorrow-govt-1586949906

Lin, J. Here's how global supply chains will change after COVID-19 https://www.weforum.org/agenda/2020/05/this-is-what-global-supply-chains-will-look-like-after-covid-19/

Mamun, S. (2020, April 26). Coronavirus: Govt offices to operate on a limited scale. Dhaka Tribune. Retrieved from https://www.dhakatribune.com/health/coronavirus/2020/04/26/coronavirus-govt-withdrawsorder-to-reopen-offices-under-18-ministries

Mirdha, R. U. (2020, April 17). Social distancing in garment factories out of the question. The Daily Star. Retrieved from https://www.thedailystar.net/business/news/social-distancing-garment-factories-out-the-question-1893697

Moazzem, K. G., Khatun, F., Khandker, A., Nabil, F., Reza, M. M., & Arfanuzzaman, M. (2018). Ongoing Upgradation in RMG Enterprises: Preliminary Results from a Survey. Dialogue on Ongoing Upgradation in RMG Enterprise, (March), 33. Retrieved from https://www.researchgate.net/publication/325567646_Ongoing_Upgradation_in_RMG_Enter prises_Preliminary_Results_from_a_Survey

The Supply Chain and a Firm's Role in It. Saylordotorg.github.io Retrieved from https://saylordotorg.github.io/text_small-business-management-in-the-21st-century/s15-01-the-supply-chain-and-a-firm-s-.html

Dabo Guan. Global supply-chain effects of COVID-19 control measures Retrieved from https://www.nature.com/articles/s41562-020-0896-8#Sec2

Munni, M. (2020a, March 10). RMG export likely to plunge further. The Financial Express. Retrieved from https:// thefinancialexpress.com.bd/public/index.php/trade/rmgexport-likely-to-plunge-further-1583812479

Munni, M. (2020b, March 28). Many owners seek to run RMG units. The Financial Express. Retrieved from https://thefinancialexpress.com.bd/print/many-owners-seek-to-runrmg-units-1585365335

Munni, M. (2020c, April 5). Savar RMG units reopen today. The Financial Express, p. 3. Retrieved from https://thefinancialexpress.com.bd/print/savar-rmg-units-reopen-today-1586055816

Munni, M. (2020d, April 12). Garment owners' trim jobs defying govt plea. The Financial Express. Retrieved from https:// thefinancialexpress.com.bd/print/garment-owners-trimjobs-defying-govt-plea-1586659464

Munni, M. (2020e, April 13). Mar-May RMG exports might fall by \$5.0b. The Financial Express. Retrieved from https://thefinancialexpress.com.bd/economy/mar-may-rmg-exportsmight-fall-by-50b-1586746252

Noyon, A. U. (2020, April 3). Bangladesh moves to export professional PPE. The Business Standard. Retrieved from https:// tbsnews.net/coronavirus-chronicle/covid-19-bangladesh/bangladesh-moves-export-professional-ppe-64474

Over 100 RMG factories remain open despite coronavirus lockdown. (2020, April 6). The Financial Express. Retrieved from https://thefinancialexpress.com.bd/trade/ over-100-rmg-factories-remain-open-despite-coronavirus-lockdown-1586163283

Ovi, I. H. (2020a, April 2). 1 million garment workers out of work in Bangladesh? Dhaka Tribune, pp. 1–3. Retrieved from https://www.dhakatribune.com/business/2020/04/02/onemillion-garment-workers-out-ofwork-in-bangladesh

Ovi, I. H. (2020b, April 26). Garment factories open amid tight safety measures. Dhaka Tribune. Retrieved from https:// www.dhakatribune.com/business/economy/2020/04/26/ garment-factories-open-amid-tight-safety-measures

Paul, R. (2020, March 31). Garment exporter Bangladesh faces \$6 bln hit as world retailers cancel orders. Reuters. Retrieved from https://www.reuters.com/article/ health-coronavirus-bangladesh-exports/garment-exporter-bangladesh-faces-6-bln-hit-as-world-retailers-cancel-orders-idUSL1N2BO1A2

Research-api.cbs.dk URL: https://researchapi.cbs.dk/ws/portalfiles/portal/60550960/Risc report impacts of co

api.cbs.dk/ws/portalfiles/portal/60550960/Risc_report_impacts_of_coronavirus_on_banglade sh_rmg_1.pdf

'Starving' Bangladesh garment workers protest for pay during the lockdown. (2020). Retrieved from April 28, 2020, Yahoo news website: https://news.yahoo.com/starving-bangladesh-garment-workers-protest-pay-during-lockdown-144413308.html

Supply Chain Management (SCM): What You Need to Know. Investopedia Retrieved from

https://www.investopedia.com/terms/s/scm.asp

Teodoro, A. & Rodriguez, L. Textile and RMG supply chains during pandemic https://thefinancialexpress.com.bd/views/views/textile-and-rmg-supply-chains-during-pandemic-1590937389

Textile and garment supply chains in times of COVID-19: challenges for developing countries

https://unctad.org/news/textile-and-garment-supply-chains-times-covid-19-challengesdeveloping-countries

The Impact of COVID-19 on Logistics Retrieved from

https://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/infra structure/resources/the+impact+of+covid-19+on+logistics

The impact of Covid-19 on global supply chains Retrieved from

https://oxfordbusinessgroup.com/news/impact-covid-19-global-supply-chains

The "New Normal": Rethinking Supply Chains during and after COVID-19 Global Business Environment: Emerald Publishing Retrieved from

https://www.emeraldgrouppublishing.com/journal/ijpdlm/new-normal-rethinking-supplychains-during-and-after-covid-19-global-business

4 big logistics challenges of COVID-19 – and how to overcome them: Agility Retrieved from

https://logisticsinsights.agility.com/COVID19/4-big-logistics-challenges-of-covid-19-and-how-to-overcome-them/