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GLOBAL APPARELS SOURCING

INTERNSHIP REPORT



**LESSONS FOR THE PRESENT AND THE POSSIBLE FUTURE OF READYMADE
GARMENTS INDUSTRY IN BANGLADESH**

By

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Internship Report Supervised By

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**in the Fulfillment of the Requirements for the Degree of Bachelor of Business
Administration**

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Letter of Transmittal

15st December, 2018

Mr. N.M. Baki Billah

Lecturer,

BRAC Business School

BRAC University

Subject: Submission of report on “Lessons for the present and possible future of Ready-made Garments industry in Bangladesh”

Dear Sir,

With due honor, I am pleased to submit hereby the internship report on “Lessons for the present and possible future of Ready-made Garments industry in Bangladesh” for your kind evaluation. To prepare this report I have given my best effort making sure that the report is credible for which I have combined study materials, relevant documents and my experiences within the allocated time.

I would be glad if you accept the term paper and oblige thereby.

Sincerely yours,

Mahphara Kaiser

ID: 14104029

BRAC Business School

BRAC University

Acknowledgment

Firstly, I would like to thank Almighty Allah for giving me the opportunity to complete the internship program within the scheduled time. Secondly, I would like to thank Mr. N.M. Baki Billah, Lecturer, BRAC Business School, BRAC University, for advising and supporting me during my internship program. The internship opportunity was a great exposure for me as I could show my skills and develop myself professionally. I am grateful for having a chance to meet wonderful people, professionals and foreigners who helped me through this period.

I express my sincere gratitude towards Mr. Faysal Ahmed, Marketing and Merchandising Manager of Global Apparels Sourcing, who regardless of being busy with his duties, helped me with the entire journey. I am indebted to every employee of the company who made me feel like I was part of the family and not an intern.

Lastly, I will strive to use the gained skills and experiences in the best possible ways and attain my desired career goals. I hope I will continue to get the cooperation will all of you in the near future.

Sincerely,

Mahphara Kaiser

Executive Summary

The report is based on the three month internship period I got an opportunity to do in Global Apparels Sourcing- Bangladesh. It has been the most effective and practical course in the BBA program. This journey has made it possible for me to get insights of the very lucrative garments and textile industry of our country. I have been completely new to the corporate world, it was as challenging and fun for me as I gained a good amount of experience in the merchandising department of the company.

This report includes the challenges a garment merchandiser has to face- the tasks they need to complete, the responsibilities they need to take in order to confirm a sale. Moreover, the report further talks about the present and the future of the ready-made garments trade- the opportunities and challenges, the hurdles and the prospects of the sector where the current market has been examined and analyzed in order to get the perfect picture of the industry.

The objective of this report is to analyze the current potentials of the sector. It takes a tour to the recent trade war between the U.S and China, how prepared are we for the Industry 4.0 revolution and the recent development of working conditions and a few other perspectives. The report further talks about the history of RMG sector and how it has turned the tables for Bangladesh's economy.

Despite the epic growth of our RMG industry, and its bright prospects, a good number of challenges are still in the picture and this report concludes with ways in which it can be mitigated and handled accordingly.

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1.1 Profile of Global Apparels Sourcing

Global Apparels Sourcing (G.A.S) is a trading company responsible for the sourcing of apparel fabrics and garment supplies. The company started its journey from the year 2000 in the vision to cater fabric and garment supplies to their valuable clients with the best price and quality. They are a trading company delivering bulk supplies of fabrics and also small MOQ fabrics all over the world.

G.A.S serves as local and international buyer's representative and strives to deliver satisfying buying experience of fabric and readymade garments (RMG) to fashion buyers and importers throughout the world.

G.A.S is able to supply and manufacture all kinds of women's clothing, men's clothing and children wears. They are able to manufacture a variety of items in woven, knit and sweater. Such garment items can be further categorized into casual wear, formal wear, sportswear, fitness wear, loungewear and nightwear garments. They are specialized in street wear for the US, the UK, and Europe and Japanese markets. Moreover, they offer essential garment items all for the fast growing fashion market.

1.2 Mission

Build strong customer relationships by catering fabrics and garments supplies at great value worldwide.

1.3 Vision

Global Apparels Sourcing is committed to provide the best buying experience for fabric and ready-made garments by our best professional merchandisers.

1.4 Corporate Objectives

They are catering for uncompromised quality and competitive price in order to achieve an unique position in the market by providing the best clothing and apparel service from Bangladesh to the rest of the world. They provide services that are of great expertise and craft the ideas of their valuable clients by bringing it to their storefront.

1.5 Product and Services offered

G.A.S is one of the leading fabric manufacturer and suppliers in Bangladesh catering for their clients by providing uncompromised quality and the best price. Fabric supply items include organic cotton yard dyed poplin fabric, cotton blend fabric- CVC fabric, T/C fabric in poplin and twill, cotton polyester spandex, linen and linen blend fabrics, such as- linen viscose cotton fabric, plaid fabric, denim fabric –bonded denim velvet - velour - fleece fabric, corduroy fabric, polyester fabric, WR shell and lining fabrics on polyester, microfiber, pongee, taffeta, tricot, faux fur fabric, etc. Moreover, they offer the following fabric type and finish:

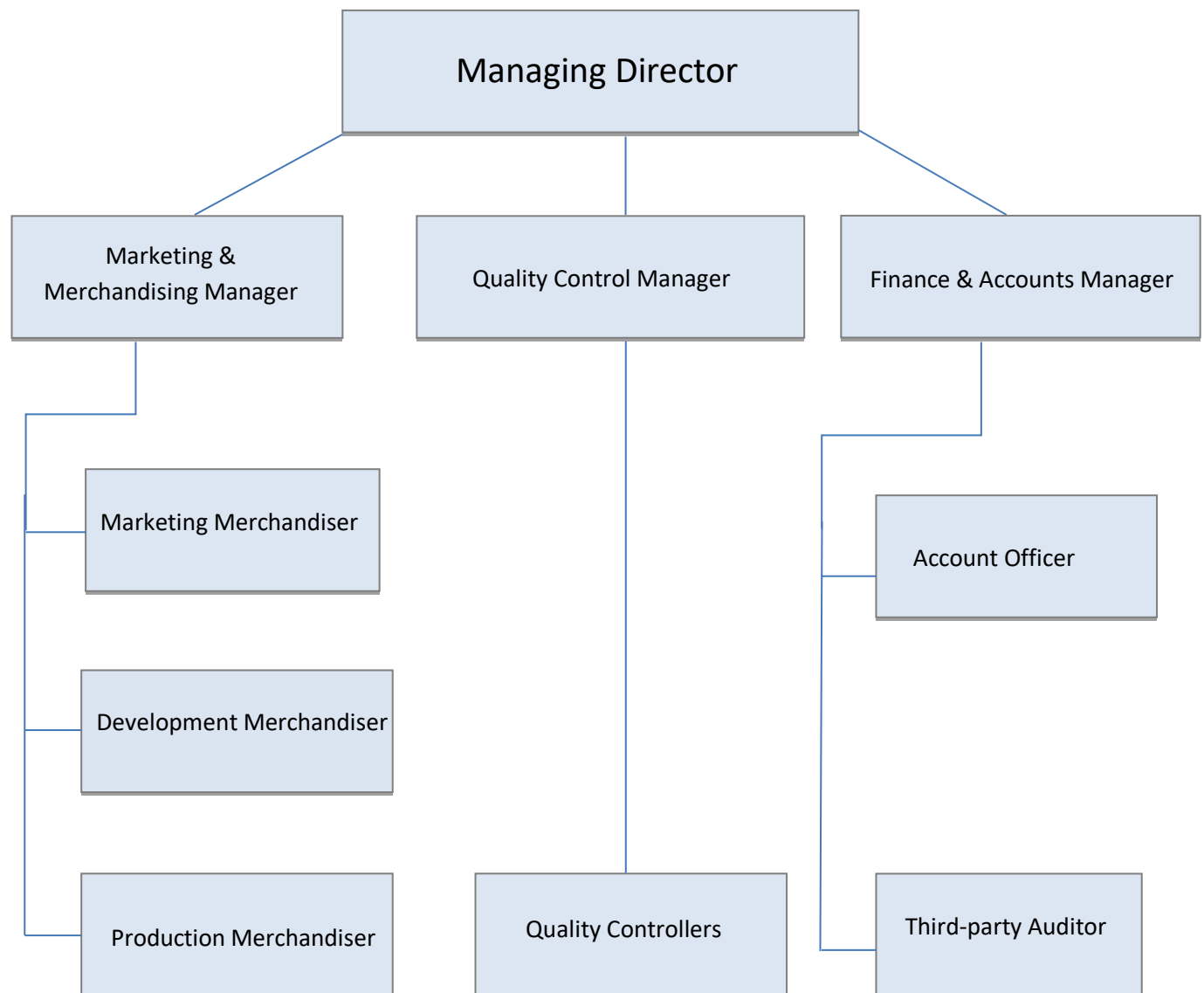
- Canvas Fabric

- Chambray Fabric
- Chiffon Fabric
- Corduroy Fabric
- Crepe Fabric
- Crepe de Chine Fabric
- Before-wash Denim Fabric
- Dobby - Cotton - CVC - T/C Fabric
- Faux Leather, Suede, Silk
- Fleece
- Gabardine Fabric
- Interlock Knit Fabric
- Jacquard Fabric
- Jersey Knit Fabric
- Mesh
- Microfiber Fabric
- Muslin Fabric
- Oxford Fabric
- Pique Fabric
- Ponte de Roma Knit Fabric
- Poplin Fabric
- Rib stop Fabric
- Satin Charmeuse Fabric
- Taslan Fabric
- Thermal Knit Fabric
- Tricot Fabric
- Tulle
- Twill Fabric
- Velour Fabric
- Velvet Fabric
- Voile Fabric
- WR Water Resistant Polyester Blend Fabrics , etc.

Such fabrics are manufactured in India, Pakistan, China, Indonesia and Bangladesh and are provided accordingly.

1.6 Organization structure

During my internship period I have worked directly with the CEO as well as the Merchandising Unit of the company. The organ gram of the company is illustrated below:



The Merchandising Department is broken into three different departments in order to lessen down the workload of a merchandiser.

The Quality Control (QC) department consists of inspectors who inspect the garments during manufacturing, counts the number of rolls, examines the garments and looks for any defect and ensures improvement accordingly.

The Finance department consists of an Accounts Officer who is in charge to manage all the financial documents and keep record of all the transactions daily, weekly and annually. Moreover, a third- party auditor takes the responsibilities to carry out internal audits evaluating financial records and complying with tax laws.

Chapter 2: Learning and Responsibilities

2.1 The Role of a Merchandiser in a Garment Company

A garment merchandiser is like a bridge between the buyer and the industry. One needs to be a multitasked and has to be both creative and have a knowledge about the financial part of the order procedure. However, different companies assign different responsibilities to a merchandiser. A merchandiser plays the most vital role in the industry among which the possible duties of a merchandiser are listed below:

- a) **Communication-** a merchandiser needs to communicate with the buyers and collect orders from them. She/he has to also communicate properly with every department in order to get her/his work done efficiently and without any errors
- b) **Sampling-** PP Sample is the short term for Pre-production sample. Pre-Production samples are a type of development sample made prior to starting bulk production. It is the most crucial task as an apparel merchandiser where one has to develop photo sample, fit sample, sales man sample, size set sample, etc.
- c) **Preparing documentations-** documents such as costing sheets/*challan*, booking sheets, purchase orders, etc. are prepared by the merchandiser during the order processing.
- d) **Getting approvals** on lab dips,
- e) **Advising-** a merchandiser needs to advise while going for production and make sure about the quality of the garment
- f) **Inspections-** as mentioned earlier a merchandiser needs to make sure that the quality is approving which he/she has to do with the help of quality department or third party inspectors before shipping the goods
- g) **Shipping instructions-** preparing AWB or air consignment notes, tracking AWB, etc. should be done and taken care of by a merchandiser

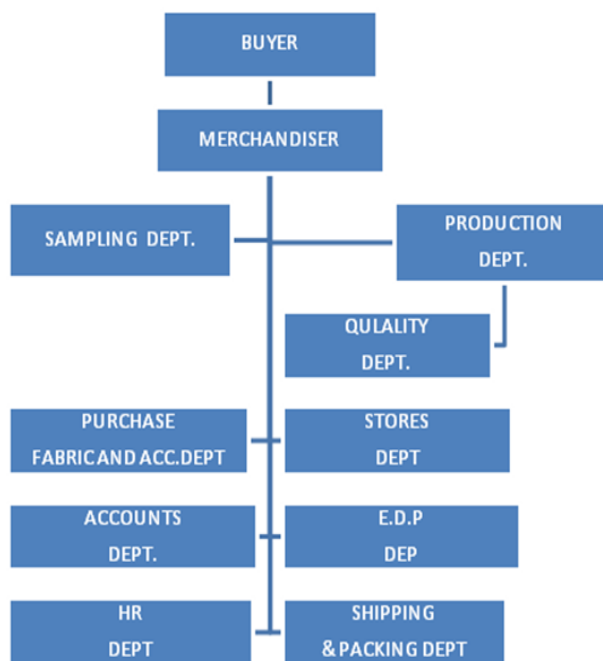
During my internship period I worked under the Merchandising unit of the company and worked for the garments order execution process. It includes a number of steps of which I will be sharing about. During the execution of a garment order the number of processes is to be strictly maintained. They are:

- a) **Order enquiry from buyer to factory-** a merchandiser needs to clear out all the details and terms and conditions beforehand. For instance, enquiry of price, shipping date, shipping terms and payment terms needs to be clarified.

- b) **Approval of order from the buyer-** in this process, a merchandiser has to take approval of order as per the costing given by him/her, also make time and action (T/A) plan containing the details of the action to be taken in order to meet shipment goals.
- c) **Buyer bank gives master L/C to the buying house-**Master L/C is the contract, given to bank, which covers the total value of an export order. Finance department of buying house deals with the follow up of L/C matter.
- d) **Back to back (B/B) L/C is given to the suppliers-** here, finance department of buying house deals with the open up of B/B, L/C and merchandiser deals with the follow up of materials on time.
- e) **Fit sample sent to the buyer for the fit approval-** merchandiser has to co-ordinate with sample section for making fit sample. After receiving it from the sample section, it should be sent to buyer for approval.
- f) **Pre-production (P.P) sample submitted to the buyer-**PP sample should be made by using original fabric and accessories and submitted to the buyer for P.P approval.
- g) **Pilot production should be started according to T/A plan-** pilot production means initial production, consists of 100 to 200 pieces.
- h) **Online inspection by the buyers Q.C-**buyer's Q.C team inspects the garments and gives suggestions and look for any defects, if there is any issues they will suggest for improvements and reconciliation.
- i) **Bulk production-** in this process, bulk production should be started and completed according to time and action plan.
- j) **Preparation of shipping documents-** in the mean time, necessary shipping documents such as booking vessels by contacting with shipping line (in case of sea shipment) or preparation of documents through air should be completed.
- k) **Final inspection-** in final inspection, buyer's Q.C has done random inspection before shipping date. If buyer's Q, C confirmed the right quality certification then only can the goods be shipped. Therefore, the company should wait for their final confirmation.
- l) **Goods sent to port-** goods should be sent to the sea port or air port according to buyer's specifications.
- m) **Goods handed over to the shipping line-** (in case of sea freight) is a very important process, if it's not possible to hand over the goods to the shipping line in right time according to the master L/C then the buyer can cancel the goods or ask for air freight. So a lot of risks are included.

To put it in a few words the merchandiser analyses, plans, acquires handles and controls the entire order from start to finish.

2.2 Flow chart of various roles and responsibilities of a garment merchandiser is given below:



2.3 Inco terms

Inco terms are very important elements of international contracts of sale. A merchandiser has to use a few incoterms and know clearly the risks associated within the contracts, its terms and conditions– tell parties what to do with respect to carriage of the garment goods from buyer to seller, the export import clearance, etc.

Rahat (n.d.) states that incoterms were first developed by International Chamber of Commerce (ICC) in Paris, France, in the year 1939 which defines trade contracts, responsibilities and the liabilities between the buyer and the seller. Among the many incoterms used in the garment sector some incoterms used during my internship period were:

- FOB- Free On Board
- CFR- Cost And Freight
- C&F- Clearing And Forwarding
- CIF- Cost Insurance And Freight
- CM- Cost Of Manufacturing
- CMT- Cost Of Manufacturing And Trim
- FCL- Full Container Load
- L/C- Letter Of Credit
- DAT- Delivery And Terminal
- DAP- Delivery And Port
- FOA- Free On Air

Chapter 3: Introduction to the Report/Study

3.1 Rationale of the study

The research objective includes the overall analysis of the RMG sector in Bangladesh-its contributions, the present, past and future of the RMG sector, how Bangladesh is adopting to new challenges and changes.

Bangladesh faces many hurdles in the growing garments industry which consists of the political unrest, shutdown of the transportation network due to strikes or protests creating havoc in the entire supply chain. Uncertain accidents and incidents that bring tragic to the nation, like the Rana Plaza incident has left a mark in the history of garment industry. Moreover, the report discuss about the industry 4.0 revolution and concludes with a few recommendations.

3.2 Problem Statement

A garment merchandiser is like a bridge between the buyer and the industry. One needs to be a multitasked and has to be both creative and have knowledge about the financial part of the order procedure. However, different companies assign different responsibilities to a merchandiser. The problem statement of the project is to determine the importance of garment merchandiser and the future of the RMG industry of Bangladesh, the challenges and hurdles they are facing and will face in the near future if necessary steps are not taken.

3.3 Objective of the report

The main purpose of the report is to identify the future prospects of RMG sector in Bangladesh. The objectives are as follows:

- understanding the current potentials of the RMG sector
- trade war between the U.S and China
- Industry 4.0
- China's minimum wage legislation
- studying the global market
- working condition improvements and the raise of minimum wage in Bangladesh

3.4 Limitations

Time Constraints

I was enrolled into G.A.S for a period of three months where I had to strictly follow the time schedule as per the company policy. A strict office hour from 9 o' clock in the morning till 6 o' clock in the evening was followed. I had to find time within the working hours talking about their experiences and asking questions which would help me write the internship report. Though there was a lot of work load during my internship period, as it was a peak month for the company as regularly foreigners were visiting and were going for production, all the staffs were extremely busy but still they cooperated with me. During my lunch hours I tried interacting with the employees and gain knowledge and information's about the sector.

Access to information

Interns were not allowed to access the company's server as well as the accounts information for which it was difficult for me to get information about how the company is actually growing.

Unavailability of online information

G.A.S has been working in their official website. However, there is limited information about the performance of the company.

Chapter 4: Review of Related Literature

Literature Review

Inception of RMG industry in Bangladesh

Hasan(2014) states that the readymade garments(RMG) industry is like a catalyst for the development of Bangladesh, making itself a crucial contribution to structuring the country and her economy. The RMG sector is liable for 83.49% of RMG's to total export earnings of the country bringing about remarkable development both socially and economically. Initially, the jute industry was one of the leading contributors of export items but unfortunately due to some productive inefficiency issues the golden fiber lost its existence. However, recently it is gradually earning its lost glory.

The multibillion dollar industry started its journey in the 1980s and is aiming to achieve \$50 billion in the year 2021, marking the 50th anniversary of our country's independence. The late Nurool Quader Khan was the pioneer of the RMG industry who sent 130 trainees to South Korea in the vision to transform the country to where it is now today. He set up his own factory- Desh Garments to produce garments for export and after that there was no looking back. Business magnets like the late Akhter Mohammad Musa of Bond Garments, late Mohammad Reazuddin of Reaz Garments. Md. Humayun of Paris Graments, Eng. Mohammad Fazlul Azim of Azim Group, Major (Retd) Abdul Mannan of Sunman Group, M Shamsur Rahman of Stylecraft Limited, the first President of BGMEA, AM Subid Ali of Aristocrat Limited also came forward and established some of the first garment factories in Bangladesh. And thus, following the footsteps of the pioneers of the RMG sector many hardworking entrepreneurs started their ventures.

Challenges in dealing with internal and external forces

One of the most significant weaknesses of Bangladesh is the lack of backward linkage- in order to be competitive in the global arena developing a backward linkage of textile mills and domestic fabric supplier is a pre-requisite to sustain in the long-run.

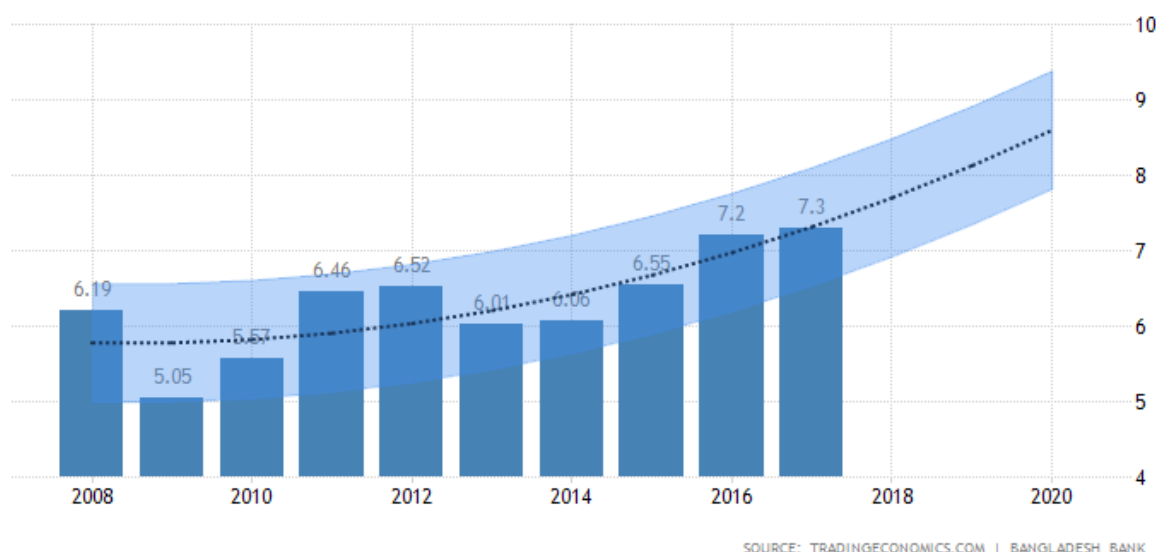
Traffic at the Chittagong port resulted to the failure of export target for FY16-FY17 due to longer lead times at the port. RMG exporters from Cambodia, Sri Lanka and India who are the

main competitors of Bangladesh achieved their export target because of their excellent management performances of the ports.

China is probably the biggest threat to Bangladesh in the RMG industry this is because the country has relatively high productivity and applies more capital intensive modern technology. Lead time of Bangladesh is very high compared to China, this is because most of the fabric are imported from countries like China, India, etc., and not domestically produced. Moreover other challenges include:

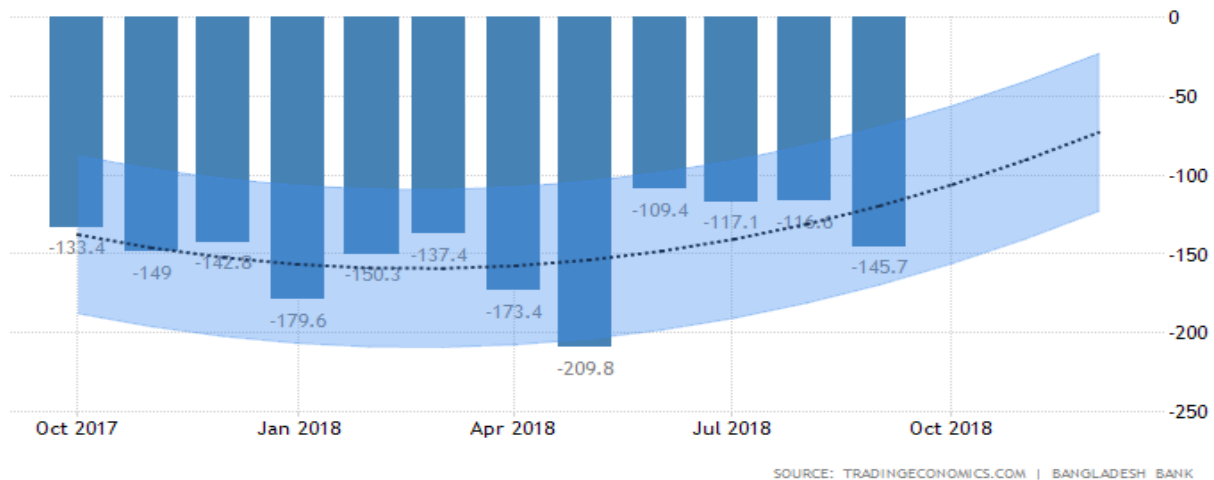
- Lack of adaptation of atomized machineries
- Lack of educated, high skilled workforce
- Political unrest and unfavorable law and order
- Inadequate financial measures

Contribution to GDP and foreign reserve



The Gross Domestic Product (GDP) in Bangladesh expanded 7.30 percent in 2017 from the previous year. GDP Annual Growth Rate in Bangladesh averaged 5.76 percent from 1994 until 2017, reaching an all time high of 7.30 percent in 2017 and a record low of 4.08 percent in 1994. According to latest data of the BBS, the contribution of exports of goods and services to the country's GDP decreased to 15.05% in the FY16-17 compared to 16.65% in FY15-16.

According to Ovi(2017) he stated in an article of the Dhaka Tribune, that Bangladesh's GDP stood to Tk1,975,815.40 Cr. out of which Tk301,255.18 Cr. came from exports of goods and services. The RMG sector contributed the most adding Tk222,721.20 Cr. to GDP, by earning the country \$28.15 billion of the total export earnings of \$34.65 billion in the year.



Bangladesh has been recording sustained trade deficits since 1976 mainly due to a high value of imports. Main imports are petroleum and oil (11 percent of the total imports); food items (11 percent) and textile (10 percent). Main exports include mainly readymade garments (80% of exports revenue).

The RMG industry is the largest exporting industry in Bangladesh. The multibillion dollar industry started its journey in the 1980s and is aiming to achieve \$50 billion in the year 2021. The sector plays a significant role in the development of the economy as well as the socio-economic development of the country contributing

According to Ovi(2018), stated that “Bangladesh’s export earnings from the apparel sector registered a 8.76% growth reaching \$30.61 billion in FY18, thanks to safety improvements. The apparel industry, employer of 40 million workers, mostly rural women, contributed 83.49% to Bangladesh’s total exports of \$36.66 billion to date”. Moreover, the Export Promotion Bureau (EPB) released a data on 12th of Dec’18, it shows that Bangladesh’s export earnings from the sector was \$30.61 billion, a 8.76% growth compared to last fiscal year.

According to a report of Bangladesh Economic Review, in FY2015-16, the country’s total exports amounted to \$34257.18 million. Due to the surpluses in overall balance of BoP foreign exchange reserve registered an increase in FY2016-17. On 30 June 2016 foreign exchange reserves stood at US\$30,176 million which increased to US\$33,407 million at the end of FY2016-17, providing import coverage of 8.53 months.

Chapter 5: Methodology

The report is created by using both primary and secondary data to determine the future prospects in the RMG sector. Secondary data are used intensely as the report itself is about the future of the industry.

5.1 Primary Data

Face to face interviews was taken of employers and the employees who were in the field for more than a decade. Moreover, observational findings are included which I have observed and learned from the limited time period of the internship program. Daily conversations, meetings and interactions with experts have helped me immensely in writing the report.

5.2 Secondary Data

Secondary data have been extracted from various online platforms such as the website of the company, journals, newspaper articles, research reports and a few books related to textile and the RMG sector.

5.3 Research Method

I have used the type- Observational Method of Descriptive research methods in order to create the report. This is because it is the best way to do the research given my problem statement and research topic. The report is based on secondary information and data collected from various journals, research papers, newspaper articles, online news portals, BGMEA annual reports, etc. However, primary data were also used for an in-depth insight among number of individuals and entrepreneurs who are serving the garment sector of our country. A descriptive and qualitative analysis is done with the help of graphs and tabular information to give a clear picture about how the report was written and designed.

Chapter 6: Analysis and Interpretation of the Data

6.1 Trade relations with Japan and Chinese labor cost soar

Labor costs in Chinese textile and RMG sector has been increasing significantly for which many Japanese companies that are operating in China are now considering shifting their production to Bangladesh.

According to D Aria (2018), Country Representative of The Japan External Trade Organization (JETRO), stated that “Garment sector wages of the workers in China is four times higher than Bangladesh, so Japan wants to shift its companies to other countries, including Bangladesh”. Moreover, he added that Japanese investors are showing interests to invest in Bangladesh as the wages in the country is the lowest among the Asian and Oceania countries and also the lowest in the region in the press conference organized by the Japan Bangladesh Chamber of Commerce and Industry (JBCCI) which took place in Dhaka recently.

JETRO Country Representative, D Aria also addressed that the Holey Artisan terrorist attack failed to have any negative consequences in the relations of the two countries and assured that not a single Japanese company out of the 270 companies currently operating in Bangladesh has withdrew or dissolve a business. Moreover, 70% of the Japanese companies want to expand their businesses in the upcoming years

6.2 Current condition of RMG Sector

Comparative Statement on export of RMG and total export of Bangladesh:

YEAR	EXPORT OF RMG (IN MILLION US\$)	TOTAL EXPORT OF BANGLADESH (IN MILLION US\$)	% OF RMG'S TO TOTAL EXPORT
2008-09	12347.77	15565.19	79.33
2009-10	12496.72	16204.65	77.12
2010-11	17914.46	22924.38	78.15
2011-12	19089.73	24301.90	78.55
2012-13	21515.73	27027.36	79.61
2013-14	24491.88	30186.62	81.13
2014-15	25491.40	31208.94	81.68
2015-16	28094.16	34257.18	82.01
2016-17	28149.84	34655.90	81.23
2017-18	30614.76	36668.17	83.49

Data Source Export Promotion Bureau, Compiled by BGMEA

From the table above, Bangladesh's apparel exports is seen to be increasing in the passing years. Moreover, during the month of October the exports has been skyrocketing, marking a growth of more than 20%. According to latest data released by the Export Promotion Bureau, the July-October 2018 apparel exports registered at US \$ 11.33 billion, a 20% growth on a year to year (Y-to-Y) basis. It exceeded the strategic target of US \$ 10 billion by over 11.5%. Notably, for the individual month of October, exports crossed US \$ 3 billion mark – at US \$ 3.14 billion. For September 2018, the export earnings from apparel exports amounted to US \$ 2.46 billion, and in August 2018 US \$ 2.71 billion. According to exporters and stakeholders, the growth is due to two factors- a) a rise in exports of Bangladesh's apparel items because of winter and b) due to the trade war between China and the US as buyers are gradually moving away from China. In the holistic overview, apparel exports occupied over 84 per cent of Bangladesh's export volume of October – which amounted to US\$ 3.7 billion. Export performance for October 2018 was a huge 30.5 per cent leap on a year-to-year basis.

6.3 Exploring our future potentials

Bangladesh needs to push herself into finding new opportunities in the textile and RMG sector as she is identified as the next “hot spot” for apparel sourcing. A lot of homework and research are done which highlights the future potentials of Bangladesh in the sector. A survey of international sourcing executives carried by Mc Kinsey and Company identifies five challenges that the RMG sector needs to consider in order to unlock the future potentials for apparel companies to do business in Bangladesh. They are:

- a) Infrastructure and energy supply- the study talks about how poor energy supply can be a challenge for Bangladesh to overcome because already there is a problem in the transportation system which leads to longer lead times. For this the government has an important role to play as connection of gas and uninterrupted power supply is a must for steady growth of the industry. Fabric mills rely on a constant supply of water, gas, and electricity to ensure the consistency of fabrics going through the mill. A power outage when fabric is passing through the dye-range, for example, can be catastrophic, and delays in production of fabric due to power shortages impact the flow of the whole supply chain.
- b) Compliance- In this regard, Bangladesh has completed the restructuring of RMG sector successfully. Improvements in safety standards in the apparel sector have increased the image of the country’s leading sector to the global market. In an interview Faruque Hassan, the VP of BGMEA assured that the development partners, buyers and brands associated with it are satisfied of the improvements. Moreover, completion of safety inspection by the Accord on Fire and Building Safety and Alliance for Bangladesh Worker Safety is a great success, which has restored buyer’s confidence on Bangladesh.
- c) Supplier performance and a skilled workforce- the report highlights the need for suppliers to improve themselves with respect to productivity, product quality, investment in new machinery and investing in technology and last but not the least a more developed skilled workforce. In this regard, new technologies are introduced because of the competitive market in terms of price and lead time. However, manpower is decreased, which might lead to layoffs, due to automated machines but the industry needs more skilled workers to adopt to the new technology.



Figure: An automated spreading machine at Pacific Jeans. (Photo Credit: WSJ)

According to a report of WSJ, at the Mohammadi Fashion Sweaters Ltd. factory, a few dozen workers are working as 173 German-made machines knit black sweaters for overseas buyers. Occasionally the workers step into program designs or clean the machines, but otherwise, there is little for humans to do.

It is a big change from a few years ago when hundreds of employees could be found standing over manual knitting stations for up to 10 hours a day. the company owners began phasing out such work in 2012, and by last year, the knitting process were fully automated.

- d) Political and economic instability- half of the respondents in the survey expressed concerns in this area which might affect future decisions on sourcing.
- e) Lack of natural or artificial fibers- Bangladesh is notably dependent on imported fabrics which create sourcing risks and long lead times. In this regard, the industry, government and associated institutions and NGOs can all come up with alternatives, by expansion of our own raw material supply capabilities. For instance, the knitted side of the RMG sector has a lot of potentials in supplying locally produced raw materials for its production needs. However, in the woven side 60% of the raw materials are needed to be imported resulting in immense pressure on the manufacturers, greater lead times leading to delays.

Bangladesh currently has 796 woven fabric manufacturers, 31 of which are denim mills and 22 are producing home textiles, with an annual capacity of some 3,850 million meters of fabric. The country is also home to 240 dyeing, printing, and finishing mills, producing a further 3,170 million meters of fabric per annum. Therefore, we need to pursue every opportunity for the development of our textile manufacturing capabilities. Therefore, development of a fully-fledged domestic woven fabric and raw material business, some of the potential problems will be alleviated, which can only be good news for all of us.

All of the above assumes that we, as a nation, we are able to produce fabrics that can compete with those items being imported for manufacture in our country. Here we need to make sure that the required training and development of the necessary skilled personnel is in place- even if this involves investment from foreign companies or the hiring of foreign specialists to offer the correct guidance.

6.4 Industry 4.0



What is Industry 4.0?

We are in the midst of a significant transformation with regards to the ways in which we produce products. This transformation is so captivating that it is called the Industry 4.0 which represents the fourth industrial revolution that has occurred in manufacturing.

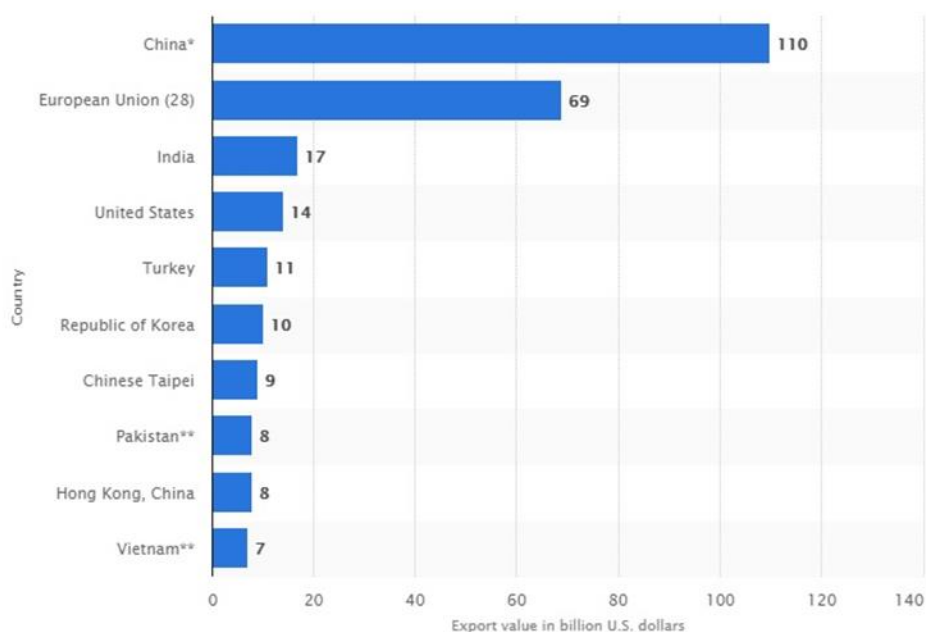
The first industrial revolution dates back in the 18th century where machines replaced hand production methods through the use of water and steam power, the second transition took place in the final third of the 19th century and the beginning of the 20th century where a synergy between iron and steel, railroads and coal developed. The 4th industrial revolution is a continuation of the 3rd where the adoption of computers and automation led to efficiency by

gathering and analyzing data across machines which enables fast, flexible and more efficient production processes at a lower cost.

As Industry 4.0 unfolds computers are now connected and can communicate with each other to make decisions without human involvement. A combination of cyber-physical systems, the Internet of Things and the Internet of Systems make Industry 4.0 possible. With the help of smart machineries that keep getting smarter as they get more access to data, factories are expected to become more efficient and productive and less wasteful.

Why do we need it?

The China Plus opportunity in the world apparel market is a window of opportunity for Bangladesh. It emphasizes on low cost manufacturing, creating an open space for other developing countries where China would dominate. The figure below shows China to be the leading exporter of textile. In 2017, China's textile exports were valued at approximately 110 billion U.S. dollars, a figure that corresponds to 37.2 percent of the global market share. This shows the dominance of China in the world textile export.



Data visualized by  + a b | e a u

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The increasing cost of labor and other inputs in China has led to the accelerated number of companies considering the strategy. As Chinese apparel manufacturers ramp up their outbound investment in countries such as Vietnam and Ethiopia, they may enhance their roles in global apparel sourcing, producing on a larger scale beyond their home market. Moreover, the Chinese garment sector is concentrating on digitization and automation for the Made in China 2025

initiative. Digitization is something consumers would be chasing and are moving away from just chasing the lower labor cost.

The biggest barriers to overcome are legacy system architectures, interfaces with suppliers, and data quality. This is not surprising, given the widespread use of e-mail and excel sheets in managing the apparel value chain, both with internal and external partners. Where more advanced tools are used, these are seldom integrated across product development stages, thus limiting their full potential. Another significant barrier we have is the lack of tech skills of our human resources.

So, for Bangladesh to be reaping benefits from the “China Plus” opportunity will depend on how we embrace technology and innovation within our apparel industry.

How can we improve our efficiency in Bangladesh by adopting Industry 4.0 and how far we have achieved?

Mohammadi Fashion Sweaters Ltd. one of the leading garments factory in Dhaka, Bangladesh has set up 173 German-made machines which replaced a hundred employee standing over manual knit stations for up to 10 hours a day. It took roughly six years to fully and finally automate the machines which were installed in 2012.

According to Emont(2018), Rubana Huq, managing director of Mohammadi Group states that, “It doesn’t make sense for us to slow ourselves down and not automate”, her factories have replaced over 500 workers with machines and she is thinking to buy more. However, fabrics are notorious when dealing and need human hands to be handled because of their texture, and width.

From Siri to self-driving cars Artificial Intelligence (AI) is progressing rapidly. Fabric inspections are traditionally a manual process where inspectors are responsible to check the garment looking for defects or any other changes or improvements according to the order. It is one of the most crucial and difficult tasks of all the textile processes to automate. However, current automated fabric inspection systems are equipped with CCD/CMOS cameras which are capable to learn through the neural networks. The cameras scan the fabric using advanced fractal scanning techniques and use Fuzzy Wavelet Analysis in order to do so. The acceptability was limited to large textile producers who still are comfortable in following the traditionally inspection systems. However, it is expected that with AI and increasing processing speed of vision system that are not only advanced but also low cost is the future.

6.5 Sustainability



The Ambassador of Denmark, Winnie Estrup Petersen at the launch event at Dhaka's Edge Gallery stated, "Bangladesh is a country of great vision and abilities. The (textile) industry must be congratulated for having 7 out of world's top 10 state-of-the-art green factories. Although the RMG sector still faces serious challenges in terms of sustainability, it is encouraging to see Danish companies like brings innovative and sustainable solutions to the industry in Bangladesh".

Novozymes launched BioPrep Fusion- sustainable cotton knit pre-treatment process in Bangladesh recently. Denmark based Novozymes is a world leader in Biotechnology Company situated in Bagsværd outside of Copenhagen, Denmark. The BioPrep Fusion increases productivity of knit processing by saving up costs with reliable enzymatic sourcing. Moreover, it resulted to reduction of the producers' environmental footprint by saving 67% water, 50% energy and 50% time for pre-treatment processing for knit. It is a sustainable measure for Bangladesh which is very important for the country's garment sector in reaching the 2021 target of USD 50 billion.

6.6 Green factories



Green factories are set in industrial areas ensuring high standards of green technology, health care facilities, amazing working conditions and hygiene and safety measures.

Patriot Group Bangladesh has set to launch Patriot Eco Apparel Ltd, equipped with green technology in Tongi industrial area, Dhaka, Bangladesh. Patriot Eco Apparel Ltd will be a USGBC leed gold certified 8 storied RMG manufacturing plant with a total area of 179000 sq.ft., maintaining the highest standard possible in woven RMG production. Guided by modern technologies where 1200 automatic machine capable of producing 1 million pieces of garments per month. The main products are generally shirts, pants and jackets. The new factory has a magnificent workplace layout with proper lighting and proper ventilation with a green landscape.

Patriot Eco Apparel has a no tolerance factor on any issues like fire and safety issues and the building has earthquake resistant ability. Facilities like health care, daycare, dinning and prayers services are available for the workers. Such factories are creating a brand image in the RMG sector where clients all over the world are impressed and are relying on the Bangladeshi garment industry.

6.7 New minimum wage legislation



According to a report in Dhaka Tribune, Bangladesh government has fixed a new minimum wage for RMG workers of BDT 8,000 per month. From BDT 5,300 to BDT 8,000, a 51% raise in wages will be effective from December. Currently, 4.4 million people are employed in the sector. Md. Mujibul Haque Chunnu, state minister for labor and employment, announced this at a press briefing at his secretariat office. However, trade union leaders proposed a minimum monthly wage of BDT 16,000 per month, urging the PM of Bangladesh to review it. Speaking at the briefing, the state minister said that of the BDT 8,000, BDT 4,100 is basic wage, BDT 2,050 house rent, BDT 600 medical allowance, BDT 350 conveyance allowance and BDT 900 food expenditure.

According to economist Hossain Zillur Rahman, in an interview with the Dhaka Tribune, he stated, “Bangladesh has completed the restructuring of RMG sector successfully while it has tackled Rohingya crises with humanity. This two factors acted in favor of Bangladesh in improving the nation brand value,” which makes us believe the definite improvements in the sector.

Moreover, a survey report of the Japan External Trade Organization states that the 51% rise in the wage, the \$95 monthly wage is still the lowest in global standards. The survey was conducted between Dec 17- Mar 18, revealing comparative wage information among countries like Myanmar (\$135), Cambodia (\$170), Vietnam (\$234) and China (\$518). It was seen that Bangladesh has the cheapest labor which is the strength and reason for the success of Bangladesh garment sector.

Chapter 7: Recommendations and Conclusions

Bangladesh is most likely able to exceed the target of USD 50 billion with its current capabilities if everything is in favor for the country considering the election this December. As referred before, the key improvements would be ensuring sustainable ways and practices in the garment industry. Introduction to automation and new technology would not only improve productivity

but also set a standard and brand image of the Bangladeshi garment industry. Working conditions, green factories and ensuring sustainable production methods would act as a magnet to the rest of the world which would lead to more attraction in this sector. Opportunities like the China Plus, the soaring labor costs of Chinese labor market, the Germans showing interests to shift their production from China to Bangladesh due to cheap labours can be exploited to get the best out of the situation. Regardless of all these opportunities, challenges should be dealt smartly with the association of the government making sure that there is a smooth supply chain within the country, no unrest or chaos in the economy, adaptation and investment of automated machineries to reduce cost and increase efficiency. The industry, government and associated institutions and NGOs can all come up with solution plans and work together for the betterment of the industry and thus our country.

As opposed to the development of the AI, Industry 4.0 is posing a new threat to our workers' livelihoods. As machines are becoming more sophisticated and readily available it is becoming a real threat to the garment workers. However, to run such machineries humans are needed and the garment industry is a highly labor-intensive where a large amount of workforce is required throughout the whole process. According to Cosco(2018), regardless of the new types of machines that are being introduced and are capable of ever more complex tasks a country like Bangladesh would be subject to a social time bomb according to some economists. Moreover Cosco(2018) states, "As the population grows rapidly and machines continually reduce the number of workers needed, the number of people in need of employment has quickly outpaced the number of garment jobs available. Bangladesh, according to the World Bank, needs to add 2 million jobs a year to keep pace with its expanding labor force but the rate of the number of new jobs added by the garment industries has fallen to 60,000 a year. Close to a million individuals are projected to enter workforce every month for the next two decades. If automation reaches its potential some countries could lose more than 80% of their garment textile and apparel manufacturing jobs.

Recently, a company in Japan has taken intermediary steps in this road. YUHO, a company that has been working for decades on the challenge of replacing sewing machines with the automated ones has come up with machines that are controlled by computers that can handle any pattern, shapes and sizes automatically. Such sophisticated machines are in actual practice initially in a prison, Nagasaki prison in Japan, where the inmates meet their daily quotas by making guard uniforms with those machineries. In order to train one a day is enough. They use a machine insert picture to add pockets to uniforms, a job that would otherwise take three people and a lot of time to complete.

YUHO's machines are used in China because of the rise in labor cost due to the minimum wage, in order to make Uniqlo clothes. However, automation in garment industry will flourish in the West and not through the developing countries too soon because of the high set up costs.

To conclude, there is no denying that our low wage RMG sector is contributing to the economy and being the biggest strength. We need to exploit the advantage to the best and create a mark in the world economy by catching up what is lost by China. Moreover, since the working conditions and minimum wage is improved and set we need to concentrate more on efficiency and become an expert in the field to fulfill the drawbacks in the sector. However, we need to make sure we are prepared for the future and adopt accordingly because the way Bangladesh's RMG is run is just an entry level to the global chain according to Vidiya Amrit Khan, Director of Desh Group of Companies. We must diversify in a decade or two in order to avoid any misfortunes in the ever so booming sector and train ourselves for the best that is yet to emerge.

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