

Report On
DBL Group
Green Manufacturing and Sustainable Practices in the Knit
Garment Industry

By
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An internship report submitted to the Executive Development Center, Brac Institute of
Governance and Development (BIGD), Brac University in partial fulfillment of the
requirements for the degree of
Post Graduate Diploma in Knitwear Industry Management (PGD-KIM)

Executive Development Center, BIGD
Brac University
March 2026

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Declaration

It is hereby declared that

1. The internship report submitted is my own original work while completing degree at BRAC University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

Student's Full Name & Signature:

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Academic Supervisor's Full Name & Signature:

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Sr. Program Associate
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Letter of Transmittal

Md. Hasib Al Mamun Sumon
Sr. Program Associate
BIGD, BRAC University
66 Mohakhali, Dhaka-1212

Subject: Submission of the Internship Report at DBL Group

Dear Sir,

I am pleased to submit my internship report, completed under your valuable guidance. This report documents my three-month internship experience at DBL Group.

I have attempted my best to finish the report with the essential data and recommended proposition in a significant compact and comprehensive manner as possible.

I trust that the report will meet the desires.

Sincerely yours,

Md. Amzad Hossain
1000055560
Executive Development Center, BIGD
BRAC University
March 10, 2026

Non-Disclosure Agreement

This document confirms that Md Amzad Hossain, a student of the Post Graduate Diploma in Knitwear Industry Management at BRAC University, has successfully completed his internship at DBL Group.

During this internship, he was under the supervision of Md. Abdul Hannan, DGM-QA. He demonstrated dedication and professionalism throughout the program and his conduct was without issue.

The management of DBL Group is pleased with his performance and wishes him every success in his future endeavors.

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Industry Supervisor's Full Name & Signature:

Md. Abdul Hannan
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Acknowledgement

I want to start by thanking Almighty Allah for giving me the strength and patience to complete my demanding internship. I am also very grateful to the Government of the People's Republic of Bangladesh for organizing and funding such a practical, industry-based program for those of us in the apparel field.

My sincere thanks go to the BRAC Institute of Governance and Development (BIGD) for designing and running such a valuable Post Graduate Diploma program. I also appreciate BRAC University and the EDC team for their role ongoing support.

I am especially thankful to my academic supervisor Mr. Md. Hasib Al Mamun Sumon (Sr. Program Associate, BIGD) for his support. His guidance and encouragement were crucial throughout my internship and I could not have done it without him.

My time at the factory was made truly practical and educational thanks to my Industry supervisor, Mr. Md. Abdul Hannan (DGM-QA, DBL Group). He helped me overcome every challenge I faced during my placement.

Lastly, I want to thank everyone at DBL Group, their teamwork, friendly nature and full support made my entire internship experience a positive one.

Executive Summary

This report summarizes my internship experience at DBL Group. During my internship, I observed that the company wants to grow as a sustainable way and increase business worldwide. Its main goal is to improve operations, develop skilled manpower and build strong relationships with customers while maintaining sustainability. I was able to apply classroom knowledge and skills in several departments such as Merchandising, Planning, Industrial Engineering, Production, Quality Assurance and Human Resource Management. I have learned how samples are prepared and how buyers and factories communicate, Accurate production planning, calculate working time, production line balancing, root cause and defects analysis, final inspection procedure and how labor laws are followed, etc. During my internship, I got the chance to develop my practical knowledge by assisting the team during quick changeover activities and supported them to complete the work faster. I also made a simple root cause analysis format to help identify problems more easily. During this time, I observed workplace ergonomics and took some skill development training sessions. From these activities, I learned how to review performance data, understand where problems occur and think about possible ways to improve the process. It helped me understand how small changes can increase efficiency and productivity in daily operations. I would also like to recommend some areas where the industry can improve efficiency and buyer satisfaction by using 3D sampling systems, quick changeover methods, automated machines, and AI-based defect detection. In the end, I sincerely thank the top management for the internship opportunity and appreciate my supervisor and team members for their guidance and support.

Keywords: Production Process, Quality Control, Teamwork, Performance Analysis, Root Cause Analysis, and Sustainable Practices.

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List of Acronyms

RMG	Ready-Made Garment
CPO	Chief Production Officer
DBL	Dulal Brothers Ltd.
GM	General Manager
DGM	Deputy General Manager
AGM	Assistant General Manager
IT	Information Technology
IE	Industrial Engineering
CM	Cost of Making
SMS	Salesman Sample
SMV	Standard Minute Value
OB	Operation Bulletin
CPM	Cost per Minute
WIP	Work in Process
PPM	Pre-Production Meeting
TNA	Time and Action
FOB	Free on Board
PO	Purchase Order
PP	Pre-Production

LC	Letter of Credit
GSM	Gram per Square Meter
HR	Human Resource
CV	Curriculum Vitae
KIM	Knitwear Industry Management
OT	Over Time
NPT	Non-productive Time
TMB	Top, Middle and Bottom
AQL	Acceptable Quality Level
QI	Quality Inspector
DHU	Defects per Hundred Units
ISO	International Organization for standardization
QMS	Quality Management System
SOP	Standard Operating Procedure
ETP	Effluent Treatment Plants
BOM	Bill of Materials

Glossary

Bottleneck	The lowest output point in the production line is called bottleneck. That is bottleneck area, where supply gathered and production goes under capacity. (Kiron, 2020).
Method Study	Method study helps find the best way to do a job. It improves efficiency, reduces cost, and ensures better use of workers, machines, and materials in garment production. (Mustaqim-Ul-Alam, n.d.).

TNA	TNA is a time schedule used in the garment industry. It helps plan each step from receiving the order to delivering the final products. It shows what needs to be done and by when. This plan helps the team finish the order on time without mistakes. (Kiron, 2021)
QMS	A quality management system (QMS) is a structured framework that defines and documents an organization's processes, procedures, and responsibilities for achieving quality policies, practices, and objectives. The goal of a QMS is to reduce waste, increase efficiency, and improve customer satisfaction. (<i>Quality Management Systems: An Introduction</i> , n.d.).
FOB	FOB stands for Freight on Board. It's a pricing term in garment export where the supplier covers all costs until the shipment is handed to the shipping agent. (Admin, 2024)

Chapter 1

About Organization

1.1 Overview of the Industry

The knitwear industry is one of the most important sectors of the Ready-made garments (RMG) industry in Bangladesh. It plays a major role in the country's economy, export earnings and employment generation. The Dulal Brothers Ltd. (DBL Group) is one of the largest garments manufacturers and exporters in Bangladesh which started in 1991. The company was named after Dulal, brother of M. A. Jabbar, who was killed in 1971 by the Pakistan Army during the Bangladesh War of Independence and is managed by the surviving four brothers and their children. DBL group announced plans to invest US\$650 million to establish 10 factories (textiles, ceramics, toiletries, etc.) inside DBL Industrial Park in the Srihatta Economic Zone in Sylhet Division. (Wikipedia contributors, 2026c). The first company name was Dulal Brothers Limited. Over the years, the organization has evolved into a diversified business group in Bangladesh. The company produces knit clothing and exports its products mainly to Europe, United States, Canada, Asia, and Australia. DBL is also a platinum supplier of H&M brand. It has maintained the trust of 50+ global brands. Some of its major buyers are Walmart, George, Puma, Hugo Boss, H&M, C&A and G-Star. The businesses include Apparel, Textiles, Textile Printing, Washing, Dyeing, Garments Accessories, Packaging, Ceramic Tiles, Telecom, Pharmaceuticals, Dredging, Retail and Digital Transformation Services. (Wikipedia contributors, 2026c). DBL Lifestyles is a retail concern of DBL Group and operates as an authorized franchise partner of several international fashion brands like Puma, Nike and Adidas. The company runs multiple modern retail stores in Dhaka and Chattogram, focusing on delivering quality products and a premium shopping experience to customers in Bangladesh. The company reached a garment

export milestone of USD 507 million in 2025 and won the HSBC Export Excellence Award for the 6th time in 2025. (*DBL Group Has Won the HSBC Export Excellence Award 2025 | DBL Group | Newsroom*, n.d.).

Its long-term goal is to achieve USD 3 billion in direct exports by 2035. After focusing on self-development (2023), Operational Excellence (2024) and Good Governance (2025), the company has declared 2026 as the Year of Artificial Intelligence (AI), embracing AI as a core element of its competitive strategy for sustained growth. (*Internal Source*).

Currently, DBL Group employs more than 50,000 people across its various manufacturing units and business operations, making it one of the major employers in Bangladesh's apparel sector. The factory has a production capacity of around 14 million pieces per month. The product range includes Women's wear 40%, Men's wear 20%, and Kid's wear 40%. To support this large production volume, the factory operates approximately 6,000 sewing machines. Different types of machines are used in the production process, such as single needle, over lock, interlock, Kansai, feed-off-the-arm, buttonhole, button stitch, zigzag, and other related machines. (*Apparels*, n.d.). DBL Group achieved 65% water savings by effluent treatment plants (ETP) and reduced energy use with LED lighting and exhaust gas boiler. Furthermore, the factory ensures over 30% fresh air circulation, natural daylight, indoor garden and waste recycling programs. (*Green Tour*, n.d.).

DBL has successfully certified ISO 9001 (QMS), 14001(EMS), 45001 (OH&S), 50001(EnMS), LEED Platinum by USGBC, Social Compliance Audit (BSCI), Supplier Data Exchanges (SEDEX), Global Organic Textile Standard (GOTS), Global Recycled Standard (GRS), Organic Content Standard (OCS) and OEKO-TEX certification. (*About Us*, n.d.).

1.2 Vision & Mission

Vision: DBL Group wants to grow as a large and diversified business group and become a global leader in knitwear manufacturing. The group focuses on high quality, innovation, ethical business practices, and sustainable growth. (About Us, n.d.).

Mission: DBL Group is to serve as a reliable and excellence-driven partner in the global apparel supply chain. It achieves this by producing good quality knitwear and following international standards for quality, safety, and compliance. The Group is committed to exceeding customer expectations through consistent product innovation, dependable delivery, and responsive service. Furthermore, we are dedicated to exceeding all our stakeholders' expectations with a key focus on exceptional environmental, social, and corporate governance practices. At the core of our operations is a strong commitment to integrity. It runs the business in a transparent way, focus on the safety and professional growth of our employees, and try to reduce our impact on the environment. Our goal is to create positive change by supporting the communities around our workplaces to grow and develop in a responsible way. (About Us, n.d.).

1.3 Goals & Objectives

Goals: DBL Group has some clear goals to become a strong knitwear company in the global market. The company wants to grow in a stable and sustainable way. It tries to improve its daily work system and follow ethical and environmentally friendly practices. The company's main goal is to create long-term benefits for customers, employees and business partners. It also wants to make a positive impact on the garment industry and the local community.

Objectives: To achieve its goals, the company has set a few clear targets. First of all, it wants to improve the quality of its products. The company is trying to bring new ideas and use

updated machines so that defects can be reduced and customers remain satisfied. Another objective is to grow its business in other countries. DBL Group is planning to explore new markets and also maintain strong communication with current buyers. By doing this, the company expects its export volume to increase in the next few years. The company also focuses on improving daily work activities. The goal is to streamline production and cut down on waste. Efficiency improves when we save time and use resources carefully, which also helps overall performance. Aligned with our dedication to corporate responsibility, we are committed to maintaining the highest standards of sustainability and ethical conduct. This involves reducing our environmental footprint through sustainable resource management, and this ensures full compliance with international labor and safety regulations. Furthermore, we recognize that our workforce is fundamental to our success.

1.4 Organizational structure, Organogram and Departments

Organogram of Jinnat Complex

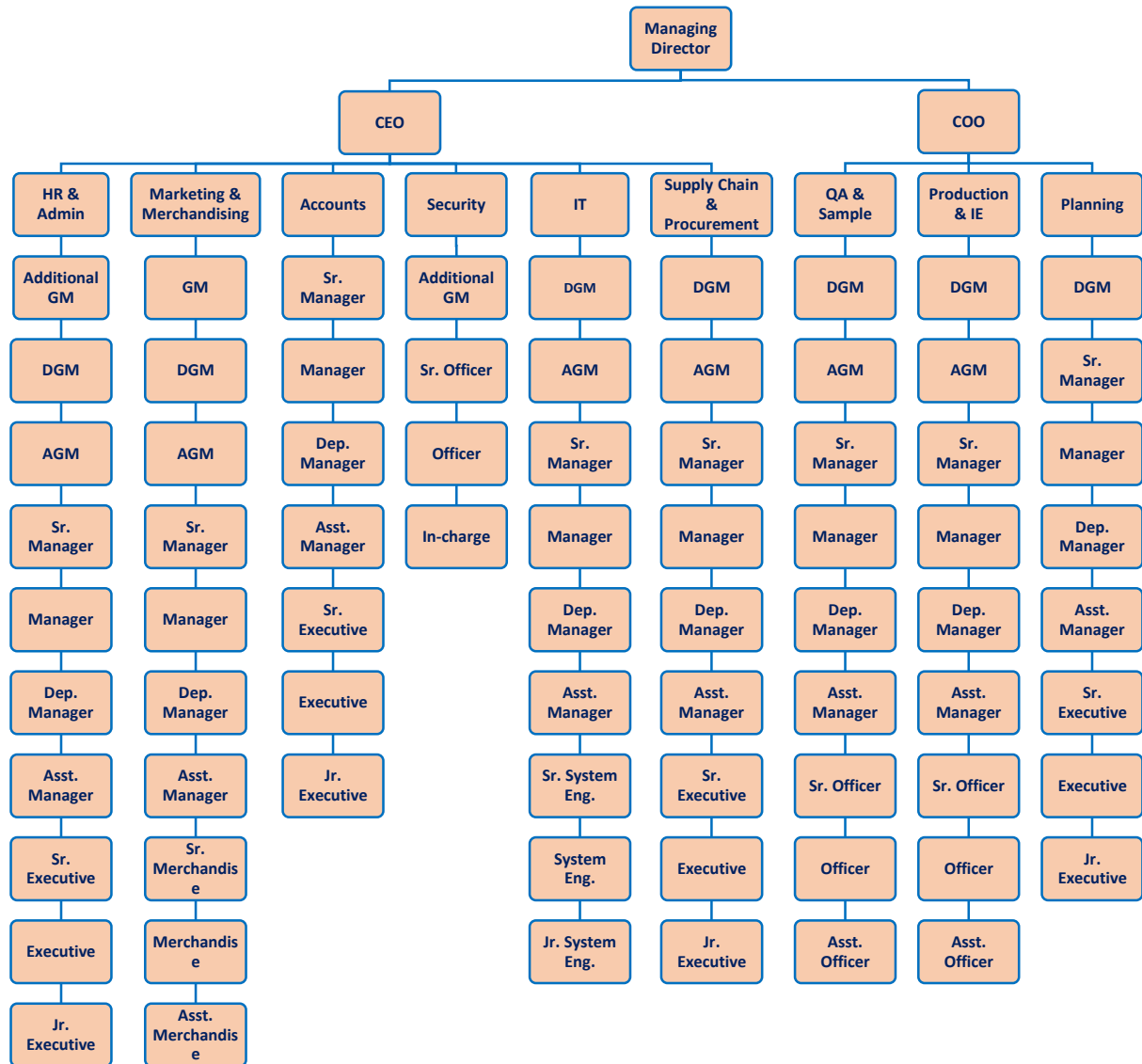


Figure 1: Organogram of Jinnat Complex (DBL Group)

1.5 Name of the factories

DBL Group Established: 1991		
<u>Apparel Units</u> Dulal Brothers Ltd. Jinnat Knitwears Ltd. Flamingo Fashion Ltd. Jinnat Apparel Ltd. Jinnat Fashion Ltd. Glory Textile & App. Ltd. Jinnat Knitwears Ltd. U-2 Flaming Fashion Ltd. U-2 Mawna Fashion Ltd.	<u>Textile & Backward Linkage Units</u> Motin Spinning Mills Mymun Textiles Ltd. Hamza Textile Ltd. Color City Ltd. DB Tex Ltd.	<u>Non-Textile Units</u> DBL Ceramics Ltd. DBL Pharmaceuticals Ltd. DBL Telecom Ltd. Neural Semiconductor Ltd. DBL Dredging Ltd. DBL Distribution Ltd.
<u>Printing & Packaging</u> Parkway Packaging & Printing Ltd. Thanbee Print World Ltd.	<u>Retail & Lifestyle</u> DBL Lifestyles Ltd. DBL Sports Ltd. (Puma, Nike & Addidas)	<u>Support Services</u> Textile Testing Services Ltd. DBL Communications Ltd

Table 1: Name of the factories

1.6 Products/services produced by the industry

Picture	Product Name	Usage Context	Picture	Product Name	Usage Context
	T Shirt	Daily wear		Dress	Formal Events, Parties
	Polo Shirt	Smart Casual		Ladies Top	Fashion wear, Office, Outing
	Jogger	Athletic, Streetwear.		Skirt	Office, Casual outing
	Jacket	Outwear, Fashion, Travel		Night wear	Home wear, Sleepwear
	Hoodie	Sportswear, Loungewear		Legging	Activewear, gym
	Sweatshirt	Leisure, Comfort		Tank Top	Athletic, Summer wear, gym
	Short Pant	Sports, Outing		Innerwear	Daily wear
	Boxer	Daily wear		Romper	Daily wear, Outing

Table 2: Product list and uses context

1.7 Regions wise International Brands

DBL Group serves these leading international fashion brands.

Buyer	Regions	Buyer	Regions
PUMA	Germany	H&M	Sweden
Hugo Boss	Germany	C&A	Netherlands
Ralph Lauren	USA	Walmart	USA
G-STAR	Netherlands	M&S	UK
ZARA	Spain	BESTSELLER	Denmark
GUESS	USA	VF Asia	USA
NEXT	UK	BONITA	Germany
Camel Active	Germany	Tom Tailor	Germany
Esprit	Germany	Target	USA
Zalando	Germany	Gerry Weber	Germany

Table 3: Buyer name and regions

1.8 Category wise product distributions

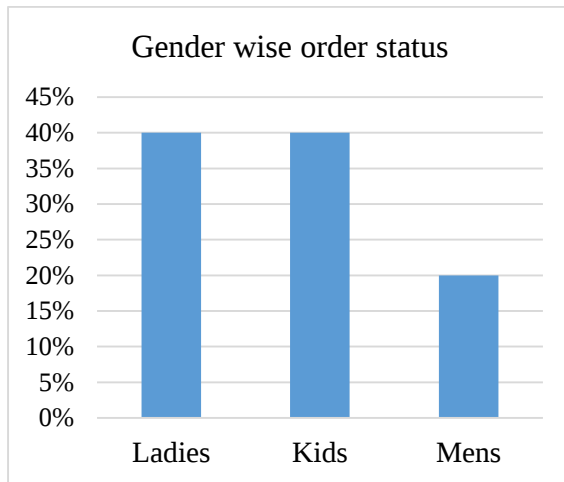


Figure 2: Gender wise order status

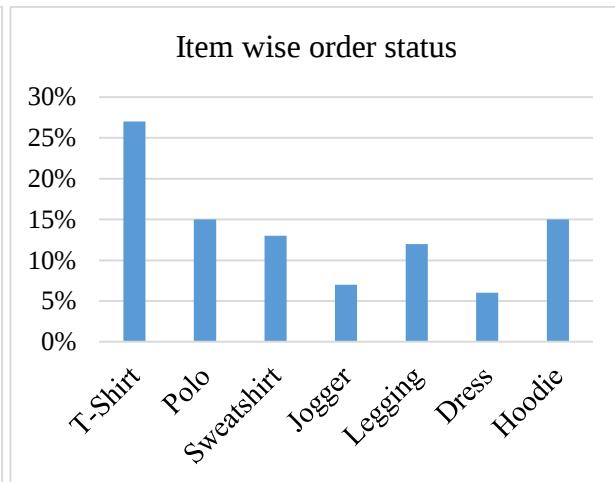


Figure 3: Item wise order status

1.9 Order wise Buyer and export regions

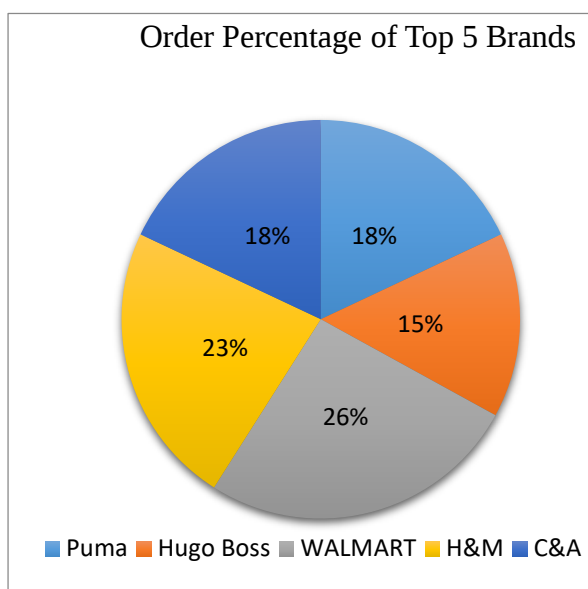


Figure 4: Order Wise Top 5 Brands

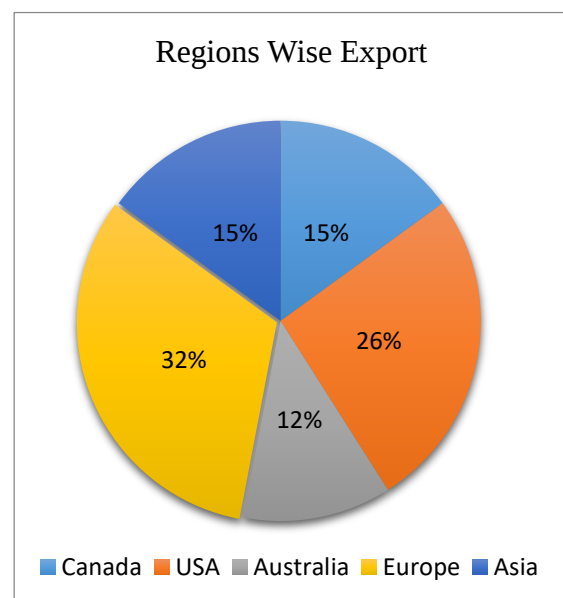


Figure 5: Regions Wise export

Chapter 2

Description about task accomplishment

My internship started on December 1, 2025, under the supervision of the Industrial Supervisor. He guided me regularly and supported me throughout the internship period. His help played an important role in improving my skills and confidence. During my internship, I worked in different departments. This gave me practical experience and helped me understand the duties and daily activities of each department. I took part in various tasks, which helped me learn how every section works together in the overall production process. The time I spent in each department was planned carefully with the help of my supervisor. The details are shown in the table below.

Serial No	Name of Departments	Working Days
01	Marketing & Merchandising	10 Days
02	Planning Department	10 Days
03	Industrial Engineering	12 Days
04	Production Department	13 Days
05	Quality Assurance	11 Days
06	Human Resource Management	10 Days

2.1 Marketing & Merchandising Department

The Marketing and Merchandising Department plays the most important role in DBL Group. There are different departments for each buyer and each department has a Manager, Asst. Manager, Sr. Merchandiser, Merchandiser and Asst. Merchandiser. There are three department heads who are responsible for all the departments. Basically, the merchandisers look after the expenses from development to shipment and the price negotiation is done by the advice of the seniors.

In the internship, I started working in the merchandising department at the Puma team for the first 10 days following advice of my industry supervisor. On the first day, a Sr. Merchandiser helped me to learn their working steps. The first day, I saw how they work, what they do and how they communicate with the buyers. I worked with the sample development Merchandiser. I started my work on proto samples, SMS and seal tag samples. When the buyers send tech-packs and comments then based on that, we developed the proto samples. After the proto samples were approved, we started communicating with the buyers and developed the Seal tag sample and sent it for approval. After the seal tag sample approval, we try to price negotiation. Then when the price was confirmed and the contract was made, we found order numbers, PO numbers, prices, delivery dates and other terms and conditions. I think good textile knowledge is a must for working in the Merchandising and Marketing department. DBL Group has its own fabric mill which is easy for booking and timely delivery. Here, most fabrics are sourced from its own mill but sometimes special fabrics need to be imported from abroad. For trims and accessories, we have booked most of the items from Paxar, Montrims and YKK. Some items of packaging accessories are sourced from DBL's own packaging factory Parkway Packaging Ltd. Here, the sourcing department works as a help hand with the merchandising department. We have completed all types of bookings by forwarding the sourcing department. On the other hand, if the buyer has nominated a supplier, then we booked that supplier.

Booking Sheet: Fabrics, trims and accessories sheets are very important documents for merchandising where included order details, customer requirements and delivery timelines. These booking sheets were created after reviewing approved samples. A fabric booking sheets should include buyer name, style number, season, tracking no, item, order qty, colors and pantone references, po numbers, total fabric in kg, fabric width and gram per square meter (GSM) and for trims and accessories ensure size, order qty, colors, shipping terms and

payment terms, etc. Mostly booking sheets created by Microsoft Excel. After completing it I sent it to the fabric and trims/accessories suppliers.

Before starting bulk production as per booking, I tried to contact the manufacturers and collected the test size set for us. In this case, we check the quality and requirements of the product. Then we give permission to start bulk production. Along with this, I created Bill of Materials (BOM) sheets for the store and the production floor and also created production files following instruction. Along with this, I collected fabric and trims/accessories for the trim card, then created a complete trim card and approved it and then sent it to the concerned people along with the production file. Then we check the Time and Action (TNA) plan for production status follow up, it includes fabric, dyeing, washing, print/embroidery, cutting production, sewing and finishing production, and final inspection plan etc., when production started, I immediately went to the production floor to follow up on the production and communicate with the production team about related issues.

I contacted the inspection team according to the shipment date and after the final inspection passed, I contacted the commercial team so that the goods arrived on time at the correct port. Then when the shipment is completed, we collect the payment as per the Letter of Credit (LC) agreement by the commercial team. It was my working time with the merchandising team, I learned a lot from there and got involved in most of the work.

2.2 Planning Department

The Planning department plays a very important role for planning and control. The main role of DBL's Planning Concern is to formulate production plans effectively and efficiently. Currently, there is a Sr. Manager as the head of planning and the overall head is Chief Production Officer (CPO). I worked here for 10 days. I observed the steps of their work under the supervision of a Sr. Executive on the first day. I saw how they worked and communicated

with which departments. The first 3 days at the desk and the rest of the days I tried to learn about the work of the production units.

The first task of the planning department is to collect the order file from the merchandising team and update the TNA. I updated the TNA with a planning executive on the first day, where I input the fabric approval date, cutting date, swing date and shipment date, then contacted the production team to know the latest production status as per the TNA plan and to inform them about the shipment date.

On the second day, we collect tech packs, shipment dates and details of different styles. Then we analyze each style and calculate how long it will take to complete cutting, printing/embroidery, sewing and finishing and collect SMV of each style for line loading. Then a planner reviews how much production is possible using the line's capacity and machinery and creates a line loading plan following the shipment date.

This plan specifies which style will be sewn on which line, when it will start, how many lines will be required and how much production will be done per day to finish before shipment date. Then after the line starts, I have to check whether the fabric, trim/accessories are arriving at the factory on time. In this case, I would keep in regular contact with the concerned merchandiser, knitting and dyeing in-charge to know the status of the fabric. I kept in touch with our suppliers and the central store for the products of the trims/accessories update. Then, when the fabric arrived in the factory, I would contact the cutting department with the cutting plan. If necessary, I would also contact the print and embroidery departments so that the production work could be completed as soon as possible. Then I would contact the sewing production manager and push him to start production. From the beginning of production until the end of the final inspection, I would continue my follow-up. During this time, we would occasionally have a meeting with the merchant team about the shipment

schedule. In this meeting, we would discuss how much raw material was received against order or how much was balanced. If it's possible to delay the shipment schedule, we would seek the follow up of the merchant team to focus on the areas that were being delayed. This was my working experience in the planning department where I tried to be involved in almost all activities.

2.3 Industrial Engineering Department

Industrial Engineering (IE) is a field that focuses on improving production work and systems in a factory. It studies how work is done and tries to find better ways to do the same job. The main purpose of IE is to save time, reduce waste, lower production cost and improve product quality. When the system works better, operators can do their work more easily and production can run smoothly. During my internship period, I spent 12 days in the IE department. In this department, there is one leader who is responsible for the whole factory complex. There is also an IE manager who supervises the department. Each production floor normally has one IE Executive and on larger floors there may also be Senior Executives to support the work. I completed my internship under the supervision of the IE Manager. The IE and Work Study helped me a lot and guided me during my daily activities. The production team also supported me whenever I needed information. My daily work usually started in the morning by checking the manpower of each production line. After that, I collected Work-in-Progress (WIP) data from the floor. Based on the Standard Minute Value (SMV) of the style and the number of workers available, I helped prepare the daily production targets for each line. Another important task was preparing the efficiency report of the previous day. After completing the report, I distributed both the efficiency report and the new target sheet to different sections of the factory. The target sheet showed information about each running line such as the style name, assigned manpower, SMV, target efficiency and expected output. The

efficiency report contained more detailed production information. It included hourly production output, achieved efficiency, on-standard efficiency, Non-Productive Time (NPT) and a simple profit-loss calculation. These reports helped the management and production team understand the daily performance of each line. After distributing the reports, I checked the line balancing condition. If I saw that some operators had too much work while others had less, I discussed it with the line supervisor and suggested small adjustments. This helped improve the workflow of the line. I also walked around the production floor to observe different operations. During these floor walks, I tried to find bottleneck processes that slowed down the production line. When I noticed a bottleneck, I tried to understand the main reason behind it and suggested possible solutions that could help improve the situation. I also attended the daily morning production meeting with the factory manager and other department members. During my internship, I worked on checking the production capacity of some styles that had been running for three days. I conducted this study for three products: hoodie, sweatshirt and jogger. I observed the line carefully, collected production data and calculated whether the daily targets were achieved. In those cases, the production lines were able to meet the target. However, I still shared a few simple ideas with the production team to see if the output could be improved in the future. Besides this, I also attended Pre-Production Meetings (PPM) for new styles before they started production. I conducted time studies for some operations to calculate their SMV. I also helped the IE team during operator recruitment by checking skill grades and updating the skill matrix.

Overall, these activities were part of my regular work during the Industrial Engineering internship, and they helped me understand how the IE department supports production and improves factory performance.

2.4 Production Department

As a garment factory, the production department is divided into three parts like the cutting, sewing, and finishing section. DBL Group has 9 sewing factories and each has its own cutting, sewing and finishing section. All together, these units hold over 6,000 sewing machines. I spent 13 days in the production department. During that time, the managers from each section helped me to learn about their daily tasks.

I started my work from the cutting section. Here, I learned how fabric is collected from the fabric store and prepared. The cutting team gets a plan from the planning department. I reviewed these plans and studied the new designs. I also checked with the fabric store to make sure we had enough material. If there was a shortage, I told the relevant merchant, planning person and cutting manager. The cutting manager gave me the daily target for each style, based on the plan and fabric availability.

I watched how fabric layers are spread on large tables. They use both manual tables and automatic machines for this. The number of layers depends on the fabric type. For example, with single jersey fabric, they spread 130 to 135 layers. For fleece fabric, they spread 55 to 65 layers. Once the fabric is spread then cutting starts using either automatic cutters or by hand machine. After cutting, each piece gets a numbered sticker and is checked by the quality team. If parts need printing, they are sent to the print factory. The solid pieces are tied into bundles and sent to the sewing section as needed. For the first two days, the cutting manager explained how the section works. After that, I took the daily target sheet from him. I tried to meet the target by guiding the workers and following the correct steps. In the sewing section, the factory manager, production manager and others helped me understand the process. I already knew a little from my time in the IE department. This section begins by balancing the number of workers. During my internship, I checked the

attendance for each sewing line. If someone was absent, I advised the line supervisor on how to adjust the work. I also checked if enough cut pieces were being supplied to the line. If not, I contacted the cutting department to send the balance. The IE team gave the production targets to the production managers. I worked with the production manager to review these targets and hold a meeting with the production staff. In the meeting, we talked about what was done the day before, the goal for today and any possible problems. After setting the line targets, I stayed on the sewing floor watching the operators work. I checked if all the needed items like buttons and threads were available from the store. Sometimes, I talked to the printing units as well. Every hour a person from the finishing section would collect the sewn garments and record the number. I checked this record and talked with the finishing manager about the next steps. During these days, I learned about different sewing machines and how they work. I worked in the finishing section for three days with the finishing manager. The staff was very helpful. The process starts when garments are received from sewing. The number is recorded in a book and on a computer. First, loose threads are removed by a sucker machine. Then the ironing person irons the finished garments as required by the customer. I watched the ironing closely and noted how fast they work with different items. For example, one person can iron 140 T-shirts in an hour and only 65 hoodies.

After ironing, the quality team checks the quality and measurements of each garment. Then, price tags are attached, folded and packed by polybag. Next, the garments are placed into plastic bags. There are two types of bags like single-piece bags and blister packs. Finally, the garments are checked, sorted, and packed into boxes. Sometimes, we put special stickers on the boxes if the customer asks for them.

It has been 13 days since I started working closely with the production team. I am learning new things every day and getting more familiar with the whole process.

2.5 Quality Assurance Department

Quality assurance plays an important role at DBL Group for ensuring customer requirements and satisfaction. I worked a total of 11 days in this quality assurance department. There are two main responsibilities like Quality Assurance and Quality Control. Here, quality assurance is process oriented and implements SOPs, policy, quality management system, and defects free production for achieving customer requirements, On the other hand, Quality Control is conducted for fabric inspection, trim and accessories inspection, sewing in-line inspection, finishing in-line inspection, pre-final and final inspection to ensure product quality and customer compliance. In my internship, I worked with the fabric inspection team on the first day. I was learning how to find defects, how many types of defects are available in fabric, what dyeing defects, washing defects, and knitting defects are. Some common fabric defects in the garments and textile industry: slub yarn, missing yarn, broken end, oil stain, dirty stain, shade variation, naps, knot, crease mark, pilling, yarn contamination, hole, drop stitch etc. Fabric inspection is usually followed by a 4-point system, where below 20 points is considered as A grade and 21 to 30 is considered as B grade, and above 30 points are rejected. I inspected some rolls, input the defects in the report, and then calculated the grade of that roll and batches.

Defects in both the wrap and weft directions are assigned points based on their size using the following criteria:

Fault less than 3” in length: 1 point,

Fault up to 3.1” to 6” in length: 2 points

Fault over 6.1” to 9” in length: 3 points

Fault over 9.1” in length: 4 points

And all holes except needle holes at selvedge area should be awarded points as follows:

Hole size less than or equal to 1" = 2 point

Hole size more than 1" = 4 points

Calculation of 4-point system:

$$\frac{\text{Total points counted} \times 36''}{\text{Total inspected roll length (yds)} \times \text{Cutable width (inch)}} \times 100$$

In the trim & accessories section, quality control is done through 0.65 AQL inspection for countable items and 15% for non-countable items. I have done a direct Trim & Accessories inspection and sent the ok parts to the sewing sub store.

I checked the relaxation report fabric wise in the cutting section and I checked the Top, Middle and Bottom (TMB) aligned with a hard pattern. And I checked the fabric wise maximum height on the spreading table like: for Single jersey fabric 100-110 lay, Interlock and fleece fabrics 65-70 lay. When print/embroidery had completed, I checked the print/embroidery quality and sent the ok parts to the sewing floor for sewing line input. Then when swing production started, I counseled the operator and Quality Inspector (QI) about the requirements of the customers. I checked the styling as soon as the first production was output and compared it with the sample and buyer's comments. Then I did an inline inspection of 20 pieces with 2.5 AQL and showed the defects to the floor PM (Production Manager) and QM (Quality Manager) and tried to solve it myself by analyzing the root cause. I also worked to reduce defects by talking to the responsible person about the Top 5 defects from the hourly DHU (Defects per hundred units) report.

Similarly, in the finishing section, we ensured pattern marking on the iron table and iron standards. And I conducted in-line inspection of finishing quality and randomly audited the

finished goods. Then, after any PO was closed, I did its Pre-final Inspection and confirmed it for the final Inspection. In this case, if any Pre-final Inspection was PO failed, then I immediately contacted the Quality Head and asked for a full qty recheck. Then I did some final Inspection with the authorized inspector, where I checked whether all the requirements of the customer were met, such as styling check, Carton, Packaging, Trim/Accessories, Print/Embroidery and Measurement. It's my 11 days' work in the quality department where I work so independently.

2.6 Human Resource Department

The main responsibility of HR Management is to ensure effective human resource management in factory operations, where the Bangladesh Labor Law, Disciplinary procedures, and Employee recruitment are emphasized. On the first day, I learned about the job responsibilities of HR Management, such as: Following Bangladesh Labor law and company rules, Hire new workers and staff and plan manpower, Manage attendance, leave, salary, wages and overtime, Keep employee files and important HR papers updated, Handle employee problems and take disciplinary action when needed, Manage promotion, transfer, confirmation and final settlement, Help to maintain good relationship between workers and management.

During my internship in the HR department, I assisted the HR team in maintaining employee files and updating personal records regularly. I helped prepare attendance reports, leave records, and salary-related documents to ensure proper documentation. I supported the recruitment process by sorting CVs and assisting during interview sessions. When I found CVs of the applied candidate, then I contacted the candidate to ensure interview attendance. To join the HR team as Jr. Executive/Executive, candidate must have a Bachelor or Master's degree in Human Resource Management. However, it's flexible for the senior level as an

experienced candidate. I also assisted in the orientation process of newly recruited workers and staff members. Additionally, I helped prepare various HR letters, including appointment letters, confirmation letters, and office memos. On a Daily basis, I checked worker and staff attendance at an online portal, then if I found any missing punches I created a list for collecting actual information about technical problems or missing information. In DBL Group, each HR person is responsible for an individual unit, so daily I visited a unit with my supervisor to collect missing attendance issues. During the floor visit, I checked floor housekeeping, first aid boxes, and other compliance issues. I maintained HR documents related to labor law compliance, like employee personal files, including photo, national identity, academic certification, experience certificate, resignation letter (if experienced), personal information form, etc. Furthermore, company policies, health and safety policy, code of conduct, leave and overtime policy. I assisted in handling employee grievances and ensured proper documentation of related matters. Furthermore, I helped prepare management reports and provided support during audits and inspections. I updated HR-related data in the Management Information System (MIS) and Excel sheets and performed other HR and administrative tasks as assigned by my supervisor. In the DBL group, there is mandatory 3 days training for newly joined workers and staff. I arranged that training session and collected training documents and kept records. It was my HR department internship experience where I developed some new skills.

Chapter 3

Critical Assessment of Internship Work

I have completed a 66 days internship at Jinnat Complex (DBL Group). Even though the internship was limited to 66 days, I tried to apply my academic learning in practical tasks. During my internship I observed several operational strengths and limitations in departmental

practices. I faced some workplace challenges during practical work and I tried to solve them by learning knowledge. I think it was my practical learning opportunity for decision making and problem solving.

3.1 Application of Generic and Industry Specific Course During Internship

My internship period was so helpful for me to gather technical and practical knowledge and it also aligned with what was shared by our academic teacher and classroom learning. I found that they are similar in academic and practical fields. Now I am sharing the course wise practical experience.

HR Skills and Competencies (KIM 101): I have gained various types of knowledge from the Human Resource course, such as leadership traits, activities between executive & manager, employee evaluation methods and strategies, employee feedback, employee recruitment process, conflict resolution, employee motivation, skill development training, team building, gender gap at workplace, HR practices and many more topics. During my internship, I tried to apply some knowledge which I learned from this academic course. For example, when I worked in the HR department, a female sewing operator resigned due to her work pressure from the supervisor. Then I tried to find the actual target and motivated her by explaining how she could achieve her target by avoiding time waste, extra motion and giving extra effort. Later I saw that the operator was able to achieve her target regularly. Furthermore, when I worked in the quality department, I provided skill development training to the quality inspector and operator on Occupational Health & Safety management and after the assessment, I realized that they were more aware than before and their confidence has increased.

Analytical Skills and Competencies (KIM 102): I have gained different types of knowledge from the Analytical Skills and Competencies like complex number, systems of linear equations, time value of money including present value, future value and annuity, standard deviation, normal distribution, graphs and figures, hypothesis testing and many more topics. During my internship, I used my classroom learning of graphs and data analysis to monitor daily production quantity. I learned how to use tables and charts to understand data clearly from my course. In the factory, I arranged daily production figures and used simple graphs to see whether output was increasing or decreasing. This figure helps me to understand production trends and identify problems like low efficiency or machine stoppage. I also applied my classroom learning in defects analysis in the Quality Control department. I grouped all finding defects data into categories and prepared a frequency table as I learned in statistics class. Then I used bar charts to find which defects occurred most and which are top 05 defects. This helped me to reduce daily defects.

Communication Skills (KIM 103): In Business Communication, I gained various types of communication knowledge like email writing, verbal and non-verbal communication, public speaking barrier, traits of communication, CV and resume writing, memo writing etc. In my internship, I tried to apply this classroom learning into my daily activities such as email writing, WhatsApp messaging, and office presentation. I modified my CV and resume as the international standard which I learned from this course. I applied my listening and eye contact skills while the operator and inspector reported their problems to me and I practiced clear and concise verbal communication while discussing production targets, quality issues and line efficiency with supervisor and operators. I also improve my public speaking skills after completing the course.

Business Operation Skills (KIM 104): In Business Operations, I learned different topics such as blockchain technology, sustainable business, sustainable management system, Supply

and demand, international business, Globalization, financial management, marketing management including marketing mix, project life cycle, and process improvement by DMAIC. We applied the classroom concept during planning and production scheduling like when buyer order quantity was increased our planning team adjusted line allocation, manpower and overtime for meeting shipment deadline. I also applied the DMAIC (Define, Measure, Analysis, improve, Control) framework during observed production and quality issues. For example: when defects rate increased at sewing and finishing section the issue was firstly defined, measured, root cause analyzed, corrective action plan and finally monitored.

Introduction to Knitwear Industry (KIM 201): During this academic course I learned about fiber, spinning, knitting, dyeing, washing, machineries, chemicals, different type stitching, various type costing like FOB calculation, fabric costing, dyeing charge, knitting charge, washing charge, overhead cost, CM calculation, print types etc. This course was so important for me, especially for textile related parts. I learned new knowledge from this course because I have no previous experience with the textile industry. I applied this knowledge during CM calculation and fabric costing at the merchandising department. I also visited a print factory to check print guidelines and quality issues.

Industrial Engineering (KIM 202): Industrial Engineering is related to the optimization of processes, increase productivity, reduce work in progress and remove the bottleneck, increase efficiency of operations. I have learned a lot of things about knitwear industry engineering methods from an academic course. I learned motion economy, creating balanced flow, line balancing, lean manufacturing, 5s at workplace, cellular manufacturing, quick changeover, pull & push production, kaizen, material handling, ergonomics management etc. Now I can generate SMV with an operation bulletin, implement a quick changeover method and I am able to set line targets and calculate efficiency. During the internship, I applied some

knowledge which I learned from this course. Such as an operator can't achieve his target regularly then I observed that he lost some time at extra motion during operation. I suggested him that you can do it without that motion and apply proper physical ergonomics. Another, I applied line balancing knowledge such as I saw that a sewing line doesn't run smoothly because of a bottleneck point. Then I suggested to the line chief for a skill-based operator setup and an increased machine to achieve efficiency. Then I observed that the line is achieving its target regularly.

Production Management & Merchandising (KIM 203): In Production Management and Merchandising course, I understood that accurate lead time calculations are so important for on time delivery. During practice, I observed how to calculate production days based on fabric collecting date, sample approval date and line capacity. In classroom learning, I gained costing techniques including fabric consumption, trims and accessories costing, contribution margin (CM), and overhead cost calculation. During internship, I observed how a merchandiser makes a costing sheet before price negotiation with customers. I also learned about different type samples such as proto sample, 360 sample, fit sample, pre-production sample and lock seal sample. I applied this knowledge during preparation and followed the approval process of these samples which helped me to gain practical knowledge about development samples.

Quality Management (KIM 204): The Quality Management course is very effective for me as a Quality Assurance professional. Here, classroom learning was so helpful for me. I learned very essential topics like ISO certification, Quality Management System, occupational health and environmental effects, hangtag and care symbols, net zero carbon footprint/carbon neutrality, chemical management, supply chain management etc. I had the opportunity to apply my knowledge directly during the quality department internship; I verified industry ISO 9001 (Quality Management System) & ISO 14001 (Environmental

Management System) certification online. I also arranged a workshop to share my learning knowledge with the quality supervisor and QMS supervisor about ISO certification, occupational health and safety.

3.2 Suggestion for Industry Improvement

During my 66 days internship at DBL group, I had the chance to work in multiple departments including *Merchandising, Planning, Industrial Engineering, Production, Quality Assurance, and Human Resource Management*. During practical work, I closely observed some gaps between theoretical knowledge and real factory operations. DBL group has its own fabric mill but sometimes special fabrics needed to be imported from abroad based on buyer requirements. I also observed that some trims and accessories are imported from other countries. I suggest developing long term partnerships with local innovative fabric mills and digital trims suppliers. In the merchandising department, delays in sample approval sometimes increased the overall production lead time. The sample approval timeline didn't always align with bulk production. So, I suggest using a digital 3D virtual platform, where buyers and merchandisers can review samples digitally and approve samples online in real time. I also found some production line inefficiency due to workload imbalance, multi-skills operator mismatch and dependency on manual sewing and cutting machines. Therefore, I recommend arranging proper training programs or workshops to develop multi-skills operators and improve line efficiency and skill-based line allocation techniques. Factories should invest in automated sewing and cutting machines to improve product quality, meet buyer satisfaction, and boost productivity by minimizing human error. DBL Group didn't follow the quick changeover method properly in the production during line setups. I think because of this, production time and productivity can be affected. So, I suggested following the quick changeover method correctly to reduce line setup time and avoiding time waste. I also noticed that there is no specific operator training system; I think the factory can

introduce a proper training system to develop multi-skilled workers from non-skills operators and helpers. This can help increase production capacity and overall performance, and reduce the need to hire multi-skilled operators from outside at high cost. In the quality department, I saw that many products needed rework due to defects, and about 20-30% of those defects started at the fabric stage. So, I suggested implementing AI based defects detection systems during fabric inspection and arranging weekly and monthly refreshment training for operator and quality inspectors. During internship, I observed that provident fund (PF) facilities are currently not available here. So, I suggested introducing a provident fund system to improve employee motivation and post-employment financial security where employees feel valued and stay with the company for a long time. It can also increase a company's reputation for ethical HR practices and long-term workforce sustainability.

3.3 Learning for Self-Improvement

During my internship at DBL Group, I applied theoretical knowledge across several departments including merchandising, production, planning, industrial engineering, human resource management, and quality department. I think it will help me to understand the real industry environment, business analysis, and technical skills. Here, I realized the clear understanding of effective communication, coordination and problem solving in a running production environment. I enhanced my communication skills through email writing, delivering presentations, public speaking and daily communication. I learned about various departmental activities which I didn't know before my internship. I utilized my classroom learning well during internship tasks. I worked with some digital tools such as Time and Action (TNA) plans, MIS, Oracle, Attendance portal, ZingHR, certification verification systems, etc. Furthermore, I have developed a solid understanding of line balancing, standard Minute Value (SMV) calculations, efficiency calculation, fabric consumptions analysis, managing order follow up and defect analysis which improved my analytical and problem-

solving abilities. I improved my professional network and team work by various departments when I worked together. I improved my team building skills and leadership skills. I am taking responsibility for the monthly Quality Management System (QMS) audit after completing this course. I didn't stop learning even after completing my internship. I will continue to improve my knowledge and skills by observing industry trends, practicing technical topics and reflecting on my experience. I believe that continuous learning will help me for long term career growth and leadership. I think this learning and experience will help me to take the next level and as future leadership roles.

In the end, I would like to thank BIGD for giving me the academic and industrial guidance that supported me in this journey. The academic learning helped me to understand factory operation more clearly and made me feel more confident in a professional working environment. I am truly grateful for this learning opportunity which was a big part of my personal and professional growth.

Chapter 4

Conclusion

DBL Group is one of the leading knitwear exporters in Bangladesh. It has established an Effluent Treatment Plant (ETP) for 65% water saving through re-treatment. My internship involved rotations across six key departments: Merchandising, Planning, Industrial Engineering, Production, Quality Assurance and Human resource Management. In the critical assessment I found a strong connection between academic course knowledge and practical applications. This internship also identified some opportunities for improvement, adopting digital sample systems, implementing AI based defects detection, developed operator and quality inspector by training programs and introducing employee provident fund facilities.

This internship helped me to develop my professional growth, technical knowledge, analytical abilities, communication skills, leadership skills and real industry operations. Even after completing my internship, I didn't stop learning, I involved problem solving activities, attended training and skill development programs, improved team building skills and remained committed to continuous learning and professional development. Finally, I would like to say that my internship was very important for me because this program helped me to gather a lot of practical knowledge. I am truly grateful to my course teachers of BRAC University for their guidance and shearing knowledge during classroom learning.

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Appendix A.

Daily Line Wise Production Target Sheet

Unit: JKL-05		JKL SEWING & FINISHING TARGET											DATE:		03-Feb-26	
Line	Order No	OrderQty	Item	Input Ready	Line WIP	Operator	Helper	Total Mpower	W/H	Hourly production Target	Today's production Target	Total SMV	Total Earn Hr	Total Available Hr	Efficiency Target	Achived Efficiency
A1	2026/2475 RL:TOP	17684	BOYS SWEATSHIRT	100	650	47	10	57	8	70	560	27.57	257	456	56.43%	40.00
B2	2025/24372 PU:TOP	49187	HER RELAXED TEE	2000	700	32	6	38	13	95	1,235	14.91	307	494	62.13%	65.00
C1	2025/24385 PU:TOP	12927	LS Tee AOP	2000	500	29	5	34	10	80	800	14.37	192	340	56.35%	40.00
C2	2025/23357 RL:TOP	2791	WAFFLE HENLEY	1000	500	15	2	17	15	110	1,650	4	110	255	43.14%	38.00
D1	LONGSLEEVE TSHIRT	1538	PRINTED LONGSLEEVE	2000	500	18	4	22	13	135	1,755	6.97	204	286	71.28%	60.00
D2	2026/2179 HM:BTM	39994	KIM SHORTS	1000	700	26	6	32	10	120	1,200	9.79	196	320	61.19%	65.00
E1	2026/636 GS:TOP	7472	BASE V T SS	2000	600	19	5	24	10	130	1,300	7.13	154	240	64.37%	51.00
E2	2026/2100 ZARA:TOP	135000	1044154-26	1200	700	28	4	32	15	150	2,250	10.02	376	480	78.28%	89.00
F1	2025/23360 RL:TOP	2533	LS CREW NECK	1200	700	10	1	11	10	50	500	5.3	44	110	40.15%	35.00
F2	2026/2179 HM:BTM	39994	KIM SHORTS (COL-003)	500	750	6	25	31	10	110	1,100	9.79	179	310	57.90%	64.00
Total				13000	6300	230	68	298	11.04	1050	12350	9.81	2019	3291	61.36%	56%

Defects Root Cause Analysis and Corrective Action Plan

SEWING DEFECTS RCA & CAP				
				Month - Feb 2026
Rank	Defect Descriptions	Root Cause Analysis	Corrective Action Plan	Responsible
1	DIRTY SPOT= 1.92%	1. Poor housekeeping. 2. Goods storing management poor.	1. We have enhanced awareness on housekeeping among whole workforce.	Production Manager. QAD Manager
2	OIL SPOT= 1.20%	1. Machine Maintenance problem.	1. We conduct an awareness meeting with those responsible for proper maintenance of the machine and check for oil leakage in the machine before sewing.	Production Manager. QAD Manager
3	UNCUT THREAD= 0.76%	1. Operators and helpers are not doing self trimming properly.	1. We have gave awareness to the operators and helpers for self trimming properly.	Production Manager. QAD Manager
4	YARN CONTAMINATION= 0.66%	1. If yarn feeder is not properly wash	1. We must set yarn feeder properly and counseling and motivate with them.	Production Manager. QAD Manager
5	UP-DOWN=0.45%	1. Operator handling problem.	1. Already we have train up all of relevant responsible for properly handling and reduce this issue.	Production Manager. QAD Manager