

Report On
RENAISSANCE GROUP
Method of Operation

By

Prosanta Saha
24281041

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
November, 2025

©2025. BRAC University
All rights reserved

Declaration

It is hereby declared that

1. The internship report that was turned in was created entirely by me or us while we were pursuing our degrees at Brac University.
2. Unless properly cited through thorough and accurate referencing, the report does not contain any content that has already been published or written by a third party.
3. Nothing in the report has been submitted or accepted for credit toward any other degree or diploma from a university or other organization.
4. I/We have given credit to all primary sources of assistance.

Student's Full Name & Signature:



Prosanta Saha
24281041

Academic Supervisor's Full Name & Signature:

Dr. Shaila Ahmed
Assistant Professor, Research Fellow
BIGD, Brac University

Letter of Transmittal

Dr. Shaila Ahmed
Assistant Professor, Research Fellow,
BIGD, Brac University
66 Mohakhali, Dhaka-1212

Subject: Method of operation of Renaissance Group.

Dear Madam,

This is my pleasure to display my internship details regarding the Method of operation of Renaissance Group, for which I was appointed by your direction.

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 required criteria.

Sincerely yours,



Prosanta Saha
24281041
Executive Development Center, BIGD
Brac University
Date: 14-November Day, 2025

Non-Disclosure Agreement

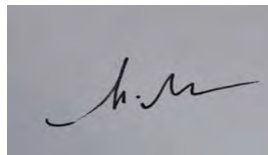
This agreement is made between Renaissance Group (the first party) and the undersigned student at the Executive Development Center, Brac Institute of Governance and Development, BRAC University (the second party). The first party is helping the second party complete a three-month internship that is a requirement for the Post Graduate Diploma in Knitwear Industry Management program. The second party will have the chance to collaborate closely with the company's representatives during this internship and obtain pertinent official data and information. Based on the experience, information, and data gathered during the internship, the second party will create an internship report. The second party pledges to safeguard the first party's interest by upholding confidentiality and not revealing any proprietary information, and all such information will only be used for academic purposes.

Student's Full Name & Signature:



Prosanta Saha
24281041

Industry Supervisor's Full Name & Signature:



Monirul Islam Rafat
Deputy Manager, Marketing & Merchandising
Renaissance Group

Acknowledgement

For providing me with the chance to finish the internship program as part of the Post Graduate Diploma in Knitwear Industry Management, I would like to sincerely thank the Executive Development Center, BRAC Institute of Governance and Development, BRAC University.

I owe a debt of gratitude to everyone who has helped me along the way, helped me out and supported me with their time and hard work.

My sincere gratitude goes out to Dr. Shaila Ahmed Madam, my academic supervisor, who has effectively guided me in the right direction. I was able to finish this report in a meaningful way with Madam's help and direction.

I'm grateful to my industry supervisor, Mr. Monirul Islam Rafat for helping me and allowing me to collaborate with all departments to properly finish my report work.

Executive Summery

I worked on a variety of tasks in five different departments during my internship at Renaissance Group, a prestigious Composite Garments Manufacturer. Merchandising, Planning, IE, Production, and quality control. During my internship, which ran from September to November 2025, I learned how to overcome everyday obstacles and challenges.

The following are the main sections that make up my report. 1) Industry Synopsis 2) An explanation of the tasks completed in planning, IE, production, quality control, marketing, and merchandising. 3) Evaluation of internship work critically. 4) Final Thought.

This report aims to highlight the activities that take place in each department, their significance to the organization, the working methods and relationships among various functional departments, and the areas that could use improvement. I also emphasized how the internship helped me grow personally and learn new things.

Table of Contents

Declaration.....	2
Letter of Transmittal.....	3
Non-Disclosure Agreement.....	4
Acknowledgement	5
Executive Summary.....	6
Table of Contents	7
List of Figures	8
List of Acronyms	8
Chapter 1: About Organization	9
1.1 Overview of the industry	9
1.2 Vision & Mission	11
1.3 Goals & Objectives	11
1.4 Organogram of Renaissance Group	12
1.5 Products & Service Overview	13
Chapter 2: Description of Task Accomplishment.....	14
2.1 Marketing & Merchandising	14
2.2 Planning	16
2.3 Industrial Engineering	18
2.4 Production	21
2.5 Quality Management.....	23
Chapter 3: Critical assessment of Internship work	25
3.1 Application of Generic and Industry-Specific Courses During Internship.....	25
3.2 Suggestion for Industry Improvement	27
3.3 Self-improvement through Internship and Academic learning	27
Chapter 4: Conclusion	28
References	30

List of Figures

Fig 01: Journey of Renaissance Group	11
Fig 02: Organogram of Renaissance Group	13

List of Acronyms

RMG	Ready Made Garments
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
GDP	Gross Domestic Product
KPI	Key Performance Indicator
TNA	Time and Action
BOM	Bill of Materials
ERP	Enterprise Resource Planning
PO	Purchase Order
IE	Industrial Engineering
SMV	Standard Minute Value
C&F	Clearing and forwarding
CPM	Cost Per Minute
CM	Cost of Making
HR	Human Resource
CSR	Corporate Social Responsibilities

Chapter 01

About Organization

1.1 Overview of the Company

Bangladesh's Ready-Made Garments (RMG) industry is the mainstay of its export industry and generated about 84% of the country's total export earnings despite the global and domestic challenges during the last few years.

The RMG sector of Bangladesh has become a global powerhouse that exports more than \$38 billion in the year 2024, with a year-on-year growth of 7.23% despite the economic headwinds. It employs some 4 million mostly women and supplies major international brands with knitwear, woven garments and increasingly, value-added products. The industry benefits from favorable policies of the government, such as the reduction of corporate tax rates - 12% for standard factories and 10% if it is green certified - which have provided an incentive for sustainable practices. However, the sector is confronting increasing barriers to its development in 2025 such as post-COVID workforce transformation, rise in living expenses in urban areas such as Dhaka, and availability of skilled labor. Excessive financial strains, like a scarcity of steady access to types of cheap payment plus burdening debts relate to upkeep also have hindered expansion and innovation. Despite these issues, Bangladesh's RMG industry remains attractive to buyers globally because of its cost competitiveness, increasing compliance standards, and accelerating automation and investment in digitalization of the industry. With strategic reforms and infrastructural improvements, the sector is expected to continue its growth trajectory and continue to be key drivers of economic development of Bangladesh.

Bangladesh ranks second in the list of apparel exports following China and is the supplier for the leading brands in Europe, North America, and Asia. The sector has changed from being simple manufacturing to a more diversified and higher value-added industry, involving knitwear, woven garments, home textiles and technical fabrics. The last years have been very pro-green not only with more than 200 LEED-certified green factories but also with the increasing use of eco-friendly materials and processes. Despite obstacles like energy constraints, compliance pressures and reliance on imported raw materials, the industry ensures it thrives in the face of busy work schedules because of competitive labor costs, government incentives and strategic investments in infrastructure. With the Textile Policy 2025 and rising level of digitization, the potential of Bangladesh's textile industry is on the rise, with an ambitious goal of attaining an export value of \$60 billion by 2030 and also improving its international reputation for quality, sustainability, and innovation.

Renaissance Group is a conglomerate that emphasizes a variety of business activities with a major concentration in ready-made garments manufacturing. It is operated by young professionals who aspire to produce the finest products on time for its global clients. The fundamental focus of Renaissance Group has always been on refining the quality and maintaining harmony with clients, employees, and everyone involved in the journey.

Renaissance Group is a vertical setup with Textile, Printing, Embroidering, Stitching and Accessories units. Currently, Renaissance Group Has Three stitching units, five backward linkages (Knitting, Dyeing, Washing, Printing & accessories) units.

With strong sustainability culture and a very active and efficient Marketing & Merchandising team Renaissance Group is one of the renowned exporters in Europe, America and Australia. Renaissance Group is currently focusing high value and top-class customers regarding sustainability practices and brand value.

Journey of Renaissance Group:

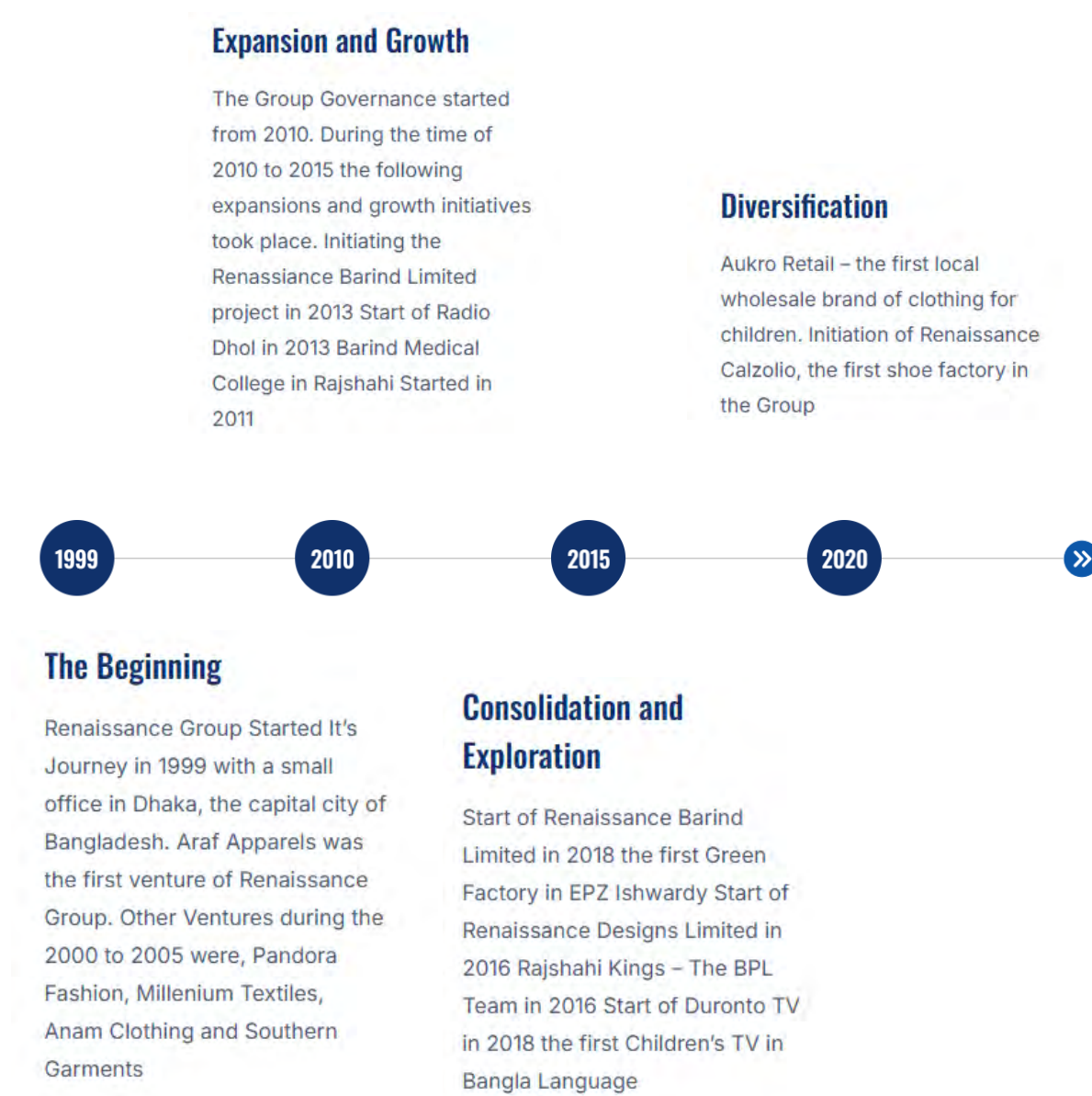


Fig: 01: Journey of Renaissance Group

1.2 Vision & Mission

Mission:

We are committed to our customers, employees, and our society.

To our Customers: We aim to satisfy our customers by providing on-time delivery of quality products & services.

To our Employees: We aspire to create a positive work environment that complies with both national and international policies.

To our Society: We aim to create a better tomorrow.

Vision:

To create a positive future through innovation.

1.3 Goals & Objective:

- Maintain 100% Compliance for the betterment of the future business.
- Sustainable and Long-term business strategy
- Value addition to existing products and product diversification
- Build long-term, trust-based partnerships with international clients

1.4 Organizational structure, Organogram, Branches, and Department

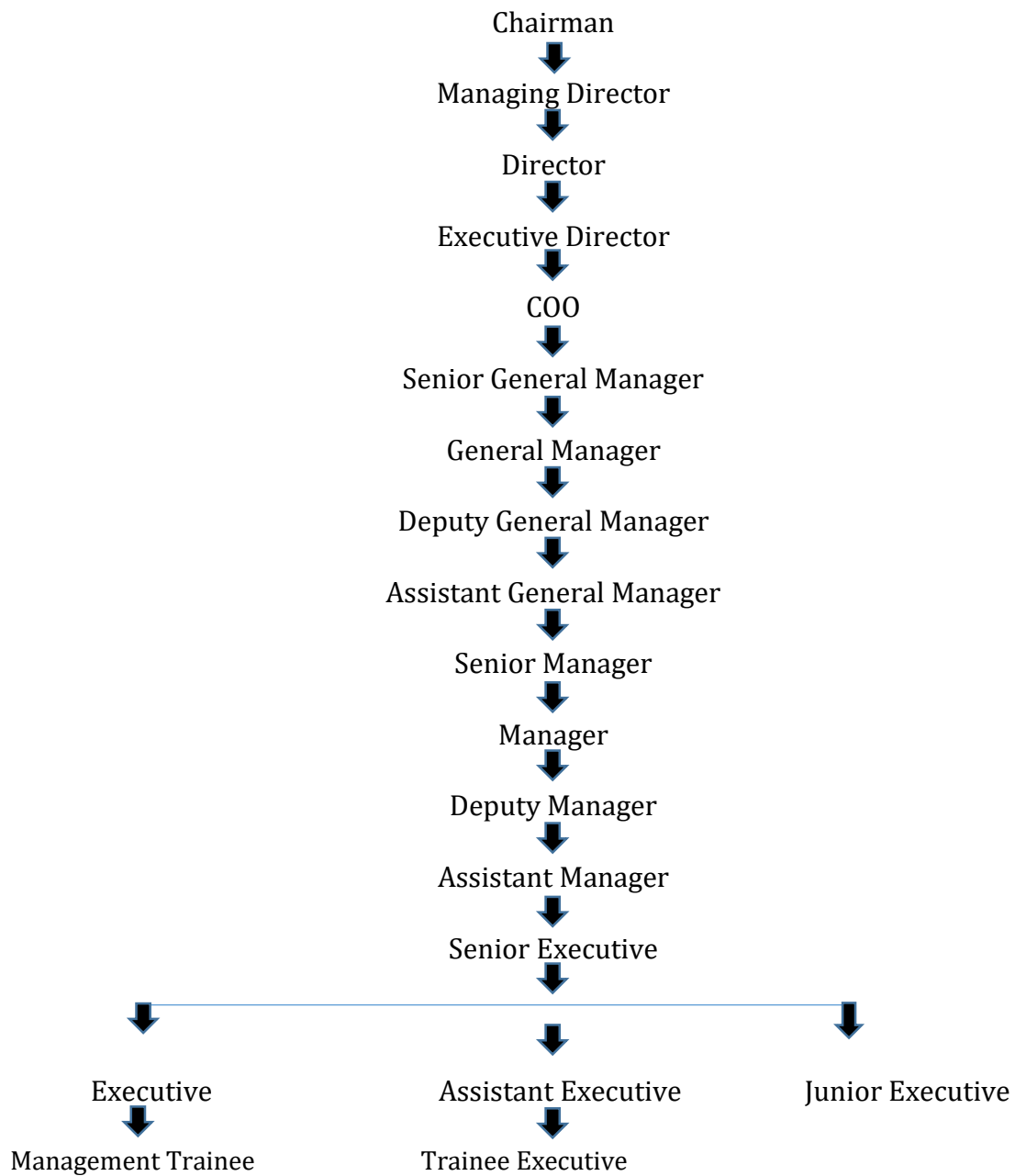


Fig 02: Organogram of Renaissance Group

1.5 Product/ Services:

Renaissance Group emphasizes the highest quality. Its product ranges from t-shirts, polo shirts, leggings, knit and light-weighted knit coordinate sets, etc.

Knit Product:

Renaissance Group has set a positive example in promoting environmental welfare while producing the finest knit garments. The products of Southern Garments Limited range from T-shirts, Polo Shirt, hoodies, joggers, PJ for babywear, children wear, menswear to ladieswear. It's notable buyer list comprises Big-W, Target Australia, Meijer, Just Jeans, Sport Master, Mayer, Baby Shop, Aldi, Sears, and K-mart.

Woven Product

In the Woven Category: It offers woven shirts, ladies blouses, dresses, unstructured Blazers, and elasticated bottoms, from school wear to elasticated bottoms. Its major customers include Marks & Spencer, LPP, Bestseller, Orsay, SPI, Suburbia, DMR, and New Yorker. Its special capacity lies in producing non-iron tape shirts. Its major customers include Marks & Spencer, LPP, Bestseller, Orsay, SPI, Suburbia, DMR, and New Yorker.

- **Services Provided by Renaissance Group:**

Sourcing: Renaissance Group specializes in sourcing sweaters, knit, and woven products, specifically catering to buyers hailing from the UK, Russia, Brazil, Latin America, Mexico, Uruguay, Australia, and Chili. Its product range viz. Knit (50%), Woven (30%), true knit/sweater (20%), men (20%), ladies (30%), Kids (50%). As far its astonishing list of buyers: there is Cotton On, Country Road, Detsky Mir, Concept Club, Dochkisinohki, Melon Fashion, Renner, Falabella, Ripley, Cencosud and Suburbia. In 2020, its annual turnover written USD 50 Million.

- **Printing:** One stop printing solution for every clothing concern. NSN Printing Limited carries out the best designs by a 2 S-Type 14 station 10 Colour Printing Machine. It has a print capacity that is 1.5 Million panels per month. It has also been accredited as 1st Azo, PVC, Phthalate, and APEO Free printing environment in Bangladesh. NSN Printing Limited also has an in house testing lab authorized for Marks & Spencer. It has a wide-ranging placement print techniques in water based, plastisol and discharge inks. In every step of the printing process experienced technical team is at the forefront on the pattern and feasibility of new designs.
- **Embroidery:** Anam Clothing Limited attentively operates to accomplish any desired embroidery requirements that the clients may have. Through a dedicated workforce

and capacity of stitching 195 Million Stitches a Day, Anam Clothing Limited has earned a reputation of being the best service provider for Embroidery in Bangladesh. Its ability lies in both hand and machine embroidery. It makes customers happy with 20 Pieces of Barudan Computerized Embroidery Machines, 2 Pieces of Computerized Multi-Head Embroidery Machines, and 1 Laser Cut Machine. Also, its hand embroidery has a capacity of 10,000 panels every month. Anam's list of significant customers includes Marks & Spencer, Nike, Abercrombie & Fitch, Ralph, G-star, Lauren, Walmart, Next, Mothercare, Columbia, S. Oliver, Debenhams and Sainsbury's, TESCO, Kappa, and ZARA.

Chapter 2

Description of task accomplishment

1. Merchandising
2. Planning
3. Industrial Engineering
4. Production
5. Quality

2.1 Merchandising

The Merchandising Department Operating in the Ready-Made Garments (RMG) Sector is the crucial bridge between the buyer and the manufacturers on timeliness, cost-effectiveness, and quality-driven production and delivery of apparel. In the RMG sector, the Merchandising Department takes charge of the life cycle of an apparel order - from the initial buyer inquiry to the last shipment. It ensures that the right product is delivered at the right time, in the right quantity, and at the right price, aligning with buyer expectations and production capabilities

Production merchandising is the process that occurs from the final stage of price negotiation until order execution. During my internship, I worked with TARGET AUSTRALIA and performed various tasks

Firstly, the Product Development team handed over an order to me along with an approved sample, garment FOB price. fabric and accessory details,

I had to arrange the shipment date, actual PO sheet from buyer & develop required Accessories as per Buyer Comments & had to take approval from Buyer. I asked PD Team if any difficulties existed with the sample or had any root cost analysis been conducted.

After the handover, I logged into ERP and created a job number for the order that included sample information such as sample name, sample type, fabrication, print, accessories, FOB price, and ship date. After inputting this data, the ERP provided me with a complete time and action calendar (TNA). From the customer's PO sheet, I entered the number of garments required in each size and generated the EWO (Export Work Order) using combinations suggested by the Renaissance group.

Before work to build BOM (Bill of Material) I have gathered the data for the fabric consumption and sewing thread consumption. Using this data, I determined the percentage of fabric wastage, cutting, printing, sewing, and finishing. Then, I entered the fabric price, print price, SMV of garments and unit production efficiency. In the trims and accessories section I listed the type of trim and accessories used in the garments and price.

After creating the BOM, I generated a pre-costing sheet in ERP summarizing all the prices and details. The target for buyer TARGET AUSTRALIA was \$7.10/garment, and the actual cost was \$6.65/garment for my order, which was acceptable. So, I forwarded this to the TARGET AUSTRALIA Merchandising Production Head for approval and subsequently released all bookings.

I monitored and tracked the progress of the bookings daily, communicated with the relevant parties, and followed up to ensure everything was in order. In my order, the Care Level and TNA failed due to an overloaded supplier unit caused by poor electricity supply. During this time, I also approved the Pre-Production Sample, Size Set Sample, Shipment Sample, Green Tag sample and Trim Card from the buyer.

However, here I describe the Production Merchandising above but I also working few days with Development Merchandiser for knowing the process of communicate with buyer for new designs and their executions. Here, Buyers send Tech Pack or Data sheet to Development Merchandiser through mail and check the feasibility. If everything is ok, then the Development Merchandiser starts to source all the things that buyer wants to see in his garments and also share the production difficulties that he faces during development stage so that no barriers will come during bulk production. Solving any difficulties during the development stage is easier than the production stage. Development Merchant takes the fabrics, trims and accessories price initially and submit the costing first. After negotiating with suppliers, the Development merchant handed over all the things to Production Merchant. After that, the production merchant will handle everything. The Sampling stage of Buyer-TARGET AUSTRALIA is given below:

1. Development Sample/ Sign Off Sample
2. Fit Sample
3. Pre-Production Sample
4. Shipment Sample
5. Photoshoot Sample/ Online Sample
6. Campaign Sample/ Advertising Sample

Challenges: In our Merchandising department, we face different types of challenges like Time Pressure & tight deadlines, Price Negotiation and Cost Pressure with Buyer, Quality and Compliance according to buyer Demands. Merchandisers often face unrealistic lead times and price negotiations, which strain production planning and quality control. Global Market Volatility due to lower/higher prices, Skill and Knowledge Gaps, and coordination complexities across departments. Lack of sufficient local production of fibers, yarns, and fabrics, and consequently, increased cost. These hurdles can affect the timelines of our delivery, the quality, and the profitability. Again, Limited access to modern tools and ERP systems makes it difficult to track in real time and make decisions. Many merchandisers do not have advanced training in product development, costing, and communication, which affects the efficiency and satisfaction of buyers

To overcome these challenges in doing merchandising, strategic planning, effective communication and continuous learning is adopted by my team to ensure timely, cost-effective and quality-driven execution. During my training session I have been following time and Action (TNA) calendar to be able to track every step from sampling till shipment. I have Scheduled regular cross-functional meetings with production, quality and logistics teams. I have put together buyer-specific quality standards and compliance audit checklist. I took help of our ERP System (Logic Solution) to maintain data & plan perfectly. More ever, Merchandisers may look into alternative suppliers and local sourcing options to help reduce dependency on imports. Merchandisers must be consistent with global standards in order to secure prime buyers and long-term partnerships. Industry bodies and companies are making investments to develop skills for merchandisers such as courses in costing, negotiation.

2.2 Planning

Planning Department Reporting in the RMG (Ready-Made Garments) industry is the responsibility of the Planning Department as it is responsible for matching the production capacity to the buyer's demand, for maintaining the right time for the delivery of goods, for optimal utilization of resources and cost control. It has challenges such as improper forecasting, supply chain disruption, and lack of coordination etc which can be solved with the help of digital tools, skilled manpower, and proactive communication.

In our Renaissance Group Planning Department is the strategic unit in which orders are necessary to be executed efficiently from beginning to end. It is responsible for determining how and where production will take place when and how, what requirements of buyers exist, and how much capacities are present in the factory. The Key Functions of our Planning Department Capacity Planning, Production Scheduling Order Allocation Material Planning Monitoring & Control Efficiency Optimization.

The planners start their process by analyzing the buyer orders and production requirement and then prepare a detailed Time and Action (T&A) calendar of all the critical milestones with the dates of fabric booking, accessories dates in-house, sample approvals, a beginning

and ending date of production and shipment, complexity of the product and check whether it is feasible or not to produce that amount. Then they have an assessment of current production capacity: production machines, available manpower, efficiency of lines. After that they Allocate orders to specific production lines or to different subcontractors depending on the capacity and the urgency. Then they Track actual production output vs planned targets & identify bottlenecks or delays and re-slot or readjust schedules or resources accordingly.

During My training session, I have been involved in 2 types of planning:

Higher Level Plan: A higher level plan is the assignment of orders to each unit in a company, an order which is usually done by the management. To make the as best as efficient as possible, I worked with the senior guy in the planning department and considered the number of products each factory can produce, the criticality of products and FRD date. Using Fast React software, I was able to develop a detailed plan that showed clearly which units were 100% allocated, which orders were partially allocated and which units still had available capacity.

Line Loading Plan: To advise a plan for line loading I had to consider multiple factors Buyer Approval, Buyer Trim Card Approval Capacity Load Analysis Product Category Factory Efficiency, Order Delivery Date Print & Embroidery Analysis Wash Analysis Resource Availability. This process took me five days to complete. Using Fast React software, then i proceeded to plan each factory's production schedule for the upcoming month. Through this software, input line-wise and capacity-wise order data, which was displayed through strips. After completing each line order, send it to the senior officer of the planning department for approval. Only upon receiving approval from the Senior Officer was the plan handed over to each factory for implementation after thorough checking.

Challenges: In this Period, I have faced some challenges like inaccurate Forecasting due to Poor demand prediction which lead to overbooking & idle capacity, Supply Chain Disruptions which has affected production timelines due to Delays in raw material sourcing. Lack of Real-Time Data which causes errors and miscommunication. Coordination Gaps between planning, merchandising, and production teams. Sudden Order Changes in which Buyer Pulled up delivery dates. Frequent changes in buyer orders and lack of reliable forecasting tools lead to production delays and inefficiencies. Planners-voiced power outages and bottlenecks of logistics affecting planned flows of production, particularly during peak production seasons. Dependence on imported fabrics and accessories causes delays due to customs, logistics or interruptions in the global supply chain. Frequent audits and compliance requirements coming from buyers can disrupt plans for production schedules. Inaccurate capacity planning causes either under utilization and overbooking of production lines.

To overcome these challenges our planning team may take some actions like: They may take help automate scheduling and track real-time progress from ERP Solution System. Cross-Functional Meeting between planning, merchandising, and production teams for better coordination. They May Aggravate by adhering to schedules, they may add safety margins to

account for unexpected delays. Prepare alternate plans for sudden changes in demand for buyers or production problems. This Department might transition to more modular production lines and flexible capacity models in order to accommodate changing order volume fluctuations and buyer changes that occur at the last minute. Adoption of lean principles and JIT Inventory System; helps in reducing the wastage and enhancing efficiency and giving quicker response to the buyer demands.

2.3 Industrial Engineering

Industrial Engineering (IE) Department in RMG Industry in Bangladesh has the responsibility of optimizing the production efficiency, wastage reduction and quality improvement of garments with the help of scientific method and data analysis. Its working procedure includes the method study, line balancing, capacity analysis and continuous improvement.

The Industrial Engineering (IE) Department of our factory deals with achieving maximum productivity at the lowest cost by using engineering principles to maximize the yield of the manufacturing processes. It is of specific importance in order to ensure that the garments will be made with high efficiency, with uniformity in quality and in the shortest possible time.

Firstly, Our IE concerns do Pre-Production Analysis in which they study the garment samples and technical sheets, Breakdown operations and determines required machines and manpower. Then they List all operations with machine types, manpower, and standard time & s Share with production and planning teams. After That, They Arrange machines and operators based on operation sequence & Use GSD or stopwatch methods for accuracy. Then they monitor Production by Tracking hourly output and efficiency, they Identify low-performing areas and suggest corrective actions. Lastly they Analyze actual vs. planned performance & Document lessons learned and update future planning.

During my training sessions I have practiced some operations Like Cycle Check, Production Study,

Cycle Check: Cycle Time is a method used to measure work and keep track of the time spent on a particular task or its components under specific conditions. It involves daily repetition of the same action by an operator and helps determine the time required for the operator to complete the work at a predetermined performance rate. For checking cycle time, below instrument was required:

1. Pen/Pencil
2. Time Study Board
3. Data Sheet Format
4. A Stopwatch

Production Study: A production study involves recording all the tasks performed by an operator within an hour and timing each of those tasks. Similar to a cycle check study, it requires the use of various tools, the only difference being that a production study sheet is used instead of a cycle check sheet.

To conduct a production study, I chose an operator who was operating at a lower capacity than the line's full capacity. I started by setting up the operator's work station according to our standard procedures where I was kept recording the names of the jobs and their corresponding times on the production study sheet while timing it with help of a stopwatch for an hour.

After case study of 1hour production, I analyzed the recorded data determine of actual time of productivity and time with non-productive. Based on my findings, I gave some guidelines to the workers so that they can increase their efficiency while work and requested the line supervisor to monitor the progress of those workers for one more hour.

Thread Consumption: To know the amount of thread needed for sewing a garment, normal formulas are available depending on the machine that is being used. Factors such as fabric density and stitch class would also have to be considered before putting the formula to work. Once these factors are considered, the formula relates to multiplying the length of the stitch by the factor of the specific value to reach the total amount of yarn required to make the garment. The below variables have an effect on the actual thread usage will a unit length of seam.

1. Classes of Stitched
2. Stitch Count per Inches (SPI)
3. The Seam's Thickness
4. Stitch Tension
5. Thread Count

For another question, "how much sewing thread do I need to buy for a garment", I performed a calculation of the consumption of the thread. This involved taking into consideration several factors including the type of fabric, the thread used for sewing, the quantity of orders, and the percentage of wastage. Next, I used special software which incorporated previously created formulae and factors to put into the name of each operation of the garment and its corresponding stitch length. I chose the correct machine and pattern of stitch and after entering all the relevant data, I considered wastage percentage too, according to the quantity of order of garments. Using this information, the software was able to produce an extensive report on specific requirements regarding the sewing thread needed for the garment. I saved this file and emailed it to the factory who was responsible for making the garment.

Operation Bulletin: An important tool in Industrial Engineering is the Operation Bulletin (OB) which helps set up a manufacturing line with the correct number of tools and workers. For the sake of understanding, I have simplified the process of creating an OB by breaking it into easy and understandable steps.

Preparation of Operation Bulletin (OB) is done two times.

1. Costing Stage
2. Production Stage

To create an Operation Bulletin (OB) for a new order, I first received a tack pack from the merchant via mail or a sample was sent to me. I thoroughly studied the technical details before logging into General Sewing Data (GSD) software, which standardizes all sewing tasks and provides information on machine usage and required time for each task. General Sewing Data (GSD) is an internationally recognized buyer reference. Next, I sequentially entered all garment operations into General Sewing Data (GSD), along with the technical code and image as a reference for garment identification. Once all necessary data was inputted, I saved the file and downloaded it in PDF format. Finally, I sent copies of the Operation Bulletin via mail, to both the merchant and production unit.

Line Layout: Physical Sample, Operation Bulletin and Manpower List is the mandatory things for making Line Layout. I began by converting the operation bulletin from PDF to Excel format. Using this, I created a line layout, transferring all the data from the operation bulletin to it. In line with the target for the line, I allocated skilled manpower and machines. Each operation was organized in sequence on the line layout in Excel. Once complete, I printed the layout format and obtained the Head of IE & Production's signature before submitting it to the maintenance department. During the layout process, I also specified the required guide folder attachments.

Challenges: I have faced some challenges like Resistance to change from production teams, Inaccurate time studies due to operator variability, manual data tracking makes it difficult to analyze production efficiency, line balancing, and bottlenecks. There are tools such as SMV (Standard Minute Value), GSD (General Sewing Data) and balancing the lines which are underutilized, due to lack of awareness or training. IE teams tend not to coordinate with the production, merchandising, plotting departments and cause a misalignment in terms of goals and execution. Frequent labor turnover and absenteeism inhibit IE-driven process improvements and remove consistency in operations. IE teams have difficulties performing optimizations in operations due to inconsistent data and lack of real-time monitoring systems.

To overcome those challenges IE Department may take some necessary steps like: They may Conduct regular training for IE and production staff. They may Implement pilot projects to prove IE benefits. They may adopt IE software such as GSD (General Sewing Data), SMV (Standard Minute Value) etc. Real-time production tracking systems help to streamline the operations and enhance accuracy. Data collection and analysis have been improved, which can help IE teams to identify bottlenecks and balance the line to improve overall efficiency. Many RMG firms are adopting lean principles and Kaizen (continuous improvement) to reduce waste, improve quality and increase productivity. Organizations such as BGMEA and BKMEA, are promoting IE education and providing input for helping the factories modernize their engineering practices.

2.4 Production

In the apparel industry, the sewing sections of the companies are considered production departments. Whilst the fabric cutting and the garment finishing departments are also a part of clothes manufacture, they are not part of production. The main task of the production staff is to sew clothing, but they can engage in other associated tasks to ensure the efficient operation of the manufacturing floor. As an intern in the production department, I worked on two projects, which were Line Setting then Manpower Balancing.

The Garment Production team of Renaissance Group is extremely important towards the process of turning raw materials into finished apparel. While the team has efficiency, quality control, and workforce management challenges that need strategic improvements.

Firstly, Our Production team do Pre-Production Preparation by Receiving order details from the merchandiser including style, quantity, and delivery date. Ensures buyer-approved samples and technical sheets are available. After that Prepare machines and assign operators based on operation bulletin from IE department. Then the Cutting section proceeds for Fabric Relaxation, Marker Making, Fabric Cutting, Bundling sequentially.

After that, the Sewing Section follows IE's operation bulletin for task sequence & Supervisor distribute tasks evenly to avoid bottlenecks, Quality concern Inspect during sewing to catch defects early. After sewing the Finishing section, remove excess threads, Shape garments and remove wrinkles by ironing/pressing, then the Final Quality Inspection does by GPQ Check measurements, stitching, and appearance. after that, Garments are Packed/Folded as per buyer instructions.

During my training session I have experienced 2 operations:

Line Setting: For a new line setup, I conducted proactive work. Firstly, I identified the style allocated for the line and obtained the necessary line layout format from the Industrial Engineering Department. This helped me determine the required folder guides, attachments, and machines for the specific style. During the line setup, I placed the machines sequentially as per the sample and layout paper provided. I also allocated manpower based on skill set requirements. Throughout the process, I received support from technician and maintenance personnel who were available around the clock. Just as the line setup was complete I gave the line chief all the necessary like the layout paper and physical layout approval.

Manpower Balancing: In the Production Department, Manpower Balancing is most important task that is to be performed very carefully in various situations. When it comes to balancing the staffing or manpower required for a new line setup, what I did was get operator skill sheets from the IE department, which made it easier to know what types of operators to get for each operation.

Every morning, the balancing of manpower was a tricky job because of absences of operators on various manning lines. I had to deal with this by having a mixing of processes and having

multi-skilled operators to cover for absent members of the team. I gave new operators to the operations that could not be merged.

The situation was the same during afternoon Manpower Balancing except that there was the extra challenge of having to consider line margins as well. During the set-up of the line, I did allocate manpower on the grounds of skills, but once production began, I naturally found that some of the operator skills did not match to the targeted production of the line. In such cases, I balanced the manpower by skills change and process merging with other lines.

Challenges: There are some challenges such as Low productivity due to outdated machinery and manual processes hence increases maintenance costs. High defect rates due to varied operator skills, Poor line balancing that causes bottlenecks and idly waiting time, Worker fatigue and turnovers from heavy work situations operational efficiencies, consistency and value to the patient 1 Operators often lack training in standardized work methods affecting consistency and quality of output. Sometimes due to not using real-time data for the decision, it causes to hamper productivity improvements. Meeting sustainability standards means that processes have to be redesigned, which can be expensive and complicated. IE must support a compliance with labor laws, safety norms and buyer audits adding layers of operational complexity. IE often exists in silos that limit the impact of IE on a holistic factory performance.

To overcome the faced challenges by Production department, a multi-pronged approach is necessary. Invest in modern equipment, including the latest sewing machines, cutting equipment and finishing tools, in order to improve speed as well as precision. Adopt lean tools such as 5S, Kaizen, and Value Stream Mapping to eliminate waste streams and improve the flow of operations Implement lean manufacturing practices to reduce waste and improve flow. To conduct regular workshops on standard operational procedure (SOPs), quality control & safety practices. Encourage teamwork between IE, production, HR and quality Department to attain a common goal and share insight. How to improve workplace conditions: Support worker health and morale. Utilize real-time monitoring tools to monitor output and detect issues early on. Implement lean manufacturing practices so that waste and flow will be reduced.

2.5 QUALITY

Quality Inspection: Having worked through the process of production, final checks are performed to assess the product. The evaluation is based on the engineering specifications, customer demands and industry standards. Depending on the results of final inspection approval process the decision to move products to stock or shipment is made.

To ensure there are no outstanding issues, an inspection report is completed before granting final approval. This report confirms the completion of all necessary procedures, correction of any non-conformances, and documentation of all necessary traceability. By providing a

final inspection report, the product attests to its quality, compliance with regulations, and adherence to customer requirements.

In our Quality Department several operations are done such as

Visual Inspection: Check for defects like stains, holes, loose threads, incorrect stitching, and shade variation, inspect garment symmetry, alignment, and finishing quality.

Measurement Check: Compare garment dimensions against the buyer's approved size chart, Use measuring tools to verify tolerances

Packaging and Labeling: Verify correct folding, tagging, barcode placement, and carton labeling, ensure packaging materials meet buyer requirements.

Then they Record inspection results in quality reports & Flag any non-conformities and initiate corrective actions.

During my training I have performed 3 types of inspections:

Cutting Final Quality Inspection: For the final inspection of the cutting section, I made the first inspection of the cutting section of each fabric roll according to the four-point system. After inspection, an order was given 2 points in total which meant that it was suitable for cutting. Next, I did marker quality inspection, which included checking the marker length, width, lay quantity and ratio of each component on the marker paper. I have also looked at the quality of spreading, checking that the lay end, lay tension, and marker were in the correct line. After the cutting process, I then verified each cut panel for size and ratio of bundle. By following these inspection procedures, I tried to ensure that the final product was meeting all the necessary requirements and standards.

Sewing Final Quality Inspection: In the final quality inspection of sewing, I checked all the defects from the garment i.e. puckering, needle cut, shade, measurement and size checking after the completion of all the sewing works. If the clothing was in compliance with everything, it was labeled with an "OK" sticker by me and went on to the next process. However, if any problems were found I sent the garment back to the line for further attention. By doing these types of inspections, I was able to make sure that only good quality garments were allowed to pass through the production process.

Finishing Final Quality Section: In the finishing section, I carried out two sorts of inspection, they were getup check and audit. After ironing finished garments I carefully examined them for the generally forbidden: alteration, spot, difficulties with ironing, crease marks, level mistakes, as well as size discrepancy, visible foreign yarn and body high-low. Next, I proceeded to perform a 4 points check system to get body measurements for the garments. This system entails the measurement of Shoulder, Sleeve Opening, Armhole and Body Length, this are the standard points of garment measurement. Once hangtag attachment was complete I audited some lots to ensure care level wise hangtag attachment compliance, print quality and hole specifications as per garment. I had a sheet in front of me on which I was keeping a record of the audit results in terms of codes (A, B, C, D). Any major

defects led to the failed audit while minor defects led to the garments passing but as flagged up problem goods which would then require correction in the next process.

Challenges: Manual inspections are prone to errors as fatigue or lack of attention may be shown by the inspectors. Different buyers have different quality expectations thus causing confusion. Strict shipment timetables often have less allowance for inspection, and defects can pay the price. Missing/Incorrect inspection records make it hard to trace things and to make those accountable. Misalignment between production, quality and IE teams results in poor communication about quality goals. Due to poor inspection practices result in order cancellations. Limited comprehension of defects, measurement methods and buyer requirements limit the accuracy of inspection. Inspectors may not be involved at an early stage in the production cycle. Late-purpose inspections make it more difficult to fix systemic problems.

These issues can be minimized by some corrective actions like: Regular workshops on defect identification, measuring technique & buyer specific standards. Buyer requirements, and international standards to develop SOPs for the buyer You can use catalogs of suggestions for visual defects and even checklists so that things are uniform. Ensure openness in communication between quality, production and merchandising teams & Encourage quality inspectors to involve in the early production stages to detect issues at their initial stage to avoid their escalation. Try to avoid rush at the last moments which compromises quality of inspection. Analyze defect trends and defect cause Train operators in self inspection and quality awareness. Create defect-free production line incentive programs.

Chapter 3

Critical assessment of Internship work

3.1 Application of Generic and Industry-specific courses during internship

During the Generic Course, we explored various essential theoretical concepts, which include business operations, communication skills, analytical skills, etc. As part of our internship experience, we have had the chance to see the application of these concepts in the real world, in action.

Application of Generic Courses during Internship:

Analytical Skills and Competencies: My proficiency in data analysis makes me swift and effective in analyzing information which leads to better decision making. With analytical skills, before forming conclusions or forming opinions, I analyze the larger context of a situation. To solve any problem, I must understand the root cause of that problem. My Pgd training has enabled me to do this. The first step in finding a solution is to find important

data about the scope of the problem, such as how long it has lasted, who is affected by it and what solutions were attempted before. Subsequently, I followed an analysis of all data gathered with me I could narrow down the possible root causes of the issue. Thanks to my analytical approach I am experienced in finding gaps and opportunities which other people may have missed when looking at production related data. I use these insights in making strategic decisions that are helpful to my organization.

Leadership Practices: As a leader, I understand the importance of taking time for self-care in order to effectively lead my team. This includes thinking strategically and making plans for my own activities in the workplace with a commitment to civic engagement and ethical behavior in business. Establishing a good working relationship with my staff is paramount and I try to promote a culture of co-operation within the company. I believe one should empower their subordinates to take their own decisions but also help support them if needed. My leadership style focuses on good decision making and problem solving skills. Part of my industry requires commitment and an ability to build trust in order to be successful.

Recognize the Business Internal and External Environments: During my internship I learned that the company's survival and thriving abilities are based on its strength and ability to adapt to the environment it is in. The internal environment of a company is a group of material, human, financial, and technological resources of a company, based on which we can determine the internal strengths of a company. On the other hand, external factors such as demographic, sociological, political and legal factors make up external environment which are outside the control of the firm. As a result, companies are compelled to adapt to the environment in which they live by aligning their internal and external environments in order to capitalize on opportunities and counteract risks. Both internal and external decision of a company are affected by the prevailing environmental conditions, this can be divided into macro-environment and micro-environment. The phenomenon of macro-environment is the combination of economic and non-economic factors that provide potential opportunity and threat for businesses. As these factors are mostly out of the control of the companies, the respective companies have to adjust their operations accordingly as per the prevailing environmental variables.

Practice Effective Leadership, Management, and Interpersonal Skills: Throughout my internship, I was in a position to learn effective leadership management as well as interpersonal skills. As I learned those following orders is a crucial aspect of being a responsible employee but it is also a responsibility of the follower to only follow morally just and appropriate orders which are in line with the values of the company. Good employees can be defined as those who possess a positive work ethic, drive, commitment and attention to detail and are willing to go the extra mile. However, if a follower cannot carry out the tasks given by the leader he or she cannot be effective in their role. To be an effective follower, it is important to be able to provide the leader with honest feedback on their objectives and approach. Leaders, in turn, must be truthful and sincere with their followers, but at the same time possess the courage to make decisions. Effective followers are team players with

excellent social skills and are focused on achieving performance targets as opposed to gaining accolades or self-promotion.

Application of Industry Specific Course during Internship:

During my internship, I gained a practical knowledge of different aspects of garments production including responsibilities and tasks related to cutting, sewing, and designing clothing. Specifically, I learned about the use of cutting-edge systems, the measurement of fabric usage, cutting SMV calculation, and producing cutting schedules. Additionally, I learned about the making of paper for layouts, modern sewing machines, sewing additions (guides, folder patterns, use of laser light etc). and various stitching difficulties and solutions.

In production department I also got to know the daily manpower balancing methods and the new line set up procedures. In terms of quality control, I gained experience in the complete garment inspection process, in terms of area needing checking, identifying faults and defects using standards such as the 4 Point system etc. Furthermore, I got to know the planning department and how planners develop work plans on cutting, sewing, and finishing. 5S, 7 Wastes, KPI, KAIZEN as lean tools was also introduced to me. Lastly, I put to use everything I had learned by making BOMs, pre-costing, order banking and ordering, booking and following up orders once they had been handed over to the production team.

3.2 Suggestion for industry improvement

To ensure the longevity & sustainability of a business, it is essential to continually strive for improvement. The SWOT analysis is a valuable tool to overcome weaknesses, opportunities, and threats that might be impeding the path. If properly implemented, improvements can have a significant impact on the industry.

To achieve the aims of efficiency improvement and shorter delivery times, it is necessary for Renaissance Group to have a strong backward linkage. In particular, efficiency is the area where the Finishing department should be more efficient. During my internship, I noticed that there was no worker training center, which could be created to help meet the workers' skills. Although a number of lean tools are already in place, they are not being practiced well, leading to a rise in waste. Thus, the proper monitoring and implementation of such tools should be given priority.

Renaissance Group should consider diversification of its product and find new markets to maintain its competitiveness. Furthermore, the operating condition of my internship unit was expensive than that of other units due to excessive overtime. To reduce this costs, there is a need to improve the efficiency and every area to follow up accordingly. A focus on value-added processes and taking care to avoid non-value-added processes is another important element to consider.

I have also observed that most of the energy to run this sector comes from fossil fuels which generate a huge amount of greenhouse gas and they are not renewable. The energy crisis has already started and most of the factories of the Gazipur zone are not getting the required energy to run their factory so it's high time to look for renewable energy. There is no otherwise of renewable energy if we want to sustain it in long run.

Lastly, the garments market is highly competitive, so Renaissance Group should prioritize cost, Services & product quality to become a role model in the Bangladesh garment industry.

3.3 Learning for self-improvement

During my time in supporting multiple departments at renaissance group, I have managed to amass an important amount of practical knowledge and expertise that will benefit my career development. I now realize the importance of the role of backward linkage and have enhanced my soft skills, management skills and communicating skills. Being able to work effectively with others has become more apparent for me. Working alongside different departments has enabled me to understand each department's obligations and tasks, as well as getting to know the procedures that are abided by employees of the department. I have gained a deeper understanding of the garment making process such as managing the Five M's (Man, Machine, Materials, Method and Money).

Effective teamwork has become a top priority for me, as well as working together with management, human resources, merchandisers, different divisions and printing, embroidery and washing sections. My email transmission skills have also improved and I can now see the problems and receive support within one place. Regular quality control procedures have been implemented and I have gained experience in the making Bill of Materials (BOM), follow up of orders, pre-costing analysis, and make buyer pattern. Overall, my internship at Renaissance Group has been of inestimable it has given me knowledge and skills, which will help in my personal and professional growth.

Chapter 4

Conclusion

Bangladesh ranked at 41st and 30th position in the list of largest economies in the world using present market exchange rates. The industry manufacturing garments which constitute 81.82 percent of exports plays a significant role in the Bangladesh economy contributing about 28.1 percent of GDP. This industry is likely to continue to grow in the next decade. Renaissance Group is among the first clothing manufacturers in Bangladesh who are specialized in manufacturing and exporting of Both Woven & knit clothing. The company has a strong emphasis on cooperation and considers it a manifestation of the human being and the human heart. Renaissance Group makes a continuous effort to foster a lifestyle for its employees, suppliers, and customers of the company. Additionally, the company strives to be the leader by example, by building its eco-friendly business building to serve as a landmark.

The PGD-KIM program has been an enriching experience for us giving us education and relevant information. However, the internship period was very interesting and challenging enough, as we were able to come to know more about the ongoing IE practices in the knitwear sector. We always cherish such opportunities as they help us grow our talents and abilities in a new way. This internship has helped to improve my ability to face new challenges, discover my inner potential and increase my self-confidence.

Working with the team in the Renaissance Group has provided me with a good understanding as to how the Knitwear Industry works. I had to indulge various activities and go to various departments to cover orders from start to finish and whole operational area. It is a need to have high quality of the product, pricing to keep the business running on all levels. Excellent leadership is necessary at each step, from marketing to preparation of the product. During my internship, I was the recipient of proper guidance from my academic and professional supervisors. My desire with this internship was to enhance my qualitative knowledge of PGD-KIM.

During our Generic course, we had studied various aspects of business operation, communication skills, analytical skill. Throughout the internship, we were able to see practical applications of these concepts in practice. This included carrying out the tasks of conducting interviews, recruitment, selection and placement of employees and the monitoring of the whole process from start to finish.

During my internship, I was able to learn about effective leadership management, interpersonal skills. For effective following it is necessary that the follower possesses the required skills to perform the tasks directed by the leader. The success of good followers is determined by their performance and ability to accomplish objectives, not by accolades and self-promotion. Improving sustainability is critical of the growth of any business and making improvements in this regard can strengthen the industry as a whole.

Renaissance Group needs a strong backward linkage in order to enhance delivery times. To increase the skills of the workers, it is required to establish training center. Although there are a number of lean tools in place, they are not being used well enough and leading to more waste being produced. Proper monitoring and execution of these tools should be prioritized in order to overcome this predicament. In my internship unit, operating costs were higher than other units because of overtime being constantly excessive. Efficiency improvements and effective follow up from all areas can help to reduce costs.

To be a role model for the Bangladesh garment industry, Renaissance Group needs to focus on quality of product while also on cost management. Working alongside the different departments of the Renaissance Group has given me invaluable knowledge and expertise including understanding their procedures. I learned about the IE, Production, Quality, Planning and Merchandising departments and how to work ecumenically with different departments (i.e. printing, embroidery, washing sections, etc) to streamline processes. In addition, I was able to learn how to make a bill of materials (BOM) as well as ready pre-costing analysis and buyer patterns.

References:

1. Tribune Desk, "Business," Dhaka Tribune, 16 July 2022. [Online]. Available: <https://www.dhakatribune.com/business/2022/07/16/bangladesh-41stlargest- economy-in-the-world-now>
2. bgmea, "AboutGarmentsIndustry," 2 October 2022. [Online]. Available: <https://www.bgmea.com.bd/page/AboutGarmentsIndustry>.
3. Primary Contributor: Suyeon Han, "Textiles in Bangladesh - Economy," Leadership and Democracy Lab, 2 October 2022. [Online]. Available: https://www.democracylab.uwo.ca/Archives/2017_2018_research/textiles_in_bangladesh/textiles_in_bangladesh_economy.html.
4. [Renaissance Group](#)
5. Star Business Report, "Economy," The Daily Star, 2022 July 2022. [Online]. Available: <https://www.thedailystar.net/business/economy/news/bgmea-targets- 100b-export-2030-3064956>.