

Industry Attachment Report on
Fakir Knitwears Ltd.: Focuses on Knitting, Dyeing, Finishing,
Production, and Merchandising

By

Eusuf Rayhan Taj

1000055582

An internship report submitted to Executive Development Centre, 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 Centre

BRAC Institute of Governance and Development

BRAC University

April 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:

Eusuf Rayhan Taj

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Academic Supervisor's Full Name & Signature:

Mohammad Sirajul Islam

Senior Academic Coordinator

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Letter of Transmittal

Mohammad Sirajul Islam

Senior Academic Coordinator

BIGD, BRAC University

Subject: Submission of Internship Report on Industry Attachment Report on Fakir Knitwears Ltd.: Focuses on Knitting, Dyeing, Finishing, Production, and Merchandising

Dear Sir,

This is my pleasure to submit my internship report based on my industry attachment with Fakir Knitwears Ltd.

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,

Eusuf Rayhan Taj

1000055582

Post Graduate Diploma in Knitwear Industry Management (PGD-KIM)

Executive Development Centre, BIGD, BRAC University

03 April 2026

Non-Disclosure Agreement

This agreement is made and entered into by and between Fakir Knitwears Ltd. as the First Party and the undersigned student at Executive Development Centre, BRAC Institute of Governance and Development, BRAC University as the Second Party. The First Party has allowed the Second Party to complete three months long internship in partial fulfillment of the requirements for the degree of Post Graduate Diploma in Knitwear Industry Management. The Second Party will have the opportunity to work closely with the company's officials and access official data and information. Based on work experience and data, data, and information collected during the internship, 2nd Party will prepare an internship report. The Second Party will use all sorts of data and information for academic purposes and will not disclose to any party against the interests of the First Party.

Student's Full Name & Signature:

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Md. Mahfuzul Haque Refat

Assistant Manager

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Acknowledgment

I would like to express my sincere gratitude to all the individuals and the organization for supporting me to complete my industrial attachment. Firstly, I would like to thank the Government of Bangladesh, Brac Institute of Governance and Development (BIGD), who work together to bring out this amazing program, Post Graduate Diploma in Knitwear Industry Management (PGD-KIM), providing me such a valuable opportunity to gain knowledge of industry trends and upskilling the important skills required for a leadership position in the knitwear and ready-made garment industry.

I would like to express my appreciation to the respected academic supervisor, Mohammad Sirajul Islam, Deputy Director, EDC, Senior Academic Coordinator, BIGD, BRAC University, for his guidance throughout the industrial attachment and valuable suggestions in preparing this industrial report.

I am especially grateful to the management of Fakir Knitwears Ltd. for allowing me to complete my internship. I would like to express my gratitude to my industrial supervisor, Md. Mahfuzul Haque Refat, Assistant Manager, Fakir Knitwears Ltd., for guiding me during the internship. Also, I would like to thank the department heads, merchandising manager, and all employees of FKL for their cooperation and willingness to share their practical knowledge.

Lastly, I want to express my gratitude to my fellow interns who helped me throughout my internship, whether directly or indirectly. Their collaboration and support made this educational experience genuinely worthwhile and unforgettable.

Executive Summary

The industrial attachment at Fakir Knitwears Ltd. (FKL), which was completed as part of the Post Graduate Diploma in Knitwear Industry Management (PGD-KIM), is described in detail in this internship report. An in-depth knowledge of the knitwear manufacturing process was made possible by the internship's segmentation into five main departments: knitting, dyeing, finishing, garment production, and merchandising. The study includes the commercial workflow from sample development to shipment as well as the complete manufacturing cycle, from fabric manufacturing to final garment manufacturing. The organizational structure, operational coordination, and departmental interdependence—all of which are critical to preserving production efficiency and quality standards—are also reflected in the report. With its robust production capacity, state-of-the-art equipment, and well-functioning management system, FKL functions as a composite plant that allows it to satisfy the demands of worldwide customers and sustain its place in the global knitwear market.

Each department provided thorough practical exposure throughout the internship, which greatly improved technical knowledge and industry comprehension. Learning in the knitting section concentrated on fabric structures, production factors including gauge, stitch length, and GSM, as well as machine types, specifications, and operating processes. A solid technical foundation was established by identifying various fabric kinds and typical knitting errors. The dyeing department's batching, water treatment, and bulk dyeing procedures were observed, underscoring the significance of chemical management, process control, and shade accuracy. In order to make sure the finished fabric satisfies the necessary requirements, the finishing department demonstrated a number of processes, including drying, stentering, compacting, and both online and offline quality control. Several steps in the creation of garments, including cutting, sewing, printing, embroidery, and finishing, as well as ideas like SMV calculation, line balance, and production efficiency, were examined. High productivity was demonstrated by the utilization of automated systems and contemporary machinery in manufacturing

lines. Additionally, the merchandising department offered insightful information on sample creation, buyer communication, purchase order processing, and departmental coordination—all of which are critical for completing orders on time and preserving customer happiness.

A critical evaluation of the entire operational system and the identification of opportunities for improvement were also made possible by the internship experience. Even though FKL maintains a high degree of planning and productivity, various limits were noted, including incorrect machine placement in some areas, problems with fabric handling, difficulties with sample management, and operator lack of expertise that can result in production difficulties. Additionally, increasing automation and system integration could enhance manual procedures in some sectors. Additionally, the report shows how academic information from a variety of courses such as leadership, communication, analytical skills, industrial engineering, and business operations is used in actual industrial settings. It was shown that these ideas were extremely important for boosting output, guaranteeing clear communication, and assisting in decision-making. Overall, the internship was vital in helping to close the gap between theoretical understanding and real-world application while also advancing both career and personal growth. In order to prepare for future employment options in the textile and apparel industry, it improved technical competence, problem-solving ability, communication skills, and comprehension of industrial operations.

Keywords: Knitting, Fabric Dyeing, Textile Finishing, Garment Production, Quality Control, Merchandising, Knitwear, RMG.

Table of Content

CHAPTER 1: ABOUT FAKIR KNITWEARS LTD.....	1
1.1 OVERVIEW OF THE COMPANY	1
1.2 VISION AND MISSION	1
1.3 ORGANIZATIONAL STRUCTURE, BRANCHES AND DEPARTMENTS	2
CHAPTER 2: DESCRIPTION OF INTERNSHIP WORK	4
2.1 KNITTING DEPARTMENT	5
2.1.1 Types of Knitting Machines	5
2.1.2 Different Machine Parts.....	5
2.1.3 Knitting flowchart.....	5
2.1.4 Types of fabric.....	6
2.1.5 Knitting Faults	7
2.2 DYEING DEPARTMENT	8
2.2.1 Batching.....	8
2.2.2 Water Treatment Plant.....	8
2.2.3 Bulk Dyeing.....	9
2.3 FINISHING DEPARTMENT	10
2.3.1 Tube Finishing	10
2.3.2 Open diameter Finishing	11
2.3.3 Fabric Faults	11
2.4 GARMENT PRODUCTION DEPARTMENT	12
2.4.1 Cutting	12
2.4.2 Sorting, Bundling, and Quality Checking	12
2.4.3 Printing & Embroidery	12
2.4.4 Sewing	13
2.5 MERCHANDISING AND MARKETING DEPARTMENT.....	13
2.5.1 Merchandising flowchart.....	14
2.5.2 Sample Development.....	15
2.5.3 Purchase Order and Bulk Booking	16
2.5.4 Process follow-up	16
CHAPTER 3: CRITICAL ASSESSMENT OF INTERNSHIP WORK	18
3.1 CRITICAL ASSESSMENT OF INTERNSHIP EXPERIENCE ACROSS VARIOUS DEPARTMENTS	18
3.2 APPLICATION OF GENERIC AND INDUSTRY-SPECIFIC COURSES DURING INTERNSHIP	20
3.3 SUGGESTIONS FOR THE COMPANY.....	24
3.4 LEARNING FOR SELF-IMPROVEMENT	24
CHAPTER 4: CONCLUSION	26

List of Figures

FIGURE 1.1: ORGANOGRAM OF FKL2

FIGURE 2.1 KNITTING FLOW CHART6

FIGURE 2.2: WATER TREATMENT PROCESS8

FIGURE 2.3: WATER TREATMENT PROCESS.....9

FIGURE 2.4: FINISHING FLOWCHART 10

FIGURE 2.5: MERCHANDISING FLOWCHART 14

List of Acronyms

CAD	Computer-Aided Design
CM	Cost of Making
CPM	Cost Per Minute
D/J	Double Jersey
ERP	Enterprise Resource Planning
FKL	Fakir Knitwears Ltd.
GSM	Grams per Square Meter
PO	Purchase Order
PGD-KIM	Post Graduate Diploma in Knitwear Industry Management
QC	Quality Control
S/J	Single Jersey
SMV	Standard Minute Value
T&A	Time and Action
TSS	Total Suspended Solid
WTP	Water Treatment Plant

Chapter 1: About Fakir Knitwears Ltd.

1.1 Overview of the Company

Fakir Knitwears Ltd. (FKL) is a very well-known garment manufacturer of Bangladesh. It's a sister concern of Fakir Group. FKL is a Bangladesh-based comprehensive manufacturing and exporting enterprise. It includes ultra-modern garment industry factories, such as self-sufficient knitting, dyeing, sewing, finishing, and packaging that have sufficient backward connection facilities.

Fakir Knitwears Ltd. was founded in 1988 to create a positive work environment and foster strong relationships among employees. The group has had significant expansion in the global garment market, with a sales value. FKL's management team has extensive expertise in the knit garments sector and a diverse knowledge base. They prioritize teamwork and interdependency.

They sell goods successfully all over the world, including America, Europe, and East Asia. The company adheres to a policy of excellent quality, credit development, and global expansion via honesty. They sincerely believe in fair trade responsibilities and business practices with our valued clientele. Meanwhile, they implement a comprehensive quality management system in accordance with ISO 9001 standards.

They have over 12,000 employees with an area premises of about 1,552,000 SQFT, where around 1,291,862 SQFT is production floor. Yearly turnover of FKL is \$150 Million. (About Us, n.d.)

1.2 Vision and Mission

Fakir Knitwears Ltd.'s vision is to set a benchmark not only in Bangladesh but also to be recognized as one of the leading garment manufacturers on the global stage.

The company follows a stated mission to achieve its vision. The core mission of FKL is to provide its customers with the best value for their money by facilitating them with one-stop knitwear manufacturing as well as sourcing services, whereby satisfaction is always guaranteed, leaving virtually no room for any complaint. FKL pursues its mission complying with all of the requirements

on humanitarian grounds, ensuring excellent management practices, and reinforcing the working environment in a way that it would be viewed as a model for others to appreciate and follow as “A BETTER WORKING PLACE”. (Vision & Mission, n.d.)

1.3 Organizational structure, Branches and Departments

A distinct hierarchical structure of managerial and operational roles is shown in the FKL organogram. The Managing Director is in charge of the organization, while the Director and Deputy Managing Director come next. The Chief Marketing Officer and the Chief Financial Officer are two important functional heads who report to the Director. With additional assistance from the AGM, the Chief Marketing Officer oversees both the Production DGM and the Marketing AGM. For each department that is available, the hierarchy continues below this level through Senior Manager, Manager, Assistant Manager, Senior Executive, Executive, and Junior Executive. This hierarchy guarantees effective decision-making, appropriate coordination, and a seamless transfer of duties among all divisions.

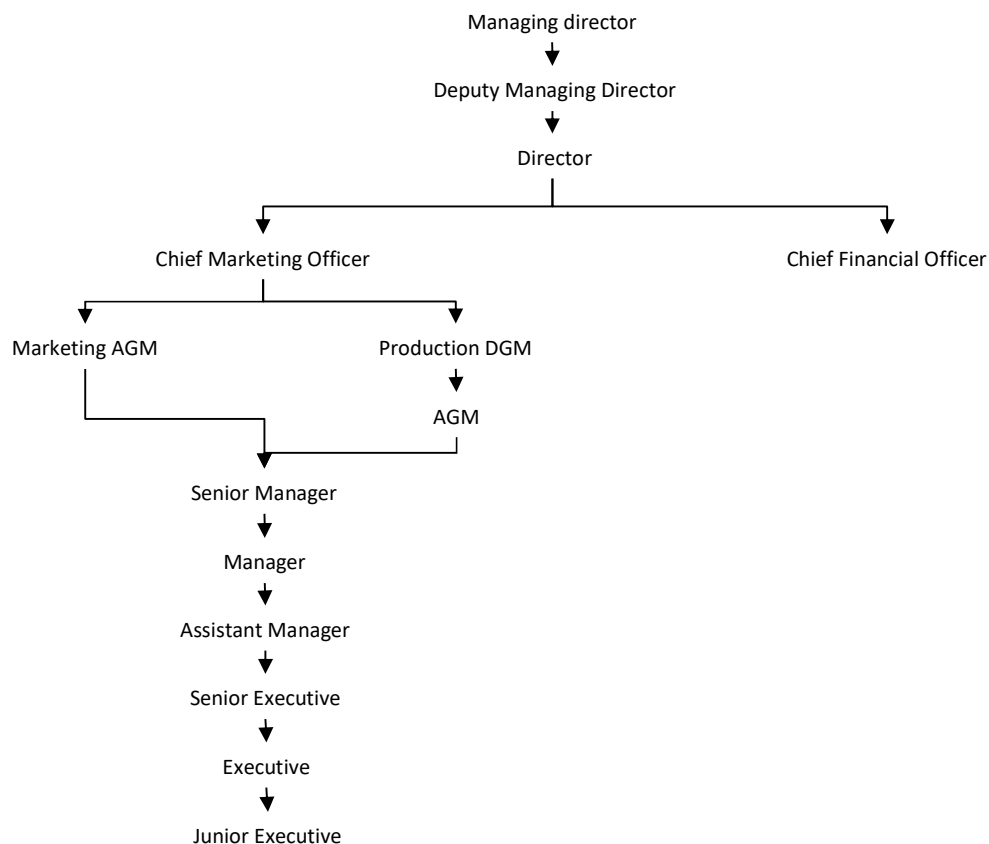


Figure 1.1: Organogram of FKL

FKL has an independent knitting department, dyeing department, dyeing finishing department, and washing department. They also have garments, a printing and embroidery department. Quality Control, Human Resources, Commercial and Accounts, Audit, Merchandising and Marketing, Compliance, Procurement, Maintenance, Logistics, Security, Environment, and Sustainability all assist these main units. All these departments are located in their Head Office and factory situated in Kayempur, Fatullah, Narayangonj.

FKL is also equipped with four modern laboratories to ensure international-grade quality. They also have the largest number of Green ETPs.

There are some branches also, which are Fakir ECO Knitwear's Ltd, which is LEED Platinum registered with an area of 125000 square foot. Key Products of the Company and Export Destination FKL produces and exports knitwear garments for men, women, children, boys, girls, and infants. They also produce athletic and maternity apparel. Their cutting-edge knitwear is compatible with practically every fiber on the market. Their unique products include T-shirts, tank tops, leggings, pajama sets, polo shirts, boxer shorts, nightwear, and accessories. Their upcoming projects include woven and lingerie goods.

FKL's key Buyers for knit garments are H&M, PRIMARK, LC WAIKIKI, PEACOCKS, ORIGINAL MARINES, ALDI, COS, FOREVER 21, WEEKDAY, Very, ARDENE, LPP. ARKET. Also, for woven products, there are S.Oliver, Next, TED BAKER LONDON, US POLO PIVER ISLAND, Celio, REDBULL, CARRY, etc.

Chapter 2: Description of Internship Work

This chapter provides a thorough description of the industrial attachment, focusing the hands-on experience obtained throughout the training duration in various departments. The internship was methodically designed collaborating with the industry supervisor to get a comprehensive overview of the entire textile and clothing manufacturing process.

Department	Duration (Days)
Knitting Department	10
Dyeing Department	7
Finishing Department	8
Garment Production Department	17
Merchandising and Marketing Department	24

A total of 10 days were spent in the Knitting Department to understand fabric manufacturing process and knitting operations. This was followed by 7 days in the Dyeing Department, focusing on coloration processes and chemical treatments. The Finishing Department was observed for 8 days to learn about fabric finishing and quality control processes. About 17 days was dedicated to Garment Production, Printing, and Washing, where the transformation of fabric into final products was studied in detail. Finally, 24 days were spent in the Merchandising Department, gaining in-depth knowledge about order management, buyer communication, and overall production coordination. This structured distribution of time enabled a thorough understanding of each stage of the textile value chain.

2.1 Knitting Department

At first, I started making a layout of the knitting floor, observed the machine's specifications, learned about different machine parts and their working mechanism, the types of fabric they produce, taking the specifications of those fabrics like their fabrication notation diagram, diameter, gauge, stitch length, CPI, and WPI. Arranged all the data to summarize them in three ways: according to GSM, stitch length, and diameter range. Also, draw a yarn path diagram, showing how yarn passes through different parts of the machine and ends up making fabric. Then learned about the production calculation, learned the inspection process, about the faults in the fabric during the production process.

2.1.1 Types of Knitting Machines

FKL has three types of knitting machine which are basically circular bed knitting machines. In between this type of machine, they have Single bed (cylinder) machine, Double bed (Dial & Cylinder) machine & Jacquard knitting machine. They also have an Auto Stripe machine. With these machines, they can produce a huge variety of fabrics.

2.1.2 Different Machine Parts

Cylinder, CAM, Needle, Sinker, Positive feed system, Motor, Belt, VDQ pulley, Pattern wheel, Creel, Feeder, Yarn Tensioner device, Inlet stop motion sensor, Outlet stop motion sensor, Spreader, Slitting mechanism, Take up roller, Different types of Guides.

2.1.3 Knitting flowchart

The knitting flowchart illustrates the sequential procedure from receiving the order to fabric production to delivery of that fabric to dyeing department. The order sheet is received, order data is prepared for programming, a preproduction meeting is held, work orders are dispersed, and floor planning is finalised. After receiving the yarn, program cards are given out to start the production process. The fabric is quality-checked at the QC check table following the production process. The fabric is rejected and sent to the reject store if any faults are discovered. The fabric is sent to the grey store if it satisfies

the necessary quality criteria. Finally, the fabric is sent to the dyeing department according to the order requirement. The details are illustrated in Figure 2.1.

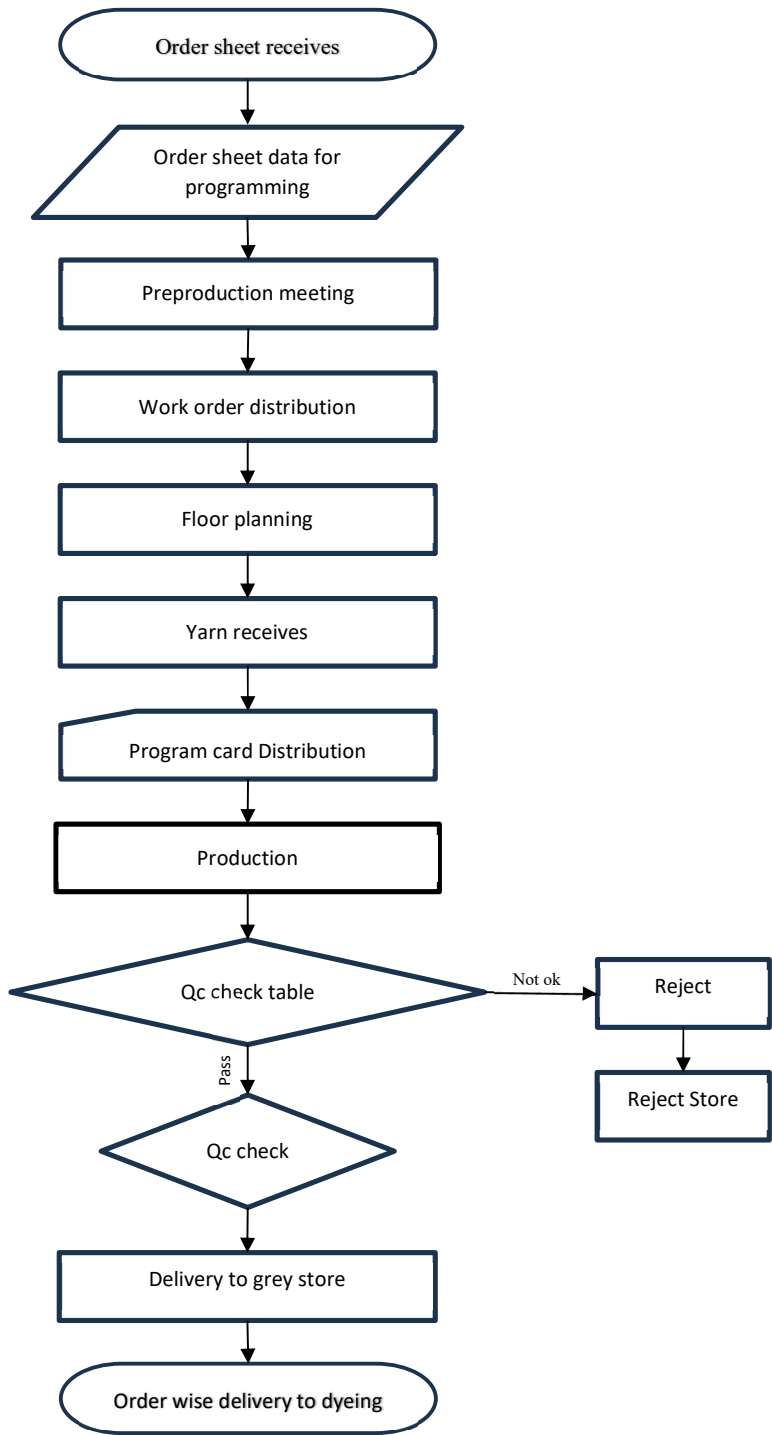


Figure 2.1 Knitting Flow Chart

2.1.4 Types of fabric

FKL produces a huge variety of fabrics. I enlisted them below-

Fabric Type	Derivatives
Single Jersey	S/J, 2 ply S/J, Lycra S/J, Design Jersey
Double Jersey	1 x 1 Rib, 4 x 3 Rib, 2 x 2 Rib, Variegated Rib, Design Rib, Interlock, Bonded Interlock
Terry	2 thread Terry, 3 thread Terry, Baby Terry, French Terry, Loop back Terry
Fleece	2 thread Fleece, 3 thread Fleece, Diagonal Fleece
Pique	Polo pique, Waffle
Jacquard	Jacquard Jersey, Jacquard Interlock
Lacoste	Single Lacoste, Double Lacoste

2.1.5 Knitting Faults

There can be different types of faults occurred in the knitting process. I observed some of the problems during the quality checking of the fabrics and listed them as follows-

Knitting Faults	Reason for the fault
Hole	Higher yarn tension, large knot size, broken needle/latch, sinker hook breakdown, high fabric take-down tension, poor strength of yarn.
Needle Mark	Insufficient needle lubrication, needle jam, damaged latch of the needle, or yarn missing from the needle.
Sinker Mark	Sinker setup problem, sinker jam, bent or broken sinker.
Diameter Mark	Insufficient fabric take-up tension
Thick/Thin place	Thick thin yarn, yarn lot mix, high/low yarn tension, improper VDQ pulley setup.
Oil Spot	Excess lubrication in the machine, touching fabric using oily hands by the operator.
Wheel Free	Improper wheel lock, displaced belt from the wheel.
Lycra Out	Improper Lycra feeding, Insufficient Lycra tension.

2.2 Dyeing Department

FKL's dyeing department is a large department with two dyeing floors and a daily dyeing capacity of 50 tons. This department is mostly equipped with high-performance Winch Dyeing Machines. The facility is equipped with 32 bulk dyeing machines and 22 sample dyeing machines of companies like Sclavos (Greece), Fongs (China), Canlar (Turkey), Beneks (Turkey), and PMM (Turkey). These dyeing machines have various capacities ranging from 200 kg to 1500 kg for bulk dyeing and 20 kg to 120 kg for sample dyeing. I observed specification of every machine, made a layout of the department to know the present machines' position and their capacity well.

2.2.1 Batching

Batching starts after the knitting process. After knitting, fabrics are kept in a knitting store. As per the dyeing plan, the machine batch department receives fabric from the knitting store via a fabric requisition system. The batch department brings the fabric, weighing it, and hands it to the dyeing department and to the finishing department if the process involves heat setting before the dyeing. I observed all the processes involved in the batching operation.

2.2.2 Water Treatment Plant

A water treatment plant is essential for any dyeing factory. FKL uses groundwater that contains dissolved minerals, such as calcium, magnesium, iron, and carbonates. These minerals create problems at many stages of dyeing, so removing them is essential. For dyeing purposes, the acceptable range of hardness in water is 0 to 50 ppm. FKL keeps it within 10 to 12 ppm.

FKL's WTP uses two types of filters, one of which is a "sand filter" and the other is a "resin filter." The sand filter removes floating impurities and TSS. On the other hand, the resin filter removes hardness caused by calcium and magnesium. Groundwater is first kept in a tank, then pumped through the sand filter, then through the resin filter, and finally, soft water is stored in a tank and supplied to the whole factory. The details are illustrated in Figure 2.3.

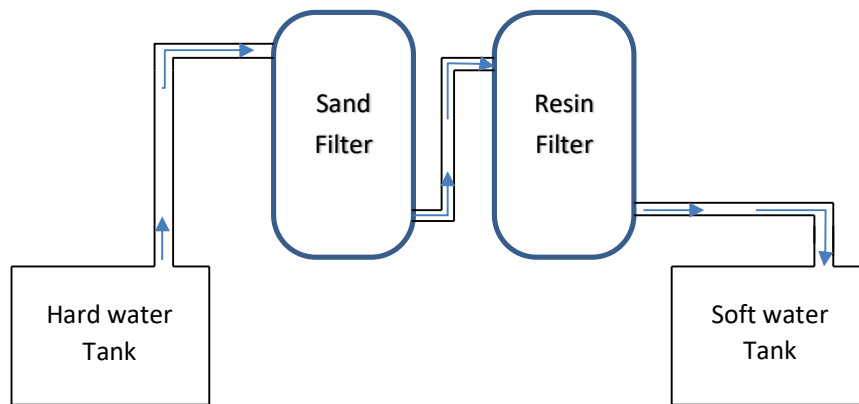


Figure 2.3: Water Treatment Process

2.2.3 Bulk Dyeing

Dyeing is a critical part of textile processing. I observed every process sequentially, starting from getting batch from the batch department. After getting the batch, the first step is to prepare the fabric for loading into every nozzle in the allocated machine. Every nozzle is loaded with an equal weight of main fabric and equal weight of other fabrics like rib fabric, back neck tape fabric, collar, and calf. Also, if the process needs back sewing of the fabric, that's also done here before dyeing.

I observed that FKL's dyeing operation involves various steps: Fabric Loading, Demineralization of the fabric, Combined scouring and bleaching, Enzymatic Bio-polishing, Dyeing, Aftertreatment (Washing, pH control, Soaping), and after matching the required shade - Unloading. Every process is done at a suitable temperature for that specific process.

I also observed various dyeing processes according to their shade percentage, chemical quantity and type differences in the shade percentages. Also, collected swatches from every step in a dyeing batch. Learned about the function of dyes and chemicals, and mechanism involved in the dyeing process.

2.3 Finishing Department

Finishing is also an essential part of textile processing. I observed all the processes involved in finishing. Finishing is done in two types of fabric: open diameter and tube fabric. The finishing process of these two types is different. Flow chart of both of these are as follows –

2.3.1 Tube Finishing

As FKL finishes two types of fabric, Tube and Open diameter, I observed both types. Tube fabric finishing starts with squeezing the fabric in a squeezing machine, where the fabric is stretched to its diameter, and a softening chemical is applied. Then the fabric is squeezed by a set of pad rollers at an optimum pressure to ensure enough chemical pickup and to squeeze the excess chemical. The next process is drying the fabric in a dryer machine. Fabric is passed through a conveyor belt, kept in the dryer machine for a certain time by controlling the machine speed. Here, drying temperature, time, and machine speed vary for GSM and fabric type variation. After drying, the compacting process starts. In a compacting machine, the diameter of a tube fabric can be controlled, and GSM can be controlled by overfeeding or underfeeding the fabric in the machine using steam, temperature, and tension.

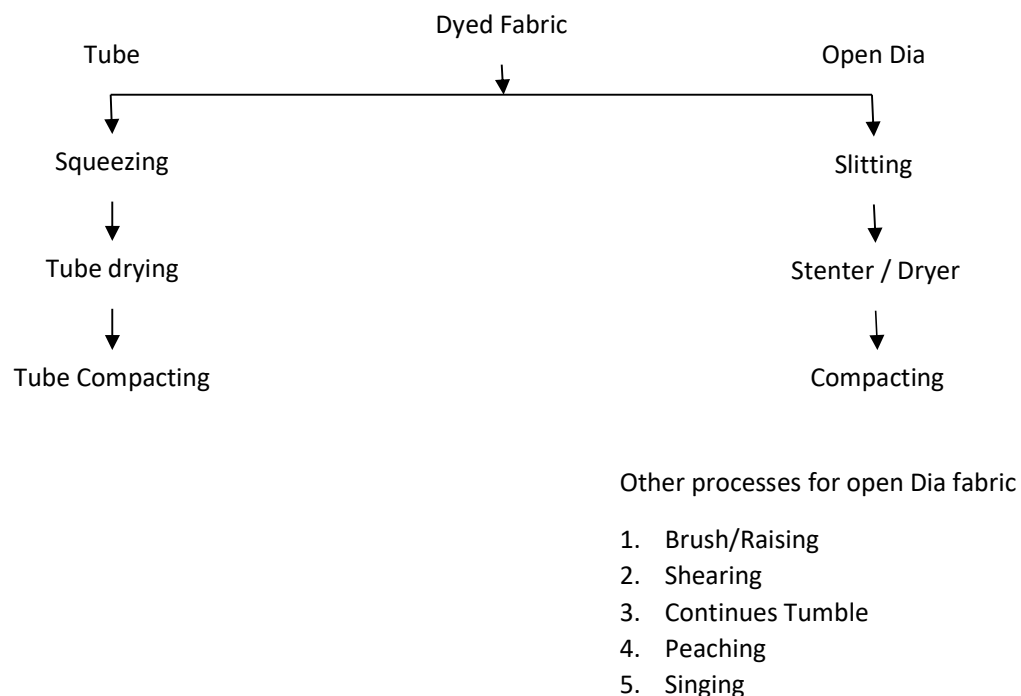


Figure 2.4: Finishing flowchart

2.3.2 Open diameter Finishing

For open diameter fabric, I observed that the finishing process starts with the slitting machine, where the fabric is slitted to open diameter from a tubular position. Then the fabric is washed to remove adhered fiber from bio-polishing and squeezed by a set of pad rollers to remove excess water, and finally, the fabric is arranged in a proper order for processing in the stenter machine.

In the stenter machine, the main operation is to dry the fabric. The other operations are finishing chemical application, controlling the GSM by diameter adjusting, and overfeeding or underfeeding the fabric. Also, temperature plays a huge role in this operation.

After the stentering process comes the online QC check, where the fabric is checked directly after the stentering. Here, the required diameter and GSM are checked, and also the fabric is checked thoroughly. Then the fabric gets checked again, called offline QC check. The fabric gets checked, and every fault is detected by the “4 – point” QC check system. For some faults that can be eliminated, the fabric is sent to the department where it can be done. And which faults cannot be eliminated are rated by the 4 – point system. Then the compaction process comes in, where the fabric is processed by the compacting machine to adjust the GSM by adjusting the diameter or length, eliminating some faults, and preparing the fabric for its next step.

2.3.3 Fabric Faults

Fabric faults can occur at any stage of the manufacturing process, from spinning of yarn to fabric finishing. Despite checking at every stage, some faults can only be detected after dyeing and finishing.

I enlisted some faults while offline QC checking, they are as follows –

Yarn contra, Dead fiber which are the faults from spinning. Miss yarn, Lycra missing, Hole, Needle mark, Needle drop, Sinker mark, Fly contra, Patta problem, etc., are the problems from knitting. Uneven shading, Running shade, Crease mark, Dye spot, etc., are the problems from dyeing. Water mark, Dye migration, Softener spot, Color spot, Shade change due to temperature finish, GSM problem, etc., are the problems from fabric finishing.

2.4 Garment Production Department

The garment production deals with various functions as elaborated below-

2.4.1 Cutting

Garment production starts from receiving finished fabric from the store. Then the first step is to check the documents, and the responsible person notes all the required data. Then starts the fabric shrinkage test, diameter measurement, pattern making, marker making, and keeping the fabric for relaxation for a period of time, as per the fabric construction. After this comes the fabric spreading operation, and the marker is placed on the top. The cutting operation takes place after this. FKL has both manual and automatic cutting machines. Most of the bulk cutting operation is done by the automatic machine. For small quantity orders and striped fabrics, they do the operation manually. At the cutting department, I observed all these processes, interacted with the operators, the cutting manager, and learned about the cutting process.

2.4.2 Sorting, Bundling, and Quality Checking

After the cutting operation comes the sorting and bundling process of every part of the garment. Every part of the garment is numbered properly to find out the exact part of the garment. Then the quality checking process is started. Every part is checked manually. For any defect, the part is replaced by a new part, matching the shade with the other body parts of that garment. Then these cut parts are sent for further processing.

2.4.3 Printing & Embroidery

After sorting and QC of the cut parts, if the garment has any printing or embroidery on any specific part of the garment, that part is sent to the printing or embroidery department for the process to be done. The printing process involves designing the print, screen preparation for printing, and printing on the specific garment part. The embroidery process involves designing the embroidery, uploading the design into the machine, setting up the yarn according to the color of the design, placing the fabric, and the machine automatically does the operation.

2.4.4 Sewing

After the printing or embroidery process, all parts of the garment come to the sewing department. I observed that the sewing process starts with the product analysis to identify the sewing and operations to complete the garment. SMV is calculated to finish the product, and the target production is set. The layout for the operation is done, and the operator is chosen as per the target. Line balancing is done to eliminate any bottlenecks. QC check is done after the sewing operation. Then again, offline QC check is done, and the garments are sent for finishing operations. Finishing operation involves the ironing of the garment, attaching accessories, folding the garments, packing the garments, and cartooning them as per the buyer's requirements and shipping locations.

I also learned about the calculations involved in determining Cycle time, SMV, efficiency, target production quantity, CPM, CM, available time, etc. Also learned about different layout types like U-shape, Zigzag, and Central table. FKL operates its line in a “U – layout” and they have “INA hanger system” for material flow for different sewing operations.

I also observed the machines involved in the sewing operation, their mechanism, the number of needles used, the stitch type, and the machine's specifications. I watched three types of machines: Flatlock machine, Overlock Machine, and Lock stitch/Plain machine. Lock stitch/Plain machine use single needle and a bobbin system. Overlock Machine can be of 3 thread, 4 thread, 5 thread, where it uses multiple needles and multiple looper system. Flatlock machine can be of 2 or three needles and a looper system.

FKL has ninety-nine lines for their sewing operation, where ninety-five lines are operational with a 3,000,00 pcs of production capacity per day.

2.5 Merchandising and Marketing Department

FKL's client base is from America, Europe, and East Asia. Its major clients are H&M, Primark, S.Oliver, LC Waikiki, Zara, LPP, etc. I started my industrial attachment in the merchandising department of FKL with the LPP S.A. buyer's team. LPP S.A. is a Polish multinational fashion group.

2.5.1 Merchandising flowchart

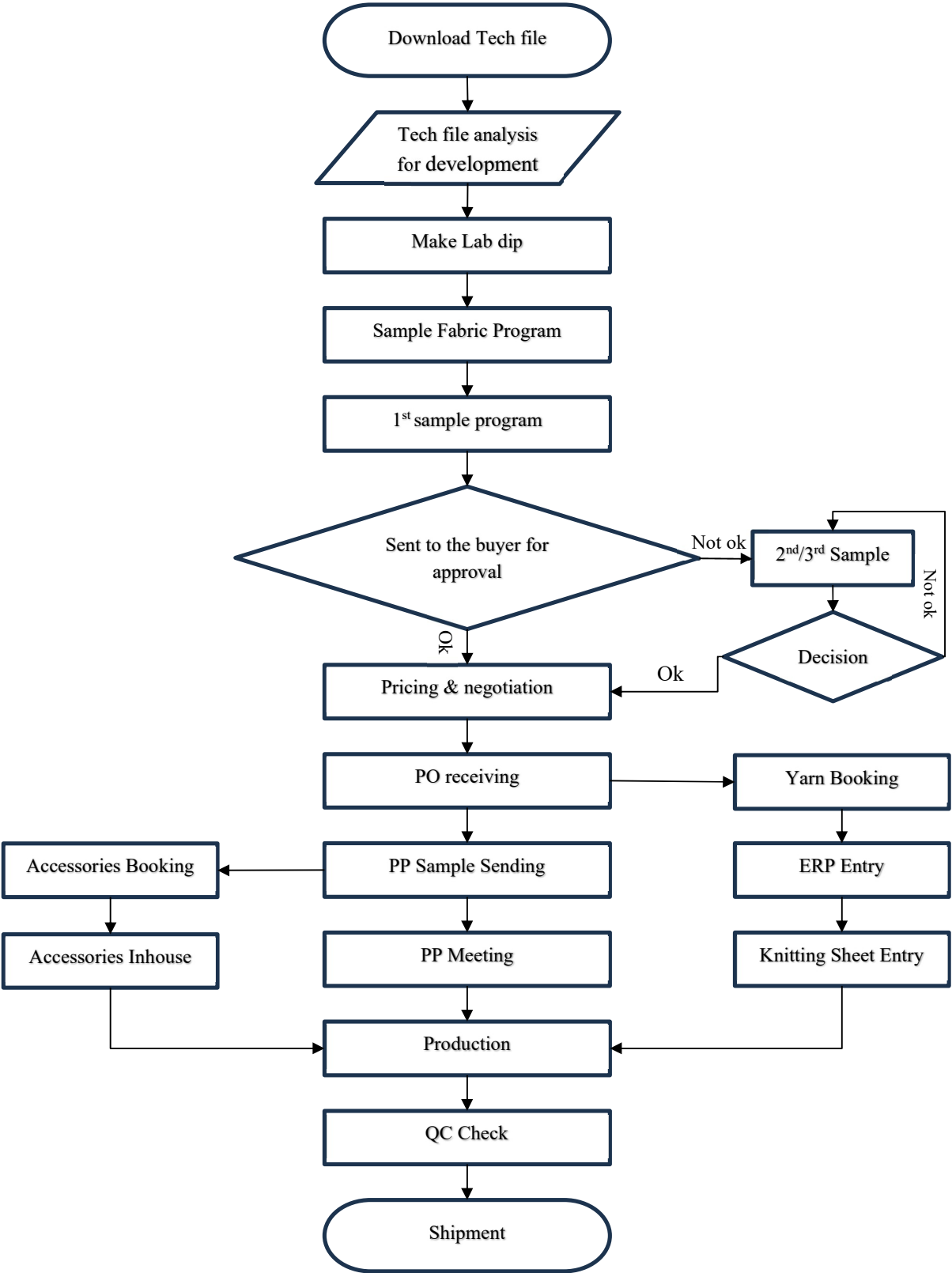


Figure 2.5: Merchandising flowchart

The entire process, from sample development to final distribution, is described in the merchandising flowchart. After getting and analyzing the tech file, sample fabric development and lab dip preparation come next. After developing the sample, the customer receives the first sample for approval; if it is not accepted, other samples are made until it is. Following approval, the purchase order (PO) is obtained after price and negotiations are finished. ERP and knitting sheet entries are then completed, along with the booking of yarn and accessories. Before beginning bulk production, a pre-production (PP) sample is supplied and a PP meeting is held. The final products are supplied to the customer after quality control (QC) inspections are completed. The details are given in Figure 2.5.

2.5.2 Sample Development

I worked on sample development per the buyer's tech file. The tech file contains every detail of the product, such as what type of product the garment will be, who the target customer is, the garment's outlook, fabric construction, color details, trims and accessories details, and the measurement of the garment. Also, if there's any print or embroidery present, the measurement and color details of that are also mentioned in the tech file.

After getting all the details from the tech file, I started the development process by booking a sample program. If they have fabric available matching the criteria mentioned in the tech file, then I took the fabric directly from the store. Otherwise, it needs to knit a new fabric, then dye and finish according to the criteria. After getting the fabric, it is prepared for cutting using a pattern according to the given measurements in the tech file. After cutting operation, the specific part of the garment goes for printing or Embroidery or both if mentioned in the tech file.

After these operations, all the body part of the garment goes for sewing. The garment is sewn according to the measurements and then goes for a quality check. If the QC person approves, the garment goes for washing if mentioned. Then goes for ironing and packing for sending to the buyer for approval.

Upon reaching the buyer, the sample gets inspected, and any changes needed are commented on. Then we need to work accordingly and arrange another sample or photo sample for their approval. Upon

approval, it needs to send a PP sample for final approval. Also, a shipping sample needs to be sent from the bulk production stage. I worked in every stage involved in the sample development process.

2.5.3 Purchase Order and Bulk Booking

If the buyer approves the development sample and both party agrees on the price negotiation, the buyer sends a purchase order. PO contains the full order details, shipment date, shipping destinations, payment type, quantity ordered according to the size and color, and packaging details. Also, the guidelines and conditions of the purchase. I personally analysed a few POs and learned about the next procedures.

After getting the PO, the next step is to enter it in the Enterprise Resource Planning software (ERP) for further proceedings. FKL uses its own ERP software developed by its IT team. After the order is booked, it needs to prepare a knitting sheet. Knitting sheet needs a few data to prepare it: CPM, CM, fabric diameter, and consumption. The CAD department provides the diameter and consumption, the IE department provides the CM value, and the finance department provides the CPM value. After getting all this data and size breakdown from PO according to color, the knitting sheet is prepared and sent for approval from every department involved in further proceedings.

Next comes the accessories booking. This is also done by the ERP system. Work order is prepared in ERP according to Size breakdown and color by following the tech file and PO. Then these work orders are sent to the buyer-nominated supplier, they work accordingly and supplies the trims and accessories in time. I carefully observed every work done by the merchandiser and learned every procedure.

2.5.4 Process follow-up

As an intern, I worked closely with and as a merchandiser. Followed up on every process involved, from the sample development to shipment. I, along with the team members, regularly worked with other departments to meet the shipment schedule according to the T&A prepared by the planning team.

A merchandiser plays a huge role in every process by giving direction, sample swatch, approved garment/hanger, and the buyer's comment for improvement, as well as influencing the work to be done within the schedule. Also, theses process goes on by continuously giving production update the buyer. Merchandising process involves some other work, like working on LC and payment system, along with the accounts and the commercial department. I learned all these with the team members.

Chapter 3: Critical Assessment of Internship Work

This chapter includes a critical evaluation of the internship experience at FKL, focusing opportunities for development in several departments as well as learning objectives. A thorough grasp of the entire textile manufacturing process was made possible by the internship's invaluable practical exposure to knitting, dying, finishing, clothing manufacture, and merchandising. Additionally, it showed how academic information from a variety of subjects, including leadership, communication, analytical abilities, industrial engineering, and marketing, could be applied in actual industrial settings. Some shortcomings were noted, such as machine placement, fabric handling, sample management, and operator skill gaps, in addition to strengths including well-organized operations, sophisticated technology, and effective workflow. These discoveries led to the proposal of a number of useful recommendations for increasing efficiency and production. Overall, by improving technical knowledge, problem-solving skills, communication abilities, and comprehension of industrial operations, the internship experience greatly aided in both professional and personal development.

3.1 Critical Assessment of Internship Experience Across Various Departments

During my internship period at FKL, working across various departments contributed significantly to my learning about the knitwear industry. The opportunity to closely monitor the work processes of different departments helped me understand the industry so well. I have done my internship in five departments: Knitting, Dyeing, Finishing, Garment Production, and Merchandising. In every department, I prepared a layout to understand the machine positioning and material flow. FKL has knitting machines from different origins in its knitting department, with a wide range of variations like diameter and gauge. Also, they have some special machines like an engineering stripe or an auto stripe and a jacquard knitting machine. With these, they can produce different types of fabric, including some critical designs as per the buyer's requirement. Learning about all these enriched my knowledge about fabric production. Analysing different fabric types helped me learning the technical point of view in

production. During quality inspection, I was able to learn about the faults occurring during production and how to eliminate them. Learning about dyeing processes was quite easy, as the supervisor was very interactive. FKL's dyeing department has a large amount of production capacity with the best quality possible. The department has good-quality machines of various brands. Specially "Sclavos" machines, which have some good features like "aquachron", which refers to high-quality rinsing. Also, they follow an extra process in dyeing to maintain the quality. The finishing department is well-oriented and spacious, having a lot of good-quality machines, the workflow was good, and the supervisors were well-interacted. The Garment Production department of FKL consists of multiple sections. In its cutting section, they have both manual and automatic cutting machines. They can support a huge production plan. Automatic cutting machines are quite fast; they can do spreading operations and cutting operations much faster than the manual operation, using only one-sixth of the manpower of the manual one. FKL's printing section can produce good quality printing as they have well oriented production floor, expert R&D officials, and various types of machines to support their production and quality. The sewing section can support such high production because of skilled workers, automatic material flow in the sewing line, and good-quality machines. Also sewing floor is spacious despite having a large number of lines and workforce. The merchandising department is a well-decorated and well-oriented department. Their work process is also quite smooth. The sample development section, which is a primary working area for merchandisers, is just one floor below the merchandising office floor. Also, the sample section is equipped with quality machines and skilled operator to support merchandisers.

Every knitting floor has a common problem of fly (loose fiber), but it seems that FKL has this problem more than any other factory I visited. It can be maintained in a better way by covering every machine area individually with knitting industrial-grade covers. Also, the company keeps a sample hanger for every type of fabric they produce and changes all of them every two years. It's a very good practice, but the keeping area is not clean enough to keep those samples in good condition. The problem I found

was that the machines are not quite well positioned, and operators have to carry all the chemicals manually. Besides these, the dyeing operators need to work on dividing fabrics for the machine nozzles, as the batch section is not capable of providing fabrics ready for loading in machine. On the other hand, I found that the finishing department's fabric keeping is very poor. Lots of fabric are kept without any cover or polybag, which may cause quality problems. In garment production, the main obstacle to the cutting operation can be any malfunction of the machine. Also, the machine is not manufactured in our country, and technicians are not well-trained to fix any issue of the machine. Getting support from the supplier can be more expensive and a lengthy process. This can hamper the production process. Printing and embroidery departments take a lot of time to complete their task. For the sewing section, I observed a few under skilled operator, creating bottleneck in the operation. The key problem in the merchandising department I found is sample keeping. It needs a huge space for sample keeping. Also, despite having a lot of work pressure, merchandisers need to prepare the trims and accessories card, adding a lot more work pressure.

3.2 Application of Generic and Industry-Specific Courses during Internship

KIM 101: HR Skills and Competencies

From this course what I learned is about leadership skills, leadership traits, leadership behaviour, different leadership styles, employee motivation, lowering gender discrimination. Team building in organization, etc. during my internship period at FKL, I found relation to these learnings. Supervisors and managers assisted employees in running machinery, preserving production flow, and resolving operational issues in departments including knitting, dying, and finishing. During the fabric manufacturing process, effective leadership ensured appropriate worker coordination, increased productivity, and upheld quality requirements. Additionally, I witnessed the significance of teamwork, employee motivation, and lessening gender discrimination inside the company. Leaders in the merchandising and garment production departments collaborated with several teams to satisfy customer demands and uphold timelines for delivery. Efficiency and teamwork were enhanced by

inspiring workers and upholding a positive workplace culture. Because women make up a large portion of the textile industry's workforce, initiatives to reduce gender discrimination have boosted overall organizational performance and made the workplace more inclusive.

KIM 102: Analytical Skills and Competencies

I acquired a variety of analytical and problem-solving skills from this course that are very relevant to the textile and RMG industries. Numerical techniques, statistical analysis, Software like Excel, research methodology, and critical thinking were the main topics of the course. In textile factories, these abilities aid in the analysis of production data, the interpretation of statistical findings, and the improvement of managerial choices. Additionally, this course focused on data-driven decision making, which is crucial for increasing productivity and efficiency in industrial processes. I observed how these analytical abilities connect to actual industry processes at FKL. Data analysis and the use of software's help monitor productivity, quality control, and order management in areas like knitting, dyeing, finishing, garment production, and merchandising. Production planning, defect analysis, and cost management decisions are supported by statistical data and analytical reasoning.

KIM 103: Communication Skills

Professional writing, business communication, presenting abilities, reading and listening comprehension, and cross-cultural communication were the main topics of the course. Along with learning how to manage meetings, make presentations, and deal with communication difficulties at work, it also covered practical skills like composing emails, reports, memoranda, and proposals. These abilities enable professionals to effectively convey concepts, data, and directives to buyers, bosses, and coworkers. I witnessed how several departments use these communication abilities. Coordinating manufacturing tasks, exchanging technical instructions, and quickly addressing operational issues are all made possible by effective communication. To guarantee that order requirements, production

timelines, and delivery dates are appropriately maintained, the merchandising department must maintain open channels of communication with both internal teams and buyers.

KIM 104: Business Operation Skills

Learning from the course was the study of ways of examining the external business environment to aid organizational development and strategic decision-making. It presented tools of critical analysis, such as the PESTEL analysis, which analyzes political, economic, social, technological, environmental, and legal forces that influence business operations. Also, I learned using the BCG Matrix to analyse market growth and share to help them in attaching the relative positions of products. In addition, learned about the SWOT analysis, where I was able to establish internal strengths, weaknesses, external opportunities, and threats.

The relevance of the discussed concepts to the textile and knitwear industry was observed during my internship at FKL. Observation of the external market forces and consumer needs became crucial in maintaining competitiveness in the global ready-to-wear (RMG) industry. The awareness of project limitations, expressed in terms of time, cost, and quality, turned out to be important in controlling production timelines and the maintenance of products. Another aspect of project management tools and their usefulness in the internship was the project life cycle and other methodologies of solving problems in a structured manner, such as DMAIC. These strategies were identified to improve production rate, decrease flaws, and encourage constant enhancement of the textile manufacturing processes.

KIM 202: Industrial Engineering

With the help of the course, I was able to analyze the critical contribution of industrial engineering in the improvement of production processes in the garment manufacturing industry. Different concepts that were covered in the curriculum are line balancing, standard minute value (SMV) calculation, non-productive time reduction, operator skill matrix development, work in progress (WIP) utilization,

bottleneck mitigation, push-pull production systems, lean methodology like Kaizen and Kanban. These application methods are used to help make the production more efficient, manage the working process more efficiently, and generate more significant waste minimization in factories.

My internship experience at FKL, I made a full observation concerning the garment production process, which included a cutting process, sewing, and finishing. I also identified the importance of the industrial engineering department in auditing the performance of the production and identifying the operational challenges. The course also provided me with a stronger ability to interact with the IE team in terms of production issues and also participate in initiatives that seek to increase output and efficiency of workers in the factory.

KIM 203: Production Management and Merchandising

During this course, I understood a whole lot about key concepts that can be applied to both fashion design and merchandising in the apparel market. The first part of the curriculum was on the basics of fashion design, which included seasonal cycles, mood boards, thematic development, color palette, and silhouette structure, which are vital components in the development of new fashion collections. The next part of the course focused on the marketing and merchandising practices. These included: buyer communication procedures, sample development, order confirmation process, bulk production logistical procedures, and shipment coordination.

At FKL, I was working closely with the Merchandising and Marketing department, witnessing how buyer requirements, sample development, and production scheduling are managed in a real-life environment. I also observed how the seasonal patterns, thematic factors, and the needs of the buyers affect the product development and the order planning. This practical learning program helped me to balance the theoretical understanding I had acquired throughout the course with the practical processes of the textile and garment industry.

3.3 Suggestions for the Company

Fakir group FKL is a composite factory, having all the departments required for knit garment manufacturing except a spinning mill. Though the Fakir group has its own spinning mill located outside the FKL's compound. Every department is well-oriented and well supportive to achieve 3,00,000 to 3,50,000 pcs of garment production daily. But every department has its own drawbacks, which can be improved by short-term and long-term planning.

For the knitting department, arranging industrial grade cover to protect the machine area can improve the quality of knitted fabrics. Also, I can suggest that an ERP-based programming for the machines can eliminate the wastage of time by hand-writing the batch cards. In the dyeing department, increasing the area of the batch section and its manpower, shifting tasks like dividing fabric for each nozzle of a machine, and the back-sewing process from the dyeing floor to the batch section can reduce pressure from dyeing operators as well as improve productivity. In the merchandising department, the office area is so well oriented and working-friendly, but some improvements can be made by managing sample keeping effectively. Also, the supporting departments' more effective cooperation can increase the orders as well as the revenue of the company.

Furthermore, maintaining effective relationships with the buyer and supplier, knowing each others need, and prioritizing common goals can bring greater success. Lastly, building a strong research and development team along with a designer's team can help developing own trendy and fashionable styles, ensure good marketing, and attract more buyers.

3.4 Learning for self-improvement

The experience gained during the internship at Fakir Knitwears Ltd., along with the academic knowledge gained in the PGD-KIM program, taught various important lessons that can be relevant to personal and professional growth. Among the major inferences was the need to gain practical knowledge in the textile and knitwear industry. Although the academic coursework provides a theoretical background in terms of the processes involved in the textile process, practicing the realities

of operations caused one to realize how the theory is applied in practice. It is the experience of this nature that made me realize the constant need to develop not only technical but also experiential skills so that I can operate successfully as a professional in the textile sector.

Another important learning was connected to the importance of effective communication and collaboration in the industrial setting. A textile manufacturing process requires the coordination of several units. Incompetent communication among the units may result in bottlenecks in the production process or the manufacturing of low-quality products. An observational study revealed that the key factors to effective production management are strong communication and interpersonal skills, and the ability to tackle problems in a dynamic and agile manner.

Time-managing techniques and production planning are also other important lessons that have been learnt at the internship. Textile factories are under strict production timetables and delivery schedules. This makes effective scheduling of workflow, wise use of machines, and well distribution of skilled workforce inevitable in maintaining productivity and meeting stakeholder needs. Understanding these pressures of operations helped in increasing the awareness of and appreciation for the industrial management methods.

In addition, the internship brought to light the significance of having a systematic system of quality control in all stages of production. Since the process of procurement of the yarns and knitting goes through to dyeing, finishing, and assembling the finished garments, the maintenance of consistent quality levels is an important factor in ensuring the satisfaction of the clients and competitiveness in the international markets.

To sum up, continuous professional progress is essential, and the internship demonstrated that. The textile and clothing industry is an industry that is continuously evolving because of the emerging technologies, new machinery, and sustainability programs. Based on this, the acquisition of superior technical skills, management skills, and analytical skills will form vital building blocks towards career development in the knitwear industry.

Chapter 4: Conclusion

The experience of the FKL internship provided a good chance to gain practical experience of the operational framework of the modern knitwear manufacturing industry. The experience of observing and working in different departments of the company, which included knitting, dyeing, finishing, garment production, and merchandising, made the internship a comprehensive experience of the entire textile production process. This internship experience enabled me to fill the gap between the theoretical knowledge acquired in the course of the PGD-KIM program and actual industry practices.

The fabric manufacturing process starts with the knitting department, where knitted fabric is made by using various forms of circular knitting machines and yarn. The knowledge of machine mechanisms, production layout, and general fabric defects will help to recognize the technical complexity of fabric production. The dyeing department also demonstrates the significance of wet processing, like sample dyeing, bulk dyeing, chemical handling, and process control. These processes should be managed in a proper way to develop correct colors and uniformity of fabrics.

The finishing department points out the way the dyed fabrics are handled so as to improve their physical properties, appearance, and dimensional stability. This is facilitated by several finishing stages that help enhance the end product of the fabric before it is used in making garments.

Communication between the buyers and the manufacturing units is also important to be coordinated by the merchandising department. The proper management of orders, scheduling of production, and coordination of deliveries are important duties that would guarantee that customer needs are met within the given deadlines. This department is the center of linking the market demand and manufacturing capabilities.

On the whole, the internship served as an excellent insight into how various divisions of a knitwear production company work in harmony towards ensuring efficient production and quality control. It also brought out the significance of cooperation, technical skills, and proper management within the textile and garment industry.

In my own assessment, the internship helped me in professional development through increasing my practical knowledge, practicing better problem-solving skills, and reinforcing my knowledge on how industrial work is done. The work experience in actual manufacturing conditions has equipped me to understand more about the opportunities and challenges in the knitwear industry.

Finally, this industrial attachment is a significant investment in a professional career in the textile and RMG industry. The acquired experience, as well as the academic knowledge acquired during the PGD-KIM course, will serve as a contribution to the further personal growth and the possibility of making a positive contribution to the evolution of the knitwear industry.

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