

Report On
Echotex Limited
Operational Procedure

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

Executive Development Center, BIGD
BRAC University
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Declaration

It is hereby declared that

1. The internship report submitted is my own original work while completing a 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.

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Letter of Transmittal

Proloy Barua, Ph.D.

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Subject: Submission of Internship Report on Operational

Dear Sir,

This is my pleasure to share my internship report regarding the operational process of different departments and scope of implementing potential improvement of Echotex Limited which I was appointed by your direction.

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

I trust that the report will meet the desires.

Sincerely yours,

Md Jamilur Rahman

ID No. 24281027

Executive Development Center, BIGD

Brac University

Date: November-10, 2025

Non-Disclosure Agreement

Echotex Limited as the First Party and the undersigned student at Executive Development Centre, BRAC Institute of Governance and Development, BRAC University as the Second Party have made and entered into this agreement. The First Party has permitted the Second Party to complete a three-month internship as part of the requirements for the Post Graduate Diploma in Knitwear Industry Management. The Second Party will be able to collaborate closely with company executives and gain access to official data and information. The Second Party will write an internship report based on work experience and data and information gathered during the internship. The Second Party will make use of a wide range of facts and information.

Student's Full Name and Signature:

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Head of the Department

Quality Assurance

Echotex Limited

Acknowledgement

This is a great opportunity to express my gratitude to my Academic Supervisor Dr. Proloy Barua, Research Fellow, BIGD, BRAC University, and to my Industry supervisor Mr. Imdadul Haque Bhuiyan to guide me during my internship in the industry, also a great gratitude to my colleagues and managers of departments and sections who helped me in my internship informing their processes and procedures to complete my report successfully.

Executive Summary

This report summarizes the practical experience gained during an internship at Echotex Limited from August to October 2025. Despite the short duration and simultaneous job responsibilities, the internship provided comprehensive exposure across five key departments: Planning, Merchandising and Marketing, Knitting and Dyeing, Garment Production, and Quality Assurance.

The report is structured into four main sections: Industry Overview (Chapter-1); Description of Task Accomplishment across the five core departments (Chapter-2); Critical Assessment of Internship Work (Chapter-3); and the Conclusion (Chapter-4). The core objective of this report is to detail the activities, strategic importance, and interdepartmental relationships within each division, identify potential areas for development, and highlight the key professional experiences achieved during the attachment period.

Keywords: QMS; Fabric Inspection; Acceptable Quality Levels; Standard Operating Procedure; Pre Production Meeting; Inspection.

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List of Acronyms

QMS:	Quality Management System
AQL :	Acceptable Quality Level
PPC :	Production planning control
TNA:	Time and Action
BOM:	Bill Of Materials
FRI :	Final Random Inspection
PL	Packing List
PPM:	Pre Production Meeting
QA:	Quality Assurance
QAD:	Quality Assurance Department
LEED:	Leadership in Energy and Environmental Design
BGMEA:	Bangladesh Garments Manufacturer and Exporter Association
PSI	Pre Shipment Inspection
PGD KIM:	Post Graduate Diploma In Knitwear Industry Management
USGBC	United States Green Building Council
ZDHC :	Zero Discharge of Hazardous Chemicals
ZLD	Zero Liquid Discharge
C & F	Clearing and forwarding
NGO	Non Government Organization

ISO	International Standards Organization
PCD	Planned Cutting Date
MRP :	Material Resource Planning
QC	Quality Controller
DHU	Defects Per hundred Units
PO	Purchase Order
OTD	On time Delivery
CM	Cost Of Manufacturing
HR	Human Resource
GSM	Gram Per Square Miter
CAP	Corrective Action Plan
NC	Non Conformity
NCR	Non Conformity Report
OCS	Organic Cotton Standards
RCS	Recycled Cotton Standard
GOTS	Global Organic textiles Standards
GRS	Global Recycled Standards
RSL	Restricted Substances List
MRSL	Manufacturing Restricted Substance List
EDC	Executive Development Center
BIGD	BRAC Institute of Governance and Development

Glossary

QMS: Quality Management System	A structured system of policies, processes, and procedures used to ensure that an organization can consistently deliver products or services that meet customer and regulatory requirements.
AQL: Acceptable Quality Level	The maximum number of defective units considered acceptable in a batch or production lot during quality inspection.
PPC: Production planning control	The process of planning, organizing, and controlling production activities to ensure that manufacturing targets, schedules, and quality standards are met efficiently.
TNA Calendar: Time and Action calendar	A detailed schedule used in the manufacturing industry to plan, track, and ensure timely completion of all critical tasks in the production process.
BOM: Bill Of Materials	A comprehensive list of raw materials, components, and assemblies required to manufacture a product.
FRI: Final Random Inspection	The last inspection conducted on finished goods before shipment, where a random sample is checked for quality compliance.
PL: Packing List	A document detailing the contents of a shipment, including product descriptions, quantities, and packaging information.
PPM: Pre Production Meeting	A meeting held before production starts to review specifications, samples, quality requirements, and timelines to ensure smooth manufacturing.
QA: Quality Assurance	Quality Assurance is a systematic process of establishing and maintaining standards to ensure product or service meets customer satisfactions and quality requirements

Chapter 1: About Organization

Introduction: Echotex Limited is a leading, vertically integrated textile and garment manufacturing company strategically located in Gazipur, Dhaka, Bangladesh. Established in 2008, the company is deeply committed to ethical practices and sustainability, consciously prioritizing environmental responsibility and employee welfare over immediate profit margins.

1.1 Overview of the Industry

Echotex Limited, founded in Dhaka, Bangladesh in 2008, is a major textile manufacturer employing approximately 17,500 people. The company operates a fully vertically integrated production chain, spanning from raw material processing to finished apparel. Its comprehensive facilities include knitting various fabrics (like jersey, interlock, and fleece), offering all types of dyeing and finishing, and utilizing advanced printing capabilities (digital inkjet and screen printing). This integration allows Echotex to produce a wide range of knitwear, including t-shirts, polo shirts, and outerwear, while also providing specialized services like garment washing. The company exhibits a strong growth trajectory, achieving \$190 million in exports in 2024 and setting ambitious targets to reach \$250 million in 2025 and \$500 million in the longer term.

The organization prioritizes ethical and sustainable manufacturing, holding prestigious certifications such as LEED Platinum from the U.S. Green Building Council, Bluesign®, OEKO-TEX, and ISO 14001:2015 for its Environmental Management System. Echotex integrates sustainability through initiatives like water recycling, using green chemicals, and investing in responsible materials such as organic cotton and recycled polyester. Furthermore, the company demonstrates a strong commitment to worker welfare, providing comprehensive benefits including free healthcare and two daily free meals, and actively supports the local community through the Children's Hope initiative, underscoring its role as a leader in ethical and sustainable apparel production (Echotex, 2024, January 3).

1.2 Vision & Mission

Vision: To be a leader in sustainable manufacturing where innovation, ethical responsibility, and people-centric practices shape the future of the industry. To be a commercially viable green community development company with people in its heart.

Mission: To be an industry role model through employing passionate people with a desire to produce the best product in the best way. To redefine the future of responsible manufacturing, where sustainability, ethical business practices, and human well-being drive progress. To be a trusted partner and a positive catalyst for both transactional impact and transformative change.

1.3 Goals & Objectives

Goals: Echotex Ltd.'s core goals involve achieving significant export growth, maintaining high-quality products and on-time deliveries, and leading with a strong sustainability vision by reducing carbon emissions and aiming for Net Zero energy. They also prioritize employee welfare through training, fair wages, bonuses, and facilities, along with a commitment to ethical and transparent operations across their entire production process.

Objectives: As it has some goals and the Echotex has some key objectives also those are as below:

Achieve ambitious economic growth and product excellence: Grow export revenue to \$250 million by 2025 and execute product diversification into specialized areas like denim and outerwear while consistently meeting international brands' quality and complex design requirements.

Lead environmental stewardship and carbon reduction: Secure the future of the environment by achieving a 42% reduction in carbon emissions by 2030 (SBTi-aligned) and working toward the long-term goal of Net Zero energy by 2040, supported by solar panel installation and waste recovery systems.

Maintain water conservation and sustainable infrastructure: Ensure 100% water conservation by maintaining a Zero Liquid Discharge (ZLD) system for complete wastewater recycling and reuse, alongside investing in energy-efficient infrastructure.

Uphold social responsibility and employee welfare: Operate ethically by providing fair compensation (above minimum wage, with bonuses and gratuity), enhancing facilities (childcare, medical), and offering continuous training to promote female leadership and meet international standards.

Drive sustainable innovation and responsible sourcing: Invest actively in responsible materials (organic cotton, recycled polyester, Eco-friendly viscose) and expand specialized

production capabilities (printing, embroidery) while strictly adhering to sustainable, ethical production practices.

1.4 Organizational Structure, Organogram, Branches and Departments

Organogram: Figure 1 illustrates a highly hierarchical and centralized organizational structure where all operational departments report to a single Managing Director. The structure is led by the Board of Director, followed by the Chairman, and then the Managing Director.

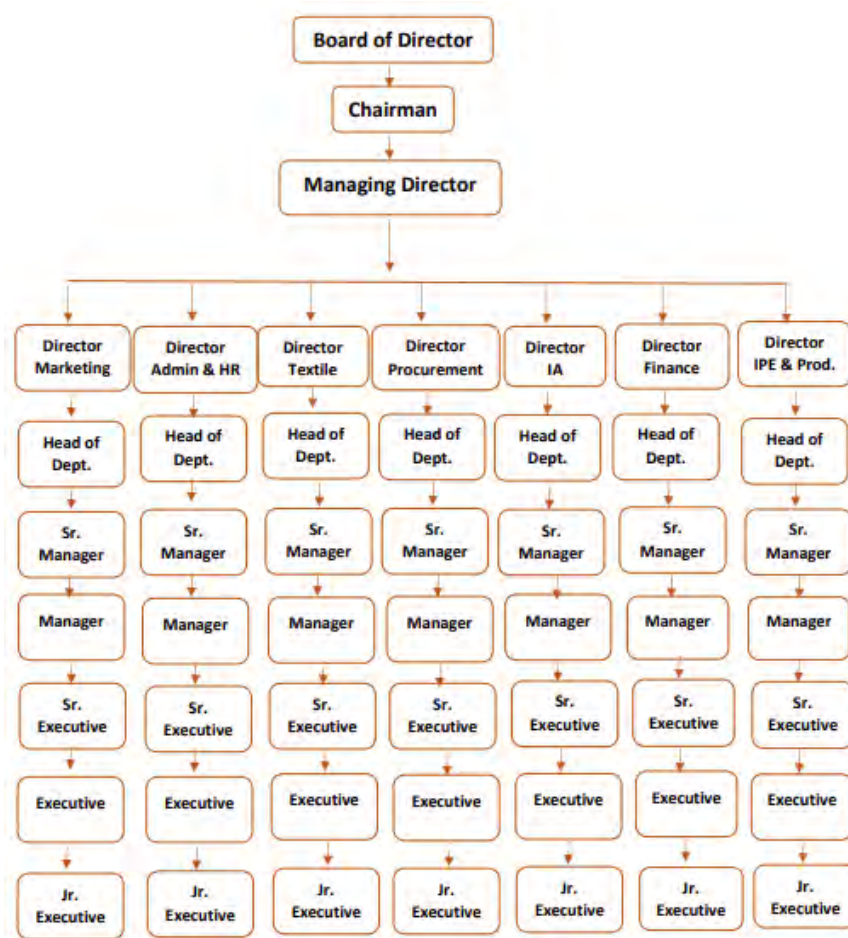


Figure 1: Top Management & Leadership Organogram

The Managing Director has seven specialized Directorates reporting directly to them: Marketing, Admin & HR, Textile, Procurement, IA (Internal Audit), Finance, and IPE & Prod (Industrial and Production Engineering & Production). Each of these seven functions maintains an identical, deep hierarchy, flowing consistently from Head of Department down through

Senior Manager, Manager, Senior Executive, Executive, and finally to Junior Executive positions.

Branches: This industry has no branch or sub branches in the country or out of the country, but it has different units like - Echotex- Textile, Echotex- Apparel 01- 08(Knit-wear), Echotex- Denim Wear, Echotex- Outerwear, and Echotex -Washing.

Customers of Echotex: Echotex is currently working for renowned customers worldwide like- H&M, Zara, Bershka, Sainsburys, Mango, Auchan, Morrison, Asos, varner, Newlook, Primark, Nutmeg, White stuffs, Sea Salt, Pull & Bear, Best seller, Kiabi, US Polo Etc.

Departments / Sections: Merchandising and Marketing, Production Planning, Procurement, Knitting, Dying/Finishing, Printing, Embroidary, Garments Cutting, Garments Production, Quality Assurance, Garment Washing, Allover Printing, Digital Printing, Denim Cutting, Denim washing, and Denim Garments Production.

1.5 Products/services Produced by the Industry

Products of Echotex: The main products for men and women are: T-shirts Ladies and Gents, Polo shirts, Vests Tops, Bottoms, Trousers, Leggings, Skirts, Pants, Hoodies, Sweat shirts, Joggers, Night wears, School wears, and Tank tops.

Chapter:2 Description About Task Accomplishment

In the garments industry, all departments are highly interlinked; efficiency requires seamless collaboration across the value chain. Although my primary role is within the Quality Assurance Department (QA) as a Quality Manager, I recognize the crucial need for a holistic understanding of the entire operation. Therefore, I pursued experience in the departments listed below to gain minimum necessary exposure and understand their inter dependencies. Table 1 summarizes description of the tasks accomplished.

Table 1: Brief Description of Task Accomplishment

Department	Days Spent	Key Contact(s) Met, designation	Name of Industry
Production Planning	07	Mr. Saddam Hossain Manager. Production Planning Department	Echotex Limited
Merchandising and Marketing	07	Mr. Kamruzzanm. Sr. Manager. Merchandising and Marketing Dept.	Echotex Limited
Knitting and Dyeing	12	Mr. Proddut Kumar, Manager, Knitting Department. Mr. Jamal Uddin, Manager, Dying and finishing Department	Echotex Limited
Quality Assurance Dept.	24	S.M Imdadul Haque Bhuiyan Head of Department, Quality Assurance Department	Echotex Limited
Garments Production	24	Md Habibur Rahman Manager. Garments Production	Echotex Limited
Total	67	—	—

The internship focused on working closely with five key departments—Production Planning, Merchandising and Marketing, Knitting and Dyeing, Quality Assurance, and Garments Production—to align departmental activities with their performance indicators. The primary

objective was to design and implement systems that integrate sustainable business practices directly into the regular operations of these core functions.

2.1 Production Planning Department

The Production Planning Department in the Garments Industry, often called Production Planning and Control (PPC) Department, is the nerve center of a garment factory. Its primary role is to ensure all production activities run efficiently and on time, coordinating everything from raw material sourcing to final product shipment. Key functions include creating detailed production schedules, allocating resources like manpower and machinery, tracking performance against deadlines, and communicating plans across departments to meet on-time delivery targets.

The department's core function is to systematically translate new buyer orders into executable production plans, starting with collecting Buyer Sheets & Specs and loading the order into the ERP system. Key responsibilities include:

Functions of Production Planning Department in Apparel ManufacturingA sequence for clear understanding of production and planning

Pls see the flow chart details in below :-

Collect Buyer Sheet & Specs



Load Order in ERP



Match with Factory Capacity



Allocate Capacity (Line/Week Buckets)



Generate TNA & Define Critical Path



Track Development Stages (Pre-production Control)



Prepare the Calendar (Visual Plan)



Allocate Style to Lines (Final Assignment)



Prepare Daily Production Targets

The PPC team needs to prepare the Time and action calendar for the new orders for the season. Scheduling is done for each order from order receiving to shipment. The job schedule contains a list of tasks to be processed for the styles. Against each task, the production planner mentions the start date of a task and planned completion date for that task. The name of the responsible person (department) for the job is being listed. For example, scheduling planned cut off date (PCD), line loading date etc.

They also include events and activities that need to be followed up by a specific date and period. So, this task can be also called TNA preparation.

(i) Capacity management: Matching new orders with the factory's current capacity, calculating capacity (in hours and pieces) based on machine count and Standard Allowed Minutes (SAM), and allocating production to specific lines and time buckets.

(ii) Time and action (TNA) planning: Generating detailed TNA calendars for each order, defining the Critical Path, and tracking every development stage from pattern making and sample approval (Proto, Fit, PP, TOP) to final trim and fabric in-house dates. This serves as the primary tool for follow-up and execution.

(iii) Material resource planning (MRP): Preparing the Bill of Materials (BOM), calculating material consumption (fabric, thread, etc.), raising indents, and obtaining quotes to ensure timely procurement.

(iv) Execution and control: Preparing detailed line plans with daily production targets (including learning-curve adjustments), ensuring the plan is executed by chasing other departments, and promptly alerting management when delays occur (Figure 2).

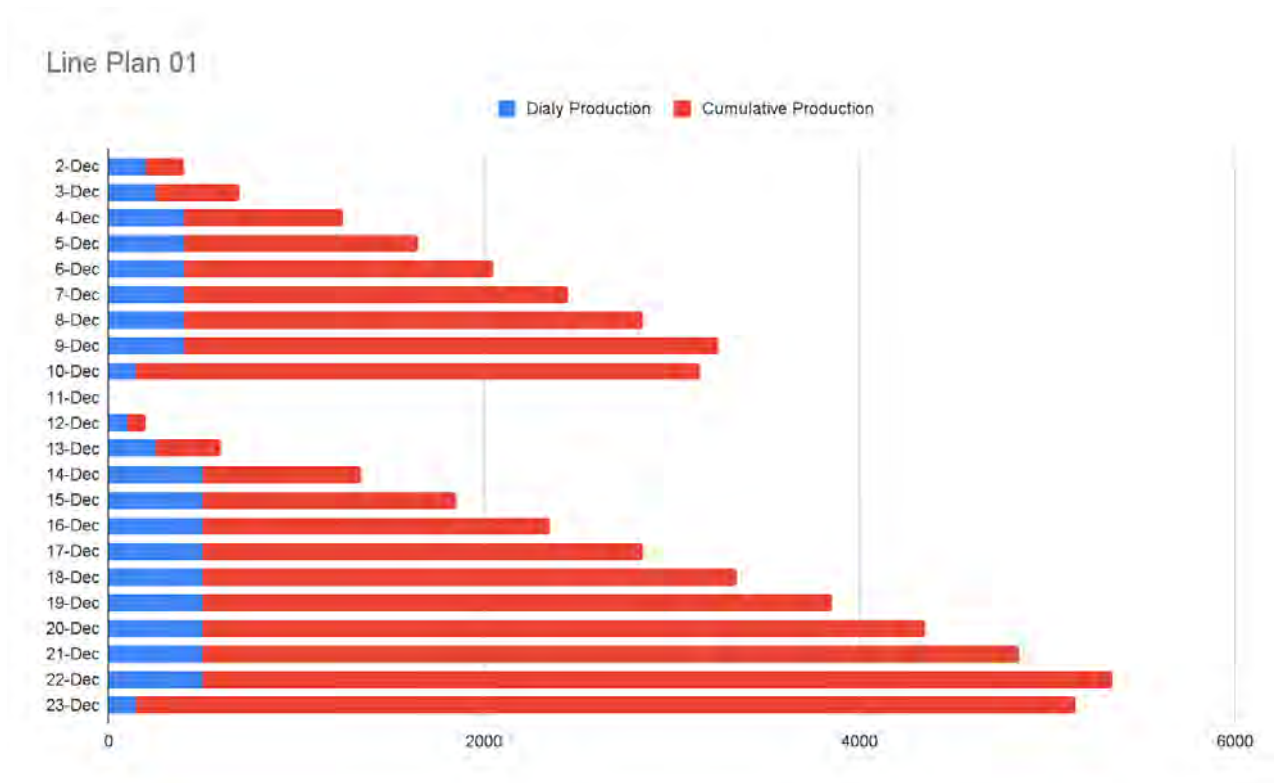


Figure 2: Stacked Bar Chart of Line Plan-01

(v) Post-Shipment Review: Conducting continuous improvement reviews focused on OTD percentage, efficiency, quality cost, and analyzing reasons for variance against the TNA plan.

In essence, PPC acts as the central scheduler and coordinator, ensuring all resources and processes align to meet complex design requirements and achieve ex-factory deadlines.

2.2 Merchandising and Marketing Department

Introduction: The marketing and merchandising departments work together to get products to customers and increase sales. Marketing focuses on the broader strategy of building brand awareness and demand, while merchandising focuses on the specific, tactical presentation of products to encourage purchases.

As an intern in this Merchandising and Marketing department, I have collected valuable insights into the strategies, creativity, and customer-focused approach that makes the strong foundation for the company's success in a fiercely competitive environment. Throughout my

tenure at Echotex Ltd., I closely observed the intricate operations of the Marketing & Merchandising department. My internship provided me with a first-hand look at how this department collaborates with other functions across the company. This collaborative interplay highlighted the significance of harmonizing marketing strategies with product offerings and operational capabilities. These experiences furnished me with hands-on exposure to the customer-centric culture and strategic decision-making that steer the Marketing & Merchandising department toward a very success.

The department initiates the business process and manages the workflow from concept to delivery. Key activities fall into commercial, planning, and coordination functions:

Activities of Fashion Forecasting

The merchandising and marketing department assists fashion designers in creating new fashion presentations for upcoming seasons by analyzing the current market conditions, as well as political, social, and multifactor influences. This analysis enables a better understanding of emerging fashion concepts.

Product Development

Echotex's merchandising department handles product development through two primary approaches – internal development based on current trends and design requirements for specific lines offered each season. When a buyer initiates an order, they send a "Tech Pack" detailing style specifications, including design, measurements, fabric, style code, surface ornamentation, and more. Samples are then created to meet these customer requirements.

Sample Approval

Following sample development, 2–3 samples are sent to the buyer for approval. The purpose of these samples is to help the buyer assess the garment style's appearance, as well as evaluate the manufacturer's capability to produce the required sample for their line. This step aids in understanding the manufacturer's capacity.

Costing

Upon receiving approval from the buyer, the merchandiser conducts garment costing, encompassing various cost components necessary for garment production and shipment. These components include fabric costs, trims and accessories costs, CMT (Cut-Make-Trim) costs, washing or finishing expenses, bank charges, buffer values, and miscellaneous costs such as wastage.

Order Receive

Based on the final pricing details and costs, a quote is sent to the buyer. Once the buyer accepts the finalized costing, they place the order specifying order quantities and other essential details.

TNA Planning

Merchandisers are responsible for checking order requirements, planning various activities, and allocating tasks to assistants. The merchandising department oversees the time and action (T&A) plan, which includes fabric and accessory bookings, knitting, dyeing, printing, cutting, sewing, finishing, packing, inspection, and shipment.

Fabric and Trims Booking

Merchandisers place orders for required raw materials such as fabric, trims, and accessories, specifying color, GSM, weave, quantity, quality, and other necessary details. They also communicate these requirements to the purchase department for placing orders with suppliers.

Pre-Production Meeting (PPM)

Before commencing bulk production with approved samples and in-house raw materials, merchandisers organize pre-production meetings. These meetings involve department heads and key personnel in the company to plan the production process and schedule it efficiently.

Communication

Effective communication is a vital aspect of the merchandiser's role. They must interact with individuals at various levels in different functional departments as part of their daily responsibilities.

Follow-ups

Merchandisers are responsible for sending samples to various stakeholders, including the buyer and buying house, to seek approvals at different stages of order processing.

Coordination

Merchandisers must coordinate efforts to minimize uncertainties and address problems. In case difficulties arise, merchandisers should offer support and assistance to ensure successful task completion.

Negotiation

Negotiation is the art of convincing, compromising, and cooperating to find mutually beneficial solutions for all parties involved in the process.

Meetings

Merchandisers participate in two types of meetings. The first type involves conducting meetings with department heads in charge of various functions. The second type entails attending meetings with superiors, buyers, or suppliers for reporting, participation, or discussions.

Controlling

Controlling activities are crucial for merchandisers. They must ensure that all tasks align with standard operating procedures, and when deviations occur, merchandisers should formulate alternative steps.

Decision Making

Garment merchandisers make various decisions during order processing, including approvals for fabrics, colors, designs, accessories, and packaging, supplier and vendor selection, buyer selection, and potential time extensions for order shipments.

2.3 Knitting and Dyeing Department

Introduction: The Knitting and Dyeing Department forms the initial, critical link in a vertically integrated apparel supply chain. The Knitting section transforms yarn into raw (greige) knitted fabrics, which are then passed to the Dyeing section to achieve the precise color, shade, and fastness required by the buyer's specifications. These departments operate within a knit composite structure, ensuring the seamless, controlled flow from raw material fabrication to the finalized, colored cloth ready for garment production.

Knitting Section: The knitting process transforms yarn into various fabric structures (e.g., Single Jersey, Rib, Fleece) through a rigorous, multi-stage flow that prioritizes quality control.

(i) Process Flow: It starts with reviewing the order and Yarn Selection, moves through Machine Setup (adjusting cam settings, gauge, and needles), and concludes with Fabric Rolling.

(ii) Best Practices & Quality Control: Operators must follow a strict Machine Start Checklist (checking lubrication, needles, tension, and stitch length) to prevent defects. Quality Assurance (QA) is critical, checking the greige fabric after knitting for holes, oil spots, and barriness using the 4-Point System for grading. Key quality parameters like GSM, WPI/CPI (stitch density), and Fabric Width are strictly controlled, with fabric acceptance criteria ranging from A-Grade (0–15 defects) to C-Grade (recheck/unaccepted).

Dyeing Section: The dyeing section ensures the fabric achieves the desired color and fastness through a controlled chemical and heat process. Key functions are as follows:

(i) Function: The primary function is Coloration and Shade Matching (against the buyer's approved lab dip) using precisely formulated dye recipes. They control the dyeing process parameters—time, temperature, pH, and liquor ratio—using machines like jet/soft-flow dyers.

(ii) Process flow: The process begins with Greige Fabric Inspection and Pre-treatment (Scouring, Bleaching, Neutralization) to remove impurities. This is followed by the core Dyeing phase, extensive Washing Off/Soaping to remove unfixed dye, and Drying/Finishing (using a stenter machine for dimensional stability).

(iii) Quality check: Quality control is stringent across pre-production, in-process, and post-dyeing stages. Post-dyeing checks include testing for Color Fastness (wash, rub), neutralizing the final pH, and using a spectrophotometer to ensure the shade adheres to buyer specifications.

(typically ΔE acceptance limits). Corrective actions are implemented to address defects like Shade Variation, Patchiness, and Crease Marks.

2.4 Quality Assurance Department

Introduction: The Quality Assurance (QA) Department is fundamental to establishing and maintaining a company's quality management system. Its core responsibility is preventing defects by developing and implementing rigorous quality standards and processes across the entire value chain. This section details the comprehensive functions and systematic procedures undertaken by the QA Department, spanning from fabric and yarn testing through to final garment shipment. The QA department's process is segmented into distinct checkpoints to mitigate risk and ensure adherence to buyer specifications:

1. Pre-production & material control: QA initiates control by: (i) Fabric and yarn testing: Conducting physical and chemical lab tests (GSM, color fastness, shrinkage, spirality) on collected samples, maintaining test reports, and segregating non-conforming materials. (ii) Fabric inspection: Performing 10% inspection of fabric rolls using the 4-point system to check for defects, cutting GSM swatches, creating shade bands from dye lots, and reporting findings to the cutting department. (iii) Accessories QA: Verifying all trims and accessories against the buyer's approved trim card, confirming lot traceability, and only releasing items after formal QA approval.

2. Cutting & pre-bulk control: Before bulk cutting begins, QA ensures readiness and accuracy: (i) Cutting QA: Verifying that fabric has undergone the minimum 12-24 hour relaxation period, confirming lab-reported shrinkage/spirality, and checking marker accuracy against fabric diameter. (ii) Test cutting & pattern verification: Conducting a small-scale test cut (3-5 pieces per size), sewing them for trial, checking styling and measurements against the Spec Sheet, and sending them for washing to assess shade, appearance, and color bleeding before approving the bulk cut. (iii) Pre-Production (PP) Meeting: Arranging the mandatory PP meeting with Merchandising, Production, and IE to review approved samples, trim cards, discuss risk points, and circulate signed minutes.

3. Inline & finishing process control: QA maintains continuous monitoring during production: (i) Line QA process control: Approving the line layout, confirming the first garment output, and applying the traffic light system (green/yellow/red card) to manage defects

and confirm print/embroidery placement and styling. (ii) Audit Checks: Implementing a multi-stage audit process, including Inline (first bulk production), Midline (after 50%), and Pre-final audits, to identify defects, generate DHU (Defects per 100 Unit) reports, and implement Corrective Action Plans (CAP). (iii) Specialized QA: Checking print quality against approved strike-offs, testing washed garments, and stopping production if deviations in color bleeding or alignment are found.

4. Final audit & shipment: The final stage ensures the product is acceptable for the buyer and ready for export: (i) Final Get-Up Check & Measurement: Conducting a 100% measurement check against buyer tolerance and performing a final get-up and workmanship check before segregation of non-conforming goods (NC goods). (ii) Metal-Free Zone QA: Ensuring every garment is metal-free by passing them through a metal detector calibrated daily with a 1mm ferrous card and certifying the lot before packing. (iii) Carton & Packing QA: Verifying carton specifications (size, print, stickers), checking the garments quantity, assortment, and ensuring packaging accessories match the approved trim card before sealing the carton for shipment.

2.5 Garments Production

Introduction: This section provides a practical, process-level description of the end-to-end knit garments production cycle within the commercial apparel factory of Echotex Limited. It details the typical activities, responsible roles, critical quality checkpoints, common issues encountered, and corresponding preventive or corrective actions taken at each major stage, from pre-production to final delivery.

The Garments Production Department at Echotex Limited manages the end-to-end manufacturing process of knit apparel, integrating multiple specialized stages from pre-production planning to final shipment.

The process is highly systematic, starting with Pre-production Activities (confirming orders, verifying tech-packs, capacity planning, and QA approvals for samples/trims). This is immediately followed by in-house raw material preparation, including Knitting (machine setup, in-process inspection, fabric relaxation) and Dyeing/Finishing (washing, color fastness, shrinkage tests).

The core apparel manufacturing stages include Test Cutting and pattern adjustment, precise Fabric Cutting and bundling, and specialized value-addition processes like Printing and Embroidery. The key phase is Sewing Production, where lines are balanced, operators are assigned based on SMV, and garments are assembled.

Throughout the assembly and finishing, the Quality Assurance (QA) function is continuous, involving In-line, Midline, and Pre-final inspections to catch and correct defects using a traffic light system and detailed defect reports. The final stages involve Finishing (pressing, trimming, attaching final tags), Packing (with strict quantity and labeling checks), Pre-Shipment Inspection (PSI) using AQL sampling, and Product Delivery & Logistics (document preparation and customs clearance), followed by post-shipment activities for continuous improvement.

Chapter 3 Critical Assessment of Internship Work

My internship period was marked by intensive collaboration with multiple departments, which significantly enhanced my self-confidence and professional skill set. This experience fostered a strong work ethic, deepened my technical expertise, and cultivated a professional mindset. Furthermore, working closely with top management provided a unique opportunity to delve into the intricacies of the organization's operations and gain invaluable insights from seasoned professionals.

3.1 Application of Generic Courses During Internship

The Table 2 maps eight different courses taken across Term 1 and Term 2 under the PGD-KIM program to five core operational departments (Planning, Merchandising and Marketing, Knitting and Dyeing, Quality Assurance, and Garments Production). Key takeaways and application are briefly described below:

Holistic relevance: The presence of a checkmark (✓) in nearly every cell indicates that all selected academic topics—ranging from statistical methods like Standard Deviation and soft skills like Email Communication and Leadership Traits to technical subjects like QMS and Lean Principles—are deemed relevant for every single department listed.

Integrated learning: The structure powerfully illustrates the need for a holistic, cross-functional skillset in the apparel industry. For example, a Manager in the Quality Assurance department must apply not only Quality Management (KIM204) principles but also Analytical Skills (KIM102) and Communication Skills (KIM103).

Table 2: Application of Industry Specific Course During My Internship

Term	Course Name (Code)	Related topics	Planning Dept.	Merchandising and Marketing	Knitting and Dyeing	Quality Assurance	Garments Production
Term-1	Analytical Skill and Competencies (KIM 102)	Standard deviation	✓	✓	✓	✓	✓
	Business Operation Skill (KIM 104)	Critical thinking using frequency distribution	✓	✓	✓	✓	✓
Term-1	Communication	7P in business	✓	✓	✓	✓	✓

Term	Course Name (Code)	Related topics	Planning Dept.	Merchandising and Marketing	Knitting and Dyeing	Quality Assurance	Garments Production
	Skills (KIM 103)	SWOT Analysis	✓	✓	✓	✓	✓
Term-1	Analytical Skill and Competencies (KIM 102) Business Operation Skill (KIM 104)	Email communication with Buyer	✓	✓	✓	✓	✓
		Public speaking strategies	✓	✓	✓	✓	✓
Term-1	Communication Skills (KIM 103)	Leadership Traits	✓	✓	✓	✓	✓
		Employee motivation	✓	✓	✓	✓	✓
Term-2	Introduction to Garment Industry - Knitwear (KIM201)	Knitting and Production	✓	✓	✓	✓	✓
		Garments Products description	✓	✓	✓	✓	✓
Term-2	Industrial Engineering (KIM202)	5-S, Lean Principals	✓	✓	✓	✓	✓
		Product Layout	✓	✓	✓	✓	✓
Term-2	Production Management and Merchandizing (KIM203)	Fashion Design. Measurement	✓	✓	✓	✓	✓
		Product and Material Consumption	✓	✓	✓	✓	✓
Term-2	Quality Management (KIM204)	QMS	✓	✓	✓	✓	✓
		Storing and Labelling	✓	✓	✓	✓	✓

The internship provided a crucial platform to apply PGD coursework, enhancing practical skills across key business functions:

(i) Production and commercial management: Knowledge from Production Management and Introduction to Garments Industry courses was directly applied to the Production Planning and Control Department. This equipped the intern with expertise in Time and Action (TNA) plan development, season-wise capacity planning, buyer sourcing, financial management, and

utilizing Incoterms for efficient shipping and agent management (C&F, Shipping Agents), leading to improved buyer satisfaction and optimal pricing.

(ii) Business operations and sustainability: Courses like "Business Operations Skills" provided foundational knowledge in business strategy, management, and green garments business formulation, actively guiding the intern's work toward industry sustainability.

(iii) HR and leadership: The HR Skills and Competencies course was vital for ethical leadership, worker motivation, and dispute resolution. It provided a systematic way to handle and motivate staff, understand workplace etiquette, and enhance time management and team leadership skills.

(iv) Technical and analytical skills: Courses in Industrial Engineering (IE) provided knowledge on various garment production systems (e.g., modular, progressive bundle) and IE principles (efficiency/effectiveness). Analytical Skills (KIM 102) enhanced abilities in cost-benefit analysis, statistical interpretation, and computing.

(v) Communication and quality control: The Communication Skills course significantly improved the ability to counsel workers persuasively and refine non-verbal communication and public speaking, which is crucial for meetings and worker engagement. Lastly, the Quality Management course was critical, providing essential knowledge on QMS, ISO standards, various certifications (GOTS, GRS, OCS, RSL/MRSL), and vital material/chemical testing, directly benefiting the intern's role as a Quality Manager.

3.2 Suggestion for Industry Improvement

1. Merchandising & production planning: The primary focus here is enhancing planning rigor and innovation to guarantee on-time delivery (OTD) and customer satisfaction.

(i) Enforce strict T&A adherence: Implement a real-time monitoring system linked to the ERP that triggers automated alerts to management when any stage of the Time and Action (T&A) plan deviates, mandating immediate corrective action reports.

(ii) Proactive readiness planning: Mandate a Pre-Bulk Production Checklist requiring documented confirmation from Quality Assurance (QA) and Sourcing that all accessories, exact-shade sewing threads, and prepared fabrics are physically available **before** the sewing line is scheduled.

(iii)_Integrate style-wise layouts: Require the Industrial Engineering (IE) department to collaborate with Merchandising to create and approve style-specific layouts (machine configuration and flow charts) before the Pre-Production Meeting (PPM) to reduce lead times and streamline production.

(iv) Optimize fabric requisitions: Standardize a mandatory Root Cause Analysis (RCA) process for every instance of excess fabric requisition to minimize waste and optimize material consumption.

(v) Drive product innovation and sourcing: Empower the Merchandising team to allocate time for innovative product development beyond buyer tech packs. Actively explore direct sourcing methods (reducing reliance on buying houses) and increase participation in international textile fairs to diversify the buyer base and product offerings.

2. Commercial, HR & administration, and finance: These solutions focus on modernizing internal systems and improving external compliance efficiency.

(i) Digital transformation (Cross-departmental): Transition all manual and paper-based procedures across HR & Admin, QA, Production, and Finance to digital document management systems and cloud-based software. This will enhance efficiency, reduce costs, align with eco-friendly goals, and strengthen data security.

(ii) Modernize financial systems: Upgrade core accounting software to a more versatile and user-friendly platform that includes real-time data analytics and forecasting capabilities. Automate routine tasks like data entry and invoice processing to reduce human error and boost cost-effectiveness.

(iii) Streamline official compliance: Identify and document necessary internal process steps and designate a specific team to manage and resolve challenges associated with banking processes, BGMEA, and official certifications to ensure smooth workflow and rapid approvals.

(iv) Enhance communication protocols: Implement a standardized digital platform for all communication between Merchandising and Buying Houses/Agents to minimize miscommunications or omissions that could impact shipment timeliness.

(v) Implement Proactive HR Best Practices: Adopt an employee-centric approach by introducing service loyalty awards, performance-based incentives, and online assessment centers. Focus on fostering a knowledge-sharing culture through updated induction and career development programs, directly addressing employee motivation and retention.

3.3 Learning for Self-improvement

Throughout my internship, I significantly enhanced my understanding of organizational units, encompassing everything from sourcing and product development to various production activities. I had the invaluable opportunity to learn from experienced marketing professionals, which deeply enriched my knowledge of effective marketing strategies and contributed meaningfully to my personal growth.

During my time here, I was exposed to discussions about sexual harassment within the industry. Given the large production floor, significant workforce, and long duty hours, both men and women can be victims. I observed that the management takes definitive steps against this through an active anti-harassment committee, a Worker Participant Committee, and compliance management. I recognize that in our society, female workers are often demotivated from complaining due to threats to their reputation, which makes the management's proactive stance even more crucial.

Although my typical role is Quality Manager, this internship allowed me to actively explore and participate in the entire product cycle. I worked on stages from product development and sample approvals (PP Meeting, size set, pilot run) through to all phases of inspection (Inline, Pre-final, and Final), and even tracked the flow from initial knitting fabric to final delivery. This exploration significantly expanded my technical understanding and will benefit my future development as a higher-level professional.

I quickly realized that the common assumption—that QA staff are non-productive, useless, or merely stop production to fill out formal reports—is completely inaccurate. I found that the reality of the QA role is challenging; it is my responsibility to maintain the high quality expected by buyers, and stopping the line is necessary when quality is compromised. I believe that the lack of clear understanding about QA and QMS functions among some production employees contributes to this misconception.

The experience also honed my communication skills through crucial interactions with various departments, suppliers, and customers. I always focused on achieving my work quality as expected and completing my responsibilities on time. I consistently sought out additional tasks after finishing my running work and tried to observe the difficulties and potential solutions within other departments. I approached all challenges with a positive attitude, aiming to improve my efficiency and work essence. I follow my manager's instructions and company

rules diligently, cooperate with my colleagues, and ensure that I report all necessary elements and information to my supervisor in a timely manner.

Chapter 4: Conclusion

4.1 Summary of Internship Experience

My internship at Echotex Ltd. successfully provided an enriching and comprehensive learning experience across five diverse departments. Despite the brevity of the period, I gained a profound understanding of the functions, critical significance, and interrelationships among these core units, which is essential for effective management. Crucially, I developed a holistic insight into Echotex as an organization, encompassing its mission, vision, strengths, systems (including Planning, Merchandising, and QA), and competitive global standing. This deep immersion, supported by department heads and colleagues, was undertaken with focused dedication to truly understand the company's internal landscape.

4.2 Industry Context and Future Focus

The experience underscored that while the Bangladeshi apparel industry is a lifeline for the national economy, it faces critical challenges, particularly from rising costs and energy prices. To maintain global competitiveness, urgent strategic measures must be prioritized, including infrastructure development, enhanced labor productivity, increased technology implementation, process innovation, and significant investment in energy efficiency and product diversification.

4.3 Impact of PGD-KIM Education

In short, the completion of the PGD-KIM program proved highly instrumental to my professional growth during this attachment. The program directly broadened my capacity for strategic analysis, effective management, and business operation planning. The dedicated training in communication and negotiation skills was particularly invaluable, allowing me to interact effectively with diverse departments, address issues, and execute my role, ultimately preparing me for future leadership responsibilities within the sector.

References

Echotex Limited. (2024, January 3). Echotex Limited -*About us*. Accessed on 29 October 2025.
Available at <https://www.echotex.com/about-us>