

Industry Attachment Report on
Paxar Bangladesh Limited (Avery Dennison Bangladesh):
Focuses on Product Development, Design, Operations, Supply Chain
and Customer Services.

By

AL RAUF - UL - ABEDIN

1000055557

An internship report submitted to the 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

March 2026

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Declaration

It is hereby declared that

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

Student's Full Name & Signature:

AL RAUF - UL - ABEDIN

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Academic Supervisor's Full Name & Signature:

Mohammad Sirajul Islam

Senior Academic Coordinator,

BIGD, BRAC University

Letter of Transmittal

Mohammad Sirajul Islam

Deputy Director, EDC & Senior Academic Coordinator, BIGD

BRAC University

Subject: Submission of Internship Report on Paxar Bangladesh Limited (Avery Dennison Bangladesh).

Dear Sir,

This is my pleasure to submit my internship report based on my industry attachment with Paxar Bangladesh Limited (Avery Dennison Bangladesh).

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,

AL RAUF - UL - ABEDIN

1000055557

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

Executive Development Centre, BIGD, BRAC University

10 March 2026

Non-Disclosure Agreement

This agreement is made and entered into by and between Paxar Bangladesh Limited (Avery Dennison Bangladesh) 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 and 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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Industry Supervisor's Full Name & Signature:

Md. Wahidul Srezon

Executive, Operations (OFFSET)

Avery Dennison Bangladesh

Acknowledgment

All the praise I would like to give is all through the mercies of Almighty Allah whose mercy and guidance does not stop and whose strength has given me that endurance, patience and strong will to do not only my internship but also this report complete successfully.

I would like to represent my utmost thankfulness that the Postgraduate Diploma in Knitwear Industry Management (PGD-KIM) program is being funded by the Government of the People Republic of Bangladesh and the Ministry of Finance. I further wish to acknowledge my warm gratitude to BRAC University and BRAC Institute of Governance and Development (BIGD) authorities, course organizers, respected teachers and staff to plan and create such a valuable program and also to offer the beneficial support that I needed throughout the entire program.

I would like to thank and recognize, with utmost respect, my academic supervisor Mohammad Sirajul Islam sir, the Deputy Director, EDC and Senior Academic Coordinator, BIGD, BRAC University. It was with his support, sound advice and willing mentorship that I was able to complete this internship report despite the hectic work schedule. His assistance has been crucial in the development of this report as well as my learning in general.

It is my honor as well to note that my industry supervisor Md. Wahidul Srezon, Executive, Operations (OFFSET) at Paxar Bangladesh Ltd. (Avery Dennison Bangladesh) was my guide and mentor during my internship. My experience during the internship was really valuable because of his support, encouragement, and practical insights. I also hold the office colleagues and departmental heads of Customer Services, Global Product Development, Supply Chain, Operations and Quality at Avery Dennison Bangladesh in high esteem, whom I am able to meet during their extremely busy schedules, to aid me to understand the workflows and complete my internship successfully.

Above all, I am highly grateful to my parents, my wife and my whole family. They have remained my greatest source of strength and encouragement to accomplish this project in an effective manner because of their inspiration, sacrifice, undying love and support to me.

This internship has been one of the key milestones in my academic and future career involvement. I am truly lucky to have studied under and have been a student of such committed individuals and esteemed institutions. I will do my best to apply the acquired skills and knowledge in this place.

Executive Summary

Avery Dennison Corporation is a multinational technology leader that operates in the digital solutions and material science industry as an intermediary between physical and digital branding. Paxar Bangladesh Limited is a subsidiary of Avery Dennison, which is an important backward linkage industry, providing key branding solutions, including woven labels, RFID tags and sustainable packaging, to large retailers of the global apparel industry.

As part of my internship program, I mainly concentrated on cross-functional work experience in 5 major departments namely Customer Services, Global Product Development (GPD), Supply Chain, Operations (Offset and Digital) and Quality during the internship period. I was in a position to get a thorough insight into the way these departments cooperate to guarantee efficient operations, quality of products and customer satisfaction. My practical duties were related to order processing and urgency in Customer Services using ERP and managing items and prototyping in GPD, as well as demand forecasting and import/export compliance in the Supply Chain department. At the factory floor, I was heavily involved to keep track of machine utilization measurements, implement Lean 5S and carry out Root Cause Analysis (RCA) to contain defects.

This exposure helped in making a critical evaluation of the dynamics of operations at the factory. I have pointed out systemic strengths and bottlenecks in operations like the natural tension between urgency of the customer and safe lead times in the production process and downstream effects of data mismatch between Customer Service notes and GPD Bills of Materials (BOM). Through the implementation of the academic concepts acquired in the course of the PGD-KIM work, especially in the field of Industrial Engineering, Quality Management (TQM) and Statistical Analysis, I could evaluate the Key Performance Indicators (KPIs) and suggest the development of the solutions based on the data. The strategic recommendations based on this experience are to introduce automated ERP cross-verification systems, risk-based quality sampling models in the peak load production and predictive analytics to control the inventory in the most efficient way.

This report is divided into four major chapters. An overview of Avery Dennison Bangladesh including its corporate profile, its historical development, its corporate structure and its main products has been given in Chapter 1. Chapter 2 explains the selected internship work and practical tasks executed in five major departments Customer Services, Global Product Development, Supply Chain, Operations and Quality. Chapter 3 provides a critical evaluation of these departmental experiences, creating connectedness between the real industry processes and coursework as well as suggesting practical recommendations to the company and analyzing personal skills advancement. Chapter 4 wraps up the report by giving a summary of the general experience of the internship and how they have affected my professional career orientation in the long term.

In the end, this internship played a crucial role in the connection between the theoretical academic information and the real work in the industry. It greatly increased my technical skills, ability to solve problems analytically and cross-functional communication skills. This experience has given me a clear and solid career orientation of being a production leader and an integrated supply chain process by offering comprehensive knowledge on modern manufacturing processes and continuous improvement programs.

Keywords: Offset and Digital Operations, Process Optimization, Quality Management, Supply Chain Efficiency, Industrial Training and Customer Satisfaction.

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List of Acronyms

AD	Avery Dennison
ADBBD	Avery Dennison Bangladesh
BEPZA	Bangladesh Export Processing Zone Authority
BD	Bangladesh
BIGD	BRAC Institute of Governance and Development
BKMEA	Bangladesh Knitwear Manufacturers and Exporters Association
BOM	Bill of Materials
C & A	Clemens and August
CAPA	Corrective Action Preventive Action
CCR	Customer Complaint Reports
CRD	Customer Request Date
CSR	Corporate Social Responsibility
DEPZ	Dhaka Export Processing Zone
EHS	Environmental, Health, and Safety
ELS	Enterprise Lean Sigma
ERP	Enterprise Resource Planning
FG	Finished Goods
GPS	Grow Perform Succeed
GRN	Goods Received Note
H & M	Hennes & Mauritz
HRM	Human Resources Management
HTL	Heat Transfer Label
ICR	Internal Complaint Reports
IE	Industrial Engineering

IPPS	In-Plant Printing Solutions
IQC	Incoming Quality Control
ISO	International Organization for Standardization
KPI	Key Performance Indicators
LT	Lead Time
MDI	Manage for Daily Improvement
MPS	Master Production Schedule
MRP	Material Requirement Planning
Ops	Operations
PDCA	Plan Do Check Act
PET	Polyethylene Terephthalate
PGDKIM	Post Graduate Diploma in Knitwear Industry Management
PLM	Product Lifecycle Management
PO	Purchase Order
PR	Purchase Request
PSS	Product Specification Sheet
QC	Quality Control
RCA	Root Cause Analysis
RBIS	Retail Branding Information Solutions
RFID	Radio Frequency Identification
SBT	Safety by Technology
SC	Supply Chain
SoE	Statement of Expenditure
SOP	Standard Operating Procedure
TPM	Total Productive Maintenance

TQM	Total Quality Management
UEE	Utilized Equipment Efficiency
UK	United Kingdom
UPLH	Units per Labor Hour
USA	United States of America
UV	Ultraviolet
VP	Vice President
VSM	Value Stream Mapping
WIP	Work in Progress

Chapter 1. Overview of Avery Dennison Bangladesh

1.1 Corporate Profile and Historical Evolution

Avery Dennison Corporation is a US-based company that is a leader in the material science and digital solutions industry across the globe. The company is a designer and producer of labeling, functional and even RFID inlay and tags. Their activity is a bridge between the physical and the digital because it offers branding solutions that maximize the efficiency of the supply chain and minimize waste and enhance sustainability.

First label the company started with first self-adhesive label. This is increasing day in day out within the last 90 years and became a world industry leader, which is still progressing in quality and innovation in material and apparel solutions.

It was established in the year 1935 in California, USA. It has its headquarters in USA, Mentor, Ohio. It employs approximately 36,000 workers around the world and operates in over 52 countries. In the year 2024, the reported sales amount to 8.8 billion, which is reported to be a fortune 500(r) (ranked 421 by the end of 2023) company. The company is mostly split into two. They are: 1) Materials Group and 2) Solutions group.

The Materials Group deals with the provision of physical materials, which are applied in labeling, bonding, visual communications in different industries. It deals with pressure-sensitive materials, graphic and reflective materials and also utilitarian bonding materials in form of tapes in its business operations. The Solutions Group, on the other hand, largely centers on technology-based services, which facilitates digital identifications, efficiency in branding and operations. Its business segments are RFID solutions, Digital identification, data management solutions, branding and embellishment solutions and apparel related solutions like heat seals, hang tags, price stickers etc.

In 1935 the inventor of the first self-adhesive label in the world was a man named Ray Stanton Avery, who used a 100-dollar loan to start Avery Adhesives in Los Angeles. In 1990 the company eventually merged with Dennison Manufacturing. Via internationalization and acquisitions, such as Jack Stadt

GmbH and RVL Packaging. This was followed by another landmark in 2007 when it acquired Paxar Corporation, a labeling company that was founded way back in 1918 at the cost of 1.34 billion dollars. Paxar Bangladesh Limited, which is one of the manufacturing centers that serve the RMG industry today, was part of this bargain. Paxar Bangladesh, headquartered in Gulshan, with its main offices located in the DEPZ, has more than 2,500 employees; it has three production sites covering 240,000 square feet and annual sales amounting to USD 130 million, demonstrating how successful Avery Dennison was in integrating global knowledge with local production.

1.2 Company Values and Mission

The Paxar Bangladesh Ltd. (Avery Dennison Bangladesh) is focused on making the world smarter as well as assisting brands become more inspiring and meaningful. The company is aimed at enhancing brand value, making its products more appealing and believable, increasing efficiency in supply and transforming data into something really useful, as well as contributing to a more sustainable and cost-effective environment. The work of Paxar is limited to the apparel industry and offers branding and labeling game changers to improve clothing merchandise and store experiences. In prospect, the mission of Paxar Bangladesh Limited is to be the fastest growing, most profitable branch in the Paxar network by ensuring high product quality, corporate values, adherence to BEPZA regulations, and the creation of a better working environment in Bangladesh. The 8 primary values of the company are: The values help the company to guide its culture, decision-making and long-term strategy. The core values of integrity and courage accentuate moral conduct and the ability to undertake duty, excellence indicates the dedication to quality and standards in performance. Diversity emphasizes the need to be inclusive and respectful of the various viewpoints and sustainability demands a need to perform in an environmentally and socially responsible way. External focus stimulates the knowledge and satisfaction of customer and market needs, teamwork fosters cooperation and mutual interests and innovation fosters continuous enhancement and flexibility. The combination of these values determines the business and stakeholder relationship approach.

1.3 Goals and Objectives

The company operates with following goals and objectives:

- i. The best in Goods and Solutions: Paxar has the finest in quality and fastest turnaround on products.
- ii. Other Market opportunities: Paxar is continuously putting efforts to increase company operations and highly values corporate goals.
- iii. Client satisfaction: Paxar has maintained healthy relationships with clients. Our customers are highly loyal and never fail to give a thought to Paxar when they make an order.
- iv. Employee Workplace Culture: Paxar is committed to giving its employees the best working environment possible. In October 2025-October 2026, the company has recently certified as a Great Place to Work.

1.4 Appreciating the views of its stakeholders:

Paxar provides the shareholders with the highest profit possible and the size of its dividend is always high. Organizational structure, Organogram, Branches and Departments

A detailed organogram is illustrated in Figure 1.

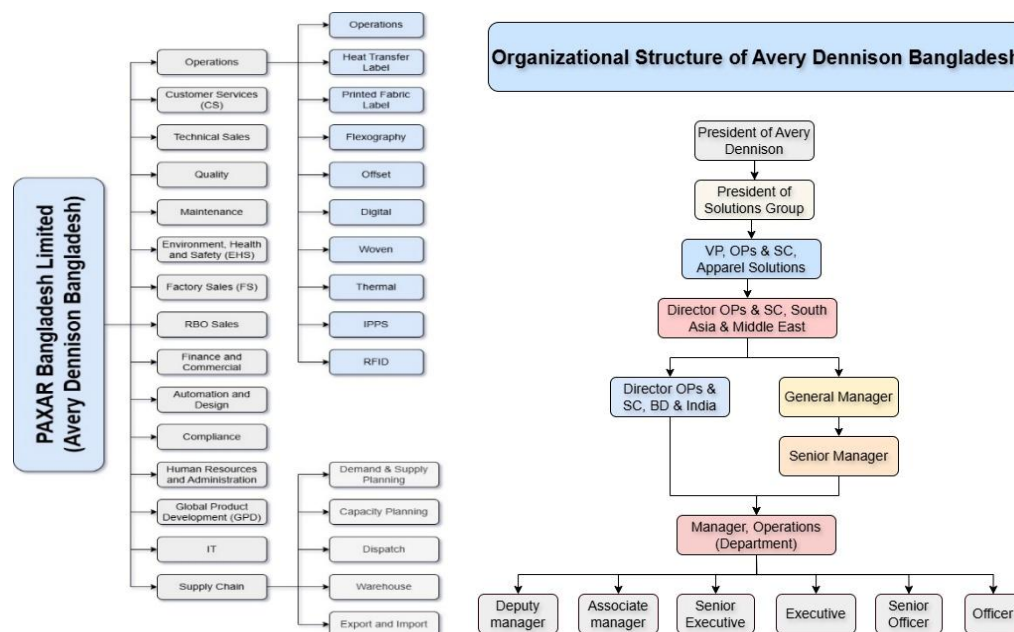


Figure 1: Organogram of Avery Dennison Bangladesh

1.5 Key Products, Export Destination and Brands

Avery Dennison Bangladesh primarily operates as a backward linkage industry by supplying essential branding solutions to garments manufacturers for global exports. The core products are: Branding: Woven and printed labels, hangtags, heat transfers. Tech: RFID tags (inventory tracking), barcode tickets. Packaging: Sustainable packaging & stickers.

Avery Dennison Bangladesh operate in both the ways as per the requirement of the customer or RBO.

Deemed Exports: Supplied locally, exported globally. North American countries: USA, Canada.

European countries: UK, Germany, France, Spain, Sweden. Asian countries: Japan, South Korea.

The company works with major global retailers including: Nike, C&A, H&M, Adidas, Uniqlo, Walmart, Marks & Spencer and Decathlon.

Chapter 2. Description of Internship Work

This chapter presents my practical experience in the various departments. It focuses on the particular tasks that I carried out and the observations that I made working at the units like production, supply chain, quality, global product development, design and customer service. As opposed to describing general functions at the departmental level, it focuses on my immediate contributions and learning experiences. The chapter further explains how I worked and related with different team members both in physical and online communication during the internship period.

At the start of internship and under the guidance of my industry supervisor, I prepared a plan and timeline to work with different departments to gain value adding and practical experiences as follows-

Customer Service	11 days
Global Product Development	11 days
Supply Chain	11 days
Operations (Offset and Digital)	26 days
Quality	9 days

The detailed internship works are described below.

2.1 Customer Services (CS)

I had the chance to work in the Customer Services Department during my internship, which is a crucial role that acts as the company's direct line of communication with its customers. This division is in charge of overseeing order processing, responding to customer communications, fixing service problems and guaranteeing general customer happiness. As an intern in this department, I was able to closely interact with the Associate Manager, who introduced me to the general working processes, accorded me the corresponding duties and gave me the chance to learn by watching and being involved directly. I gained important knowledge about how efficient coordination, responsiveness and communication affect customer relations and operational effectiveness as a result of my involvement

in this field.

Customer Order Processing: Supporting the customer order submission and confirmation procedure was one of my main duties. I helped to ensure that all order information was correctly recorded into the ERP system, review customer specifications and validate the correctness of incoming purchase orders. In addition, I assisted in keeping track of order progress, worked with the planning team to verify lead times and sent order acknowledgments and anticipated delivery dates to consumers. This gave me practical exposure with the entire order management process and helped me to understand how important punctuality and accuracy are to fulfilling service level commitments.

Customer Communication and Issue Resolution: Helping with client interactions, both by phone and email, was a crucial part of my job. I assisted in answering questions about product details, delivery updates and order status. I also saw how the staff responded to client comments or grievances, such as delays, inconsistencies in the product or issues with quality. When there were complaints, I helped with the Customer Complaint Reports (CCR) documentation and worked with the logistics, planning and quality teams to look into the matter and give the customer feedback. I learned from this how crucial prompt action and unambiguous communication are to establishing credibility and preserving long-term business partnerships.

Order Follow-Up and Coordination: I was involved in order follow-up activities, where I regularly tracked the progress of open and urgent orders. I worked with production and supply planning teams to ensure that customer requirements were being met according to promised lead times. For urgent or special orders, I supported the escalation process and helped update customers proactively about revised delivery schedules or any changes in order status. This task helped me understand how cross-functional collaboration is essential in meeting customer expectations and minimizing service disruptions.

Customer Documentation and Compliance: Additionally, I helped with the preparation and verification of documentation relevant to each customer, including product labels, invoices, packing

lists, and emails confirming shipments. I assisted in documenting delivery instructions, customs procedures, and adherence to client country-specific standards for export orders. My comprehension of how the administrative and legal facets of customer service support efficient and legal order fulfillment has improved as a result of this exercise.

Support during Customer Audits and Visits: I had the chance to watch and assist with the setup for audits and customer visits throughout my internship. In addition to preparing the presentation materials used during client meetings, I helped collect performance data, complaint records, and delivery histories. This introduced me to how businesses show their clients their performance, openness and commitment to ongoing development.

2.2 Global Product Development (GPD)

I had the chance to work with the Global Product Development (GPD) Department during my internship, which is essential in promoting innovation, product customization and process optimization to satisfy changing market and consumer demands. By creating new products, refining current designs and guaranteeing successful product releases in line with international standards, the GPD team serves as a liaison between the technical, manufacturing and commercial departments. As an intern in this department, I was able to closely interact with the Associate Manager, who introduced me to the general working processes, accorded me the corresponding duties, and gave me the chance to learn by watching and being involved directly. I was able to watch and participate in the entire product development lifecycle because of my exposure to this department.

The product development function plays a central role in translating market and customer needs into practical and high-quality label solutions. It is responsible for product design and development by creating new concepts, materials and finishes that meet functional and aesthetic requirements.

Material innovation is another key function, focusing on the development of sustainable substrates, inks, adhesives, finishes and other consumable items are in line with Avery Dennison's sustainability goals. The team also manages sample creation and prototyping by producing mockups for customer

evaluation and approval, followed by technical validation through performance, wash and durability testing to ensure product reliability.

In addition, the function supports process optimization by collaborating closely with production teams to ensure efficient and consistent manufacturing. Also updating if any recent change or update is approved by the brand and coordinate with other teams regarding this. Customer support and technical consultation are provided to assist brands and factories in selecting appropriate label solutions based on their application requirements. Finally, global standardization ensures that all regions adhere to consistent quality standards and guidelines, maintaining uniform performance and reliability across markets.

Item and Data Setup: Supporting the item setup procedure in Oracle was my main responsibility. SKUs, item descriptions, units of measure, material kinds, item categories and costing structures were among the item master records that needed to be meticulously extracted and cleaned in order to be properly mapped and structured in accordance with Oracle's structure. In addition to finding missing or duplicate records and assisting in the standardization of naming conventions and classifications, my responsibilities included confirming the accuracy and consistency of item data. In order to guarantee seamless integration and prevent mistakes in upcoming transactions like production scheduling, inventory management and sales order processing, this stage was crucial.

Costing and GPD Collaboration: I helped the GPD team with product costing tasks in addition to item setup. In Oracle, costing entails establishing the cost structure for every product, taking into account labor, raw materials, machine time and overheads. It was my responsibility to gather data from various departments, verify its accuracy and enter it into pre-made templates or Oracle modules so that the finance and GPD teams could validate it in the end. Collaborating with GPD also improved my comprehension of the relationship between cost prediction and production feasibility during new product development and technical data like the Bill of Materials (BOM) and routing information.

Sampling and Trial Coordination: I assisted in organizing the creation of prototypes and first-article samples for new projects while working on sample request handling. In order to guarantee that sample trials were completed on time, I helped with documentation, tracked the progress of the samples, and followed up with the manufacturing and quality teams. In order to improve the design, I also assisted in gathering performance feedback from customer assessments and internal test results. Working on sample trials made it clearer to me how crucial quick iterations, accuracy and departmental cooperation are before a product is put into mass production.

Product Testing and Evaluation: In cooperation with the engineering and quality teams, I watched and assisted with product performance testing. This involved testing the readability of RFID tags, their strength of adhesion, the longevity of the print, the feasibility of the cutter parameters, some additional processes such as UV and paper to paper lamination outcomes and their resistance to environmental factors including heat and moisture. I assisted in recording test results and comparing them to regulatory and customer requirements. In several instances, I supported redesign or material change initiatives and took part in root cause investigation when test failures happened. I now have a better understanding of the technical rigor needed to validate a new product before it can be authorized for mass production thanks to this hands-on experience.

Global Collaboration and Documentation: I took part in discussions and correspondence with other regional product development teams because GPD works in a global setting. I assisted with creating technical documentation that could be distributed across international stakeholders, updating project dashboards and creating presentation materials. Additionally, I saw how local customization depending on market or customer needs is permitted while maintaining global consistency across several manufacturing sites. This made it easier for me to comprehend the international cooperation needed to oversee product lifecycles and guarantee uniformity in performance and design across borders.

2.3 Supply Chain

In the Supply chain department, my focus was on the Demand and Supply Planning. Working in this department as an intern, I could closely communicate with the Associate Manager and was introduced to the general working processes, assigned the respective duties, and given the opportunity to learn through observation and direct participation. This department is necessary in order to ensure that there is timely availability of materials which in turn ensures that the customer demand matches the manufacturing capabilities and to ensure maximum flow of the supply chain process of the procurement process through delivery. My exposure to this area has enhanced my knowledge on the role of capacity planning, inventory control and demand forecasting in enhancing efficient and cost-efficient operations.

Demand Forecasting: The management of the demand forecasting process which included studying customer orders, analyzing previous sales information and helping to prepare rolling projections were among my key areas of responsibility. According to the confirmed orders and expected future demand, I assisted the planning team to revise the Master Production Schedule (MPS). To ensure the provision of services and goods on time and the achievement of service level targets, I also helped to review and prioritize customer orders based on urgency, lead time, and production capacity.

Supply Planning and Capacity Alignment: To facilitate the material planning and allocation exercise in the supply side, I verified the availability of raw material like paper raw materials of the right shade and RFID inlays, chips, adhesives, label stock and other consumable material. I learnt how to keep track of minimum stock levels, how to forecast shortages of materials and assist in increasing the material requisitions. I further observed planners adjusting the production schedule real-time based on either a shortage in inventory or demand changes that were not anticipated. Assistance with the issue of matching the production capacity to the forecasts of the demand was a major part of my work too. I assisted the planning team in the analysis of available manpower and machine across shifts and assisted in adjusting the loads to the shift to accommodate large volume or urgent orders. I gained here

the importance of flexibility and making decisions on the spot to supply chain planning.

Daily Planning and Coordination: I was working closely with supervisors and planners on a daily basis to assist in the development and modification of the daily production plan. This involved the examination of backlogs of orders made by customers and updating the status of production during planning tools and ensuring that there is effective communication between the productions and the planning teams. I also helped to monitor the progress of priority orders and indicated any potential delays and recommended alternatives where needed. During my attendance at the daily planning process, the staff members talked about the status of production, availability of materials, order status and any possible risks to schedule compliance. I was informed about the importance of co-operation among numerous departments, including production, warehousing, procurement and customer support, and real-time supply chain decision-making.

Inventory Monitoring and Reporting: I assisted in monitoring and reporting of inventory, maintaining a vigilance on the movement of the finished goods, work in progress (WIP) and raw materials. After learning to use some of the rudimentary inventory planning tools, I assisted the group in making an analysis of inventory turnover, slow-moving inventory and safety stock and the level. Such observations were useful in identifying those areas that should be improved and utilizing the warehouse space more efficiently. I also assisted in preparation of periodic stock reconciliation reports by comparing system data and actual counts of warehouses and assisting in resolving any discrepancies. This experience has increased my understanding of the importance of accurate inventory management in the avoidance of delays and unnecessary costs.

System Use and Documentation: I was trained on how to input and access planning data in the ERP systems, or any other internal planning software which the business uses. I assisted in coming up with stock reports, updating production orders and checking the status of orders. To guarantee transparency and accountability of data processing. I also helped in keeping planning paperwork that consisted of day-to-day plans, forecast amendments and supply status reports.

Export and Import: I actively participated in the supply chain imports operations as well as making sure that the operations adhered to regulatory and internal policies. My duties were first to check Proforma invoices and shipping documents; in both cases, I checked the description of the products with the codes of the Harmonized System to be sure that it is not contrary to the bond license requirements. I also liaised with the banks in issuing and amending Letters of Credit and to ensure that the necessary documents, including the No Objection Certificate, are collected on time to prevent delays during transactions.

I assisted shipment release operations on the operational side through communication with the Customs and Forwarding agents to address the discrepancy of Import General Manifest. I also applied and uploaded the Import Permit applications by typing in the Bangladesh Export Processing Zone Authority web portal after checking the commercial invoices and packing lists. I also tracked the progress of the shipments between the Estimated Time of Departure and Estimated Time of Arrival to ensure proper supply schedules by the demand planning and production staff.

I also ensured that freight forwarder and Customs and Forwarding bills were checked against approved quotations prior to using them to receive payment and kept the Customs Bond Register to be transparent and audit ready. This experience enhanced my knowledge upon the cost control, accuracy of documentation and alignment of supply chains in a global operational structure.

2.4 Operations - Production (Offset and Digital)

Through my Production Department (Offset and Digital) industrial attachment, I had the organized experience of printing processes, quality regulation, safety standards and optimization of processes in a multinational manufacturing sector at Avery Dennison Bangladesh. I mostly engaged in observation and support where the production supervisors, engineers, planners and machine operators worked closely with me to make me understand how customer requests are converted into finished printed products.

The learning that happened under the Offset and Digital production units will be classified as follows:

Safety and compliance: Through my internship experience in the production (Offset & Digital) department, I experienced the practical knowledge of workplace safety standards and practices of compliance. I understood how health and safety measures are applied in the shop floor and how compliance of these rules would guarantee the safety of the employees, as well as uninterrupted work in the facility. Being a part of the safety committee, I got a chance to liaise with the social compliance team to watch how regulatory requirements and company policies are upheld and enforced.

I also advocated regular safety inspections and sensitizations aimed at enhancing the knowledge of employees about their safety measures and accountable conduct at work. All these efforts emphasized on discipline, cleanliness and orderly processes as a way of keeping the working environment safe.

Besides that, I also learned how to perform Gemba walks, through the direct observation of the activities in the production floor. The systematic observation and analysis helped me to learn how to recognize possible inefficiencies or safety hazards and how remedial measures can then help to increase productivity and stability of operations.

Quality Management

I witnessed the use of standard operating procedures (SOPs) in quality area to facilitate all processes of Offset and Digital printing. During the production processes, I audited different quality parameters such as plate mounting, balancing of ink, accuracy of the color registration and density as well as monitoring of volatility of the varnish. I also made sure end to end process following and work with the team to maintain it.

In addition to that, I also worked on different color reporting by quality team and followed the guidelines to maintain consistency between variable data outputs.

I got acquainted with the Customer Complaint Reports (CCR) and Internal Complaint Reports (ICR) investigation process, in which the systematic root cause analysis is performed in order to detect defects such as color variation, misregistration, print issues or die cutting damage etc. I understood the

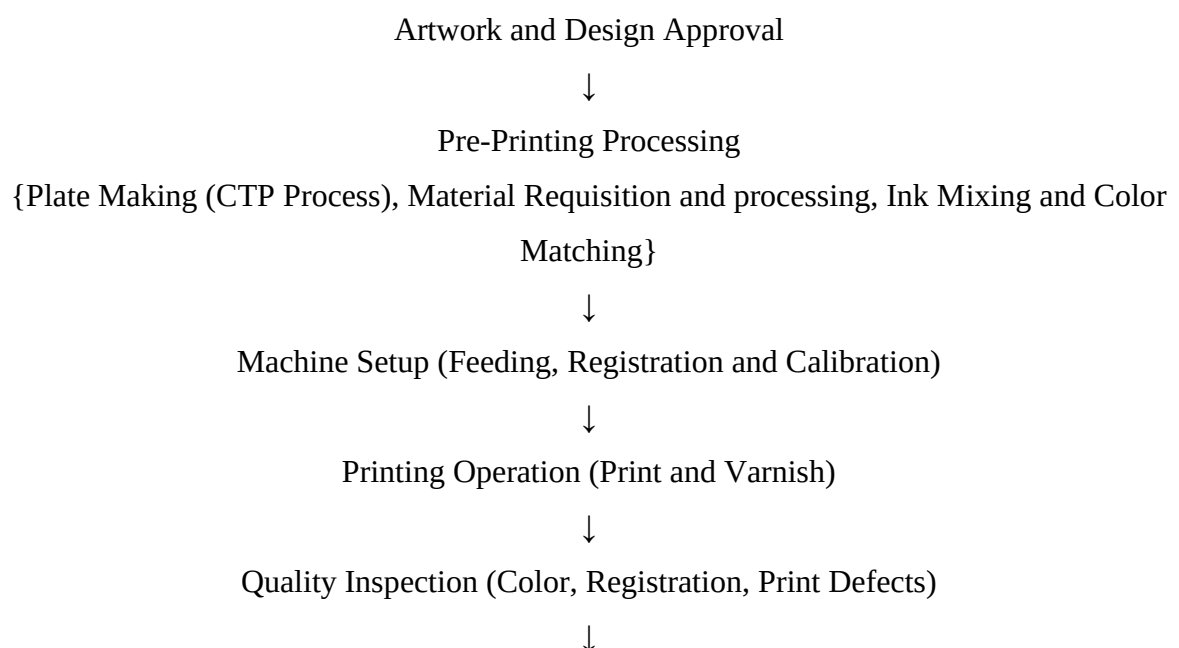
nature of corrective and preventive strategies that are used in order to minimize recurrence and also keep track on CCR and ICR trends internally. This activity helped me to enhance my knowledge on the cost-quality relationship in any printing process.

Production Management

Through my internship, I paid close attention to the way production schedules are made and implemented in the Offset and Digital departments. I worked with the team regarding the priority jobs are given on the basis of Customer Request Date (CRD), machine availability, machine compatibility and customer urgency. In the printing process, I was able to see how frequent jobs changes and effects of set-up time and utilization of the machine. Additionally, I worked with the team to analyze the scape percentage and keep track by reporting.

I collaborated with planners and supervisors to learn the flexibility and reliability KPIs monitoring to deliver on time. Following the entire production process such as the approval of the artwork and the prepress, printing, post-print finishing (UV coating, lamination, die-cutting), checking and dispatch allowed me to realize how the production is all connected to each other.

I also observed and worked with the planning team to plan and maintain effective labor hour based on the delivery plan and attendance. The process flow is described in Figure 2.



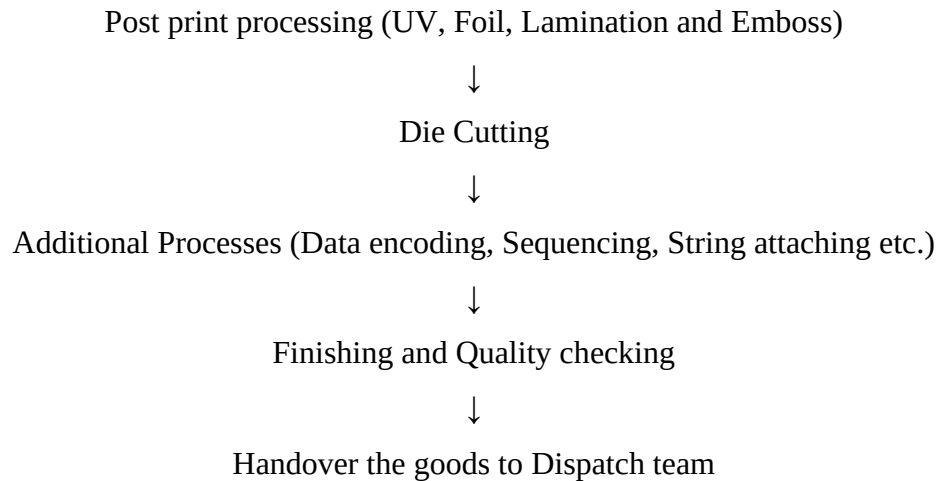


Figure 2: Production (Offset and Digital) Flowchart

Maintenance and Equipment Management Support

I was exposed to machine calibration, preventive maintenance, and coordination of troubleshooting in both Offset and Digital division. I saw the process of checking printing presses to ensure that they are correctly aligned with the feeders, ink, the stability of dampening system and precision of registration. I was introduced to periodic calibration and system diagnostics in Digital operations to ensure a consistency of output.

My communication with the maintenance team contributed to my learning the preventive maintenance scheduling reduces unforeseen failure and enhances the reliability of equipment. I also got to know the principles of Total Productive Maintenance (TPM) that foster a sense of shared responsibility among the operators and the maintenance staff with regard to ensuring machine performance and safety.

Process Improvement and KPI Monitoring

There was a significant component of my learning that consisted of being exposed to performance measurement systems. I monitored the tracking and discussion of the Key Performance Indicators (KPIs) like Utilized Equipment Efficiency (UEE), Units Per Labor Hour (UPLH), Scrap Percentage, Flexibility, Reliability and Customer Complaint Rate (CCR) monitored regularly in the Offset and Digital operations.

I was involved in meetings regarding the performance improvement efforts where production data was

reviewed to reveal the points of bottlenecks, common causes of downtime, and the common quality challenge spots. I got familiar with Enterprise Lean Sigma (ELS) practices and A3 problem-solving techniques, in which PDCA (Plan-Do-Check-Act) methodology is involved in bringing about systematic improvements. This exposure aided me to learn how the culture of continuous improvement is integrated in day-to-day production management.

2.5 Quality

During my industrial attachment, I was engaged in the Quality Department actively to learn how quality governance is incorporated in the operations of Offset printing and Digital and other product lines. The department is a control center that links Global Product Development (GPD), Production, Supply Chain and customers because this ensures that all products are to specifications and comply with requirements.

Sample Development and Approval Management

Meanwhile, the quality function starts at the stage of development of the sample. I collaborated with the staff in liaising with the GPD department to handle sample assessments, approval documentation and specification validation. The approved layouts and physical reference samples were neatly stored and offered to the respective product lines such that they were used as a benchmark in production.

I have also noted talks on the improvement of the new set up, where cross functional meetings were scheduled to match the output of the development procedure with bulk production capacity. This phase focused on the preventive element of quality management whereby standardization was done prior to mass-manufacturing.

SOP Control and Testing Governance

The department has Standard Operating Procedures (SOPs) of each process according to the requirements of the customers. I revised the SOP documentation and noted the manner in which these guidelines governed the printing parameters, inspection points and acceptance criteria.

There are parameters of testing of each product line. I was engaged in following up testing tests, such

as functional and performance tests (Hue Test). In the Offset and Digital operations, the company kept brand specific color reporting applications with international customers like Walmart, Marks and Spencer and Target. I was allowing the receipt and tracking of these reports, following brand guideline and pointing out unsubmitted or training needs.

Internal and Final Quality Control

In live production, in-process inspections that I performed were based on color consistency, registration accuracy, print clarity and RFID encoding validation. RFID readers were used to perform functional checks to make sure that tags are readable and encoded correctly.

Last inspection processes prior to delivery covered checking of packaging condition, quantity verification, barcode readability and general product conformity. Products did not go to dispatch team until they passed all quality checkpoints.

RCA and customer complaint handling

One of the major learning spots was customer complaint management. Complaints were registered, grouped and passed internally. I also witnessed the roles of the Quality team as an intermediary between the customers and the product lines in organizing investigations and making sure that corrective measures were taken.

Each complaint was analyzed with the help of Root Cause Analysis (RCA). The reporting of internal complaints was done in the form of Internal Complaint Reports (ICRs) and Customer Complaint Reports (CCRs) to determine recurring trends. Findings and corrective actions were reported internally and externally in detailed information to ensure there was transparency and accountability.

Quality of raw material and Compliance

There was also quality control on incoming raw materials. Together with Store and Supply Chain teams, inspection was carried out prior to release of material to be used in production. The acceptance decisions were made on the basis of the adherence to the technical specifications.

There was also the support of internal audits of the department by the same standards as ISO and

customer compliance requirements. The formal compliance framework included documentation review, preparing the checklist and addressing non-conformance observations.

Chapter 3. Critical Assessment of Internship Work

At Avery Dennison Bangladesh, five key departments (Customer Services (CS), Global Product Development (GPD), Supply Chain, Production (Offset and Digital) and Quality) were covered in the overall hands-on experience in the course of the industrial attachment. The internship underscored the interrelationship between manufacturing that begins with CS brand expectations management, order management and urgency management to GPD conversion into technically feasible, globally-standardized and cost-effective prototypes. Supply Chain department was very important in terms of capacity alignment and inventory management and export/import compliance to ensure that raw materials flow to the production floor continuously.

Operationally, the production department showed the strict implementation of the offset and digital printing operations in the balance between machine utilization (UEE) and the principles of 5S-Lean and the ongoing tension of the urgent orders and possible downtime. The Quality department served as the focal point of governance, through the implementation of Standard Operating Procedures (SOPs), implementation of Root Cause Analysis (RCA) in defect management and ensuring that raw materials and finished products were strictly of international brand standards. Collectively, the experiences gave a holistic picture of the operational capabilities, cross-functional interdependent and systemic challenges of a high-volume and fast-paced manufacturing environment.

3.1 Critical Assessment of Internship Experience Across Various Departments

3.1.1 Customer Services (CS)

The Customer Services department is critical because it is the initial point of contact between the firm and the clients and various elements of its operations worked well during the internship session. The transparency and visibility of the ordering process in a brand perspective was one of the strongest elements that were observed. Within the ERP system, the customer orders, the delivery promise as well as the order status were well monitored and follow-ups were made in good time and in a well-

organized manner. This exposure helped the CS team to act quickly to customer related questions and remain highly engaged.

The CS department was largely well organized in terms of urgency management. Meetings with product line and planning teams were organized in two sessions every day with special emphasis on urgent and priority orders. Through these meetings there was a sense of alignment between departments and to uphold urgency of need was deliberated, escalated and pursued in a consistent manner. This systematic style allowed avoiding missed deadlines and strengthening the sense of responsibility within teams. The proactive follow up on urgent orders by CS team was highly coordinated and responsive and this fact affected the customer confidence and reliability of the services.

Despite these advantages, there were some challenges that were noted in the CS function. One of the main problems was the binomial tension between the urgency of the customers and the actual lead time to achieve quality standards. Every product has its predetermined lead time to guarantee its conformity to technical and quality standards. Practically, the urgency on the side of customers frequently made the CS team pressure the production teams to make shorter lead times. Although this strategy was meant to meet the expectation of customers, it placed pressure on production which often leads to quality related customer complaints in some instances.

Another problem was the performance measurement system, with the customer complaints also being one of the key performance indicators (KPI) of the production team. This generated a buffer effect, since production teams were more accountable to the quality of goods and the utilization of equipment to meets its KPI. Consequently, customer satisfaction and sustainable production planning were not able to be balanced easily.

There were also concerns on communication and accuracy of data. There were occasionally communication issues between CS and other departments, especially production as a result, there was a lack of understanding of delivery promises or order requirements. The ERP system had mistaken in

entering orders including wrong quantities, specifications or delivery information that at times led to downstream problems. These mistakes underlined the significance of accuracy of data at the first phase of order processing because any small imprecision might result in the delay of the production cycle, rework or dissatisfaction.

The high volume of urgent orders was another challenge that was experienced. Although the urgency management was well organized, there were many urgent requests which led to production bottlenecks frequently. The constant reprioritization disturbed the projected production schedules and lowered the overall productivity. This demonstrated the necessity to have a better definition of urgency classification criteria and better correspondence between customer expectations and operational capacity.

3.1.2 Global Product Development (GPD)

Global Product Development department became a fundamental operation in the organization, and it is in charge of converting the brand requirements into technically viable and internationally standardized product solutions. The department was quite good in product design, material innovation, prototyping, test, and documentation. The collaboration with the global teams to keep the standards of product development consistent in every region and flexibility to meet the brand-specific requirements and availability of internal materials were one of the main strengths of GPD.

The GPD team was very instrumental in visualizing customer expectations and transforming them into the physical products that fulfilled the functional and aesthetic needs. The product development process was well organized including the creation of samples, technical validation and performance tests, so that before products could be accepted to be mass produced, they had to be well tested. Experience of these processes helped gain a good understanding of the technical part in product development.

Although these are the strengths, some operational problems were found in GPD especially in data

alignment and interdepartmental coordination. One of the key problems was that the manufacturing notes were entered by the CS team and the Bill of Materials (BOM) developed by GPD were not consistent. The two inputs are vital in production and ideally, they must be aligned in terms of specifications, materials and types. Discrepancies between these two sources of data were sometimes found.

Whenever the production staff detected such discrepancies, further confirmations were necessary to specify the right requirements. This was particularly difficult when working the night shifts when there was no immediate backup of CS or GPD. In cases where discrepancies were not detected in good time, the manufacture was done using erroneous or flawed information that led to customer complaints concerning the quality or specification differences. These accidents signaled the paramount need of coordinating data management between the departments.

The other issue was system updates in the Oracle ERP environment. The GPD team sometimes changed artwork, component specifications or material updates as part of development changes or brand approvals. Although technically correct, the communication of such changes across all the involved teams was not always the same. Unless the production teams reverified the updated information, it was sometimes the source of mistakes during execution. This problem highlighted the necessity to have stronger communication protocols and validation checks after the updates to the system.

There were also difficulties presented by the complexity of international cooperation. Although standardization was vital in ensuring consistency, coordination of updates, approvals and documentation in different regions proved to be very critical to handle. Stalling in approvals or inappropriate alignment of documentation in some cases slowed down the development schedules and enhanced chances of errors. These were the challenges associated with the fact that it was difficult to achieve global uniformity and local sensitivity.

3.1.3 Supply Chain

The Supply Chain department was generally under good control and had good planning and coordination skills. The department was successful in managing demand, capacity, inventory and production coordination on a daily basis. Planning routines and frequent review meetings aided in obtaining informed decision-making and responding to the demand or production conditions in a timely manner.

They helped the demand forecasting processes with systematic analysis of customer orders and the past record of sales. The Master Production Schedule (MPS) was updated and it served to bring the production plans in line with the verified and estimated demand. The process of capacity alignment such as analysis of manpower and machine availability during shifts helped to achieve better use of resources and produce the urgent orders required.

There were also strengths in inventory management practices especially monitoring of raw materials, work in progress and finished goods. The monitoring of inventory safety stocks and slow-moving inventory items contributed to the improved use of the warehouse and decreased the possible risk of stock shortage during typical operation conditions.

There were numerous challenges that were found to influence the efficiency of the supply chain. System reliability was one of the major problems. The finished goods were sometimes not shipped during instances when their shipment was not possible due to temporary unavailability of the Oracle ERP system although the product was ready to be shipped. The result of these interruptions was bottlenecks and slow deliveries and indicated that the organization was highly reliant on system availability to maintain its operations.

Challenges were also witnessed in terms of material. There were occasions where the quality of raw materials used did not match the required standards, or the scrap percentage was very high as opposed to the limit. These problems directly related to the efficiency of production, and adversely influenced production KPIs. Also, there was slackness in the in-housing of raw materials which created shortages

that minimized effective production lead times. The scarcity of some consumables, such as chemicals and auxiliary materials, added to the limitations of planning the production process and further burdened the delivery obligations.

These problems showed how supply chain processes are interrelated with any delay or quality problems in one part of the process can easily move into a larger scale operational problem.

3.1.4 Operations - Production (Offset and Digital)

There are a number of operation strengths that can be identified during my internship period in the Offset and Digital Production Department. The working culture was organized and professional as compared to the general practices in the industry. The communication between the floor level operators and the management was also effective and respectful, which contributed to the daily running of the operations. There was a good sense of their job descriptions and normal working procedure among the employees and this led to less confusion and accountability.

Team involvement was especially evident in case of urgent orders. Departments in such situations worked in unity to deliver on time. The organized system of change planning and leave management also helped in ensuring workforce stability and continuity in operations.

Operational wise, regimented job cards, periodic color calibration at shift onset, Lean 5S discipline, close liaison between press operators, QA and planners reinforced the production control. These achievements were mostly motivated by role definition, regular monitoring of KPI, and systematic production management systems.

These strengths notwithstanding, a number of challenges were witnessed. Constancy of quality was a delicate problem, particularly in color sensitive Offset and Digital printing. Changes of shift sometimes had minimal effects on ink balance or continuity of color, which impacted on the overall quality stability.

Another issue that kept on happening was unplanned machine downtime. Despite the presence of preventive maintenance procedures, unforeseen failures sometimes interfered with the production

plans and affected such KPIs as productivity and punctuality.

Process discipline was even breached at times in order to meet urgent deadlines in times of high order loading. In these cases, some quality assurance measures and control mechanisms were found to be reduced, which amplified the chances of errors or possible customer complains. This precipitated the stress between delivery promise and adherence to the strict process compliance.

Other issues were that the process of manual processes had dependencies, inter-departmental miscommunication, at times, wrong order information provided by Customer Service and disparities in data between system updates and physical job sheets and delays in receiving of raw materials. These intertwined problems showed how operational pressure, the presence of gaps in the systems and failing coordination can all play a role in affecting the production performance.

3.1.5 Quality

My collaboration with the Quality Department gave me exposure to how the quality governance is done with the Offset and Digital and other product line operations. Quality, GPD, Production and Supply Chain coordination was well managed and systematic. Sample development and approval was done in general within the schedule and the approved layouts and reference samples were duly recorded and made available to the concerned product lines to be standardized.

There was effective management of brand-based color reporting applications and maintenance of submission timelines. The training programs were organized according to the trends of customer complaints and the retraining of floor-level employees was provided to avoid similar issues in the future. Root Cause Analysis (RCA) process was organized and elaborated and remedial and preventive measures were taken in collaboration with production teams. Where the customer needed physical confirmation, a responsible employee was deployed to go and address the matter on the ground.

Store and Supply Chain teams worked hand in hand with the Raw Material inspection and approval to ensure that the possibility of defective inputs entering production was minimized. Such strengths were primarily influenced by clear SOPs, defined accountability, appropriate practice of documentation and

effective cross-functional communication.

Regardless of the structured systems, some operational issues were realized. In the periods of high production loading, the machine allocation pressure led to the delay of the sample development process. In other instances, authorized physical samples were lost somewhere at the production stage and had to be reissued leading to slight in efficiencies.

In cases where the order volumes were high, it was difficult to enforce all Quality SOP check-points stringently. Cases were experienced where color report submission had piled up as a result of workload. In case of production constraints, certain quality choices existed conditionally, when the products conformed to some 90-95% of the guideline parameters instead of 100% compliance.

Moreover, not all jobs could be carefully checked during the time of maximum orders and only a minor percentage of them might be slightly checked. Even though not all these incidences led to complaints, it was an indication that a risk might have been exposed. Delays in submission of RCA report were also experienced on occasion due to high level of customer complaints.

3.2 Application of Generic and Industry-Specific Courses during Internship

Before the industry attachment, I completed eight generic and industry-specific courses. During internship work with various departments, I had opportunities to link my theoretical learning with factory realities. The details are presented in this sub-section below.

3.2.1 KIM 101: HR Skills and Competencies

In the customer services (CS), I used conflict resolution models to deal with underlying tension between the customers who demanded to have short lead times and the production in factories capabilities. I was able to use my people skills to handle customer complaints. I handled complex organizational dynamics and cross-cultural communication through the coordination with the regional teams in global product development (GPD). I proactively dealt with the tension that arose when data in the system like Bill of Materials (BOM) and CS inputs did not match. I used motivational and

teamwork theories when planning the day-to-day meetings in supply chain department where I worked with the team to continually revise the shift loads, manpower and machine placement depending on the unexpected changes in demand. In case of operations (Production), I was able to help HR principles in practice when operating in the shift handovers and leave administration areas to maintain stability in the workforce. I was also involved in the safety committee to provide compliance to the floor in the workplace. I made use of leadership skills in quality department when I helped in retraining floor-level employees according to trends in defects. I also directed operators so that they would follow Quality SOPs to the letter, even when urgent orders were high pressure. I discovered that the theoretical models of conflict management and structured negotiation could be very useful when answering to interdepartmental meetings. This information enabled me to overcome communication barriers and promote teamwork within teams.

3.2.2 KIM 102: Analysis and Competencies

Within the customer services (CS) department, I applied statistical thinking to predict the lead times and the order progress in the ERP system and to analyze previous data to make accurate predictions to determine the expected delivery date of clients. I used my analytical abilities to determine the RFID readability, adhesiveness and resilience at environmental conditions teams in global product development (GPD). I was able to fairly compare these test results experienced empirically with the standard normal distribution requirements in mass production. I applied the approach of data-based decision making to prevent wastage of space by forecasting demand, examining past sales, determining the safety stock and the slow-moving inventory at the warehouse in supply chain department. In case of operations (Production), I directly used my knowledge of analytics in following Key Performance Indicators (KPIs). I looked at the Utilized Equipment Efficiency (UEE), Units Per Labor Hour (UPLH) and scrap percentages to identify the bottlenecks in production. I also applied the statistical analysis to perform Root Cause Analysis (RCA) within the quality department. I monitored Customer Complaint

Reports (CCR) and Internal Complaint Reports (ICR) in order to determine the common trends in the defects and test hypotheses on the reasons of color differences or misregistration. The basic understanding of standard distributions and statistical analysis was vital in my part when composing data-based RCA reports and making informed and data-driven decisions straight on the shop floor.

3.2.3 KIM 103: Communication Skills

In the customer services (CS), I used methods of persuasive communication (logos and ethos) when I was explaining customers about delivery schedules and delays. In my daily email communication and visual communication. I was always writing on the professional level of business to prepare presentation materials to be audited by the specific customer. While assisting in the global product development, I developed effective technical documentation to be shared among international stakeholders so that the discrepancies between CS notes and GPD Bill of Materials (BOM) could be communicated to avoid errors at the shop-floor. I was talking daily with Customs and Forwarding agents and preparing Proforma invoices and real-time material shortages to the production planners in the Supply Chain Department. I enabled ease of communication among the operators, QA and planners within the operations (Production) department which I consider as essential to the implementation of A3 problem-solving methodologies and process discipline. In the Quality department, I wrote comprehensive open reports to external customers on the problem using RCA so that accountability is taken but the overall professional image of Avery Dennison is not destroyed when handling complaints. I have strongly used the structures taught in this course in making the flow of information across all internal and external channels highly professional, accurate and efficient so that I used the highly professional business correspondence (whose training was taught in this course through emails, memos, reports etc.) to be highly effective in information flow.

3.2.4 KIM 104: Skills in Business Operation

I checked invoices and packing lists, checked to the strict compliance of the commercial conditions needed to make export orders in Customer Services department. During my time in the global product development (GPD), I personally applied operational problem-solving at the stage of product costing at Oracle. I estimated labor, raw materials, machine hours and overheads in order to determine the financial viability of new items to the business. My responsibilities within the supply chain department centered on the import/export portion, checking of Letters of Credit (L/Cs), verifying of Hs codes as bond licenses and verification of freight forwarder bills to ensure strict cost management. I was able to experience the cost quality nexus at the operations (Production) department and I saw how the machine setup time, scrap percentage and unplanned down time directly affected the profitability of the factory as a whole. In the quality department I measured calculated business risks, including an ability to coordinate permission of conditionally passed products (90-95% compliance) at the time of large volumes to achieve a successful result of commercial deliveries. The contextual knowledge on the broad cost structures and commercial finance bases provided me with the strategy angle to balance cost of operation and extraordinary service delivery.

3.2.5 KIM 201: Knitwear Garments Industry Introduction.

Though my experience was in labeling and packaging manufacturing, the course allowed putting my operations in a broader context in an apparel supply chain. While working on the customer services (CS) department, I processed the export and import documents and made sure that our shipments complied with country-specific logistics and standards of our clients. In the global product development (GPD), I applied my understanding of the parameters of garments to why certain labels had to pass through certain wash tests, heat, and moisture that were of importance to the end product of clothing. I have gone through the financial functions of the factory, especially the consumable inventory, raw material requests and the customs bond register of the Export Processing Zone in the

supply chain department.

In case of operations (Production) department, I applied my knowledge of the bigger garment production system to understand the hard urgency of Customer request dates (CRD) of my printed accessories. I understood why international apparel retailers such as Walmart, Target and M&S need to demand such precise color reporting and rigid physical conformance on their trims and labels in the quality department. The significance of our trims and accessories in the overall logistics of the garment export business became clearer to me when I realized that I was dealing with the end-use of the product (the garment itself) and the importance of the product in the world apparel export logistics.

3.2.6 KIM 202: Industrial Engineering

This course was implemented most visibly in the operational settings. I was able to ascertain the constraints of the factory by cycle time and this was what allowed me to clearly comprehend why attempting to have shorter lead times resulted in crippling bottlenecks in production in the customer services (CS) department. I worked in liaison with manufacturing to make sure that our new prototypes were practically viable to mass-produce without introducing the need to change the machine to drastic levels in the global product development (GPD) department. In the supply chain department, I equated the operational capability by aligning manpower and machine availability between shifts and avoided raw material shortage through the use of push /pull Kanban concepts. I applied lean manufacturing principles on the floor directly in the operation (Production) department. I also noted Gemba walks, kept Lean 5S discipline, assisted Total Productive Maintenance (TPM) and also worked on Overall Equipment Effectiveness (UEE) monitoring. In case of quality department, I applied Enterprise Lean Sigma (ELS) and PDCA (Plan-Do-Check-Act) to finding and removing defects, in a systematic manner during our quality improvement sessions. The theories behind 5S, TPM and OEE calculations helped me to have an ideal critical analysis tool to assess, quantify, and proactively enhance factory performance and process mapping.

3.2.7 KIM 203: Merchandising and Production Management

Avery Dennison Bangladesh does not have a specific merchandising team; however, Customer Services (CS) department directly coordinates with the customer-end merchandisers of the global brands. The course significantly enabled me to imagine the working processes, policies and requirements of the external merchandisers. I used this information to process the orders in a much more efficient way depending on the visual and logistic peculiarities. While working in global product development (GPD), I was employed to work on material innovation and technical embellishments (UV, foil, paper-to-paper lamination), so that the more beautiful the designs we made the more they aligned with the specification and mood boards of the external brand merchandisers. In the supply chain department, I was handling the Master Production Schedule (MPS) so that the required colored paper, inks and substrates needed to realize the brand merchandising design were always available. During my time in operations (Production) department, I was in charge of technical implementation of the product within the merchandising vision where I controlled Pre-Printing (plate making, ink mixing), Printing and Post-Print finishing to ensure it was of the correct vision of the brand. To ensure strict quality, I have performed Hue Tests and color consistency tests to make sure that the final printed accessories would be the same as the original brand design forecasting and color boards. Due to the constant communication with the external merchandisers as part of the CS department, the information obtained in this course has helped me to know their needs, their approval policies and how the production of our factory can perfectly match the retail branding specifications.

3.2.8 KIM 204: Quality Management (TQM and Supply Chain Management)

Within the customer services (CS) department, I established the first feedback loop that is required in Total Quality Management, by making proactive records and customer complaint reports (CCR) and managing them. During my involvement in the global product development (GPD) department, I also made sure that there was global conformity of product standards which meant that all the regional

prototyping and sampling standards were maintained in terms of uniform quality standards and the compliance values. I had the strict supply chain planning where all the raw materials, supplied by the suppliers underwent the chemical test to obtain our precise technical specifications before they were released to the production floor at the supply chain department. While in the operations (production) department, I observed the compliance of SOP, plate mounting and color registration during the high-speed printing processes to ensure the quality of our work is carefully observed. In the quality department, I used the TQM concepts in my everyday work by organizing the approval loops, performing in-process and final checks, monitoring the brand-specific compliance, and internal audit compliance with the ISO standards. The inflexible hierarchies of ISO compliance, TQM philosophy and official documentation of RCA gave me a powerful, practical system to implement quality governance in all the operational levels of the factory.

3.3 Suggestions for the Company

Although the company has high standard of practices in various departments, some weaknesses have been highlighted in Section 3.1 based on my internship work. To address these problems, department-wise suggestions are given in this sub-section.

3.3.1 Customer Services (CS)

Throughout the internship, the CS department was seen to have good practices of order tracking and urgency management. But due to a lot of reprioritization and sometimes incorrect data, there were cases of downstream pressure on Production and Quality.

In order to enhance performance, a well-organized urgency classification system should be created. Definite parameters of what constitutes urgent orders would decrease over-reprioritization and assist in establishing the same level of customer expectations and realistic production capacity.

There should be enhanced verification points at the order entry point. Quantity, specification and delivery information should be verified twice to minimize the mistakes in data which will in turn

hamper the production.

An integrated CS, Quality and Production digital complaint dashboard would enhance the level of transparency and time to response in solving customer complaints. Training on negotiating and managing conflicts would also run on regular basis so as to strike a balance between customer satisfaction and feasibility of operation.

3.3.2 Global Product Development (GPD)

GPD department has shown a significant level of technical expertise in developing prototypes and global coordination, however, inconsistency between Manufacturing Notes and Bill of Materials (BOM) data has occasionally caused difficulties in executing them. An automated cross-verification system in the ERP system that is used to indicate differences between Customer Specification (CS) records and GPD BOM specifications before production is released.

Communication procedures after the update can be improved as well. The risks of misalignment would be curbed where in case of change in artwork or material specifications in ERP software, the workflow of an automated notification would require production and Quality teams to acknowledge it.

Besides, the implementation of more organized digital documentation management or the implementation of more sophisticated Product Lifecycle Management (PLM) may enhance the consistency of the data and reduce the use of the manual confirmation.

3.3.3 Supply Chain Department

Supply Chain Department has succeeded in controlling the forecasting and capacity resonance. Sometimes, the reliance on the system and inconsistency of raw materials supplies have affected the stability of production. Contingent measures should be put in place to deal with ERP outage in order to maintain the flow of shipment. Delays in delivery can be curbed by having a temporary offline documentation process in case of unavailability of the system.

State-of-the-art demand forecasting tools that include predictive analytics may further streamline

inventory control, which will ensure optimum inventory level.

The methods used to evaluate the performance of suppliers should be strengthened with periodic quality audits and scrap trends. The quality of the relationship between procurement and Quality functional area during the in-housing of raw materials would help to avoid situations where defective raw materials affect the production KPIs negatively. Periodical cross-training of the supply chain staff members would make the supply chain more flexible to accommodate changes in demand.

3.3.4 Operations (Production - Digital and offset)

Production department has a structured SOPs and 5S discipline of lean. Nonetheless, process bypassing and diminished quality checkpoints were sometimes caused by high order loading. A progressive methodological improvement system needs to be enhanced and KPIs to check productivity and process compliance rate should be carefully monitored.

Smart production monitoring devices, e.g. an automated job tracking dashboard, IOT implementations etc. may minimize change in variation. Predictive maintenance tools should be used to improve the preventive maintenance programs in order to reduce the unforeseen downtimes. Also, there is a need to have formalized escalation procedures in instances where the urgency of orders poses a threat of upsetting process discipline. This would make sure that quality assurances are not violated by delivery responsibilities.

3.3.5 Quality Department

Quality department has good governance in terms of SOP implementation, RCA implementation and organized training. But the strains of workload during peak times sometimes influenced the development of samples, delivery of color reports and complete inspection coverage. The risk-based sampling models can be used to balance the inspection workload when high order loading is done and at the same time products of utmost importance should be subjected to 100 percent inspection.

Electronic reporting on the tracking of color report submission and RCA report deadlines might help

minimize the backlog when complaints are high. The centralized management system of approved sample records would avoid loss of samples in the production level.

Enhancing the monitoring of CAPA through periodic review meetings would help close recurrent problems faster. It would promote the long-term brand trust by reinforcing the premise that the conditional quality acceptance must stay exceptional and not the rule of thumb.

3.4 Learning for self-improvement

This industrial attachment has given me an opportunity to have wider exposure to various functional departments in addition to my regular desk. It has also enhanced my abilities to apply the theoretical concepts and techniques in real world scenario. From the industry attachment, I have highlighted my key learning here.

a) Improvement of the Technical and Industry-Specific Knowledge

The internship enhanced my technical knowledge in Offset and Digital production, the ERP based order processing, the interpretation of BOM, quality control systems. My practical competence was also increased over theory through exposure to machine utilization (UEE), scrap monitoring, preventive maintenance practices as well as the production management based on SOP. This technical background in the field of Production will make me open up to operational data and be more confident in offering a contribution to the daily operations of production control and efficiency improvement programs.

b) Analytical and Problem-Solving Skills Development

My structured problem-solving capability was improved as a result of active participation in KPI monitoring, complaint analysis and Root Cause Analysis (RCA). I understood that it is possible to look beyond those top-level production complexities and check the underlying reasons behind them like inaccurate data matching, material mismatch or slight bypassing the process during high order loading.

This analytical approach will help me in my current position, as it will help me make evidence-based decisions based on the operational pressure at the same time protecting both productivity and quality.

c) Operational and Systems Understanding

Among the most valuable lessons was the creation of a holistic perspective of the operations of the factory. Customer Services, GPD, Supply Chain, Production and Quality exposure showed how the effect of errors in entering orders, BOM mismatches, raw materials delays, or poor management of urgency may have a direct effect on production stability. The systems perspective has now enabled me to consider the problems in production that are not limited to the machine level and look ahead at the upstream and downstream impact before making a decision.

d) Process Discipline and Quality Awareness Under Pressure

I learnt was the operational risk of ignoring process checkpoints when compelled to make emergency orders or when loading high production volumes. The fact that even a slight slip in inspection, color calibration or documentation can cause downstream quality concerns supported my decision to be adamant about SOP compliance. The awareness will be fundamental in my developmental path to production management roles where meeting the delivery commitment and the process compliance is one of the leadership tasks.

e) Cross-Functional Co-ordination and Communication

Working with CS, GPD, Supply Chain and Quality frequently, I enhanced my skill to make technical requirements clear, challenge contradictions and make realistic schedules. I have also gained the relevant skills related to practical communication that is essential to coordinate the interdependent departments which directly benefits my effectiveness in Production.

f) Flexibility, Value and Work Development

Urgent orders, dynamic schedules, machine downtime and material constraints helped me to become more time-sensitive and flexible. Working with priorities, I got to know how to focus on tasks because of the operational risk and not urgency. In other areas, the internship also helped to achieve a balance between academic concepts like Lean manufacturing, production management and operations excellence and the actual industrial practice, guiding me on a long-term career orientation of production leadership and integrated operations management.

All these practical experiences have created a strong platform that will directly fast track my career development into operational management and becoming a leader. I have also found that the effective technical experience gained throughout this internship and the practical lessons have profoundly augmented my understanding of the industry context as a whole so that I will be able to look at future operational issues with a more nuanced and flexible approach. Through personal experience on how an interdependent department Customer Services, Supply Chain and Production can work together. I have been able to understand holistically what factors are most important in driving the overall operations of the factory. Together with my newly enhanced ability to analyze and compose myself as highly critical and disciplined in the use of the process, this attitude makes me confident that I can assume managerial roles. With strategic awareness, as well as the on-the-job understanding of the processes, I would be strategic enough to act as an effective conduit between the overarching vision of the managerial and the tight technical realities of the manufacturing floor. The ability to translate such academic theories as Lean manufacturing into actual industrial life experience gives me solid evidence-based principles to guide cross-functional teams, maximize production efficiency and effectively maneuver in the high-pressure manufacturing settings.

Chapter 4. Conclusion

My industrial attachment experience at the Paxar Bangladesh Limited (Avery Dennison Bangladesh) has been a very valuable experience that has brought in a lot of personal and professional growth to me. Through the program, I was able to rotate in five core departments which include Customer Services (CS), Global Product Development (GPD), Supply Chain, Operations (Offset and Digital) and Quality. The holistic exposure gave me an overall view of the functioning capabilities and systemic issues within the global apparel supply chain because of the complex interdependence of a large-scale manufacturing setting.

By engaging in the process, I was able to see the entire life cycle of production processes. I got to know how CS handles brand expectations and order urgency which GPD subsequently turn into technically viable and globally standardized product solutions. I also observed the Supply Chain department in terms of maintaining the constant supply of raw materials and making sure that the Supply Chain department performs demand forecasting, capacity planning and import/export control. The Production department at the factory floor could be seen to be very strict in the application of the offset and digital printing activities as there was a balance between machine use and the 5S principle of Lean. Bringing all these together, the Quality department was the center of governance using standard operating procedures (SOPs) and Root Cause Analysis (RCA) to ensure that all the finished products were of international brand.

This internship helped me develop a critical evaluation of real-life issues relating to operations and directly correlate my scholarly studies to practical situations. I also learned several important lessons about the systemic bottlenecks, including the tensions of urgency of customer and safe lead times to production, the risks of misaligning data in both CS notes and GPD Bill of Materials and the consequences of unplanned machine downtime. Incorporating the academic concepts, including Industrial Engineering (KIM 202), Quality Management (KIM 204) and Statistical Analysis (KIM 102). I had a chance to examine Key Performance Indicators (KPIs), coordinate the activities of

multiple functions and come up with data-driven solutions. This enabled me to make practical suggestions to the company such as the introduction of automated ERP cross-verification, sampling models based on risks in peak loads and predictive analytics in inventory management.

At the individual level, working on dynamic schedules, urgent orders and material constraints prepared me with the essential professional skills. I gained a lot of technical literature in the areas of ERP order processing, offset and digital production systems and preventive maintenance. I learned to appreciate process discipline and understood the importance of having stringent quality check points even in cases of extreme pressure during operations. The experience highlighted the importance of the fact that technical mastery should be enriched by a set of skills in communication, flexibility and systematic solving of problems.

Altogether, this experience has been an educational experience that has transformed theory into practice, broadened my industrial focus and affirmed my long-term career focus in production leadership and operational management. I am appreciative to PAXAR Bangladesh Limited for giving me the opportunity to develop professionally and to BRAC University for incorporating this internship into the PGD-KIM program.

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