

Internship Report
On
“Optimization of Delivery Lead Time with Freight Cost”

By
Monaha Chowdhury Moon
ID: 20364031

An internship report submitted to BRAC Business School in Partially fulfillment of the
Requirements for the degree of Masters of Business Administration

BRAC Business School
BRAC University
December 2023

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Declaration

It is hereby declared that

1. The internship report submitted is my original work while completing my MBA at BRAC University.
2. The report does not contain any 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 any material that has been accepted for any degree or diploma at other universities or institutions.
4. I have acknowledged all main sources of help.

Student Full Name and Signature:

Monaha Chowdhury Moon

Student's Full Name

20364031

Supervisor's Full Name and Signature:



Md. Abdul Hoque, PhD
Professor
BRAC Business School
BRAC University

Co-Supervisor's Full Name and Signature



Md. Shamimul Islam, PhD
Assistant Professor
BRAC Business School
BRAC University

Letter of Transmittal

Md. Abdul Hoque, PhD
Professor
BRAC Business School, BRAC University
66 Mohakhali, Dhaka-1212

Subject: Optimization of Delivery Lead Time with Freight Cost

Dear Sir,

This is to inform you that I have completed the internship report titled 'Optimization of Delivery Lead Time with Freight Cost' carried out at Berger Paints Bangladesh Ltd., which has been prepared as a requirement for the completion of the MBA Program of BRAC University.

I am fortunate enough that I have worked under an efficient professional team of this organization. I have been provided an opportunity to work with different Departments of this organization to learn about their sales and distribution process effectively. I tried my level best to learn about the distributional activities which I have dealt here.

Finally, I would like to assure that I am ready for providing any clarification and explanation on my internship work if required. Thank you in advance for your kind assistance in carrying out my internship work. I enjoyed working in preparing the report and hope you will consider all my undesirable mistakes generously.

Sincerely Yours,

Monaha Chowdhury Moon
ID- 20364031
Masters of Business Administration
BRAC Business School
BRAC University
Dhaka

Date: December 2023

Non-Disclosure Agreement

This agreement is made and entered into by and between Berger Paints Bangladesh Ltd and the undersigned student at BRAC University, Monaha Chowdhury Moon (ID: 20364031), to eliminate the unlawful exposure of the organization's confidentiality.

Acknowledgement

At first, I would like to thank my supervisor **Professor Md. Abdul Hoque, PhD** and my co-supervisor **Assistant Professor Md. Shamimul Islam, PhD** at BRAC Business School, for providing me guidance and suggestions for preparing this Final Internship Report and also for being helpful and informative during groundwork of this Internship report. I would like to appreciate their generous cooperation that made me really confident about the desired outcome of my internship project.

I want to express my sincere thanks to Berger Paints Bangladesh Limited's Supply Chain & Distribution Department's employees, who have supported me with all the necessary information and helpful data. I want to express my gratitude to **Mr. S M Quamruzzaman**, the distribution manager, and my co-workers for their guidance and assistance in completing my internship report.

I would like to express my sincere gratitude specially to employees of Berger paints Bangladesh Limited Distribution Department for their kind assistance in providing crucial information for carrying out this challenging research .Without them, I would not be able to do this challenging assignment. They provided me with all the instructions, assistance, and guidance I needed to do this challenging work.

Executive Summary

Since its inception, Berger Paints Bangladesh Limited has built a laudable reputation by providing honest, customized service to its clients in a technology-based setting. The company has developed new standards for financing in the trade, foreign exchange, and industrial sectors.

The information and experience I gained throughout my 12-week internship at "Berger Paints Bangladesh Ltd." are reflected in my internship report. This report is essentially a reflection of the lessons I've learned from working every day in the Distribution department. This report focuses on the organizational functionality, structure, and an in-depth understanding of the organization in addition to reflecting on my roles, responsibilities, and learning.

Three chapters make up this report. The first chapter will go into depth about my internship overview. This chapter includes details information about the internship, the student, and the business.

The second chapter contains the overview of the organization containing all the relevant information which will help the reader to understand the nature of the organization. Some of the major components of this chapter are the company's history, internal structure, departments, products, competitors, functional practices, and industrial scenario. All these pieces of information are discussed briefly in this chapter.

My study topic is— the "Optimization of Delivery Lead Time with Freight Cost" is covered in the third chapter. I've expressed my observations and interpretations of the subject matter in this chapter. Both the qualitative and the quantitative analyses are performed and discussed here.

In the Conclusion and Suggestion section, the report's last section, where I have highlighted the limitations of my work and provided their interpretations, and proposed possible areas for improvement.

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Part 1

Overview of the Internship

1.1 Student Information

Name: Monaha Chowdhury Moon

ID: 20364031

Program: Masters of Business Administration (MBA)

Major: Operation and Supply Chain Management

1.2 Internship Information

1.2.1 Name of the organization, Period and Department and Address

Organization Name: Berger Paints Bangladesh Limited

Department: Distribution Department, Dhaka Sales Center

Period: June 11, 2023 to September 10, 2023 (3 months)

Address: 273- 276, Tejgaon Industrial Area, Dhaka- 1208

1.2.2. On site Supervisor

Name & Designation: S M Quamruzzaman,
Manager Distribution, Dhaka Sales Center,
Berger Paints Limited

1.2.2 Job Description

Berger Paints Bangladesh Ltd.'s supply chain management includes logistics management, warehousing, sourcing and modeling, demand planning and forecasting, and asset life cycle management, which includes suppliers, warehouses, transporters, installers, and chain shops. As an intern in this

department, my job responsibility was to data entry of the carrying data timing. In this token bill includes- route planning and release time, picking and checking completion time of the product, loading and loading completion time, truck reach and exit time, total number of gallons of fuel carried by the relevant transports with individual date and name of transport. BPBL's aim is to minimize the lead time and the relevant cost to add value in the value chain process.

1.3 Internship Outcome

1.3.1 Contribution of the Student

In my internship period, I was accountable to entry the token data in the online excel file (OP-Dash). Correct the data and entry them properly. To observe any discrepancy in the data and communicate with the carrying bill supervisor to minimize the excess time in the delivery process. Moreover, I have observed the delivery delay time of transports individually on daily and monthly basis.

1.3.2 Benefit of the Student

The most beneficial part during my internship period was the professional setting and the corporate culture I have experienced. I have acquired the practical knowledge in the supply chain management, which was my major part in MBA program. Moreover, I have learnt how to track the ways of different invoice activities and warehouse safety stock measurement. As I have directly worked in the data entry part of the carrying bill, so I could have the opportunity to analyze the monthly supply lead time and observe the discrepancies from the setting benchmark.

In addition, I now have better communication skills through this internship program. This internship program helps me to learn the corporate culture. In addition to being able to connect with individuals, like- ground worker, account officers, supervisor, branch manager, I am also benefited from them by taking the practical field knowledge of distribution center. Finally, I

think everything I've learned here has the potentiality of application to my line of work in the apparel sector. Along the way, I've also made intriguing friends, dealt with challenging situations, and developed a stronger sense of independence. I believe that participating in this internship will aid in the development of my resume in purpose of potential future employment opportunities.

1.3.3 Difficulties

There wasn't enough time to complete the research and examine it. Furthermore, a lot of information about the internship was confidential. I therefore had to complete my internship report under some suppositions.

1.3.4 Recommendation

- Berger should give each intern a good project to learn from the field work
- BPBL should have a dedicated intension to guide intern in a proper manner so that this internship program create value in his/her academic and professional life.
- Distribution unit need to be well established with proper updated technologies and methods
- Need to have proper complain center for reporting in case of any discrepancy arises.
- Maintain a good corporate culture to inspire employees and intern to work efficiently and get proper motivation from that.
- BPBL should hire better expertise in the designated post to improve the distribution functions.



Part 2

Organization

Part

2.1 Introduction

Bangladesh paints sector has been growing, and Multinational Company (MNC) has been dominating Tk 45 billion paints market. Rapid urbanization throughout the nation and a variety of industrial uses are boosting the paints and coatings business, which shows yearly growth rate of 6.0% in the recent years. The Bangladesh Paint Manufacturers Association (BPMA) has about 40 registered businesses, including both domestic and foreign firms. According to information held by the industry group, the annual production of decorative paints is projected to be around 0.24 million tons.

Berger Paints among such businesses, commands the majority of the market, about 54%. Berger Paints' primary rivals in the local market include Asian Paints, Roxy Paints, Pailac, and Elite Paints.

2.2 History of Berger Paints

The name Berger or Lewis Berger's origin can be traced back over two and a half centuries to England in 1760, when a young color chemist by the name of Lewis Berger began producing in Europe "Prussian blue" using a secretive method that every designer and homeowner coveted. Today, the names Berger or Lewis Berger are synonymous with color all over the world.

On that era, the majority of the military uniforms at that time were blue, therefore Mr. Berger refined this procedure and developed skills of creating the color. By bringing his family into the company, Louis modified the status of the enterprise, renaming it Berger & Sons Limited. The company's outstanding reputation for innovation and entrepreneurship allowed it to grow and thrive rapidly. By opening offices throughout the globe and merging and acquiring other top paint and coating manufacturing companies, the company adapted its growth and expansion process. The world of color and paints is still on a never-ending search for innovation and creation, enriched by Lewis Berger's vivid imagination.

2.3 Berger Paints in Bangladesh

Since the independence Berger Paints started its work of painting in Bangladesh. This business have provided to its consumers the greatest customer service possible, and have made every effort to fulfill their needs and expectations; as a result, it has been converted into the top paint solution provider in the nation with a broad product selection that can suit all of customers' painting requirements. With the help of its extensive distribution network, Berger has accessed to practically all areas of Bangladesh. With 13 Sales Depots strategically positioned in Dhaka Central & North, Dhaka South, Fani, Brahmanbaria, Chittagong, Rajshahi, Khulna, Bogra, Sylhet, Comilla, Mymensingh, Barisal, and Rangpur, the Nationwide Dealer Network has the unmatched ability to meet the demand of this paint almost anywhere in Bangladesh.

2.4 The Key footstep of Berger Paints in Bangladesh

1950- Berger Paint began operating in Bangladesh by importing paint from UK.

The Berger Paints Bangladesh Limited was established in **1980** after the Chittagong factory was established in **1970**.

1995- Berger Successfully established a double Tight Can manufacturing plant (J&N).

1999- Modern sale of the art paint has been established in Dhaka.

2003 -This is the year when the corporate office of Berger Paints Bangladesh Ltd. has been relocated in Uttara from Chittagong. They have also established a powder coating plant.

2005- The most modern State-of-art research & development unit has been established in Dhaka.

2007- This year Research and development unit was established in Dhaka. Moreover, BPBL has been listed in DSE & CSE this year. In the same year, they started going into Technical collaborations.

2009- Implementation of SAP throughout the company.

2010 -Collaboration between Coil Coating and BECKER’S group took place this year as well as they successfully made all of their products lead-free.

2011- Launch of odder-free and eco-friendly paint known as “Breath Easy”. Also, BPBL joined hands with Hempel (Sales & Distribution deal) 2012 Started to export Emulsion in Thailand from this year.

2015- they implemented ISO 14001 Environmental Management System (EMS) and OHSAS 18001 Occupational Health and Safety Management system (EHS) at its corporate office, Dhaka Factory and Chittagong Factory.

2016- Share point implementation throughout the company happened.

2017- BPBL Implemented ISMS 27001:2015.

2020- Berger paints partnered with Japan’s Chugoku for marine coatings.

2.5 Business Principles

The Berger paint Bangladesh has a very clear vision, comprehensible, and explicit. Their key guiding principle is to innovate and bring about change. They adhere strictly to the highest standards of ethics and constantly strive to provide their clients with services that are more valuable.

2.5.1 Mission

We plan to raise our turnover by 100% every five years. We will always be an ethical business that cares about society.

2.5.2 Vision

To be the most preferred brand in the paint industry ensuring consumer delight.

2.5.3 Goals

- Of the Paint: Profit Maximization by Sustaining Growth.
- Of the Customer: Benefit and Satisfaction maximization.
- Of the Society: Welfare Maximization

2.5.4 Values

- Customer focus
- Integrity
- Team Work
- Respect for individual Quality Maintenance
- Responsible citizenship

2.5.5 Tag Line

The tagline of Berger paints is ***“Trusted Worldwide”*** and this tagline are used all over the world. It assures that Berger paints produce supreme quality paints and always ready to serve its customers at its best.

2.5.6 Global Reach

Five nations make up Berger Paints' global footprint. There are 16 industrial facilities from these five nations in India, two in Nepal, one in Poland, and one in Russia. Furthermore, BPBL has business in 46 countries. The global scenario of the company is shown below:



Figure 1: Global Reach

2.5.7 Strategic Partners

	Tinting System
	Coil Coating
	Pretreatment Chemical
	Wood Coating
	Vehicle Refinish
	Marine Coating
	Construction Chemicals

2.5.8 Quality Policy

Burgers' goal is to achieve business excellence via maintaining quality by comprehending, accepting, exceeding, and meeting the expectations of its customers. To ensure consistent product and service quality and to satisfy customers, Berger adheres to worldwide standards for quality management systems.

2.5.9 Brand and Products

Main product categories of Berger Paint are-



Diversified offerings

Diversified Product Categories



In Decorative sector, the two major classifications are,

1. Exterior
2. Interior

From the application sequence, paints can be categorized as,

1. Primer
2. Under-coat
3. Finish-coat

Paints can be divided into two categories according to thinner/ solvent usage,

1. Water-based
2. Solvent-based



Interior Paints

- Robbialac Acrylic Distemper (SPD)
- Radiance Interior

- Robbialac Acrylic Plastic Emulsion (APE)
- Luxury Silk.
- Easy Clean
- Breathe Easy

Exterior Paints:

- Durocem Cement Coating
- Radiance Exterior
- Weather Coat Smooth
- Tartaruga Textured Coating
- Weather Coat long life

Others Products:

- Illusion
- Robbialac Super Gloss Synthetic Enamel (RSE)
- Jhilik Synthetic Enamel (JSE).
- Robbialac Aluminium Paint
- Robbialac Damp Stop
- 6 Rust Blaster
- 7 Power Bond

2.5.10 Departments

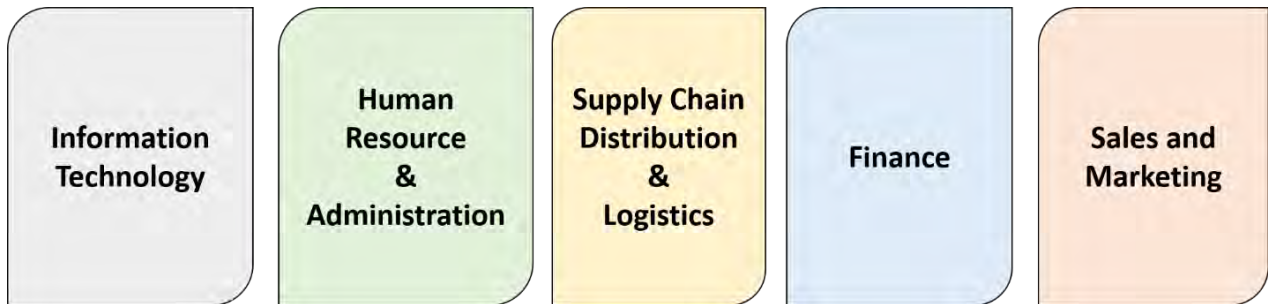


Figure 2: Departments of Berger Paints Bangladesh

2.6 Management Practices

2.6.1 Leadership Style

The organizational hierarchy at both the managerial and non-managerial levels of BPBL reflects a democratic level of leadership style. No single body has the power to make all decisions. In the decision-

making process, employees at all levels are able to voice their opinions regardless of their position, policies are open to change based on employee recommendations.

2.6.2. Recruitment Selection

BPBL recruit three categories of employees:

- Permanent
- Temporary
- Outsourced

The hiring procedures for managerial roles and positions for the recent graduates varies for both the permanent and temporary payrolls. Additionally, the contractors do the hiring, headhunting, and assessment processes for outsourced hiring in addition to issuing appointment letters.

2.6.3 HRIS

SAP-SE is a German multinational software company develops enterprise software to support business



operations. In 2009, Berger Paints Bangladesh Ltd. deployed SAP across the entire organization. In 2016, "Share Point" was implemented. With PM and GM (Performance Management and Goal Management), they began utilizing SAP success factor in 2018. One of their future ambitions is to incorporate onboarding, offboarding, and recruitment in 2022. Their everyday activities

changed significantly with the advent of Share Point, which assist the employees for the request of training approval, IT and financial appliance request.

Additionally, they have access to a wealth of informative organizational records and can apply to buy



goods at employee discounts. It introduced a certain amount of automation into their procedure, increasing effectiveness and reducing the processing time for any employee associated

functions.

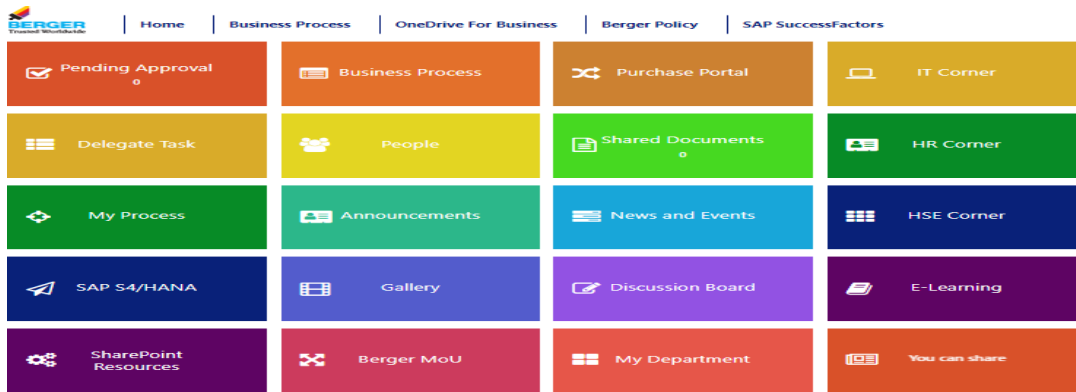


Figure 3: Share Point Portal

2.6.4 Training & Development

The HR Department's training and development division oversees employee engagement, development, and training, with events established annually in March or April of each financial year.

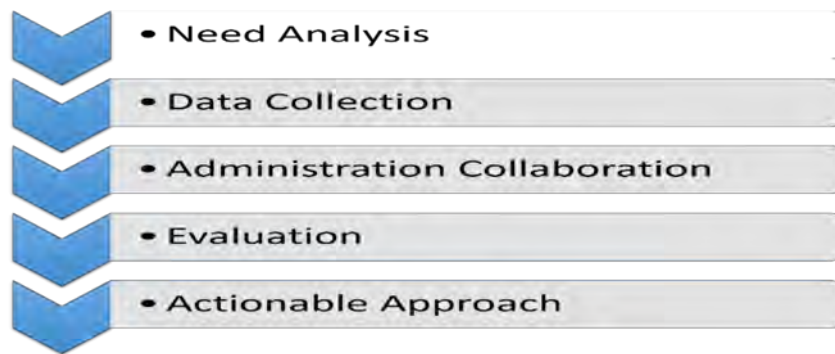


Figure 4: Steps of Competency Gap Analysis

The HROD approach involves a competency gap analysis, ranking employees based on their abilities, with employees and line managers as raters. This ensures employees develop specific skills to fulfill their duties

2.6.7 Organizational Hierarchy

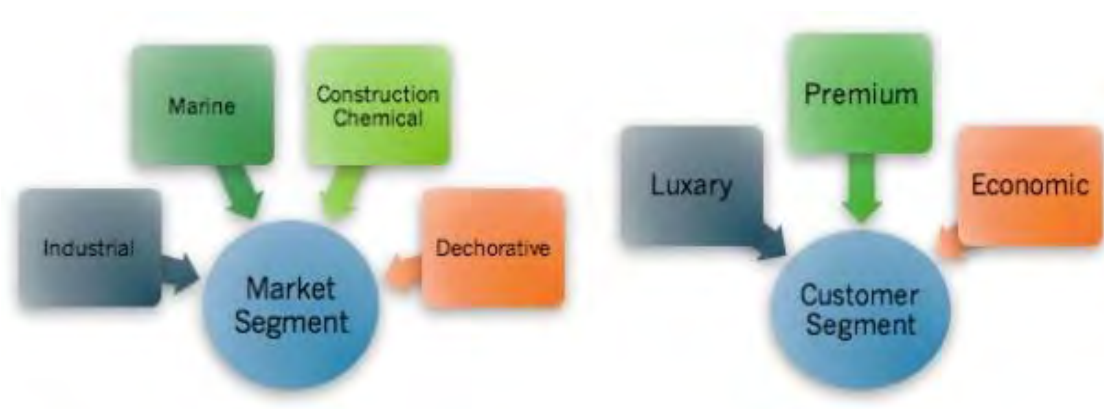


2.7 Marketing Practices

Berger uses Segmentation, Targeting, and Positioning (STP) to identify market wants and groups, then targets them to create a distinctive brand image.

2.7.1 Target marketing

Customers from a variety of market groups have been targeted by Berger. Business to Business (B2B) and Business to Consumer (B2C) marketing are both done by Berger Paints Bangladesh Ltd.



2.7.2. 4'P of Marketing

Product Mix

BPBL offers diverse product lines for interior, exterior, marine, industrial, and ornamental uses, targeting consumers and businesses with distinctive core components, setting them apart from competitors.

Price Mix

BPBL uses rival pricing strategies for its premium, luxurious, and affordable items, varying based on stakeholder relationships. Despite offering premium items, BPBL only makes the minimum profit due to high raw material costs. Despite increased costs during the pandemic, the selling price remains constant.

Place

BPBL employs robust distribution channels and a sophisticated strategy, focusing on effective placement and marketing to reach the right client segment for increased sales. BPBL utilizes a comprehensive distribution network to reach a wide range of customers in Dhaka, Chattagram, Bogra, Sylhet, Comilla, Rajshahi, and Khulna through direct and indirect sales.

2.7.3 Promotions

BPBL (Berger Paints Bangladesh Limited) is distinguishing itself from its competitors through its innovative and strategic product promotion methods..

Customer-specific marketing initiatives.

- Slogans based on products.
- Promoting messages to spread ideas. Such as-
 - Independence Day special campaign
 - Wrong Bodle Rongin Kori
 - Berger's Latest Campaign Takes You Back To The Memory Lane
 - Berger Happy Home Reality Show Campaign
 - Shomporko Program
- Since more than half of them are now utilizing in the internet, businesses can now leverage online platforms as conduits for marketing.
- Planning customer-engagement initiatives (such as home renovations for clients).

2.8 Operation Management and Networking

BPBL manages its operations through Supply Chain and Procurement Planning units, with 13 sales depots across Bangladesh. It operates with six vendors: Emu, Sufe, TruckLagbe, Gim, and Loop, distributing BPBL products nation-wide.

The unit sets annual sales targets and budgets, employs performance evaluation and monitoring of connected parties, and implements essential tactics to achieve sales objectives and desired results.

BPBL's supply chain unity involves demand planning for products, monthly operational reviews, and distribution, crucial for buying, production, purchasing, and customer satisfaction.



Figure 5: BPBL Procurement process



Figure 6: Distribution Process of BPBL

2.9 Practice of Supply Chain at BPBL

2.9.1 Order Taking Process

BPBL takes three steps to take an order from the customer.

Step 1: Take phone calls- Customer service officers take orders by phone or email from the dealers and note down the certain order taking time. Maximum 7 to 8 officers do these tasks by writing down dedicated authorized code number with order details.

Step 2: Note down brief information- Customer service officer writes down the dealer's code number and the product code number along with date and time.

Step 3: Create Invoice- Forward that information to another customer service officers those create invoice with delivery date and addresses.

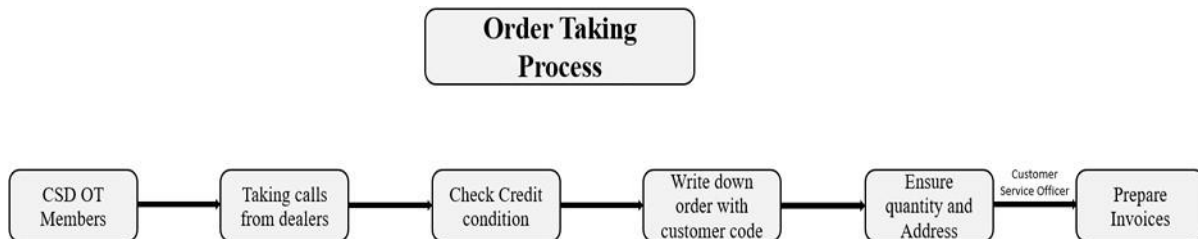


Figure 7 Order Taking Process at BPBL

Sales department, Customer Service department, Account Section support to generate an order taking process. Sales team brings the order through marketing their products, then the customer service department take those orders from authorized dealers and finally accounts

department make the invoice for the confirmation of the order and forward it to the distribution department.

2.9.2 Route Planning

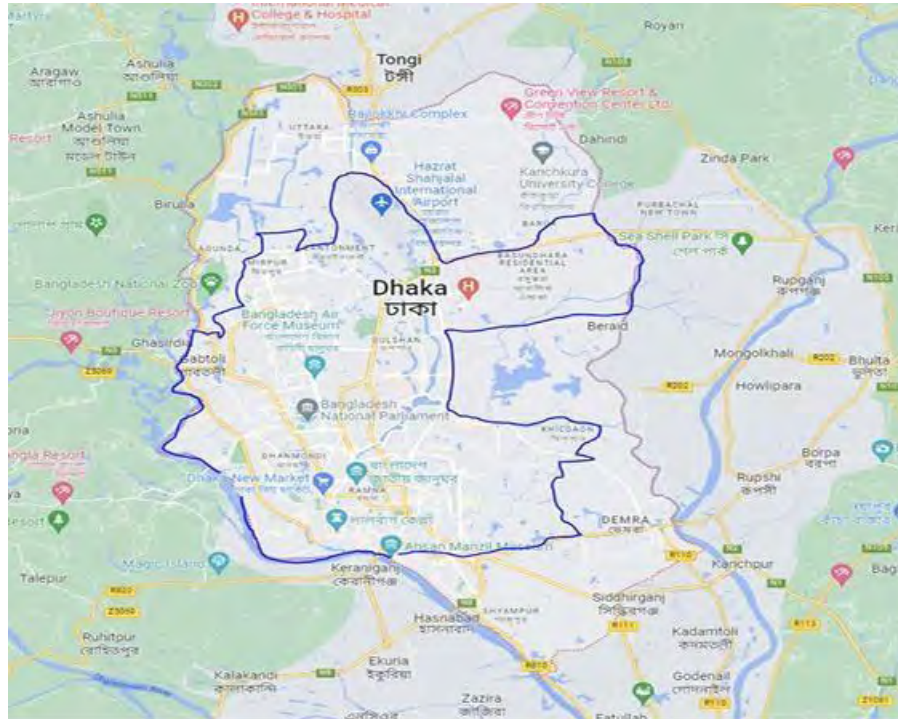


Figure 8 Dhaka City Route for Distribution

The Single Sign On Supervisor (SSO) route planner is responsible for Dhaka Sales Central's (DSC) distribution department, managing the route planning process for the city's delivery routes. The planner selects trucks to carry goods and deliver to specific regions after receiving bills. An Excel file manages vehicle serial numbers and their destinations. The route planner works with 31 independent suppliers, including Sufe Transport, Mahin Enterprise, and Truck Lagbe, and may adjust based on demand.

2.9.3 Picking

The team plans routes and picks items based on invoices. Supervisors at each gate direct the team to collect items. The average team has 8-9 gates, 8 SSOs, and 4 supervisors. The entire procedure is tracked by a token slip. Sample of a picking slip-

Carrying Bill:	Date:	Time	Responsible's Sign	Remarks
Route Planning Completed			Route Planner	RP
Picking Start Time			Supervisor	UD
Picking Completion Time			Supervisor	
Truck Reported at Loading Point			SSO	Picking
Checking Start Time			SSO	Loading
Checking Completion Time			SSO	
Loading Start Time			Supervisor	Checking
Loading Complete Time			Supervisor	
Truck Exit Date & Time			Security	Truck Exit

Step 1: The route planner first entered the carrying bill number, together with the date and time, and assigned a specific freight based on the route.

Step 2: Set the release for delivery time when the token slips arrived at the gate.

Step 3: The gate supervisor requests that the SSO begin picking while also noting the hour at which picking will begin.

Step 4: When they have finished choosing, they fill up and record the time, the delivery vehicle will arrive at the picking location.

Step 5: Inspecting the goods in accordance with the invoice, began loading the goods onto the truck.

Step 6: Before leaving BPBL, the truck drivers leave the token slips at the gate after writing down the loading start and finish times.

2.12.4 Unloading

BPBL Dhaka central sales handles a large daily volume of items, with a similar unloading procedure to picking. However, there are minor variations, such as limited gate locations and time restrictions based on vehicle size. The process is executed using an Excel sheet.

9/25/2022		9:00		Unloading Kg/ManHrs (Today)			0		Total Man/Hrs Passed			128				
Gate No.	Headcount	Total G.Wt. Unloaded	Total Delay (Min)	Total Delay (Min)	Unloading Kg/Min	Description	Date & Time	Time (HR)	Description	Total G.Wt.	Total Volume (Gln)					
1	7	-	-	-	-	Unload Start Time	9/25/2022 9:00	8.53	Total G. Wt.	-	-					
2	8	-	-	-	-	Current Time	9/25/2022 17:31		Complete	-	-					
3		-	-	-	-	Predicted Completion	9/25/2022 17:31		Pending/ Onpoint	-	-					
Total	15	-	-	-	-											
SL	Reporting SI No.	Date	Vehicle Number	Delivery Document Number	Split	Total Gross Weight	Count of Line Item	Status	Unloading Gate No.	Report at Unloading Point Time	Unloading Start Time	Unloading End Time	Unloading Start Delay	Time to Unload	Unloading Kg/Min	Delay Reason
1																
2																
3																
4																
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6																
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Figure 9 Unloading excel file

This excel document includes information such as how many persons were required to unload a car. The reporting number of a car can provide information on its unloading process, including the number of gallons unloaded, total unloading start and finish times, and the causes of procedure delays.

2.10 Information System Practices in BPBL

IT department support the information system in BPBL. There are three sections under IT department-

- **Department**

The IT department team provides necessary IT solutions, developing operating and programming tools for daily organizational activities. During the COVID-19 pandemic, IT support was crucial for work from home services, assisting HR functionalities in implementing success factors through IT support.

- **Infrastructure**

On-going support of the staff and portal moderation are under the responsibility of this division of the IT department. Updating the user session for the laptop based on the request in "Share point".

- **Basis Team**

The Basis team supports accounting activities and generates t-codes for authorized employees to access depot conditions, invoices, and other information from departed points to distant ones.

2.10 Financial Performance and Accounting Practices

In order to maintain the organization's overall performance, Berger maintains a highly well-organized accounting and financial practice. "Ramco" is the program that BPBL uses for its accounting needs. The Berger Paints Bangladesh Ltd. BPBL consider fiscal year from current year March to next year April. The "Statement of Financial Position" from BPBL is made available every three quarters.

Financial performance

The Directors take pleasure in reporting the Financial Results of the Company for the year ended March 31, 2023, and recommend the following:

In Thousands Taka	For the year ended 31 March	
	2023	2022
Net Sales	25,556,664	21,971,036
Cost of Sales	(18,093,443)	(14,410,290)
Gross Profit	7,463,221	7,560,746
Income Before Tax	3,854,010	3,822,014
Current Tax Expenses	(909,227)	(1,046,599)
Deferred Tax (Expenses)/Income	(14,818)	677
Net Profit After Tax	2,929,965	2,776,092
Add: Other comprehensive income/(expense), net of tax	(116,924)	(4,046)
Add: Retained Earning brought forward from the previous year	8,604,750	7,687,817
Amount Available for Distribution	11,417,790	10,459,863
Interim Dividend	-	(1,391,334)
Final Dividend	(1,855,116)	(463,779)
Transfer to un-appropriated profit	9,562,674	8,604,750
Basic Earnings Per Share – EPS (Taka)	63.18	59.86
Net Operating Cash Flow Per Share - NOCFPS (Taka)	65.78	58.46
Net Asset Value Per Share – NAVPS (Taka)	256.19	205.54
Gross Profit Margin (%)	29.20	34.41
Net Profit After Tax Margin (%)	11.46	12.64

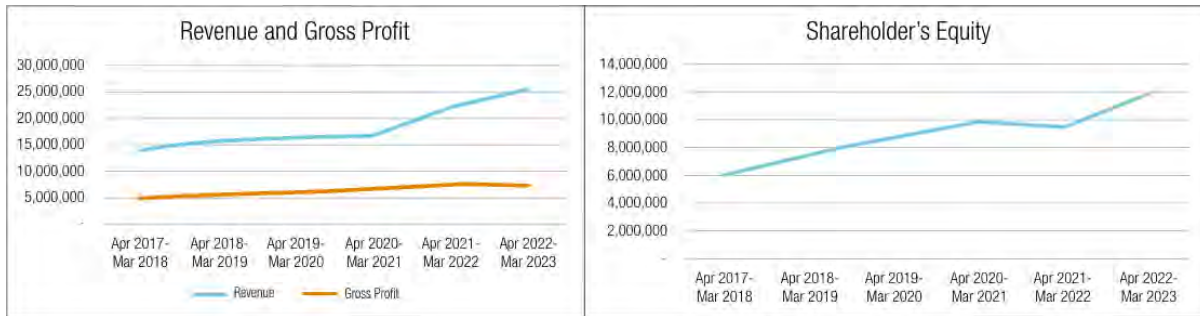
There is no significant variance between the quarterly and annual financial performance of the company.

The company's Net Asset Value per Share and Net Operating Cash Flow per Share decreased due to supplier payments and cash dividend distribution, but strategic inventory build-up was implemented to support budget sales and ensure product supply, with no discernible difference between quarterly and annual financial performance.

Corporate Analysis of the last year

Taka in '000

Particulars	Apr 2017- Mar 2018	Apr 2018- Mar 2019	Apr 2019- Mar 2020	Apr 2020- Mar 2021	Apr 2021- Mar 2022	Apr 2022- Mar 2023
Revenue	14,176,256	15,629,479	16,219,044	16,669,802	21,971,036	25,556,664
Gross Profit	5,046,900	5,722,137	6,240,646	6,632,362	7,560,746	7,463,221
Income Before Tax	2,253,564	2,649,490	3,092,467	3,472,362	3,822,041	3,854,010
Net profit for the year	1,669,930	1,957,827	2,292,448	2,548,788	2,776,092	2,929,965
Shareholders Equity	6,080,657	7,575,155	8,708,157	9,890,766	9,532,307	11,881,569
Total Assets	8,980,428	10,761,587	12,929,511	15,300,038	15,718,593	18,601,998
Total Current Assets	5,462,783	6,583,908	7,721,912	9,468,201	9,235,683	11,630,409
Total Current Liabilities	2,662,782	2,944,023	3,483,507	4,730,285	5,506,513	6,073,834
Current Ratio (Time)	2.05	2.24	2.22	2.00	1.68	1.91



The net sales growth for March 2023 was 16.32%, primarily due to exchange rate changes causing a 25.56% increase in raw material costs. Stricter controls led to a 3% cost decrease. Income before taxes increased by 0.84%, and net profit after taxes rose by 5.5%. Net operating cash flow grew by 12.52% due to postponed import payments.

Berger Paints plans to invest 480 corers in a new factory in Bangabandhu Sheikh Mujib Shilpa Nagar, Bangladesh, with the project expected to be completed in April 2025, according to a report on the Dhaka Stock Exchange.

2.11 Industry Analysis

2.11.1 Industry Competitive Analysis

There are about 50 companies working in the same field of paints and coating. More than 80% of the companies are foreign companies. Among them Berger Paints, Asian Paints, Roxy, Elite, Aqua Paints are the most popular with a high amount of market share.



2.11.2 SWOT Analysis

Berger Paints Bangladesh compete with other painting industries. Strong competitors of BPBL are- Asia Paints, Kansai Nerolac, Elite Paints.

Strength

- Defined brand identity
- Vast selection of goods, including wood coating, decorative, maritime, and now vehicle color.
- A robust operating system
- Extended distribution network
- Greatest market share
- Green horizon initiatives- to reduce waste and produce eco-friendly and energy efficient products.

- Strong in R & D sector

Weakness

- Very limited supply of raw resources.
- Need to import raw materials with high cost
- Delay in raw material import process
- Delay in lead time
- Lack of full automation in the distribution process
- Skyrocketing cost of the essentials
- High premium price which the middle class family cannot afford
- Lack of proper distribution channel
- Lack of liquidity
- Do their business in credit system

Opportunity

- Diversified product with an affordable price
- Create new consumer platform through online
- Scope of adopting new updated AI technology
- Strong R & D may result in more affordable and environmentally friendly products, which can boost overall profitability by maximizing sales.
- Opportunity for installing vertical integration
- Scope to enhance Market growing

Threat

- Fluctuation of price may create a risk for the company
- Create new competitors locally and internationally
- Change of consumer preferences
- Regulatory challenges
- Fluctuation of economic condition all over the world

2.11.3 Porter's 5 Forces Analysis

- **Threats of new entrance**

Berger Paints Bangladesh already the leading paint company in Bangladesh. So, newly open up company competition power is very low than the BPBL. In addition, there are relatively few new entrants into the business because of the high investment requirements, enormous labor demands, and limited supply of raw materials.



- **Power of Buyer**

Large number of buyers also weaken the bargaining power. BPBL offer decorative, marine, wood coating and automation paints. But other paint industry offering rang is lower than BPBL.

Moreover, BPBL has a good brand image with trustworthy product quality, which attract the buyer to buy product even in a premium price. So, the buying power become low for the BPBL.

- **Threat of substitute product**

For BPBL, the threat of substitutes is significant. In Bangladesh's market, there are several different companies who manufacture and sell same varieties of products just like as Berger

Paints. Even there are also different low costs paints are available in the market. As they have the overwhelming market shares after BPBL, Asian Paints, Kansai Nerolac, and Elite Paints are some of the top alternative products selling firms of Berger.

- **Power of Supplier**

Large number of suppliers means weaken the bargaining power of suppliers. The supplier that a company pick is determined by how convenient and affordable they are. Most of Berger's raw materials are imported from various countries. Due to their high degree of supplier saturation, BPBL finds it easy to move suppliers, which lessens the bargaining power of those suppliers. Having a large number of significant suppliers also facilitates their ability to relocate without incurring losses. Furthermore, because suppliers are constantly vying for business with BPBL, their brand value is a major factor in gaining the upper hand over providers. Additionally, there is very little likelihood of forwarding emigration.

2.12 Summary & Conclusion

One of the major participants in Bangladesh's paint industry is Berger Paints Bangladesh.

Furthermore, they continually improve their working conditions and atmosphere for their own benefit.

Additionally, they own a market share of paint by more than 60%. Additionally, they are growing their movements across Bangladesh. They must, however, also consider their rivals. Since the second major rival has a larger market in India like-Asian Paints, Nippon Paints, Dulux, these might pose a challenge to them in the future.



Part 3

Project Part

3.1 Introduction

Lead time and supply chain management have a mutually beneficial connection that is crucial to the complex web of industrial processes. The lead time, or the amount of time between the beginning of an order to its ultimate delivery, is a crucial component of the supply chain, which is a complicated web of interconnected activities. The crucial importance of lead time in supply chain dynamics optimization is revealed by academic investigation of this relationship. In-depth lead time analysis not only reveals operational inefficiencies but also makes it possible to establish focused initiatives that improve the overall performance, resilience, and responsiveness of the supply chain. For academic scholars hoping to further supply chain management theories and methods, comprehending this complex interaction is essential as industries change.

Distribution department deals with dealers, transportation networking and route planning of transportation and stock keeping unit (SKU), record transport networking time and analyses the lead time data, satisfying the customer by distributing product in the right time at the right places.

In inventory management, lead time refers to the period of time between placing and receiving an order to refill inventory. The quantity of stock a corporation must always retain depends on lead time. In the past two decades, there has been a lot of focus on how well an organization uses just-in-time (JIT) production technology. JIT's core objective is to reduce waste, which may be accomplished in a number of ways, including by cutting lead times and raising quality. To improve the demand chain performance, Lead time optimization is a vital part which helps to make better inventory management, work efficiently with greater customer satisfaction.

For operational effectiveness in every sector, lead time must be understood and optimized. Lead time analysis gives important information about how long a process will take to finish, from start to finish. Businesses may find bottlenecks, improve procedures, and raise overall productivity with the use of this

expertise. Industries may get a competitive advantage in the fast-paced business world of today by analyzing lead time. This allows them to more successfully satisfy client needs, minimize delays, and manage resources proactively.

BPBL deals all these necessary distribution work from their distribution centers. There are 14 distribution centers in different places to cover the whole Bangladesh networking system and provide the best premium product to its valuable customers.

3.1.1 Background

The world of education now extends beyond the pages of books. A field of knowledge exists in every area of education. Our educational institutions solely offer knowledge-based education that is restricted to our core specialties. The course BUS 699 has been designed as a component of the BRAC University MBA Program to give students real-life work experience by requiring them to work in an organization for a while and express the gained experience in a report. This allows students to get experiential knowledge related to their area of major and gives students the freedom to choose their area of interest in building a career. This essay serves as my Masters' thesis in Business Administration.

I've always wanted to start my professional career in a reputable Multinational Company (MNC). Thus, having the opportunity to complete my internship at Berger Paints Bangladesh Ltd., where staff members are acknowledged in their skills and encouraged to maintain a work-life balance, was a awesome opportunity for me.

BPBL has focused on lead time along with their vehicle capacity and vendor management. But, here in my project part, I have focused on the sample data of overall carrying bill (order taking to distribution time) to optimize the lead time along with the freight cost.

3.1.2 Objectives

- Broad Objective: The primary objective is to observe the overall distribution lead time management and analyze the conditions of distribution center of Berger Paints Bangladesh Limited.
- Specific Objective
 - Collect the invoice number after the order confirmation process and note down it in the Carrying bill slip.
 - Carrying out bill entry procedure
 - Reporting the carrying bill and data entry through excel
 - Analyze the timing of the carrying bill and observe lead time comparing with the benchmark.
 -

3.1.3 Significance

Berger Paints is a company, consist of several commercial divisions and operational units. Due to its position as the market leader in the sector, Berger consistently improves the quality of its offerings in terms of both paint advancement and safety measures.

Additionally, they have efficient information systems across the organization. "SAP Success Factor" and the "SharePoint" support the overall distribution and sales departments for the products management and analysis purpose.

Thus, this internship report focuses on the Berger Paint business that is being operated in Bangladesh. I completed my internship at Berger Paints Bangladesh Limited's supply chain division. My project's subject is distribution, and delivery lead time analysis of the product distribution.

3.2 Methodology

Primary Source

Primary data were mostly gathered through in-person conversations with my line manager, vendors and its dealers.

Secondary Source

Secondary data were gathered from previously published research papers, several Berger Paint Bangladesh Limited journals, various books to learn about various terms, and Berger Paints Bangladesh Limited's official websites. Berger Paints Bangladesh Limited's SOP (Standard Operating Procedure) book.

3.3. Finding and Analysis

3.3.1 Analysis Part

- **Dealers**

Berger has created carefully a sizeable number of dealers around the nation throughout the years. Currently, the organization maintains successful exchange relationships with over 2600 cash and credit dealers based on their required basis. Significant financial resources are made available by the corporation to its dealers in the form of discounts, the Regular Payment Revenue Scheme (RPRS), additional target achievement bonuses (ATAB), and turn over commissions (TOC). Additionally, it arranges non-monetary advantages for its dealers, such as overseas tours, lunches, art exhibitions, and concerts, etc.

Vehicle Size and gate

In BPBL there are four types of vehicles according to their gallon capacity sizes. They are-

- 100 gallons
- 250 gallons
- 350 gallons
- 550 gallons

Except this vehicle size, there are also some dealers to use hand delivery and one vehicle for Berger owned.

There are 9 loading point and one unloading point in the depot

- **Route Plan**
After getting the invoices from the account section, the route planner plans the vehicle routing area wise.
- **Carrying Bill**
Carrying bills are generated after taking orders and generating of invoices from the customers. One carrying bill consists of two to three invoice numbers.
In this carrying there stays – carrying bill number, route planning date time, planning release time and date, picking product start and end times, checking start and end times, Loading start and end times, vehicle reaching time and exit time with products. Single Sign on supervisor (SSO) and the supervisor control and check back all the products before loading the freight for delivery.

Carrying Bill:	Date:	Time	Responsible's Sign	Remarks
Route Planning Completed			Route Planner	RP
Picking Start Time			Supervisor	UD
Picking Completion Time			Supervisor	
Truck Reported at Loading Point			SSO	Picking
Checking Start Time			SSO	Loading
Checking Completion Time			SSO	
Loading Start Time			Supervisor	Checking
Loading Complete Time			Supervisor	
Truck Exit Date & Time			Security	Truck Exit

Carrying bill token form

After getting the all data from the carrying bill, they are enlisted in the excel file in **OP-Dash (An Excel Software)**. The OP-Dash makes it simple to determine the various delay times and make lead time suggestions.

A sample of 1 month carrying bill data is given in the appendix section [**page- 57**].

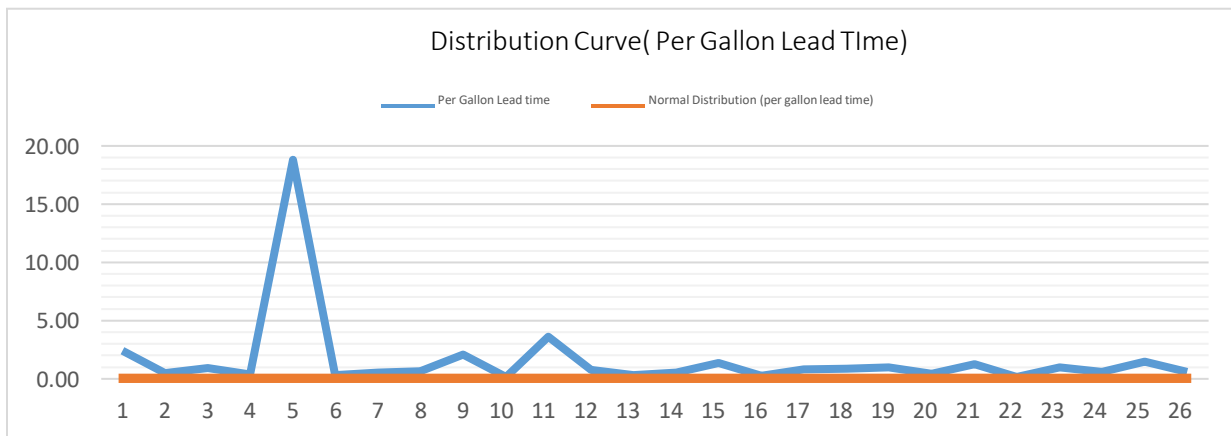
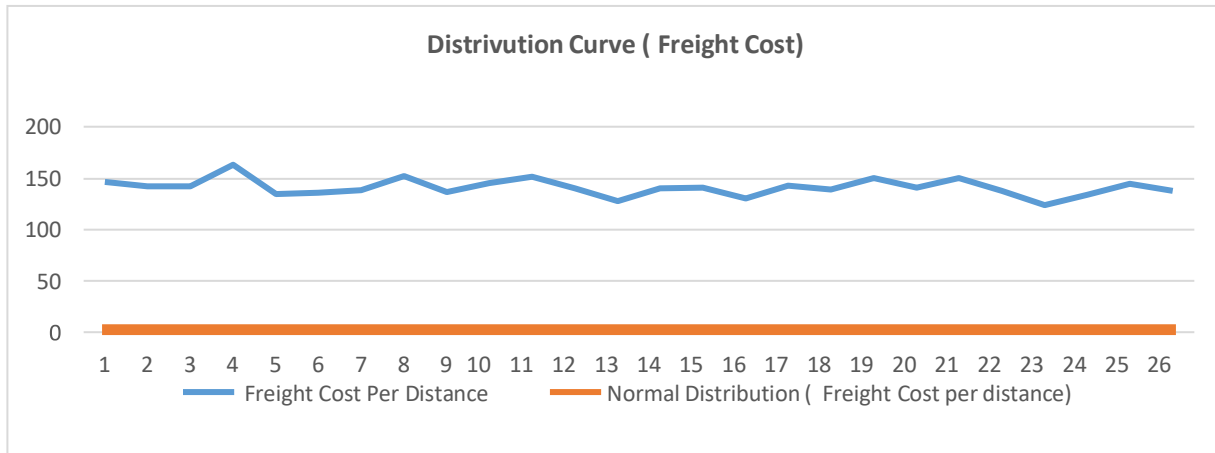
Analysis carried out on Picking start time to truck exit time.

- Picking Start delay = Release delivery time – Picking Start time
- Picking Cycle time= Picking completion time – Picking start time
- Truck report delay time= truck reporting time – Picking Complete time
- Checking Cycle= Checking completion – checking start
- Loading Cycle = Loading End – Loading Start
- Total order taking to delivery lead time= Delivery time- Order taking time
- Freight cost targeted with targeted kilometer wise.

By taking the day wise total number of token and total lead time and cost of a certain date in the month of May, calculation is given bellow:

Day	Total Gallon	Total Lead Time	Per Gallon Lead time	Distance	Freight Cost	Freight Cost Per Distance	ormal Distribution (per gallon lead time)	Normal Distribution (Freight Cost per distance)
5/2/2023	7708	18510	2.40	285	42000	147	0.11	0.04
5/3/2023	9048	4121	0.46	331	47350	143	0.11	0.05
5/4/2023	8764	7925	0.90	341	48650	143	0.11	0.05
5/5/2023	1394	527	0.38	36	5900	164	0.10	0.00
5/7/2023	894	16814	18.81	31	4200	135	0.00	0.04
5/8/2023	16146	5550	0.34	622	84900	136	0.10	0.04
5/9/2023	13438	7088	0.53	532	74150	139	0.11	0.05
5/10/2023	12741	8059	0.63	441	67350	153	0.11	0.02
5/11/2023	14023	28877	2.06	553	75950	137	0.11	0.04
5/13/2023	18975	2976	0.16	624	91050	146	0.10	0.04
5/14/2023	7681	27721	3.61	245	37250	152	0.09	0.02
5/15/2023	19474	14804	0.76	720	101650	141	0.11	0.05
5/16/2023	16911	5702	0.34	688	88300	128	0.10	0.01
5/17/2023	14100	7565	0.54	548	77400	141	0.11	0.05
5/18/2023	14895	20145	1.35	575	81350	141	0.11	0.05
5/20/2023	17726	4376	0.25	746	97850	131	0.10	0.02
5/21/2023	12773	10313	0.81	477	68300	143	0.11	0.05
5/22/2023	12643	10848	0.86	489	68450	140	0.11	0.05
5/23/2023	16467	16093	0.98	543	82050	151	0.11	0.03
5/24/2023	18018	7311	0.41	648	91850	142	0.11	0.05
5/25/2023	15492	19553	1.26	513	77500	151	0.11	0.03
5/27/2023	18812	3334	0.18	711	98400	138	0.10	0.04
5/28/2023	10542	10177	0.97	517	64400	125	0.11	0.01
5/29/2023	14540	8547	0.59	584	78750	135	0.11	0.03
5/30/2023	14585	21609	1.48	533	77450	145	0.11	0.04
5/31/2023	23966	14221	0.59	775	107350	139	0.11	0.04

Per Gallon Lead Time Average	1.60
Standard Deviation of Per gallon Lead Time	3.59
Freight Cost Per Unit Distance Average	141.86
Standard Deviation of Freight Cost per distance	8.27



Radio Frequency Scanner (RF) is the widely used barcode scanner machine all over the world to support warehouse management, mainly in the loading and unloading period. As things enter the warehouse, RF scanners swiftly scan them, which is a significant part of this operation. Then, stock management and inventory levels are updated with the usage of this data.

Furthermore, orders can be scanned as they are received using RF scanners. Subsequently, this data can be utilized to verify order receipt and facilitate tracking. Receiving may be done quickly and easily when you have correct information at your fingertips.

RF scanner supports-

- Picking and packing
- Receiving goods
- Inventory management
- Quality control

- Receipts and order confirmation
- Warehouse management
- Shipping orders

On the other hand, Artificial Intelligence in the warehouse and distribution center makes the totally different quality control in the distribution management.

Role of AI (Artificial Intelligence) in the warehouse and distribution center-

- **Logistics Planning** (Demand forecasting and Supply planning)

- **Autonomous Vehicles**

Autonomous vehicles are devices that use artificial intelligence (AI) to function without human intervention. These include gadgets like drones and self-driving cars. Self-driving forklifts can transfer goods from one area of a warehouse or distribution center to another, saving time and money. AI-powered drones are increasingly being utilized in warehouses for a range of purposes.

- **Warehouse Automation**

Warehouse automation, like- “Warehouse Robotics”. Many companies are investing in technologies that assist humans in sorting, picking, shipping, and storing parcels, and the warehouse robot’s business is growing. Human workers can be replaced by these robots. However, they typically take over monotonous jobs to free up staff members for more important work.

- **Data-Driven Analytics**

By simulating various situations, AI-risk management solutions can aid firms in making better plans. Predictive analytics solutions, for instance, can analyze historical data and utilize statistical models to forecast variables like inventory, supply and demand, warehouse space, truck driver capacity, and supply and demand.

- **Transportation Optimization**

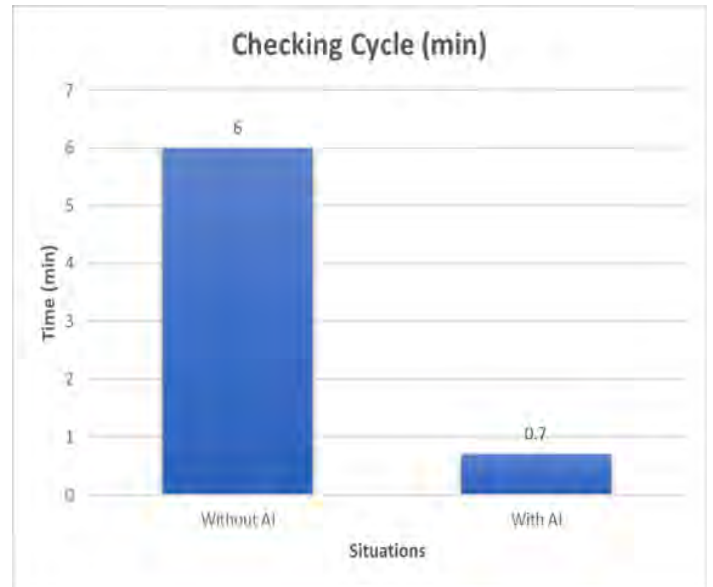
By evaluating capacity statistics, weather reports, traffic data, real-time RFID tracking data, and other details, artificial intelligence (AI) can be utilized to determine the most efficient shipping routes each and every time.

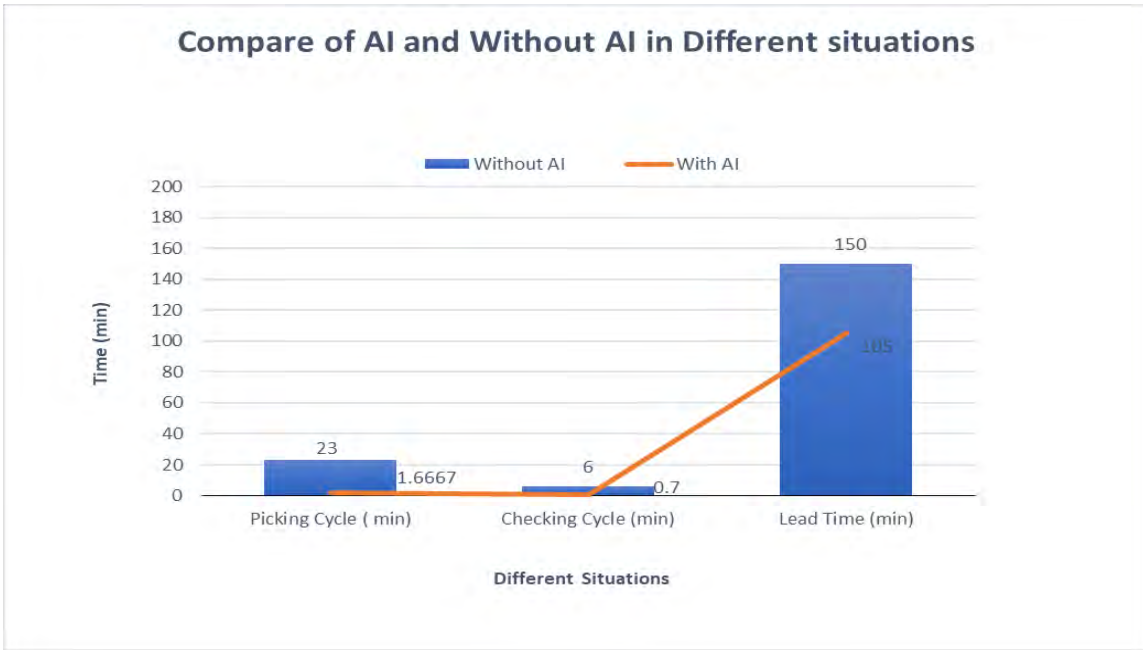
In this paper I have chosen the RF scanner and Artificial Intelligence and by using those digital technologies I have considered only a fraction of minutes to optimize the picking to loading time of products instead of manual data entry and supervisor observation in the distribution center of Berger Paints Bangladesh Dhaka Central warehouse.

I have considered that RF Scanner in the loading periods, which takes only 10 second (0.17min) to scan a 100-gallon paint drum. That means per gallon required only 0.1 seconds to scan.

I have also considered Artificial Intelligence (AI), which has taken only 120 seconds (2min) to picking 350-gallon paint drum. That means, per gallon required only 0.343 seconds for picking.

Situation	Route Planning Time	Release time	Picking Start Time	Picking End Time	Checking Start Time	Checking End Time	Truck Exit time	Picking Cycle	Checking Cycle	Lead Time (min)
Without Using AI	11:10	12:38	12:43	13:06	13:16	13:22	13:40	23	6	150
Using AI	11:10	12:38	12:43	12:44:40	12:45	12:45:42	12:55	1.666666667	0.7	105





3.3.2 Finding

Cost with Distance

From the analysis part, it is clearly understood that with the increase amount of token number the freight cost and lead time also increases. But in some situations, cost incur without any reason.

In BPBL, they use the following price rate for each vehicle.

Distance	Cost
<5km	850
5km to 10km	1200
>10km	1500

But the cost needs to be fixed per kilometer base to minimize the cost.

3.4 Recommendations

As a pioneer in the Bangladeshi paint business, BPBL has always worked to raise customer satisfaction by offering superior customer service. The supply chain department of Berger Paints Bangladesh Limited is operated extremely well. Working at Berger Paint Bangladesh's supply chain division, I've noticed that there are several complexities there, and Berger Paints Bangladesh Limited is always attempting to mitigate them, which may raise dissatisfaction to customers. Regarding this matter, I think Berger Paints Bangladesh Limited should improve the overall condition of the supply chain department by implementing the following few recommendations.

- **Automation Implementation in the Distribution Center**

Now-a-days automation is a necessary thing to optimize time with accurate dealing with product distribution. BPBL should implement this automation, which will help to accurately scan every product, automatic data entry without requiring any expert hand. It helps to minimize cost and there arises no chance for product loss or damage.

- **Need Proper Educated Man Power to Optimize Time**

Educated man power helps to take right decision in the right time and helps to optimize time, which ultimately reduce the overall product delivery cost. Though BPBL is concerned in hiring educated employees in the lower level, even though they could not properly measure the effect of product delivery delay. So, they need to be trained accordingly before assigning such a work.

- **Increase number of depots with automation implementation**

Bangladesh has 64 districts but Berger Paints Bangladesh has only 13 depoted points.

So, reaching every consumer via only 13 depots around the nation is a significant problem for the business. Aside from the fact that shipping and handling fees are exorbitant, it will be simple to distribute goods to clients and reach the rural market if the number of depots is raised along with automation adaption. As a result, the goods will already be kept in the closest depot, lowering both the delivery cost and the delivery time.

- **Constructing a unique Experience Zone to boost client expansion**

Through dealers, Berger Paints Bangladesh Limited distributes its goods to customers.

They provide the dealers a wide selection of high commissions, which are inversely proportional to the greater price of the goods. When a dealer cannot deliver the color a client genuinely desired, they will have a poor opinion of the firm, and sometimes the corporation has to pay for such a dealer's mistake. One of the biggest challenges in developing strong customer relationships is the fact that the corporation primarily interacts with the dealer, not the client. However, higher direct dealing with customers will improve clients' trust in the brand. As more customers place direct orders with the business, there will be fewer instances of mismatch. Berger Paint Bangladesh will be less reliant on dealers if it establishes its own Experience Zone (EZ) in a few selected 49 locations. By interacting with clients directly, this will assist to develop a strong

customer relationship. By enhancing the customer trust through Experience Zone (EZ) for this brand, more customers place direct orders with the business, which ultimately minimize the discrepancy.

- **Fleet Management needed in both factories**

Berger Paints Bangladesh Limited has two factories, one in Chittagong and one in Dhaka. The issues include the fact that certain items are made in Chittagong but not in Chittagong, and vice versa, as well as the fact that they are not efficiently sorted and delivered. However, fleet management may assist with these issues. Now, if a product is needed in Rajshahi but is produced in Chittagong rather than Dhaka, the delivery time and cost will increase. So, establishment of another factory equipped with all products in Dhaka or near Dhaka will support to minimize the product cost and delivery time to the distant area like- Chittagong to Rajshahi.

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