Internship Report
On
Business Analysis of Brick Manufacturing Company: Messrs. Munshi Bricks

By

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An internship report submitted to the Department of BRAC Business School in partial fulfillment of the requirements for the degree of
Masters of Business Administration

BRAC Business School
BRAC University
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Declaration

It is hereby declared that

1. The internship report submitted is my/our 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/We have acknowledged all main sources of help.

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Letter of Transmittal

Dr. Nitai Chandra Debnath

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Subject: Submission of Internship Report

Dear Sir,

With due respect, I am pleased to submit my internship report titled **"Business Analysis of Brick Manufacturing Company: Messrs. Munshi Bricks,"** which was prepared as a partial requirement for the completion of my MBA program.

This report is based on the practical experience I gained during my internship at Messrs. Munshi Bricks. It highlights the company's operational structure, financial analysis, and business strategies, along with my personal observations and learnings throughout the internship period.

I am sincerely grateful to you for your continuous guidance and valuable suggestions during the preparation of this report.

I hope the report meets your expectations. I would be happy to clarify any points or provide further information if required.

Sincerely,

Md. Azizul Haque Emu

ID: 23164005

BRAC Business School

BRAC University

Non-Disclosure Agreement

This Agreement is made and entered into by and between Messrs. Munshi Bricks and the undersigned student at BRAC University, Md. Azizul Haque Emu, Student ID 23164005.

Acknowledgement

First and foremost, I would like to extend my heartfelt thanks to Md. Shahidul Islam Shahid, my company supervisor at Messrs. Munshi Bricks, for his invaluable support, mentorship, and guidance during my internship. His knowledge, patience, and continuous encouragement have greatly contributed to my learning experience and understanding of the brick manufacturing industry.

I am deeply grateful to my academic supervisor, Dr. Nitai Chandra Debnath, for his constant support and insightful guidance throughout the internship period. His academic expertise and thoughtful suggestions have been instrumental in shaping this report.

I also wish to thank my co-supervisor, Dr. Najmul Hasan, for his constructive feedback and support, which have been vital to my professional and academic growth.

Dedication

In the name of Allah, the Most Gracious, the Most Merciful, I begin by thanking Allah for countless blessings, guidance, and grace throughout my life and academic journey.

I dedicate this report to my beloved parents, whose unwavering support, encouragement, and belief in me have been a constant source of strength. I am deeply grateful to my father Md. Abu Taher, the owner of Messrs. Munshi Bricks, for providing me with the exceptional opportunity to complete my internship at his company. His leadership, wisdom, and mentorship have been instrumental in my personal and professional development. This report is a reflection of the values and guidance he has instilled in me, and I am truly blessed to have him as my role model.

Executive Summary

This internship report presents the key insights and experiences gained during my internship at Messrs. Munshi Bricks, a reputable and fully compliant brick manufacturing company in Bangladesh. Over the past 18 years, the company has grown steadily—from an initial investment of BDT 63 lakh to a current valuation of approximately BDT 17 crore—while maintaining debt-free operations and strict adherence to regulatory requirements.

During the internship, I had the opportunity to observe and learn about various functional areas, including production planning, supply chain coordination, labor management, and financial decision-making. The company's use of Improved Zigzag Kiln technology reflects its commitment to reducing environmental impact and meeting government-approved standards.

The report also discusses broader challenges in the brick industry, such as licensing difficulties and the need for clear technical guidelines. Overall, the internship provided a valuable bridge between academic knowledge and practical business experience.

Keywords: Brick Manufacturing; Improved Zigzag Kiln

Table of Contents

Declaration ..... **ii**

Letter of Transmittal ..... **iii**

Non-Disclosure Agreement ..... **iv**

Acknowledgement ..... **v**

Dedication ..... **vi**

Executive Summary ..... **vii**

Table of Contents ..... **viii**

List of Tables ..... **ix**

List of Acronyms ..... **x**

Glossary ..... **xi**

Chapter 1 Overview of Internship **1**

1.1 Student Information 1

1.2 Internship Information 1

1.3 Internship Outcomes 2

Chapter 2 Organization Part **3**

2.1 Introduction 3

2.2 Overview of the Company 4

2.3 Management Practices 5

2.4 Marketing Practices 6

2.5 Financial Performance and Accounting Practices 6

2.6 Operation Management and Information System Practices.....11

2.7 Industry and Competitive Analysis.....14

Chapter 3 Project Part 18

3.1 Introduction.....18

3.2 Methodology.....19

3.3 Findings and Analysis.....20

3.4 Summary and Conclusion.....28

3.5 Recommendations.....29

References.....30

List of Tables

Table 1: Financial Analysis of Messrs. Munshi Bricks.....8

Table 2: Summary of Key Data.....8

Table 3: Profitability Analysis.....8

Table 4: Cost Breakdown.....9

Table 5: Cost Per Brick.....9

Table 6: Coal Efficiency.....10

Table 7: Inventory Turnover (Production vs Sales).....10

Table 8: Identification of Strength Type.....17

List of Acronyms

BSTI	Bangladesh Standards and Testing Institution
DC	Deputy Commissioner
DoE	Department of Environment
NBR	National Board of Revenue
AAC	Autoclaved Aerated Concrete

Glossary

Improved Zigzag Kiln (IZK)	An upgraded version of the traditional zigzag kiln that incorporates better design, construction materials, and firing techniques to reduce coal consumption and air pollution.

Chapter 1

Overview of Internship

1.1 Student Information

Myself Md. Azizul Haque Emu (Student ID: 23164005), an MBA student of BRAC Business School, major in Information Technology Management. Enrolled in the Spring 2023 semester. I have completed my under-graduation in Computer Science and Engineering from BRAC University.

1.2 Internship Information

1.2.1 Period, Company Name, Department, Address

I have started working regularly in our family business, a brick manufacturing company name Messrs. Munshi Bricks after completing my under graduate studies in July 2022. Prior to this, I was responsible for overseeing the year-end financial calculations. My parents do not want me to get fully involved in the business before completing my graduation. So, I was only responsible for overseeing the year-end financial calculations of the company to understand the business. Messrs. Munshi Bricks is one of the reputed brick manufacturing companies in Patuakhali District. I am working as an Executive Officer in this company.

1.2.2 Supervisor's Information, Name and Position

Md Shahidul Islam Shahid is the Managing Director of the company. He is my uncle and partner of my father for this business. My father Md Abu Taher works as a director in a sweater manufacturing company name Hannan Group in Gazipur. It is tough for him to take care of the business. So, my uncle Md Shahidul Islam Shahid looks after the business. He will be the company supervisor for my internship.

1.2.3 Job Scope – Job Description/Duties/Responsibilities

As part of our family business, I hold significant responsibilities and actively participate in various aspects of operations. My role spans from overseeing the purchase of raw materials to managing production processes and being involved in key decision-making.

1.3 Internship Outcomes

1.3.1 Student's Contribution to the Company

I have been working to align operations with market demand, guide the company through market changes, ensuring proper record keeping, accounting and financial planning for long term stability, ensure the company operates in accordance with local laws, environmental regulations, and industry standards, proactively address risks, market fluctuations and operational challenges.

1.3.2 Benefits to the student

Being a part of the business, I have gained real life experience and strong understanding of production process and supply chain logistics. It also helps me to achieve leadership and problem-solving skills. This opportunity has trained me for business management.

1.3.3 Difficulties faced during this time

Knowledge gained from different courses during MBA is not always applicable in business. Real life scenario and decision making is different and it depend on the culture, location, and the human resources of the business. The way I observe the business sometimes does not match with the management team.

Chapter 2

Organization Part

2.1 Introduction

2.1.1 Objective

The main objective of this study in regards to the organization part is to provide knowledge about the organization's different aspects;

- To understand the organizational function of brick manufacturing company
- To identify how a brick manufacturing company is managed and operates
- To gain knowledge about the ins and outs of a brick manufacturing company
- To analyze the competitiveness of brick manufacturing company

2.1.2 Methodology

The information for the organizational section was obtained from primary sources, as the business is family-owned. This granted me full access to all the necessary information.

2.1.3 Scope

This section will provide insights into the practical aspects of brick manufacturing companies and enhance our understanding of how such businesses operate.

2.1.4 Limitations

Since the company does not utilize any digital technology for record keeping and relies entirely on manual documentation, it was challenging for me to present a comprehensive performance analysis covering more than three years.

2.2 Overview of the Company

Messrs. Munshi Bricks, a prominent brick manufacturing company located in the Patuakhali district of Bangladesh. Since its establishment in 2007, the company earned a strong reputation for producing high-quality bricks that cater to the demands of both local and regional construction projects. The company operates as a traditional brick field while steadily incorporating modern techniques to improve efficiency, product quality, and environmental compliance.

The company was founded by Md. Abu Taher Mushi and Md. Shahidul Islam Shahid Mushi, two cousins who envisioned starting a business that would serve as a reliable source of construction materials in the southern region of the country. Initially starting with an investment of 63 lakh Taka, Messrs. Munshi Bricks has since grown significantly and now holds total assets valued at approximately 17 crore Taka.

The ownership of the company is structured with Md. Abu Taher Mushi holding a 65% share, while Md. Shahidul Islam Shahid Mushi owns the remaining 35%. Both partners remain actively involved in the business's decision-making processes.

The core operation of the company revolves around the manufacturing of standard-sized red clay bricks using locally sourced raw materials. The production process typically follows seasonal cycles, with the peak manufacturing period occurring during the dry season. Messrs. Munshi Bricks employs a sizable workforce, including both permanent and seasonal laborers, many of whom come from nearby rural areas. This not only supports local employment but also fosters economic development in the region.

The company's commitment to maintaining product quality, meeting construction industry standards, and ensuring timely delivery has earned it long-standing

relationships with the customers and the contractors in the region. Over the years, it has developed a strong market presence and remains a trusted name in brick manufacturing in the Patuakhali area.

2.3 Management Practices

The management practices at Munshi Bricks reflect a balance between traditional business values and practical decision-making suited to a regional manufacturing enterprise. Led by its two founding partners, Md. Abu Taher Mushi and Md. Shahidul Islam Shahid Mushi, the company operates under a partnership model.

Md. Abu Taher Mushi is working as Production Director in Hannan Group a RMG company in Gazipur so it is tough for him to be present on the business. But vital decisions are taken by both the partners. I monitor financial management, strategic planning, and overall business development on his behalf. Meanwhile, Md. Shahidul Islam Shahid Mushi primarily manages operational aspects, including workforce coordination, production scheduling, and quality control.

The company follows a centralized management structure, where major decisions are made by the owners themselves. While formal corporate departments may be limited due to the scale and nature of the business, clear divisions of responsibility exist. Administrative tasks such as record-keeping, procurement, and payment handling are managed directly by trusted staff under the supervision of the owners.

Despite being a traditional brick field, Munshi Bricks emphasizes certain core management principles:

- Accountability in financial handling and employee supervision
- Efficiency in resource use and production timing, especially during peak season

- Reliability in product delivery and maintaining product standards
- Simplicity and direct communication in internal coordination

The workforce is largely comprised of local laborers, many of whom are seasonal workers. The management maintains a hands-on approach, interacting directly with employees to ensure smooth operations and address issues promptly. This informal but effective human resource management approach has proven to build loyalty and reduce labor conflicts.

Although the company has not yet fully adopted modern management systems or digital tools, its success lies in its experience-based decision-making, strong leadership, and community-based employment model.

2.4 Marketing Practices

At the initial stage of their journey, as newcomers to the market, the company offered commissions to brokers to encourage customers to purchase bricks from them. This strategy helped them gain recognition among potential clients. Over time, due to their consistent quality and reliability, satisfied customers began promoting the company themselves, recommending Messrs. Munshi Bricks to others through word-of-mouth.

2.5 Financial Performance and Accounting Practices

2.5.1 Financial Performance

As a manufacturing company, the core of Munshi Bricks' business operations revolves around its production capacity. Higher production levels are directly linked to increased profitability. Since its inception in 2007, when the company produced approximately 35 lakh bricks, Munshi Bricks has gradually expanded its output by responding to rising customer demand and securing a strong presence in the local market.

Over the years, the company has seen steady growth in production. According to the production data from the past three fiscal years:

- In 2021–2022, the company produced 89,36,590 bricks.
- In 2022–2023, production rose to 90,95,500 bricks.
- In 2023–2024, output further increased to 91,88,276 bricks.

However, for the current 2024–2025 session, the company has made a strategic decision to reduce its production target to 71 lakh bricks. This shift was not due to internal issues, but rather the result of unexpected political changes in the country. Due to the current political instability, no new construction projects have been approved, which has significantly slowed down brick sales across the region. As a result, a large portion of last year's bricks remain unsold. This is an unusual situation for Munshi Bricks. In previous years, they were able to sell 90–95% of their total production before even starting the next session. Facing such a stockpile is a first for the company, and it is a reminder of how external factors like politics and policy can deeply affect even the most well-run businesses.

Financial Details of Messrs. Munshi Bricks

Metric	2023-2024	2022-2023	2021-2022
Brick Produced	9188276 pcs	9095500 pcs	8936590 pcs
Bricks Sold	6431793 pcs	8640725 pcs	8129699 pcs
Revenue	61102033 Taka	84246068 Taka	69102441 Taka
Coal Used	1507.221 Tons	1505.296 Tons	1501.89 Tons
Coal Price	28038816 Taka	37970960 Taka	29590233 Taka
Clay Price	7087619 Taka	7654957 Taka	7243956 Taka

Sand Price	147000 Taka	129000 Taka	115000 Taka
Electricity Bill	618020 Taka	701835 Taka	570458 Taka
Production labor Bill	9358259 Taka	8822635 Taka	8668492 Taka
Load, Unload and Bricklayer labor Bill	4500000 Taka	4500000 Taka	4400000 Taka
Staff Bill	1900000 Taka	1850000 Taka	1800000 Taka
Other Expenses (Including Vat, Tax & License Fees)	1150000 Taka	1200000 Taka	1300000 Taka

Table 1: Financial Analysis of Messrs. Munshi Bricks

Summary of Key Data

Metric	2023-2024	2022-2023	2021-2022
Bricks Produced	9188276 pcs	9095500 pcs	8936590 pcs
Bricks Sold	6431793 pcs	8640725 pcs	8129699 pcs
Revenue	61102033 Taka	84246068 Taka	69102441 Taka
Total Cost	52799714 Taka	62829387 Taka	53688139 Taka
Gross Profit	8302319 Taka	21416681 Taka	15414302 Taka

Table 2: Summary of Key Data

2.5.1.1 Profitability Analysis

Year	Revenue	Gross Profit	Profit Margin (%)
2023-2024	61102033 Taka	8302319 Taka	13.58763%
2022-2023	84246068 Taka	21416681 Taka	25.42158%
2021-2022	69102441 Taka	15414302 Taka	22.30645%

Table 3: Profitability Analysis

Observations: In 2021-2022 due to 10 % unsold inventory and lower product price revenue was lower but profit margin was good. 2022–23 was the most profitable year with strong sales though the coal price increased by 31% from last year. In 2023–24,

profit margin dropped, as the sales volume dropped due to unsold inventory, limiting total revenue.

2.5.1.2 Liquidity & Solvency

The company is entirely equity-financed with no debt mentioned - indicating strong solvency. However, in 2023–24, 30% of bricks remain unsold, which may lead to short-term liquidity issues like less cash in hand to cover operating expenses.

2.5.1.3 Efficiency Analysis

Cost Breakdown

Expense Category	2023-2024	2022-2023	2021-2022
Coal Cost	28038816 Taka	37970960 Taka	29590233 Taka
Clay Cost	7087619 Taka	7654957 Taka	7243956 Taka
Sand Cost	147000 Taka	129000 Taka	115000 Taka
Electricity Bill	618020 Taka	701835 Taka	570458 Taka
Production labor Bill	9358259 Taka	8822635 Taka	8668492 Taka
Firemen, Load and Unload labor Bill	4500000 Taka	4500000 Taka	4400000 Taka
Staff Bill	1900000 Taka	1850000 Taka	1800000 Taka
Other Expenses (Including Vat, Tax & License Fees)	1150000 Taka	1200000 Taka	1300000 Taka

Table 4: Cost Breakdown

Cost per Brick

Year	Total Cost/ Brick
2023-2024	5.746422 Taka
2022-2023	6.907744 Taka
2021-2022	6.007676 Taka

Table 5: Cost Per Brick

Coal Efficiency

Year	Coal Used (Tons)	Kg per Brick
2023-2024	1507.221	0.164037 kg
2022-2023	1505.296	0.165499 kg
2021-2022	1501.89	0.168061 kg

Table 6: Coal Efficiency

Inventory Turnover (Production vs Sales)

Metric	2023-2024	2022-2023	2021-2022
Brick Produced	9188276 pcs	9095500 pcs	8936590 pcs
Bricks Sold	6431793 pcs	8640725 pcs	8129699 pcs
Sold (%)	70%	95%	91%

Table 7: Inventory Turnover (Production vs Sales)

Observation:

- Coal usage is decreasing every year is a good sign for the company and the environment.
- Labor and coal cost together make up over 60% of the total production cost. Slight inefficiencies create major impact on the profit.
- 2022-2023 had the highest cost per brick, squeezing margins despite good sales.
- Political instability drops down the sales percentage to 70% in 2023-2024 which was 95% in 2022-2023

2.5.2 Accounting Practices

Messrs. Munshi Bricks follows a traditional and manual approach to its accounting practices, commonly observed in many small to medium-sized family-owned manufacturing businesses. The key features of its accounting system are outlined below:

1. **Cash-Based Accounting:** The business primarily follows a cash-based accounting system, where income and expenses are recorded when cash is received or paid, rather than when they are incurred.

2. **Daily Transaction Logs:** Daily cash inflows and outflows are documented in a cashbook, which is maintained and reviewed regularly to monitor liquidity and operational efficiency.

3. **Wage and Labor Payments:** Labor payments are made on a weekly basis, depending on the nature of the work. Attendance registers and wage sheets are used to calculate the payments manually.

4. **Tax and Compliance:** Tax-related documentation is handled by the owners; tax lawyer assists in preparing necessary reports and ensures compliance.

5. **Year-End Summary:** At the end of each fiscal year, the financial data is compiled to create an annual summary of income, expenses, and profit. This summary is used for internal review and reporting purposes.

2.6 Operation Management and Information System Practices

2.6.1 Operation Management

At Messrs. Munshi Bricks, operations are focused on producing high-quality bricks efficiently.

1. **Production Planning:** Production is driven by market demand and available resources, with the process being managed manually. At the start of each new session, production targets are set, and contracts are established with the laborers. These targets may be adjusted depending on weather conditions and other external factors.

2. **Raw Materials:** The owners handle the procurement of raw materials like clay, coal, and other essentials. Suppliers are chosen for their reliability and cost-effectiveness, and materials are ordered in bulk to ensure there's always enough inventory on hand.
3. **Manufacturing Process:**
    - **Preparation of Raw Materials:** First, clay is carefully extracted and prepared for molding.
    - **Molding:** The clay is then shaped into bricks, either by hand using box.
    - **Quality Control:** Each batch of bricks undergoes a quality check to ensure they meet the company’s standards for size and quality
    - **Drying:** After molding, the bricks are left to dry either in the open air to remove excess moisture.
    - **Firing:** Once dried, the bricks are fired in zigzag kilns to harden them and give them strength.
    - **Classification:** Base on the color and structure the bricks are classified into three classes.
4. **Inventory Management:** Inventory is tracked manually, with separate records for raw materials and finished goods to avoid shortages. The company ensures that there is always an adequate supply of raw materials to avoid production delays.
5. **Workforce Management:** The workforce is divided into teams, with workers handling different stages of the brick-making process. Labor costs are closely monitored, with wages paid based on the number of units produced and hours worked.

6. **Quality Assurance:** Quality control is a critical part of operations. Bricks are inspected during production to ensure they meet size, weight, and durability specifications. Any defective products are discarded or reprocessed. The company's commitment to quality has led to strong customer loyalty and word-of-mouth promotion.
7. **Logistics:** Finished bricks are stored or directly delivered to customers through own vehicle and delivery staff.
8. **Maintenance:** Regular maintenance of machinery and kilns is conducted to minimize downtime. Preventative maintenance schedules are followed to ensure smooth production operations.

2.6.2 Information System Practices

Messrs. Munshi Bricks currently follows a manual and traditional approach to information management, as they have not yet adopted digital systems. The location of the company is in such a place where sometimes mobile network does not even work properly.

1. **Manual Record-Keeping:** All data related to sales, purchases, expenses, inventory, and production is recorded by hand in physical registers and notebooks. There is no use of computers or accounting software at present.
2. **Paper-Based Documentation:** Documents such as invoices, receipts, wage records, and production logs are maintained in files and stored securely for future reference. These are organized chronologically for easier tracking.
3. **Communication:** Most internal and external communication is done verbally or over the phone. Customers are contacted directly via mobile phones for orders and updates.

4. **Inventory and Order Tracking:** Inventory levels and customer orders are tracked manually, with designated staff responsible for maintaining accurate records.
5. **Limited Use of Technology:** Basic mobile phones are used for calls and texts, but there is no use of computers, email, or any digital inventory/accounting systems.
6. **Decision-Making:** Business decisions are made based on manually gathered data and the owner's experience, rather than through automated data analysis or reporting systems.

2.7 Industry and Competitive Analysis

2.7.1 Porter's Five Forces Analysis

1. Competition in the Market – High

There are many brick manufacturers in the area, all offering similar products. This makes competition tough. Price plays a big role, but Messrs. Munshi Bricks stands out by focusing on quality and building strong relationships with customers, many of whom promote the business through word of mouth.

2. Threat of New Competitors – Moderate to High

It is not very hard for new businesses to enter the brick industry. With access to raw materials and labor, anyone can start a small brick operation. But gaining loyal customers and proving quality takes time - something that gives Messrs. Munshi Bricks an advantage as an established name.

3. Supplier Power – Moderate

Raw materials like clay and coal are usually available locally, but prices can vary. The company doesn't rely on a single supplier, which helps them keep some control over costs and reduces risk.

4. Customer Power – High

Buyers, especially builders and contractors, have a lot of options. They often compare prices and may switch suppliers easily. That's why keeping quality high and meeting promises is so important—it helps keep customers coming back.

5. Threat of Substitutes – Low to Moderate

There are alternatives to clay bricks, like concrete blocks, but in many areas—especially rural and semi-urban—traditional bricks are still preferred. So, while substitutes exist, they are not a major threat just yet.

2.7.2 SWOT Analysis

Strengths

- **Reliable Product Quality:** The company is known for consistently producing good quality bricks.
- **Customer Loyalty:** Built through years of trustworthy service and word-of-mouth promotion.
- **Skilled Workforce:** Experienced workers who understand the traditional brick-making process well.

- **License:** The company has every single license which is required for operating a brick manufacturing company. This is rare for most of the brick manufacturing company.

Weaknesses

- **Manual Record Keeping:** Reliance on manual record-keeping, which can cause inefficiencies.
- **Limited Technology:** Limited use of technology, which restricts scalability.
- **Seasonal Production:** Outdoor drying and manual processes are weather-dependent.

Opportunities

- **Digital Transformation:** Introducing accounting, inventory, or sales software could improve efficiency.
- **Market Expansion:** Opportunity to reach nearby towns or supply to larger construction projects.
- **Product Diversification:** Potential to introduce concrete blocks or eco-friendly brick alternatives.

Threats

- **New Competitors:** Other brick manufacturers entering the market.
- **Price-Sensitive Market:** Customers can easily switch if prices are not competitive.
- **Raw Material Price:** Fluctuating raw material prices and transportation costs.

Identification of Strength Types

Strength	Type	Explanation
Access to raw materials	Common Strength	Many local competitors also have access to similar resources.
Skilled labor and traditional knowledge	Imitable Strength	Skilled workers with years of experience manage the brick-making process. This can be replicated by other companies.
Strong reputation and customer trust	Distinctive Strength	Due to consistent product quality and long-term relationships, customers actively recommend Messrs. Munshi Bricks to others. This trust and reputation are not easily replicated.

Table 8: Identification of Strength Type

The competitive advantage of Messrs. Munshi Bricks lies in its distinctive strength: a strong reputation in the local market, built through consistent quality, reliability, and word-of-mouth referrals. While other strengths can be matched or copied over time, the trust and loyalty developed with customers gives the company an edge that is difficult for competitors to replicate quickly.

Chapter 3

Project Part

3.1 Introduction

Business analysis is about understanding how a company functions, makes decisions, and adapts to its environment. It involves evaluating different areas of the business such as operations, finance, marketing, and management to identify strengths, weaknesses, and opportunities for improvement. This report focuses on the business analysis of Messrs. Munshi Bricks, a traditional, family-owned brick manufacturing company. The goal is to understand how the company operates, what challenges it faces, and how it can grow in a competitive and evolving market.

3.1.1 Background and Problem Statement

Messrs. Munshi Bricks is a family-run brick manufacturing company that has been operating for 18 years using traditional and manual methods. Like many small businesses in the manufacturing sector, its operations rely heavily on experience, personal relationships, and manual processes. While this has worked well for maintaining quality and customer trust, the lack of formal systems and structured analysis limits the company's ability to track performance and forecast market demand.

With increasing competition, changing customer expectations, and the growing need for operational efficiency, it has become more important for businesses like Messrs. Munshi Bricks to analyze their current practices. The company must identify which parts of the business are working well and where improvements can be made. This study aims to explore those areas and offer insights into how the business can strengthen its position in the market.

3.1.2. Objectives

- To understand the current operations and management practices of Messrs. Munshi Bricks.
- To identify the company's key strengths, weaknesses, and challenges.
- To analyze the business environment and competitive landscape.
- To assess opportunities for improvement in areas like operations, accounting, and customer service.

3.1.3. Significance

This study is important for both academic and practical reasons. On one hand, it provides a real-world example of how a traditional, family-owned business operates in a competitive manufacturing industry.

3.1.4. Scope of the Study

The study focuses on the core areas of business operations at Messrs. Munshi Bricks, including production, supply chain, accounting practices, marketing methods, and customer engagement. It also covers the external factors affecting the business, such as market competition and economic conditions. The analysis is based on on-site observations, and internal records.

3.2 Methodology

For this study, I mainly used quantitative data analysis approaches to gather and analyze primary data to have an in-depth understanding of the performance of Messrs. Munshi Bricks.

3.3 Findings and Analysis

In Bangladesh, one of the most essential building materials is fired clay bricks. Bangladesh is currently the world's fourth-largest manufacturer of bricks. With over 8,000 brick kilns, the nation produces over 27 billion bricks a year. The sector contributes over 1% of the nation's GDP and providing jobs for over a million people. With 175.7 million people living there, Bangladesh is expected to build almost 4 million new homes a year at its current rate of population increase in order to meet the demand, which will drive the expansion of the brick industry (Ministry, 2017).

3.3.1 Required Licenses for Operating Brick Manufacturing Business

To start a brick manufacturing business legally in Bangladesh requires several licenses and approvals from different government authorities. The key licenses include:

1. **Trade License:** Issued by the local municipality or union council, this is a basic requirement for any business operation.
2. **Environmental Clearance Certificate:** Provided by the Department of Environment (DoE), this certificate ensures that the brick kiln complies with environmental regulations, particularly regarding emissions and location.
3. **Brick Manufacturing License:** A specific license is needed to set up and operate the business. Some conditions are mentioned in the license about operating the business legally.
4. **Industry License:** Industry license provide permission to operate the business under a specific business name and location and mentioned only for the owners.
5. **Location Clearance:** Location clearance is mandatory for starting the business provided by DoE, confirming the kiln is not within restricted areas such as near agricultural lands, residential zones, forests, or schools.

6. **VAT Registration:** Required from the National Board of Revenue (NBR) for tax purpose. It does not depend on the number of the product sold. Every year 4,50,000 taka needs to be paid to the government treasury.
7. **Income Tax:** Based on the income, income tax needs to be paid to the government.
8. **DC License:** A special license is required from the Deputy Commissioner to operate the business.
9. **BSTI Certificate:** A specific certificate from Bangladesh Standards and Testing Institution (BSTI) is required to run the business. It assures that the customers about the quality of the products.

While these licenses may seem like straightforward requirements on paper, the process of obtaining them is often lengthy and challenging. It also requires huge amount of money and bribe. Business owners must navigate through multiple government departments, face frequent bureaucratic delays, and adhere to strict environmental standards. For many small or family-run businesses, this can quickly become overwhelming.

As a result, many brick manufacturing businesses in Bangladesh operate without fulfilling all the necessary licensing requirements. Some only achieve partial compliance, while others continue their operations informally. This widespread issue underscores just how difficult it can be to operate fully within the legal framework in this industry.

From the very beginning, Messrs. Munshi Bricks has made it a priority to operate legally and responsibly. The company holds all the required licenses and has maintained

full compliance with government regulations. While the process of securing everything was not easy, the decision to do it right from the start has paid off.

Because of this commitment, Messrs. Munshi Bricks has never faced any legal or regulatory issues in its journey. This not only reflects the company's integrity and professionalism but also gives it a strong foundation for sustainable growth in the future.

3.3.2 Brick Manufacturing Process

The brick manufacturing process at Munshi Bricks follows method that combines local knowledge, manual labor, and time-tested techniques. Messrs. Mushi Bricks use Improved Zigzag Kiln (IZK) to burn the bricks which is less polluting than the other existing kilns. For burning the bricks, they use coal which is imported from Indonesia and South Africa instead of woods.

Each step in the process is crucial to ensuring the quality, strength, and durability of the final product.

1. Clay Collection and Preparation: The process begins with the collection of clay, which is usually purchased from nearby lands. The clay is carefully selected to ensure it is free from impurities such as stones, roots, or organic matter. Once collected, the clay is left to weather for several days to improve its plasticity.

After weathering, the clay is thoroughly mixed and kneaded, using mechanical mixers, to achieve a uniform and workable consistency. This step is critical to prevent cracks or weaknesses in the finished bricks.

2. Molding: Once the clay is ready, it is shaped into bricks using wooden molds. Manual molding is used, where workers press the clay into molds and smooth the surface by hand. Sand is sprinkled inside the mold to prevent the clay from sticking.

Each molded brick is then carefully removed and placed on the ground to dry. At this stage, the bricks are referred to as “green bricks.”

3. Drying: The green bricks are air-dried under the sun for several days to remove excess moisture. This step is essential to avoid cracking or breaking during firing. The drying process can take anywhere from 7 to 10 days, depending on weather conditions.

Bricks are usually stacked in a crisscross pattern to allow airflow and even drying. Workers often turn the bricks during the drying phase to ensure all sides dry uniformly.

4. Stacking in the Kiln: Once fully dried, the bricks are stacked inside the improved Zigzag kiln which is permitted by the government. The stacking is done strategically, with air gaps left between the bricks to allow heat circulation. The placement of bricks in different zones of the kiln determines how well they will be burned, ultimately affecting their classification into first, second, or third class.

5. Firing: The improved kiln is then gradually fired, usually with coal as the main fuel source. Imported coals form Indonesia and South Africa is mixed into 70-30 ratio. And crushed into powder form. The firing process typically lasts for 7 to 14 days for each round, reaching temperatures between 800°C and 1100°C. The goal is to harden the bricks and give them their characteristic color and strength.

Proper control of heat and timing is essential, under-burning results in soft, weak bricks, while over-burning can lead to brittle or misshaped products.

6. Cooling and Unloading: After the firing is complete, the kiln is allowed to cool naturally for a few days. Once cooled, the bricks are unloaded and sorted manually based on their appearance, strength, and sound. They are then classified into First-Class, Second-Class, or Third-Class bricks, as per standard industry practices.

7. Storage and Distribution: The sorted bricks are stacked in open yards for storage before being transported to construction sites. Munshi Bricks typically sells directly to contractors, developers, and local builders, maintaining strong relationships with clients through reliable supply and consistent product quality.

3.3.3 Revenue, Profit and Customer Demand

The profit of a brick manufacturing company depends on the grade of the bricks. Bricks are classified into three categories. 1st class, 2nd class and 3rd class. This classification is primarily determined by color, shape, strength, surface finish, and soundness, which are all influenced by how evenly and thoroughly each brick is burned during the firing process.

Demand for the 1st class brick is the most and used for construction. Demand for 2nd class and 3rd class bricks among the customers is maximum 4-5%. Contractors of the government project are the main client for the 2nd and 3rd class bricks. Company always tries to keep the production of 2nd class and 3rd class bricks within 1-2% of the total production done per session.

Raw materials cost, Labor cost, Fixed cost remain same for all the three categories. Bricks are not classified into categories before burning. Based on the quality of the coal, burning time, heat, position.

For producing a single brick, it needs at least 5.70 TK. But the price of the bricks depends on the class. 1st class brick is sold between 9.5 TK to 10.75 TK, 2nd class brick

is sold between 7.5 TK to 9.0 TK, 3rd class brick is sold between 5.5 TK to 7.0 TK. But the demand for the 2nd and 3rd class brick is so low that is remain unsold if there is no government project. Customers do not prefer buying 2nd and 3rd class bricks. This classification of brick depends on the quality of the coal, temperature in the kiln, weather condition. The profit margin depends on the finished goods. The more percentage of 1st class brick the more profit margin will be achieved. As of last year, due to the political disturbance government project was stopped and the contractors do not purchase bricks. Which creates a huge inventory stocked for Messrs. Munshi Bricks. Due to the decrease in coal price Messrs. Munshi Bricks luckily crossed the BEP and gain some profit.

3.3.4 Impacts of Manufacturing Red Clay Bricks

The red clay brick industry remains an important part of Bangladesh's construction sector, especially in rural and peri-urban areas. It is an economical and dependable building material that is widely recognized by builders and homeowners due to its strength and availability. This business boosts local economies and creates job possibilities, particularly for seasonal workers and families.

One of the most significant environmental challenges related with red clay brick manufacture is the widespread depletion of topsoil. Because this soil is so important for agricultural output, extracting it for brickmaking endangers long-term food security in many rural communities. Furthermore, conventional brick kilns, particularly fixed-chimney and clamp kilns, emit considerable amounts of air pollution. They emit carbon dioxide, carbon monoxide, sulfur dioxide, and small particles, all contributes to poor air quality.

Considering these problems, the Bangladeshi government enacted regulatory measures under the Brick Manufacturing and Kiln Control Act (2013) and subsequent amendments. These regulations seek to phase out traditional kilns while encouraging the use of environmentally friendly alternatives such as concrete blocks, fly ash bricks, and autoclaved aerated concrete (AAC). While these options offer less environmental effect and greater energy efficiency, their adoption in rural regions remains limited due to cost, availability, and unskilled construction labor.

3.3.5 Barriers to Adopting New Technology

Adopting with new technology is difficult for business like brick manufacturing company. Brick manufacturing company cause pollution to the air it is true. Over 5000 brick-kilns in the country operate without the environmental clearance, which includes 800 traditional BTKs, those are operating illegally though they were banned in the Environmental Conservation Act, 1995 and subsequent revised acts. (World Bank Document) But Zig-zag kilns are relatively cleaner. Some owners have shifted to Zigzag kilns but they are facing harassment from the tax officials. Zigzag kilns seem larger than the fixed chimney, so government officials impose higher taxes; predicting the production has increased, though it is not correct. Furthermore, DoE representatives importune owners for not following the 120-foot chimney restriction, though the limit does not apply to Zig-zag technology.

Despite being aware of new technologies, most small-scale business owners choose traditional solutions that they already understand and are supported by easily accessible, cheap human resources. The main reason for this is that cost-effective operation of technologically advanced equipment requires year-round utilization, whereas the basic raw materials coal and clay are seasonal imports that are only available at other periods of the year at a higher cost. When seasonal laborers are replaced with permanent

employees, the labor cost structure will also increase. Another significant obstacle to switching to year-round operations is the lack of high ground above flood level.

Moreover, alternates of bricks are cement blocks, hollow bricks, fly ash bricks are environment friendly but these are not popular among the customers. It is more difficult to determine the quality of cement blocks because, unlike clay bricks, which can be examined by any layperson based on color and the sound made when one brick hits another, cement blocks require precise knowledge of the cement to sand ratio, which necessitates the use of laboratories and costly expert assistance. Additionally, Cement blocks do not come in standard size like bricks, prevent the insertion of hooks and nails into walls built with them, and demand more complex construction techniques (such as the installation of sanitary and electrical connections). On the other hand, hollow cement blocks absorb moisture, walls must be painted with emulsion paints at least every five years, which raises the expense (Wescott, 2019).

Furthermore, cement blocks main raw materials is cement. Because of its high energy consumption, hazardous gas emissions, and solid waste production, the cement industry is a major contributor to environmental pollution. These elements contribute to climate change and cause pollution of the air and water. The price of cement block will be much higher than the clay bricks and small business owner cannot go for large scale production of cement blocks. The business will be shifted to the cement company themselves.

Instead of using coal, use of natural gas could be environment friendly. But government policy does not encourage the use of gas for brick kiln because of current gas scarcity. Gas pressure is not adequate to meet the minimum required for brick kilns. And most importantly no credible assurance from government on how long gas supplies would

be assured. The classification of brick depends on the finished goods which mainly done by proper burning in the kilns. So, owners do not take risk in this process where there profit and loss depends.

3.4 Summary and Conclusion

The brick manufacturing sector in Bangladesh falls under the Small and Medium Enterprise (SME) category and continues to play a vital role in the country's construction industry. Despite the emergence of alternative materials, clay bricks remain the most widely used due to their affordability, availability, and ease of use. Market demand for alternatives has yet to be firmly established, and customer preference continues to favor traditional clay bricks.

Messrs. Munshi Bricks has been operating in this sector for the past 18 years, earning a strong reputation for reliability, compliance, and customer satisfaction. The company has always followed government regulations and environmental standards, including the use of a modern Zigzag kiln and imported coal from Indonesia and South Africa, which significantly reduces emissions compared to traditional methods.

Starting with an initial investment of BDT 63 lakh, the company has grown remarkably, reaching a current business valuation of approximately BDT 17 crore. It is also noteworthy that the business operates entirely debt-free, with no loans or financial liabilities. Although political instability in the previous year affected sales, the company successfully managed to cross its break-even point and generate a profit.

Strong relationships with both customers and employees have been key to Messrs. Munshi Bricks' smooth operations and long-term success. Their commitment to ethical practices and sustainable growth positions the company as a model enterprise in the SME brick manufacturing sector of Bangladesh.

3.5 Recommendations

To support the long-term sustainability of the brick manufacturing industry, it's important for the government and other key stakeholders to work together in creating a more supportive and forward-thinking environment for sustainable brick-making. This means strengthening the role of regulatory bodies by giving them access to better tools, modern technologies, and the institutional capacity needed to effectively handle critical tasks—such as monitoring emissions, managing environmental impacts, and overseeing resource use.

In addition, it is essential to prepare and implement well-structured technical guidelines that cover every step of the brick-making process—from the extraction of clay and shaping of green bricks to the firing stage. These guidelines should also include practical advice on production organization and business management. With the right standards in place, the industry can move toward more consistent, efficient, and environmentally responsible practices. These changes will make it easier for businesses to adopt improved technologies and help ensure the sustainable growth of the sector.

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