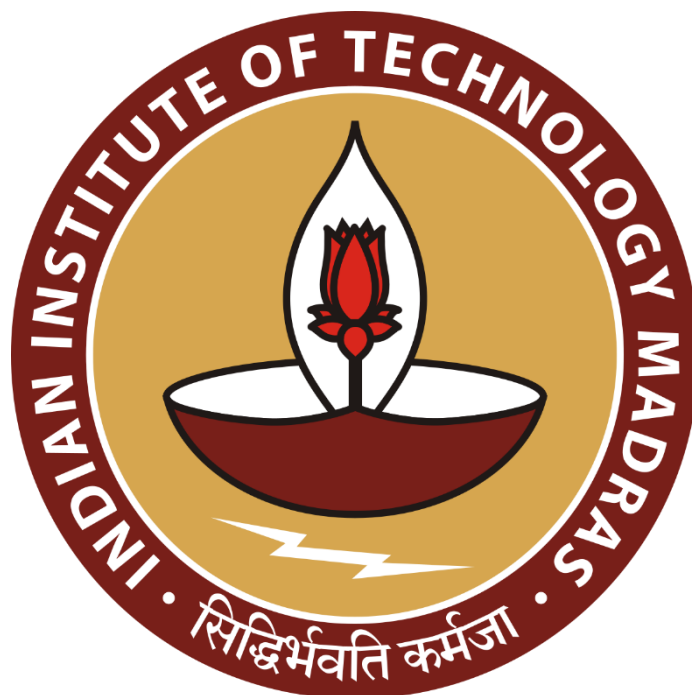# Optimizing Inventory Management of Sufal Bangla,Satlake

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project titled "Optimizing Inventory Management of Sufal Bangla,Saltlake". I extend my appreciation to **Sufal Bangla Saltlake**, for providing the necessary resources that enabled me to conduct my project.

I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.

Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

I am dedicated to adhering to the principles of academic honesty and integrity, and I am receptive to any additional examination or validation of the data contained in this project report.

I understand that the execution of this project is intended for individual completion and is not to be undertaken collectively. I thus affirm that I am not engaged in any form of collaboration with other individuals, and that all the work undertaken has been solely conducted by me. In the event that plagiarism is detected in the report at any stage of the project's completion, I am fully aware and prepared to accept disciplinary measures imposed by the relevant authority.

I understand that all recommendations made in this project report are within the context of the academic project taken up towards course fulfillment in the BS Degree Program offered by IIT Madras. The institution does not endorse any of the claims or comments.

Signature of Candidate:

Gaurav Ginodia

Name: Gaurav Ginodia

Date: 26.07.2024

1 Executive Summary and Title

Sufal Bangla is a government-initiated franchise grocery shop operated by Mr. Sourashis Das. While offering various daily grocery items, the store primarily focuses on fresh vegetables, aiming to provide quality produce to consumers.

The business faces two main challenges: the short shelf life of fresh vegetables, which makes inventory management difficult and leads to potential waste, and intense market competition in the grocery sector. These issues are impacting the store's profitability and market position.

To address these challenges, we propose implementing a data-driven approach to optimize operations. This will involve developing an advanced inventory management system using predictive analytics for demand forecasting. Additionally, we'll explore data-driven marketing strategies to enhance Sufal Bangla's competitive edge. The project will also consider strategies to differentiate the store from competitors while maintaining its core mission of providing fresh, quality products to the customers.

2 Organization Background

Address-:Municipality Main Rd, LB Block, Sector 3, Bidhannagar, Kolkata, West Bengal 700098

Sufal Bangla is a government-initiated grocery franchise based in West Bengal, India. Launched as part of a state government initiative to provide fresh produce at reasonable prices, Sufal Bangla has evolved into a network of franchised stores across the region. **The particular store in focus is operated by Mr. Sourashis Das**, **who acquired the franchise rights to run this Sufal Bangla outlet ,since 2019**.

While Sufal Bangla stores offer a range of daily grocery items(rice,dal,snacks,dairy products), their primary focus is on fresh vegetables.The franchise model allows individual entrepreneurs like Mr. Das to operate under the Sufal Bangla brand while maintaining the core mission of providing fresh, affordable vegetables to consumers.

As a hybrid between a government initiative and a private enterprise, Sufal Bangla represents an innovative approach to addressing food retail challenges in the region. It aims to balance the social objective of accessible, quality produce with the need for sustainable business practices.

3 Problem Statement

1. Fresh Inventory Management: Fresh vegetables have a short shelf life, leading to potential waste and revenue loss if not managed efficiently.

2. Market Competition: Intense competition in the grocery sector, particularly for vegetables, threatens Sufal Bangla's market share and profitability.

3. Limited Data Utilization: Lack of data-driven decision-making in pricing, and marketing strategies hinders operational efficiency and competitiveness.

These problems highlight the need for an optimized approach to inventory management, market positioning, and data utilization in Sufal Bangla's operations. Addressing these issues will enhance the store's ability to minimize waste, improve profitability, and maintain its competitive edge in the local market.

4 Background of the Problem

Sufal Bangla,Saltlake faces problems from both inside and outside the store. The main issue is keeping vegetables fresh. Vegetables go bad quickly, and if not sold soon, they become waste. This is hard to manage because the amount people buy changes often.

Inside the store, Sufal Bangla,Saltlake struggles to guess how much vegetables to stock. They don't have a good system to track how fresh vegetables are or to predict what will sell. They also don't use data well to decide on prices or what to sell.

Outside the store, there's tough competition. Many other shops and markets sell vegetables. This makes it hard for Sufal Bangla to set prices that make money but still attract customers. Also, what customers want keeps changing. Some now prefer organic vegetables or pre-cut ones. Sufal Bangla, Saltlake finds it hard to keep up with these changes.

Being part of a government program also makes it tricky. The store can't always make quick changes like other private shops might.

All these problems work together to create a big challenge for Sufal Bangla,Saltlake. They need to find ways to run the store better and stand out from other vegetable sellers.

5 Problem Solving Approach

Methods Used and Justification

1. **Predictive Analytics for Demand Forecasting:**
   - **Method:** Analyze historical sales data using time-series analysis
   - **Justification:** Predictive analytics will allow Sufal Bangla to anticipate customer demand for different vegetables. This helps in stocking the right amount of products, reducing waste from unsold, spoiled vegetables, and ensuring availability of high-demand items. Accurate forecasting can also aid in setting competitive prices that attract customers while maintaining profitability.
2. **Competitive Pricing Strategies:**
   - **Method:** Conduct competitive analysis to understand pricing strategies of local competitors and implement dynamic pricing models.
   - **Justification:** By understanding competitor pricing and adjusting prices based on market demand and trends, Sufal Bangla can stay competitive. Offering promotional discounts and loyalty programs can attract and retain customers, boosting sales and profitability.
3. **Customer Feedback Analysis:**
   - **Method:** Gather feedback through surveys and direct customer interactions.
   - **Justification:** Analyzing customer feedback provides insights into product quality, customer preferences, and areas needing improvement. This information helps tailor the product offerings and services to better meet customer needs, enhancing satisfaction and loyalty.
4. **Product Diversification and Value-Added Services:**
   - **Method:** Introduce organic and pre-cut vegetable options, and consider services like home delivery.
   - **Justification:** Diversifying products and offering additional services can attract new customers and meet the evolving preferences of existing ones. This differentiation strategy helps Sufal Bangla stand out in a competitive market.

Data Collection Strategy and Justification

1. **Sales Data:**
   - **Collection:** Weekly data on quantities sold, purchase prices, and selling prices.
   - **Justification:** Understanding sales patterns and trends is crucial for demand forecasting and pricing strategies.
2. **Inventory Data:**
   - **Collection:** Real-time tracking of stock levels, spoilage rates, and turnover rates.
   - **Justification:** Ensures efficient inventory management, reducing waste and maintaining product freshness.

Tools Used and Justification

1. **Microsoft Excel:**
   - **Justification:** A versatile tool for data processing, cleaning, and analysis. Excel is user-friendly and widely accessible, making it suitable for performing fundamental computations and creating visual representations of data.
2. **Excel's Data Analysis Toolpak:**
   - **Justification:** Enables advanced statistical analysis and demand forecasting directly within Excel. This tool enhances the ability to perform detailed analysis without the need for additional software.
3. **Excel Dashboards:**
   - **Justification:** Interactive dashboards created in Excel can provide a visual representation of key performance indicators, sales trends, and inventory levels. These dashboards help stakeholders monitor performance and make informed decisions in real-time.

By using these methods, data collection strategies, and tools,we will try to improve Sufal Bangla's inventory management, enhance market positioning, and make data-driven decisions. This comprehensive approach will help minimize waste, increase profitability, ensuring sustainable growth and competitiveness in the market.

6 Expected Timeline

6.1 Work Breakdown Structure:
- **Discussion with Owner** (July 25, 2024 - 1 day)
- **Collect Relevant Data** (July 26, 2024 - July 28, 2024 - 3 days)
- **Create Project Proposal** (July 29, 2024 - July 31, 2024 - 3 days)
- **Data Cleaning** (August 1, 2024 - August 2, 2024 - 2 days)
- **Data Analysis** (August 2, 2024 - August 4, 2024 - 3 days)
- **Prepare Mid-Term Report** (August 5, 2024 - August 7, 2024 - 3 days)
- **Prepare Final Report** (August 8, 2024 - August 11, 2024 - 4 days)
- **Prepare Presentation PPT** (August 11, 2024 - August 12, 2024 - 2 days)

6.2 Gantt chart

ID	Name	Start Date	End Date	Duration
1	▼ BDM CAPSTONE PROJECT	Jul 25, 2024	Aug 12, 2024	19 days
2	Discussion with owner	Jul 25, 2024	Jul 25, 2024	1 day
3	Collecting relevant data	Jul 26, 2024	Jul 28, 2024	3 days
4	Making Proposal for the project	Jul 29, 2024	Jul 31, 2024	3 days
5	Data cleaning	Aug 01, 2024	Aug 02, 2024	2 days
6	Data analysis	Aug 02, 2024	Aug 04, 2024	3 days
7	Mid-term report preparation	Aug 05, 2024	Aug 07, 2024	3 days
8	Final report preparation	Aug 08, 2024	Aug 11, 2024	4 days
9	Preparing presentation ppt	Aug 11, 2024	Aug 12, 2024	2 days

Figure 1 Expected timeline for completion of project.

7 Expected Outcome

7.1 **Better Inventory Planning:** Improved data analysis will help Sufal Bangla stock the right amount of fresh vegetables, reducing waste and spoilage.

7.2 **Understanding Sales and Returns**: We will learn which products sell the most and why some items are returned. This will help fix quality issues and make customers happier.

7.3 **Knowing Our Customers**: By studying customer data, we will understand who buys our products and what they prefer. This will help us market better and offer the right products.

Overall, the project will help Sufal Bangla run more efficiently, sell more products, reduce wastage, leading to growth and profitability.