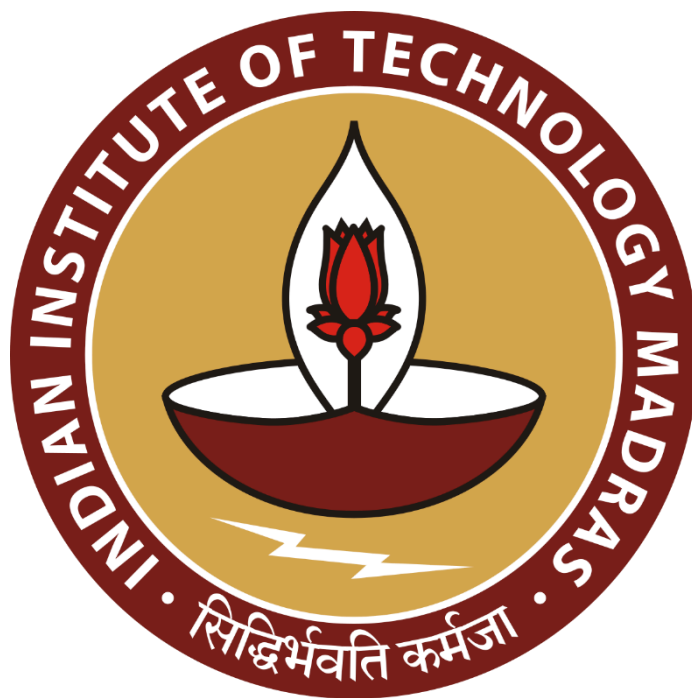# Enhancing Sales, Profits & Analyzing Shopping Trends at Sri MahaLakshmi General Store

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project titled "**Enhancing Sales, Profits & Analyzing Shopping Trends at Sri MahaLakshmi General Store**". I extend my appreciation to **Madishetty Rama Rao**, 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:

NandanReddy Parnapalli
05-07-2024

1 Executive Summary and Title

This project focuses on a small general store located at Shiva Sai Ram Nagar Colony, Munganoor, Hyderabad, Telangana 501511. Operating as a B2C business, the store specializes in groceries and daily needs. The store owner faces several critical challenges that significantly impact profitability, such as inefficient inventory management, competitive pressures from neighboring stores, fluctuating pricing trends, transportation issues, and overall store management inefficiencies. These problems have collectively resulted in minimal profit margins and have hindered the store's growth potential.

Addressing these challenges effectively is crucial for enhancing profitability and ensuring sustainable business growth. The project aims to tackle these issues by analyzing sales data to gain a deeper understanding of pricing trends, customer buying patterns, and overall purchasing behavior. By leveraging this analysis, the project seeks to develop strategies for price prediction, demand forecasting, and quality control, which are essential for optimizing inventory management and improving operational efficiency.

Furthermore, the project will focus on understanding customer behavior within the store to tailor marketing and sales strategies that maximize gross profit. Efficient stock management will also be a key component, ensuring that the store can meet customer demand without overstocking or understocking products. By implementing these strategies, the store can achieve more effective management practices, enhance customer satisfaction, and ultimately drive higher profitability and business growth.

2 Organization Background

Sri MahaLakshmi General Stores, situated in Shiva Sai Ram Nagar Colony, Munganoor, Hyderabad, Telangana 501511 [Google Map], has established itself over the past two years as a cornerstone of the local community. Renowned for its comprehensive selection of essential products and services, the store caters to the diverse needs of its customers. It offers a vast array of provisions, including household goods, toiletries, sanitary items, groceries, daily essentials, beverages, and more. The store's commitment to quality and customer satisfaction has earned it the unwavering trust and loyalty of the local residents. Regular patrons consistently choose Sri MahaLakshmi General Stores for their daily necessities, appreciating the convenience and reliability it offers.

By maintaining a balance between affordability and profitability, the store ensures that it provides reasonably priced items while sustaining a healthy profit margin. This strategic approach not only supports the community's economic well-being but also secures the store's position as a trusted and vital resource for all its customers' everyday needs.

3 Problem Statements

3.1 Lack of Understanding in Customer Preferences

To analyze sales data to understand pricing trends, buying patterns, and customer purchasing behavior by leveraging advanced analytical tools and techniques to extract meaningful insights.

3.2 Overstocking and Understocking

To identify high-profit items and optimize inventory management strategies accordingly, focusing on overall store management by leveraging data analytics and sales trends in order to ensure that inventory is altered to meet customer needs and meet their expectations.

3.3 Inaccurate Demand Forecasting

To evaluate inventory management practices during peak seasons and monthly cycles, ensuring adequate stock levels and planning for future demands effectively. Implementation of these practices will minimize stockouts and optimize supply chain efficiency.

4 Background of the Problem

Sri MahaLakshmi General Store had always prided itself on offering competitive prices and a wide range of products. But without real-time data analysis to understand these shifts, the store struggled to adjust its pricing strategy effectively. This led to occasional overstocking of slow-selling items and understocking of popular products, impacting overall profitability.

Major cause of problems

- Inconsistent availability of high-profit items resulting in missed sales opportunities.
- Inadequate promotional efforts, such as discounts and combo offers, for slower-moving items limit their sales potential.

- Lack of dynamic pricing strategies to respond to competitor actions results in loss of customers and reduced margins.

Internal problems

- The store faces transportation issues when there's high demand for certain items that leads to delays and stockouts.
- Unexpected decrease in price of a provision when its availability is more in the store.
- Inconsistent inventory records due to manual tracking methods lead to occasional discrepancies in stock levels and increases risk of human error.

External problems

- The store's abnormal opening and closing times have allowed competitors to attract and take away valuable customers of the store.
- Increased competition from new stores offering specialized products and aggressive pricing.
- Lack of technology leverage for better customer insights and offering personalization techniques puts the store at a disadvantage in a competitive retail environment.

5 Problem Solving Approach

5.1 Methods Employed

- Data collected from the store is processed and some information changed.
- To get an idea about the data, data to be plotted into various charts and trendlines. For visualization of the data, create individual charts (like bar charts, pie charts).
- Data will be summarized using tools like pivot tables and identify the highest profit margin areas that can be recognized using tables.
- Compute descriptive statistics for key variables like sales quantity, prices and total cost. Like mean, median, minimum, maximum and standard deviation. Which provides an overview of the central tendency and distribution of the variables.

5.2 Data Collection Techniques

- Daily sales data collection is organized into an excel as the owner is maintaining a system and entering every product sale into it.

- The sales items in data had a unique code as a label. So, convert every code to its respective label.

- Categorized the sold items to know the customer choices/preferences better.

- Analyze sales trends periodically to identify popular items and optimize inventory management accordingly.

5.3   Analysis Tools with justification

After Collecting daily sales data from the shop owner and extracting required fields, loaded data into Excel sheets with columns like Date, Item name, Category, Price, Quantity, Total price, Tax amount, Total amount, Profit. This comprehensive data collection ensures I have the necessary information readily available for in-depth analysis.

To do analysis following tools will be used:

- **Google Sheets or Excel**: These tools are used to efficiently collect, clean and organize raw data for further processing.

- **Tableau**: To create insightful visualizations that help identify sales patterns, trends, and outliers, facilitating better decision making.

- **MS Word & PowerPoint**: These tools are useful in documenting findings, preparing reports and presenting analysis effectively to stakeholders.

- **Python**: To perform advanced data analysis.

6   Expected Timeline

6.1   Work Breakdown Structure
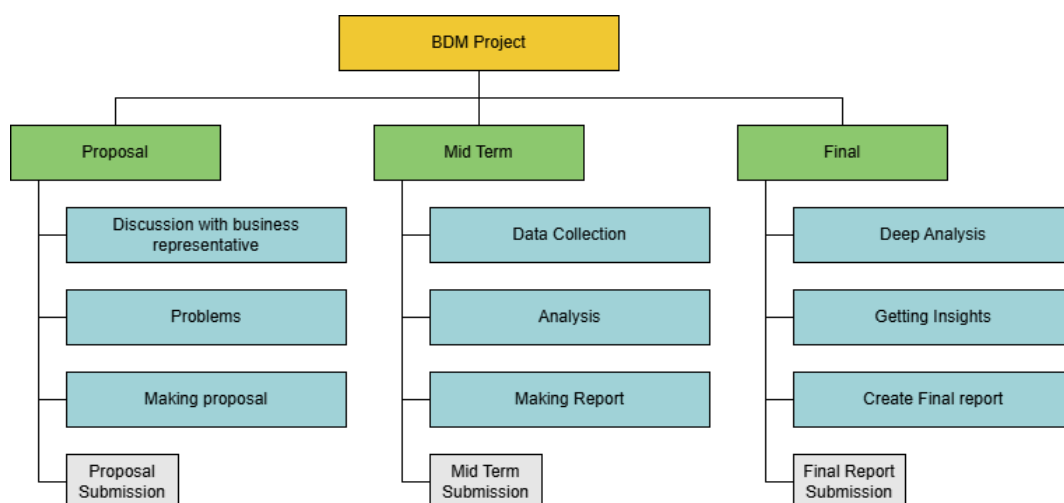
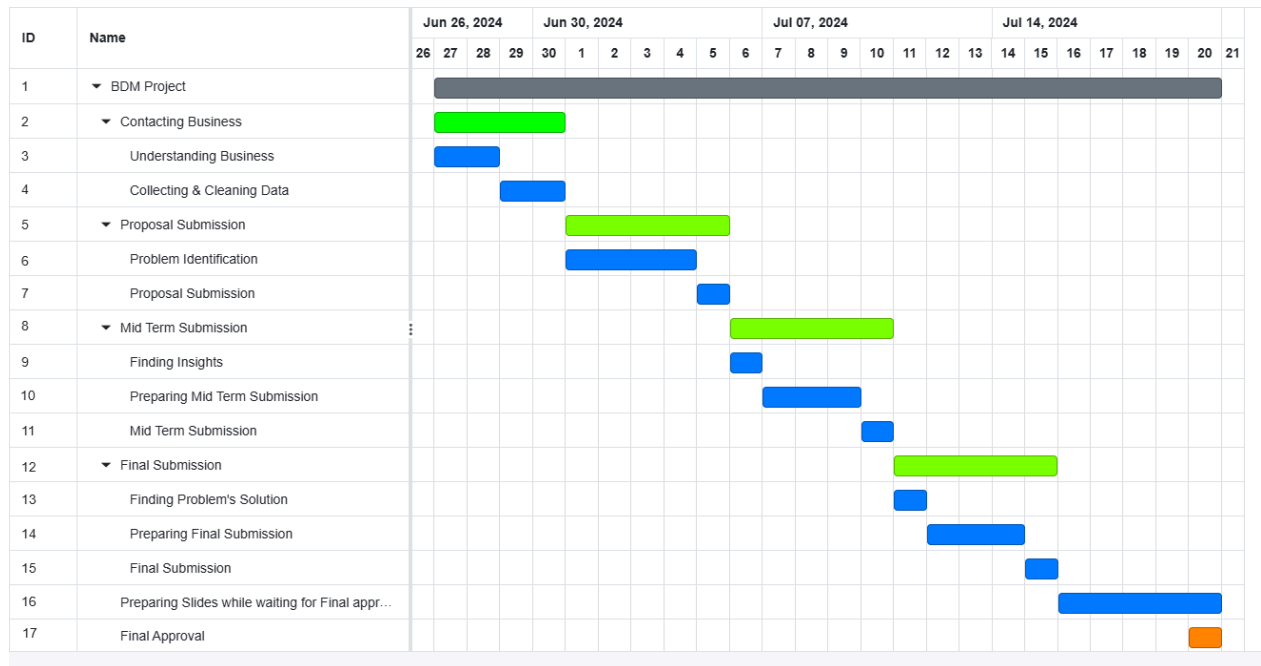*Figure 1: Work Breakdown Structure of project.*

6.2   Gantt chart

Figure 2: Expected timeline for completion of project.

7   Expected Outcome

- **Strategies for Slow-moving items**: Identifying the items which are in stock for an extended period and creating some strategies to enhance their sales.

- **Optimized Inventory Management**: Recognizing upcoming demands for provisions and consistently maintaining consistent stock levels to optimize inventory management.

- **Preventing Price Decrease**: Identifying provisions based on the data analysis which might go through sudden price decrease in advance, to mitigate potential losses.

- **Ensuring Availability through Improved Transportation**: Making sure that there will be no issue in transportation, by ensuring continuous availability of high-demand items in the store.

- **Enhanced Marketing Strategies**: Utilizing insights from sales data analysis to develop targeted marketing campaigns that effectively promote high-demand items and capitalize on emerging trends, thereby boosting overall sales and customer engagement.