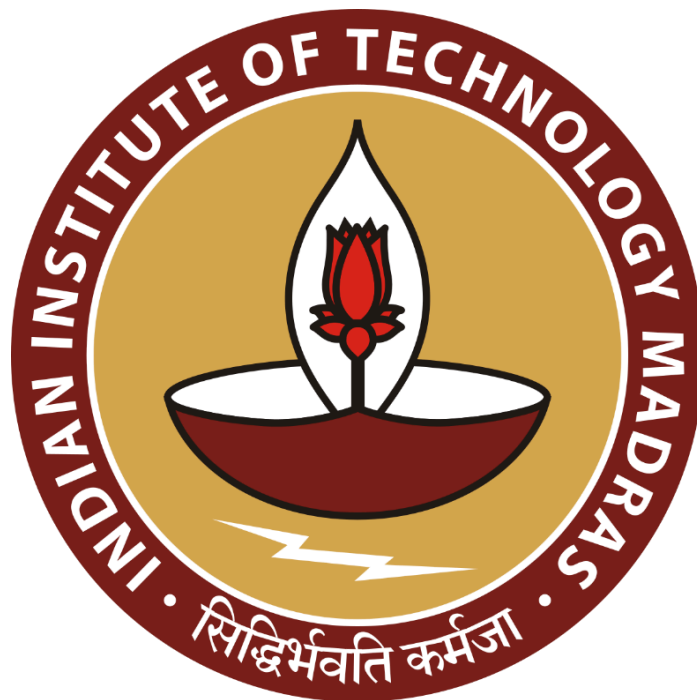Data-Driven Operational Strategies for Sustainable Growth in Local Kirana Retail

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project Title "Data-Driven Operational Strategies for Sustainable Growth in Local Kirana Retail". I extend my appreciation to **Shree Samarth Food Mall**, 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 through 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 information 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 agree that all the recommendations are business-specific and limited to this project exclusively, and cannot be utilized for any other purpose with an IIT Madras tag. I understand that IIT Madras does not endorse this.

Signature of Candidate: (**Digital Signature**)

Name:Shashank Ashutosh Kulkarni

Date:13-10-2025

1 Executive Summary and Title (200 Words)

The project focuses on 'Shree Samarth Food Mall,' a small B2C kirana store located in Kandivali East, Mumbai. The business primarily deals in everyday grocery items, serving local residential clients in the neighborhood.

The major business issues that the organization is facing are related to variable customer demand, inventory wastage, low profit margins, and unpaid credit dues from loyal customers. These operational challenges result in ineffective stock management, blocked capital in slow-moving inventory, and decreased profitability due to poor demand forecasting and inconsistent credit policies.

The issues will be addressed by analyzing store-level transactional data through various analytical approaches to obtain actionable insights. The project will employ data cleaning and organization using Google Sheets, followed by trend analysis to identify seasonal demand patterns, inventory turnover analysis to detect slow-moving products, cost-revenue analysis to optimize pricing margins, and credit transaction analysis to establish systematic credit criteria. Visual dashboards and product categorization techniques will be utilized to present findings effectively. The expected outcome helps the organization reduce money blockage in terms of excess inventory, minimize waste-related losses, improve credit recovery rates, and ultimately increase the profitability and financial sustainability of the store.

2 Organization Background (150 Words)

Business Name: Shree Samarth Food Mall
Address: Kandivali East, Mumbai
Owners: Mr. Anand Damle and Mr. Kalpesh Amre

The small business-to-consumer retail store Shree Samarth Food Mall was established in September 2019 as a joint venture between Mr. Anand Damle and Mr. Kalpesh Amre. Mr. Damle initially oversaw the operations, but as his priorities evolved, Mr. Amre eventually took over full-time store management. The store initially sold Suvnakonkan goods, but as the needs of the community changed, it began carrying regular grocery items as well. Most of the customers of the store are from the area around Arya Chanakya Nagar and Kalpataru Towers in Kandivali East, Mumbai. Being a neighborhood business, it provides basic everyday necessities like milk, curd, bread, butter, and other groceries to frequent walk-in customers in addition to a few non-daily items While manual sales estimates are used to restock other items, direct brand delivery is frequently used to replenish products with short shelf lives.

3 Problem Statement (Listed as objectives) (50-75 Words)

3.1 Erratic Customer Demand Leading to Inventory Inefficiencies:
Unpredictable demand causes frequent stockouts or overstocking, leading to waste, blocked capital, and reduced profitability.

3.2 Inadequate Credit Management System Causing Cash Flow Disruptions:
Lack of a structured credit policy leads to delayed payments, unpaid dues, and restricted working capital for daily operations.

3.3 Declining Market Position Due to Increased Local Competition:
Rising competition and absence of data-driven insights hinder customer retention, pricing strategy, and overall profitability.

4 Background of the Problem (200 Words)

For around 6 years the shree samarth food mall has been running in kandivali with ease but the food mall is currently dealing with serious operational problems that could jeopardize its existence.The Lockdown during covid 19 significantly affected the customer traffic and purchasing patterns which is one of the primary causes of the lack of a devoted customer base. Since that time, walk-in purchases have declined a lot due to the increasing demand for online delivery services and the rise of the local retail landscape, where there is more competition from the neighbouring supermarkets.

The store's erratic expectations after the lockdown have complicated the management of the inventory. It depends largely on manual estimation in the absence of a digital system, which, as a consequence, is frequently overstocked or stock-outed. Products that are short-lived such as milk, curd, bread, and butter cause a lot of trouble because the store's stock must be often replaced, which leads to a high rate of wasting and financial losses.

To sum up, weak credit management has been at the root of the store's cash flow problems. A group of regular customers who have credit facilities and make their payments late, thus limiting the owner's capability to keep the stock and to carry on the operation without any trouble. The absence of record-keeping has its part in financial insight limitation and decision-making. Besides, greater competition from local supermarkets which offer better varieties at lower prices combined with these operational inefficiencies have Shree Samarth Food Mall's caliber in local retail market gradually decrease and profitability declined over time.

5   Problem Solving Approach (400 Words)

Problem Solving Approach:

5a. Methods Used with Justification:After considering the difficulties that Shree Samarth Food Mall is going through, it would be necessary to use a balanced mixed, method approach, which includes both quantitative and qualitative methods, to make an accurate diagnosis and provide effective solutions.

Quantitative Methods:ABC Analysis and Inventory Classification: The products will be divided into groups A, B, and C based on the part of sales each product takes and how fast the products are turning over. With this, they will be able to identify the items that need the most attention, bring the levels of their stock to the right quantity, and at the same time, they decrease the cost of surplus inventory.Time, Series Analysis and Forecasting: It first gathers the historical sales data and then utilizes formulas for moving averages, seasonal trends, and combinations of the historical data for different demand periods such as weekdays, weekends, and festive periods. As a result, they can make more accurate restocking plans and can minimize food waste.Statistical Computations: Numbers such as average sales, standard deviation, profit margins, and inventory turnover ratios will be part of the performance evaluation, and financial decision, making will be supported by these numbers.Credit Risk Analysis: Studying current and past datasets of credit payment habits, historical periods of late payments, and amounts that are still waiting to be paid will help create a credit score system that will be the solution to the problem of bad debts and that will assure the flow of money into the business.

Qualitative Methods:Owner Interview: Talking to Mr. Kalpesh Amre will give you the day, to, day insight of the current inventory practices, credit decisions, and operational constraints.Customer Feedback Analysis: Low, key conversations with regular customers will help the reasons of their shift to competitors and will also show their likings in terms of pricing and product variety.Benchmarking: Observing the operation of shops that are close to us will get us one step closer to what the best pricing, credit policies, and stock control advice for small, scale retail operations are.

5b. Intended Data Collection with Justification:

To get the most up, to, date information vis, à, vis trends, data from the past 6, 12 months will be gathered and studied.Sales Transaction Data: Product names, quantities, prices, and dates will be included in data for demand analysis.Purchase Data: Quantities, costs, and suppliers for profit and margin assessment will be a part of data.Perishable Product Data: Expiry dates, wastage, and sales rates will be included in the data for better demand forecasting.Credit Customer Data: Collecting data such as customer details, purchase records, and repayment history will help in crafting of a credit policy.Inventory Levels: Current stock positions will be there to help us figure out if there are still a lot of goods left or are there any shortages.All these data support improved forecasting, profit evaluation, and inventory control.

5c. Analysis Tools and Justification:

Microsoft Excel: It is used for data organizing, cleaning, and analysis with the help of formulas (AVERAGE, STDEV.P, FORECAST.LINEAR) and pivot tables.Power BI or Excel Dashboards: One can get a sight of the figures of the day for sales, credit dues, and profitability trends through the interactive dashboards like these just like a visual art gallery.Statistical Toolpak: It is

just like an all, in, one regression, trend, and forecasting toolkit.

These tools are not expensive, they are user, friendly, and are great for small retail setups, they provide actionable insights for efficient decision, making and long, term business improvement.

6   Expected Timeline

6.1   Work Breakdown Structure:
   ● Data Collection: I collected data in the months of August and September , spanning a total of 31 days.
   ● Data Cleaning and Processing: I have successfully cleaned the data until the end of September.
   ● Proposal Preparation: I prepared my project proposal at the beginning of October.
   ● Data Analysis: I started basic data analysis in the beginning of October.
   ● The aim is to successfully analyse and provide conclusive recommendations by the end of November.
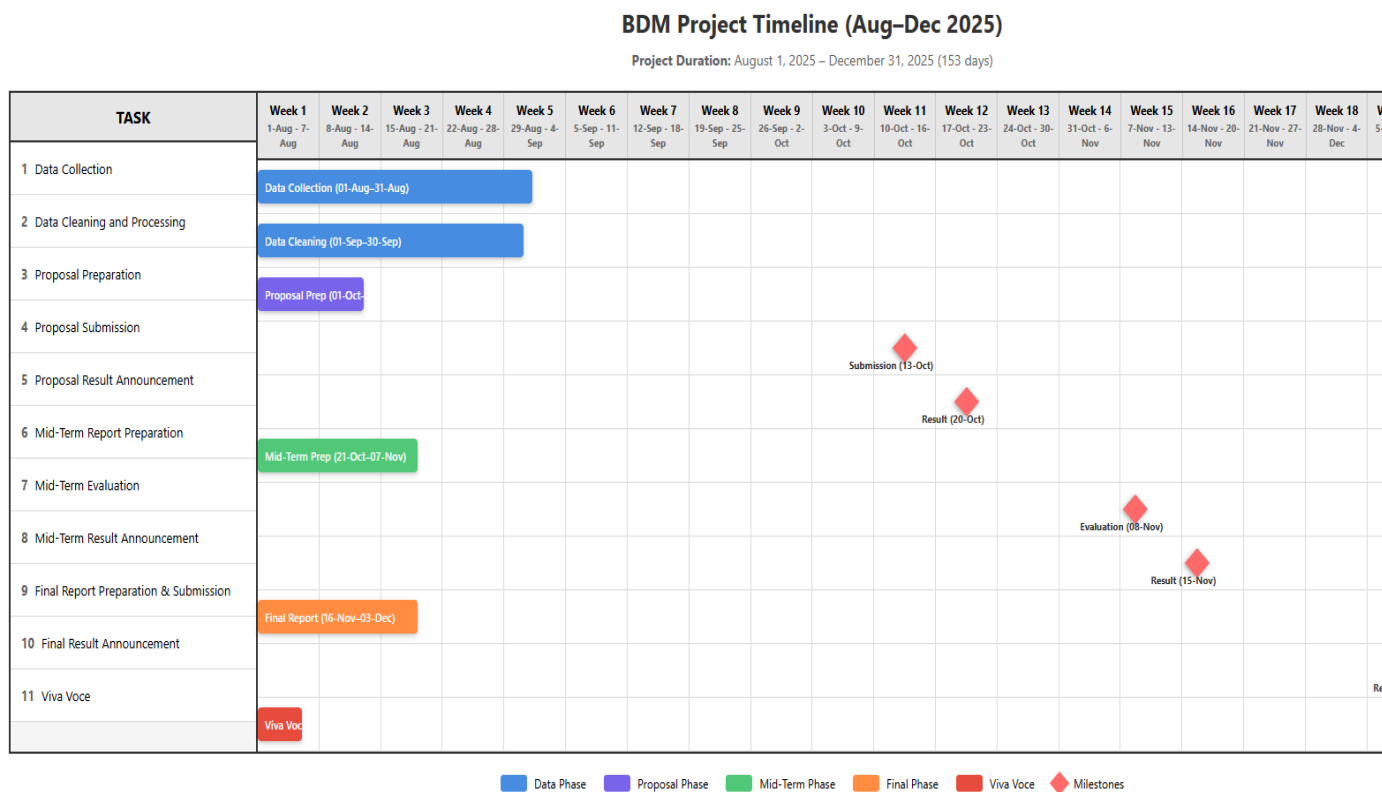
6.2   Gantt chart

Figure 1 Expected timeline for completion of project.

7   Expected Outcome (Briefly explain in 150-200 words)

7.1 Optimized Inventory Management: By effectively categorizing the products into fast, moving, medium, moving, and slow, moving, better stock planning will be possible which will minimize capital blockage and also ensure that there is no lack of the high, demand items, especially the perishables.

7.2 Minimized Wastage Through Demand Forecasting: Future customer demand patterns can be accurately predicted by the time, series analysis and thus the stocking will be maintained at the required level and there will be no wastage of perishable goods like milk, curd, and bread due to which financial losses will be minimized.

7.3 Structured Credit Management System: The establishment of a data, driven credit policy that contains creditworthiness criteria, credit limits, and repayment timelines will result in fewer overdue payments, reduction of bad debts, and increase of working capital availability.

7.4 Enhanced Profit Margins: The deciding of the right pricing strategies through the thorough cost, revenue analysis done on different product categories will not only help to balance the competitive positioning but also assist in sustainable profitability, thus achieving the desired monthly income targets.