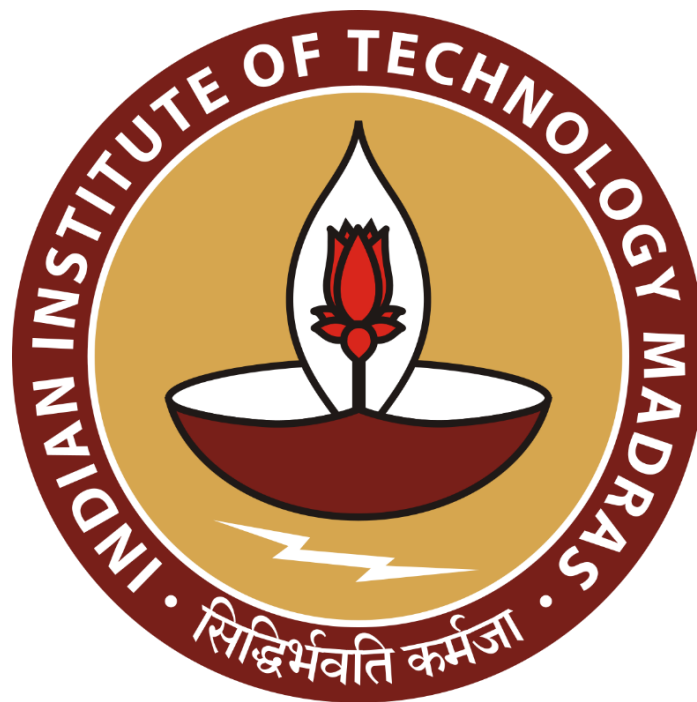# Evaluation of Inventory and Supply Management in a Retail Pharmacy

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project titled "Evaluation of Inventory and Supply Management in a Retail Pharmacy". I extend my appreciation to **Satish P.V**, 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.
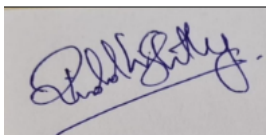
Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

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:

Name: Riddhi Shetty

Date: October 12, 2025

1 Executive Summary

This project is focused on studying the challenges faced by the business 'Bhagavan Medicals', a community pharmacy operating in Yelahanka New Town, Bangalore. The business model is a B2C capacity, their primary customer base are the walk-in customer and local residents in the community seeking to buy medicines. It also provides other products like cosmetics, chocolates etc.

The primary obstacles at 'Bhagavan Medicals' arise from financial loss of approximately 25% of revenue due to expiration of medicines. Presence of other pharmacies around and in the recent times due to the rise in online delivery of medicines, has led to a significant hit on the sales. The data is recorded manually in a notebook, which is a very laborious procedure, which sometimes leads to errors, and this leads to over-stocking or understocking of medicines.

To address these challenges at 'Bhagavan Medicals', the project will explore two types of data. Firstly, it will analyze past sales and purchase records of medicines, to get an idea about the fast-moving and slow-moving items, expiration dates of all products and the return ratios. Secondly, I will gather data concerning supplier-related data, include purchase terms, return policies and discount structures. Through a thorough analysis of this data, the study aims to develops a structured framework to minimize losses from expired stock.

2 Organization Background

Business Name: Bhagavan Medicals

Address: No. 2067, Near Kanti Sweets, Off Dairy Circle, 16th B Cross,

Yelahanka New Town-560106

Owner's Name: Mr. Satish P.V

Bhagavan Medicals is a retail pharmacy, privately owned by Mr Satish P.V, located in Yelahanka New Town, Bangalore. Established in 2011, to serve the surrounding community and walk-in customers, the store operates primarily as a Business-to-Consumer (B2C) organization. The shop offers wide range of pharmaceutical products, which include both prescription and over the counter medicines, along with cosmetics and few kinds of chocolates.

The business sales are recorded manually in a notebook, and no organized system is there to keep a check on inventory products or the weekly or monthly sales. In terms of competition, Bhagavan Medicals faces multiple competitors, one pharmacy being exactly opposite and two other pharmacies being within a distance of 500 meters. Also, with the recent rise in online delivery of medicines combined with inability of inventory control has led to losses from product expirations.

Figure 1: Outside the shop
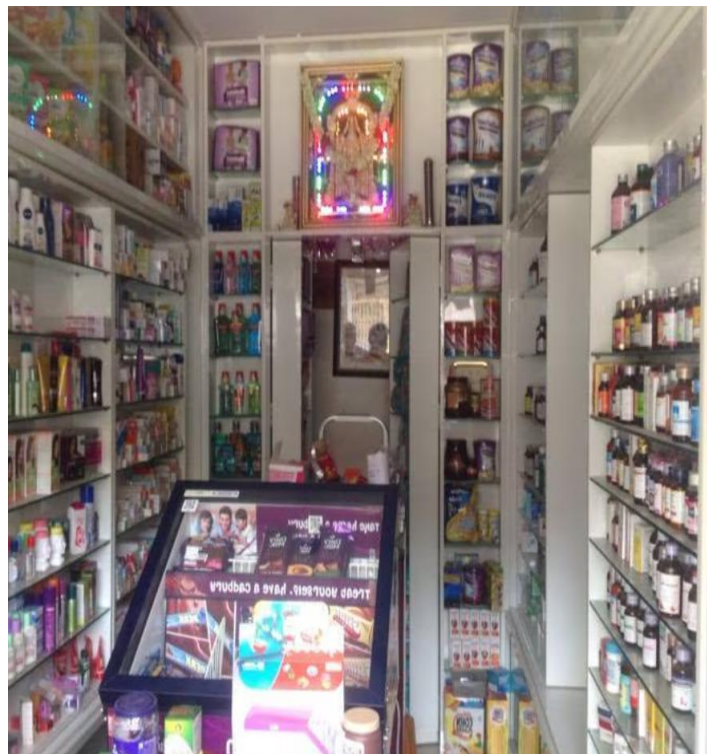
Figure 2: Inside the shop

3 Problem Statement

3.1 Bhagavan Medicals major setback is losses due to unsold products nearing expiration dates, which leads to losses up-to 25% of their revenue, which if returned to seller, leads to only 50% refund.

3.2 The pharmacy currently relies on manual, documentation and stock check, which is a cumbersome and time-consuming process. This leads to overstocking and understocking of medicines due to inability to analyze 3-6 months of unorganized data during procurement of unorganized data.

4 Background of the Problem

While having a conversation with the owner Mr. Satish P.V, I realized one of the major problems he is facing, is due unsold products nearing their expiration dates. The owner does a check of all the products every 2 months. After which he returns some of the products which get expired within 2-3 months to the seller, through which he gets only 50% refund of the price he paid and some of the fast-selling product which might expire in 2 months, he takes the risk and does not return. But if they remain unsold, this leads to loss. The owner shared that the expiring products leads to 25% of the losses in the shop.

Secondly, the owner tracks daily sales of the products manually in a notebook, therefore analyzing months of data, to understand the pattern of sales of products is a very tiresome process, which is not possible. Therefore, during procurement of products from the seller, leads to understocking or overstocking of products.

In summary, the problem stems from the lack of a management system, which would make the entire process of stock checks easier and give the owner insights on sales of the product.

5 Problem Solving Approach

5a. Details about the methods used with Justification:
Considering the nature of the problem, the method to solve it would be creating a digital management system, to replace the current manual tracking. This approach makes the tracking of data much more efficient, helps analyzing months of data simpler and more beneficial. The primary data collected would be the sales data, stock levels and expiry dates of all products for at least 3 months. Additionally, using the data, creating line charts and bar charts will help analyzing the product trends in a very efficient manner.

5b. Details about the intended data collection with Justification:
To get a deeper understanding about the problem, detailed data of daily products sold, quantities bought, quantities sold, expirations dates of all the products. This data will be beneficial to understand the financial analysis, the profit margin, the percentage of losses. This data will be help get an in-depth understanding of the business.

5c. Analysis Tools and Justification:
The tools used to organize and analyze the data is Google sheets/ Microsoft Excel, which uses pivot table, line charts, histograms and bar charts. These tools are used to organize and analyze the data. These tools will give us a detailed understanding about the trends in sales and product oration patterns.

6   Expected Timeline

6.1   Work Breakdown Structure:

- Data Collection: Collection of data starting from October end -November beginning, to get a data of approximately 2 or 3 months
- Data Cleaning and Processing: As the data is manual, time is needed to organize the data. This will happen during early to mid -November
- Proposal Preparation: Understanding the data during end of November
- Data Analysis: Analyzing the data and trends during beginning of December
- The aim is to successfully analyze and provide a useful system that is beneficial for the owner

6.2   Gantt chart

BDM CAPSTONE PROJECT				
Task	Start date	End date	Duration	Progress
Data Collection	31-10-25	10-11-25	10	0.00%
Organizing Data	11-11-25	17-11-25	6	0.00%
Preparing Proposal	12-11-25	17-11-25	5	0.00%
Analyzing Data	18-11-25	3-12-25	13	0.00%
Mid Term Proposal	14-11-25	17-11-25	3	0.00%
Final Term Proposal	12-12-25	15-12-25	3	0.00%
Presentation and Viva-Voice	13-12-25	18-12-25	5	0.00%

Figure 1: Table showing word breakdown structure

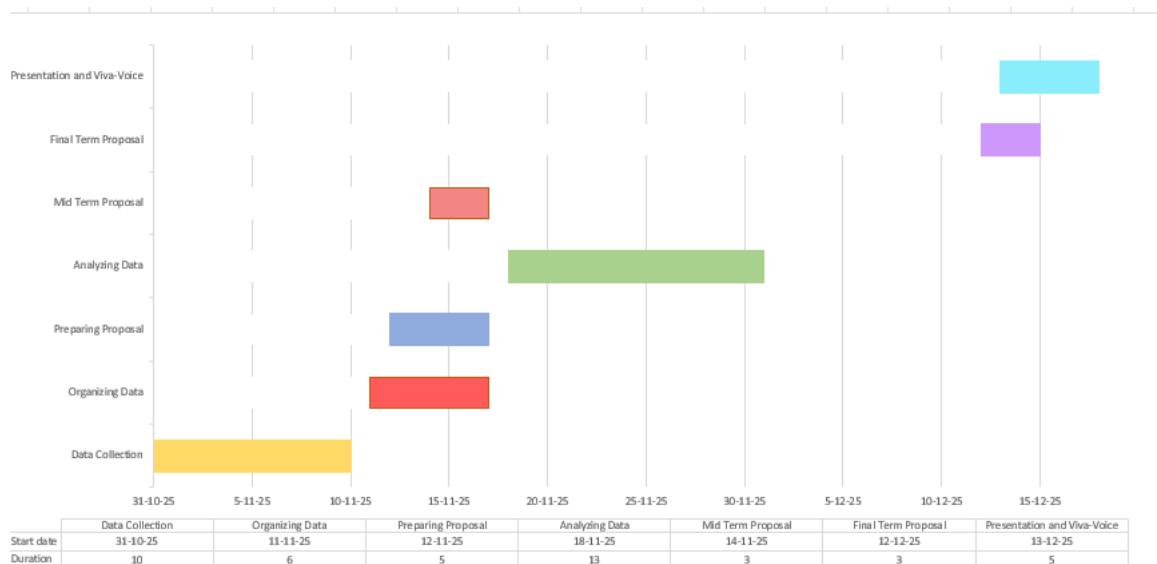|	Data Collection	Organizing Data	Preparing Proposal	Analyzing Data	Mid Term Proposal	Final Term Proposal	Presentation and Viva-Voice
Start date	31-10-25	11-11-25	12-11-25	18-11-25	14-11-25	12-12-25	13-12-25
Duration	10	6	5	13	3	3	5

Figure 2: Gantt chart showing work breakdown

7 Expected Outcome

- Development of a simple product inventory tracking system using Excel to replace manual tracking.
- An overview regarding the daily sales, profits, losses and product trends using charts and graphs in excel.
- Reducing losses from expiration products from 25 % to 18%, by giving alert signal if a product is nearing expiration date.
- Identifying trends in the sales and identifying some of the fast-moving items and slow-moving items.