

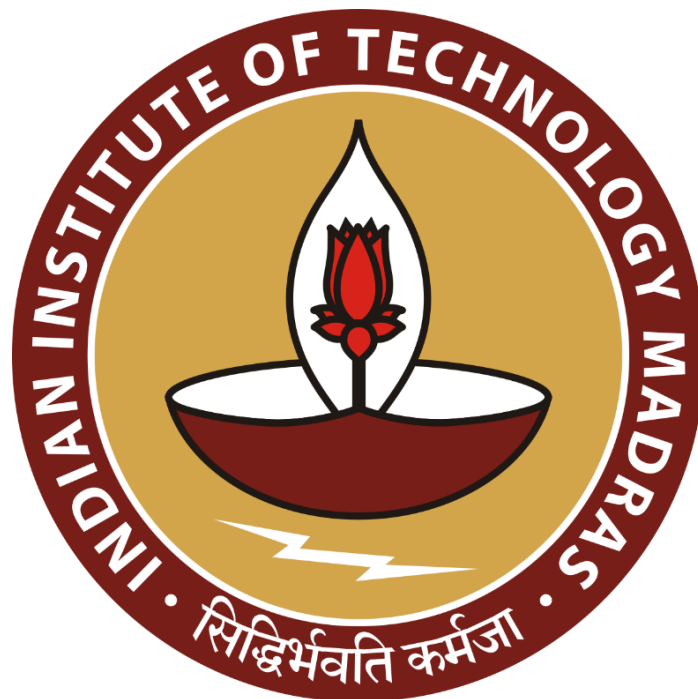
Enhancing B2C Pharmacy Performance through Data-Driven Solutions

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project Title “**Enhancing B2C Pharmacy Performance through Data-Driven Solutions**”. I extend my appreciation to **Atma Malik Medical Stores**, 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:

Name: Sujit Laware

Date: 13/06/2025

1 Executive Summary and Title

Project Title : “Enhancing B2C Pharmacy Performance through Data-Driven Solutions”

Atma Malik Medical Stores is a local pharmacy run by Atma Malik Dhyapeeth in the village of Kokamthan, about 7 kilometers from Shirdi in Maharashtra. Conveniently located near a national highway and close to a village hospital, the store plays an important role in providing medicines and healthcare products to nearby communities.

Despite its importance, the pharmacy faces a number of everyday challenges. Record-keeping is limited, and changes in customer demand especially during different seasons often lead to either overstocking or running out of essential items. This not only ties up money in unsold goods but also affects customer satisfaction.

This project looks to improve how the store manages its stock and makes day-to-day decisions. By applying simple methods like tracking which products sell the most, identifying patterns in customer purchases, and understanding which items tend to stay on shelves too long, the store can avoid waste and keep better control of inventory.

The goal is to make sure the right medicines are available when customers need them, avoid unnecessary spending, and run the store more smoothly. These small but meaningful changes can help Atma Malik Medical Stores serve its community more reliably and grow stronger over time.

2 Organization Background

Atma Malik Medical Stores is a rural pharmacy operating as a B2C business in Kokamthan village, located about 7 kilometers from Shirdi, Maharashtra. Established six years ago, it is owned and operated by Atma Malik Dhyapeeth, a private organization. The store was set up to address the essential healthcare needs of the local population. Strategically positioned near the national highway and adjacent to a hospital, it offers a diverse range of ayurvedic, allopathic, and general health products to serve both local residents and travelers.

Since it was established, the store has become a trusted source of medicine for residents of the village and surrounding areas. Managed by a small, dedicated team, the store emphasizes affordability, consistent stock availability, and friendly customer service. Over time, Atma Malik Medical Stores has grown into a dependable local health provider within the rural ecosystem of the Shirdi region.

3 Problem Statement

3.1 Inventory Loss Due to Expired Stock: Atma Malik Medical Stores frequently faces issues with unsold and expired medicines due to inconsistent stock tracking and over-purchasing. This leads to wastage and ties up working capital that could be better utilized elsewhere.

3.2 Demand Mismatch During Peak Periods: The store struggles to handle sudden spikes in demand from travelers and seasonal visitors, especially due to its proximity to Shirdi. This results in stockouts during crucial periods, affecting both revenue and customer satisfaction.

3.3 Misalignment with Local Consumption Patterns: The pharmacy lacks a clear understanding of which products are regularly needed by villagers and nearby residents. As a result, essential items are sometimes unavailable, while less-needed stock remains idle on shelves.

4 Background of the Problem

Atma Malik Medical Stores faces several interconnected operational challenges that affect its inventory efficiency, customer satisfaction, and overall business sustainability.

Inventory Loss Due to Expired Stock: A significant portion of inventory remains unsold and eventually expires due to inconsistent stock rotation and lack of systematic record-keeping. This issue arises primarily from overstocking across multiple medicine categories without a proper analysis of demand trends. Key factors include absence of digital inventory systems, manual tracking errors, and limited forecasting capabilities.

Demand Mismatch During Peak Periods: The store's location near a national highway and pilgrimage destination results in unpredictable surges in customer demand, especially during festival seasons or weekends. Without demand prediction mechanisms, the pharmacy often faces stockouts or is unable to fulfill urgent needs. The key external factors include traveler footfall, healthcare emergencies, and seasonal illnesses.

Misalignment with Local Health Needs: The pharmacy struggles to match its product offerings with the actual needs of rural households and nearby hospital prescriptions. This problem arises from limited interaction with customers regarding recurring needs and insufficient data on local consumption patterns. The lack of tailored stocking strategies results in missed sales and reduced trust.

5 Problem Solving Approach

To address the key operational challenges at Atma Malik Medical Stores, a structured, data-driven problem-solving approach will be applied. The goal is to improve inventory management, align stock with customer needs, and enhance overall efficiency ultimately increasing profitability and customer trust in the rural healthcare ecosystem.

Diagnostic Assessment and Data Collection

The first step involves understanding the store's current stock movement, purchase history, and sales patterns. This includes collecting existing handwritten records, if any, and supplementing them with new logs for a sample period. Key data points such as product expiry, seasonal sales, and frequent customer demands will be tracked manually or via simple spreadsheet tools. This foundational dataset will help identify inefficiencies in the current inventory cycle.

ABC and Pareto Analysis

Once the data is compiled, ABC analysis will be conducted to classify inventory based on value and sales frequency categorizing them as fast, moderate, or slow-moving. Complementing this, Pareto charts (80/20 analysis) will help determine which 20% of products account for 80% of sales. These insights will guide the store in prioritizing essential stock and reducing waste from low-demand items.

Demand Forecasting and Seasonal Trend Mapping

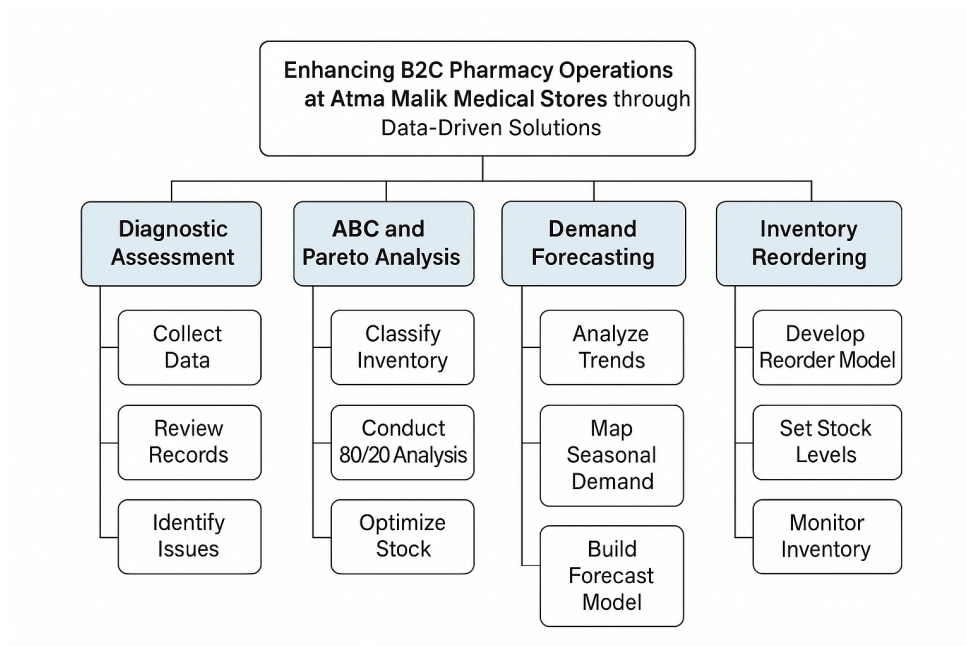
By analyzing previous trends and talking with the owner about seasonal fluctuations (e.g., pilgrim traffic around Shirdi), simple demand forecasting models will be built using Excel. This helps predict peak times and adjust purchasing cycles accordingly. Visual timelines will also be developed to map product sales patterns across months and correlate them with local events and travel seasons.

Inventory Reordering Strategy

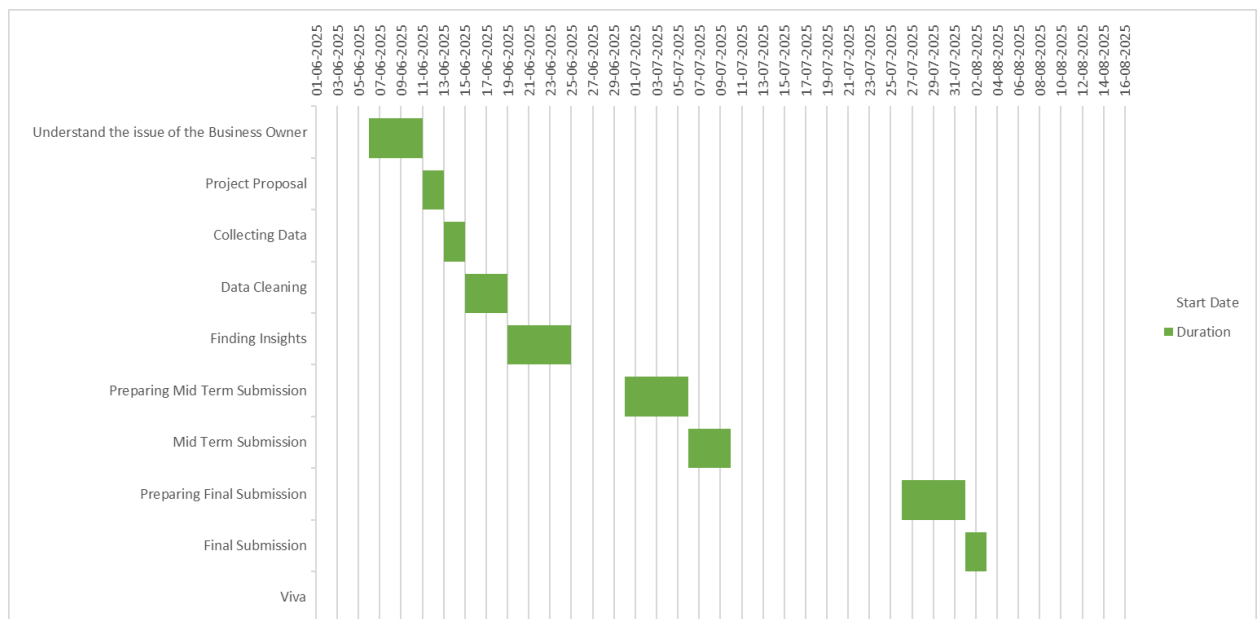
A basic inventory reorder model will be introduced suggesting when and how much to restock based on lead time, demand estimates, and product shelf life. This minimizes both overstocking and stockouts. A color-coded tracker may be designed for easy implementation by the store operator, even without technical background.

6 Expected Timeline

6.1 Work Breakdown Structure:



6.2 Gantt chart



6.3 Expected Timeline

Sr No.	Task	Start Date	End Date	Duration
1	Understand the issue of the Business Owner	06-06-2025	11-06-2025	5
2	Project Proposal	11-06-2025	13-06-2025	2
3	Collecting Data	13-06-2025	15-06-2025	2
4	Data Cleaning	15-06-2025	19-06-2025	4
5	Finding Insights	19-06-2025	25-06-2025	6
6	Preparing Mid Term Submission	30-06-2025	06-07-2025	6
7	Mid Term Submission	06-07-2025	10-07-2025	4
8	Preparing Final Submission	26-07-2025	01-08-2025	6
9	Final Submission	01-08-2025	03-08-2025	2
10	Viva	21-08-2025	22-08-2025	1

7. Expected Outcome

7.1 Better Inventory Planning

The project will enable Atma Malik Medical Stores to adopt data-driven inventory management practices. By analyzing sales patterns and implementing ABC categorization and demand clustering, the store can identify which products are fast- and slow-moving. This insight will help maintain optimal stock levels, reduce dead stock, and plan inventory purchases more strategically especially during peak seasons or local events.

7.2 Improved Working Capital Utilization

With better demand forecasting and product movement tracking, the store can significantly reduce instances of overstocking and stockouts. This will result in better use of working capital, as funds will be invested in products that are in demand, thereby minimizing losses from unsold inventory and improving inventory turnover.

7.3 Enhanced Customer Satisfaction

Ensuring that essential medicines are consistently available particularly for recurring or emergency needs will boost customer trust and satisfaction. Insights gained from seasonal trends and local customer behavior can also help tailor offerings to specific community needs, including travelers or event-based demand.

7.4 Strengthened Financial Performance

The combined effect of efficient inventory planning, better demand forecasting, and improved customer service will lead to increased profitability. Reduced wastage, fewer missed sales opportunities, and smarter purchasing decisions will help the store achieve financial stability and sustainable business growth.