Strengthening Inventory Resilience: By enhancing Supplier Dynamics and Sales Volatility in Pharmacy Retail

A Proposal report for the BDM capstone Project

Submitted by

Name: Sivakumar P

Roll number: 21f3001256

IITM Online BS Degree Program,

Indian Institute of Technology, Madras, Chennai

Tamil Nadu, India, 600036

Contents

Declaration Statement

I am working on a Project Title “Strengthening Inventory Resilience: By enhancing Supplier Dynamics, Sales Volatility, and Inventory Efficiency”. I extend my appreciation to Shree Chendur Medical Centre, 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.

SIVAKUMAR P

Signature of Candidate

Name: Sivakumar P

Date: 02/02/2024

1 Executive Summary and Title

Strengthening Inventory Resilience: By enhancing Supplier Dynamics and Sales Volatility in Pharmacy Retail

Shree Chendur Medical Centre situated at No. 39, Raghavendra Puram Main Road, Srirangam, Tiruchirappalli, operates as a local B2C healthcare provider specializing in retail medicines. It serves the community with a focus on timely access to prescription drugs, over-the-counter products, and personalized customer service, aiming to bridge healthcare gaps in the neighborhood.

The pharmacy faces operational challenges due to inconsistent inventory management. Frequent stockouts of popular medicines result in lost sales and customer dissatisfaction, while overstocking of less-demanded products ties up financial resources. These inefficiencies strain cash flow, increase storage costs, and hinder overall profitability.

To resolve these issues, the project will leverage analytical methods to optimize inventory processes. By analyzing historical sales trends, the business can better forecast demand and adjust procurement strategies. Implementing systematic inventory categorization, ensuring critical products remain available without over-investing in slow-moving items. This approach aims to minimize capital blockage, reduce operational costs, and enhance customer satisfaction by aligning inventory with actual demand. Ultimately, streamlining these processes will improve cash flow, boost profitability, and support sustainable growth for the pharmacy.

2 Organization Background

Shree Chendur Medical Center, rebranded in 2022 from Sri Hari Medicals, is a trusted retail pharmacy and healthcare clinic located in Srirangam, Tiruchirappalli. Owned and operated by pharmacist Prasanna Venkatesan, the center operates with a dedicated team including Dr. Meena (diabetologist and general physician) and a nurse, delivering personalized care for diabetes management, general health needs, and prescription services.

Specializing in B2C healthcare, the clinic provides prescription fulfillment, over-the-counter medications, chronic disease counseling, and routine check-ups. Renowned for its patient-first ethos, the team collaborates seamlessly—from diagnosis by Dr. Meena to medication guidance by Prasanna—ensuring holistic care tailored to Srirangam's residents.

3 Problem Statement

3.1 The pharmacy experiences frequent stockouts of key products because of inadequate inventory planning.

3.2 The pharmacy depends excessively on a limited number of suppliers, increasing risk of supply chain disruptions.

3.3 The pharmacy lacks clear insights into the profitability of individual products, hindering informed decision-making.

4 Background of the Problem

One of the significant issues is the pharmacy's heavy reliance on a limited number of suppliers, increasing vulnerability to supply chain disruptions. Any logistical or production issues at the supplier end can severely affect product availability. Internal factors such as rigid contractual agreements and lack of diversification strategies limit flexibility in sourcing alternatives.

External factors like supplier capacity constraints and broader economic conditions also play a role, highlighting the need for a more diversified supplier base to ensure a reliable flow of inventory.

Additionally, the pharmacy struggles with gaining clear insights into the profitability of individual products, complicating informed decision-making. Fragmented data systems and poor data quality hinder effective analysis of sales and purchase data. The absence of sophisticated analytics tools means missed opportunities for optimizing procurement and marketing strategies.

Addressing these internal issues through improved data integration and analytical capabilities could significantly enhance operational efficiency and financial health, ensuring better alignment with customer needs and market demands.

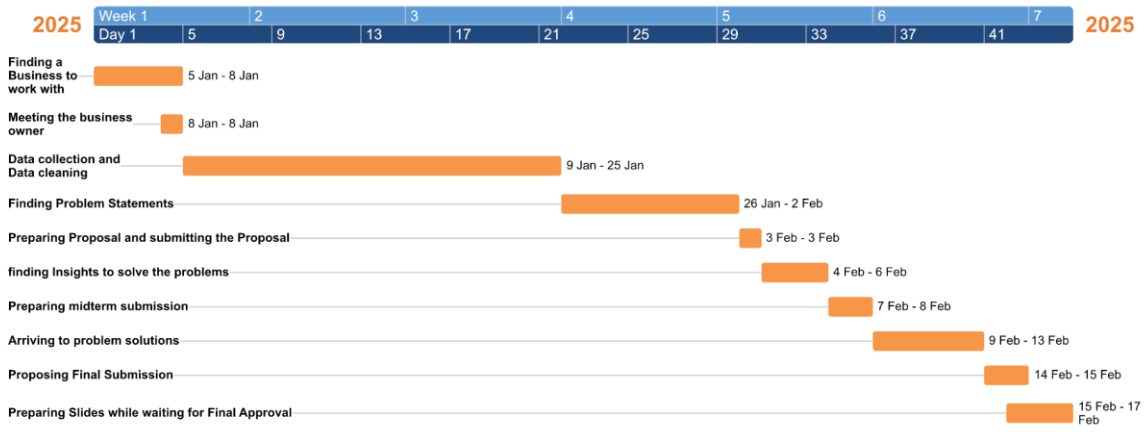
5 Problem Solving Approach

To tackle the challenges associated with inefficient purchasing decisions and inventory management, a comprehensive and structured approach will be implemented. This strategy aims to streamline operations, enhance profitability, and ensure consistent product availability.

The initial phase of this approach involves a thorough analysis of sales and cost data. By scrutinizing this data, we aim to gain valuable insights into the performance and profitability of each product. This analysis will reveal trends and patterns in inventory movement, helping us understand which products are in high demand and which ones are underperforming. Furthermore, it will shed light on financial outcomes, allowing us to make informed decisions about which products contribute most significantly to our revenue and margins. Understanding these dynamics is crucial for optimizing inventory levels and ensuring that capital is not tied up in slow-moving stock.

Following the data analysis, the next step will focus on evaluating supplier relationships and dependencies. This evaluation is essential for assessing potential risks within the supply chain and identifying opportunities to optimize procurement strategies. By understanding supplier performance metrics such as reliability, delivery times, and quality of goods, we can mitigate risks associated with over-reliance on a limited number of suppliers. Diversifying our supplier base and forming strategic partnerships will help secure a consistent and reliable supply of high-demand products, thereby reducing the likelihood of stockouts and enhancing overall supply chain resilience.

6 Expected Timeline



7 Expected Outcome

The analysis is expected to indicate that a more robust inventory management system can lead to significantly improved operational efficiency. It is anticipated that by closely examining product performance data, opportunities will emerge to better balance stock levels, thereby reducing the frequency of stockouts and ensuring products are available when needed. Evaluating supplier relationships is also likely to reveal the benefits of broadening the supplier base, which could help minimize vulnerabilities associated with relying on a limited number of sources. The integration of advanced analytics is projected to provide clearer insights into profitability trends, potentially guiding more strategic purchasing decisions. These expected outcomes suggest that adopting a data-driven approach to both inventory control and procurement could result in a more agile response to market demands and economic fluctuations. Ultimately, the proposed measures are believed to set the stage for enhanced supply chain resilience, improved product availability, and a stronger overall financial performance for the pharmacy.