

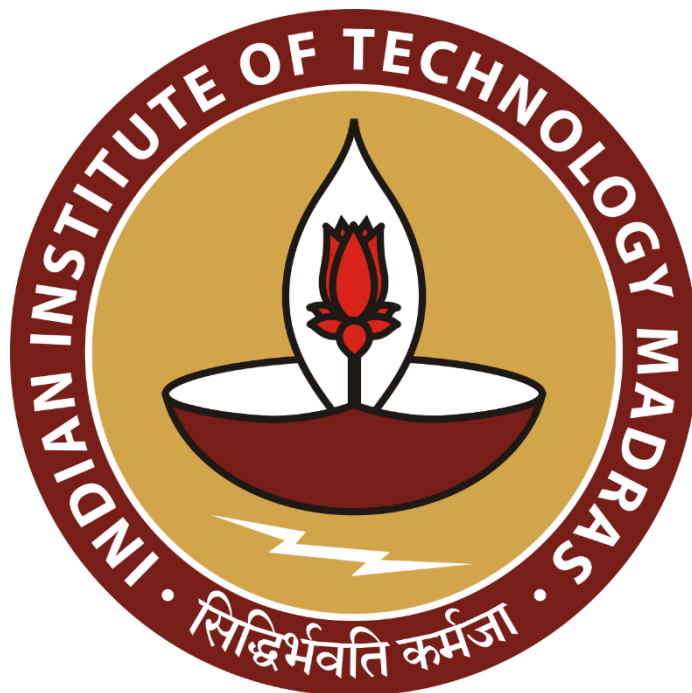
Unlocking Growth Potential: A Data-Driven Strategy for Inventory Optimization

A Proposal report for the BDM capstone Project

Submitted by

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Declaration Statement

I am working on a Project titled “ Unlocking Growth Potential: A Data-Driven Strategy for Inventory Optimization”. I extend my appreciation to Sonu Monu Medical Store , for providing the necessary resources that enabled me to conduct my project.

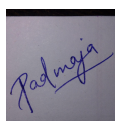
I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered from primary sources and carefully analyzed to assure its reliability.

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: **(Digital Signature)**

Name: Padmaja Sharma Date: 8/12/2023

1 Executive Summary and Title

- About the Organization

Sonu Monu Medical Store, in Jhunjhunu, Rajasthan, is a trusted healthcare provider delivering exceptional pharmaceuticals, established as a pivotal player in the B2C market segment with a commitment to excellence.

- About the Problem

In the pursuit of sustained excellence, Sonu Monu Medical Store faces a critical challenge – profitability impacted by a conundrum rooted in inventory mismanagement. This manifests as a delicate balance between overstocking and understocking, resulting in nominal profits. The intricate challenges encompass discrepancies in demand and supply, seasonal fluctuations, and supplier performance issues collectively impeding financial ascent.

- Possible Approach and Solution

The proposed solution involves a meticulous data analysis initiative aimed at unraveling the complexities within Sonu Monu Medical Store's inventory landscape. Leveraging advanced analytical approaches, including trend analysis, demand forecasting, and supplier performance evaluation, actionable insights are intended to be extracted. This strategic intervention aims to optimize inventory management, aligning stock levels with actual demand, and reducing the financial blockage associated with excess inventory.

The expected outcome is a streamlined inventory system that not only enhances operational efficiency but unlocks untapped profitability. This tailored approach paves the way for accelerated growth for Sonu Monu Medical Store in Jhunjhunu, Rajasthan, positioning it for sustained success in the dynamic healthcare landscape.

2 Organization Background

Established in 2001, Sonu Monu Medical & General Store has been a pillar of healthcare provision, operating as an individual proprietorship. This trusted establishment delivers a diverse array of pharmaceutical medicines, including tablets and vaccines such as Hepatitis B, alongside adhesive bandages, cosmetics, rapid test kits, and comprehensive treatment services. With a commitment to effective and timely delivery, the store has become a go-to destination for healthcare needs. Specializing in prophylactic and therapeutic treatments, as well as surgical dressing services, Sonu Monu Medical & General Store caters to the holistic well-being of its community. The year 2001 marks not just its establishment but the beginning of a journey dedicated to providing high-quality healthcare products and services, making it an integral part of the local healthcare landscape.

3 Problem Statement

1. Supply Chain Disruptions:

The current supply chain system experiences frequent disruptions, affecting product availability and timely delivery. Sales data analysis is essential to identify patterns and root causes of these disruptions, enabling the implementation of data-driven strategies to optimize inventory, enhance supplier relationships, and ensure a reliable and efficient supply chain.

2. Customer Satisfaction and Retention:

There is a noticeable decline in customer satisfaction levels, leading to challenges in retaining loyal customers. Analyzing sales data provides insights into customer behavior, preferences, and feedback. Utilizing this data, the challenge can be addressed by implementing personalized marketing initiatives, tailored promotions, and improvements in overall customer experience to boost satisfaction and foster long-term customer loyalty.

4 Background of the Problem

The major causes of supply chain disruptions are deeply rooted in inadequate forecasting methodologies and inventory mismanagement. Real-time visibility gaps in the supply chain amplify these disruptions, as does the variability in supplier performance, introducing unpredictability to product availability. Internally, organizational inefficiencies in demand forecasting, inventory management, and supplier collaboration contribute significantly to the supply chain challenges. The absence of robust data analytics tools further hampers the organization's ability to proactively address these issues.

For declining customer satisfaction, internal factors include suboptimal customer engagement strategies, limited personalization in marketing initiatives, and insufficient understanding of individual customer preferences. These factors result in missed opportunities to foster lasting relationships and build brand loyalty. External challenges such as market trends, economic fluctuations, and unforeseen events like natural disasters or global crises impact the supply chain's resilience. Customer satisfaction is also influenced by external factors like changing consumer preferences and competitive market dynamics.

Understanding the intricate interplay of these internal and external elements is crucial for developing effective solutions. The research endeavors to unravel these complexities, offering insights that will guide strategic interventions for an optimized supply chain and enhanced customer satisfaction.

5 Problem Solving Approach

In navigating the challenges posed by supply chain disruptions and dwindling customer satisfaction, my approach is grounded in practical, data-driven strategies aimed at optimizing operations and fostering sustainable growth.

1. **Informed Inventory Management:** The foundation of my strategy lies in data-driven demand forecasting. By delving into historical sales data and closely monitoring market trends, I intend to gain a nuanced understanding of product demands. The primary goal is to make informed decisions in inventory management, ensuring optimal stock levels and mitigating issues such as stockouts or overstocking. This approach centers on maximizing the use of existing data to fine-tune stock levels and enhance overall inventory efficiency.

2. **Strengthened Supplier Relationships:** The focal point of this aspect is a straightforward analysis of supplier performance. By assessing reliability, delivery times, and product quality, coupled with regular and transparent communication, I aim to cultivate robust relationships with suppliers. This collaborative effort seeks to minimize disruptions within the supply chain, fostering a more resilient and responsive network without relying on intricate technological solutions.

3. **Personalized Customer Engagement:** Leveraging the available sales data, my strategy involves segmenting customers based on their distinct purchase patterns and preferences. This segmentation will inform personalized marketing initiatives tailored to individual customer profiles. Crucially, the execution of these initiatives will be carried out through traditional communication channels, sidestepping the need for advanced technology while still enhancing customer engagement.

4. **Continuous Feedback Integration:** A key element in ensuring sustained improvement is the establishment of effective feedback mechanisms. This will be achieved through traditional means such as surveys and direct communication with customers. Integrating this feedback with sales data allows for a comprehensive understanding of customer preferences and areas for improvement. The iterative feedback loop formed will facilitate ongoing adjustments, contributing to heightened customer satisfaction without the reliance on specialized applications.

5. **Operational Efficiency without Tech Overhaul:** In enhancing overall operational efficiency, my approach involves the judicious use of basic technological tools. Utilizing platforms such as Excel for data analysis and adopting simple communication tools will streamline operations without the need for extensive technological overhauls. This pragmatic approach emphasizes leveraging accessible technology for incremental improvements in efficiency.

6 Expected Timeline

6.1 Work Breakdown Structure:

1. Initiate Project (Oct): Stakeholder meeting to discuss goals, operations, and products.
2. Data Collection (Oct-Nov): Collect data for October and November by Nov 15, 2022.
3. Data Processing: Convert unstructured data upon reception.
4. Nov Data Entry (Deadline: Dec 5): Enter November data by Dec 5, 2022.
5. Initiate Analysis (Post Entry): Start analysis after data entry, aiming to finish by Dec 12, 2022.
6. Complete Final Report (Target: Dec 16): Target final report completion by Dec 16, 2022, integrating analysis insights.

Gantt chart

PROJECT TITLE : Unlocking Growth Potential: A Data

PROJECT MANAGER : Padmaja Sharma



Figure 1 Expected timeline for completion of project.

7 Expected Outcome

The project's anticipated result is a radical improvement in Sonu Monu Medical Store's operational effectiveness and customer happiness. The initiative seeks to accomplish a number of important goals by means of careful data analysis and calculated modifications. First, it is expected that improved inventory planning will come from the application of data-driven demand forecasts and optimal inventory management. This will give information on how popular things are and assist in keeping stock levels at ideal levels, avoiding stockouts and overstocking. Second, the analysis will pinpoint products with a high return rate and clarify the primary causes of product returns. With this knowledge, targeted interventions to reduce returns, increase the quality of the products, and raise customer happiness will be possible. Last but not least, the initiative seeks to offer a thorough understanding of consumer preferences and purchasing trends, supporting the democratic distribution of personalized services. The medical store can customize marketing tactics, promotions, and product offerings to cater to the varied needs of its clientele by segmenting its consumer base according to their interests.