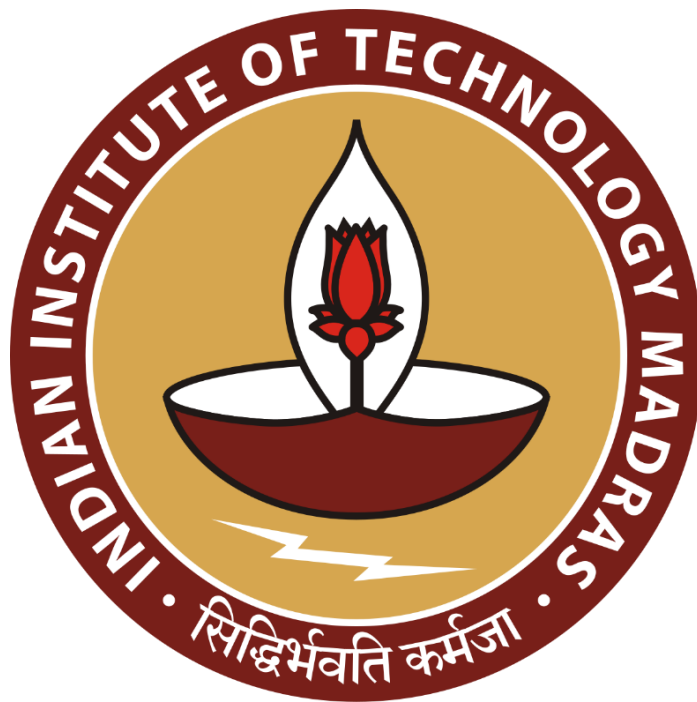


Optimizing Inventory and Pricing Strategies for Shree Balaji Mobile Care: A Data-Driven Approach

A Proposal report for the BDM capstone Project

Submitted by

Name: Manish Jat
Roll No: 23f3004152



IITM Online BS Degree Program,
Indian Institute of Technology, Madras, Chennai
Tamil Nadu, India, 600036

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Declaration Statement

I am working on a Project titled **“Optimizing Inventory and Pricing Strategies for Shree Balaji Mobile Care: A Data-Driven Approach”**. I extend my appreciation to **“Shree Balaji Mobile Care”**, 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.

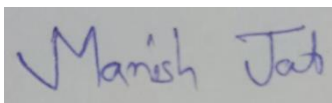
Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

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: Manish Jat

Date: May 12, 2025

1 Executive Summary

The project is focused on studying and providing recommendations for the challenges faced by the business Shree Balaji Mobile Care, a retail shop located in Gandhi Market, Asind, Bhilwara (Rajasthan– 311301). The business primarily operates on a B2C model dealing in smartphones and its accessories, which are imported from various wholesale sellers. It serves a large number of local customers.

The major challenges faced by Shree Balaji Mobile Care are poor inventory and stock replenishment management, and changing prices due to customer bargaining, which reduces profits and make harder to keep track of finances. some of the unsold goods, which are not sold to customers but were already purchased by the owner, while high-demand products frequently go out of stock, causing loss in business.

To tackle these challenges at 'Shree Balaji Mobile Care', I plan to analyse daily sales data to get an idea about sales trend of week. Mine goal is to develop a systematic approach to sell the old unsold items from shop. Secondly for pricing, I proposed a coupon based fixed percent discount that allows customers to bargain within a limit, minimum profitability and more consistent prices.

2 Organisation Background

Business Name: Shree Balaji Mobile Care
Owner's Name: Mr. Sampat Lal Kumawat
Address: Gandhi Market, Asind – 311301, Rajasthan
Business Sector: Retail

Shree Balaji Mobile Care is started on 16th June 2014, is a retail shop selling mobile phones and its accessories. shop also provides repair and maintenance service for all the items they sell, ensuring a complete and satisfactory customer service experience. Over time, the shop has built a strong reputation for offering high quality mobiles and reliable after sale services

Mr. Kumawat has a diploma in Electronics and Communications and had three years of work experience as an ECE Engineer at Kanchan India Limited before starting the shop.

3 Problem Statement

3.1 Poor Inventory and Stock Replenishment Management

Shop is facing problem with exclusive or outdated items often remains unsold, while high demand items go out of stock shortly, resulting to reduce revenue and customer dissatisfaction due to unavailability.

3.2 Irregular Pricing Due to Local Bargaining

The price of items sold are not at the same price due informal bargaining by customers. This leads to changing profit levels and make it hard in maintaining stable revenue. .

4 Background of the Problem

Shree Balaji Mobile Care is a popular mobile and it's accessories shop in Asind with loyal customers, but it faces some critical issues. Problems in managing stocks and setting fair prices due to customers' irregular bargaining pricing affects profit margins and makes it hard to manage their financial data. These challenges come from how the business is currently being operated

One of the major problems is poor inventory management. The inability to move outdated items hasn't only occupies the space but it also ties capital, which may leads owner capacity to introduce new product. Mr. Kumawat manages customer data using pen-paper, which makes it hard to track and analyse information properly. This reflects lack of proper data management.

Another issue is informal bargaining most of customers negotiate at lower prices than asked prices which results avariable price for same items. This directly affect shop's profit margins and makes it difficult to maintain financial records of sales.

These internal and external market pressures and informal negotiations are stopping shree balaji mobile care from achieving a steady growth in the highly competitive market of mobile phones

5 Problem Solving Approach

5.1 Details about the methods used with Justification:

Because of the nature of issues faced by Shop, a detailed examination of inventory, pricing, and data management will be conducted both quantitatively and qualitatively to gain insight into the issues and implement responsible remediation

- **Quantitative Methods:**

Inventory Turnover Assessment: The data to be collected will identify product

wise purchases and sales to indicate which products are slow moving and tying up capital. This will be beneficial for product range management and take the risk of over-purchasing low demand products.

Price Variation Assessment: The assessment of sales data will include review of prices through informal negotiations to determine the extent of price variation and sales impact on margins.

Sales patterns: Sales related time series data can help analyze demand trends and seasonal patterns to observe demand trends and seasonality for future stock planning as well as indicator that fast moving items will always be in stock.

- **Qualitative Methods:**

Owner Interview: Informal talks with Mr. Kumawat will give perspective of his business practices, challenges with inventory and pricing, his views on customer behavior and negotiation practices.

5.2 Details about the intended data collection with Justification:

- **Product Transaction Records:** Data will be collected on cost price, selling price, amount purchased, and amount sold for each product.
- **Customer Records of Sale:** Information regarding product purchases and discount amount given will provide a record of price inconsistencies.
- **Inventory Records:** Current status of each product including unsold stock and old stock to notify about clearance decisions and find room for new products coming into stock.
- **Justification:** Although the focus will be limited to top-selling and outdated products, this will still offer valuable insights. For example, monitoring the variance of prices and purchase information on customers is useful to establish a relatively consistent price plan.

5.3 Analysis Tools and Justification:

- **Excel and Google Sheets:** For organizing, cleaning, and processing basic sales and inventory data. This is relatively easy to use, performs calculations, and chart/graph functions to illustrate patterns from data.
- **Python with Pandas and Matplotlib/Seaborn:** For analyzing deeper parameters such as trends, correlation between amount of discount, visual correlation of sales over certain seasons.
- **Justification:** Excel is an easy program to use at the initial stage of data processing, however, Python offers more advanced analysis and quality visual insights into the information for data-driven decisions.

6 Expected Timeline

6.1 Work Breakdown Structure:

- Conversation with Business: Held initial discussion from Feb 25 to Feb 28.
- Data Collection: Collected sales, pricing, and inventory data from Mar 1 to Apr 20.
- Data Cleaning and Processing: Cleaned and organized data from Apr 21 to May 3.
- Proposal Preparation: Prepared and finalized proposal from May 4 to May 10.
- Data Analysis: Conducted analysis from May 14 to May 30 using Excel and Python.
- Mid-Term Report Preparation: Prepared mid-term report from Jun 1 to Jun 5.
- Final Insights and Report: Worked on insight and recommendations from Jun 8 to Jul 15.
- Final Submission: Scheduled for Jul 1 to Jul 3.

6.2 Gantt chart

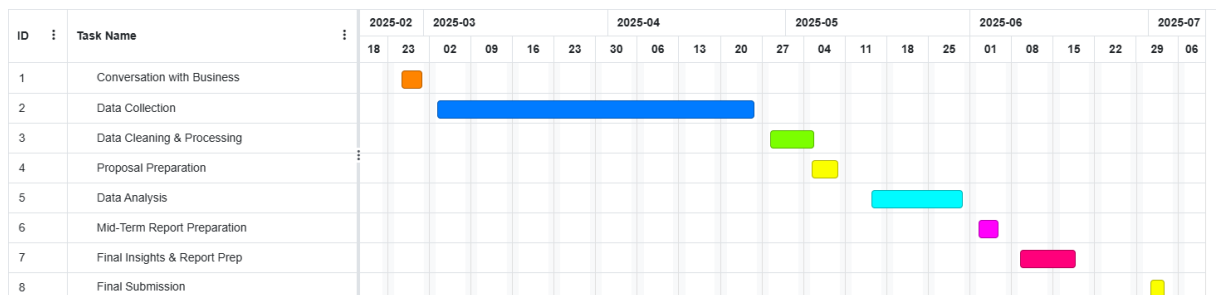


Figure 1 Expected timeline for completion of project.

7 Expected Outcome

- Examine sales and inventory reports to identify slow-selling items and items often out-of-stock in order to improve stock planning or better plan replenishment in a timely manner.
- Design a strategic stock management approach that keeps high-demand items in stock and minimizes the holding of unsellable stock.
- Standardize pricing strategies by looking at how informal negotiation affects profit margins.
- Establish guidelines for consistent pricing so that revenue remains stable while ensuring customers feel secure in their pricing expectations.
- Use data analysis to make better inventory and pricing decisions, which will help to improve customer satisfaction and business profitability.