

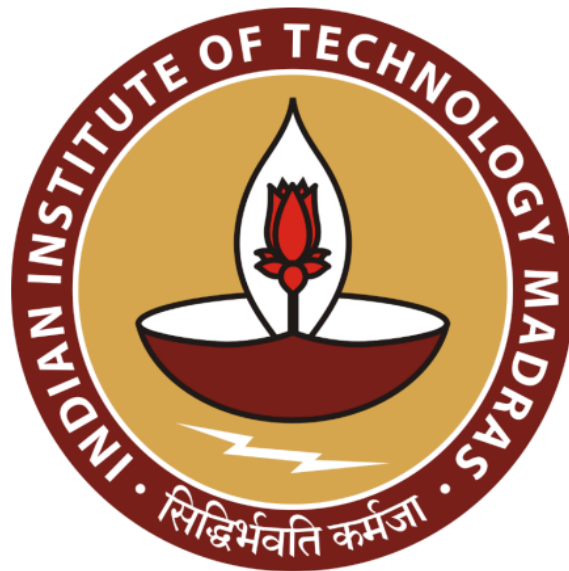
Sustaining a Small Kirana Store: Tackling Inventory and Profit Challenges

A Proposal Report for the BDM Capstone Project

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Declaration Statement

I am working on a Project titled “Sustaining a Small Kirana Store: Tackling Inventory and Profit Challenges”. I extend my appreciation to Kochuparambil 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 ensure 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.

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Date: 03-10-2024

1. EXECUTIVE SUMMARY AND TITLE

This Capstone project titled, 'Sustaining a small Kirana store: Tackling inventory and profit challenges' aims to mitigate various business problems in a small Kirana store using data analyzing techniques. The project focuses on a small Kirana store named Kochuparambil stores, located in Kottayam, Kerala. The business is in the B2C(Business-to-Consumer) sector, focusing on the unorganized retail segment.

The organization faces challenges such as fluctuating demand, increased competition, and low profit margins. The main objective of this project is to improve the management of goods and inventory, observe customer requirements, and improve overall profitability.

As of now, 2 weeks' worth of data has been collected, and the process will be continued till meaningful insights can be drawn from it. Transforming unstructured data to a structured form and then cleansing the data will be the first step to start the analysis.

The problems will be approached by analyzing the data using different techniques such as grouping the data into categories and identifying any outliers using data visualization tools. Additionally, using various statistical methods can be beneficial in identifying the relation between different categories or finding the trend in sales within the data scope.

The expected outcome is to help the organization reduce expenses, enhance profitability, and manage inventory more efficiently.

2. ORGANIZATION BACKGROUND

Kochuparambil stores is a small Kirana store that mainly sells daily use provisions. The store was established in 2010 and is managed by Mrs. Shaila Ansari. It is located adjacent to her house and the building is owned by her husband, Mr. Ansari. Initially, she had to invest a total of 2 Lakh in the business to cover essential expenses such as a fridge and shelves for storing the items. Most of the customers are from the same neighborhood and are acquainted with her. Currently, the owner restocks all the sold-out items every two weeks from a wholesale store and purchases short-shelf-life products like milk, curd, bread, batter, and chapati directly from the brand's delivery vehicles almost every morning.

3. PROBLEM STATEMENT

The main problems faced by the owner are:

- 3.1 Fluctuating demand for items - inconsistency in customers' requirements leading to uncertainty in inventory management
- 3.2 Low profit margin after sales – less profit for each product as they buy items in limited quantity from the wholesale store
- 3.3 Increased competition in the same neighborhood- the shop had been running successfully until several other shops opened in the same neighborhood and in addition to that there is a reasonably good supermarket nearby

4. BACKGROUND OF THE PROBLEM

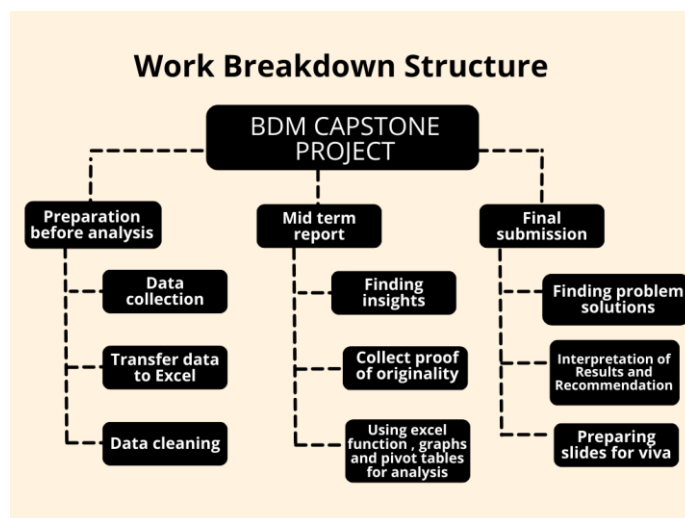
Most of the customers coming to the store are in the same neighborhood. Even though they are acquainted with the owner, lack of customer loyalty has led to fluctuating product demand. Most of the people in the neighborhood prefer going to supermarkets that are farther from their houses than this store due to the variety of branded products available. The rising trend of online shopping and home delivery from bigger supermarkets has reduced their sales, and customers mainly rely on this Kirana shop only during public holidays. Stock shortages have been a common problem that arose due to the fluctuating demands among customers and lack of capital. Due to high liabilities, the owner is unable to invest in improving her business to stand out among competitors. The owner cannot afford to give discounts for any products, unlike other supermarkets due to low profit margin. Due to a lack of accounting of the daily sales data and profits, the owner is unaware of the loss in the store. About 6 customers buy items from the shop on credit and only pay by the end of the month, this has also contributed to a lack of capital for the owner to restock the items in her shop on time.

5. PROBLEM-SOLVING APPROACH

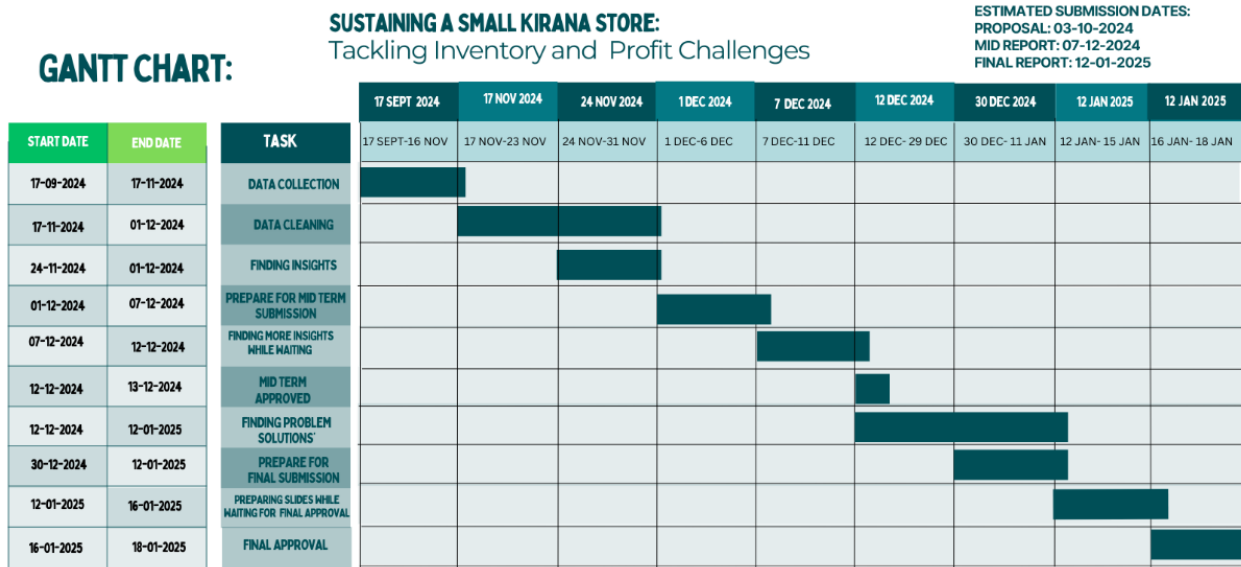
The initial step in solving the problems will be to collect the required sales and purchase data from the store. The store has an unstructured form of storing sales data, the information for sales data and previous bills for purchase data will be personally collected from the owner. After collecting the sales and purchase data, transferring them to Excel in a structured format is essential to ensure efficient data analysis. After data collection, a general analysis of the store's sales and purchase data, total revenue, and expenditure will be done. The primary approach involves using Excel tools like pivot tables, excel functions, and various graphs to visualize data to gain insights. The data can be analyzed by grouping them into categories like customers, and products, and the aim is to identify any outliers using data visualization tools like Excel or Power BI. Additionally, various statistical methods like average, mode, and standard deviation can be beneficial in identifying the relation between different categories or finding the trend in sales within the data scope. Furthermore, the pattern in customers purchase from the shop can be used to understand the customer needs and the fast, medium, and slow-selling products in the store, which will ensure efficient management of goods or inventory. This in turn can help to prevent inconsistencies in the product demand and then reduce the frequency of the owner's purchase.

6. EXPECTED TIMELINE

6.1 Work breakdown structure:



6.2 Gantt chart:



7. EXPECTED OUTCOME:

After deep analysis and understanding of the business data, the expected improvements are:

- 7.1 Efficient inventory management and understanding of fast-selling products ensuring no stockout
- 7.2 Encourage C-class customers for next-door shopping
- 7.3 Clearance of deadstock to increase cash flow
- 7.4 Improve customer relationships to reduce inconsistency in demand
- 7.5 Reduce purchase expenses and increase overall profitability