

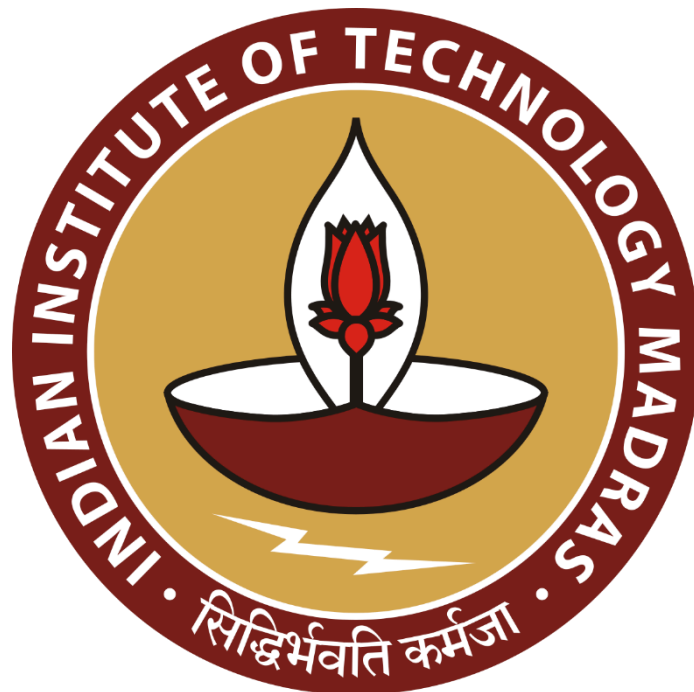
# **Analytical Study of a Wholesale & Retail Vegetable Seller**

**A Proposal report for the BDM capstone Project**

Submitted by

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## **Declaration Statement**

I am working on a Project titled “Analytical Study of a Wholesale & Retail Vegetable Seller”. I extend my appreciation to **Raj Kishore Gupta and Sons**, 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: Yash Singhal

Date: March 2, 2024

# **1 Executive Summary**

The project is focused on studying and providing recommendations for the challenges faced by the business 'Raj Kishore Gupta and Sons,' a vegetable seller operating in a Subji mandi near Nangloi, Delhi. The business primarily operates in a B2B and B2C capacity, serving both small retail Vegetable vendors and individual consumers seeking to buy vegetables.

The key challenges at 'Raj Kishore Gupta and Sons' arise from the absence of proper recording of each purchase and sell transactions. The owner struggles in deciding the right margins between cost price and selling price to achieve the target income. Moreover, giving credit is currently somewhat random, and the owner wishes for a clear process in deciding who gets credit and at what credit criteria.

To tackle these challenges at 'Raj Kishore Gupta and Sons,' I plan to explore two types of data. Firstly, I'll explore past data of vegetable transactions to understand the costs, prices, profits, and losses. This analysis aims to formulate a systematic approach for setting the right margins, ensuring a clearer understanding of the finances of the business. Secondly, I will gather data concerning selected major creditors of the business. Through a thorough analysis, my goal is to develop a method for setting credit criteria. This approach seeks to maximise gains and minimise losses, providing the owner with a more structured way to decide who gets credit.

## **2 Organisation Background**

Business Name: Raj Kishore Gupta and Sons

Address: Bhim Nagar Subji Mandi, Jwalapuri Vegetable Market, Nangloi, Delhi

Owner's Name: Mr. Raj Kishore Gupta

Raj Kishore Gupta and Sons, a vegetable selling business with a 20-year legacy, operates within a subji mandi near Nangloi, Delhi. Situated in a marketplace with about 60-70 vendors, the business operates in both B2B and B2C capacity. The business serves the diverse needs of small retail subji vendors and individual consumers seeking vegetables. The business mainly deals in high quality vegetables. Originally a family venture, the owner's father was a big part of the business until due to old age which led to the owner taking sole charge. The owner's brother also runs a parallel business in the same mandi, dealing in different vegetable varieties. This well-established enterprise has strong relationships with fellow businesses and customers, contributing to its presence and reliability in the Subji Mandi.

### **3 Problem Statement**

- 3.1 Due to the nature of the business, the business owner faces challenges in accurately estimating monthly income and determining the daily turnover required to achieve desired monthly earnings. There is uncertainty regarding the appropriate margin to be maintained in both retail and wholesale selling prices to meet the desired monthly income.
- 3.2 The current absence of a fixed credit criteria poses a challenge for the business owner. Establishing a calculated cap on outstanding dues from credit customers is a requirement, ensuring that the profit surpasses interest costs and maintains the minimum required margin.

### **4 Background of the Problem**

The issues faced by Raj Kishore Gupta and Sons lay in the nature of their vegetable-selling business. Firstly, figuring out how much money comes in each month and the daily turnover needed to meet financial goals is a problem due to the lack of a system in maintaining proper records of transactions. There's also confusion regarding how much margin should be added to the selling prices to reach the desired monthly income.

Secondly, the owner is struggling with not having a fixed way to decide who gets credit and how much. Without clear credit criteria, keeping track of what customers owe becomes a challenge. Having a solid system is necessary to make sure the profits are more than the interest costs and maintain a minimum margin. In a market where buying on credit is common, creating a strong system becomes crucial for the financial health of the business.

In summary, the problems stem from lack of maintenance of transaction data in the vegetable-selling business, combined with the absence of a clear credit system. Addressing these challenges becomes vital for bringing financial clarity and smooth operations to Raj Kishore Gupta and Sons.

### **5 Problem Solving Approach**

#### **5a. Details about the methods used with Justification:**

Given the nature of the problems faced by 'Raj Kishore Gupta and Sons,' a comprehensive approach involving both quantitative and qualitative methods is required.

Quantitative Methods:

Time-Series Analysis: Given the time-dependent nature of financial data, time-series analysis will help me identify trends, patterns, and variations in the business's financial aspects.

Statistical Computation: I plan to utilise various statistical computations to analyse financial data, extracting meaningful insights beyond specific methods like the Pareto Principle.

Qualitative Methods:

Conversation: I plan to engage with the owner, Mr. Raj Kishore Gupta, to gather qualitative insights into the challenges faced, his perspectives on credit decisions, and preferences on margins.

Benchmarking: I plan to compare 'Raj Kishore Gupta and Sons' with similar businesses in the market to identify best practices regarding margins and credit criteria.

### **5b. Details about the intended data collection with Justification:**

Vegetable Transaction Data: Collect detailed data on past transactions, including cost prices, selling prices, quantities sold, and quantities bought. This data will be used for financial analysis and the formulation of pricing strategies to calculate a desirable margin.

Creditor Data: Gather information on major creditors to develop a clear understanding of credit relationships and identify patterns in outstanding dues.

Justification:

Focusing on key major vegetable products streamlines the data collection process, ensuring a manageable yet representative sample for in-depth analysis.

Variables such as Cost Price, Selling Price, Quantity Sold, and Quantity Bought provide crucial data points for computing key financial quantities and ratios, facilitating a comprehensive analysis.

For creditor data, collecting and understanding outstanding dues patterns enhances the ability to formulate effective credit management strategies.

### **5c. Analysis Tools and Justification:**

Analysis Tools:

Google Sheets and Excel: For preliminary data processing, cleaning, and analysis. Drawing charts and conducting various computations to uncover meaningful insights.

Python with Pandas and Matplotlib/Seaborn library: Will be used alongside Excel to explore the data more comprehensively, create visual representations, and extract additional insights.

Justification:

Google Sheets and Excel : Efficient for data processing and analysis, providing a user-friendly interface for fundamental computations and chart creation.

Python: Enables advanced data manipulation and sophisticated visualisations, complementing Excel's capabilities for a more comprehensive understanding of the dataset.

## 6 Expected Timeline

### 6.1 Work Breakdown Structure:

- Data Collection: I collected data in the months of January and February, spanning a total of 31 days.
- Data Cleaning and Processing: I have successfully cleaned the data until the end of February.
- Proposal Preparation: I prepared my project proposal at the beginning of March.
- Data Analysis: I started basic data analysis in the beginning of March.
- The aim is to successfully analyse and provide conclusive recommendations by the end of April.

### 6.2 Gantt chart

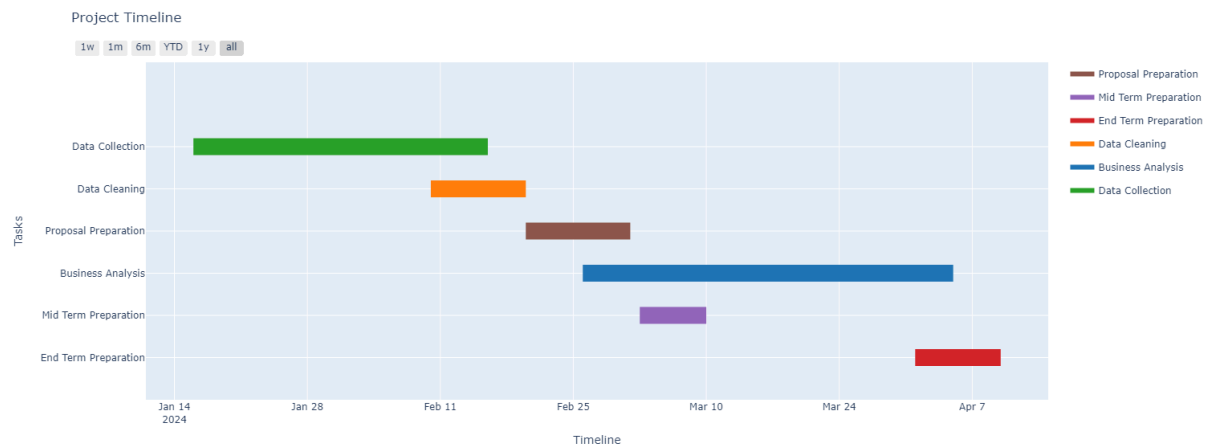


Figure 1 Expected timeline for completion of project.

## 7 Expected Outcome

- To have a clear margin-setting scheme between the cost and selling price of vegetables through data exploration of past transactions.
- Formulate strategies to ensure a desirable and sustainable margin, thereby contributing to the business's profitability and financial stability.
- Provide a comprehensive financial overview of the business through data-driven analysis of various aspects, including costs, selling prices, and profits associated with vegetable transactions.
- To assist the business owner in enhancing credit management practices by formulating data-driven credit management strategies and criteria.
- Enable informed decisions regarding extending credit to customers, minimising the risk of losses and promoting a structured and efficient credit system for the business's financial health.