

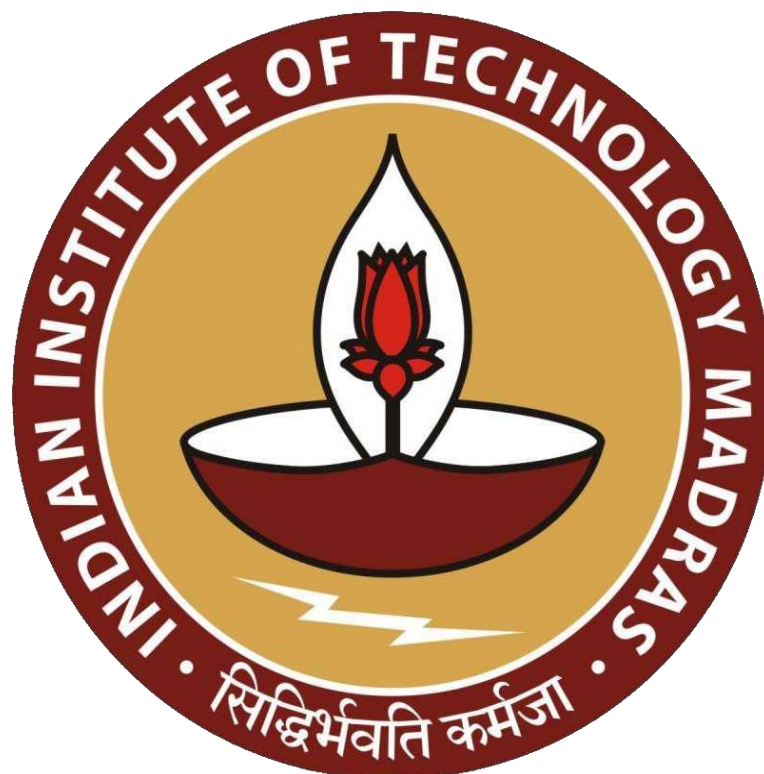
# **MODIKHANA METRICS: Unlocking Sales with Data**

Mid-term report for the BDM Capstone Project

Submitted by

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## Executive Summary

Guru Ji Da Modikhana is a family-owned retail shop that began in April 2019 in Rajpura, Punjab. The store mainly serves local households with groceries, daily essentials, and household items. While it has gained customer trust over the years, it is currently facing two serious challenges. First, large amounts of capital are tied up in slow-moving products, which reduces cash flow and creates the risk of stockouts in fast-moving items. Second, sales consistently fall in the second half of each month, resulting in unstable revenue and limiting business growth.

For this project, data has been taken from the store's **sales register for the last quarter**, which records more than 6,500 transactions. Key fields include bill date, item code, item name, quantity sold, unit rate, gross amount, discount, and net amount. This information helps track product demand, check sales movement over time, and understand the effect of discounts on revenue. Descriptive statistics from this data are being used to study both inventory efficiency and customer buying patterns.

The analysis is being carried out using **Microsoft Excel** for pivot tables, charts, and ABC classification, while **Python** is used for more advanced trend analysis and visualizations. Products are grouped as fast, moderate-, or slow-moving, and daily/half-monthly sales patterns are studied to confirm the mid-month sales drop.

So far, the findings show that better control over stock can free up money, ensure essential items are always available, and that targeted promotions can help reduce the sales dip in the second half of the month. Overall, the project shows how simple data analysis can improve stability and growth for the business.

### Proof of Originality of the Data

1. **Letter from Organization:** A signed letter by **Guru Ji Da Modikhana** to Jashan Tiwari has been provided by Mr Bhupinder Singh, owner of the business.
2. **Photographic Evidence:** Photographs of the **store premises**, including the front view, interior layout, and product arrangement, have been taken.
3. **Video with owner:** A recorded video interview with **Mr. Bhupinder Singh**, owner of **Guru Ji Da Modikhana**, has been conducted at the store location.

#### 4. **Transcription:** Transcripts for the video with the owner.

## Metadata

The dataset for this project covers the sales transactions of *Guru Ji Da Modikhana* between **April 1, 2025, and June 30, 2025**. It is stored in Excel format under a single sheet titled “*Report.*” Each entry represents one product sold under a customer bill, which means a single invoice may have multiple rows corresponding to different items. This structure allows for both transaction-level and product-level analysis.

To give a quick sense of the dataset, screenshots of sample rows from the sheet are provided. The full dataset is available in the attached Excel file for reference.

	A	B	C	D	E	F	G	H	I	J	K	L	M
	SNO.	BILL DATE	BILL NO.	PARTY NAME	ADDITIONAL ITEM CODE	ITEM CODE	ITEM NAME	PACK/GRADE	TOTAL RATE/UNI QTY	T	M.R.P.	NET	AMOUNT
1	1	01/04/2025	RJP-1	CUSTOMER	890600568998	GEN4970	DEV DARSHAN KAPOOR 50GM	1PC	1	80.0000	110.00	80.00	
2	2	01/04/2025	RJP-1	CUSTOMER		OIL1	RASOI MUSTARD OIL	1LTR	1	135.0000	200.00	134.99	
3	3	01/04/2025	RJP-1	CUSTOMER	SUG1	SUG1	SUGAR	1KG	2	45.0000	50.00	90.00	
4	4	01/04/2025	RJP-1	CUSTOMER	GJMK131397	GEN262	TIL TAIL	500ML	1	80.0000	120.00	80.01	
5	5	01/04/2025	RJP-1	CUSTOMER	WR5	GEN2934	WAFER	1PACK	1	4.9900	5.00	5.00	
6	6	01/04/2025	RJP-1	CUSTOMER		GEN5006	WIPES SPECIAL	1PC	1	100.0000	130.00	100.01	
7	7	01/04/2025	RJP-2	CUSTOMER		GEN5126	AIR FUMES 3IN1 SPRAY	1PC	1	90.0000	150.00	89.99	
8	8	01/04/2025	RJP-2	CUSTOMER	599988403446	(NIL)31	HELL DRINK	2000ML	1	59.9900	60.00	59.98	
9	9	01/04/2025	RJP-2	CUSTOMER		GEN5006	WIPES SPECIAL	1PC	1	100.0000	130.00	100.01	
10	10	01/04/2025	RJP-3	CUSTOMER		GEN4619	Z BLACK DHOOP	1PC	4	9.9900	10.00	40.00	
11	11	01/04/2025	RJP-4	CUSTOMER	W15	GEN3203	AQUAPURE	1PACK	1	20.0000	20.00	20.00	
12	12	01/04/2025	RJP-4	CUSTOMER	GJMK131375	SUG4	GURH	1 KG	1	55.0000	70.00	55.00	
13	13	01/04/2025	RJP-4	CUSTOMER	SUG1	SUG1	SUGAR	1KG	7	45.0000	50.00	315.00	
14	14	01/04/2025	RJP-5	CUSTOMER	SOYAC20	GEN2067	SOYA CATORI	180GM	2	20.0000	30.00	39.99	
15	15	01/04/2025	RJP-5	CUSTOMER		GEN5716	VARAT WALI NAMKEEN	1PACK	1	35.0000	45.00	35.01	
16	16	01/04/2025	RJP-6	CUSTOMER		PUL8	BLACK CHANA	1 KG	1	80.0000	100.00	80.00	
17	17	01/04/2025	RJP-6	CUSTOMER		PUL9	CHANA DAL	1 KG	1	82.0000	100.00	82.00	
18	18	01/04/2025	RJP-6	CUSTOMER	GJMK131316	PUL36	MAA CHILKA	500GM	1	60.0000	75.00	60.00	
19	19	01/04/2025	RJP-6	CUSTOMER	GJMK131312	PUL41	MAA DHULI	500GM	1	65.0000	90.00	65.00	
20	20	01/04/2025	RJP-6	CUSTOMER	MASRI1KG	GEN1451	MASARI 1 KG	1KG	1	90.0000	110.00	90.01	
21	21	01/04/2025	RJP-6	CUSTOMER	GJMK131374	SUG3	SHAKAR	1 KG	2	50.0000	70.00	99.99	
22	22	01/04/2025	RJP-6	CUSTOMER	GJMK131305	PUL34	WHITE CHANA 2D	500GM	1	60.0000	90.00	60.00	
23	23	01/04/2025	RJP-7	CUSTOMER	890141404667	GEN725	BOONDI 180GM	180GM	1	30.0000	40.00	30.00	
24	24	01/04/2025	RJP-7	CUSTOMER	GJMK131374	SUG3	SHAKAR	1 KG	1	50.0000	70.00	50.00	

*Figure 1: Sample Metadata from April–June 2025 Sales Data  
(Sales transactions with product details)*

## Variables in the Dataset

1. **SNO.:** Serial number assigned to each entry.
2. **Bill Date:** Date when the transaction was recorded.
3. **Bill No.:** Invoice identifier grouping multiple product lines under the same sale.
4. **Party Name:** Name of the buyer (generally noted as “Customer”).

- 5. **Additional Item Code:** Barcode or alternate identification code for the product.
- 6. **Item Code:** Primary product identifier used for stock and sales tracking.
- 7. **Item Name:** Description of the product sold (e.g., sugar, oil, snacks).
- 8. **Pack/Grade:** Information about packaging or unit size (e.g., 1KG, 500ML, 1PACK).
- 9. **Total Qty:** Quantity of the product sold in the transaction.
- 10. **Rate/Unit:** Selling price for one unit of the item.
- 11. **M.R.P.:** Maximum retail price of the product.
- 12. **Net Amount:** Final billed value after adjustments, representing actual revenue.

Relevance to Problem Statement

- i. The **Item Name**, and **Total Qty** variables are key for identifying which products are slowmoving and which generate the most sales, supporting the **ABC analysis** needed to tackle the overstocking issue.
- ii. The **Bill Date** and **Net Amount** fields allow for monthly trend analysis, which directly relates to the challenge of declining sales in the second half of each month.
- iii. Pricing and revenue fields such as **Rate/Unit** and **Net Amount** provide the foundation for understanding profitability, optimizing inventory spending, and improving cash flow.

Contents of Cleansed Metadata:

After cleaning and organizing, the data was structured into **two primary analytical sheets** — *Product Summary* and *Daily Sales Trend*. Each sheet was designed to directly support the business problem statements through focused and simplified insights.

	A	B	C	D	E	F	G	H	I
1	ITEM NAME	TOTAL UNITS	TOTAL SALES	AVG PRICE	AVG MRP	PACK GRADE	Cumulative Sales	Cumulative %	ABC Class
2	SUGAR	5772	₹ 2,59,396.05	₹ 44.92	₹ 50.00	1KG	₹ 2,59,396.05	0.06	A
3	GAGAN VANASPATI	429	₹ 66,659.54	₹ 155.38	₹ 209.87	1LTR	₹ 5,26,055.59	0.08	A
4	RASOI MUSTARD OIL	85	₹ 65,360.04	₹ 687.61	₹ 1,200.00	1LTR	₹ 5,91,556.63	0.09	A
5	RASOI MUSTARD OIL	224	₹ 62,741.16	₹ 280.14	₹ 350.00	2LTR	₹ 4,54,097.79	0.11	A
6	BADAM 250GM	273	₹ 61,060.89	₹ 223.67	₹ 250.00	250GM	₹ 5,15,158.68	0.12	A
7	SHAKAR	1026	₹ 56,181.83	₹ 54.76	₹ 67.06	1 KG	₹ 5,71,340.51	0.14	A
8	GAGAN ACTIV	403	₹ 55,288.86	₹ 137.02	₹ 177.00	1LTR	₹ 6,26,579.37	0.15	A
9	DIAMOND RICE	832	₹ 49,921.40	₹ 60.00	₹ 80.00	1 KG	₹ 6,76,500.77	0.16	A
10	GAGAN MUSTARD OIL	247	₹ 37,419.21	₹ 151.56	₹ 214.38	1LTR	₹ 7,13,919.98	0.17	A
11	ATTA 10 KG	106	₹ 36,960.24	₹ 348.47	₹ 400.00	10KG	₹ 7,50,880.22	0.18	A
12	KAU	136	₹ 32,380.66	₹ 237.62	₹ 281.77	250GM	₹ 7,83,210.82	0.19	A
13	MUNGI DAL	530	₹ 31,882.34	₹ 59.81	₹ 75.00	500GM	₹ 8,14,893.16	0.20	A
14	HALDI 200GM	623	₹ 31,150.03	₹ 50.00	₹ 100.00	200GM	₹ 8,46,043.19	0.20	A
15	AASHIRWAD ATTA	65	₹ 29,291.82	₹ 450.58	₹ 692.90	10KG	₹ 8,75,335.01	0.21	A
16	BLACK CHANA	355	₹ 29,062.35	₹ 81.89	₹ 100.00	1 KG	₹ 9,04,397.32	0.22	A
17	RAJMAN 1KG	225	₹ 28,987.78	₹ 128.72	₹ 170.66	1KG	₹ 9,33,385.10	0.22	A
18	CHANA DAL	347	₹ 28,669.47	₹ 82.63	₹ 100.00	1 KG	₹ 9,62,054.57	0.23	A
19	FORTUNE SOYA	183	₹ 27,985.23	₹ 152.87	₹ 175.00	1LTR	₹ 9,90,039.80	0.24	A
20	KINGS SOYABEAN OIL	226	₹ 27,963.74	₹ 123.59	₹ 168.75	1LTR	₹ 10,17,943.54	0.24	A
21	WHITE CHANA 30	418	₹ 27,680.17	₹ 66.49	₹ 90.00	500GM	₹ 10,45,623.71	0.25	A
22	JEERA SABUT	378	₹ 26,460.10	₹ 70.00	₹ 200.00	200GM	₹ 10,72,083.81	0.26	A
23	ROOHAFZA 750ML	161	₹ 25,760.60	₹ 160.00	₹ 180.00	1PC	₹ 10,97,844.41	0.26	A
24	MUNGI DAL 1KG	227	₹ 25,477.79	₹ 117.58	₹ 130.00	1KG	₹ 11,23,322.20	0.27	A
25	LAYS	1213	₹ 24,251.63	₹ 19.99	₹ 20.00	1PACK	₹ 11,47,573.81	0.28	A
26	RAJ NIROL COCONUT SOI	199	₹ 23,977.66	₹ 120.50	₹ 140.00	1PC	₹ 11,71,551.47	0.28	A
27	BIKANO 60	407	₹ 22,742.72	₹ 55.83	₹ 60.00	1PC	₹ 11,94,294.19	0.29	A
28	PREMIUM RICE	280	₹ 22,399.98	₹ 80.00	₹ 110.00	1KG	₹ 12,16,694.17	0.29	A
29	PREMIUM RICE	246	₹ 21,649.94	₹ 87.97	₹ 125.00	1KG	₹ 12,48,593.89	0.30	A

Figure 2: Screenshot from Cleansed Metadata  
(Product Summary – Aggregated by Item)

	A	B	C	D	E	F	G
1	BILL DATE	TOTAL UNITS	TOTAL SALES	MONTHS	DAY	HALF	TOTAL SALES
2	2025-04-01	756	₹ 47,323.36	4	1	First Half	₹ 47,323.36
3	2025-04-02	1302	₹ 56,793.40	4	2	First Half	₹ 56,793.40
4	2025-04-03	885	₹ 45,082.11	4	3	First Half	₹ 45,082.11
5	2025-04-04	1809	₹ 99,089.07	4	4	First Half	₹ 99,089.07
6	2025-04-05	693	₹ 40,682.99	4	5	First Half	₹ 40,682.99
7	2025-04-06	1494	₹ 63,897.00	4	6	First Half	₹ 63,897.00
8	2025-04-07	705	₹ 31,700.11	4	7	First Half	₹ 31,700.11
9	2025-04-08	1471	₹ 60,421.34	4	8	First Half	₹ 60,421.34
10	2025-04-09	925	₹ 38,308.90	4	9	First Half	₹ 38,308.90
11	2025-04-10	1466	₹ 72,872.29	4	10	First Half	₹ 72,872.29
12	2025-04-11	885	₹ 47,663.13	4	11	First Half	₹ 47,663.13
13	2025-04-12	1445	₹ 58,498.98	4	12	First Half	₹ 58,498.98
14	2025-04-13	785	₹ 39,507.83	4	13	First Half	₹ 39,507.83
15	2025-04-14	844	₹ 36,761.89	4	14	First Half	₹ 36,761.89
16	2025-04-15	1015	₹ 59,829.49	4	15	First Half	₹ 59,829.49
17	2025-04-16	777	₹ 46,644.18	4	16	Second Half	₹ 46,644.18
18	2025-04-17	778	₹ 35,487.92	4	17	Second Half	₹ 35,487.92
19	2025-04-18	740	₹ 41,224.72	4	18	Second Half	₹ 41,224.72
20	2025-04-19	710	₹ 35,911.92	4	19	Second Half	₹ 35,911.92
21	2025-04-20	908	₹ 45,149.09	4	20	Second Half	₹ 45,149.09
22	2025-04-21	1004	₹ 39,391.52	4	21	Second Half	₹ 39,391.52
23	2025-04-22	600	₹ 27,173.55	4	22	Second Half	₹ 27,173.55

Figure 3: Screenshot from Cleansed Metadata  
(Daily Sales Trend – Aggregated by Date)

### (Sheet 1: Product Summary)

1. **Item Name:** Unique product names sold by the store.
2. **Total Units:** Total quantity sold over the three-month period. Used to evaluate product demand levels.
3. **Total Sales (₹):** Total revenue generated from each product. Helps identify high- and lowperforming items.
4. **Average Price (₹):** Mean selling price per unit, calculated from all transactions
5. **Average MRP (₹):** Average listed retail price of each item. Useful for understanding pricing margins.
6. **Pack Grade:** The unit size or packaging type for each product (e.g., 1KG, 1PACK).
7. **Cumulative Sales (₹):** Running total of sales, showing each product's cumulative contribution toward overall revenue.
8. **Cumulative %:** Percentage share of total sales accounted for cumulatively by each product.
9. **ABC Class:** Category assigned based on sales contribution — “A” (top 70%), “B” (next 20%), and “C” (bottom 10%) products.

This dataset was prepared for **Product Performance Evaluation and ABC Classification**, enabling the store to identify **high-performing items (A)**, **moderate movers (B)**, and **low-performing or overstocked items (C)**. This directly regarding overstocking and cash flow blockage.

### (Sheet 2: Daily Sales Trend)

1. **Bill Date:** The specific day of each sale, representing daily business activity.
2. **Total Units:** Total quantity of products sold on that day.
3. **Total Sales (₹):** The total daily revenue.
4. **Month:** The month extracted from the transaction date (e.g., April = 4).
5. **Day:** The day of the month (1–31).
6. **Half:** Indicates whether the sale occurred in the **First Half (1–15)** or **Second Half (16–end)** of the month.

This sheet was created for **Sales Pattern Identification**, focusing on monthly demand cycles and identifying the **drop in sales during the second half of each month**, which affects cash flow stability.

## Descriptive Statistics

To analyse the sales dataset effectively, descriptive statistics were calculated for the column **Net Amount**, which represents the revenue generated per transaction line and serves as the primary indicator

of transaction-level financial performance because it directly reflects cash inflow, customer purchasing power, and the overall financial stability of sales operations. Understanding its statistical properties provides essential insights into revenue patterns and helps identify underlying business challenges.

Additionally, ABC classification was performed using cumulative sales percentages to rank products by revenue impact. This helped pinpoint which items contribute most to total sales and which tie up inventory without sufficient turnover.

## Key Results

1. **Mean:** The average revenue per transaction line is **₹293.81**, indicating the typical transaction value when all sales are considered.
2. **Median:** The middle value of revenue is **₹60.00**, showing that most transactions are small-ticket purchases, which is consistent with the neighbourhood grocery model.
3. **Mode:** The most frequently occurring transaction value is **₹60.00**, reflecting regular purchases of specific essential items that drive repeat demand.
4. **Variance & Standard Deviation:** The variance is **414,008,763.18** and the standard deviation is **₹20,347.21**, highlighting extremely high variability caused by a mix of small daily purchases and occasional bulk transactions.
5. **Minimum & Maximum:** Values range from **₹-720.01** (likely returns or adjustments) to **₹4,164,337.40** (bulk purchases), confirming the presence of outliers.
6. **Range & Interquartile Range (IQR):** The overall spread is **₹4,165,057.41**, while the IQR is only **₹78.99**. This suggests that although extreme values exist, the central 50% of transactions fall within a much smaller band, again reinforcing that most sales are low-value purchases.

## Justification

These descriptive statistics directly connect to the business challenges faced by *Guru Ji Da Modikhana*:

- The skewed distribution and high variability in sales values explain the issue of **unstable cash flow**, since revenue depends heavily on a small number of large or irregular transactions.
- The concentration of sales around low-value items highlights why **working capital is tied up in slow-moving stock**, while only a few products generate consistent demand.
- Identifying these trends provides a foundation for conducting **ABC Analysis** to categorize products by their revenue impact and for designing **mid-month promotional strategies** to stabilize sales and improve profitability.

## Detailed Explanation of Analysis Process/Method

This project focuses on analysing sales and inventory data from *Guru Ji Da Modikhana*, a neighbourhood retail store operating in Rajpura, Punjab. The objective was to identify key issues affecting profitability, such as overstocking of slow-moving products and irregular sales trends throughout the month.

The analysis was performed using Excel and Python, focusing on cleaning, structuring, and summarizing three months of transaction-level sales data (April–June 2025). Different descriptive and visual methods were applied to transform raw records into actionable business insights.

### 1. Data Collection and Preparation

The dataset contains transaction-level sales records with fields such as *Bill Date*, *Item Name*, *Pack/Grade*, *Quantity Sold*, *Rate/Unit*, *M.R.P.*, and *Net Amount*. These details were used to track product performance and sales trends. The data was divided into two analytical sheets —

- **Product Summary:** Aggregated product-level data to identify fast-, moderate-, and slowmoving items.
- **Daily Sales Trend:** Summarized daily totals to analyse fluctuations across each month.

For better insight into product performance, additional computed columns — *Cumulative Sales*, *Cumulative %*, and *ABC Class* — were added to quantify each item's relative contribution and category (A/B/C).

### 2. Data Cleaning

Unnecessary fields like *Item Code*, *Party Name*, and *Additional Item Code* were removed. All columns were standardized and formatted for consistency, ensuring two decimal places for numeric values. Missing or duplicate entries were checked and corrected. The *Bill Date* column was also reformatted to remove time values (00:00:00) for clear trend visualization. Data cleaning was performed using both **Microsoft Excel** and **Python (Pandas library)** for verification and consistency check

### 3. Descriptive Statistics

Basic statistical methods such as mean, median, mode, variance, standard deviation, range, and IQR were applied to the *Net Amount* column. These measures summarized overall sales behaviour and identified variations in daily transactions, confirming the uneven cash flow pattern observed in the business.



## 4. Visualization and Analysis

Multiple visual tools were used to interpret the data clearly.

- **ABC (Pareto) charts** were created to classify products by their sales contribution.
- **Line and bar graphs** were used to highlight mid-month sales drops and product demand patterns.

These visualizations helped reveal overstocking issues and sales volatility, guiding practical solutions like targeted promotions and improved stock control.

## Results And Findings

The following visualizations were created to uncover sales behaviour, inventory movement, and revenue distribution patterns for *Guru Ji Da Modikhana*.

- i. Each chart directly connects to one or both business problems - overstocking of underperforming products and inconsistent sales patterns.
- ii. By analysing these visuals, the store can identify which products deserve more focus, which are tying up capital, and how monthly sales fluctuations impact overall profitability.

### Figure 5(a): Pareto Chart – Product Contribution to Total Sales (ABC Analysis)

1. **Purpose:** To determine which products among the **top 30 items** contribute most to total revenue and identify slow-moving items responsible for overstocking.
2. **Reason for Choosing:** The Pareto (ABC) chart ranks products by their total sales and displays their cumulative percentage contribution. This helps classify items into **Class A (high value, low quantity)**, **Class B (moderate value)**, and **Class C (low value, high quantity)**, highlighting where most of the profit comes from.

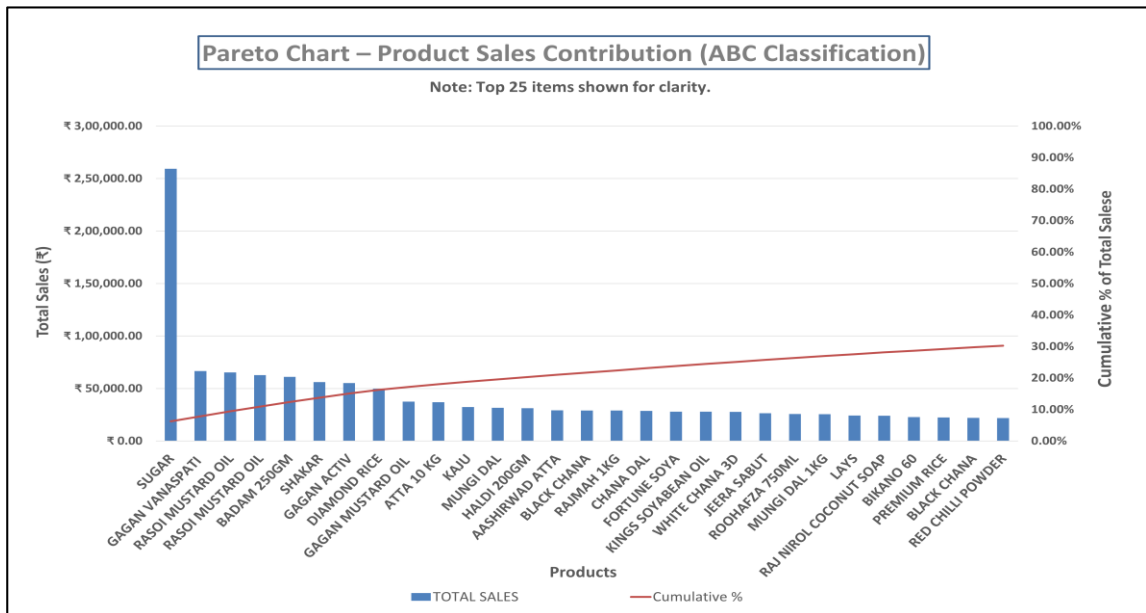


Figure 5(a): Pareto Chart – Product Contribution to Total Sales (ABC Analysis)

### Figure 5(b): Pie Chart – Sales Share of Class A, B, and C Products

1. **Purpose:** To show the proportional revenue contribution from each product class.
2. **Reason for Choosing:** A pie chart offers a clear percentage-based comparison of revenue distribution across categories, linking directly to profitability and cash flow.

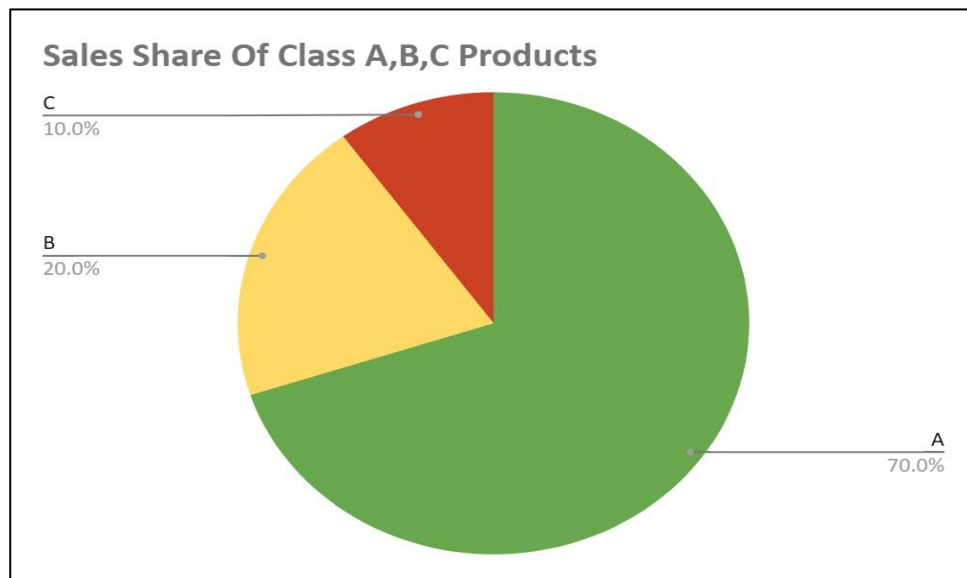


Figure 5(b): Pie Chart – Sales Share of Class A, B, and C Products

### Figure 5(c): Scatter Plot – Average MRP vs. Average Price

1. **Purpose:** To analyse the relationship between product MRP and actual selling price, revealing pricing consistency and discounting trends.
2. **Reason for Choosing:** A scatter plot is ideal for visualizing correlation and spotting outliers (products sold far below or near MRP).

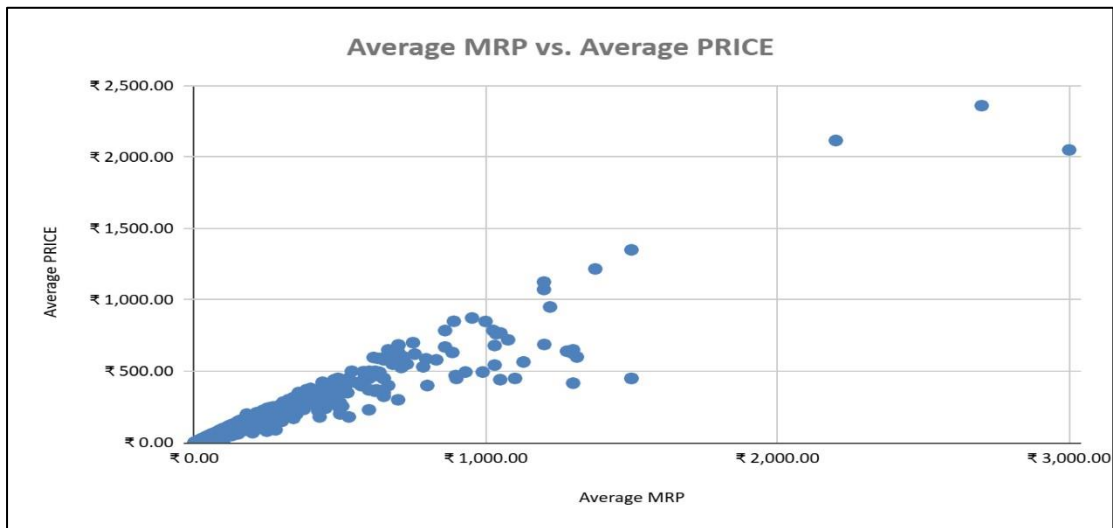


Figure 5(c): Scatter Plot – Average MRP vs. Average Price

**Figure 5(d): Line Chart – Daily Sales Trend (First Half vs. Second Half of Month)**

1. **Purpose:** To analyse daily sales patterns across each month and determine whether sales decline during the second half.
2. **Reason for Choosing:** Line charts clearly show time-based fluctuations and help visualize how sales drop after mid-month, providing evidence of revenue volatility.

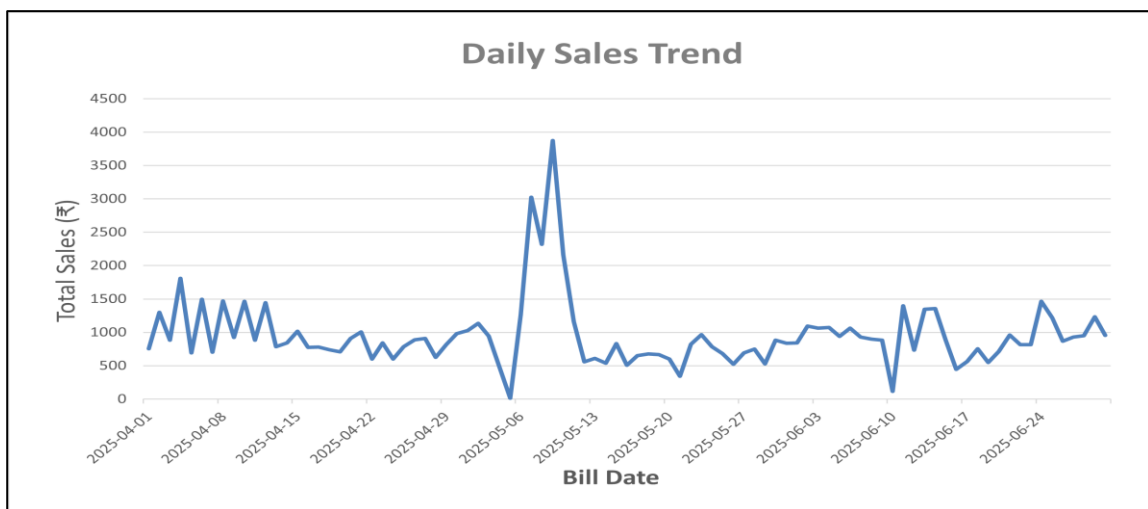


Figure 5(d): Line Chart – Daily Sales Trend (First Half vs. Second Half of Month)

**Figure 5(e): Column Chart – Total Sales by Half (First vs. Second Half of Month)**

1. **Purpose:** To directly compare total sales between the first and second halves of each month.
2. **Reason for Choosing:** A column chart is effective for side-by-side comparison, quantifying how much sales decline after mid-month.

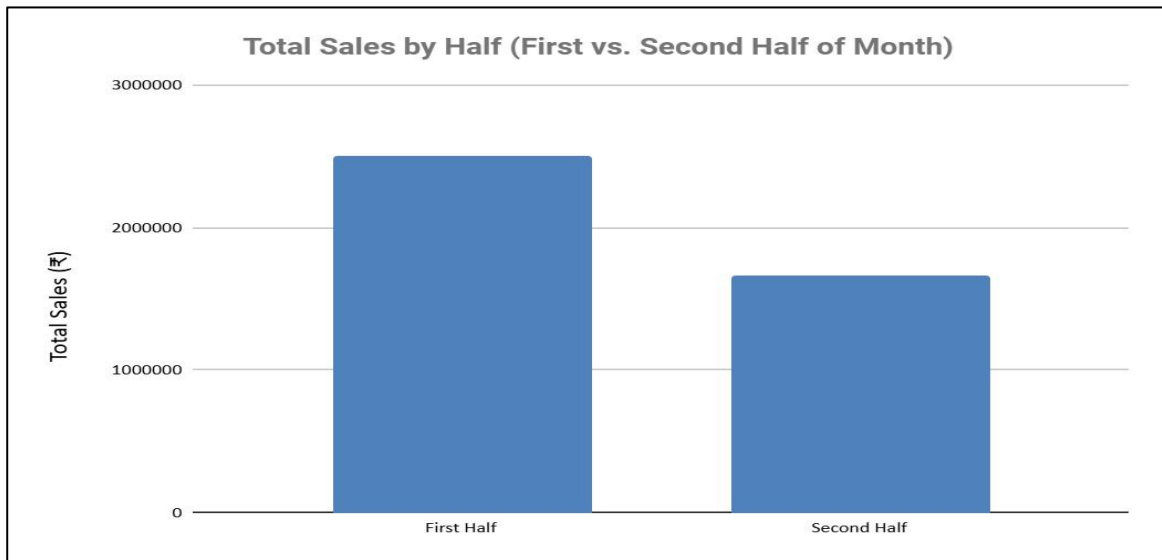


Figure 5(e): Column Chart – Total Sales by Half (First vs. Second Half of Month)

By analysing these charts (line chart, pareto chart and pie chart), we can gain a comprehensive understanding of the business trends at Guru ji Da Modikhana.

## Findings:

Analysis of sales patterns reveals crucial insights across multiple dimensions:

- Figure 5(a):** The Pareto analysis of the **top 30 products** shows that these 30 items together contribute **₹ 1,260,485.99**, which is  $\approx 30\%$  of total store sales (₹ 4,164,337.40).  
The single top item, **SUGAR**, contributes **₹ 259,396.05** ( $\approx 6\%$ ). The top 3 items contribute  $\approx 9\%$ , the top 6 items contribute  $\approx 14\%$ , and the top 10 items contribute  $\approx 18\%$  of total sales.
- Figure 5(b):** Class A items account for  $\approx 70\%$  of total sales, while Class B contributes  $\approx 20\%$  and Class C contributes only  $\approx 10\%$ .
- Figure 5(c):** Most points fall close to the trend line, suggesting a consistent pricing pattern. However, a few products such as **Rasoi Mustard Oil (5L, Average Price ₹687.61 vs. MRP ₹1,200)** and **Gagan Vanaspati (1L, Average Price ₹155.38 vs. MRP ₹209.87)** are sold significantly below their MRP, indicating excessive discounting or competitive price adjustments in edible oil categories.
- Figure 5(d):** The line trend shows that daily sales values consistently peak during the **first 10–12 days** of each month, followed by a steady decline of around **25–30% in the second half**. For example, in **May 2025**, total sales in the first half reached approximately **₹9.43 lakh**, but fell sharply to **₹6.53 lakh** in the second half.

This pattern indicates that **most purchases occur early in the month**, likely driven by **salary cycle spending**, while the **latter half experiences subdued activity**, causing short-term cash flow dips and unstable revenue patterns.

5. **Figure 5(e):** The first half's total sales reached **₹25,00,472**, while the second half recorded only **₹16,63,865**, reflecting a **decline of approximately 33.5%**.

## Results:

The analysis highlights two main business concerns—overstocking and uneven monthly sales flow.

1. **Product Contribution (Figure 5a):** A few essential items, such as sugar and edible oils, account for most of the total sales. This confirms that revenue is concentrated in fast-moving goods.
2. **ABC Classification (Figure 5b):** Class A products make up about 70% of total sales, showing that the store depends heavily on a limited product group for profit.
3. **Price Comparison (Figure 5c):** Most items sell close to their MRP, indicating stable pricing, but a few products are sold at lower margins, suggesting price pressure in some categories.
4. **Sales Trends (Figure 5d):** Daily sales peak in the first half of each month and drop by nearly one-third in the second half, showing a clear mid-month slowdown.
5. **Half-Month Comparison (Figure 5e):** Total sales in the first half are much higher than in the second, confirming unstable cash flow.

Overall, the results suggest that focusing on fast-moving products, reducing slow-moving stock, and introducing mid-month promotions could help the store achieve steady sales and better cash management.

Link to Drive: