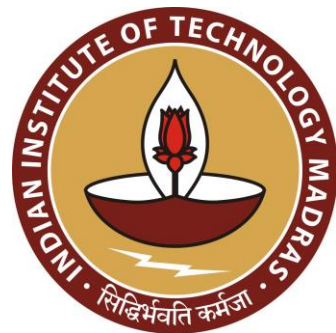Business Data Management

End-Term Submission

Case Study of Bansal Kirana Store

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Table of Content

1) <u>Executive Summary and Title</u> :

Bansal Store is a medium-sized kirana store, started by Mr. Raj bansal in early 2018 , currently encountering challenges in terms of profit and inventory management which is having an indirect impact on the store's net profit and sales. The purpose of the proposed capstone project is centered around the objective to understand the complexities of managing or controlling inventory/good flow , enhancing the sales and formulating marketing strategies that increase net profit and sales for the respective store.

Considering so , Primary goal of our capstone project will be to increase net profit , optimize and check inventory to determine the optimum purchase time and manage goods flow. To achieve this , the project will entail an in depth analysis of the sales data along with fluctuation in purchase price over the course of month. Identifying the gaps and areas of improvement in the current strategy will be a critical aspect of this project. The report will also include in depth analysis of the sales data to identify patterns and trends in the sales. This analysis will allow us to identify the best and worst performing SKUs, enabling us to understand and formulate marketing strategies to improve net sales leading to an increase in net profit.
After a thorough analysis, the project report will focus on recommendations to combat the problem areas identified above.

To effectively analyze the sales data and make informed business decisions, I will be utilizing various Excel tools such as pivot tables, bar graphs, and line graphs etc .. that can provide valuable graphical representations. These tools enable a visual representation of the sales data, making it easier to identify trends, patterns, and key insights. By analyzing the outperforming and underperforming products using these Excel tools, recommendation , marketing strategy and data-driven decisions to optimize revenue generation can be formulated.

2) Detailed Explanation of Analysis Process/Method :

2.1 : Data Analysis For Sales and Expenditure

As mentioned above MS Excel is the main tool which will be used for the analysis.

Firstly sales data is collected in an unstructured format along with prices of each product from Bansal Store over the period of 31 days.
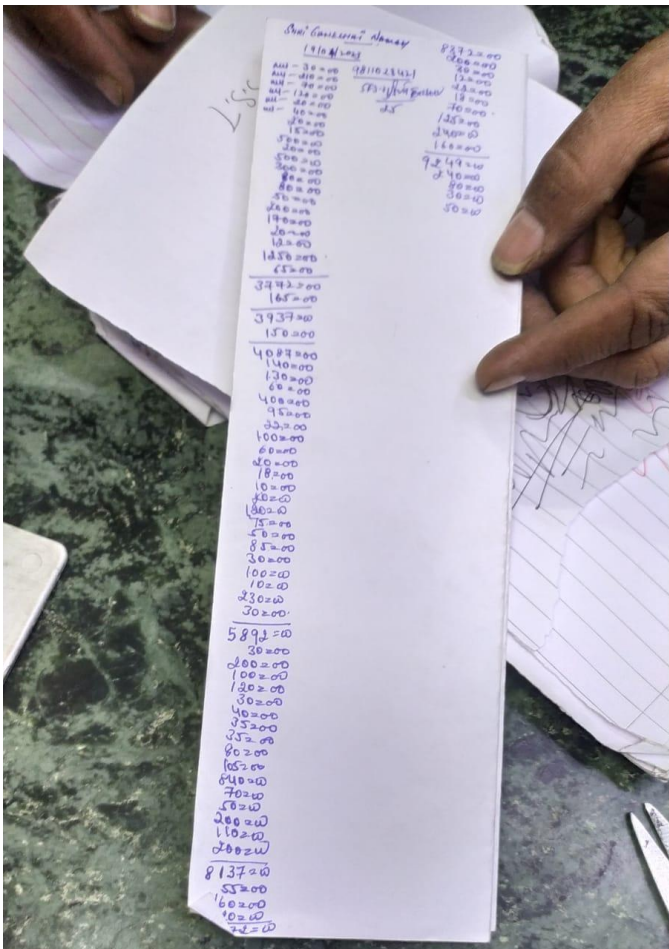
Shop's Way of storing data (informal)

This raw data is then entered into excel and basic data pre-processing tasks such as imputing, typing errors, sorting etc.. are done.

- The pre-processed sales data have a total of 21 columns where 10 columns represent each SKUs sales quantity along with the date (1 column) and 10 more represent each SKUs price on the given day .

A	B	C	D	E	F	G	H	I	J	K
					SALES					
DATE	RICE	ATTA	TOOR DAL	MOONG DAL	URAD DAL	SUGAR	COOKING OIL	GHEE	MILK & DAIRY	DRY FRUITS
4/1/2023	140	110	24	16	40	70	36	20	56	10
4/2/2023	90	80	28	14	44	48	30	10	50	6
4/3/2023	70	50	20	20	50	40	40	8	58	4
4/4/2023	60	40	22	16	44	42	40	10	64	6
4/5/2023	66	36	18	14	40	48	38	11	75	10
4/6/2023	20	24	8	8	4	10	8	4	60	0
4/7/2023	40	20	8	6	8	8	6	2	60	2
4/8/2023	40	24	8	6	6	10	8	4	59	4
4/9/2023	60	30	6	4	4	6	6	4	80	4
4/10/2023	56	32	8	6	4	8	8	0	55	0

	A	L	M	N	O	P	Q	R	S	T	U
							SELLING PRICE				
	DATE	RICE	ATTA	TOOR DAL	MOONG DAL	URAD DAL	SUGAR	COOKING OIL	GHEE	MILK & DAIRY	DRY FRUITS
	4/1/2023	₹45	₹41	₹102	₹110	₹112	₹45	₹165	₹416	₹60	₹855
	4/2/2023	₹45	₹41	₹102	₹110	₹112	₹45	₹165	₹420	₹60	₹855
	4/3/2023	₹45	₹41	₹102	₹110	₹112	₹45	₹165	₹420	₹60	₹855
	4/4/2023	₹44	₹41	₹102	₹110	₹112	₹43	₹165	₹435	₹60	₹865
	4/5/2023	₹44	₹41	₹102	₹110	₹112	₹43	₹165	₹435	₹60	₹865
	4/6/2023	₹44	₹41	₹102	₹110	₹112	₹43	₹165	₹435	₹60	₹865
	4/7/2023	₹46	₹41	₹104	₹110	₹112	₹43	₹162	₹435	₹60	₹865
	4/8/2023	₹44	₹42	₹104	₹110	₹112	₹43	₹162	₹435	₹60	₹865
	4/9/2023	₹44	₹42	₹104	₹110	₹112	₹43	₹162	₹435	₹60	₹865
	4/10/2023	₹44	₹42	₹104	₹110	₹112	₹43	₹162	₹435	₹60	₹865
	4/11/2023	₹42	₹42	₹104	₹110	₹108	₹43	₹158	₹435	₹60	₹865
	4/12/2023	₹42	₹42	₹104	₹110	₹108	₹43	₹158	₹435	₹60	₹865
	4/13/2023	₹42	₹42	₹104	₹110	₹108	₹43	₹158	₹435	₹60	₹865

- Using sales and selling price revenue for the day , average sales , selling price and total revenue can be calculated by formula :

$$Revenue \ = \ Selling \ price \ * \ Sales$$

$$Total \ Revenue \ = \ \sum_{i=0} R_i$$

$$\text{where } R_i = \text{Revenue made at } i^{th} \text{day}$$

- Similarly purchase data has been collected for every SKUs which consists of purchase quantity and purchase price , using which expenditure is calculated on each SKU.

	A	B	C	D	E	F	G	H	I	J	K
						PURCHASE					
	DATE	RICE	ATTA	TOOR DAL	MOONG DAL	URAD DAL	SUGAR	COOKING OIL	GHEE	MILK & DAIRY	DRY FRUITS
	4/1/2023	0	0	0	0	0	0	0	0	60	44
	4/2/2023	0	200	0	50	0	0	0	0	56	0
	4/3/2023	0	0	50	0	50	0	60	20	60	0
	4/4/2023	0	0	0	0	50	0	60	0	64	0
	4/5/2023	0	0	0	0	0	0	0	0	80	0
	4/6/2023	0	200	50	0	50	50	0	0	70	0
	4/7/2023	0	0	0	50	0	0	0	15	60	0
	4/8/2023	0	0	0	0	0	0	0	0	60	0

					PURCHASE PRICE						
DATE	RICE	ATTA	TOOR DAL	MOONG DAL	URAD DAL	SUGAR	COOKING OIL	GHEE	MILK & DAIRY	DRY FRUITS	
4/1/2023	₹41	₹38	₹94	₹99	₹103	₹42	₹155	₹374	₹57	₹701	
4/2/2023	₹41	₹38	₹94	₹99	₹103	₹42	₹155	₹378	₹57	₹701	
4/3/2023	₹41	₹38	₹94	₹99	₹103	₹42	₹155	₹378	₹57	₹701	
4/4/2023	₹40	₹38	₹94	₹99	₹103	₹40	₹155	₹392	₹57	₹709	
4/5/2023	₹40	₹38	₹94	₹99	₹103	₹40	₹155	₹392	₹57	₹709	
4/6/2023	₹40	₹38	₹94	₹99	₹103	₹40	₹155	₹392	₹57	₹709	
4/7/2023	₹41	₹38	₹96	₹99	₹103	₹40	₹152	₹392	₹57	₹709	
4/8/2023	₹40	₹39	₹96	₹99	₹103	₹40	₹152	₹392	₹57	₹709	
4/9/2023	₹40	₹39	₹96	₹99	₹103	₹40	₹152	₹392	₹57	₹709	

- Along with expenditure Total expenditure for the day , average expenditure per SKU as well as Total expenditure is calculated for 31 days using formulas :

$$Expenditure = Purchase\ Quantity * Purchase\ Price$$

$$Total\ Expenditure = \sum_{i=0} E_i$$

where E_i = Expenditure at i^{th} day

2.2 : Increase the overall profit of the business

- During my discussion with the business owner we discovered that due to high competition and entry of new shops and online grocery shops profits were declining , were not steady and it's becoming difficult for them to survive.

- Hence first step was to calculate profit / loss for each day , each SKU to determine the authenticity of the owner , for that I used sales and purchase data to calculate profit/loss , profit % for each SKU day using formula :

$$Profit = Sales - Purchase$$
$$Profit_{SKU}\ \% = (profit_{SKU} / T.profit)\ \%$$

PRODUCT	P/L	REVENUE (SALES)	% OF TOTAL PROFIT	% OF TOTAL REVENUE
RICE	₹20,144	₹140,152	25.79%	19%
ATTA	₹5,106	₹52,482	6.54%	7%
TOOR DAL	₹4,964	₹46,116	6.36%	6%
MOONG DAL	₹4,985	₹36,786	6.38%	5%
URAD DAL	₹6,313	₹59,226	8.08%	8%
SUGAR	₹1,891	₹32,046	2.42%	4%
COOKING OIL	₹5,230	₹83,994	6.70%	11%
GHEE	₹9,719	₹82,965	12.44%	11%
MILK & DAIRY	₹2,527	₹116,603	3.24%	16%
DRY FRUITS	₹17,221	₹85,970	22.05%	12%
	₹78,100	₹736,340		

DATE	TOTAL SALES	TOTAL EXPENDOTURE	PROFIT / LOSS
4/1/2023	48818	34268.4	14549.6
4/2/2023	36094	15686	20408
4/3/2023	33700	30130	3570
4/4/2023	34998	18106	16892
4/5/2023	38505	4560	33945
4/6/2023	11098	23399	-12301
4/7/2023	12564	14242.5	-1678.5
4/8/2023	15398	3420	11978
4/9/2023	16642	7605.6	9036.4
4/10/2023	10688	3420	7268
4/11/2023	10698	3420	7278
4/12/2023	11324	3420	7904
4/13/2023	10090	3420	6670
4/14/2023	15894	54132.8	-38238.8
4/15/2023	9692	3420	6272
4/16/2023	11341	3135	8206
4/17/2023	8093	3082.75	5010.25
4/18/2023	8107	3082.75	5024.25
4/19/2023	9778	28921.15	20143.15

- Considering the fact that there was some inventory for every SKU at the start and end of data collection purchase of each SKU was calculated using formula :

$$Purchase = T.Purchase + I.Inventory - E.Inventory$$

Where I.Inventory = Initial inventory ,
E.Inventory = End inventory ,
T.Purchase = Total purchase

V37		f_x =V34+V35-V36						
	A	T	U	V	W	X	Y	Z
1								EXPENDITURE
2	DATE	MILK & DAIRY	DRY FRUITS	RICE	ATTA	TOOR DAL	MOONG DAL	URAD DAL
33	5/1/2023	₹57	₹722	₹0	₹0	₹0	₹0	₹0
34		₹57	₹717	₹96,840	₹43,755	₹37,315	₹30,105	₹44,132
35			Initial Inventory	₹36,450	₹7,544	₹7,507	₹4,950	₹14,426
36			End Inventory	₹13,282	₹3,923	₹3,671	₹3,254	₹5,645
37			Final Expenditure	₹120,008	₹47,376	₹41,152	₹31,801	₹52,913
38								

- Lastly cumulative profit was calculated for pareto chart

PRODUCT	% OF TOTAL PROFIT	Cumulative Profit Percentage
RICE	25.79%	25.79%
DRY FRUITS	22.05%	47.84%
GHEE	12.44%	60.29%
URAD DAL	8.08%	68.37%
COOKING OIL	6.70%	75.07%
ATTA	6.54%	81.60%
MOONG DAL	6.38%	87.99%
TOOR DAL	6.36%	94.34%
MILK & DAIRY	3.24%	97.58%
SUGAR	2.42%	100.00%

2.3 : Optimizing inventory

- Upon discussion with the owner we got to know that inventory management was the main concern for the owner as according to owner stock was piled up at the end of the month and also profit were less hence buying new stock was getting difficult due to inflation
- Inventory data is collected for every SKU at the first day of data collection (i.e. 1/4/23) . Further Inventory data is calculated using sales , purchase and initial inventory using formula :

$$Inventory_i = Initial\ Inventory_i - Sales_i + Purchase_i$$

	A	B	C	D	E	F
1						INVENTORY
2	DATE	RICE	ATTA	TOOR DAL	MOONG DAL	URAD DAL
3	4/1/2023	900	200	80	50	140
4	4/2/2023	760	90	56	34	100
5	4/3/2023	670	210	28	70	56
6	4/4/2023	600	160	58	50	56
7	4/5/2023	540	120	36	34	62
8	4/6/2023	474	84	18	20	22
9	4/7/2023	454	260	60	12	68
10	4/8/2023	414	240	52	56	60
11	4/9/2023	374	216	44	50	54

- Using inventory data average inventory , total inventory is calculated for every day as well as every SKU

$$Total\ Inventory = \sum_{i=0} I_i$$

where I_i = Inventory at i^{th} day

TOTAL DAILY INVENTORY	AVERAGE DAILY TOTAL INVENTORY	DATE
1836	183.6	4/1/2023
1414	141.4	4/2/2023
1314	131.4	4/3/2023
1192	119.2	4/4/2023
1022	102.2	4/5/2023
741	74.1	4/6/2023
1005	100.5	4/7/2023
970	97	4/8/2023
860	86	4/9/2023
756	75.6	4/10/2023
634	63.4	4/11/2023
526	52.6	4/12/2023
412	41.2	4/13/2023
300	30	4/14/2023
868	86.8	4/15/2023
770	77	4/16/2023

2.4 : Fixed Cost Analysis

- For fixed Cost analysis cost Transport , Rent , furniture , Electricity , Accessories , Loan were calculated for a period of 31 days (according to data) along with depreciation rate (approx as per area)
- According to data Total fixed cost was calculated

	A	B ▼	C	D
1			FIXED COST ANALYSIS	
2		COST	RATE OF DEPRICIATION	DEPRICIATION
3	FURNITURE	200000	1%	₹2,000
4	FREEZER	40000	2%	₹800
5	CONTAINERS	20000	1%	₹200
6	DELIVERY VEHICLES	130000	2%	₹2,600
7	PETROL/TRANSPORT	3000	100%	₹3,000
8	RENT	15000	100%	₹15,000
9	ELECTRICITY	1000	100%	₹1,000
10	CARRY BAGS	2000	100%	₹2,000
11	EMI	10000	100%	₹10,000
12			TOTAL NORMALISED FIXED COST	₹36,600

3) Results and Findings :

3.1 : Volume Analysis (Sales , Purchase)

The below graph is generated for the Revenue (Sales) generated for the month.

Revenue Trend Over Month
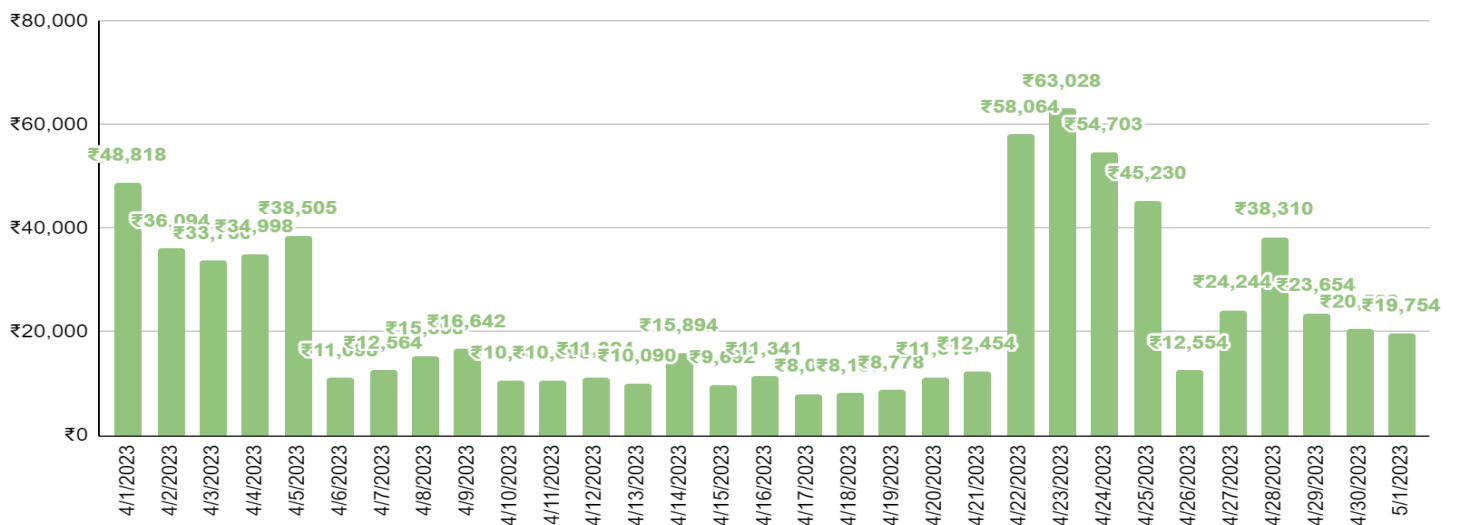
- The above analysis shows that start and end days for the month are the highest revenue generating days with early days of month end being the most important time (i.e. 22th - 28th) (referring this period to golden period)
- While it can also be seen that in middle of month the business is struggling to generate revenue
- The analysis above shows the average daily revenue stands at ₹23,753 with a standard deviation being ₹16557.77 which is quite high for such a low average indicating high revenue fluctuation
- Minimum revenue stand at : ₹8,093
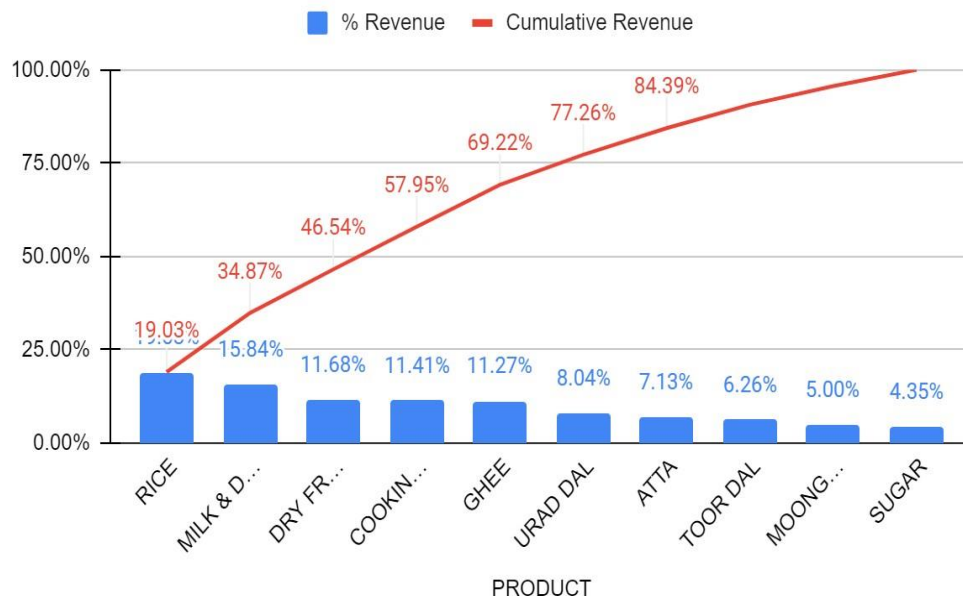 Maximum revenue stand at : ₹63,028

Giving us a range of : ₹54,935   (using formula : $Range = Max - Min$)

To analyze revenue generated by each SKU , the below graphs are generated 1) for the revenue generated by each SKU over the period of a month and 2) pareto chart in respect to the Total revenue generated over the period of a month
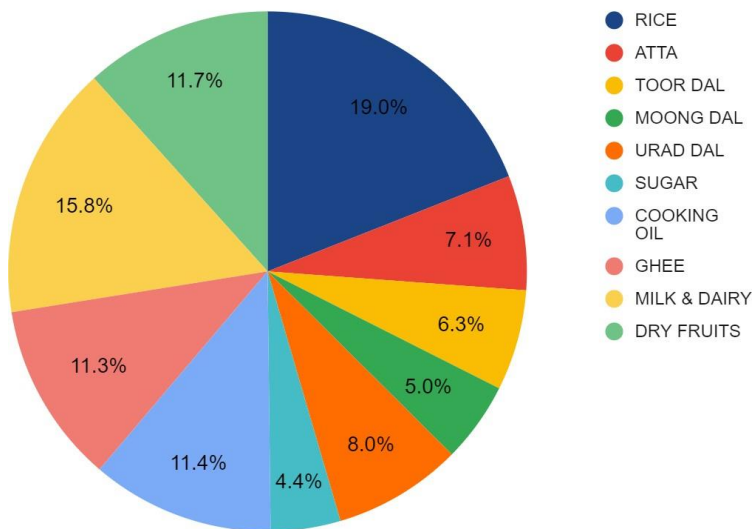
Total Revenue of SKU's (/month)

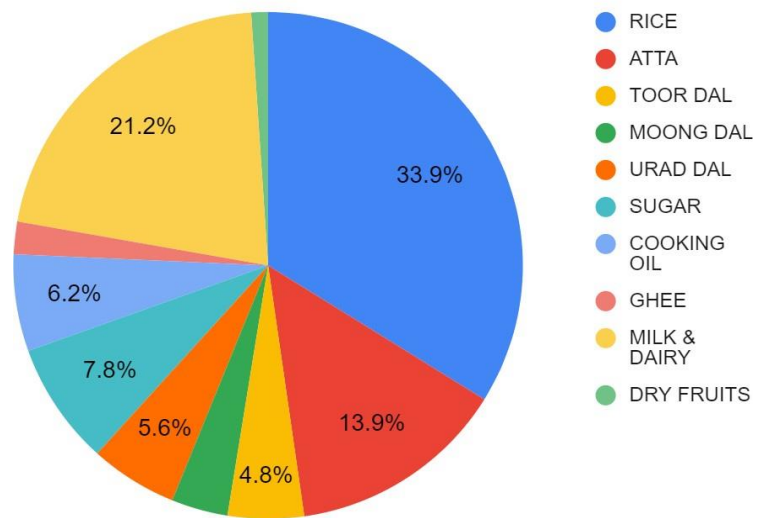| SKU	Revenue
RICE	₹140,152
ATTA	₹52,482
TOOR DAL	₹46,116
MOONG DAL	₹36,786
URAD DAL	₹59,226
SUGAR	₹32,046
COOKING OIL	₹83,994
GHEE	₹82,965
MILK & DAIRY	₹116,603
DRY FRUITS	₹85,970
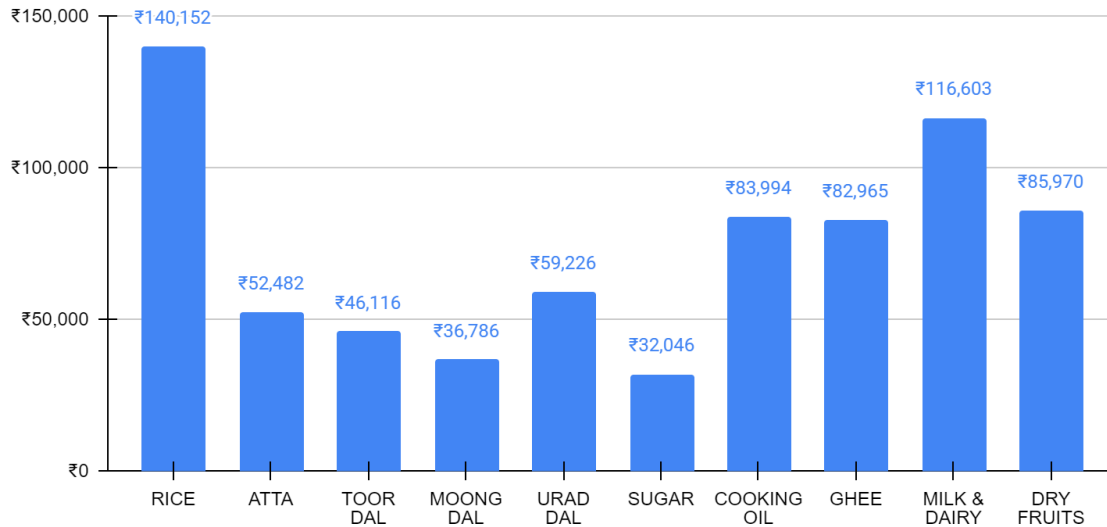
Pareto Chart of Total REVENUE

Legend: ■ % Revenue — Cumulative Revenue

Cumulative Revenue: 19.03%, 34.87%, 46.54%, 57.95%, 69.22%, 77.26%, 84.39%

% Revenue: RICE 19.03%, MILK & D… 15.84%, DRY FR… 11.68%, COOKIN… 11.41%, GHEE 11.27%, URAD DAL 8.04%, ATTA 7.13%, TOOR DAL 6.26%, MOONG… 5.00%, SUGAR 4.35%

PRODUCT

- Above analysis depicts that Rice , Milk & Dairy , Dry Fruits , Cooking Oil , Ghee and Urad Dal are the main revenue generating SKU for the shop which can be seen on the pareto chart can be seen as well as these 6 contributes approx 80% to the total revenue generated of the shop

To analyze each SKU contribution along with pareto , the below graphs are generated to show the proportion of each SKU contribution to Total revenue generated as well as Total sales volume of the shop for a period of month

REVENUE PROPORTION

Legend:
- RICE
- ATTA
- TOOR DAL
- MOONG DAL
- URAD DAL
- SUGAR
- COOKING OIL
- GHEE
- MILK & DAIRY
- DRY FRUITS

Revenue proportions: 19.0%, 7.1%, 6.3%, 5.0%, 8.0%, 4.4%, 11.4%, 11.3%, 15.8%, 11.7%

SALES VOLUME PROPORTION

Legend:
- RICE
- ATTA
- TOOR DAL
- MOONG DAL
- URAD DAL
- SUGAR
- COOKING OIL
- GHEE
- MILK & DAIRY
- DRY FRUITS

Sales volume proportions: 33.9%, 13.9%, 4.8%, 5.6%, 7.8%, 6.2%, 21.2%

- From the above analysis it can be clearly deduced that Sales and revenue proportion for each SKU are directly related to each other meaning there is no high revenue generating product at low sales volume for the shop except
- Cooking oil and Ghee which has a contribution of 6.2% and 6% respectively to the sales volume proportion while having a contribution margin of 11.4% and 11.3% to the total revenue indicating high revenue generation at low volume in comparison to other SKU's
- It can also be seen that the major 6 SKUs from the pareto chart for revenue have a high sales volume proportion and revenue proportion making our pareto chart results valid

After Sales , to analyze the fluctuation or trend in purchase price , the below graph is plotted for the purchase price of each SKU over the period of month

Purchase Price Trend (SKU)
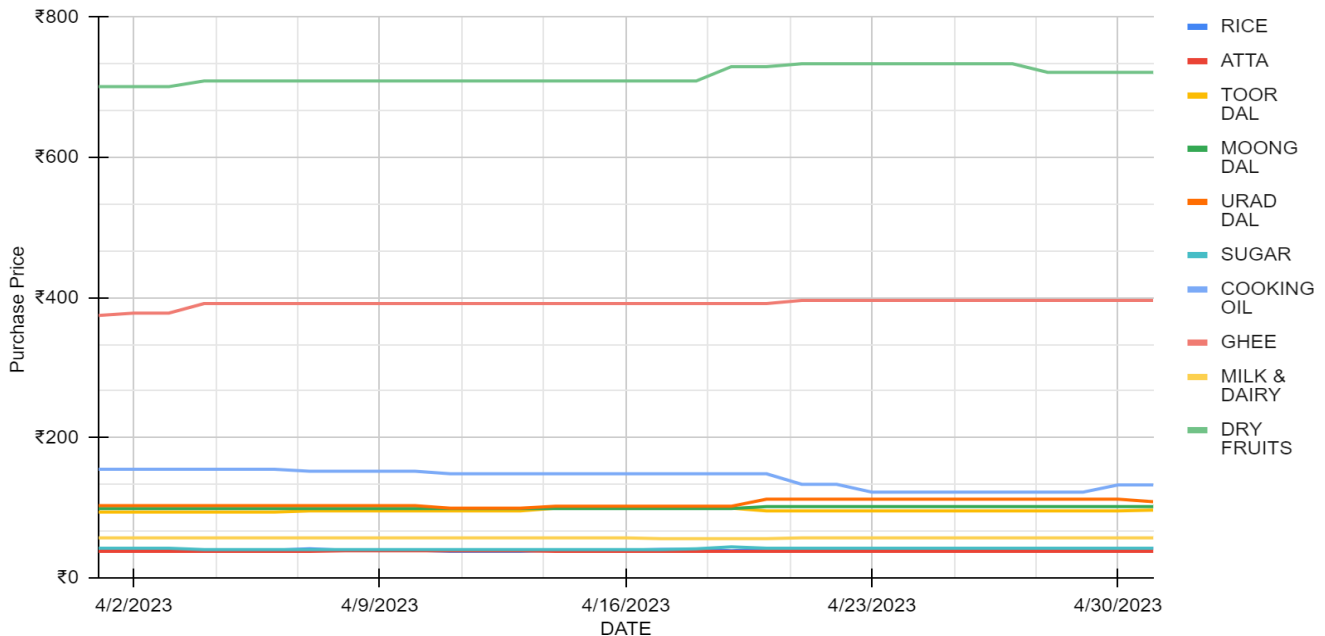
- The above analysis shows that there tends to be a slight increase in purchase price for most of the SKU's (except Cooking oil) at the middle of the month to the end of the month which happens to coincide with the highest revenue generating period for the shop (i.e. 19th to 27th (golden period))
- On the other hand Cooking oil purchase price tends to show a dip on the same period of time (golden time period) making it the best time to buy and generate profit from cooking oil
- And Urad Dal purchase price tends to show a significant increase of ₹10 - ₹12 on the same period of time (golden time period) making it a early investing item (i.e. should be stocked earlier to make huge profit)

Based on above analysis below graph are plotted for Cooking oil and Urad Dal purchase price (Cost Price) and purchase to analyze the buying decision made by the owner
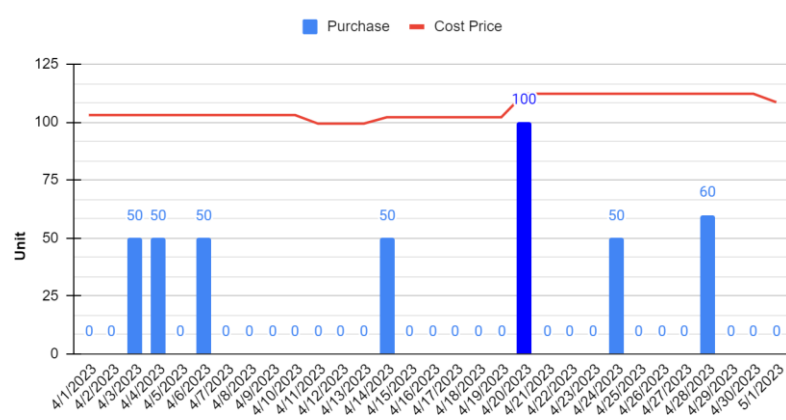
- From above analysis it can be seen that shop owner made two wrong purchases , which were when prices were high , and the seller have earned at least extra 10-15 Rs/Kg, if it would have been brought 2-3 days later or earlier in respective case
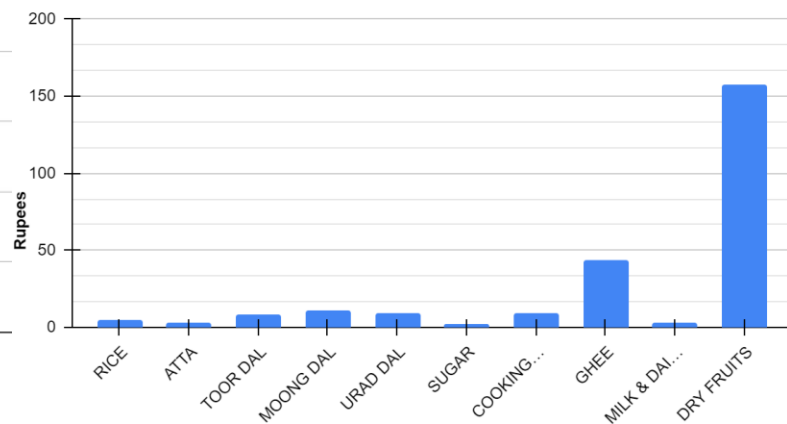
3.2 : Profit / loss Analysis

The below graph shows the comparison of avg purchase price to the average selling price for each item present in the shop which can be further used to calculate avg profit per item to analyze the areas / SKU's which can be improved to increase net profit

- From the above graph it can be seen that Dry fruits and Ghee are the items that holds maximum profit generating capacity while comparing this results to the revenue and revenue volume proportion pie chart it can be clearly seen that Dry Fruits and Ghee sales volume (1.1% and 2.1%) need to be improved for the shop to increase its net profit

Further to analyze , below graph is plotted for , each SKU contribution to the profit in comparison to the contribution in revenue
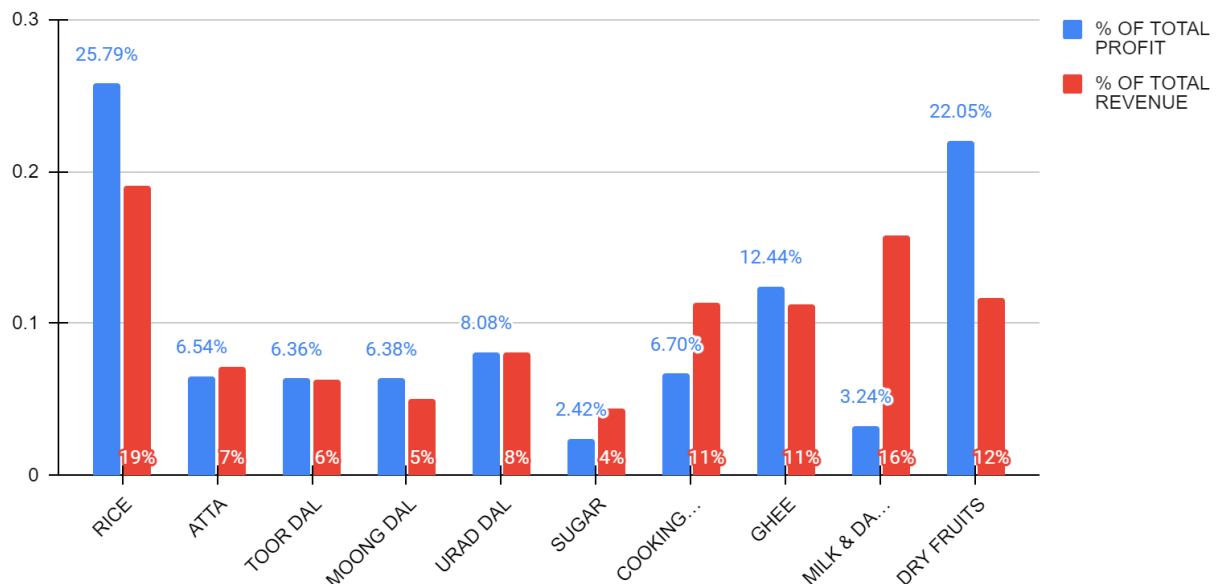

- The above analysis validated our previous analysis about Dry fruits

- It also concludes that although the shop is prosperous in Milk & Dairy , Cooking oil sales but their contribution to the overall profit remains significantly lower to that of others hence lower net profit which can be due to the fact of wrong purchase decision (shown above)

To validate our above finding , the below pareto chart for total profit is plotted

Pareto Chart of Total Profit
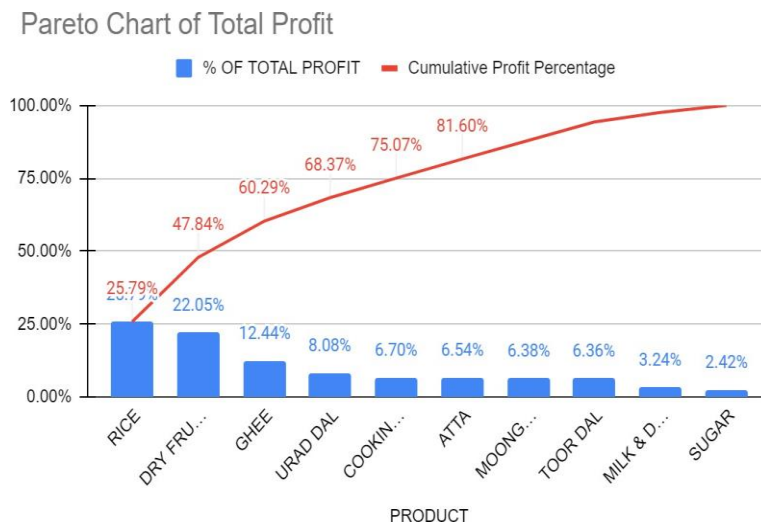
- From the above graph we can see that Rice , Dry Fruits , Ghee , Urad Dal , Cooking OIl and Atta to be the 6 SKU contributing to the 80% of shop total profit
- Secondly ,from the above graph, we do validate our above analysis about Milk & Dairy products (as they are not in 80%)

Furthermore , The below is generated to analyze the gross profit/loss over the period of month


Profit/Loss Trend
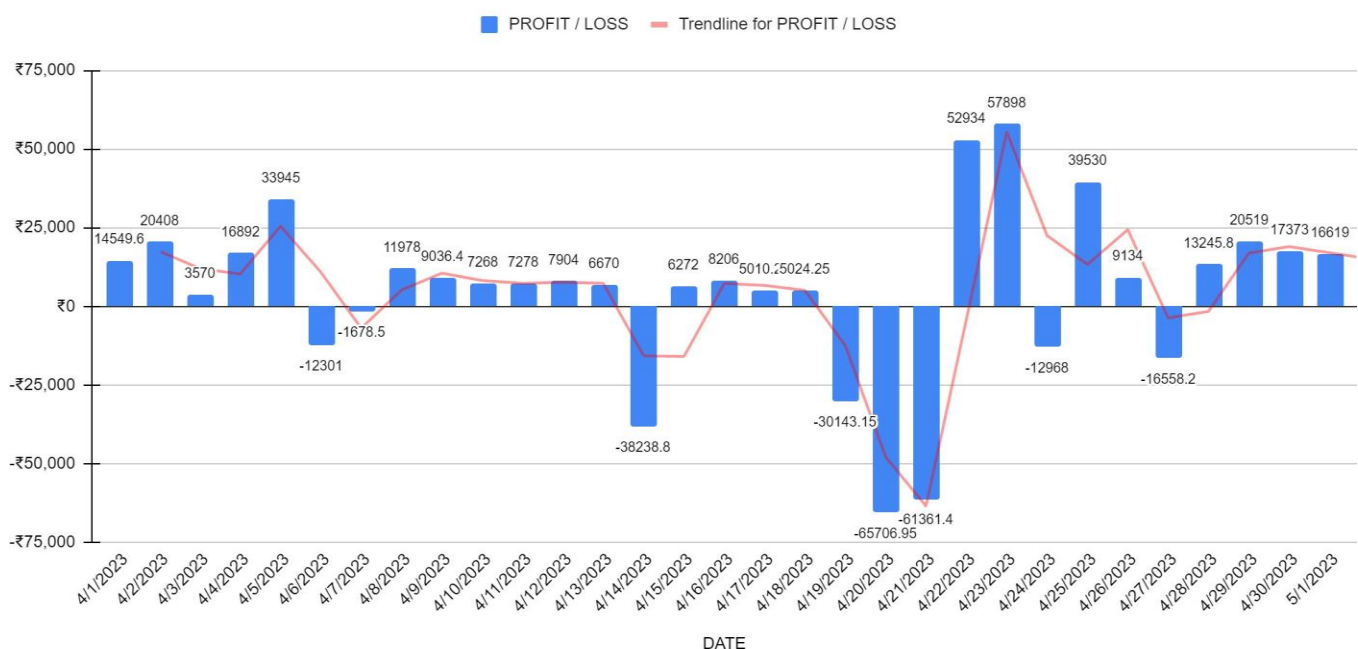
- From the above graph our analysis about the golden period for the shop (i.e. 22th - 28th) validates as well as it can be concluded that the wrong decision made by the owner in purchase of Cooking oil and Urad Dal (shown above) caused very high loss for the shop resulting in lower net profit

3.3: InventoryAnalysis

To start with inventory analysis , below graph represents the average stock in bags/carton for every item
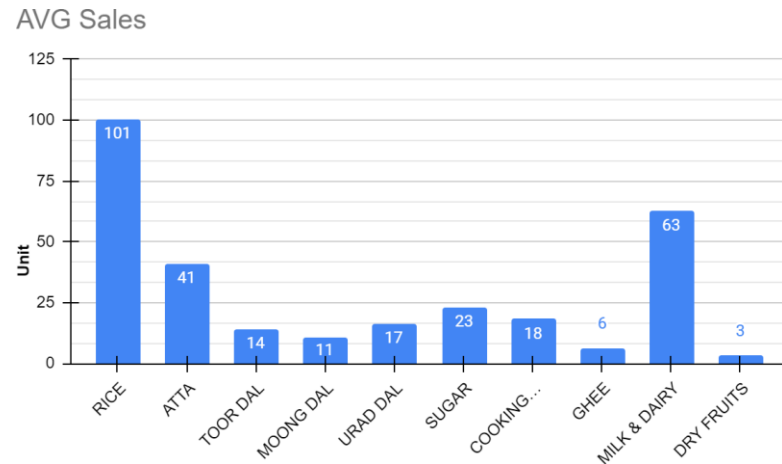
- Comparing the above avg stock graph with avg sales of the each item in exception to Milk & Dairy we can see that there are no abnormalities

As per owner claim of inefficient inventory management , the below graph is plotted to analyze inventory fluctuation over the period of month
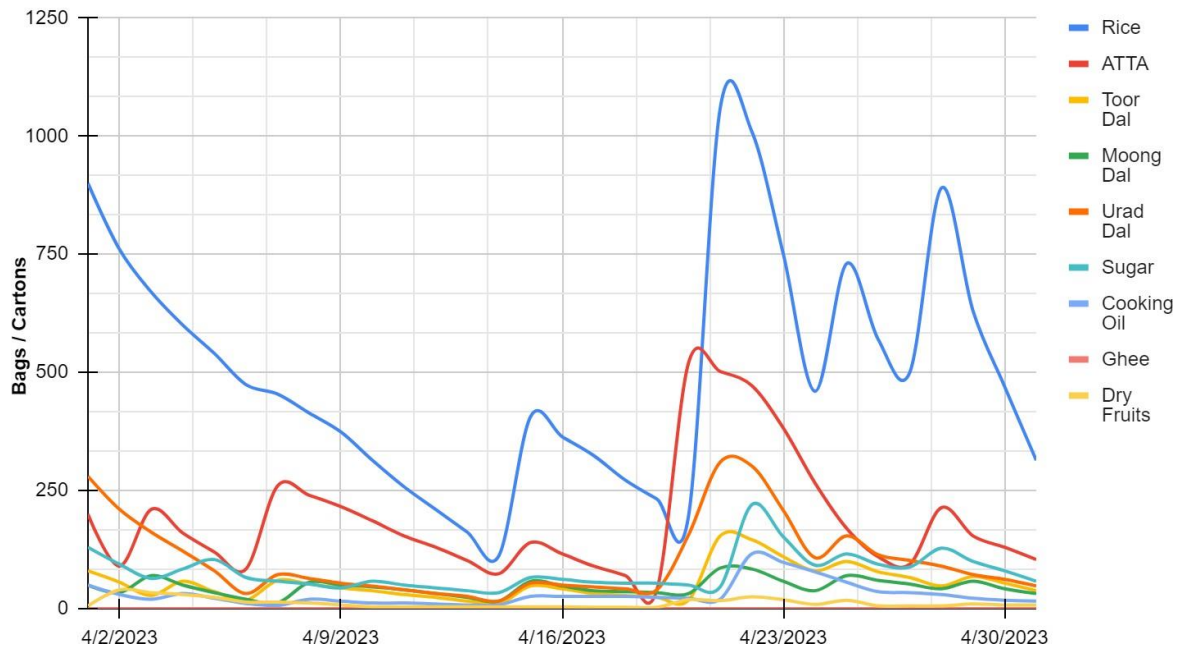
- From the above graph it can be clearly seen that although there are no abnormalities in avg stock as per sales but there are high fluctuation / variance in stock present in the inventory for every SKU around the golden period (i.e. 22th - 28th) when sales are high which clearly indicated poor planning and validates owner claim
- Secondly it can be observed that shop tend to refill it's stock in relation to demand or when stock is limited in inventory which can be referred to as a good practice but is backfiring in this particular case (given all months follow the same trend.)
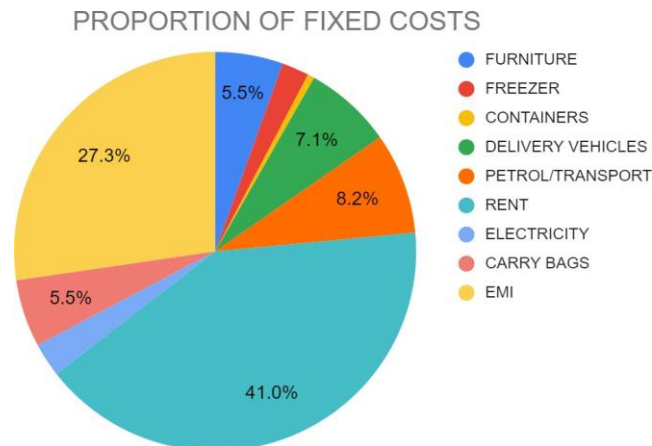
3.4: PL & INSIGHTS

Further to analyze the net profit firstly fixed cost is calculated using the data given by the owner

A	B	C	D
		FIXED COST ANALYSIS	
	COST	RATE OF DEPRICIATION	DEPRICIATION
FURNITURE	200000	1%	₹2,000
FREEZER	40000	2%	₹800
CONTAINERS	20000	1%	₹200
DELIVERY VEHICLES	130000	2%	₹2,600
PETROL/TRANSPORT	3000	100%	₹3,000
RENT	15000	100%	₹15,000
ELECTRICITY	1000	100%	₹1,000
CARRY BAGS	2000	100%	₹2,000
EMI	10000	100%	₹10,000
TOTAL FIXED COST	₹421,000	TOTAL NORMALISED FIXED COST	₹36,600

- The above table provides us with fixed cost analysis along with depreciation rate (approx given by the owner)
- Items in above table can be majorly divided into two segments :- fixed assets and monthly expenses.
- Majority of the loan amount was used by the seller to purchase fixed assets. Also as it can be seen that the rate of depreciation for them is very low (1-2%), which is an indication of a good investment
- The amortized monthly cost of the fixed assets if only ₹56,000 , is very low compared to the returns he gets from them indicating good investment
- From the above table following things can also be calculated :
  - Total fixed cost : ₹421,000
  - Total Normalized Fixed cost : ₹36,600 , which can be used to calculate net profit using formula :
    $(Net\ profit\ =\ Gross\ Profit\ -\ Total\ Normalised\ Fixed\ Cost)$
  - Net profit : ₹41,500

Further the below graph is plotted to analyze fixed cost proportion

PROPORTION OF FIXED COSTS

- FURNITURE
- FREEZER
- CONTAINERS
- DELIVERY VEHICLES
- PETROL/TRANSPORT
- RENT
- ELECTRICITY
- CARRY BAGS
- EMI

5.5%
27.3%
7.1%
8.2%
5.5%
41.0%

- From the above graph it can be seen that Electricity and Containers are the main contributors to the fixed cost but due to them being a necessity for shop there is not much reduction to do.

4) <u>Interpretation of Results and Recommendation</u>

<u>4.1</u> : Recommendation 1: Increase the sales of high profit item (such as :- Dry Fruits & Ghee)

Based on the analysis, it is evident that Dry Fruits and Ghee have significantly higher profit margins compared to other items. The shop owner can take advantage of this by increasing the sales of these items, resulting in higher profits and additional assets for the shop.

<u>Steps which can be taken to increase the sales of high profit margin items :-</u>

- Seasonal Promotion: Dry Fruits are commonly consumed during winter. The shop can host a sale on dry fruits during this season to capitalize on increased demand and boost sales.

- B2B Platforms and Business Partnerships: Dry Fruits and Ghee are essential items for other businesses as well. The shop can leverage this by participating in B2B platforms or approaching other businesses to sell these items at a lower rate than what is offered to customers. While this may reduce the profit margin per unit, it can significantly increase overall sales and ultimately lead to higher net profits for the shop.

- Bulk Sales and Discounts: Instead of selling small quantities of dry fruits, the shop owner can offer larger quantities of dry fruit packets at discounted prices to attract customers and other business owners. This strategy can incentivize customers to buy in bulk and increase sales volume.

4.2 : Recommendation 3 : Increasing Sales of Milk

In line with the first recommendation, it is important to address items like Dry Fruits, Milk, and Dairy that may not be meeting sales expectations due to seasonal, time-specific, or incentive-based factors. To optimize inventory further and increase sales, the following strategies can be implemented:

- Morning-focused Milk Sales: Based on discussions with the owner, it was found that 98% of milk sales occur in the morning. To enhance inventory management and increase sales, the shop can prioritize stocking milk specifically for morning demand. Additionally, the shop can encourage customers to purchase other goods along with milk or offer house delivery of milk at no additional cost. This strategy can optimize fixed assets, such as delivery vehicles, and increase overall sales. Successful startups like SUPR DAILY have employed similar strategies to boost their sales.

- Introduce Delivery Charges: Once the initial phase of offering free house delivery of milk is established, the shop owner can gradually introduce nominal charges for delivery. This will not only help cover the cost of the service but also generate additional profits for the shop.

4.3 : Recommendation 2 : Restock inventory earlier than usual or during high sales periods

The shop owner made poor decisions in purchasing cooking oil and Urad Dal, resulting in significant losses for the shop. These decisions were primarily influenced by high demand and low stock availability at that time. To avoid such situations and optimize inventory management, the following recommendations can be implemented:

- Time-based Restocking: Instead of purchasing and selling products based solely on demand, it is advisable to restock the inventory at fixed intervals. The items can be sorted based on perishable and non-perishable goods, considering the shop's facilities and the owner's preferences. This approach allows the shop owner to identify items that can be purchased in advance, reducing the risk of making last-minute decisions.

- Timing Restock with High Sales Periods: Analyzing the data, it is observed that the period from the 22nd to the 28th of each month exhibits high sales. Therefore, it is recommended to restock inventory slightly earlier than the 22nd to avoid making incorrect decisions due to inadequate stock. By aligning restocking with high sales periods, the shop can ensure sufficient inventory availability without excessive load or unnecessary risks.

4.4 : Recommendation 4 : Increase Current Ratio

The analysis reveals that the shop's current ratio (CR) is currently low, indicating potential liquidity issues. The current ratio can be improved by either increasing current assets or decreasing liabilities. (based on formula given below)

$$Current\ Assets = Inventory\ (stock) + Cash = ₹28,525$$
$$Current\ Ratio = Current\ Assets\ /\ Liabilities = 0.07$$

Considering the constraints of the scenario where household expenses rely on the majority of profits and essential liabilities for running the business, reducing liabilities is not a feasible option. Therefore, the focus should be on increasing sales to boost current assets and improve the current ratio.

By implementing the aforementioned recommendations to increase the sales of high-profit items, restocking inventory at optimal times, and targeting specific sales strategies for milk and other items, the shop owner can enhance profitability, optimize inventory management, and improve the current ratio, leading to a more financially stable and successful business.

4.5 : Recommendation 5 : Additional Steps

4.5.1 : Effective Pricing Strategies

Another aspect to consider in increasing profitability is implementing effective pricing strategies. The shop owner can explore the following approaches:

- Bundle Pricing: Consider creating bundled offers where related products, such as dry fruits and ghee, are sold together at a discounted price. This strategy encourages customers to purchase multiple items and increases the overall value of each transaction.
- Promotional Pricing: Periodically offer special promotions, such as discounts, buy-one-get-one-free offers, or limited-time offers, to create a sense of urgency and attract customers. These promotional pricing strategies can boost sales during specific periods and generate excitement among customers.

4.5.2 : Enhance Store Display and Visual Merchandising

Following suggestions can taken in account to enhance the store visual merchandiser:

- Eye-Catching Displays: Arrange high-profit items, such as dry fruits and ghee, in attractive displays near the entrance or high-traffic areas. Use creative and appealing signage or decorations to draw attention and entice customers to explore those sections.
- Sample Stations: Consider setting up sample stations where customers can taste or try certain products, especially for dry fruits or other items that customers may be less familiar with. This allows customers to experience the quality and flavor, increasing their likelihood of making a purchase.

By implementing effective pricing strategies and enhancing store display and visual merchandising, the shop can create a more enticing and customer-friendly environment, leading to increased sales and profitability.

5) <u>Conclusion</u> :

In conclusion, the analysis of Bansal Kirana Store's sales and expenditure data has provided valuable insights and recommendations for improving the shop's profitability and inventory management.

The analysis revealed that certain items, such as Dry Fruits and Ghee, have high-profit margins and represent significant opportunities for increasing sales. By implementing targeted marketing strategies, such as seasonal promotions and partnerships with other businesses, the shop can tap into the potential of these high-profit items. Additionally, offering bulk sales and discounts can incentivize customers to purchase larger quantities, further boosting sales volume and overall profitability.

The findings also highlighted the importance of optimizing inventory management. By restocking inventory earlier during high sales periods and improving planning and forecasting, the shop can ensure sufficient stock availability without excess inventory buildup or shortages. This will help to maintain customer satisfaction, reduce carrying costs, and improve overall operational efficiency.

Furthermore, the analysis emphasized the significance of making informed purchase decisions. The shop owner should closely monitor price fluctuations and market trends to avoid purchasing items at inflated prices, as observed with Cooking Oil and Urad Dal. By implementing a proactive approach to purchasing, the shop can minimize losses and increase profitability.

The analysis of fixed costs identified areas of expenditure that require attention, such as electricity and containers. The shop owner should continuously evaluate and optimize these costs to improve cost efficiency and maximize profit margins.

In addition, the recommendations to enhance store display and utilize effective pricing strategies can contribute to increased customer attraction and sales. Eye-catching displays, sample stations, and promotional pricing can create a positive shopping experience and encourage customers to make additional purchases, leading to higher revenue and profitability.

By implementing these recommendations, Bansal Kirana Store can improve its financial performance, increase profitability, and establish a stronger position in the market. It is important for the shop owner to continually monitor and evaluate the effectiveness of these strategies, making necessary adjustments to ensure long-term growth and sustainability.

6) <u>Important Links</u> :

Spreadsheet : 📗 21f3002317 BDM capstone

Presentation: 🟨 21f3002317 BDM capstone

END