LEVERAGING DATA ANALYTICS FOR OPTIMISING INVENTORY LEVELS AND ENHANCING THE OVERALL SUSTAINABILITY PRACTICES

FINAL SUBMISSION FOR THE BDM CAPSTONE PROJECT

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EXECUTIVE SUMMARY AND TITLE

As explained earlier in the proposal and in the midterm submission, Selvamani Store is a provision store located in Tirunelveli District, Tamilnadu. Using data analytics to bring improvements in the inventory levels and to enhance the overall sustainability practices were the primary goals of this project. This final submission report explains the analysis process and discusses the analysis done in the collected data in a detailed manner. Then, all the results and findings which were found by analyzing and visualizing the collected data, are listed and elaborately illustrated with appropriate graph diagrams and tabular columns. The concluding part of the report elucidates the interpretation of the results, where all the insights gained from the methods of analysis are highlighted, based on which, approaches for solutions to the problem statements are derived at. At last, based on the analysis done and the insights gained, suitable recommendations for optimising the inventory levels and enhancing the overall sustainability practices are listed, for the development of the business in terms of improvised inventory management and enhanced overall sustainability practices.

ANALYSIS PROCESS / METHOD

For optimising inventory levels, the methods ABC Analysis and Inventory Turnover Analysis were chosen. Data of sales and purchases were collected for 31 days (25 June 2024 to 25 July 2024) for 17 SKUs namely Rice, Toor Dal, Moong Dal, Channa Dal, Sugar, Jaggery, Palm Jaggery, Coconut Oil, Gingelly Oil, Sunflower Oil, Groundnut Oil, Milk, Curd, Salt, Chocolates, Pulses and Bathroom Cleaners.

(i) <u>Data Analysis for Sales, Selling Price and Revenue Generated</u>: The sales data and the selling prices data of the 17 SKUs were collected and using that data, the revenue generated was found for each of the SKUs. The formula for calculating the revenue is given by

Revenue = Quantity Sold \times Selling Price

(ii) <u>Data Analysis for Purchases, Purchase Price and Expenditure Incurred</u>: The purchases data and the purchases prices data of the 17 SKUs were collected and using that data, the expenditure incurred was found for each of the SKUs. The formula for calculating the expenditure is given by

 $Expenditure = Quantity Purchased \times Purchase Price$

(iii) <u>Data Analysis for Inventory, Total Inventory and Average Inventory</u>: Along with the sales data and the purchases data, the initial inventory data was also collected for each of the SKUs at the first day of data collection (25 June 2024). Further, the daily inventory data was calculated using the sales data, purchases data and the initial inventory data using the formula given by

$Inventory = Initial\ Inventory - Sales + Purchases$

Using all the inventory data, the daily total inventory, the average daily total inventory and the SKU-wise average inventory data were calculated.

For enhancing the overall sustainability practices in the store operations, the methods RFM Analysis and Market Basket Analysis were chosen. Data of customer demographics, customer preferences and customer feedback were collected from 30 customers (15 Male and 15 Female).

- (i) <u>Data Analysis for Customer Demographics</u>: The data of the age of the customers, gender of the customers and the household size of the customer were collected. The average age of the customers and the average household size of the customers were calculated.
- (ii) <u>Data Analysis for Customer Preferences</u>: The data of the three most preferred products by each of the customers were collected.
- (iii) <u>Data Analysis for Customer Feedback</u>: The data of the customer feedback (told in one line) and the rating given by the customer for the shop were collected. The average rating given by the customers were calculated.

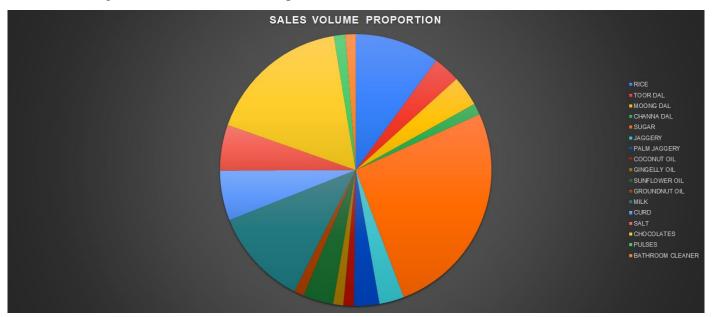
RESULTS AND FINDINGS

Here are the results and findings from the sales data:

1. <u>Sales Volume Proportion</u>: Sales volume proportion is the percentage of units sold of a particular SKU compared to the total units sold of all SKUs. It can be graphically represented using a Pie Chart. The sales volume proportions of each of the SKUs is given below (in percentages):

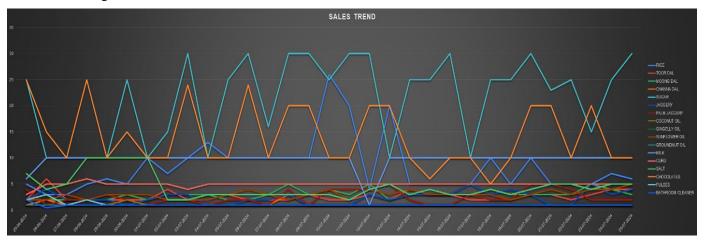
SKU	Percentage	SKU	Percentage
Rice	10%	Sunflower Oil	4%
Toor Dal	4%	Groundnut Oil	1%
Moong Dal	4%	Milk	12%
Channa Dal	1%	Curd	6%
Sugar	26%	Salt	5%
Jaggery	3%	Chocolate	17%
Palm Jaggery	3%	Pulses	1%
Coconut Oil	1%	Bathroom Cleaner	1%
Gingelly Oil	1%	TOTAL	100%

Figure 3.1 - Sales Volume Proportion



2. <u>Sales Trend</u>: Sales trend is the methodology to understand sales results which help in knowing the trends of the market over a specific period. It can be graphically represented using a Line Chart.

Figure 3.2 - Sales Trend

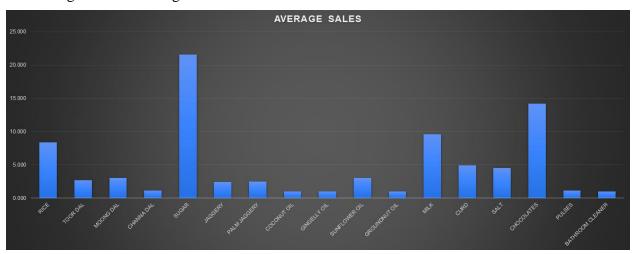


3. <u>Average Sales</u>: Average sales is the value of sales divided by the quantity of goods sold, or the total sales value for a period divided by the intervals for that period. It can be graphically represented using a Bar Chart.

The average sales of each of the SKUs is given below:

SKU	Value	SKU	Value
Rice	8.387	Sunflower Oil	3.000
Toor Dal	2.677	Groundnut Oil	1.000
Moong Dal	3.000	Milk	9.581
Channa Dal	1.129	Curd	4.935
Sugar	21.581	Salt	4.516
Jaggery	2.452	Chocolate	14.161
Palm Jaggery	2.516	Pulses	1.129
Coconut Oil	1.032	Bathroom Cleaner	1.016
Gingelly Oil	1.000		

Figure 3.3 - Average Sales



4. <u>Selling Price Trend</u>: Selling price trend is a visual representation that tracks how the selling price of SKUs change over time. It can be graphically represented using a Line Chart.

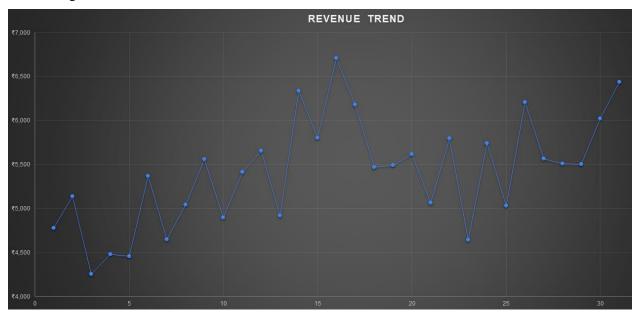
Figure 3.4 - Selling Price Trend



5. <u>Revenue Trend</u>: Revenue trend looks at the business's revenue over a certain time period and allows us to see fluctuations in sales over time. It can be graphically represented using a Scatter with Straight Lines Chart. The revenue trend from 25 June 2024 to 25 July 2024 is given below:

Date	Revenue	Date	Revenue
25 June 2024	₹4,777	11 July 2024	₹6,178
26 June 2024	₹5,141	12 July 2024	₹5,470
27 June 2024	₹4,255	13 July 2024	₹5,493
28 June 2024	₹4,481	14 July 2024	₹5,616
29 June 2024	₹4,461	15 July 2024	₹5,067
30 June 2024	₹5,372	16 July 2024	₹5,799
01 July 2024	₹4,647	17 July 2024	₹4,645
02 July 2024	₹5,046	18 July 2024	₹5,739
03 July 2024	₹5,560	19 July 2024	₹5,030
04 July 2024	₹4,898	20 July 2024	₹6,207
05 July 2024	₹5,417	21 July 2024	₹5,566
06 July 2024	₹5,656	22 July 2024	₹5,511
07 July 2024	₹4,919	23 July 2024	₹5,506
08 July2024	₹6,338	24 July 2024	₹6,022
09 July 2024	₹5,801	25 July 2024	₹6,438
10 July 2024	₹6,710		<u> </u>

Figure 3.5 - Revenue Trend

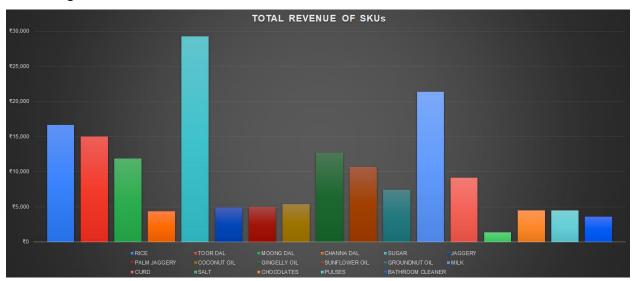


6. <u>Total Revenue of SKUs</u>: Total revenue of SKUs is calculated by multiplying quantity sold by unit selling price for each SKU. It can be graphically represented using a Clustered Column Chart.

The total revenue of each of the SKUs is given below:

SKU	Revenue	SKU	Revenue
Rice	₹16,640	Sunflower Oil	₹10,695
Toor Dal	₹15,022	Groundnut Oil	₹7,440
Moong Dal	₹11,856	Milk	₹21,384
Channa Dal	₹4,388	Curd	₹9,162
Sugar	₹29,236	Salt	₹1,400
Jaggery	₹4,864	Chocolate	₹4,470
Palm Jaggery	₹4,992	Pulses	₹4,498
Coconut Oil	₹5,415	Bathroom Cleaner	₹3,594
Gingelly Oil	₹12,710		

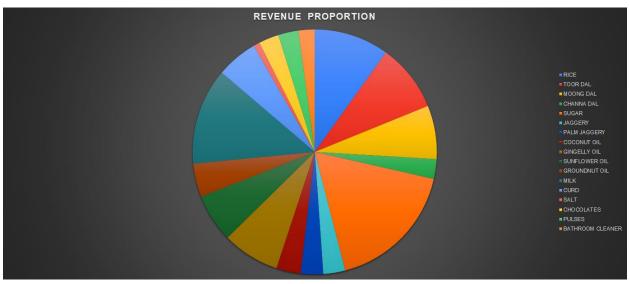
Figure 3.6 - Total Revenue of SKUs



7. <u>Revenue Proportion</u>: Revenue proportion is the percentage of revenue of a particular SKU compared to the total revenue of all SKUs. It can be graphically represented using a Pie Chart. The revenue proportions of each of the SKUs is given below (in percentages):

SKU	Percentage	SKU	Percentage
Rice	10%	Sunflower Oil	6%
Toor Dal	9%	Groundnut Oil	4%
Moong Dal	7%	Milk	13%
Channa Dal	3%	Curd	5%
Sugar	17%	Salt	1%
Jaggery	3%	Chocolate	3%
Palm Jaggery	3%	Pulses	3%
Coconut Oil	3%	Bathroom Cleaner	2%
Gingelly Oil	8%	TOTAL	100%

Figure 3.7 - Revenue Proportion

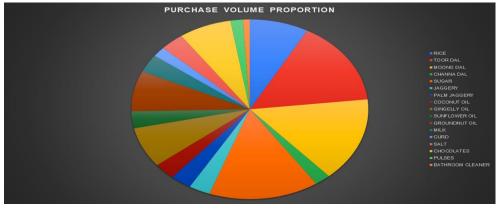


Here are the results and findings from the purchases data:

1. <u>Purchase Volume Proportion</u>: Purchase volume proportion is the percentage of units purchased of a particular SKU compared to the total units purchased of all SKUs. It can be graphically represented using a Pie Chart. The purchase volume proportions of each of the SKUs is given below (in percentages):

SKU	Percentage	SKU	Percentage		
Rice	8%	Sunflower Oil	3%		
Toor Dal	16%	Groundnut Oil	7%		
Moong Dal	15%	Milk	3%		
Channa Dal	2%	Curd	2%		
Sugar	15%	Salt	3%		
Jaggery	3%	Chocolate	7%		
Palm Jaggery	3%	Pulses	2%		
Coconut Oil	3%	Bathroom Cleaner	1%		
Gingelly Oil	7%	TOTAL	100%		

Figure 3.8 - Purchase Volume Proportion



2. <u>Purchase Trends</u>: Purchase trends are patterns of buying behavior that change over time. They can include the types of products purchased, how often, how much is spent etc. It can be graphically represented using a Line Chart.

Figure 3.9 - Purchase Trend



3. <u>Purchase Price Trends</u>: Purchase price trend is a visual representation that tracks how the purchase price of SKUs change over time. It can be graphically represented using a Line Chart.

Figure 3.10 - Purchase Price Trends

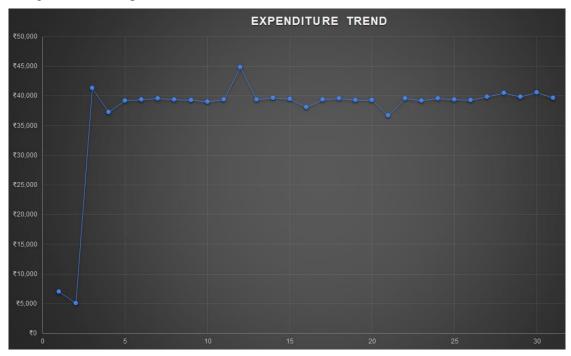


4. <u>Expenditure Trend</u>: Expenditure trend tells about the business's expenditure over a certain time period and allows us to see fluctuations in purchases over time. It can be graphically represented using a Scatter with Straight Lines Chart.

The expenditure trend from 25 June 2024 to 25 July 2024 is given below:

Date	Expenditure	Date	Expenditure
25 June 2024	₹7,003	11 July 2024	₹39,360
26 June 2024	₹5,090	12 July 2024	₹39,570
27 June 2024	₹41,297	13 July 2024	₹39,260
28 June 2024	₹37,219	14 July 2024	₹39,270
29 June 2024	₹39,180	15 July 2024	₹36,710
30 June 2024	₹39,345	16 July 2024	₹39,540
01 July 2024	₹39,530	17 July 2024	₹39,220
02 July 2024	₹39,395	18 July 2024	₹39,540
03 July 2024	₹39,295	19 July 2024	₹39,370
04 July 2024	₹38,965	20 July 2024	₹39,280
05 July 2024	₹39,405	21 July 2024	₹39,860
06 July 2024	₹44,814	22 July 2024	₹40,460
07 July 2024	₹39,360	23 July 2024	₹39,810
08 July2024	₹39,690	24 July 2024	₹40,586
09 July 2024	₹39,470	25 July 2024	₹39,660
10 July 2024	₹38,040		

Figure 3.11 – Expenditure Trend

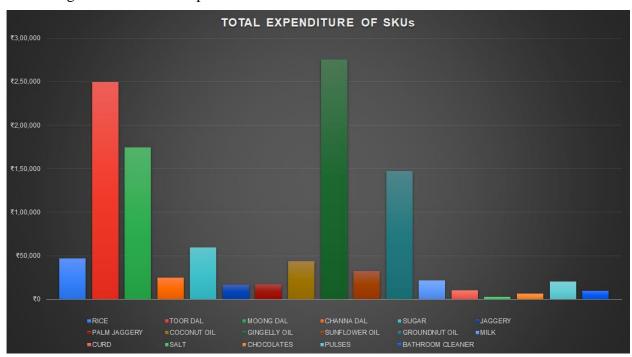


5. <u>Total Expenditure of SKUs</u>: Total expenditure of SKUs is calculated by multiplying quantity purchased by unit purchasing price for each SKU. It can be graphically represented using a Clustered Column Chart.

The total expenditure of each of the SKUs is given below:

SKU	Expenditure	SKU	Expenditure
Rice	₹46,664	Sunflower Oil	₹32,570
Toor Dal	₹2,49,550	Groundnut Oil	₹1,47,216
Moong Dal	₹1,74,512	Milk	₹21,740
Channa Dal	₹24,910	Curd	₹10,068
Sugar	₹59,396	Salt	₹2,810
Jaggery	₹16,764	Chocolate	₹6,119
Palm Jaggery	₹16,966	Pulses	₹20,132
Coconut Oil	₹43,673	Bathroom Cleaner	₹9,666
Gingelly Oil	₹2,75,838		

Figure 3.12 - Total Expenditure of SKUs



6. <u>Expenditure Proportion</u>: Expenditure proportion is the percentage of expenditure of a particular SKU compared to the total expenditure of all SKUs. It can be graphically represented using a Pie Chart. The expenditure proportions of each of the SKUs is given below (in percentages):

SKU	Percentage	SKU	Percentage	SKU	Percentage
Rice	4%	Coconut Oil	4%	Chocolate	1%
Toor Dal	22%	Gingelly Oil	24%	Pulses	2%
Moong Dal	14%	Sunflower Oil	3%	Bathroom Cleaner	1%
Channa Dal	2%	Groundnut Oil	12%	TOTAL	100%
Sugar	5%	Milk	2%		
Jaggery	1%	Curd	1%		
Palm Jaggery	1%	Salt	1%		

EXPENDITURE PROPORTION

| RICE | TOOR DAL | MOONS DAL | CHARNA DAL | SUGAR | PALM JAGGERY | COCONUT OIL | GROUNDNUT OIL | MILK | CURD | SALT | CHOCOLATES | PUISES | BATHROOM CLEANER

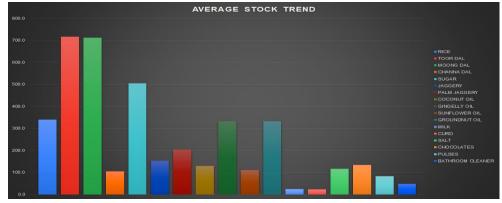
Figure 3.13 - Expenditure Proportion

Here are the results and findings from the inventory data:

1. <u>Average Stock Trend</u>: Average stock trend shows the average stock values of each of the SKUs. It can be represented using a Clustered Column Chart. The average stock values of each of the SKUs is given below:

SKU	Average Stock	SKU	Average Stock	SKU	Average Stock
Rice	340.0	Coconut Oil	129.1	Chocolate	133.6
Toor Dal	716.5	Gingelly Oil	332.7	Pulses	82.4
Moong Dal	711.7	Sunflower Oil	110.3	Bathroom Cleaner	47.1
Channa Dal	104.8	Groundnut Oil	332.7		
Sugar	505.2	Milk	24.1		
Jaggery	153.2	Curd	23.1		
Palm Jaggery	203.2	Salt	116.6		

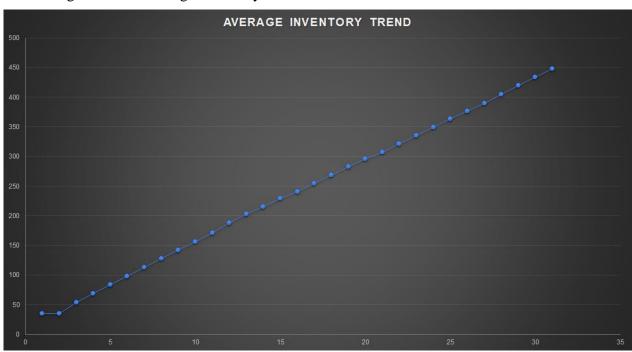
Figure 3.14 - Average Stock Trend



2. <u>Average Inventory Trend</u>: Average inventory trend shows the average inventory values of over a period of time. It can be represented using a Scatter with Straight Lines. The average stock values of each of the SKUs is given below:

Date	Average Inventory	Date	Average Inventory
25 June 2024	35	11 July 2024	255
26 June 2024	35	12 July 2024	269
27 June 2024	54	13 July 2024	282
28 June 2024	69	14 July 2024	296
29 June 2024	84	15 July 2024	307
30 June 2024	98	16 July 2024	321
01 July 2024	113	17 July 2024	335
02 July 2024	129	18 July 2024	349
03 July 2024	142	19 July 2024	364
04 July 2024	157	20 July 2024	377
05 July 2024	172	21 July 2024	390
06 July 2024	188	22 July 2024	404
07 July 2024	203	23 July 2024	420
08 July2024	216	24 July 2024	434
09 July 2024	229	25 July 2024	448
10 July 2024	241		

Figure 3.15 - Average Inventory Trend

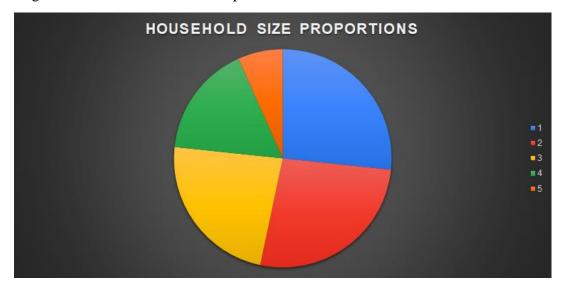


Here are the results and findings from the customer data:

1. <u>Household Size Proportions</u>: Household size proportion is the percentage of household size of a particular customer compared to the total household size of all customers. It can be graphically represented using a Pie Chart. The household size proportion is given below (in percentages):

<u>` 1</u>		
Household Size	Count of Household Size	Percentage of Household Size
1	8	27%
2	8	27%
3	7	23%
4	5	17%
5	2	6%
TOTAL	30	100%

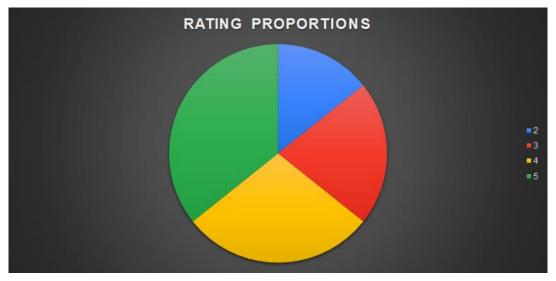
Figure 3.16 - Household Size Proportions



2. <u>Rating Proportions</u>: Rating proportion is the percentage of rating given by a particular customer compared to the total ratings given by all customers. It can be graphically represented using a Pie Chart. The rating proportion is given below (in percentages):

Rating	Count of Rating	Percentage of Rating	
2	2	14%	
3	6	21%	
4	10	29%	
5	12	36%	
TOTAL	30	100%	

Figure 3.17 - Rating Proportions



INTERPRETATION OF RESULTS

Here are the interpretations of the results for optimising inventory levels:

ABC Analysis

Overview:

ABC analysis is a method for categorizing SKUs based on their relative importance to the business. The goal is to help the business owner prioritize their resources and focus on the SKUs that have the biggest impact on revenue and profitability. ABC Analysis helps categorize inventory into three categories.

- 1. Category A (High Value SKUs): SKUs in this category contribute to a significant portion of total profit or revenue.
- 2. Category B (Medium Value SKUs): SKUs in this category contribute moderately to the total profit or revenue.
- 3. Category C (Low Value SKUs): SKUs in this category contribute minimally to total profit or revenue.

Breakdown:

- 1. Category A (High Value SKUs):
 - a. Groundnut Oil contributes 32.08% of total profit and has a high-profit margin of 11.51%, though its revenue is only 4.43% of the total.
 - b. Toor Dal contributes the most to total profit at 44.86%, with a moderate profit margin of 5.29% and revenue at 8.95% of the total.
 - c. Sugar, while its profit contribution is 3.80%, it has a moderate profit margin of 5.75% and its revenue contribution is the highest at 17.43%.

2. Category B (Medium Value SKUs):

- a. Coconut Oil contributes 4.88% to profit with an 8.62% profit margin. Revenue contribution is moderate at 3.23%.
- b. Chocolates contributes 7.20% to profit with a high-profit margin of 16.62%, but has a low revenue contribution at 2.66%.
- c. Bathroom Cleaner contributes 7.06% to profit with a 4.61% profit margin, and a low revenue contribution of 2.14%.
- d. Moong Dal has a low contribution to profit at 2.09%, but is consistent with a 5.47% profit margin and 7.07% revenue contribution.
- e. Milk contributes 1.85% to profit, with a low profit margin of 2.60%, but a high revenue contribution at 12.75%.
- f. Channa Dal contributes 3.62% to total profit, with a profit margin of 5.70% and a low revenue contribution of 2.62%.
- g. Sunflower Oil contributes 1.46% to profit, with a 3.48% profit margin and 6.37% revenue contribution.

3. Category C (Low Value SKUs):

- a. Rice has a negative profit (-₹244) and contributes -1.93% to the total profit, despite having a significant revenue contribution of 9.92%.
- b. Palm Jaggery also has negative profit (-₹74), contributing -0.59% to profit with a low revenue contribution of 2.98%.
- c. Gingelly Oil has negative profit (-₹490), contributing -3.88% to profit, with moderate revenue at 7.58%.
- d. Curd has negative profit (-₹96), contributing -0.76% to profit with a 5.46% revenue contribution.
- e. Pulses has negative profit (-₹454), contributing -3.59% to profit with low revenue at 2.68%.
- f. Jaggery has very low profit (₹80), contributing only 0.63% to profit with a 2.90% revenue contribution.
- g. Salt has low profit (\gtrless 153), contributing 1.21% to profit, with negligible revenue at 0.83%.

Inventory Turnover Analysis

Overview:

Inventory Turnover Analysis helps to understand how efficiently the inventory is being managed. The goal is to help the business owner to determine the right amount of stock to keep on-hand to fill demand while avoiding spending too much on inventory storage. Inventory Turnover Analysis helps categorize inventory into three categories.

- 1. High Turnover Products: SKUs in this category are fast selling & high revenue generating.
- 2. Balanced Turnover Products: SKUs in this category are steady & their inventory should be monitored regularly.
- 3. Low Turnover Products: SKUs in this category are to be improve their turnover & profitability.

Breakdown:

1. High Turnover Products:

- a. Toor Dal generates high revenue (₹15,022) and significant profit contribution indicating efficient inventory turnover.
- b. Sugar generates high revenue (₹29,236) with a solid profit margin suggesting it is a fast moving product.
- c. Milk generates high revenue (₹21,384) with moderate profit, indicating quick sales and effective turnover.
- d. Chocolates generate moderate revenue (₹4,470) but with a high-profit margin, suggesting it sells well and has efficient turnover.

2. Balanced Turnover Products:

- a. Moong Dal generates moderate revenue (₹11,856) and low profit, indicating a steady and balanced inventory turnover.
- b. Channa Dal generates moderate revenue (₹4,388) with consistent profitability suggesting stable inventory turnover.
- c. Sunflower Oil generates moderate revenue (₹10,695) and lower profit margin, indicating balanced turnover.
- d. Coconut Oil generates moderate revenue (₹5,415) with a good profit margin, indicating steady and balanced turnover.
- e. Bathroom Cleaners generate low revenue (₹3,594) but solid profit margin, indicating steady sales.

3. Low Turnover Products:

- a. Rice generates high revenue (₹16,640) but negative profit, indicating overstocking or inefficiencies.
- b. Palm Jaggery generates low revenue (₹4,992) with a loss, suggesting slow sales and low turnover.
- c. Gingelly Oil generates moderate revenue (₹12,710) but generating a loss, indicating potential inefficiencies.
- d. Curd generates moderate revenue (₹9,162) with negative profit, indicating potential spoilage or pricing issues.
- e. Pulses generates low revenue (₹4,498) and negative profit, indicating slow-moving inventory.
- f. Jaggery generates low revenue (₹4,864) with very low profit, indicating a low turnover.
- g. Salt generates negligible revenue (₹1,400) with low profit, suggesting minimal sales and turnover.
- h. Groundnut Oil despite a high-profit margin, may need a closer look if revenue (₹7,440) isn't matching expectations.

Here are the interpretations of the results for enhancing overall sustainability practices:

RFM Analysis

Overview:

RFM (Recency, Frequency, Monetary) Analysis is a method used to evaluate customer behavior by analyzing how recently a customer made a purchase (Recency), how often they make purchases (Frequency), and how much money they spend (Monetary). In this case, monetary data is unavailable, so focus can be placed on Recency and Frequency.

Recency Analysis:

All the customers are more or less regular customers of the shop and are well known to the business owner and the purchases made by them are recent ones (from 25 June 2024 to 25 July 2024). They live in nearby areas.

Frequency Analysis:

- 1. High Frequency Customers (IDs): 2, 4, 6, 8, 10, 12, 16, 18, 20, 24, 27, 30
- 2. Medium Frequency Customers (IDs): 1, 3, 5, 7, 9, 11, 13, 14, 15, 17, 21, 22, 23, 25, 26, 29
- 3. Low Frequency Customers (IDs): 19, 28

Breakdown:

- 1. High Frequency Customers:
 - a. Characteristics: Loyal, frequent shoppers.
 - b. Implications: These customers are valuable and are more likely to respond to loyalty programs and personalized offers.
 - c. Sustainability Action: Implement loyalty programs focusing on eco-friendly products. Offer rewards for using sustainable practices such as bringing reusable bags.
- 2. Medium Frequency Customers:
 - a. Characteristics: Regular shoppers but not as frequent.
 - b. Implications: Opportunity to increase their purchase frequency with targeted promotions and product recommendations.
 - c. Sustainability Action: Promote sustainable product choices and offer incentives to encourage higher frequency of purchases.
- 3. Low Frequency Customers:
 - a. Characteristics: Infrequent shoppers.
 - b. Implications: These customers need encouragement to increase their shopping frequency. They may be less engaged or aware of the store's offerings.
 - c. Sustainability Action: Use special discounts and educational marketing to introduce them to sustainable products. Consider introductory offers highlighting ecofriendly options.

Market Basket Analysis

Overview:

Market Basket Analysis identifies associations between products that customers frequently buy together and helps understand product associations and customer buying patterns.

Breakdown:

- 1. Moong Dal and Palm Jaggery:
 - a. Support: High frequency of these items being bought together.
 - b. Action: Create bundle offers for Moong Dal and Palm Jaggery. Place these items close to each other in the store to encourage more purchases.
- 2. Toor Dal and Chocolates:
 - a. Support: Frequently bought together.
 - b. Action: Offer a discount on Chocolates when Toor Dal is purchased. Consider placing these products in a cross-promotional display.
- 3. Rice and Coconut Oil:
 - a. Support: Commonly purchased together.
 - b. Action: Feature these items in a combo deal. Highlight the benefits of using both products together in marketing materials.

Product Association Insights:

- 1. Rice, Coconut Oil, and Milk: Commonly purchased together. Consider creating a "Staple Essentials" section in the store.
- 2. Gingelly Oil and Chocolates: Customers who buy Gingelly Oil often buy Chocolates. Use this insight for targeted marketing campaigns.

RECOMMENDATIONS

Here are the recommendations for optimising the inventory levels:

- 1. <u>Focus on Category A Items</u>: To maximize profit, the business should prioritize inventory management and sales strategies around Groundnut Oil, Toor Dal, and Sugar.
- 2. <u>Review Category B Items</u>: These items have potential but may need better pricing strategies or promotional efforts to increase their contribution to total profit.
- 3. <u>Re-evaluate Category C Items</u>: These items either have low or negative profitability despite varying levels of revenue contribution. Consider discontinuing or adjusting the pricing, sourcing, or marketing strategies for these products.
- 4. <u>Optimize Inventory Turnover</u>: The analysis suggests the need to balance high-revenue items with high-profit items. Some products with negative profit but high revenue may need cost optimization or better sales strategies.

Here are the recommendations for enhancing the overall sustainability practices:

- 1. <u>Promote Sustainability Packaging</u>: Use the frequency data to focus on high and medium frequency customers with campaigns promoting sustainable packaging. Offer incentives for eco-friendly practices.
- 2. <u>Encourage Local Products</u>: Based on customer preferences, emphasize local products in marketing efforts. This supports local suppliers and reduces the store's carbon footprint.
- 3. <u>Improve Customer Experience</u>: Address feedback related to store experience and product variety. Implement changes to enhance the shopping experience and address common concerns.
- 4. <u>Leverage Loyalty Programs</u>: Develop and promote loyalty programs that reward frequent shoppers. Incorporate sustainability incentives to align with the store's eco-friendly goals.

 END OF	REPORT	`
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