Optimization of Inventory, Financial Conditions and Customer Retention of “G Mega Mart”

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Executive Summary

G Mega Mart" (a unit of OMPL) is a super-mart, that deals with FMCGs.
The following report discusses the problems and challenges being faced by the business and the complete analysis that had taken place. Starting with a quick refresher on the problems, three main problems have been addressed:

- Customer Retention of the business
- Profit earned and loss incurred by the business
- Management of the inventory

The analysis was continued according to the Google's 6 step process. Each problem was individually focused and zoomed on to discuss the pre-processing, the analysis and the results & findings from the analysis. Insights were shared with the help of some pleasing and easy to understand visualizations.
The analysis included descriptive statistical analysis as well as bringing key points forward with the available data.
The results and findings were interpreted and seen with the help of some key visualizations.
The report was ended with some recommendations that can be taken into consideration by the business to bring in positive changes.

Pre-Processing and Analysis Process

The data analytical process followed is a six-step process, as outlined by Google, having the following steps –
Ask
Prepare
Process
Analyze
Share
Act

These steps were explained before in the proposal as well as in the mid-term submission.

Today, the report would be concluded on the "Share" phase with a touch of "Act" phase as some recommendations would be shared at the end.

There were a total of 5 data files, all in excel format (.xlsx)
Note that, each of the files were **backed up** to keep the original dataset safe and sound.

The analysis began with some necessary pre-processing and then we moved on to the actual analysis.

PRE-PROCESSING

For the customer-retention problem, the data file *sales customer data* was used for the analysis. Below are the attributes available in the file –

Mobile_num	MobileNumber	CUSTOMER NAME	Net Amt.	Tax Amt.	Bill Amt	invoices

For each customer, it was assumed(with the agreement of the stakeholders) that the mobile numbers are unique. So, now the aim was to check for duplicates and if present, merge them. Merging rule used was to sum the number of invoices

There were 2 columns – "mobile" and "code". They were merged together due to some blanks in either of the attributes. Now, as a result, we have a single column with mobile numbers.

Note that, both the columns had same mobile number as entries. This pre-processing was done to fix the blanks.

The column with number of invoices was in the format "Number of invoices :-- xxx". This field was pre-processed to extract only the number of invoices and store them in a number format.

Then, duplicates were highlighted using conditional formatting. They were then merged with the help of a pivot table.

For the Revenue, Profit and losses problem, the data file used is by the name "*DATA COMPANY 22-23 ANALYSIS"*.

Below are the attributes for the file. These are the aggregated data's attributes.

Company	Revenue	Month

For each month's individual data, the Month attribute is not present.

The fields in this excel sheet were as follows:

- Company
- Revenue

This was a month-wise dataset. There were 3 merged cells that would have the Month's name followed by all the monthly data of that month.

This was fixed by first separating out each month's data into a separate sheet, manually.

The data had to be cut and pasted into separate sheets. So now, there are 8 sheets, each containing data for months from June 2022 till January 2023.

After realizing the need to work with monthly data all together, a new sheet named "aggregate" was created, and the original data from the first sheet was copied to it.

Then, a new column “Month” was created to make the data more structured.

Fortunately, there were no duplicates or outliers so this was the preprocessing done here.

For the **Management of the Inventory** problem, we have 2 files – *“Stock with category - ANLAYSIS”* and *“Mama Earth Oct 22 – ANALYSIS”*.

Below are the attributes of the 1st file, *Stock with category – Analysis*

S.No.	Item Name	Pack	Qty.	Mrp	Cost+GST	Value	rand Name	Category	Sub-Categor	Altercode	Barcode

Below are the attributes available in the 2nd file.

ITEM	PACK	OPENING	PURCHASE	FREE	P.RETURN	FREE	SALE	FREE	S.RETURN	FREE	OTHERS	CLOSING

Fortunately, the 1st file, *Stock with category*, was clean and did not require any pre-processing.

The 2nd file, on the other hand, did require some pre-processing.
Some SKUs had negative opening stock and the values in the attribute of closing stock did not match with the numbers in opening stock, sales and returns.
So after talking with the business stakeholders, these were corrected.

Negative opening stocks were made positive and then the closing stock data was re-calculated, as a part of cleaning the data.

Many repeating attributes with the name “FREE” were all useless, so, they were not included in the analysis as they contained only **zeros** as the value.

A new column was also created here, Days in inventory (DII), which records the average number of days the company holds its inventory before selling it.

For this, the IF-ELSE formula was used as follows –

```
=IF({sales}<>0,({Opening stock}/{Sales})*31,"No Sales")
```

According to this formula, if the sales in the month are not equal to 0, we calculate the average days in inventory as opening stock divided by the sales in the month multiplied by number of days(31 for October). Else, we just print No Sales, which essentially means infinite DII

As a result, the pre-processing stage has been completed and the analysis stage can now begin.

ANALYSIS

For optimization of customer retention, the analysis begins with a preliminary descriptive statistics' analysis which uses a 5 point summary –

Count: =COUNT({range})
Minimum: =MIN({range})
Maximum: =MAX({range})
Mean: =AVERAGE({range})
Median: =MEDIAN({range})
Standard Deviation: =STDEV.S({range})

These summary statistics are used to get a descriptive summary of the **number of invoices** and of **the bill amount of customers.**
Statistics from this analysis would help with a more detailed analysis ahead.
Here, the standard deviation has been calculated using the sample formula.

Now, from the pivoted table's data that was created, the data was sorted based on the bills, from largest to smallest
There were two entries – one by the name of "Office Bill", which were office related bills and another with an empty cell. These had to be excluded from the calculation of customer retention because they were not relevant.
There were 201 bills corresponding to the blank cell and 75 bills corresponding to the "Office Bill" cell.
Now, with this pivot data, a column was created "More than 1?" where the following formula was used-

=IF({number of invoices}>1,"yes","no")

This was done to get data on repeated customers.

The same original pivot data was copied to another cells and a new column was used along with the other – "bill amount" which is the sum of total bill value over all the bills.

This was used to create a column "bucket size", which is calculated as follows-

={total bill amount}/{number of bills}

This provided us with more insights on the buying patterns of customers and how the stakeholders could judge them based on the bucket size.

For the next problem, i.e., related to the revenue, profits and losses, a preliminary analysis of descriptive statistics was done with the help of pivot tables to get quick summaries.

Using pivot tables, month-wise count of companies was calculated, i.e., how many different companies' products were available in that particular month.
Month-wise revenue details were also calculated, which includes the maximum, minimum as well as average revenue generated.

This data helps us provide insights like which month had the maximum number of companies, where the revenue was highest and when did the revenue start to decline.
These insights can be used to identify some root causes and get to a possible fix.

Even here, for the main detailed analysis, heavy use of pivot tables has been made along with some basic functions as well as conditional formatting at places.

For the final problem related to the management of inventory, use of pivot tables was taken into consideration to get category-wise insight, from the stock with category file.

This would provide insights on which categories are doing well and which ones aren't.

Again, for the main analysis, a similar approach was followed that has been mentioned for other problems. Here as well, heavy use of pivot tables is incorporated.

The pivot tables included the count, quantities, values, price, etc. as the attributes.

Results, Findings and Interpretation of Results.

Below are the insights gained from the analysis for each problem.

Starting with the **customer retention**, below are the descriptive statistics gathered from the analysis.

Number of Invoices
The available data, used for the below statistics, is from June 2022 till January 2023.

- A total of 27455 bills are there in the records from June-2022 till January 2023, excluding the blank cell values as well as office bills.
- Minimum number of invoices that a customer has had is 1.
- Maximum number of invoices that a customer has had is 57.
- The mean number of invoices are 2.25, which means that on average, a customer has had 2.25 bills.
- Sample standard deviation is about 3.6 for the data.

To summarize the findings in a table, we have the following –

Number of Invoices	
Total no. of invoices	27455
Customer with min. invoices	1
Customer with max. invoices	57
Mean	2.2568
Standard Deviation	3.146

Bill Amount

Here, bill amount is the sum of all the individual bills that the customer have.
The available data, used for the below statistics, is from June 2022 till January 2023.

- Minimum bill amount to be recorded is of Rs 1.00/-
- Maximum recorded bill amount is Rs 2,75,716.00/-
- Mean amount of Rs 2,394.22/- which means that on average, a customer has spent Rs 2394.22 at the super-mart.
- Standard deviation is about Rs 5,381.25/-

Bill Amount	
Minimum bill amount	₹ 1.00
Maximum bill amount	₹ 2,75,716.00
Mean	₹ 2,394.22
Standard Deviation	₹ 5,381.25

The above statistics helped us with the further analysis and below are the insights.
Here, the bucket size is discussed, now –

It was inferred that the maximum bucket size from June 2022 till January 2023 is of Rs 93,000/-
But the corresponding number of bills was equal to 1. This simply means that the customer made a big purchase of Rs 93,000/-

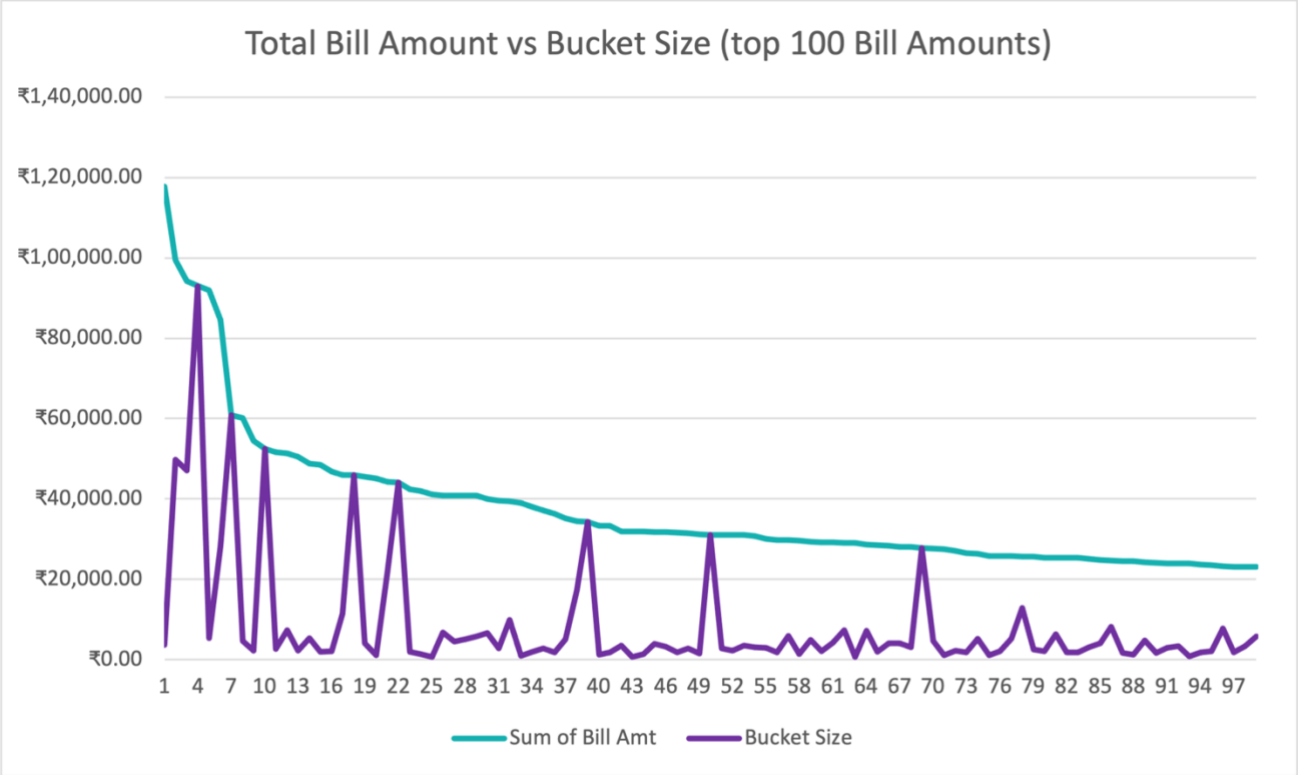
If we talk about the customer with maximum bills(57) in the available data (June 2022-January 2023), their bucket size is @ Rs 65.32/- with total bill amount of Rs 3723/-

The customer with the 2nd maximum bills(56) has a bigger bucket size @ Rs 734.77/- with total bill amount of Rs 41,147/-
A better after service should be prioritized to customers with a bigger bucket size.

Below are a few graphs where we compare the bill amount and bucket size of top 100 customers.

Top 100 customers can be found using 3 strategies, ones with the maximum number of bills, ones with the maximum bucket size and ones with the maximum bill amounts.

The latter of the 2 strategies have been considered, here.



Top 100 customers sorted on the total bill amount
(tool used: Excel)

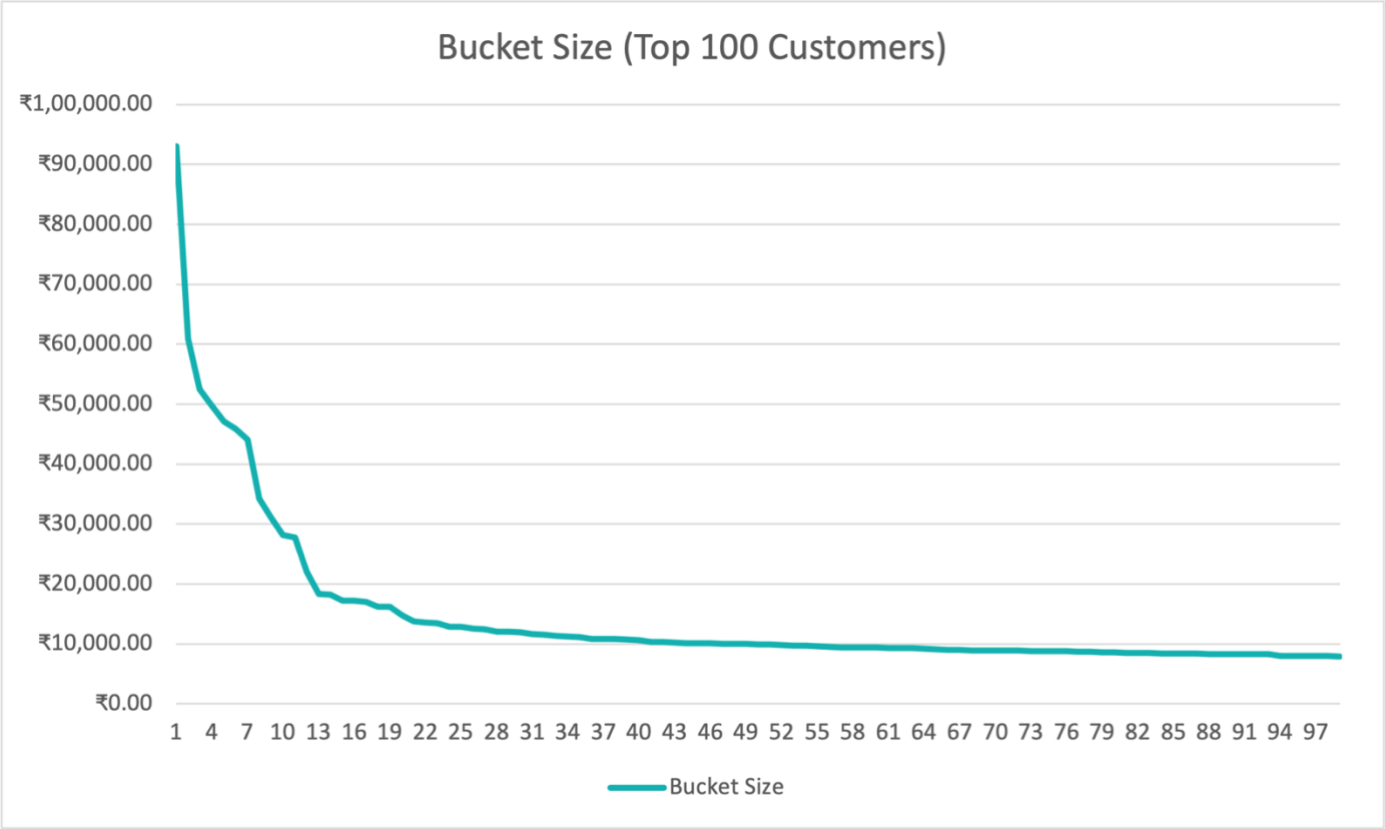
Here, the top 100 customers are from the data recorded between June 2022 till January 2023.

It can be noticed that at places, the bucket size hits really low while the bill amount is high. This can be considered as both, a pro and as a con.

Pro because this indicates that the number of bills is high for the customer, given a fixed total bill amount.

Con because even though the customer is visiting us more often, the purchased are on the lower segment of the axis. So, even though these customers are loyal to us, but the total invoice amount is fairly low.

A middle ground would be preferred more, i.e., more number of bills and a greater bucket size.



Top 100 customers sorted on the bucket size
(tool used: Excel)

Here, the data of top 100 customers between June 2022 till January 2023 have been sorted based on the bucket size.

The bucket size fell down very quickly, and it goes more down if we consider more than 100 customers. Here, it fell from Rs 93K to approximately Rs 7K in just 100 customers.

Now, below are some insights calculated for **customer retention**
Due to constraint dataset provided by the business, only an average customer retention could be calculated. This average is calculated over the aggregate data over all months from Mid-June 2022 till January 2023.

The customers who did not provide their mobile number at the time of billing have been excluded from the analysis. So, the findings in this analysis would be lower than the actual values of the findings.

There were a total of 12167 unique customers between June 2022 till January 2023. These are the customers who provided their mobile numbers at the time of billing.

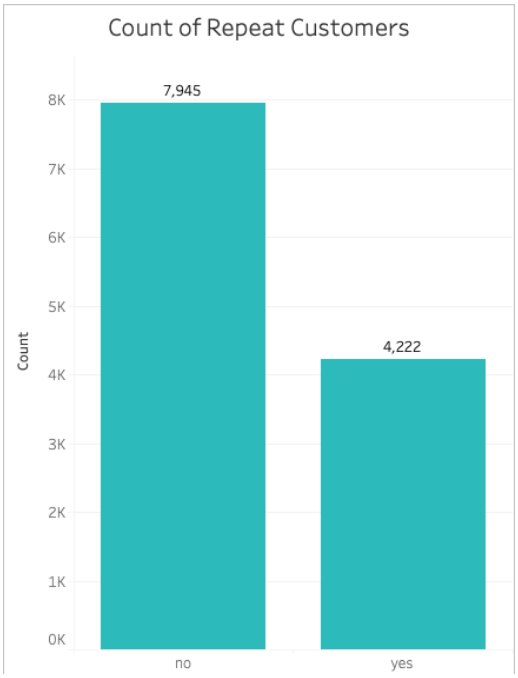
Of these, 4222 were repeating customers, i.e., customers with number of bills more than 1

Now to get an average customer retention rate, divide repeat customers by total customers that are there till now.

= 4222/12167

= 0.347004

This means that the calculated **customer retention is around 34.70%** or roughly 35%



Bar chart of customers who only visited once vs who returned multiple times
(Tool used: Tableau)

From the chart, it is evident that most of the customers only visited the store once and only 4222 returned back at least once between June 2022 till January 2023

Theoretically, a business should have a customer retention of 100%
Even practically, one can expect a 50% customer retention.

So, the business should work on coming up with strategies to improve this factor.

A few recommendations that would be mentioned at the end, can be taken into consideration to help improve the customer retention.

But we should not forget the fact that this data is not 100% accurate, hence, we cannot conclude for sure that the customer retention is 34.70%

Why is the data not 100% accurate?
When a customer comes to the billing counter, many-a-times they just ask the cashier to skip the mobile number to save time.
Another reason is that the cashier themselves skip asking the customer for their mobile number. This automatically counts the bill in the “blank” cell that I talked about earlier.

You cannot really do much about customers not willing to share their number but the other factor could play a major role in making the dataset accurate.

Now, setting the precision to our dataset and keeping the current scenarios in mind, the **34.7% CR rate is low**.

The business should work more on improving certain factors to make customers come back without much efforts.

Moving on to the **revenue, profits and losses** problem faced by the business, the following insights have been gathered.

Number of different companies in each month –

Month	Count of Company
Jun-22	566
Jul-22	722
Aug-22	738
Sep-22	759
Oct-22	779
Nov-22	703
Dec-22	694
Jan-23	670

This gives us the count of unique companies having their SKUs in the respective month.

For example, in October 2022, there were 779 different companies/brands, which were selling multiple products in the month. Note that, this is the number of companies recorded in the month and this does not tell us whether each company sold at least one product or not. There's a possibility that some companies did not sell any product at all in the given month.

It can be inferred that the number of companies were maximum in October 2022, but soon after it started to decline, hinting something towards the sales.

Average, maximum and minimum revenue generated by companies in the respective month -

Row Labels	Average Revenue per company	Max. Revenue by a company	Min. Revenue by a company
Jun-22	₹1,945.79	₹92,966.22	₹2.54
Jul-22	₹7,794.04	₹5,33,397.62	₹8.48
Aug-22	₹7,047.23	₹4,60,795.48	₹4.24
Sep-22	₹6,669.31	₹5,67,831.41	₹15.00
Oct-22	₹11,210.84	₹9,52,304.58	₹8.48
Nov-22	₹5,982.69	₹4,94,670.49	-₹223.21
Dec-22	₹5,969.85	₹4,68,718.10	₹13.34
Jan-23	₹4,868.94	₹4,28,202.30	-₹104.87

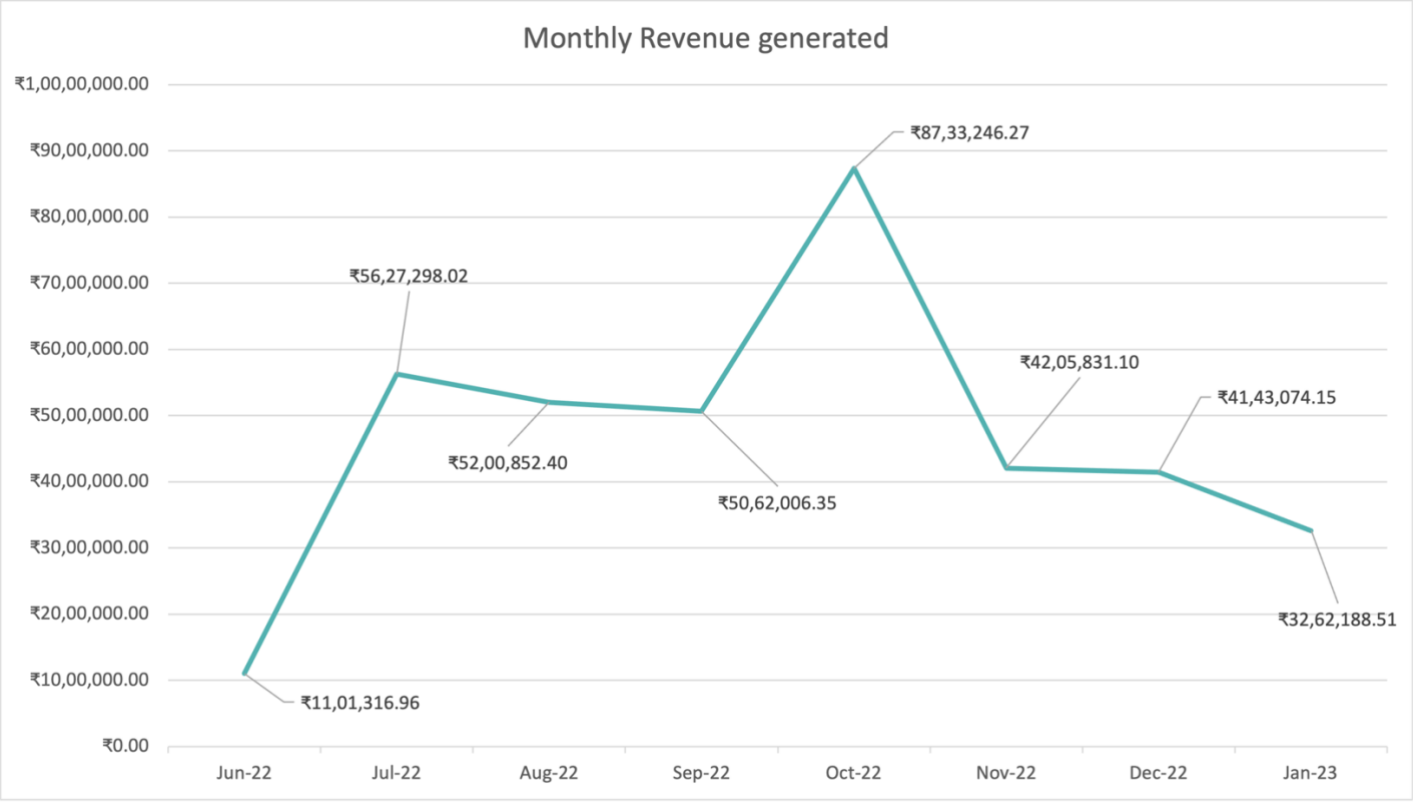
The average revenue generated by each company is the highest in October even though it has the maximum number of companies. So, again, it hints that the sales would have been very good in October.
Negative minimum revenue can denote the return of items back to the store or if something gets past the expiration date.

Talking about the monthly revenue generated by the super-mart, we have the following insights.

Row Labels	Revenue generated
Jan-23	₹32,62,188.51
Jun-22	₹11,01,316.96
Jul-22	₹56,27,298.02
Aug-22	₹52,00,852.40
Oct-22	₹87,33,246.27
Sep-22	₹50,62,006.35
Nov-22	₹42,05,831.10
Dec-22	₹41,43,074.15

Pivot table - Monthly revenue generated
(Tool used: Excel)

Below is a line chart of the same data, that would help understand the trends better.



Line chart – Monthly revenue
(Tool used: Excel)

When the business was acquired in mid-June, the revenue generated was the lowest but they cannot be blamed because this was the revenue generated in about 15 days of starting the operation.

Soon, they can be seen growing and the revenue was around Rs 50-56 Lakhs for 3 months when suddenly they saw a rise with the sales of Rs 87,33,246.27
The reason for such a spike in October was due to Diwali. Diwali played an important role here.

The business made some smart decisions as well by curating their products for customers. They introduced a lot of custom made gift packs with high profit margins.

But then the downfall started and the sales went below the previous normal and has just kept going down. This is a problem for the business as they are not being able to fulfill their needs by providing the service to the customers.

So, they need to bring in some major changes to grow back again whilst keeping customer's comfort in mind.

Below are the companies which generated the maximum and minimum revenue over the months from June 2022 to January 2023

Row Labels	Max revenue generated	Minimum revenue generatec	Max revenue company	Minimum revenue company
January	₹4,28,202.30	-₹104.87	GMM	Himalyan baby product
June	₹92,966.22	₹2.54	GMM	ALPENLIEBE PRODUCTS
July	₹5,33,397.62	₹8.48	Vegetables	MUNCH
August	₹4,60,795.48	₹4.24	GMM	DARLING CANDY
September	₹5,67,831.41	₹15.00	GMM	DIE BRUSH
October	₹9,52,304.58	₹8.48	GMM	BB HOME
November	₹4,94,670.49	-₹223.21	GMM	BTW GIFT PACK
December	₹4,68,718.10	₹13.34	GMM	DEV DARSHAN

From the above table, it is clearly visible that the maximum revenue is mostly generated by GMM, which is the super-mart's home-brand. Vegetables has stayed at the 2nd place mostly, except in July 2022, where vegetables returned the maximum revenue.

After a close discussion with the stakeholders, it was noticed that they earn maximum profit on their home brand, while the lowest margins are on vegetables, which is around **15-20%**

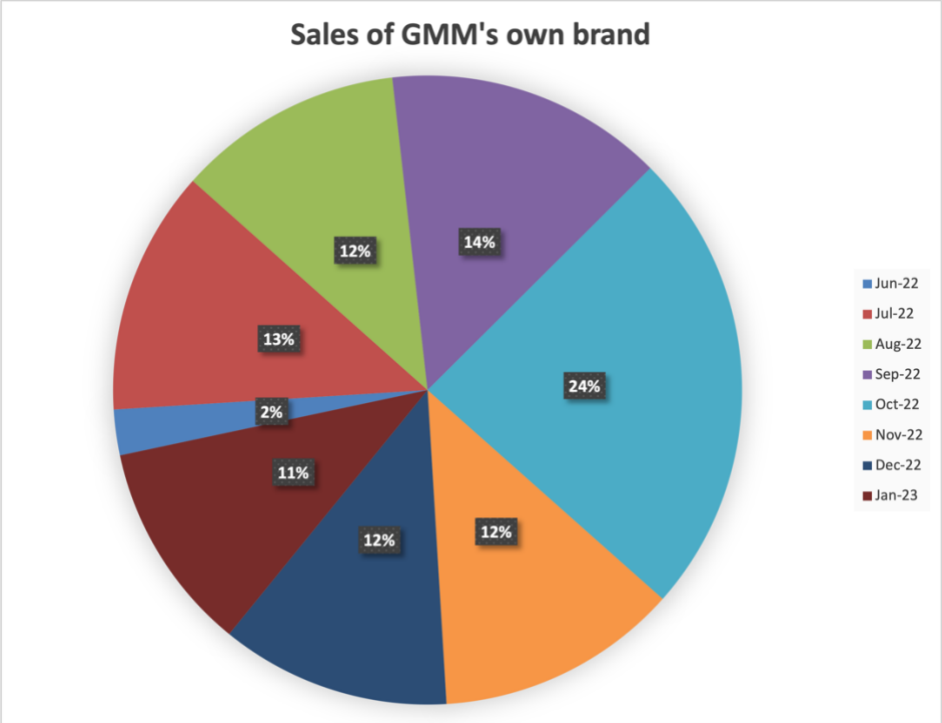
For their home-brand, they easily earn around **60% profit**.

Negative revenue means that the product was either expired or got returned.

In November 2022, a BTW gift pack got returned by a customer who might have purchased in during the last days of October 2022(Diwali time), hence the negative revenue.
We have a similar scenario for Himalayan baby product in January 2023

Looking closely at the sales of GMM's home brand, they have a good share of products generating revenue every month, maximum being during October 2022, again, Diwali season.

A pie chart has been created for the overall sales of GMM's home brand to tell us the % share over each month.



Pie Chart – Sales of GMM's home brand
(Tool used: Excel)

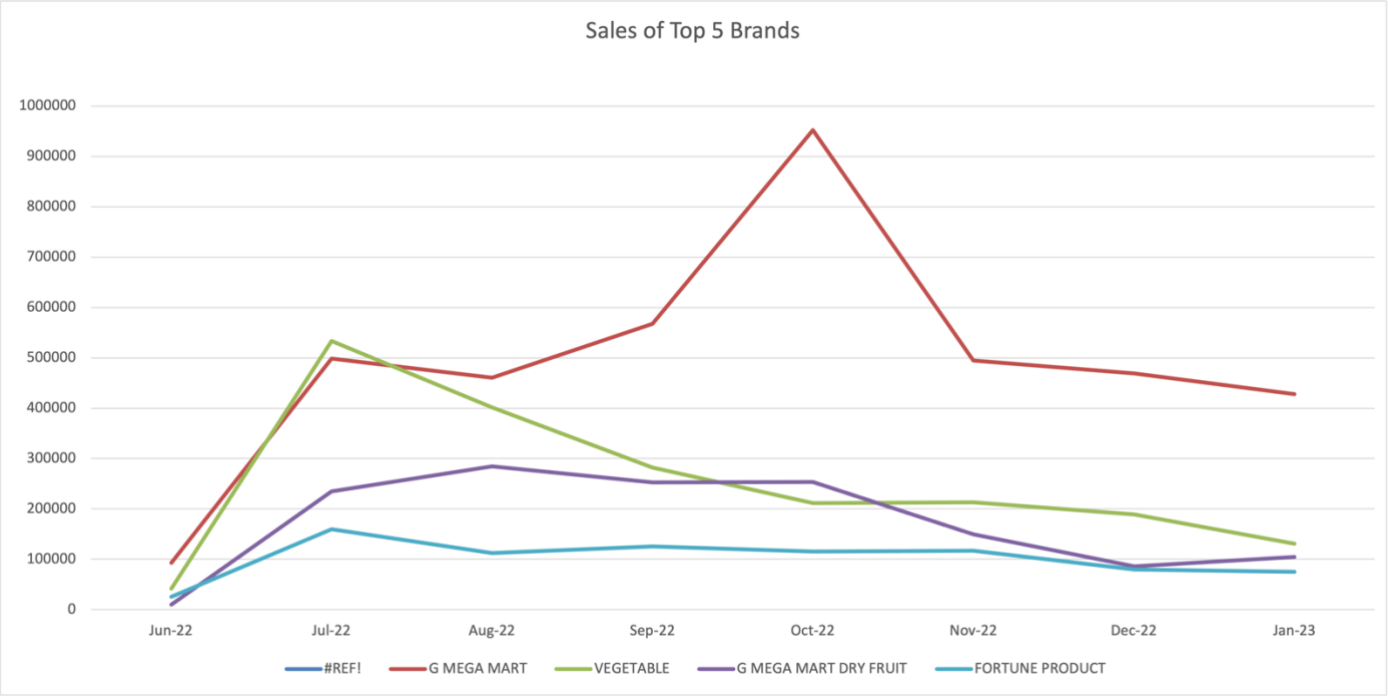
The above chart divides the total revenue generated by GMM's home brand to the respective share in each month of data.
For instance, in October 2022, GMM's home brand generated 24% of the revenue. So, as an example, if the total revenue of GMM's home brand was Rs 100 over all the mentioned months, then in October alone, Rs 24 was generated by the home brand.

In the above pie chart, the whole (100%) is equal to **₹39,63,784.44**

Ideally, one would want to aim at increasing the total sales due to the home-brand because home-brand has the **maximum return of profit** compared to any other brand.

GMM's home brand has stayed at the top as well, consistently, as seen and inferred from the table above where we saw the companies generating the maximum revenue over each month.

Below is how the top 5 brands generate the revenue over different months.
Each line in the below graph shows how the revenue generated has changed over the months, starting from June 2022 to January 2023.



Line Chart – Sales of top 5 Brands
(Tool used: Excel)

First, it can be seen that the home-brand is way above other lines, consistently.

Next, as July 2022 approached, we saw that the sales increase for all the top 5 brands, here. Again, here we can notice that after October 2022, the sales for the top 5 brands slowly started to decline, except for vegetables, which started to decline much earlier. As early as in August 2022.

Now if the revenue percentage and the percentage change in revenue is looked at, maximum growth was experienced in July, which is due to the obvious reasons.
Here, the sum of revenue is the **total revenue generated in that respective month by all the brands, collectively.**

The **% Revenue** tells us the percentage share of the revenue generated in that respective month, over the total revenue generated by the business.

Similarly, the **% change** is the change in the generated revenue compared to the last month.

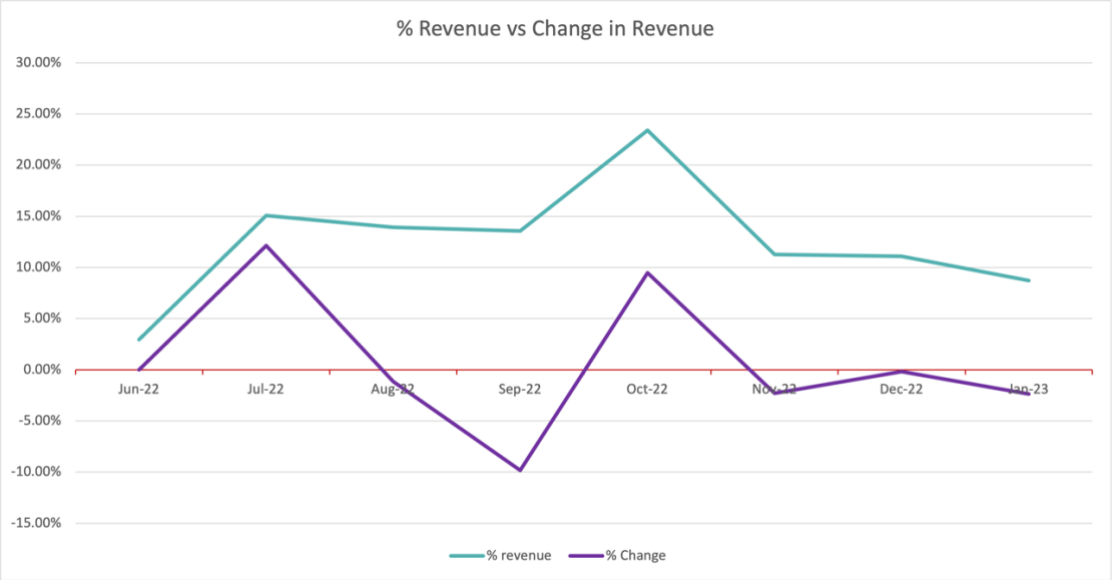
The sales in June 2022 were the minimum because the business started working in mid-June.

Right after Diwali month, the growth was the minimum. In fact, the growth just went down and is constantly negative afterwards.

Month	Sum of revenue	% revenue	% Change	
Jun-22	₹11,01,316.96	2.95%	0.00%	
Jul-22	₹56,27,298.02	15.07%	12.12%	-> max growth
Aug-22	₹52,00,852.40	13.93%	-1.14%	
Oct-22	₹87,33,246.27	23.39%	9.46%	
Sep-22	₹50,62,006.35	13.56%	-9.83%	-> least growth
Nov-22	₹42,05,831.10	11.26%	-2.29%	
Dec-22	₹41,43,074.15	11.10%	-0.17%	
Jan-23	₹32,62,188.51	8.74%	-2.36%	
Grand Total	₹3,73,35,813.76	100.00%		

Below can be seen a graphical representation of the same data as in the above table.
It is evident that the % change in revenue has stayed below the 0% mark after October.

This purple line should always be over the red line(0% line).



Line chart – % Revenue vs % change in revenue
(tool used: Excel)

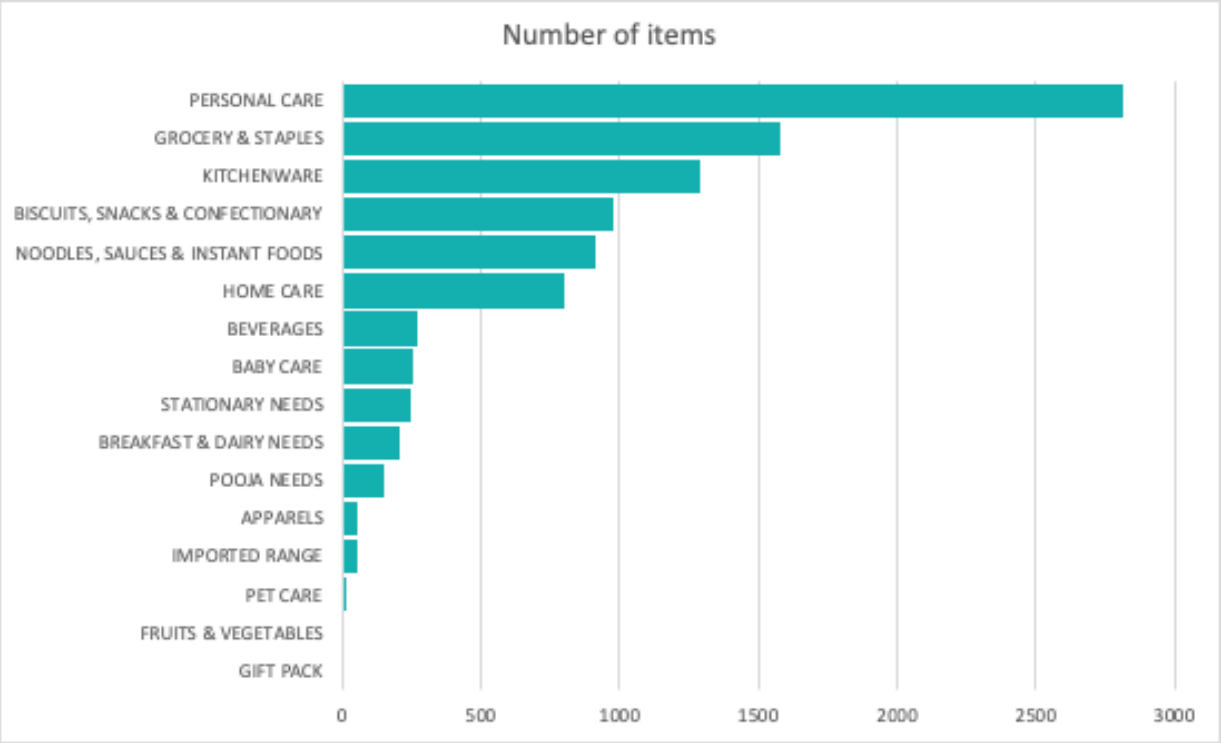
Coming to the final problem, which is **management of the inventory**, the following insights were gathered.

From the stock with category file, below are the insights –
The file contains the stocks data latest to January 2023.

From a pivot table, count of SKUs under each category was calculated.

Category	Count of SKUs
PERSONAL CARE	2812
GROCERY & STAPLES	1580
KITCHENWARE	1290
BISCUITS, SNACKS & CONFECTIONARY	982
NOODLES, SAUCES & INSTANT FOODS	912
HOME CARE	805
BEVERAGES	272
BABY CARE	257
STATIONARY NEEDS	247
BREAKFAST & DAIRY NEEDS	208
POOJA NEEDS	155
APPARELS	58
IMPORTED RANGE	55
PET CARE	13
FRUITS & VEGETABLES	11
GIFT PACK	6
Grand Total	9663

It can be inferred that most of the products till January 2023 are from the personal care category at a count of 2812, followed by the Grocery and staples at a count of 1580 and the total number of SKUs are 9663.



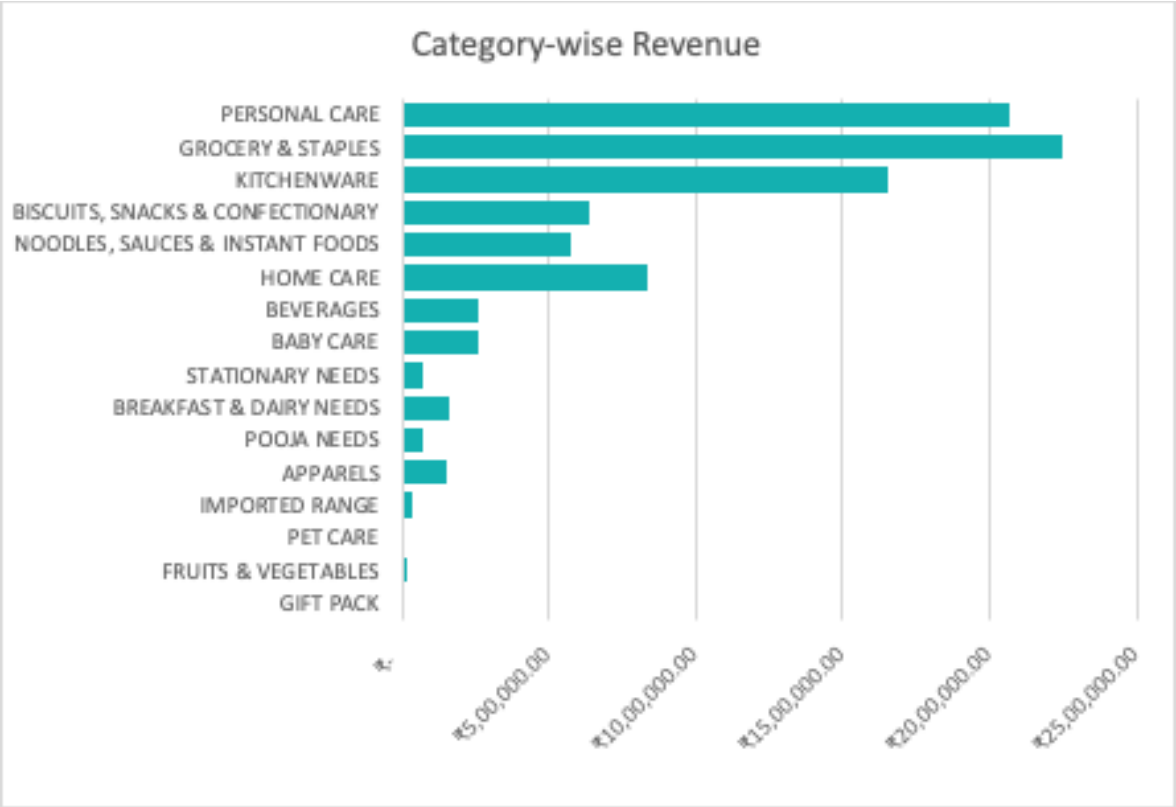
Bar Chart – Category vs number of SKUs
(Tool used: Excel)

There are a total of 16 categories in total as in January 2023.
Of these 16 categories, the maximum number of SKUs under a category are for Personal Care at a number of 2812.
On the other hand, the minimum number of SKUs in a category are at a number of 6, for GIFT PACKS.
The mean number of SKUs in a category stands at 603.93 which means, that on average, each category has 603.93 SKUs under them.

Continuing with the 2nd file first, here are some points to summarize the findings from the Stock with category file

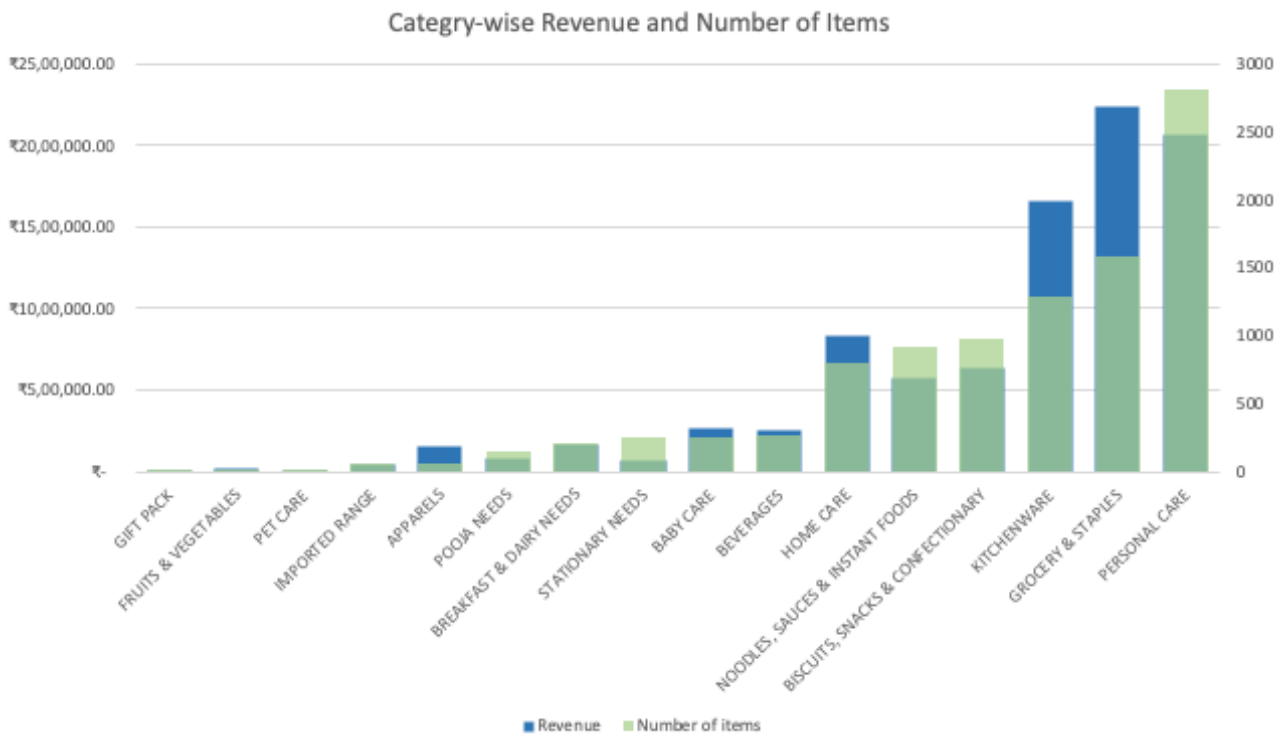
- Most SKUs are present for the " **Personal Care**" category.
- Under the "Personal Care" category, most SKUs are for the " **Skin Care**" sub-category.
- The category responsible for maximizing the revenue is " **Grocery and Staples**".
- "**Badam Salora 1kg**" is the product responsible for regenerating the maximum revenue of worth **₹1,20,120/-**
- Also, this particular SKU is of the business' home brand, i.e., "G MEGA MART", which is a good thing considering that home-brand would also constitute to maximizing the profit.
- There is a total of **151** SKUs which generate no revenue at all. These SKUs are just sitting in the inventory costing the company resources.
- Apart from this, there is a total of **902** SKUs which individually generate revenue of less than **₹100/-**
- The business has spent **₹5991.5/-** on **1513** 250ML water bottles from July 22-January 23, which is generally kept for customers & staff and is free for them.

Below is a graph for the revenue generated by each category.
Even though personal care had the maximum numbers of SKUs, it comes on the 2nd position when considering the revenue generated. Maximum revenue is generated by the SKUs under Grocery and staples category.



Bar Chart – Category vs revenue generated
(Tool used: Excel)

The revenue and the number of SKUs chart, both can be merged together to give better comparison results



Stacked Bar Chart – Number of SKUs, Revenue vs the category
(Tool used: Excel)

The above graph shows the number of SKUs vs the revenue generated by each category.

Here, it is evident that the maximum revenue is generated by groceries and staples even though the number of SKUs in this category is significantly less than what we have for personal care.

Coming back to the insights from the first problem, we saw that in October, where we had the maximum sales, there were a lot of no-sale products.

The below pie chart helps us understand the ratio of Mama-Earth (ME) items sold at least once vs items not sold at all in October 2022.

Pie Chart - No-sale items vs sale items
(Tool used: Excel)

There are a total of 184 items of Mama Earth(ME) brand, which resulted in No sales at all during October 2022.
Such products should be analyzed over other months as well and see when did they resulted in any sales.
Based on the results, the products should either be promoted with offers or should be returned back to the supplier so that we don't end up with a loss due to expiry of the products.

Next, the results were sorted based on the DII, and the **maximum DII was at 217 days** for a product with the same "**ME MILKY SOFT FACE CREAM 60G**".
This was the maximum DII after excluding the no-sale items. In theory, the maximum DII is for all the 184 "no-sale" items. But, here, we are talking about SKUs (under ME) sold at least once.

There are **10 products with DII more than 100.** Such products should be taken into consideration as to who is buying them, what are the other products purchased with them so that we can create a system where we can club these products along with the other buying habits of the customer to promote sales.

Results and Recommendations For The Problems

Now that the analysis and the findings have been looked at along with the interpretation of the results, the report can be concluded with possible solutions and recommendations that would help the business to move forward for their benefit.
The following recommendations are not specific to any one problem and applies to all the discussed problems, directly or indirectly.

1) For the retention of customers, the business could start a new **customer loyalty card**. They can either issue it for free or for can charge for it in the following context. Let's say that one card costs Rs. 20 to make. They can ask the customers to buy the card for 50 rupees and they will get Rs. 50 as balance in the card. Now, they made a profit of Rs. 30 from on the first go. They can have a rule that the card balance can be redeemed after the balance is Rs 100 or 150 or any chosen value, and they would gain points after each purchase.
   This would make the customers return and stay loyal to the business.
   This would also help with the issues that I described. Sometimes, during rush hours, the cashier themselves skip asking for mobile number. Such a card system would be read quickly by the system and would help save time and also collect more accurate data in a long term.
2) They should analyze the competitor's price chart more often to keep a track on the price and give a strong competition. It has been noticed that some products are more expensive at the business compared to the competitors.
3) Again, a close eye on the competitors' price would help curate the experience for customers. This would automatically make customers return back and prefer GMM in the first place hence helping the business directly with the profit.
4) It was noticed that the competitors' are using a psychological trick to retain customers and making them purchase at the store. A specific aroma is used which is very pleasing and

makes the customer feel comfortable while shopping. Such a trick should be used by GMM as well.

5) A close eye should be kept on SKUs approaching the expiration date or with minimal sales. They should be dealt with priority. Either return the product to the supplier or put an offer to increase sales. They could also make combo offers for such products to make sure that they generate some revenue, at least.

Here are a few more suggestions based on the results that we got-

1) **Focus on increasing sales during off-peak months:** As it was seen, the sales tend to decline after October, and the business needs to find ways to increase sales during the off-peak months. One potential strategy could be to offer special discounts or promotions during these months to incentivize customers to make purchases.
2) **Expand GMM's home brand product line:** Since GMM's home brand generates the maximum revenue and profit, the business can consider expanding its product line to increase its share of monthly sales. They can also consider promoting their home brand products more actively to attract customers.
3) **Investigate the low sales of vegetables:** Vegetables generate the second-highest revenue for the business, but the profit margins are low. The business should investigate why sales for vegetables started declining much earlier than other products and try to find ways to increase sales or improve the profit margins.
4) **Analyze customer feedback and preferences:** To better understand customer needs and preferences, the business can conduct surveys or analyze customer feedback data to gain insights on what customers like or dislike about their products and services. This can help the business tailor their offerings to better meet customer needs and increase customer satisfaction.

These are just the recommendations and the final decision, which is the “Act” phase of the analysis process, is to be taken by the stakeholders themselves.
There are a lot of points to be kept in mind while bringing in changes, so, some of these suggestions might not be in the best interest for the business.