RETAIL SALES ANALYSIS

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- ✓ Purpose is to leverage data-driven insights to enhance the client's business performance in several key areas.

- ✓ Identifying sales trends, growth opportunities, and areas for improvement.

- ✓ Overall purpose is to inform strategic decisions, improve operational efficiency, and drive business growth for the retail chain.

-OVER VIEW

- ✓ Understand customer purchasing behavior and preferences to develop marketing strategies.

- ✓ To analyze sales data to identify trends, seasonal impacts, and performance across products, categories, stores, and channels, enabling the client to formulate strategies that enhance overall sales and revenue.

- ✓ Assess store performance metrics to identify high and low-performing stores, understand performance drivers, and implement best practices to improve efficiency and profitability across all locations.

-BUSINESS UNDERSTANDING

Data Availability

Customer table : - This gives an information about the Customer and their state, city and gender.

Orders table :- Orders table provide the details information about the orders like order id, product id, date and time of purchase , MRP , Total Amount etc..

Order payment table :- This table provides the info of payment type and value of the order.

Customer ratings table :- Customer ratings for the orders are listed.

Product table :- Product information like product id, categories are listed.

Store info :- Store id, State, City and Region of the store is mentioned

DATA CLEANING

- ❑ Removed The #N/A Values From Products Info Table In Excel To Get Proper Values.

- ❑ Imported The Orders Tables As CSV File To Avoid NULL Values.

- ❑ Changed The Data Types In Orders Table From nvarchar To int & float For Proper Calculation.

- ❑ Updated The Quantity Column In Orders Table With Proper Quantity To Match With The Order Payment Table.

1. TOTAL CUSTOMERS – 65,535
2. TOTAL MALE CUSTOMRES - 19,893
3. TOTAL FEMALE CUSTOMERS - 45,642
4. NO.OF ORDERS – 65,535
5. TOTAL DISCOUNT – 2,84,241
6. REVENUE – 1,39,38,445
7. PROFIT – 11,35,085
8. TOTAL COST - 87,96,290
9. TOTAL QUANTITY SOLD – 78,030
10. NO OF CHANNEL – 3

Exploratory Analysis

HIGH LEVEL METRICS

Key Findings From High Level Metrics

CUSTOMER LEVEL

o Each customer brings in an average profit of $19.66, adding up to a total profit of $11,35,085. Even though the average sales per customer is relatively high at $168.13, the profit per customer remains significant.

o The average transaction per customer being 1 indicates a low customer retention rate, signifying that there is limited repeat purchasing behavior among customers.

Key Findings From High Level Metrics

ORDER LEVEL

Diverse Product Range : With 13 distinct categories for 32,340 products, the company offers a broad range of items, catering to various customer preferences and needs.

Payment Methods: There are totally 4 payment methods available to customers, providing flexibility in how they can complete transactions.

Discount Rate: A discount rate of 3% is applied, likely to incentivize purchases and attract customers while still maintaining profitability.

Key Findings From High Level Metrics

ORDER LEVEL

Categories Per Order : On average, customers purchase items from only one

category per order.

Purchase Behavior : The data shows that 90.56% of purchases are one-time,

while only 9.47% are repeat purchases. This highlights the
need to focus on strategies to encourage repeat business and
foster customer
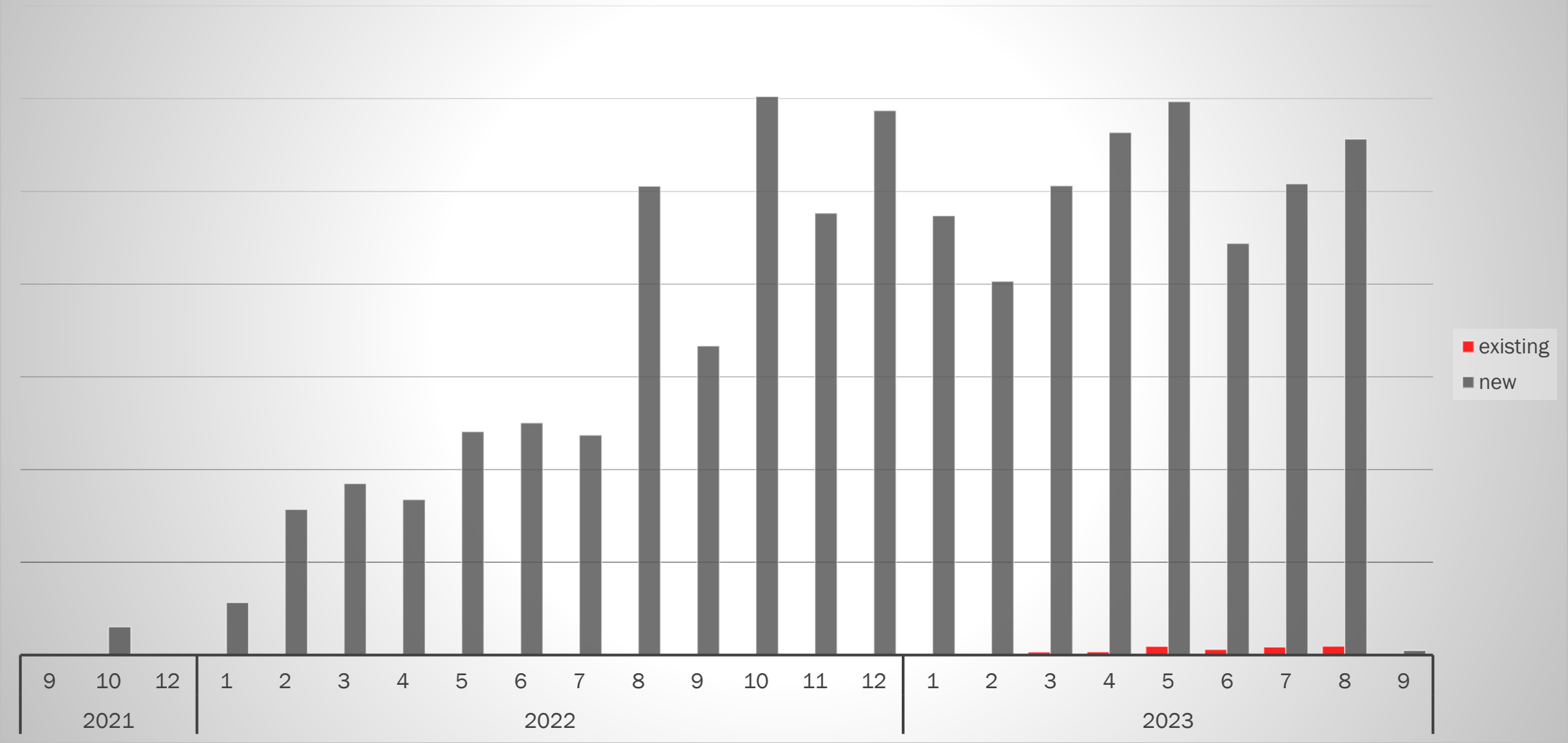loyalty.

Key Findings From High Level Metrics

STORE LEVEL

o The business operates a total of 534 stores, each likely located in a different city. This extensive network suggests a significant market presence across various urban areas.

o These stores are spread across 19 states, grouped into 4 larger regions. This wide geographic distribution highlights the business's broad market reach and potential for regional analysis and tailored strategies.
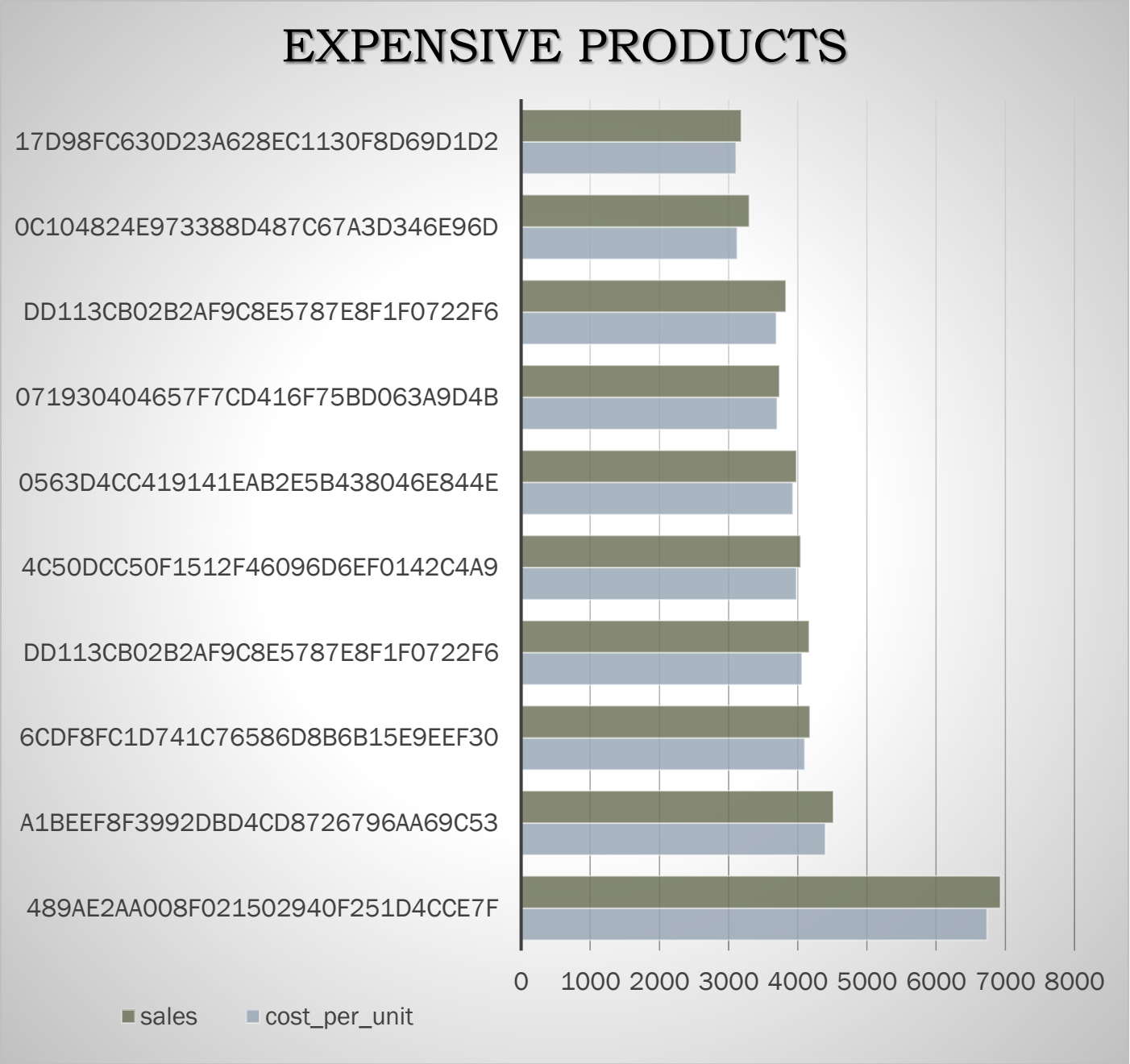
Customers Acquired every Month
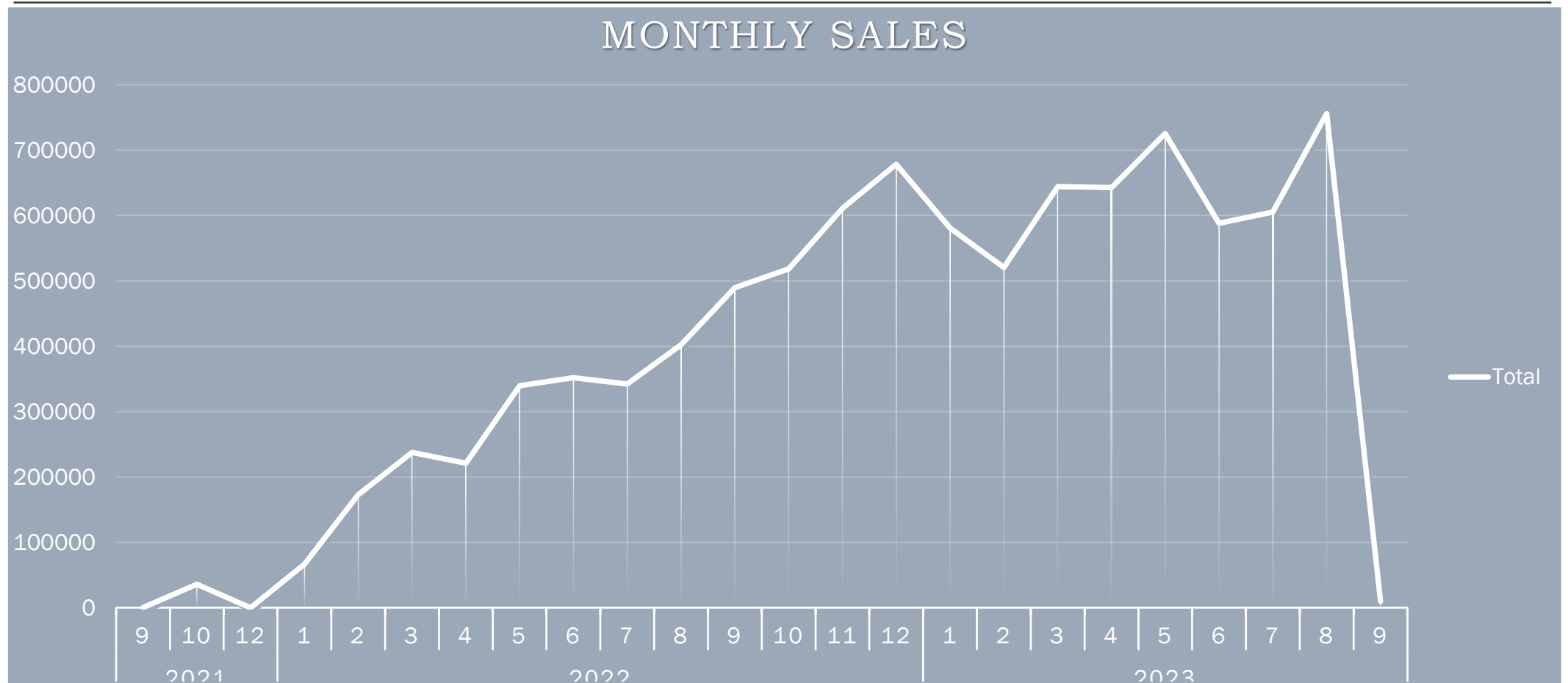
Revenue On Month Basis

Customer satisfaction vs Average sales

Higher customer satisfaction scores generally lead to higher average sales. Customers who are most satisfied tend to spend the most, while even those with moderate satisfaction still contribute significantly to sales. This highlights the importance of maintaining high customer satisfaction to drive sales.

AVERAGE SALES
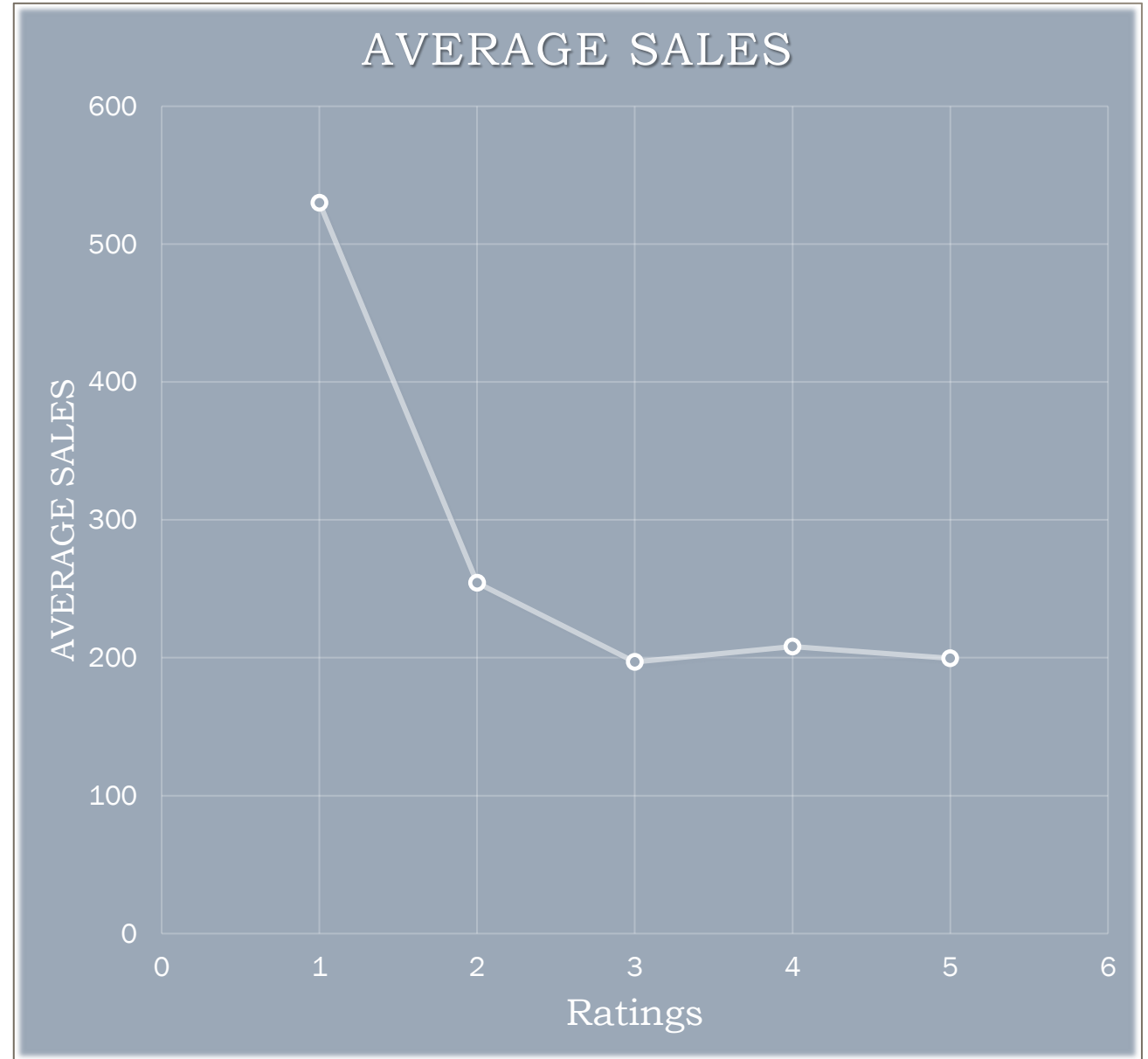
TOP 10 AND WORST 10 PERFORMING STORE ID

STORE ID	TOP 10
ST103	28054
ST143	8336
ST132	3316
ST106	3016
ST102	2805
ST118	2627
ST125	2423
ST101	1919
ST129	1903
ST116	1465

STORE ID	WORST 10
ST177	27
ST199	32
ST410	34
ST180	46
ST593	67
ST463	169
ST166	175
ST414	200
ST188	205
ST186	208

SEGMENTATION

PREMIUM : Customer with less recency, high frequency and high monetary. showing they are highly engaged and valuable.

GOLD : Customers who are also highly valuable but not quite as engaged as Premium.

SILVER : Customers with moderate engagement and value.

STANDARD : Customers with the least engagement and value, representing the majority but contributing less to overall revenue.

CUSTOMER BEHAVIOUR ANALYSIS

RFM SEGMENTATION

| SEGMENT	Average of Recency	Average of Monetary	Average of Frequency
PREMIUM	20.79	204.38	1.12
GOLD	19.87	524.28	2.06
SILVER	18.01	130.82	1.02
STANDARD	14.87	95.43	1.00
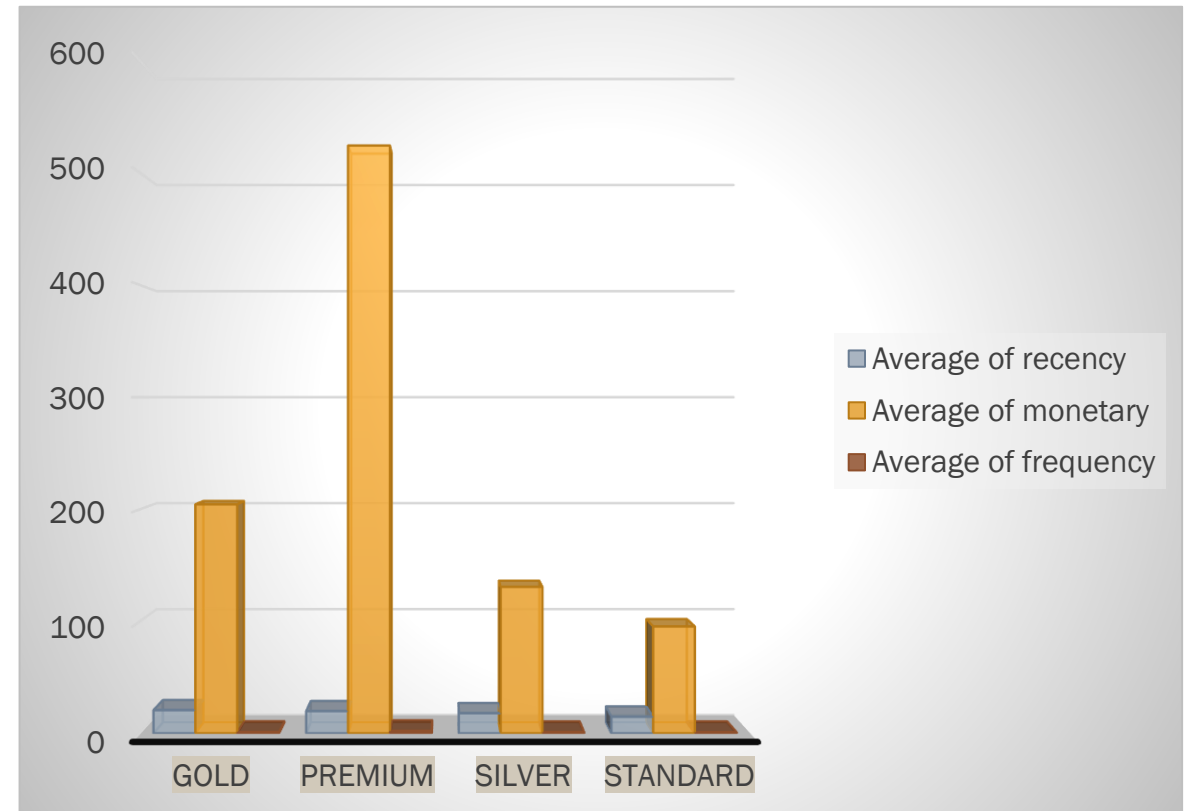
CUSTOMER PREFERNECE:

- Preferred channel: *INSTORE*

- Preferred payment type : *Credit card*

- Preferred store : *ST103*
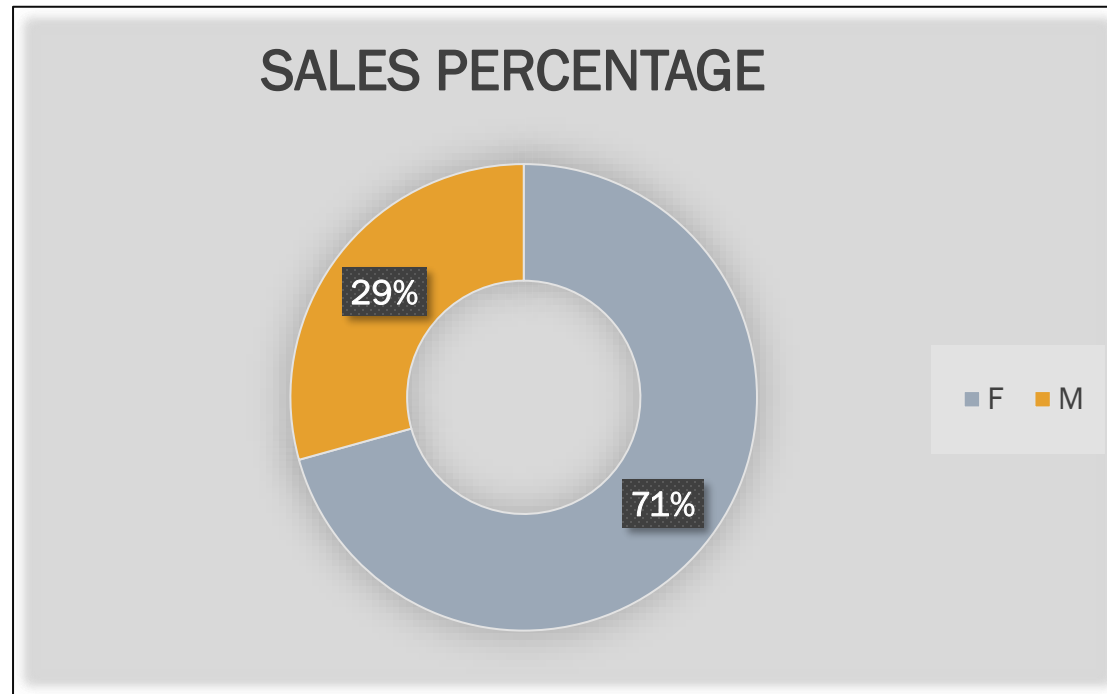
- Preferred category : *BABY*

CUSTOMER BEHAVIOUR ANALYSIS

Discount per Channel

In-store has given more discounts compared to the other two channels, which makes people more likely to buy the products in-store.
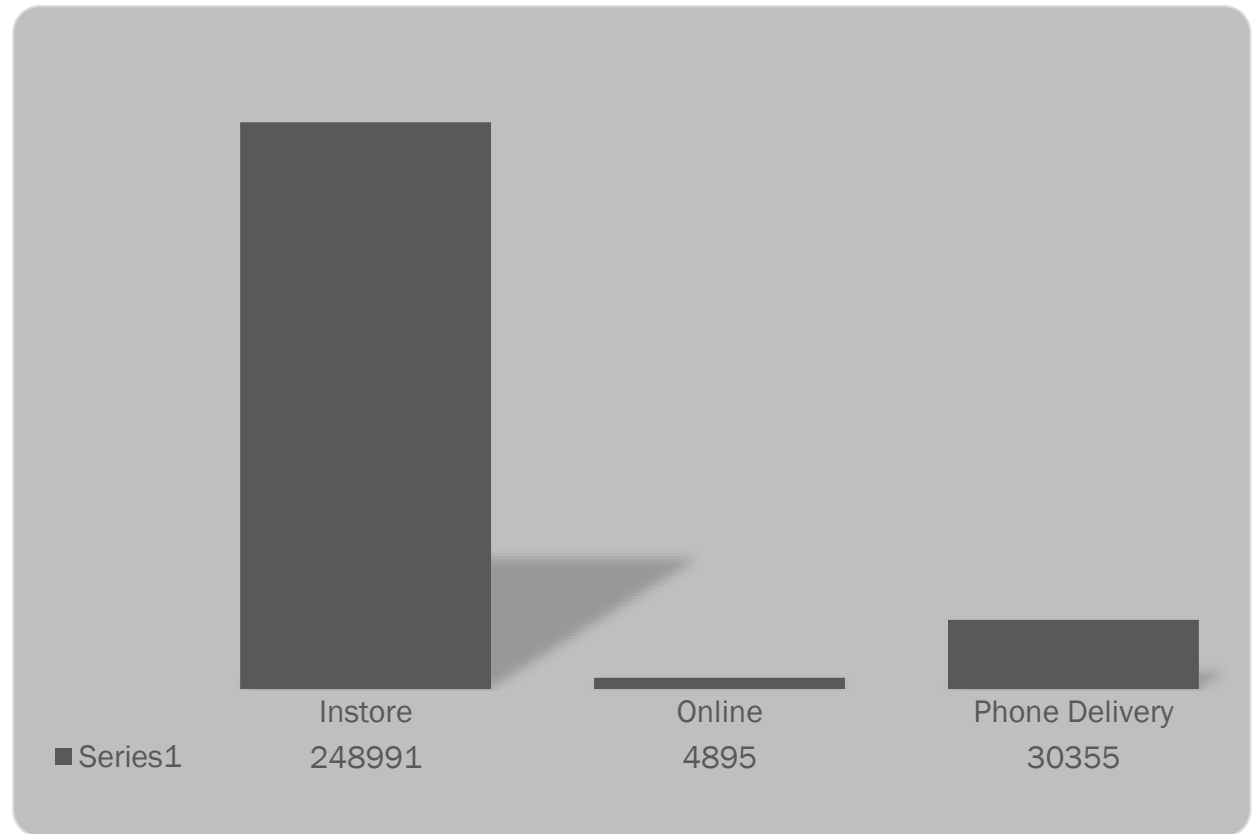
# Female customers make more sales comparatively to Men's.

SALES PERCENTAGE

29%

71%

F M

CUSTOMER BAHAVIOUR ANALYSIS

Discount and Non-Discount Seekers

There are 22,985 individuals actively seeking discounts, while 37,515 are not. Among discount seekers, total sales amount to $3,639,949.54, while non-discount seekers collectively contribute sales totaling $6,069,627.

# Multiple category purchase   vs   Single category purchase
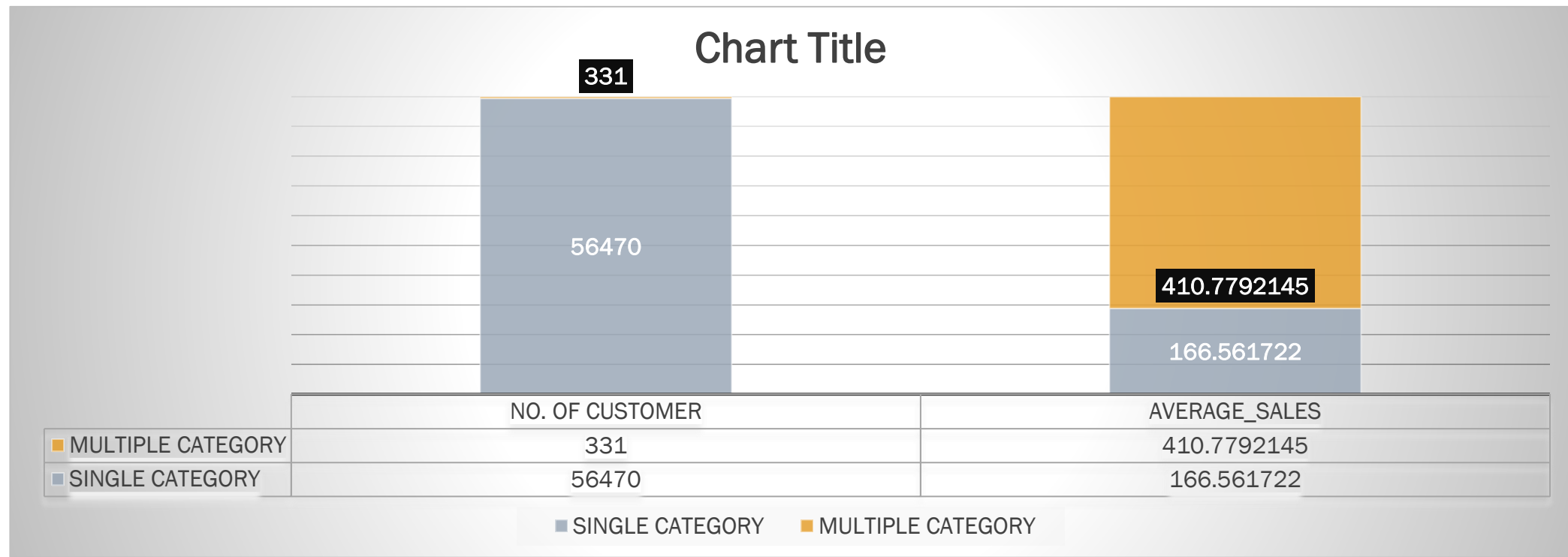
Customers who buy from multiple categories spend more, so encouraging single-category buyers to try other products through promotions and loyalty programs can boost sales.

CROSS SELLING PRODUCTS

| Product 1	Product 2	Frequency
05b515fdc76e888aada3c6d66c201dff	270516a3f41dc035aa87d220228f844c	200
62995b7e571f5760017991632bbfd311	ac1ad58efc1ebf66bfadc09f29bdedc0	36
710b7c26b7a742f497bba45fab91a25f	a9d9db064d4afd4458eb3e139fe29167	36
35afc973633aaeb6b877ff57b2793310	99a4788cb24856965c36a24e339b6058	33
58efb9b638561ce132216a9a612513e2	872db866d615db59612ac933f43d6b22	25
08ef02b6aae73ad3a385cf1342f609c7	155815f7173905f1e5cde0b82adfc113	20
17d8b8e9c21ec0fc5b33724e32fe422e	399f54c06661d06ca45c6e24ed238e0e	18
8509049c56caff468e3f35c4eefb6035	ac11c132793524428ef353a3e4956ed9	18
399f54c06661d06ca45c6e24ed238e0e	99444c1e11fc38755dae86f5c67d3d1a	18
0e14941c183946f60e3b86585d05f984	7cefa61c9500d9b227894dc48d8b5a0b	17

Category Penetration Analysis

Category penetration measures how many people out of a potential market are buying products from a specific category, showing how popular or widespread the category is among consumers.
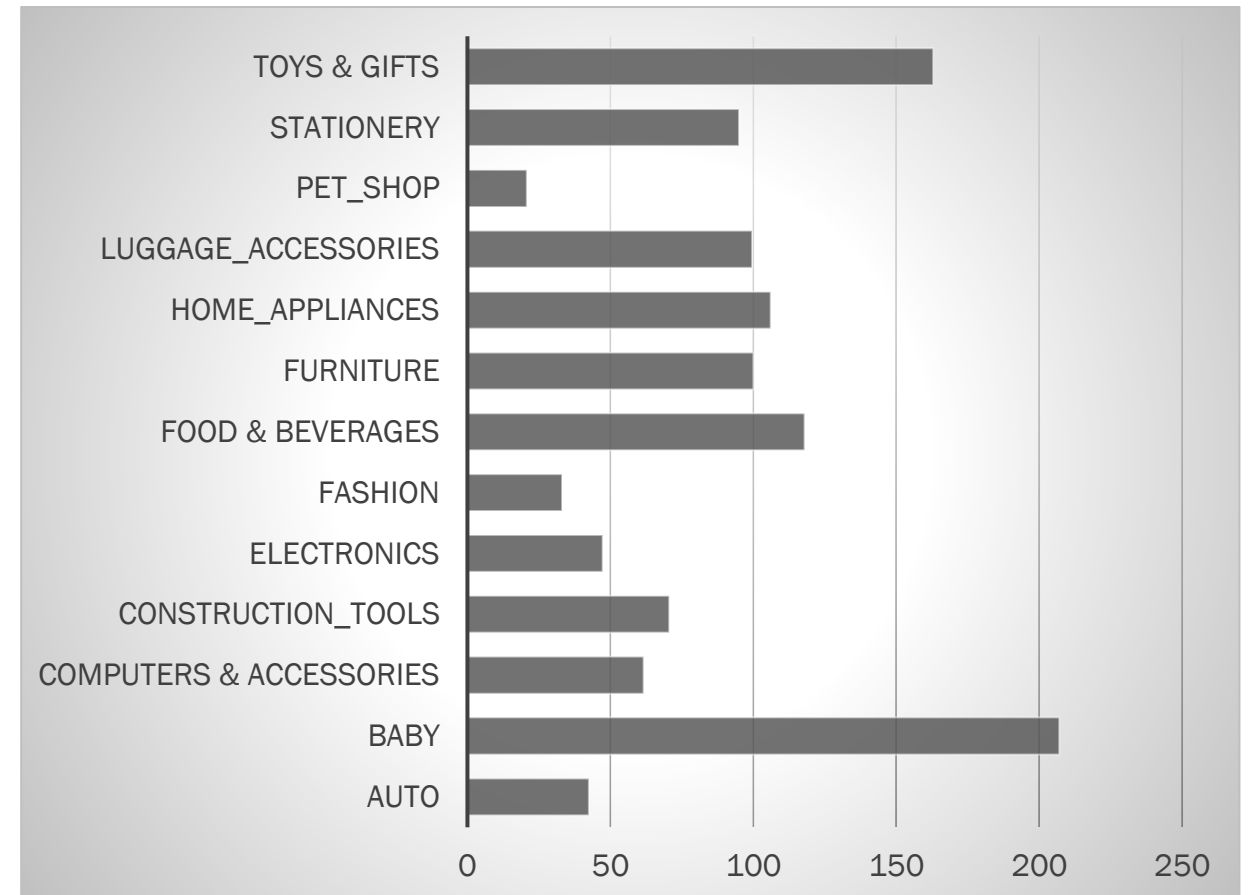
Cross Category Analysis

Cross Category Analysis is calculating average number of categories shopped in each bill
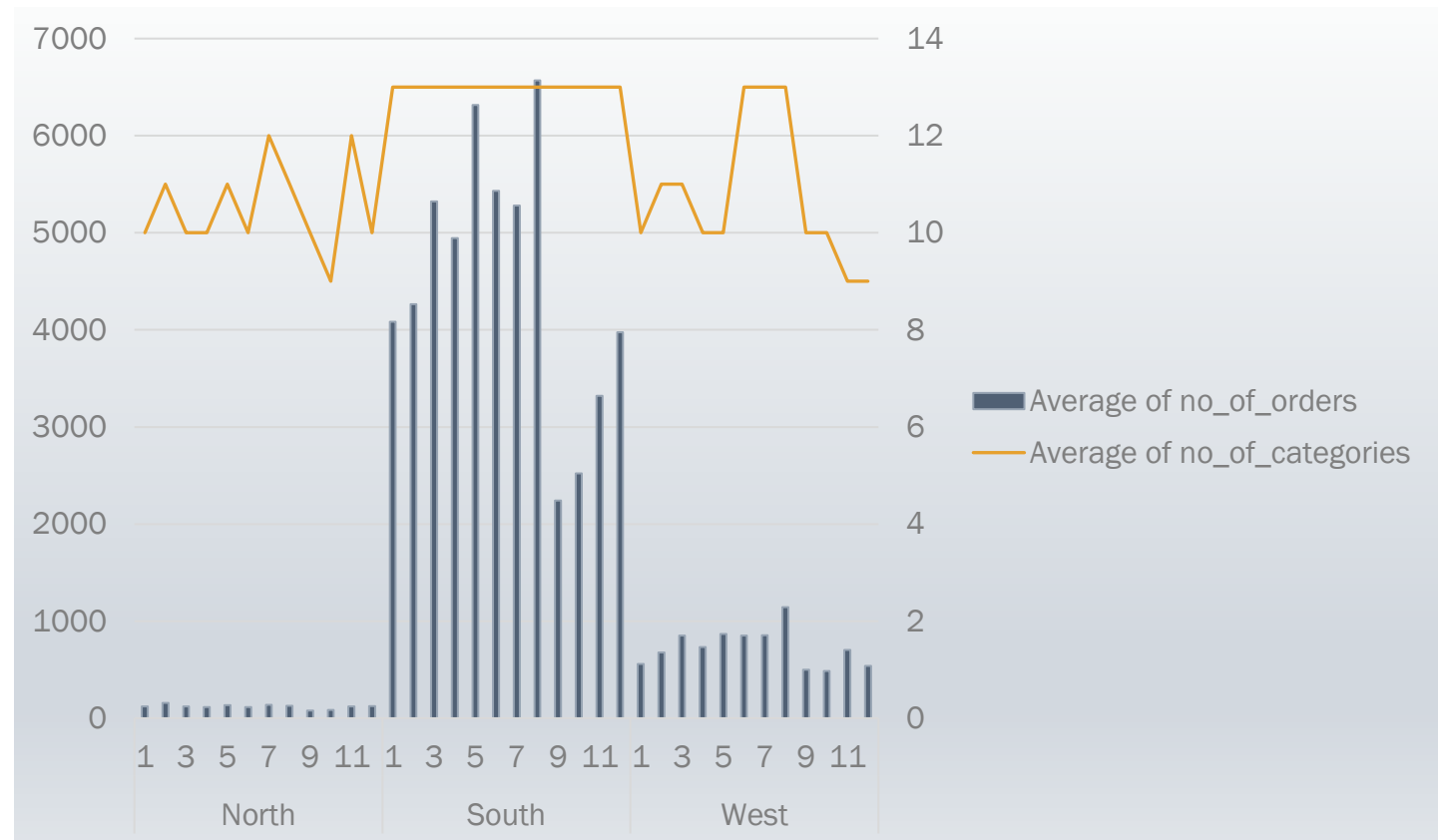
Minimum and Maximum Rated Products and Category

Product id	Category	Max Rated
00de606a5dda99c2499f94ef18282977	Auto	5
009df2b0bc078648fc4f5898de8cabff	Auto	5
006c67546bfe73c33b83f6bd1ad58c36	Auto	5
022b0ef3922883f810bdff4d58e93115	Auto	5
020a80cb704bf65f38761fcedf2af192	Auto	5
01f2d77d8a63937c77c7128ce4bd2ada	Auto	5
01ea47d0dff23faa8d07ba3f353d2af0	Auto	5
0168e1b28d8e55a515928cf656eff0a4	Auto	5
025dcf8f0a969c92d254bc425b380685	Auto	5
0290cc426311fb177fe19e513a7dc349	Auto	5

Product id	Category	Minimum Rated
0011c512eb256aa0dbbb544d8dffcf6e	Auto	1
020a80cb704bf65f38761fcedf2af192	Auto	1
060cb19345d90064d1015407193c233d	Auto	1
073af5ae737ac55290eb733f67317242	Auto	1
089245791e0895da94a8791bd68a2085	Auto	1
0af008d54027e80d31d8dcf4b5c68447	Auto	1
0c9ff9d8ed9b9bdd825487b3a66e05f5	Auto	1
0ceb7ce77881482fe28344a2c31fb584	Auto	1
1095122297a4faeebb3dd2cb4c9b497d	Auto	1
138dac44dc568cd36c6f1d1e5e181d5d	Auto	1

Highest & Least sales by Month and their contribution in percentage
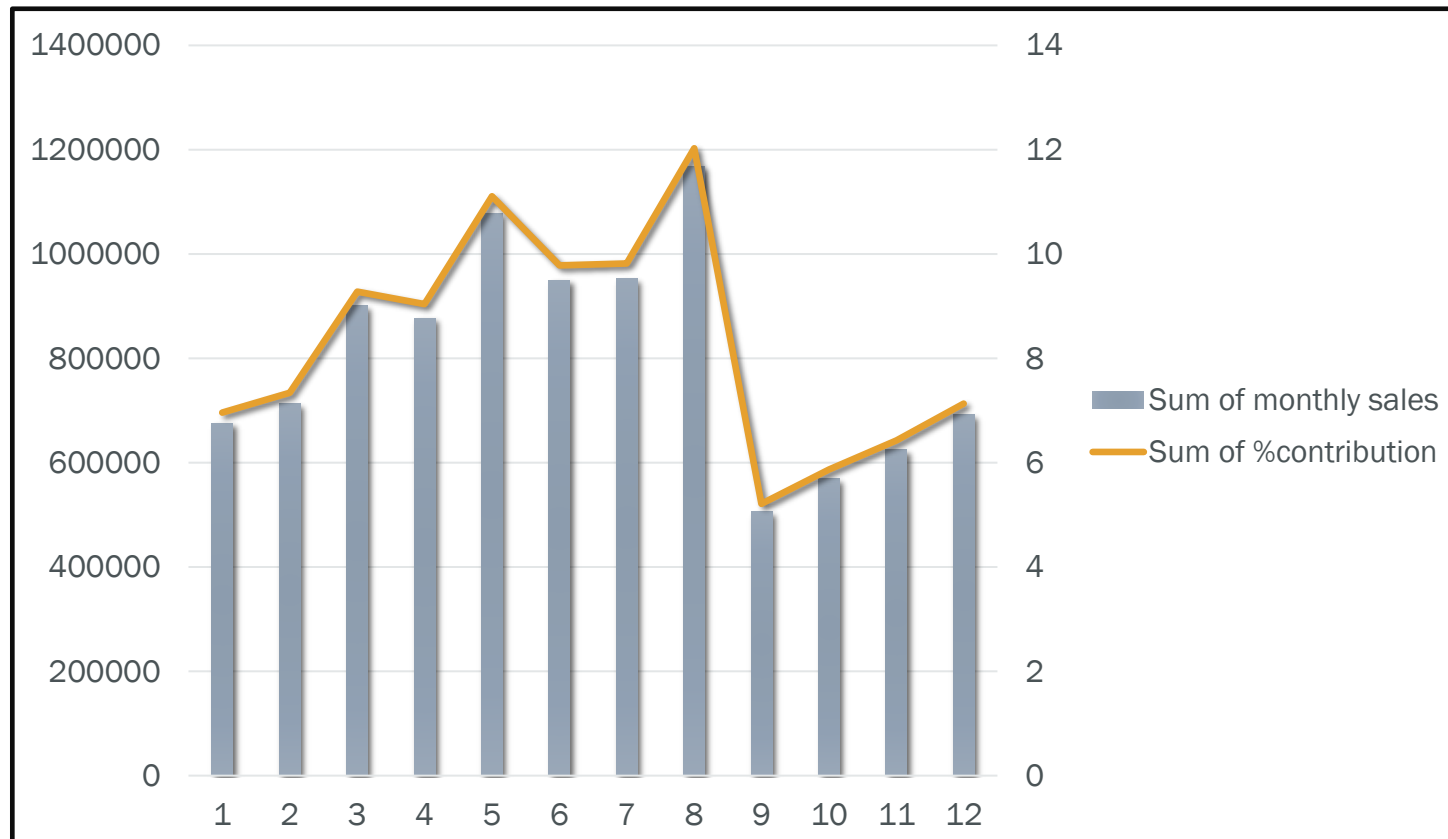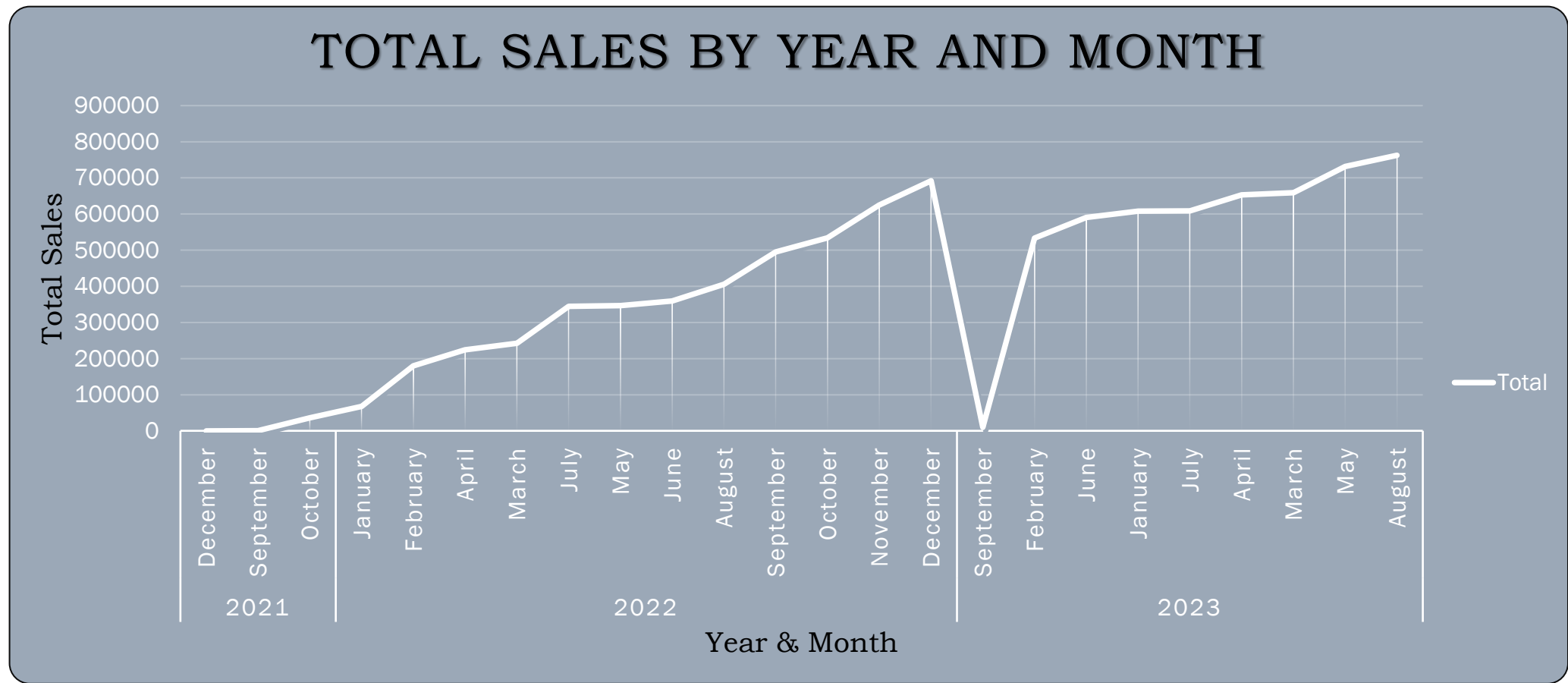

- Eighth month have the Highest sale and it contributes 12% of the total sales

- Ninth month has the least sales, contributing 5% to the total sales.
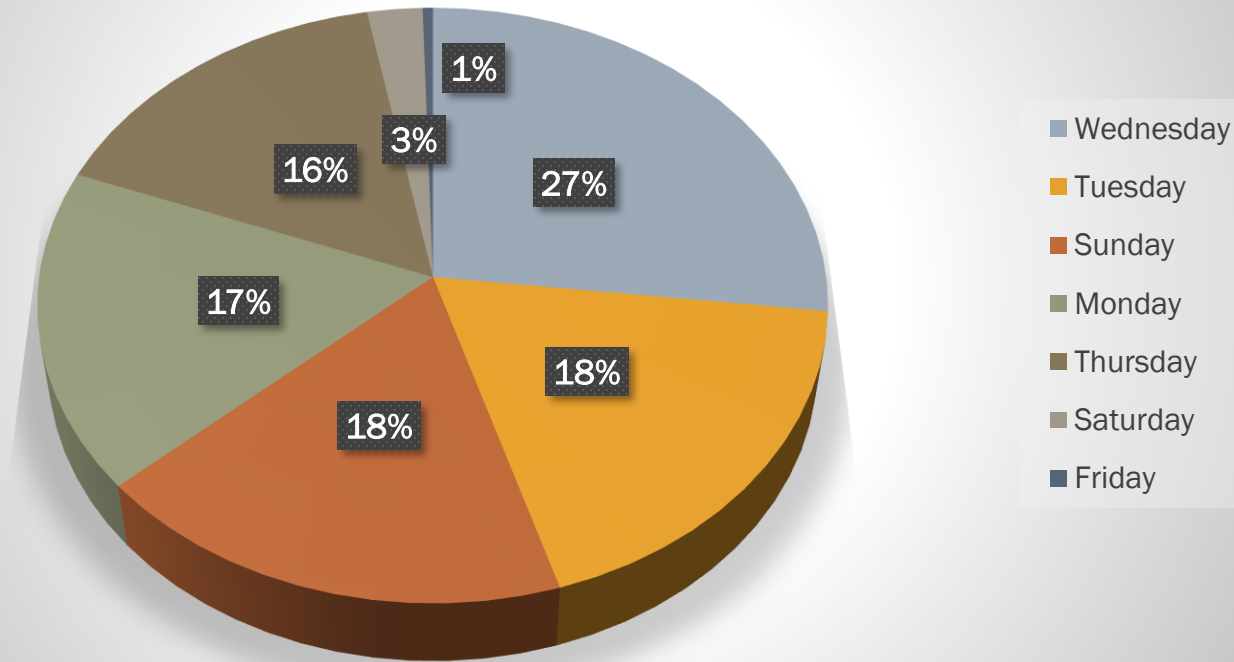
Weekdays have the maximum sales compared to weekends, with the top 2 maximum sales days occurring on weekdays.

TOTAL SALES BY YEAR AND MONTH

AUGUST 2023 HAVE THE HIGHEST SALES RATE