CUSTOMER SEGMENTATION

PROJECT SCOPE

The project scope encompasses a comprehensive analysis of diverse dimensions within customer data, including purchase history, demographics, and interaction patterns. The objective is to develop a sophisticated customer segmentation model proficient in discerning significant customer segments. This segmentation model will equip businesses to customize their offerings, elevate customer engagement, and orchestrate precision-targeted marketing initiatives, thereby culminating in more profound and measurable outcomes.

PROJECT OBJECTIVE

The main goal of the project is to develop an innovative Customer Segmentation system that surpasses traditional demographic classifications. Through the integration of machine learning algorithms, the system aims to analyze diverse data points to identify nuanced customer segments. The ultimate objective is to enable businesses to customize their products, services, and marketing strategies according to specific customer needs. This approach is designed to foster stronger customer relationships and contribute to overall business success.
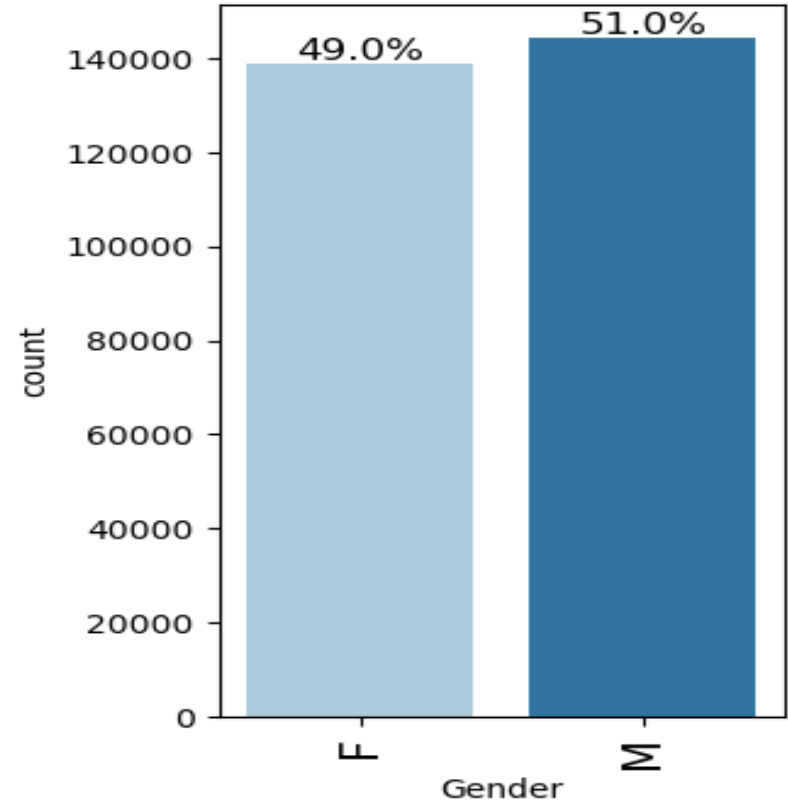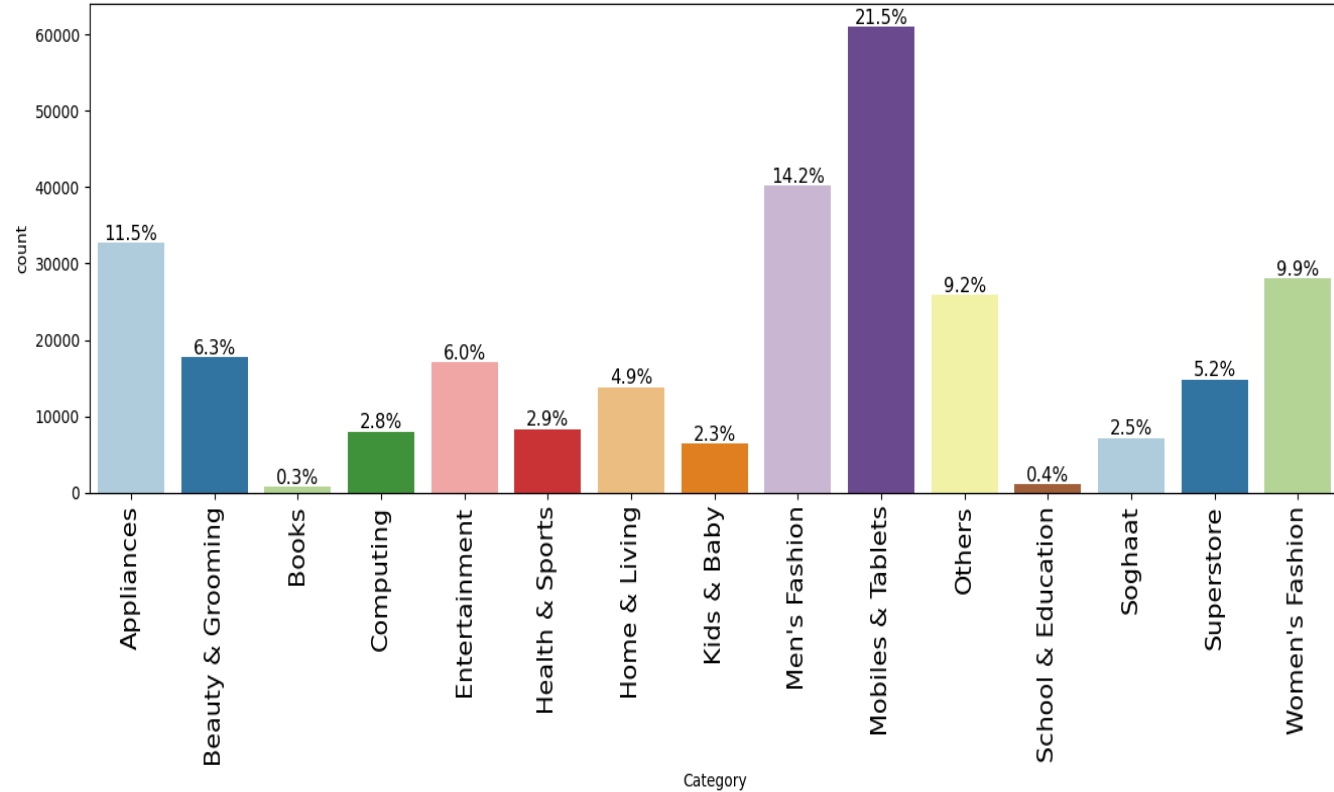
Observations

South has the most customer of 36.6% followed by Midwest of 28.7%
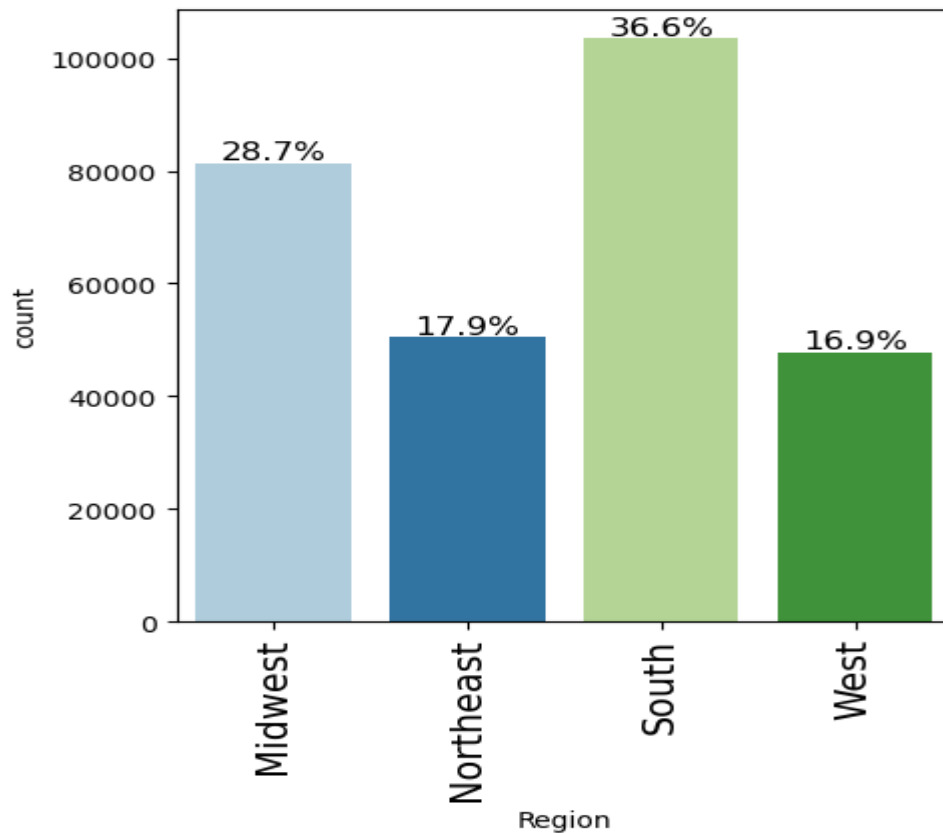
Observation
There are more male customers of 51% than female customer.

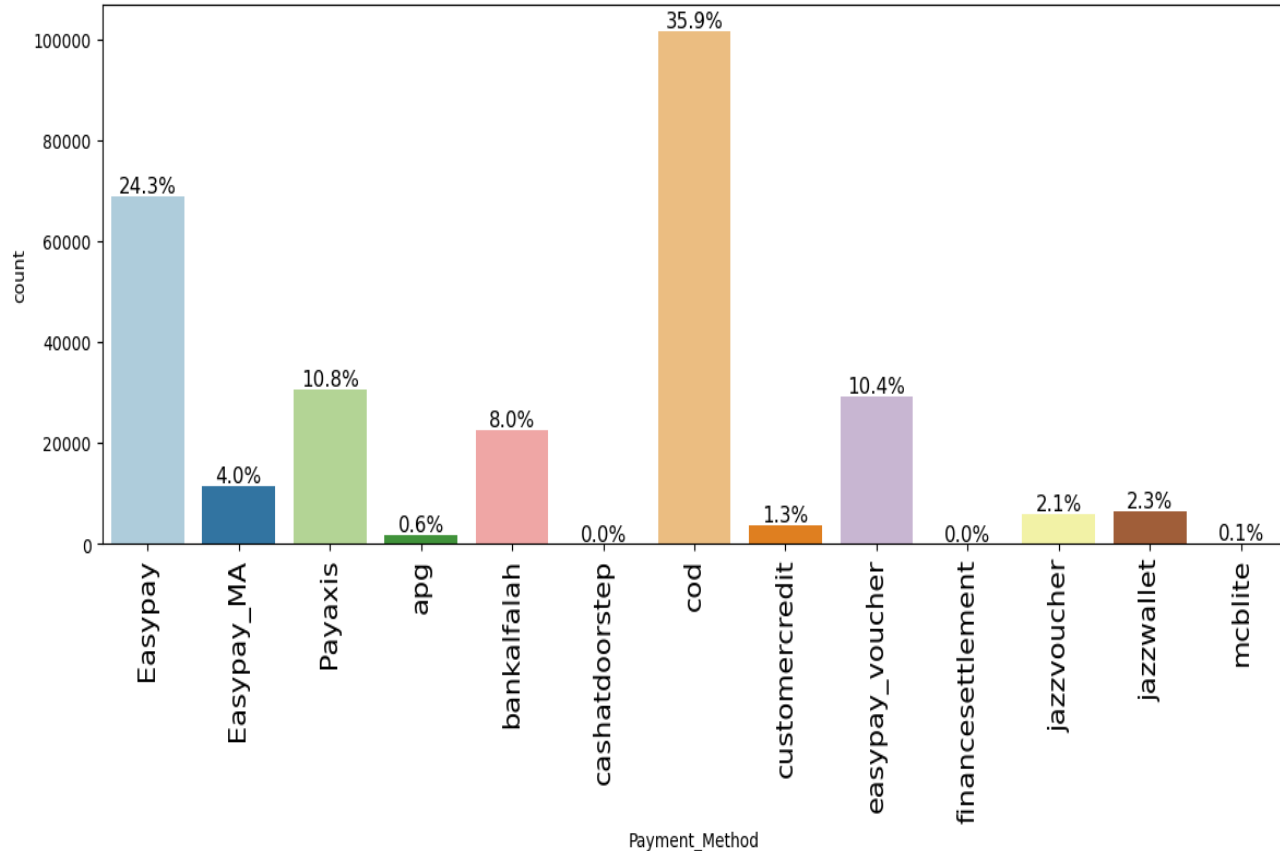•**Mobiles and Tablets were the most sold items of 21.5% followed by Men's fashion of 14.2%**

* Cash On Delivery (cod) is the most used form of payment with about 35.9% followed by Easypay of 24.3%

A - Airli

Least 5 State-wise Distribution


Top 5 State-wise Distribution
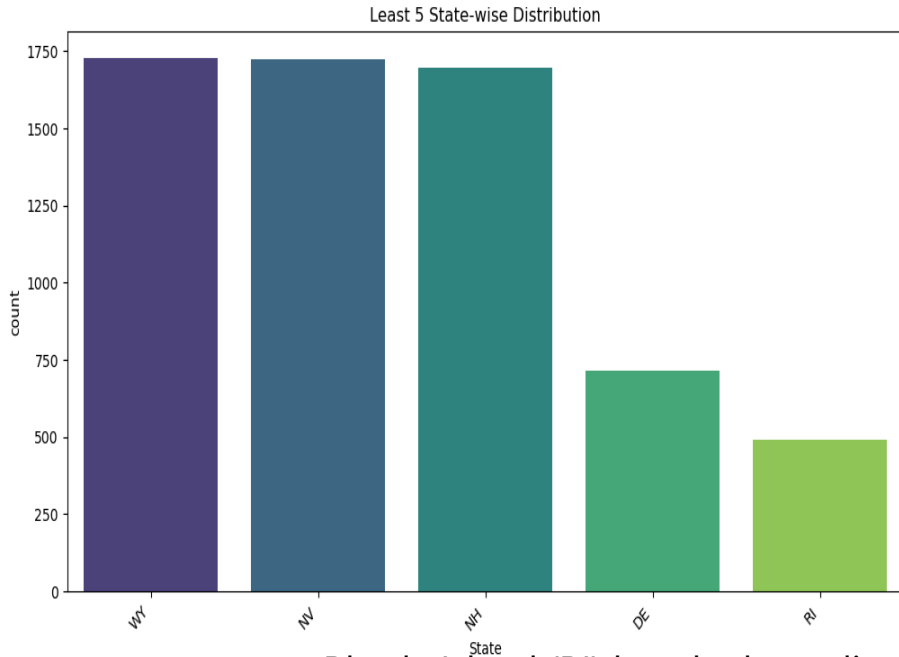
Rhode Island (RI) has the least distribution in terms of customer followed by Delaware(DE) while Texa has the highest distribution of customers followed by California.
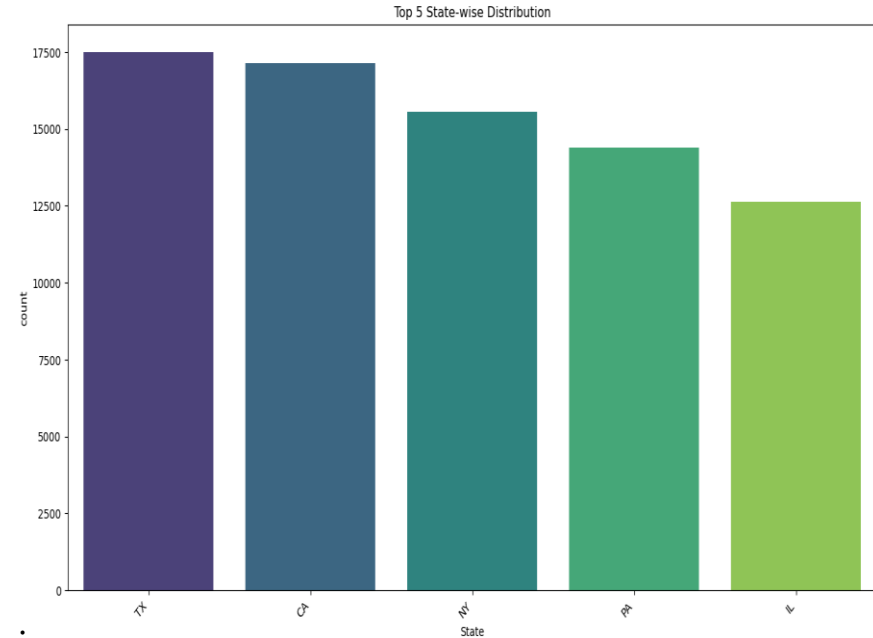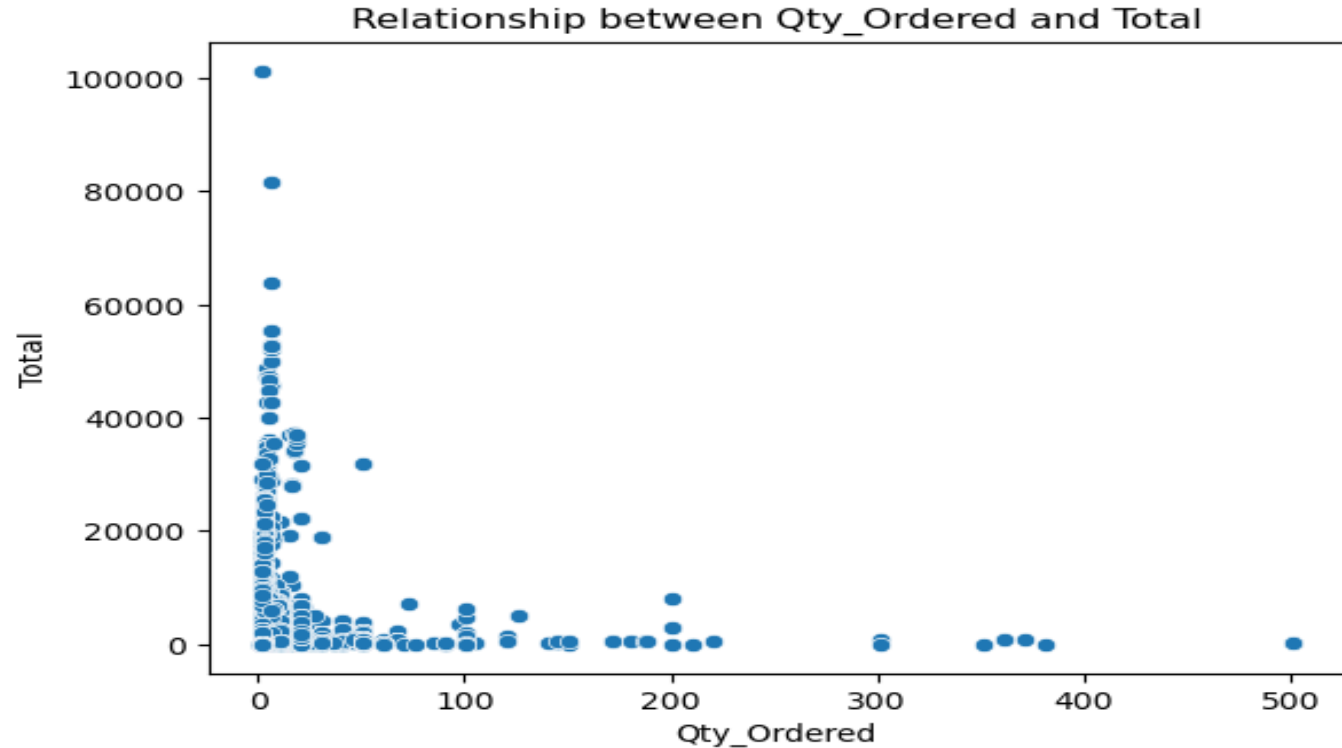
Superstore has the average quantity ordered by category but in terms of average total sales mobile and Tablets sold the most.

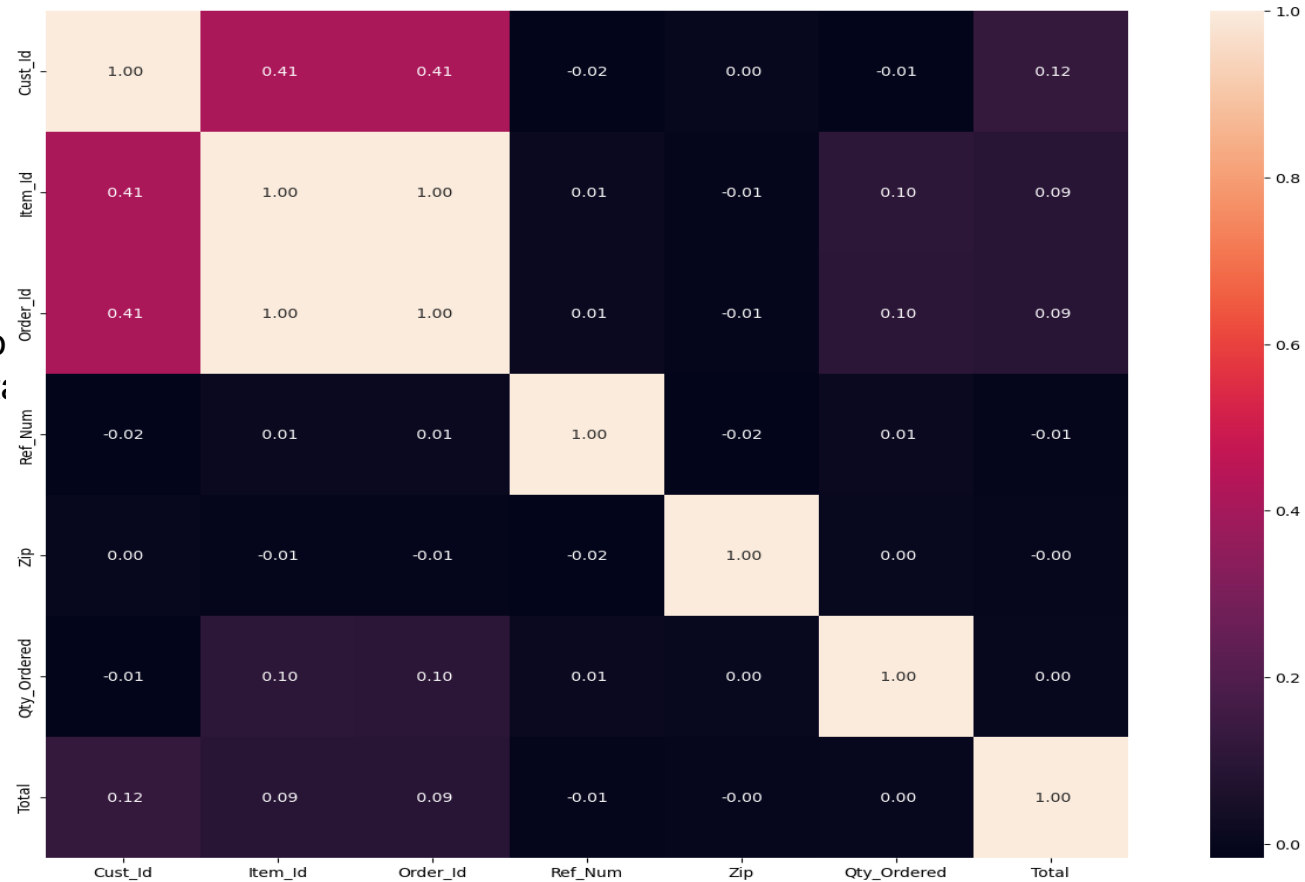Average Qty_Ordered by Category

Average Total Sales by Category

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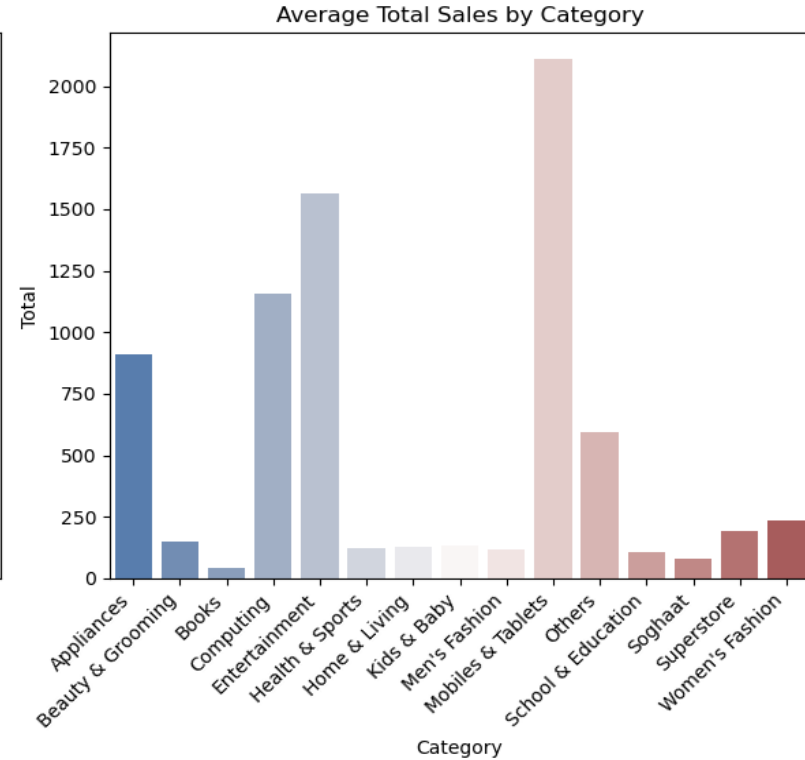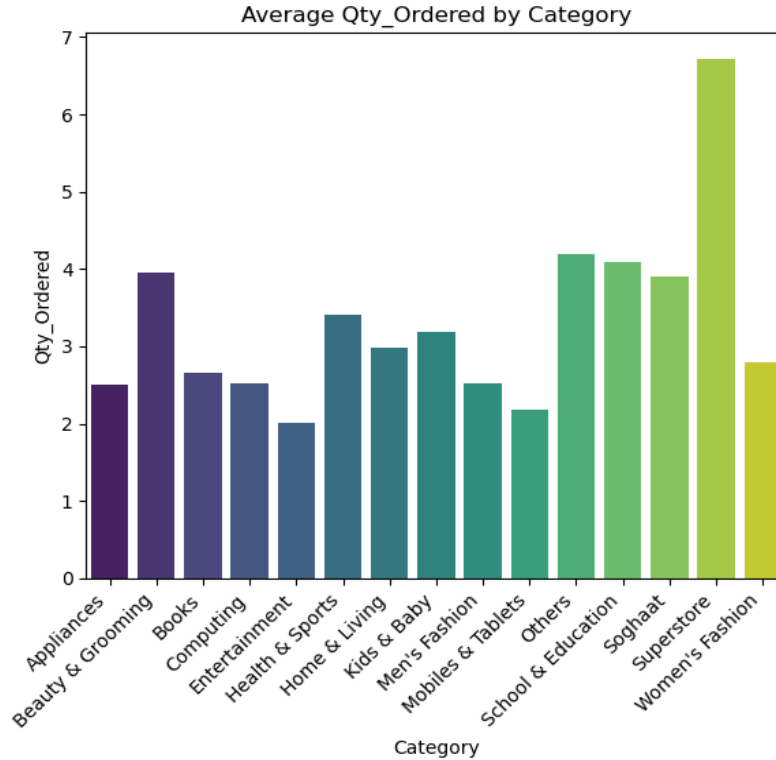
The scatter plot indicated the least quantity ordered(1-20) had the most total sales compared with those with high number of quantity ordered.
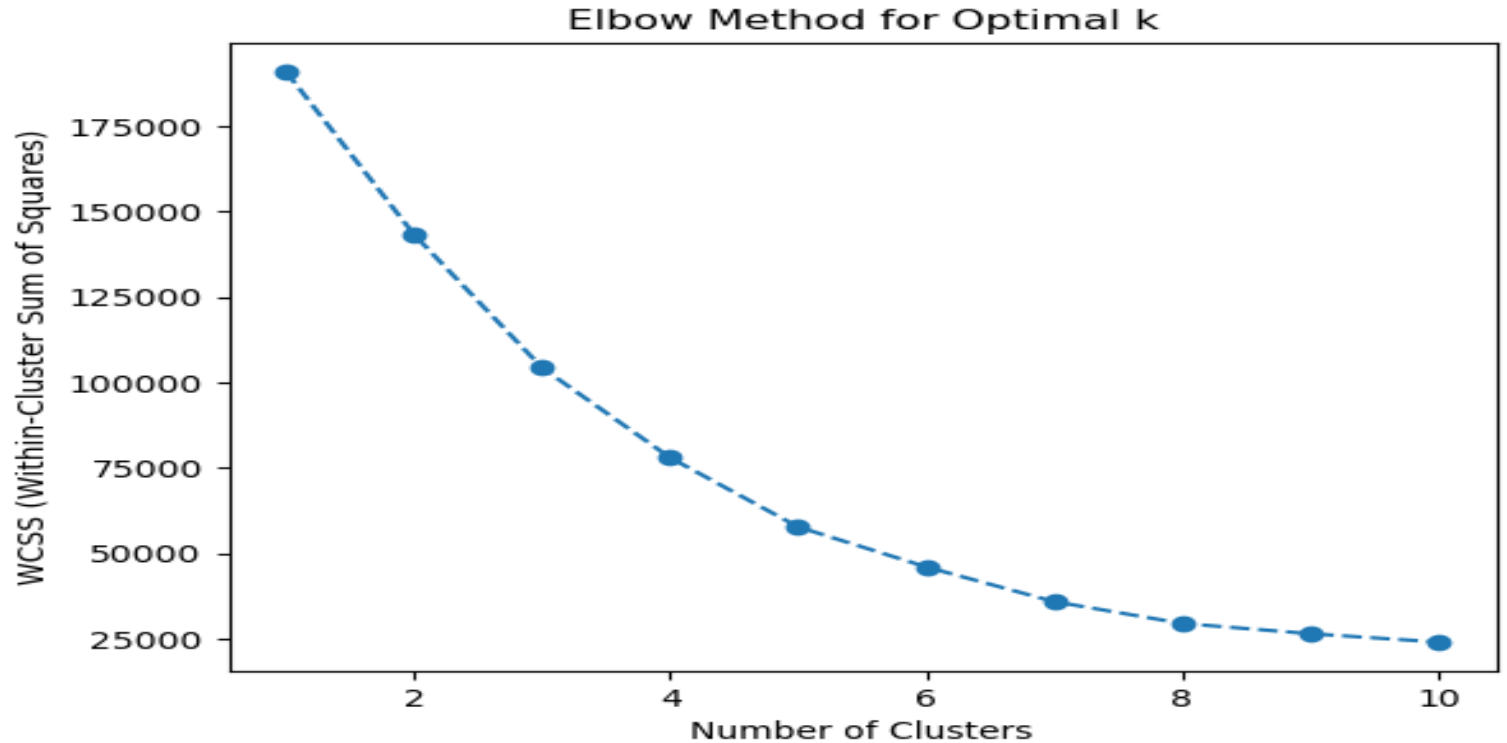

Relationship between Qty_Ordered and Total

It shows that there is no correlation between the Qty-Ordered and Total sales
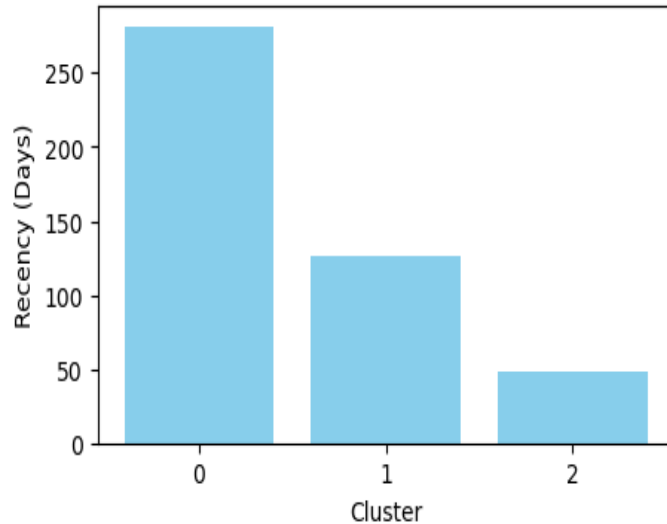
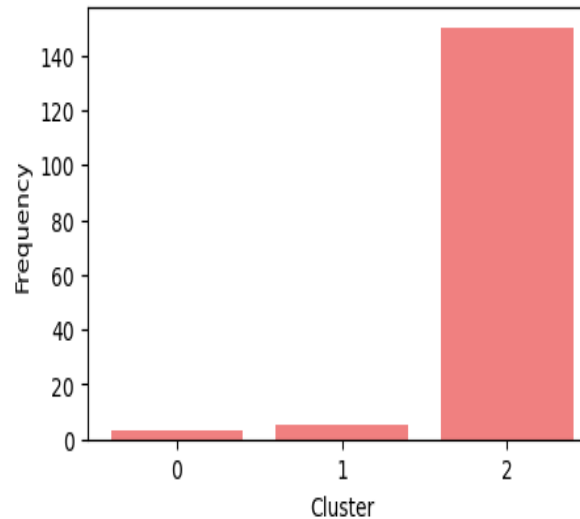Elbow Method for Optimal k

Observation

•The graph slope slows at point 3 which is therefore considered a good estimate for the optimal number of clusters

CUSTOMER SEGMENTATION USING RFM

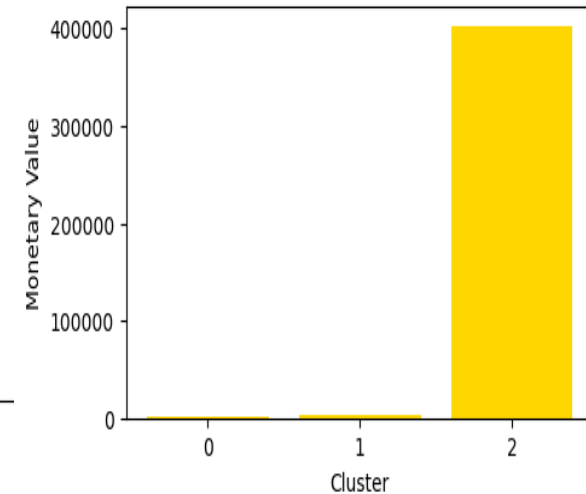
• **Looking at the RFM for each cluster it is observed that cluster 2 is the loyal customer with recent visit more frequency and generated more money for the corporation followed by cluster 1 and cluster 0 being the least.**
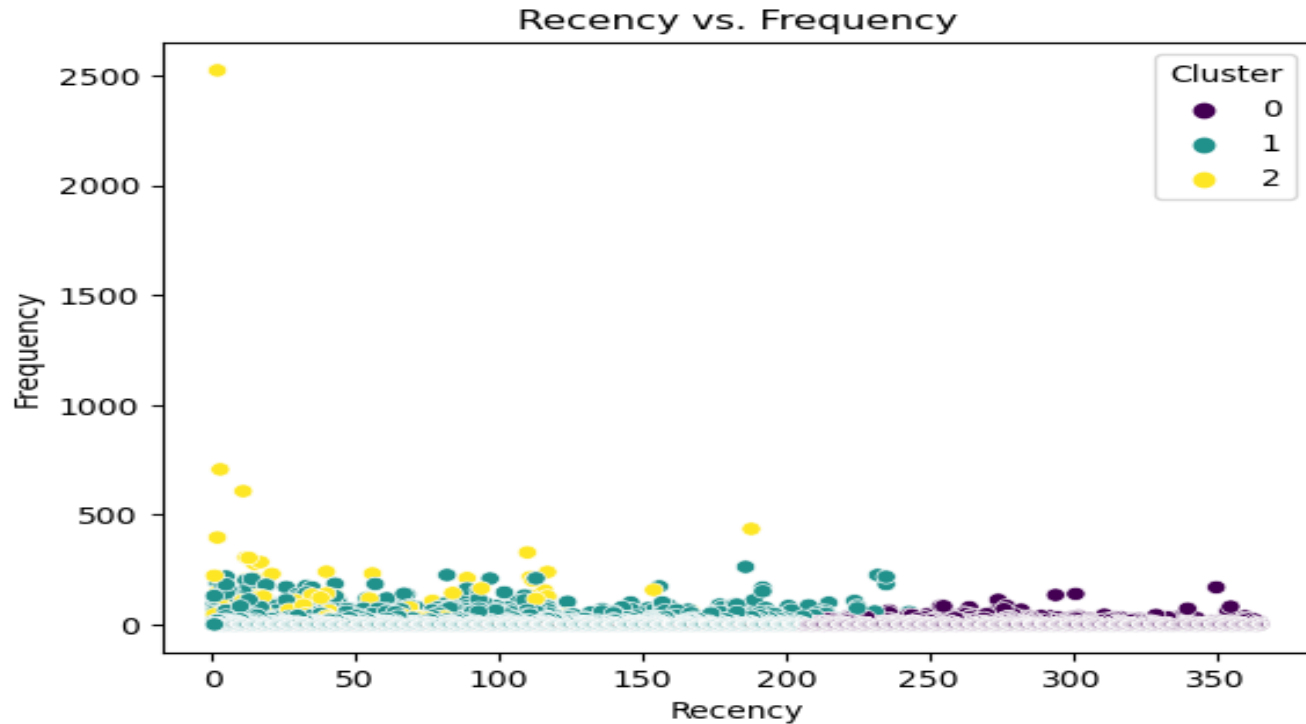
CUSTOMER GROUPING

Grouping customer to Gold, silver and platinum it is observed that though the customer grouped as platinum are few, but it generated more in terms of monetary value.

Gold 35517
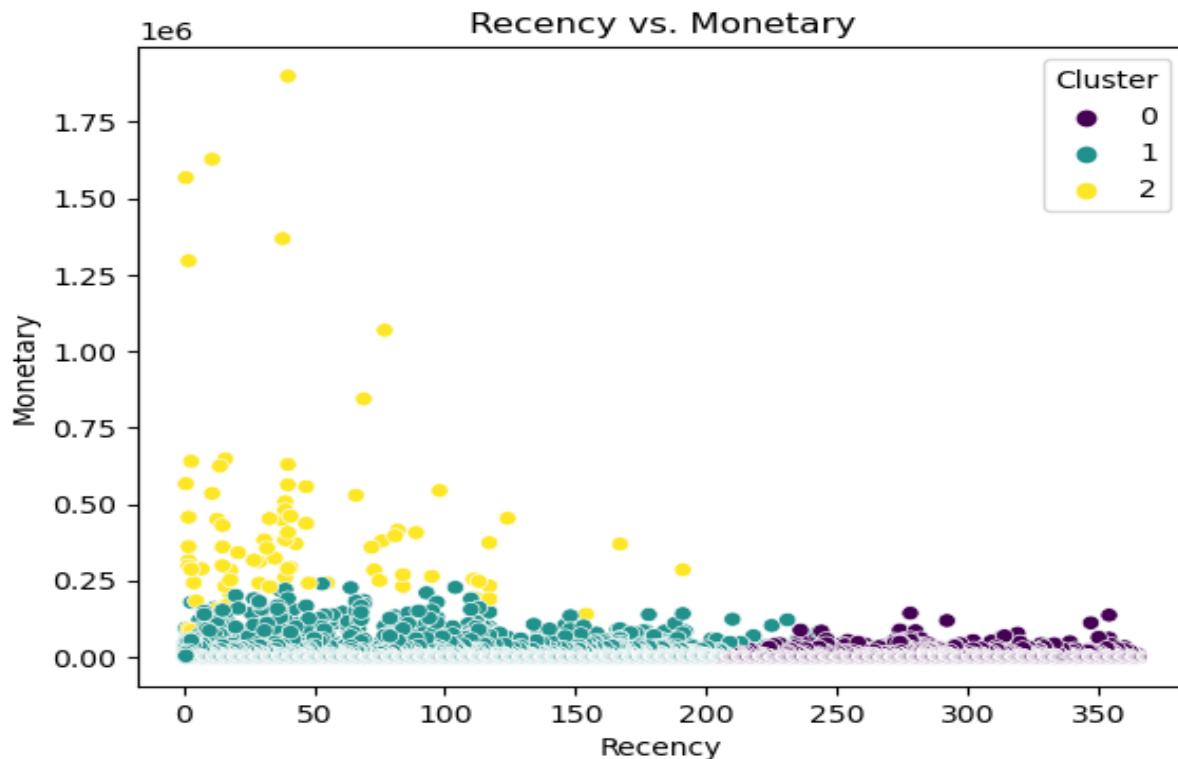Silver 28036
Platinum 93
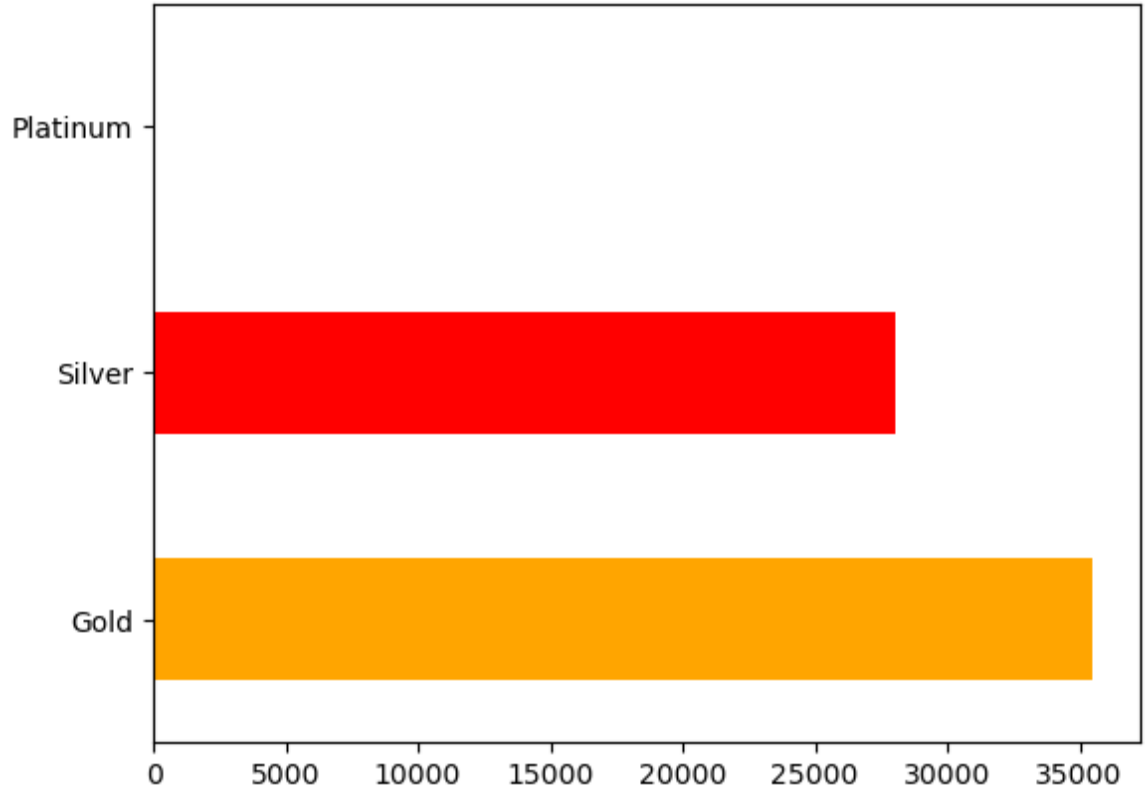
Cluster 2 had the most frequency value and visited more followed by cluster 1

Recency vs. Frequency

In terms of monetary value cluster 2 is far the highest and most recent followed by cluster 1

Recency vs. Monetary

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Cluster 2 again shows it is the targeted customer having shown the highest in terms of monetary value and with the most visit. Cluster 0 visited long time with frequency above 2500
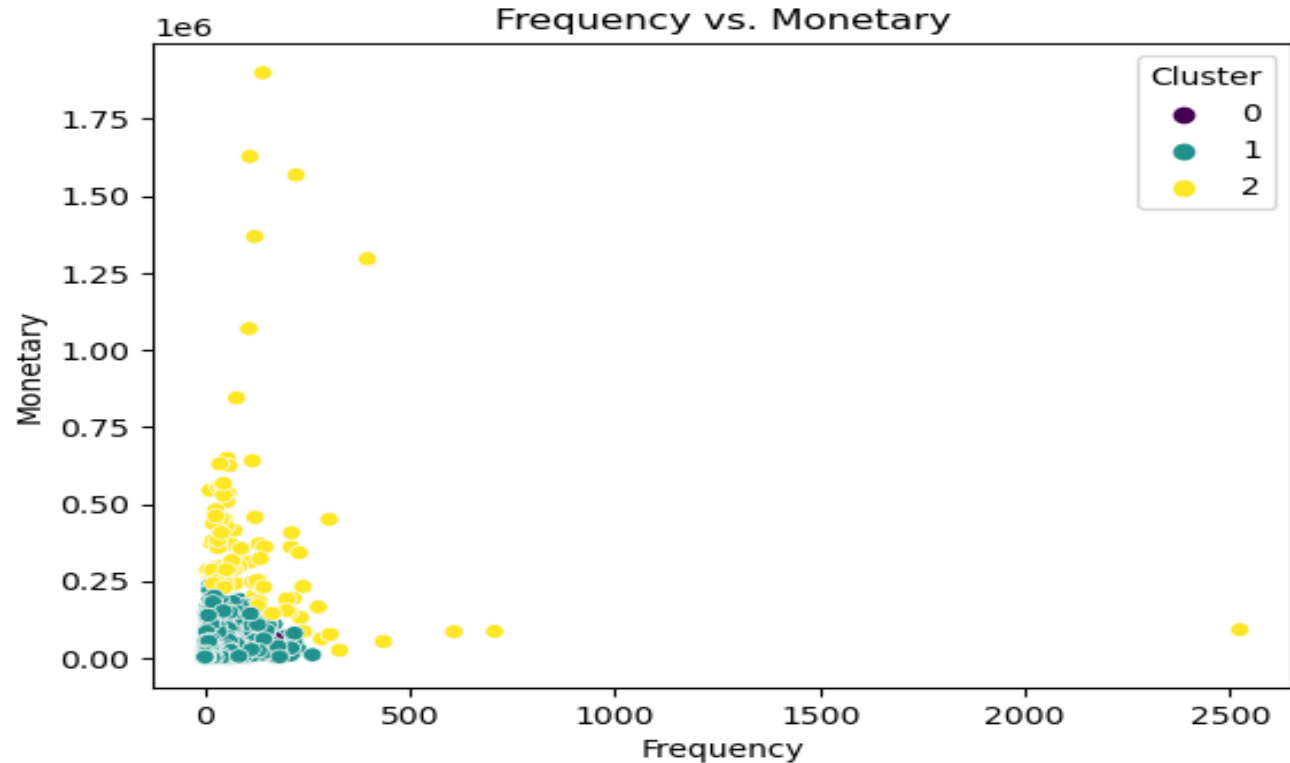
Frequency vs. Monetary

Looking the the plot from the 3D point of view it is very obvious that cluster 2 had the most value in terms of monetary value, with the most frequency and recent visit.

3D Scatter Plot for RFM Variables
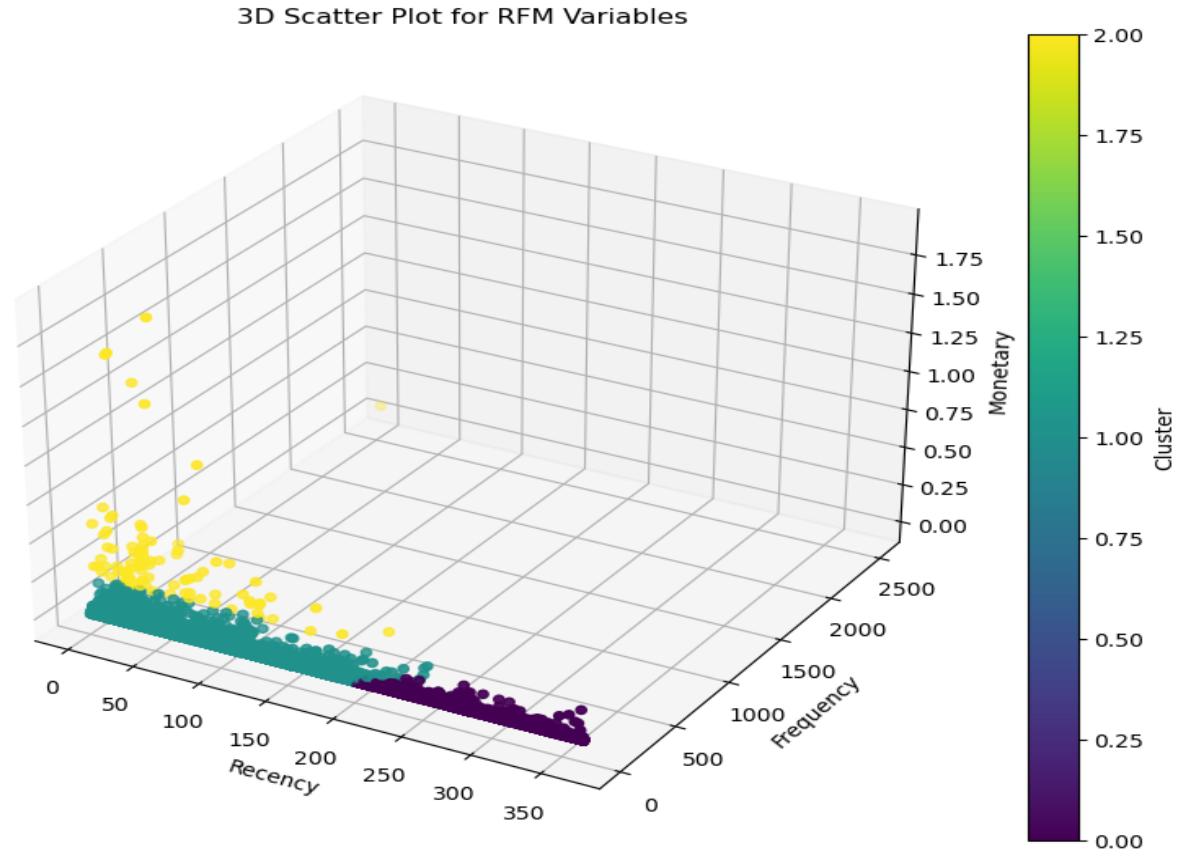
KEY INSIGHTS : CLUSTERING AVERAGE

Cluster 0 (Silver)

- **Recency:**   282 days

- **Frequency:** 3 times

- **Monetary:** $1982.62

Cluster 1 (Gold)

- **Recency:**   126 days

- **Frequency:** 5 times

- **Monetary:** $3911.09

Cluster 2 (Platinum)

- **Recency:**   49 days

- **Frequency:** 149 times

- **Monetary:** $393,085.79

Cluster 2 with the least customer spend the most in terms of monetary value and they are the loyal customers.

CONCLUSION

The RFM customer segmentation analysis facilitates the efficient allocation of resources for businesses by furnishing a strategic roadmap for decision-making. This empowers organizations to personalize marketing endeavors, enhance customer experiences, and optimize the value derived from each segment. Through the implementation of tailored strategies designed for Silver, Gold, and Platinum customers, it cultivates customer loyalty, propels revenue growth, and solidifies your brand's position as a market leader.