



Data Glacier

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Exploratory Data Analysis

XYZ BANK CUSTOMER SEGMENT GROUP PROJECT BY

Data Innovators

10/01/24

Agenda

Problem Description

Distribution of Recency, Frequency and Monetary Value

Box plot of Recency, Frequency and Monetary Value

Count Plot of Gender

Correlation Matrix Heatmap

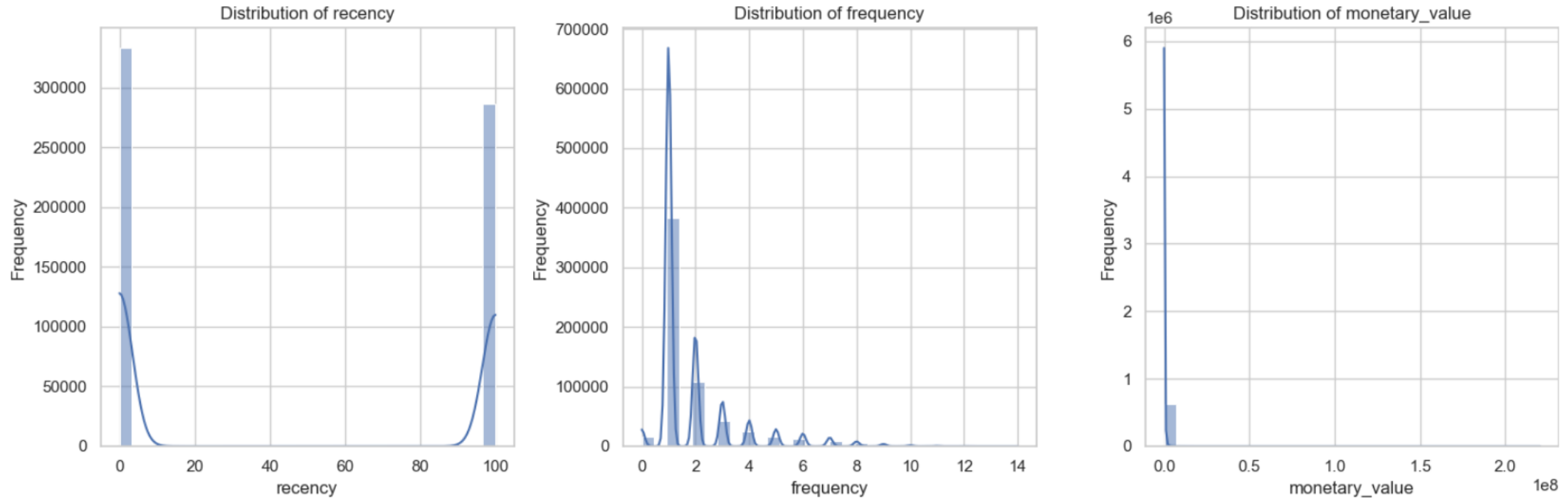
Recency vs Frequency & Frequency vs Monetary value
by customer activity index

XYZ Bank Customer Segment case study

Problem Description

- XYZ Bank is aiming to enhance its marketing campaign by delivering personalized Christmas offers to its customers.
- Instead of rolling out a generic offer for everyone, they want to target specific customer segments with relevant offers.
- To solve this problem efficiently, XYZ Bank approached ABC Analytics Company to help with customer segmentation.
- The bank's requirement is to group customers into no more than 5 segments, as more segments would be inefficient for their marketing efforts.

Distribution of Recency, Frequency and Monetary Value

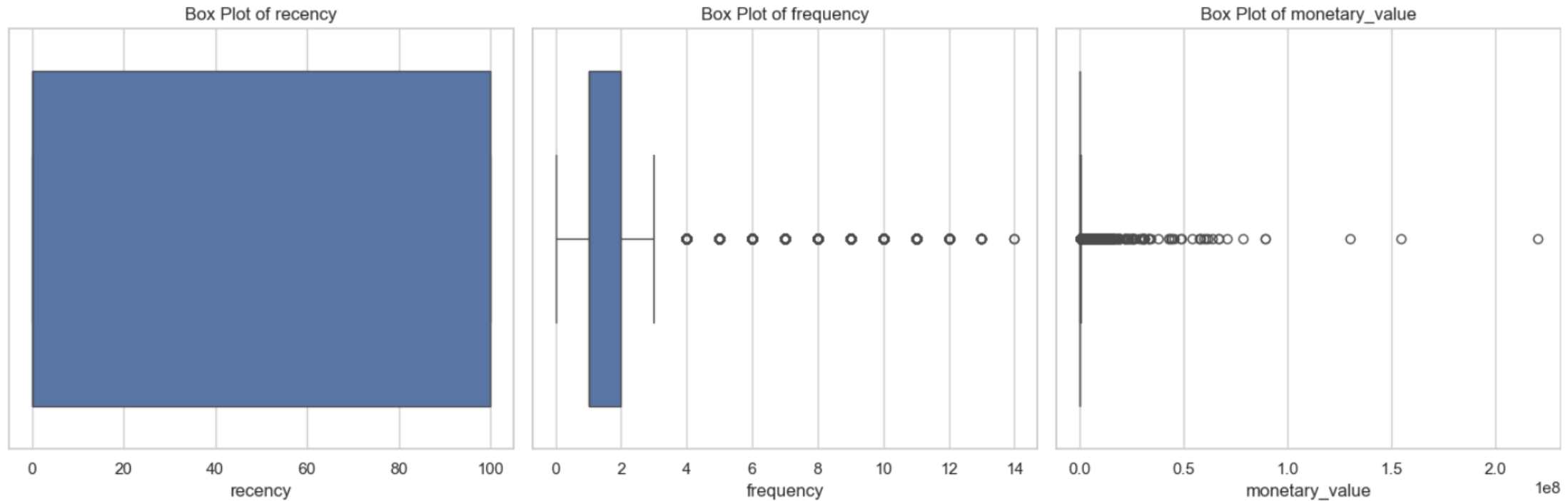


- The bank's customer base is heterogeneous in terms of recent activity. By understanding these differences and implementing targeted strategies, the bank can improve customer retention, increase customer loyalty, and drive revenue growth.

- The right-skewed distribution suggests that the customer base is heterogeneous in terms of product usage. A large majority of customers are relatively low-product users, while a small minority of customers are high-product users.

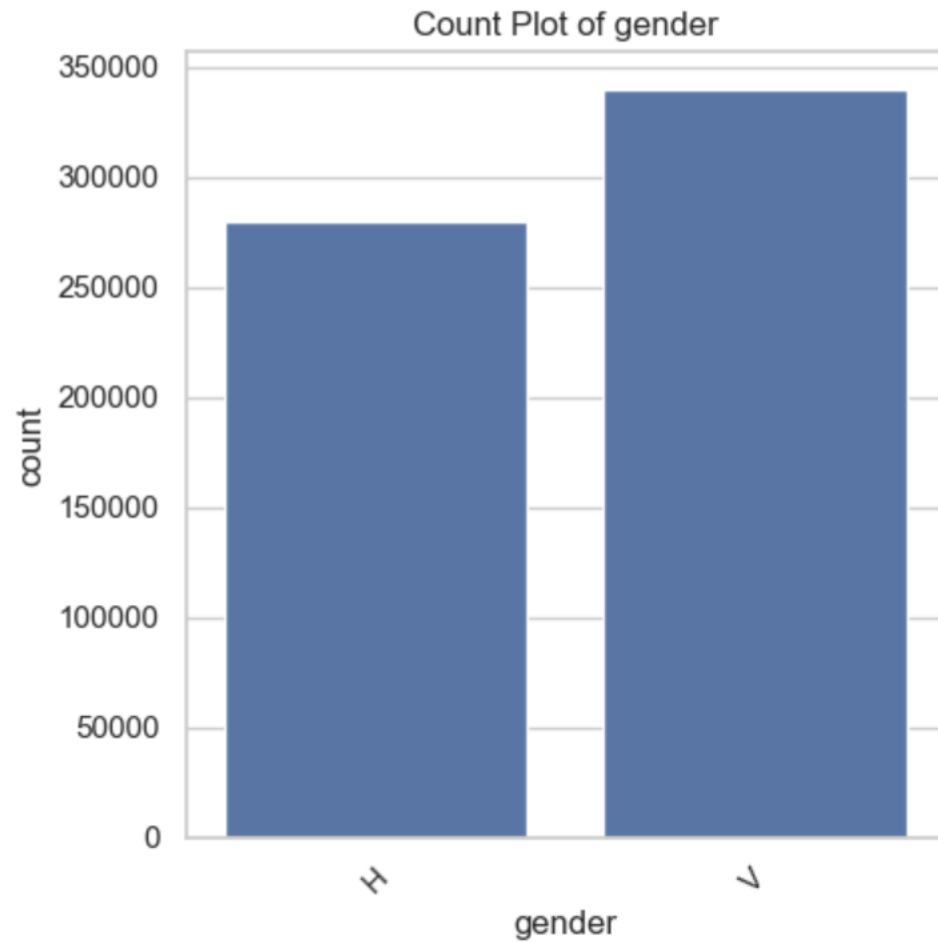
- A large majority of customers are relatively low-spending customers, while a small minority of customers are high-spending customers.

Box plot of Recency, Frequency and Monetary Value



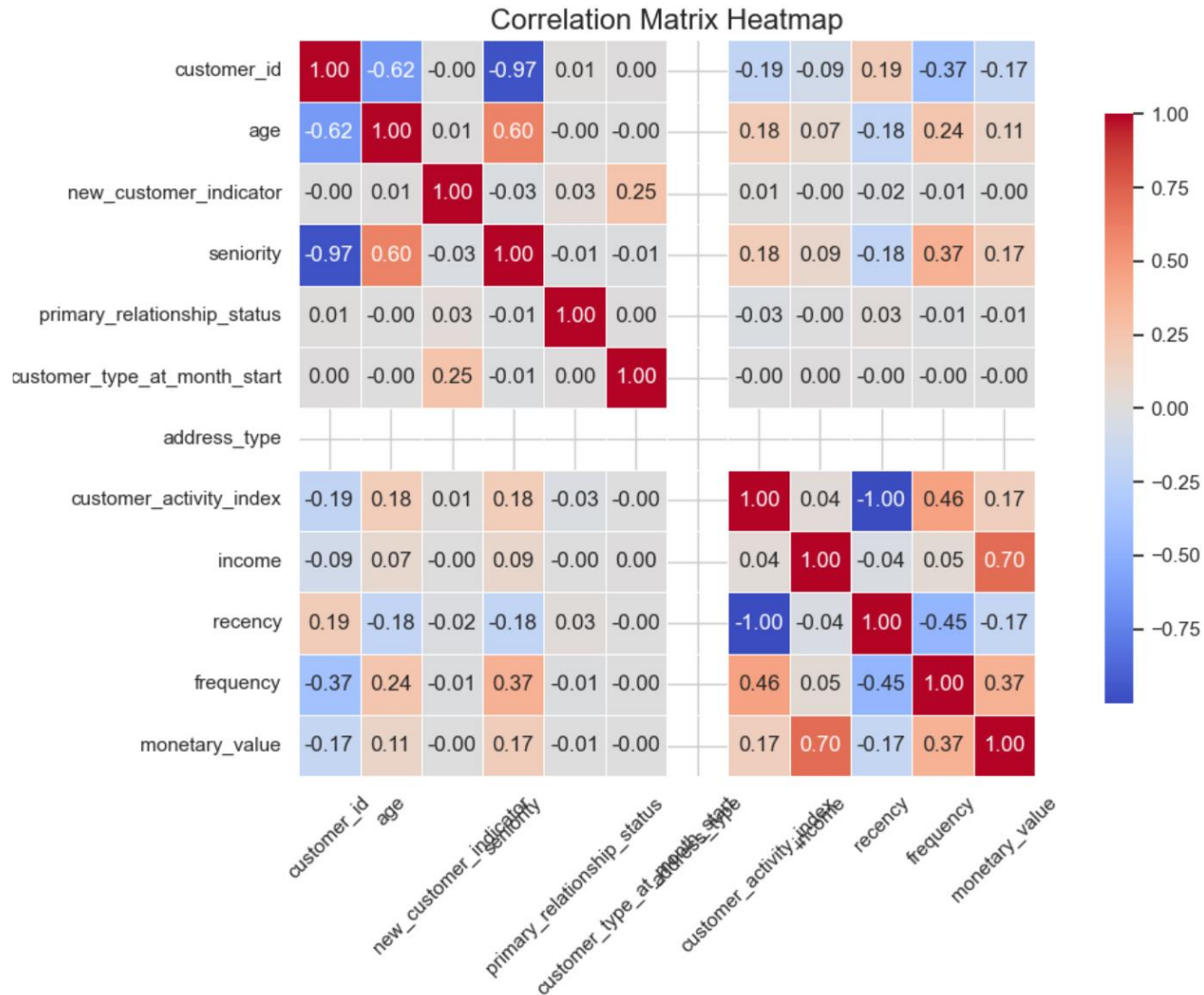
- These are outliers resulting from feature engineering.
- The outliers are relevant for the customer segment process

Count Plot of Gender



- XYZ Bank's customers consist mostly of women
- This insight can help shape the perspective for the Christmas marketing campaign.

Correlation Matrix Heatmap

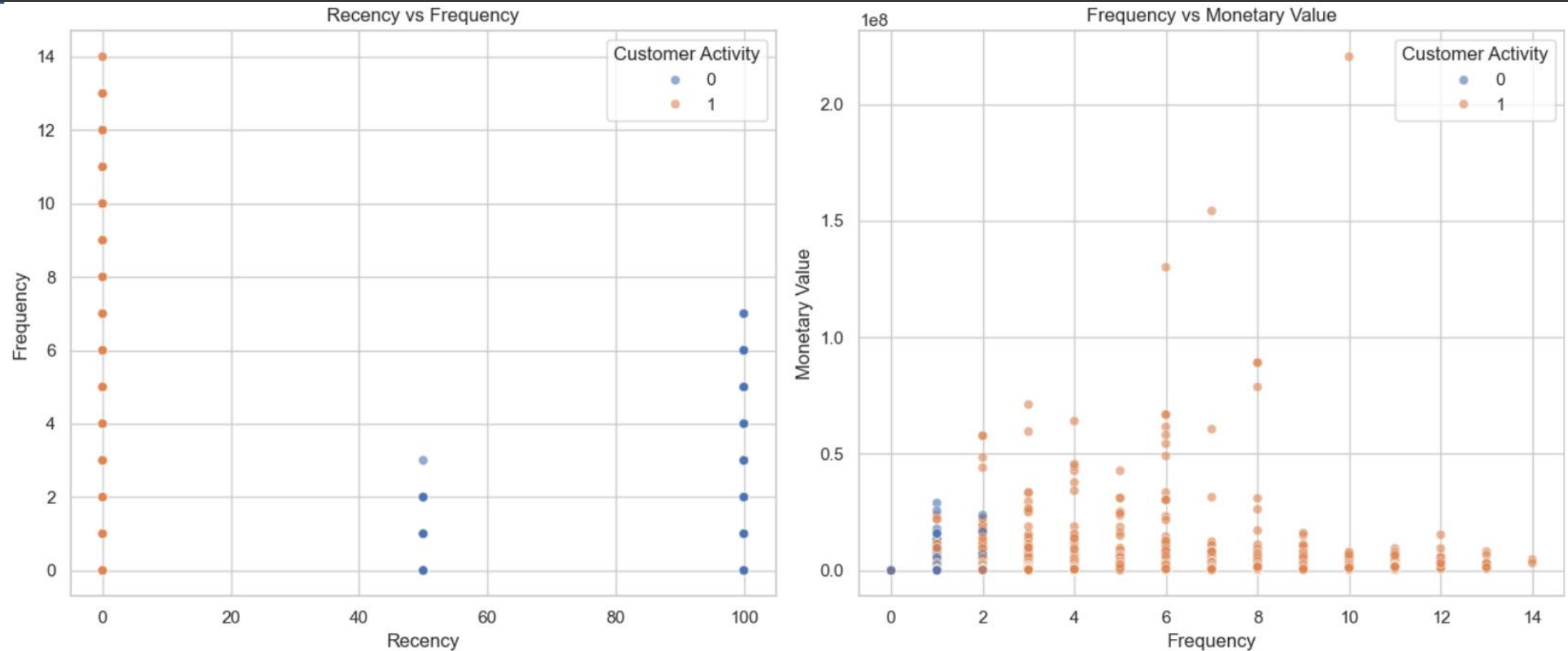


- Age vs. Seniority: Older customers tend to have higher seniority, indicating a relationship between age and tenure.

- Income vs. Monetary Value: Customers with higher incomes tend to have higher monetary values, suggesting a relationship between income and spending.

- Frequency vs. Monetary Value: Customers who use more products or services tend to have higher monetary values, indicating a relationship between product usage and spending.

Recency vs Frequency & Frequency vs Monetary value by customer activity index



RECENCY VS FREQUENCY

- Low-Activity, Low-Product Customers: These customers have recently used the bank's products but have not used many different ones. This group may require targeted marketing efforts to encourage them to use more products or services.
- High-Activity, High-Product Customers: These customers have been using the bank's products for a longer time and have used a variety of them. This group may be valuable to the bank due to their high spending and loyalty.

FREQUENCY VS MONETARY VALUE

- Low-Usage, Low-Spending Customers: These customers use few products and spend little. This group may require targeted marketing efforts to encourage them to use more products or services.
- High-Usage, High-Spending Customers: These customers use many products and spend a lot. This group may be valuable to the bank due to their high spending and loyalty.
- Moderate-Usage, Moderate-Spending Customers: These customers have moderate product usage and spending. This group may represent an opportunity for up-selling and cross-selling to increase their spending.

Model Recommendation

KMeans Clustering

- **Purpose:** To group customers into clusters based on similar patterns in their behavior (Recency, Frequency, and Monetary value).
- **Clusters:** The bank requested no more than 5 groups (clusters) to ensure efficient campaign management.

B. Clustering Process

•KMeans Approach:

- We applied **KMeans Clustering** to the engineered features (R, F, M).
- The goal was to minimize the intra-cluster variance (distances between customers within the same group).

TEAM

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Thank You



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