



LARANA, INC.

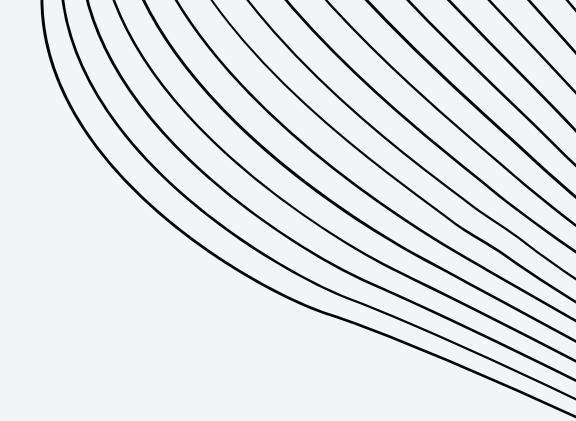
**REPORT**

**RETAIL DATA ANALYSIS**

**PROJECT**

**Rajani Gaikwad**

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# INTRODUCTION



This report presents the findings from an analysis of retail transaction data. The primary objectives were to clean and prepare the data, analyze sales trends, identify top customers, and understand key metrics such as response rates, monetary value distribution, purchase frequency, and recency.

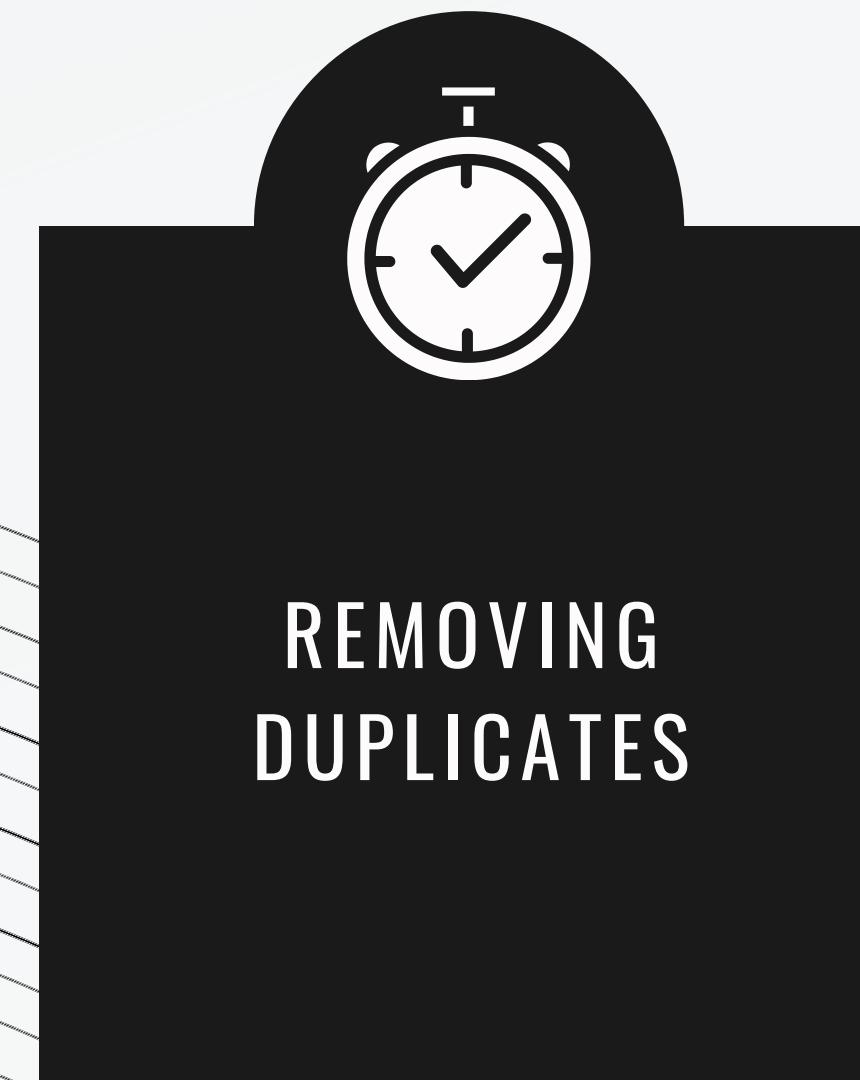


# DATA CLEANING AND PREPARATION

*The initial dataset contained various issues that needed to be addressed:*



HANDLING  
MISSING VALUE



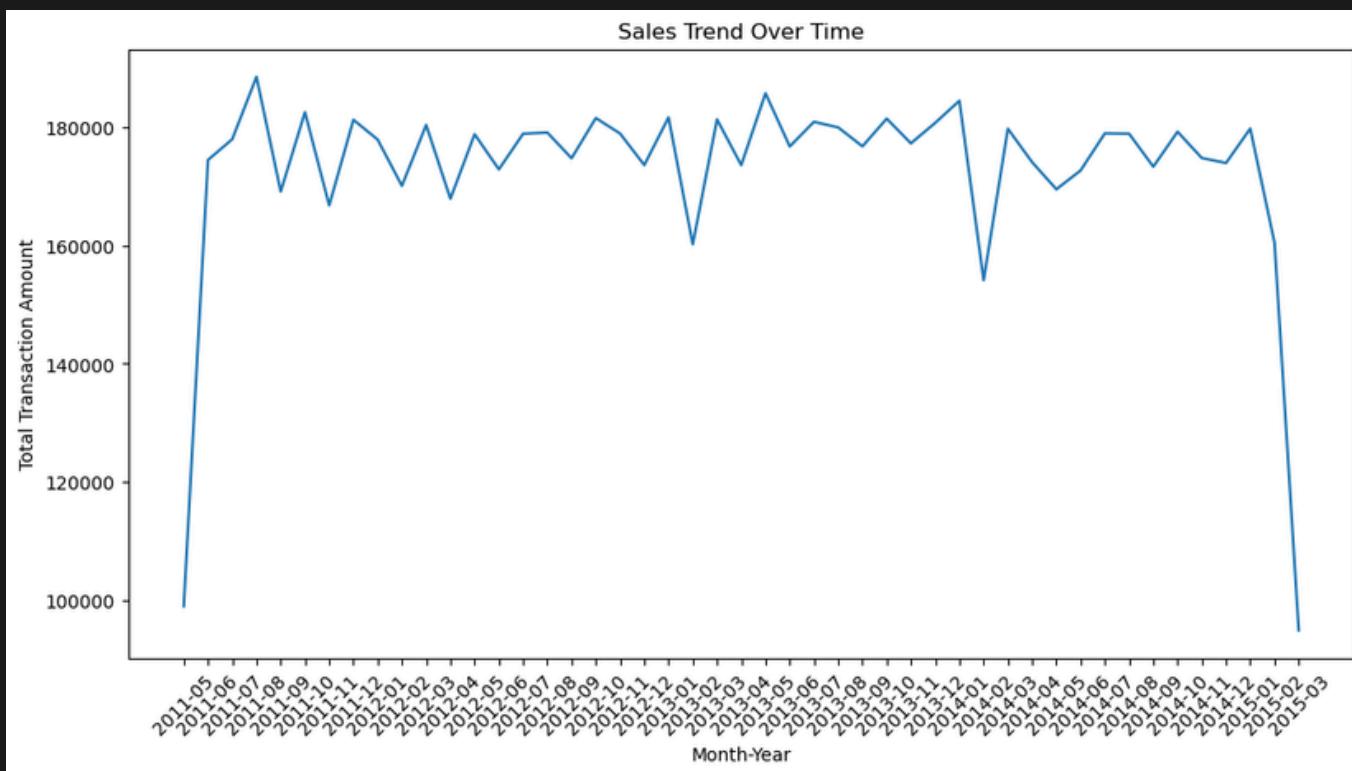
REMOVING  
DUPLICATES



CORRECTING  
DATA TYPES:

# • SALES TREND OVER TIME

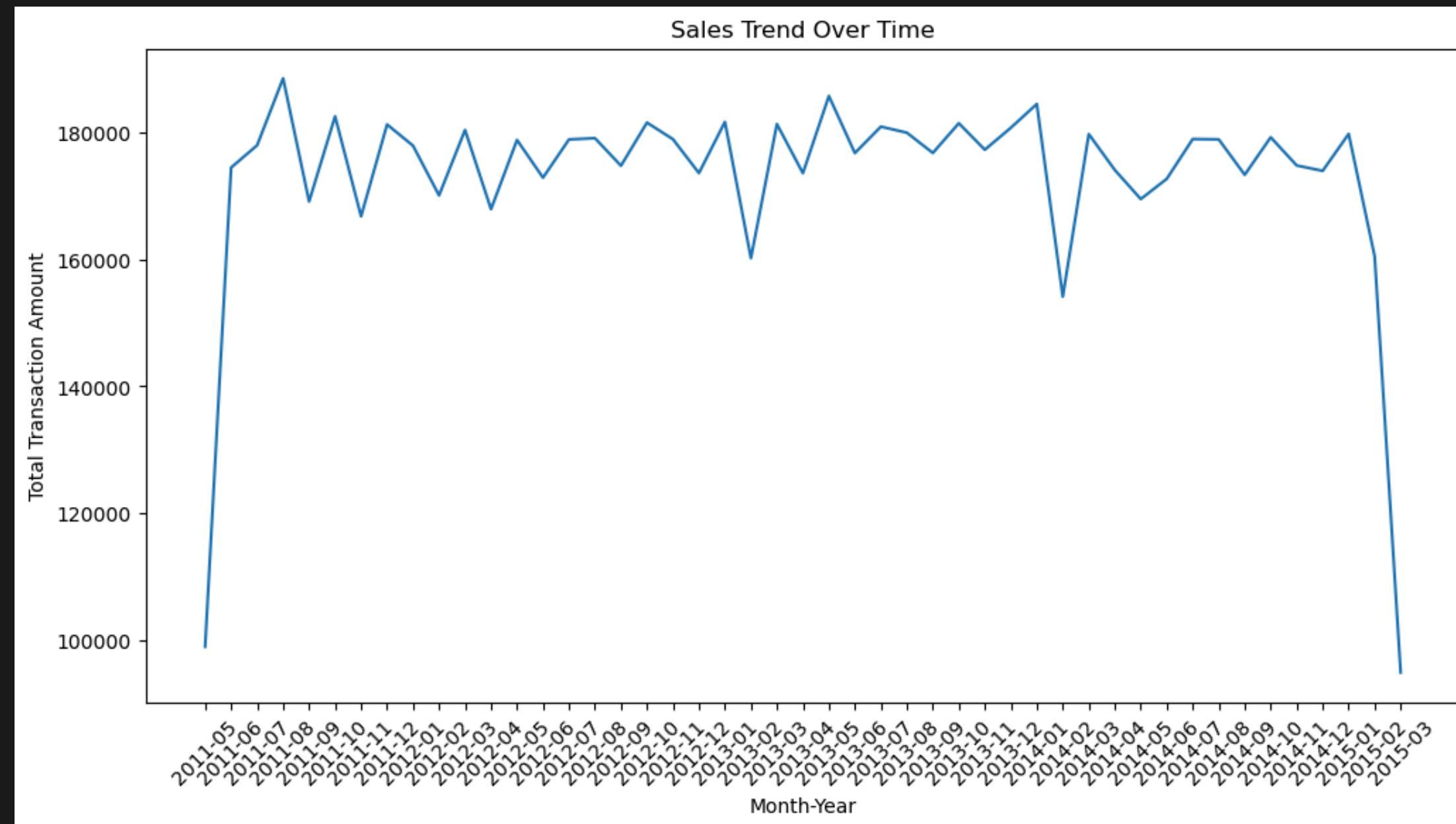
A line plot was created to visualize the total transaction amount per month. This visualization helped identify trends and patterns in sales over time.



## Key Insights:

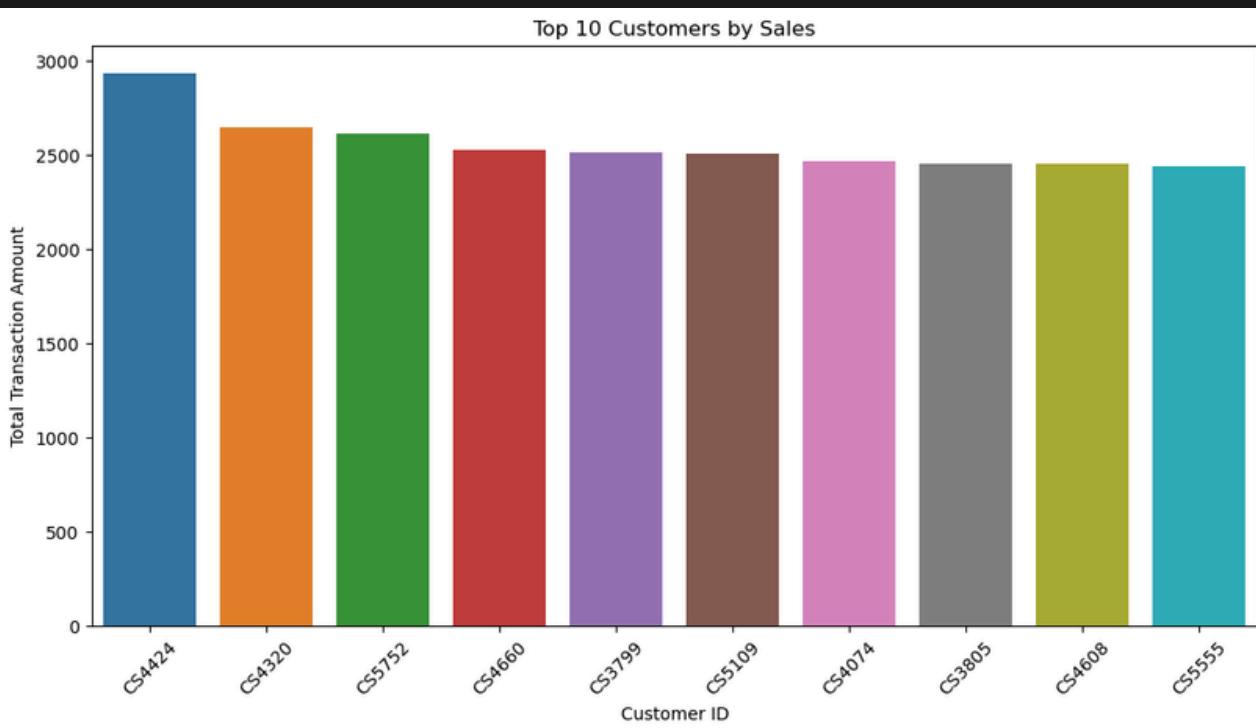
- Sales showed a seasonal trend with peaks and troughs corresponding to specific months.
- Certain months demonstrated significantly higher sales, indicating possible promotional periods or holidays.

# Sales Trend Over Time



# TOP 10 CUSTOMERS BY SALES

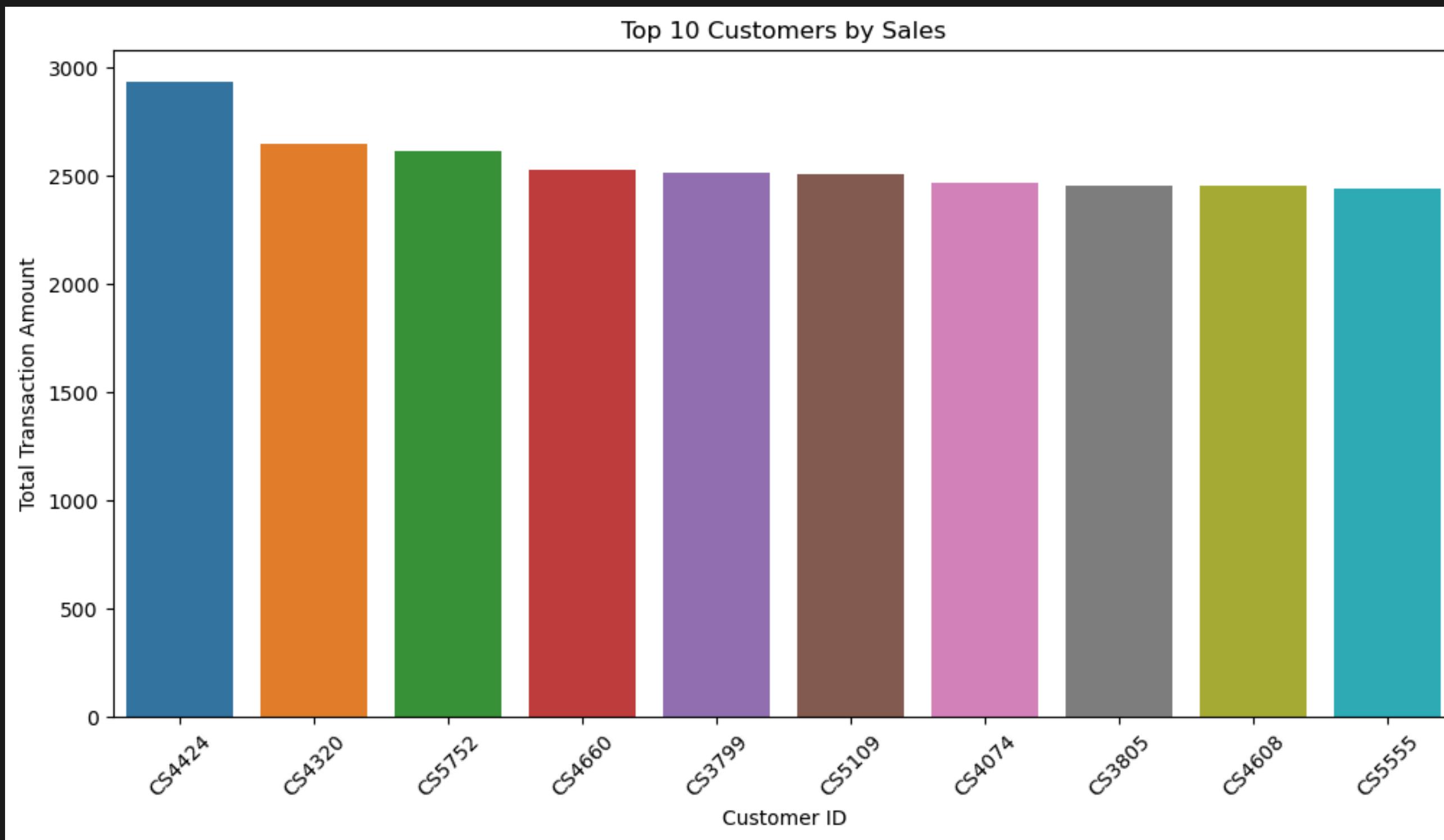
A bar plot highlighted the top 10 customers based on their total transaction amounts.



## Key Insights:

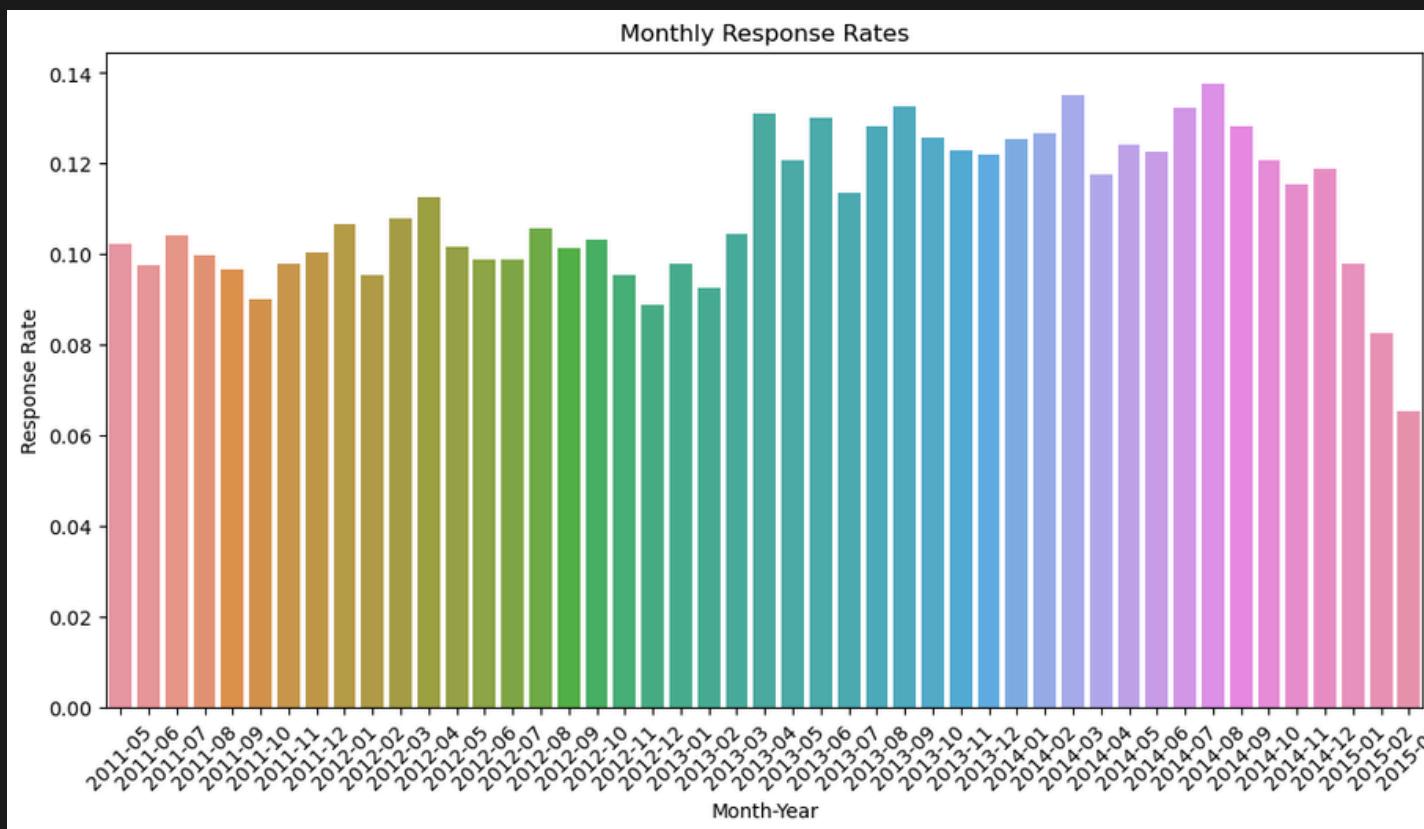
- The top 10 customers contributed a substantial portion of the total sales.
- There was a significant difference between the top-performing customer and others, indicating a heavy reliance on key customers.

# TOP CUSTOMERS BY SALES



# MONTHLY RESPONSE RATES

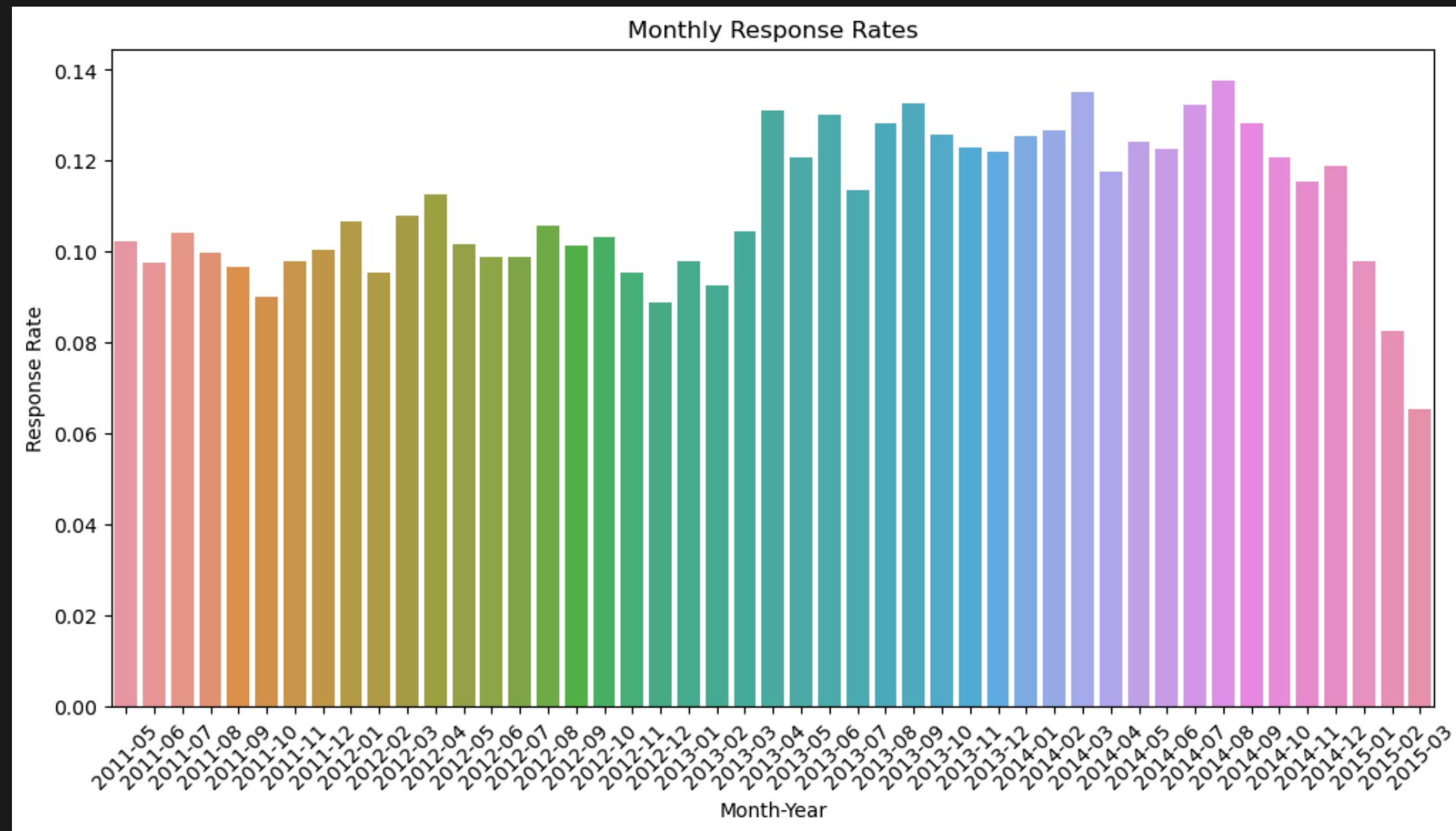
Monthly response rates were visualized using a bar plot to understand customer engagement over time.



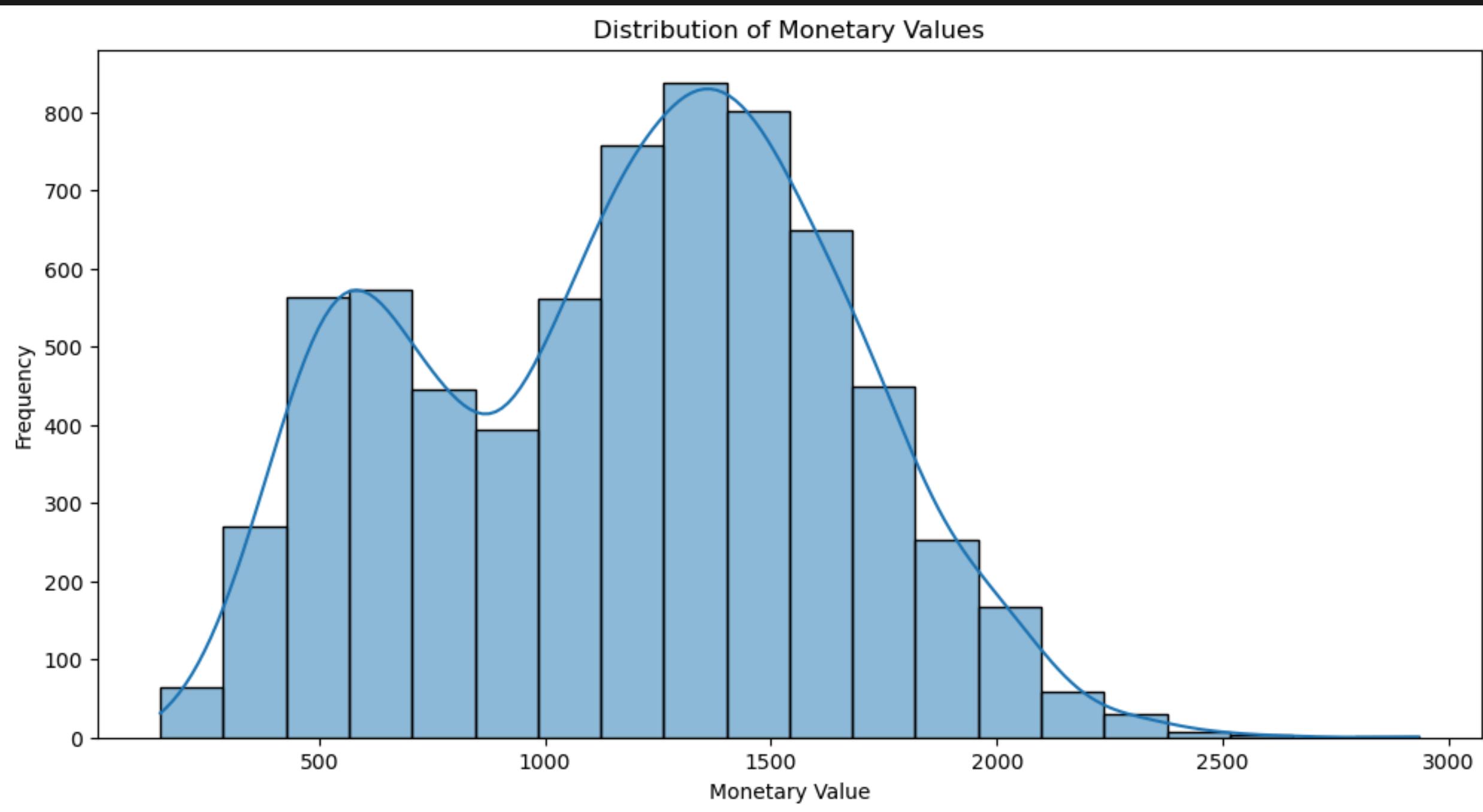
## Key Insights:

- Response rates fluctuated across different months.
- Some months showed higher engagement, potentially aligning with targeted marketing campaigns or promotions.

# MONTHLY RESPONSE RATES

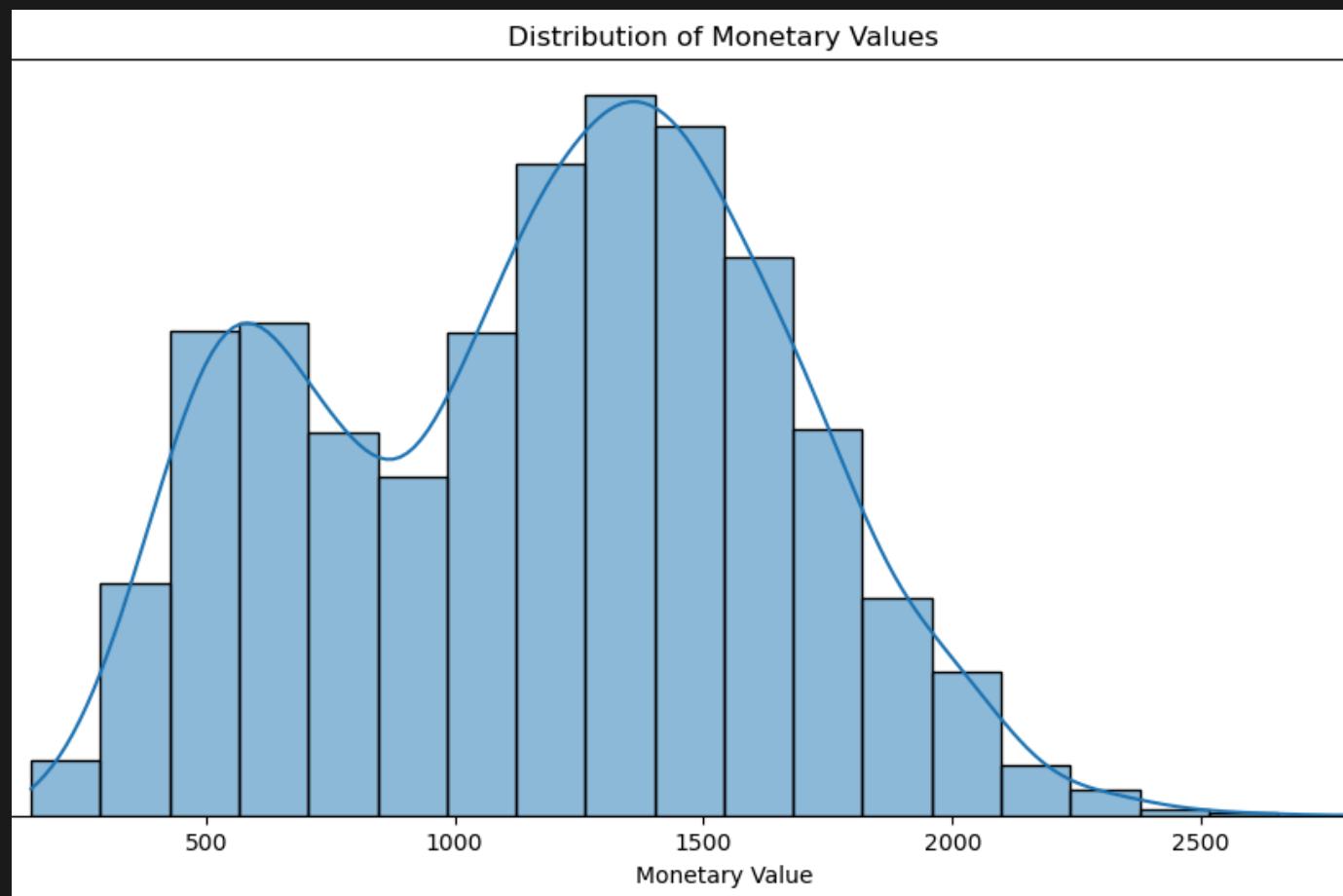


# DISTRIBUTION OF MONETARY VALUE



## • DISTRIBUTION OF KEY METRICS

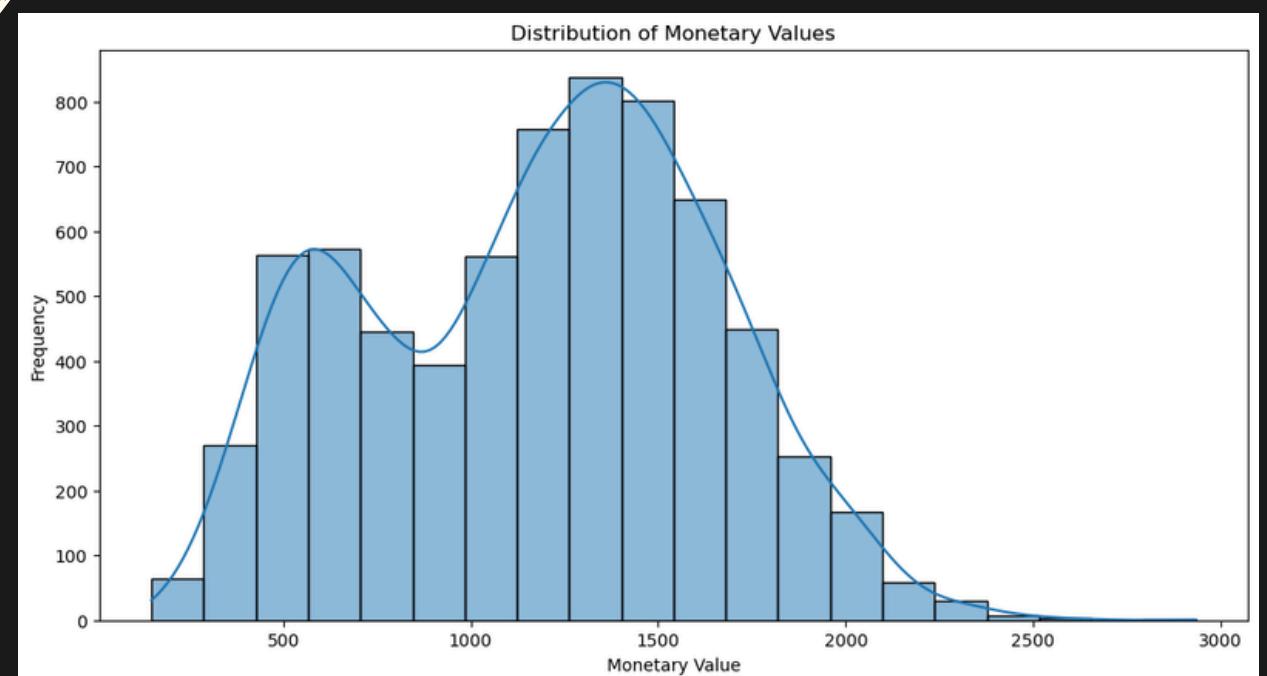
The distributions of monetary value, purchase frequency, and recency were analyzed:



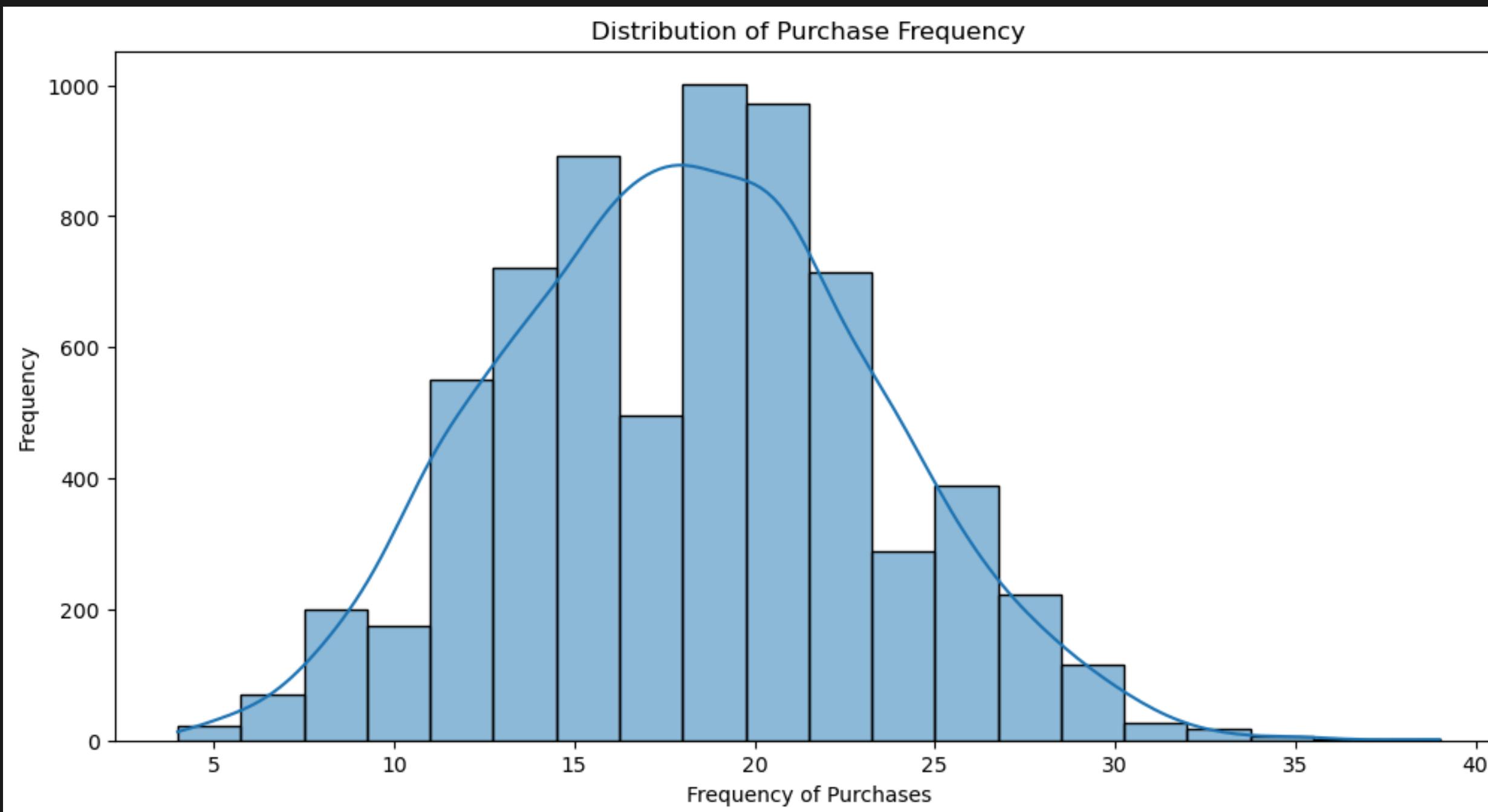
- Monetary Value: A histogram revealed the distribution of the total monetary value of transactions.
- Purchase Frequency: The frequency of purchases per customer was plotted to understand buying behavior.
- Recency: The recency values (days since the last purchase) were analyzed to gauge customer loyalty.

# KEY INSIGHTS:

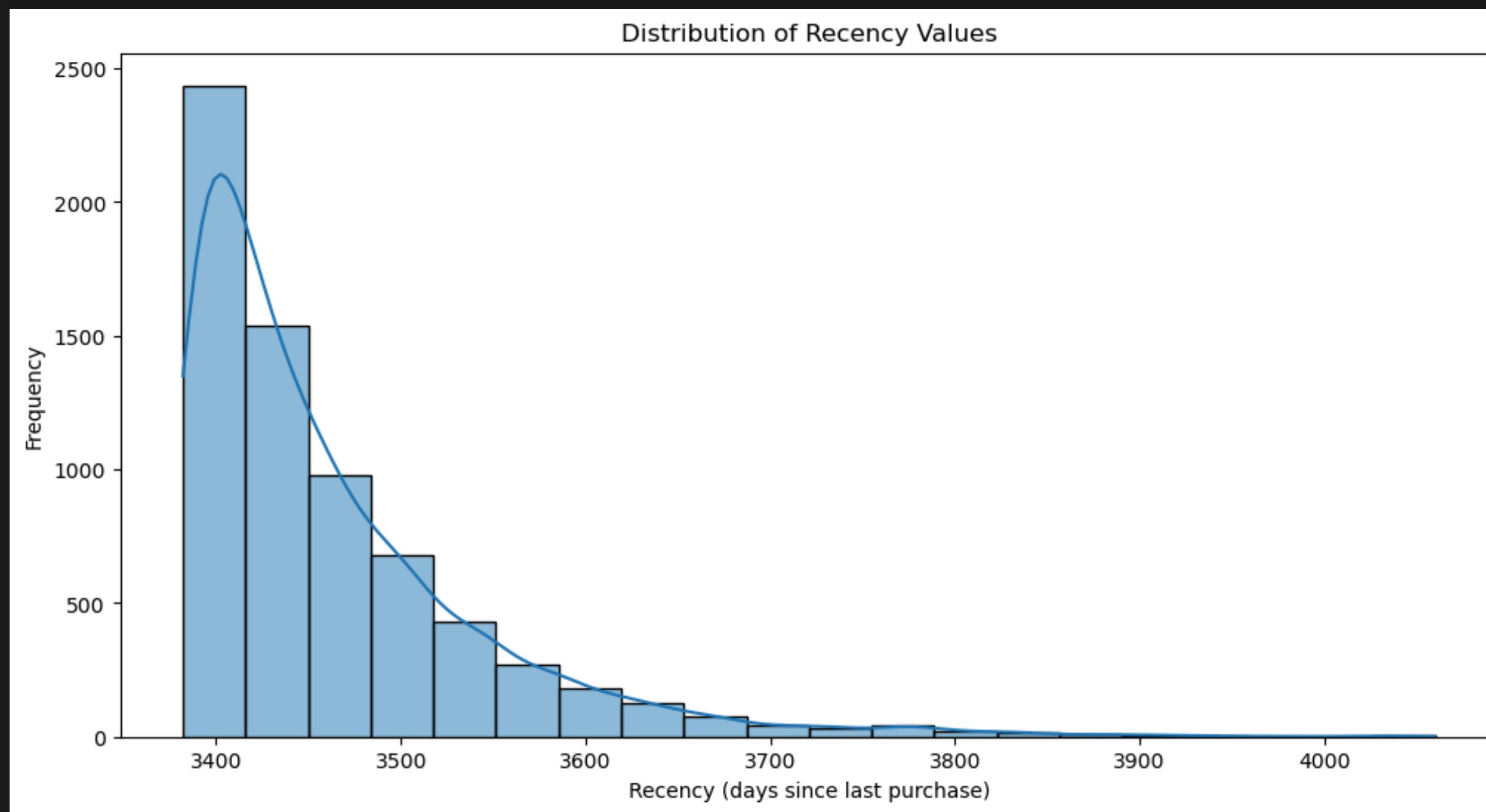
- Most customers had low to moderate monetary values, with a few high-value outliers.
- Purchase frequency varied widely among customers, with a skew towards fewer purchases.
- Recency analysis showed that a significant number of customers had not made recent purchases, highlighting potential churn risks.



# DISTRIBUTION OF PURCHASE FREQUENCY

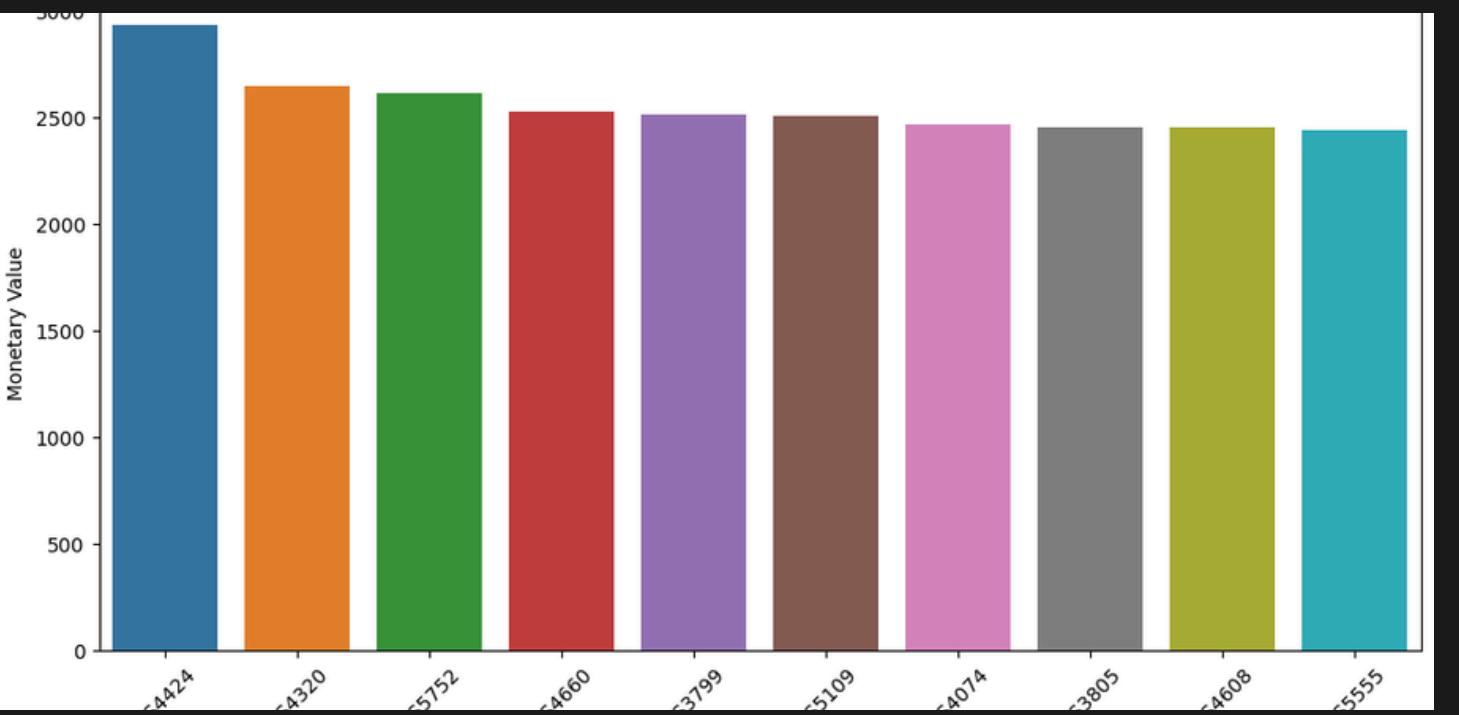


# DISTRIBUTION OF RECENCY



# • TOP CUSTOMERS BY MONETARY VALUE

A bar plot was created to visualize the top 10 customers based on their monetary value.

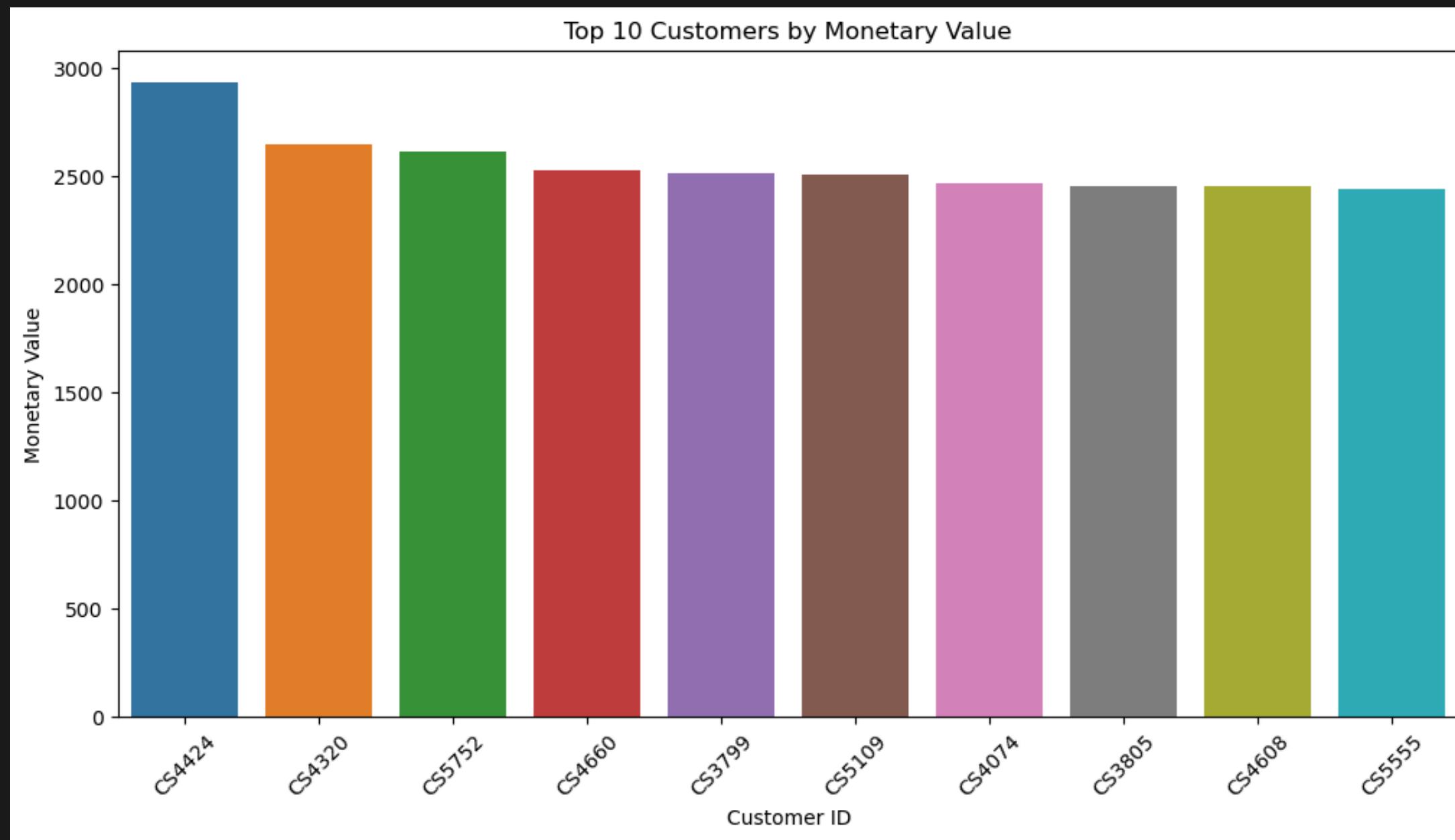


*Key Insights:*

*High monetary value customers were critical to overall revenue.*

*These customers should be targeted for retention strategies due to their significant contributions.*

# TOP CUSTOMERS BY MONETARY VALUE



# CONCLUSION

The analysis provided several key insights into sales trends, customer behavior, and engagement:

- Sales trends indicated potential seasonal effects and the impact of promotions.
- A small group of high-value customers contributed disproportionately to sales, emphasizing the importance of targeted marketing.
- Response rates and purchase frequency data can guide future marketing strategies to improve customer engagement and retention.

# RECOMMENDATIONS

- Targeted Marketing: Focus on high-value customers with personalized offers and loyalty programs.
- Promotional Timing: Align major promotions with identified peak sales periods to maximize impact.
- Customer Engagement: Develop strategies to re-engage customers who have not made recent purchases.



**THANK YOU**