



# CAPSTONE PROJECT: TELECOM CHURN

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# **Title: Predicting Customer Churn in the Telecom Industry**

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**Subtitle: Reducing Churn and Retaining High-Value Customers**

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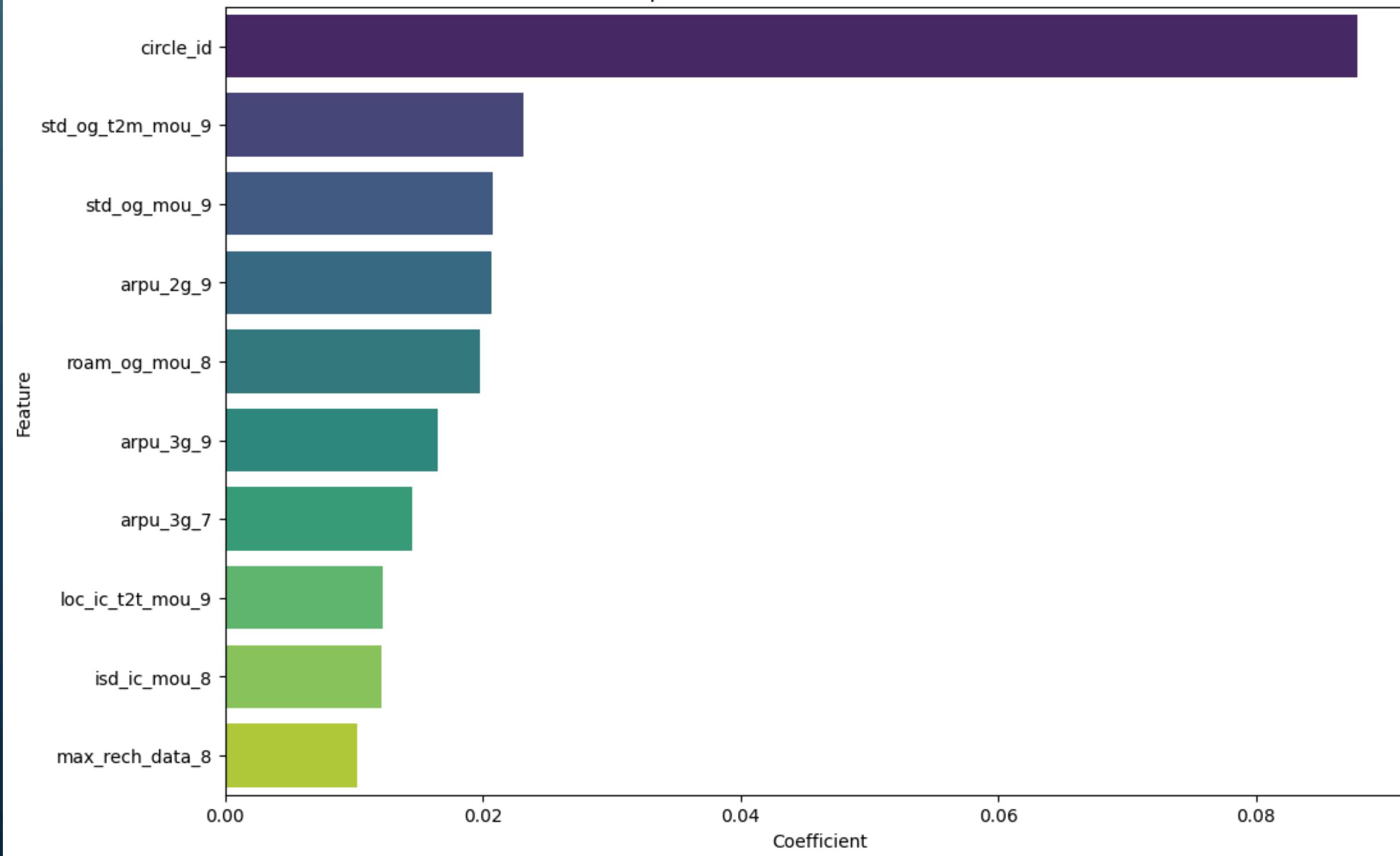


## Business Problem Overview

- High churn rates in the telecom industry (15-25% annually).
- Retention is more cost-effective than acquisition.
- Focus: Retaining high-value customers (top 20% generating 80% revenue).



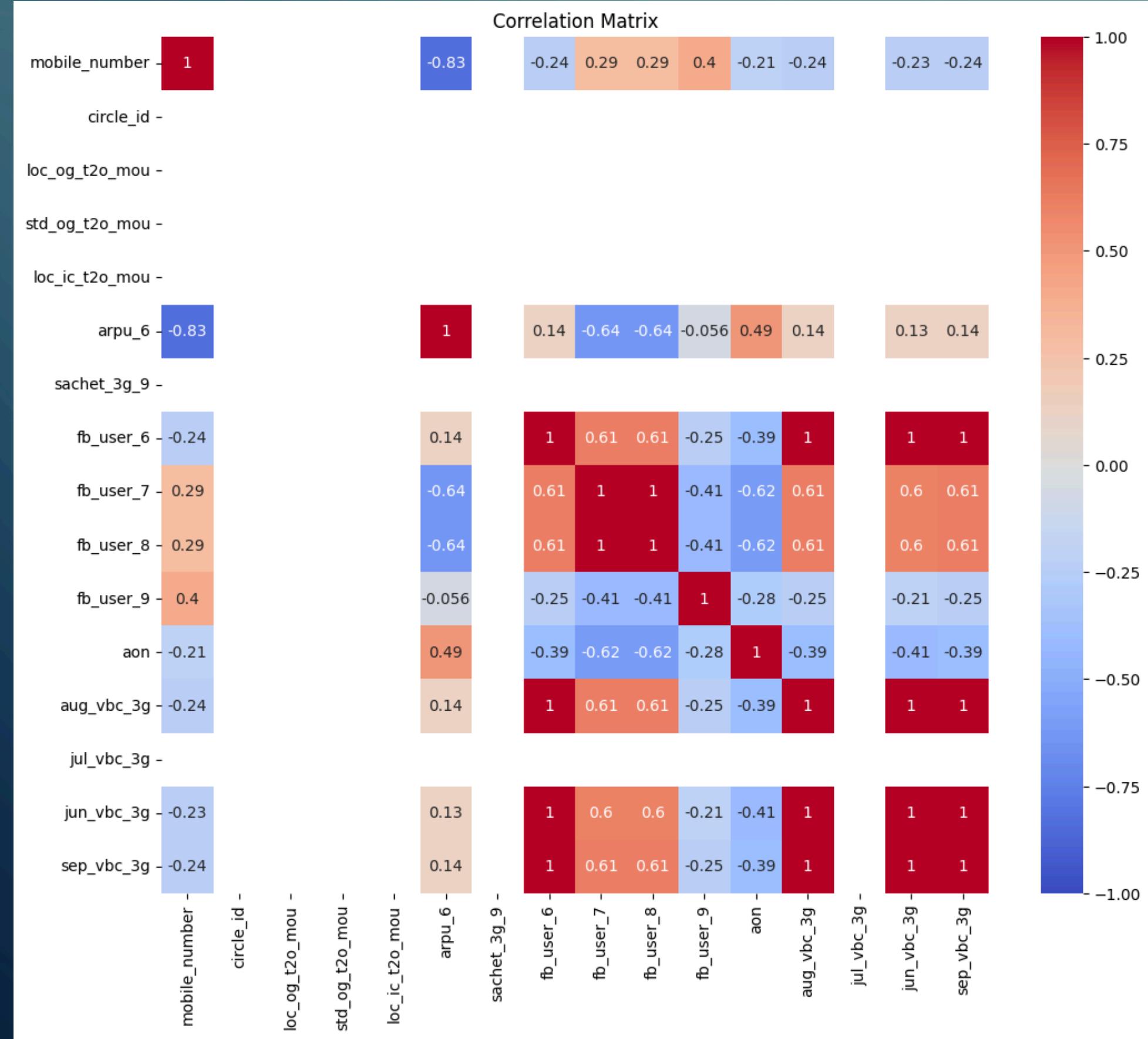
Top 10 Features for Churn Prediction





# Project Objectives

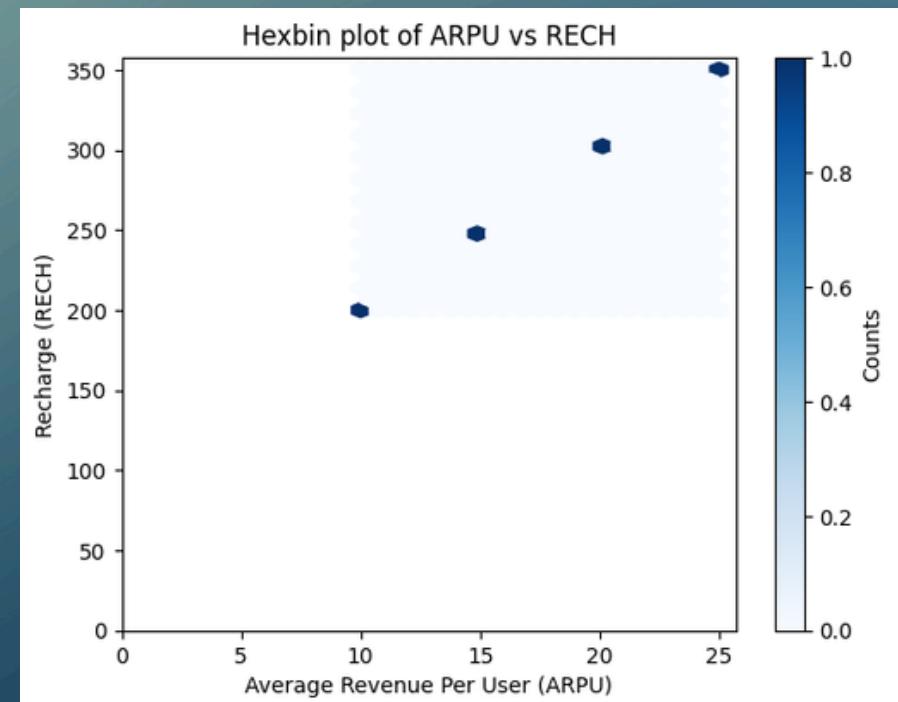
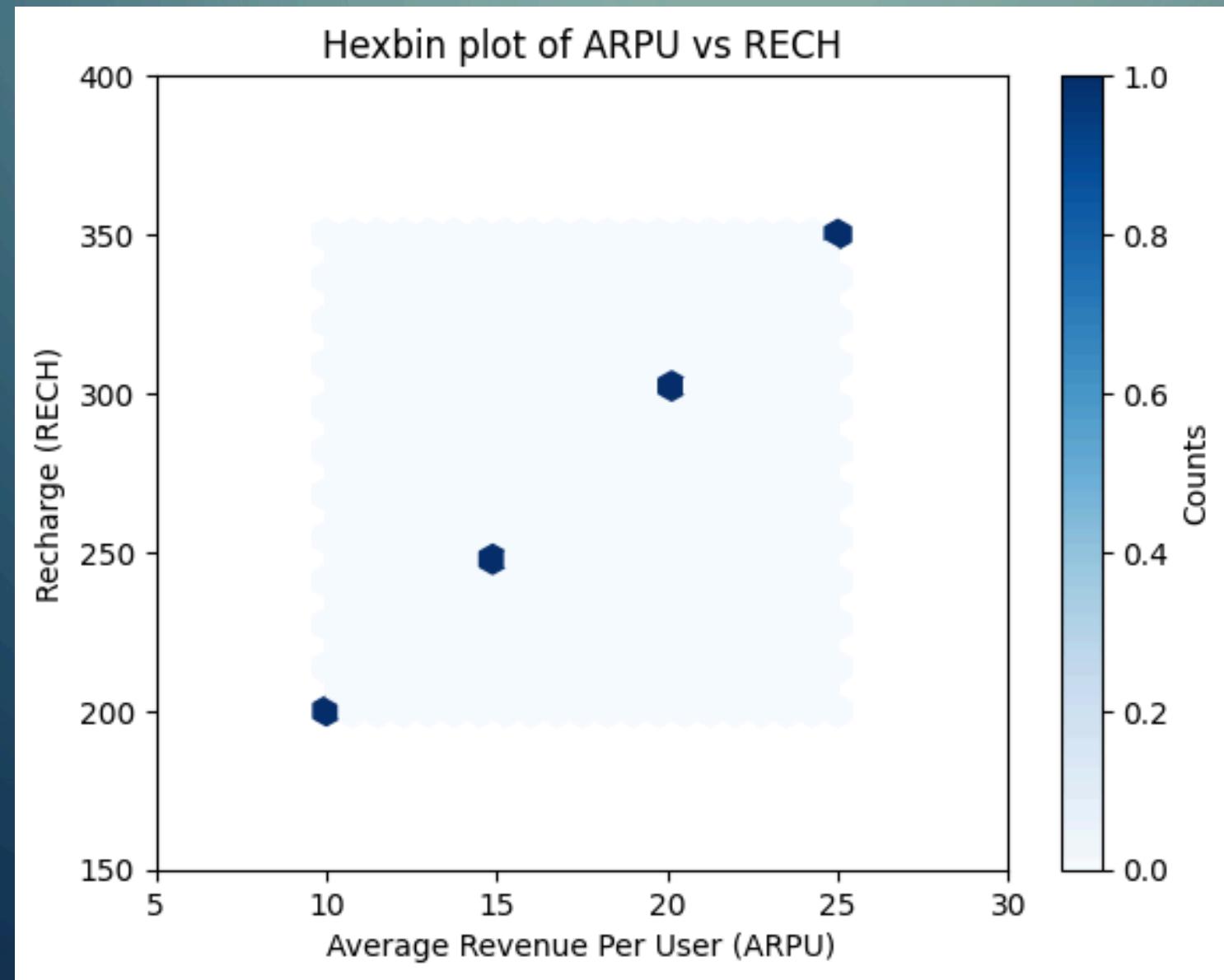
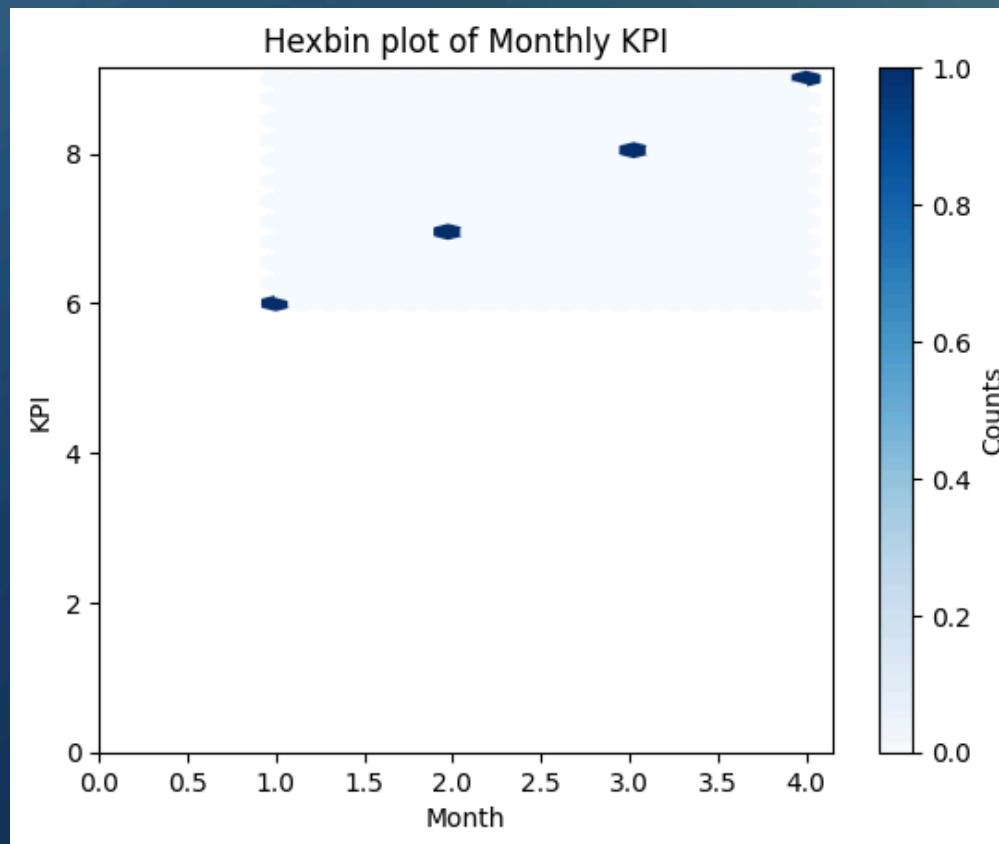
- Predict churn for high-value prepaid customers.
- Identify main indicators of churn.
- Provide actionable insights to reduce churn.





# Defining Churn

- Postpaid vs. Prepaid: Prepaid customers can stop using services without notice.
- Usage-Based Churn: No usage of calls or internet over a period.
- Churn Phases: Good (Months 1-2), Action (Month 3), Churn (Month 4).





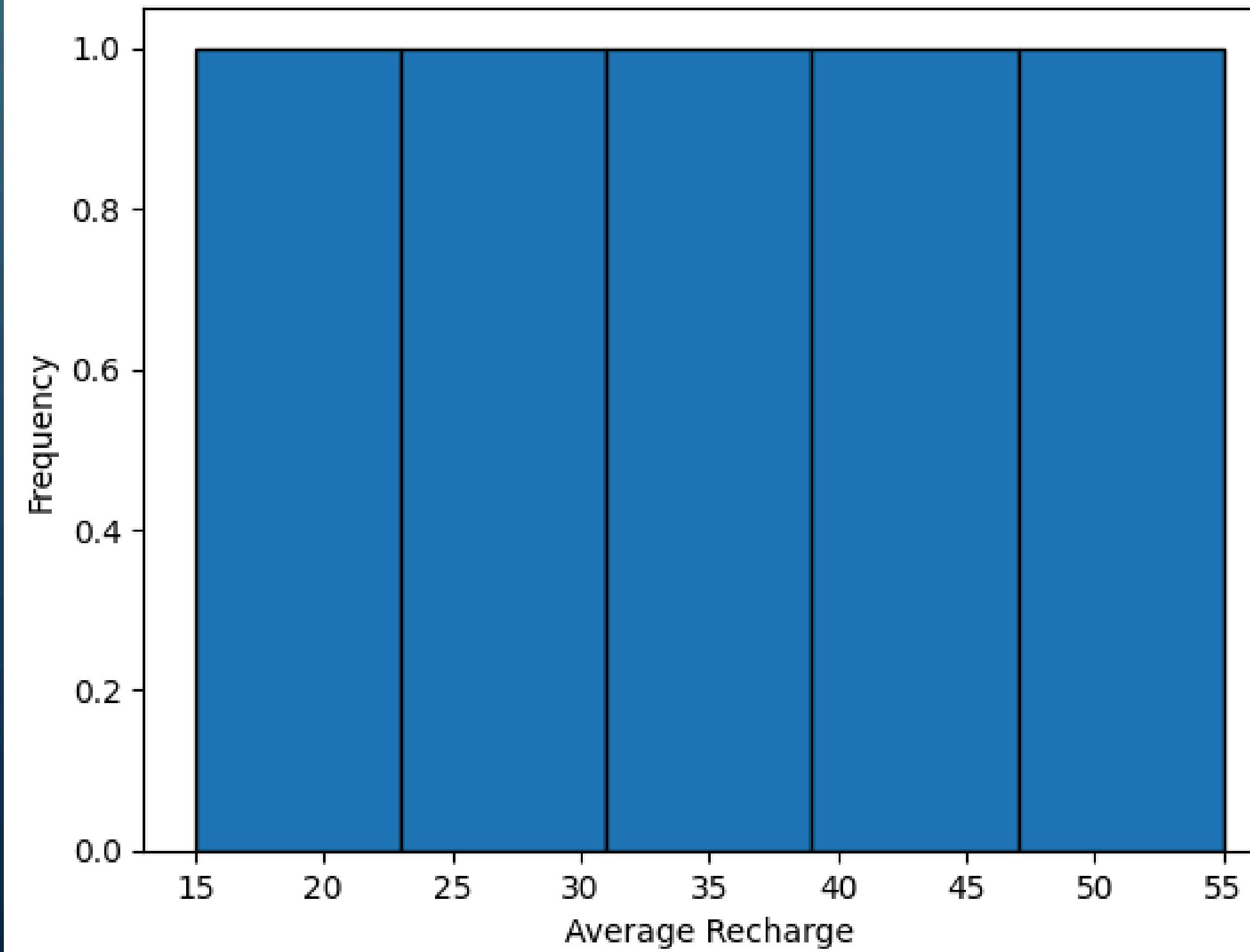
# High-Value Customers

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- Defined by the top 70th percentile of average recharge amount in the first two months.
- Focused analysis on these customers to maximize revenue retention.



### Distribution of Average Recharge Amount





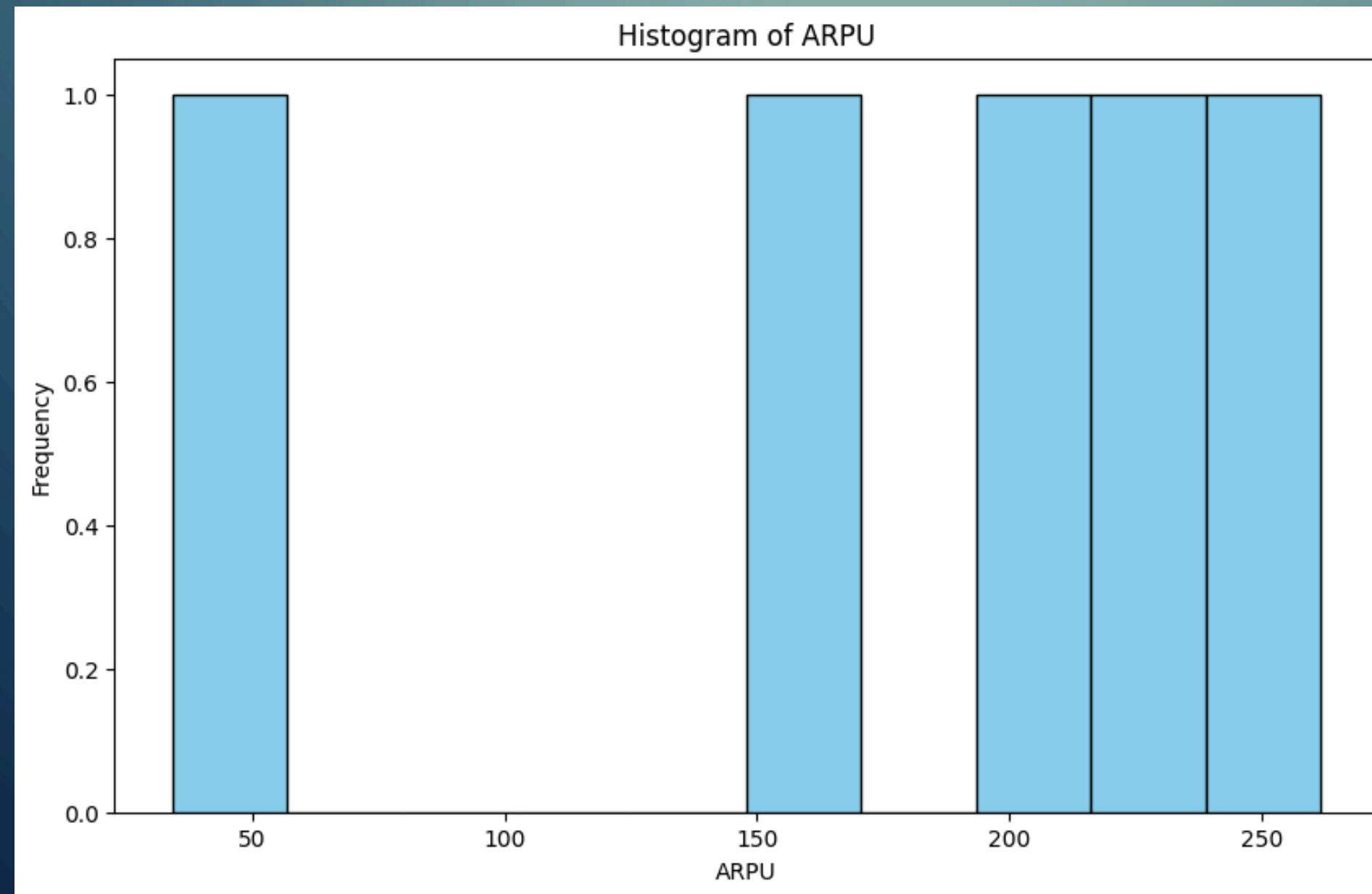
# Data Overview

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- Data from four consecutive months: June (6), July (7), August (8), and September (9).
- Features include usage patterns (calls, internet, recharges) for each month.



# Recommendations





# Data Preparation Steps

- Filter High-Value Customers: Based on recharge amounts.
- Tag Churners: No calls/internet usage in month 4 (churn phase).
- Remove Churn Phase Attributes: Attributes corresponding to month 9.



# Building Predictive Models

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- Model Goals:
  1. Predict churn for high-value customers.
  2. Identify strong predictors of churn.
- Techniques: Handle class imbalance, logistic regression for predictor importance.



# Data Preparation Steps

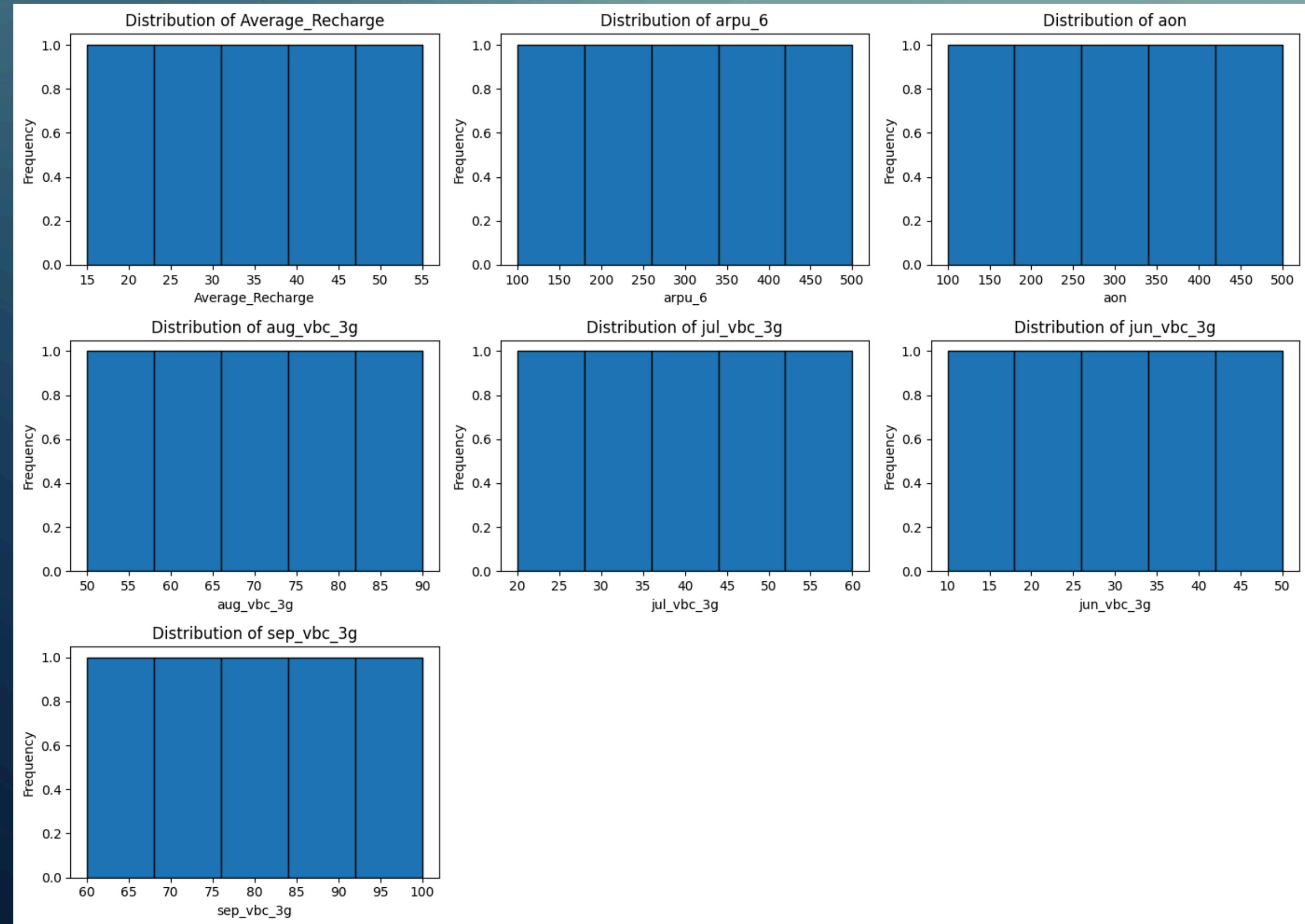
- Filter High-Value Customers: Based on recharge amounts.
- Tag Churners: No calls/internet usage in month 4 (churn phase).
- Remove Churn Phase Attributes: Attributes corresponding to month 9.



# Key Predictors of Churn

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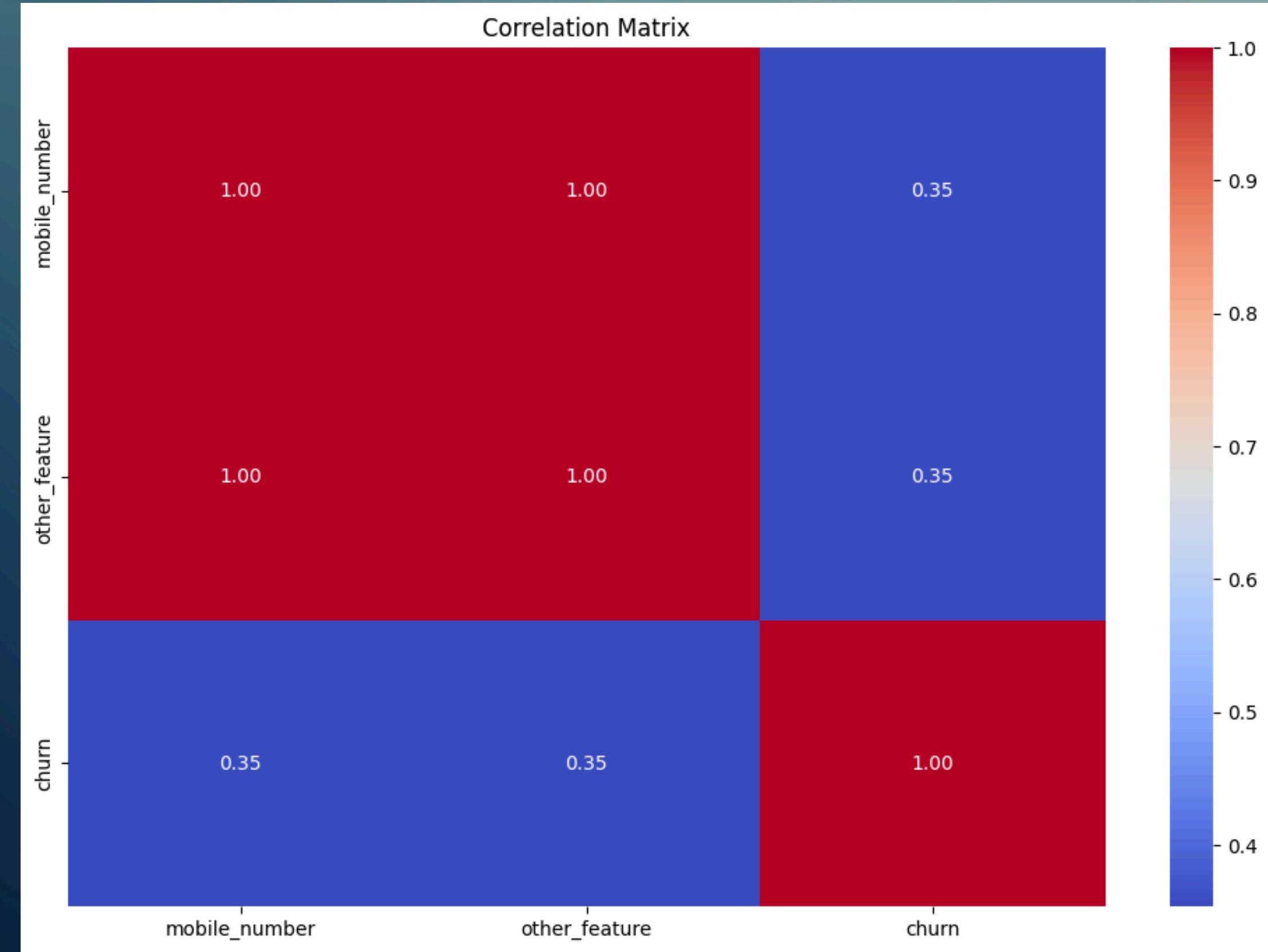
- Important Variables: [List key predictors identified by logistic regression].
- Visualization: [Include plots or tables showing the importance of predictors].

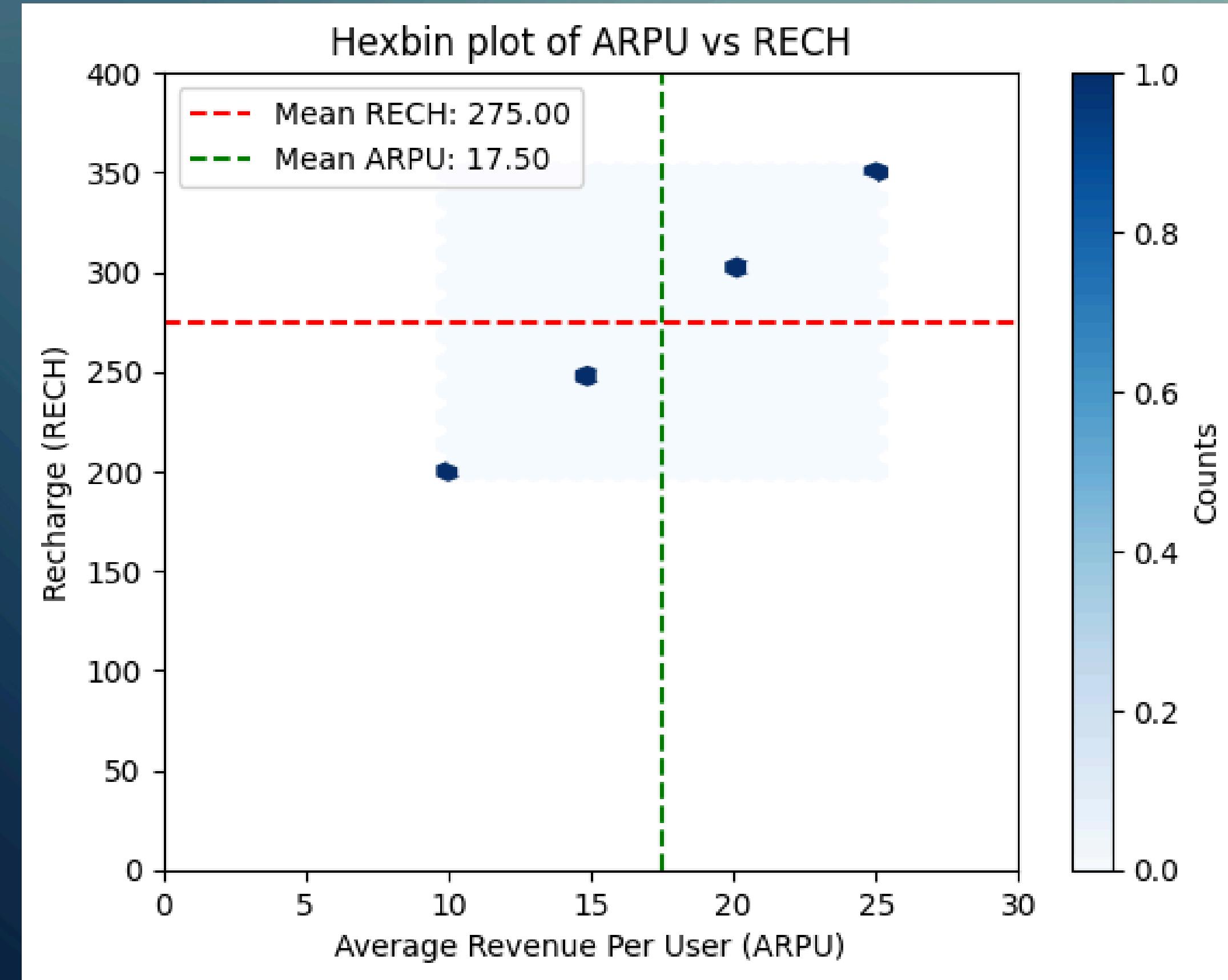


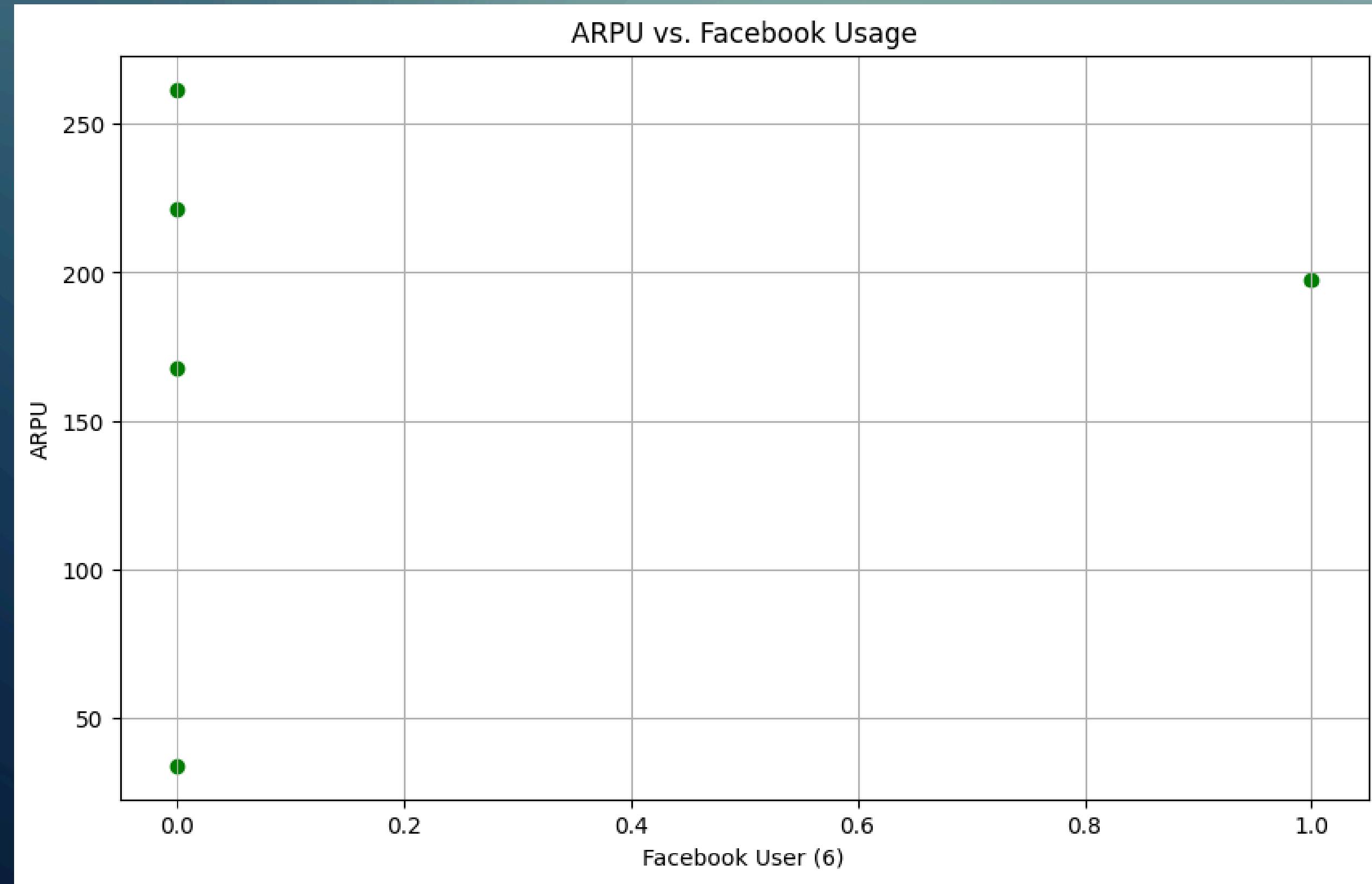


# Strategies to Manage Churn

- Actionable Insights:
  1. Offer special plans/discounts.
  2. Improve service quality.
  3. Proactive customer engagement.
- Future Work: Continuous monitoring and model refinement.

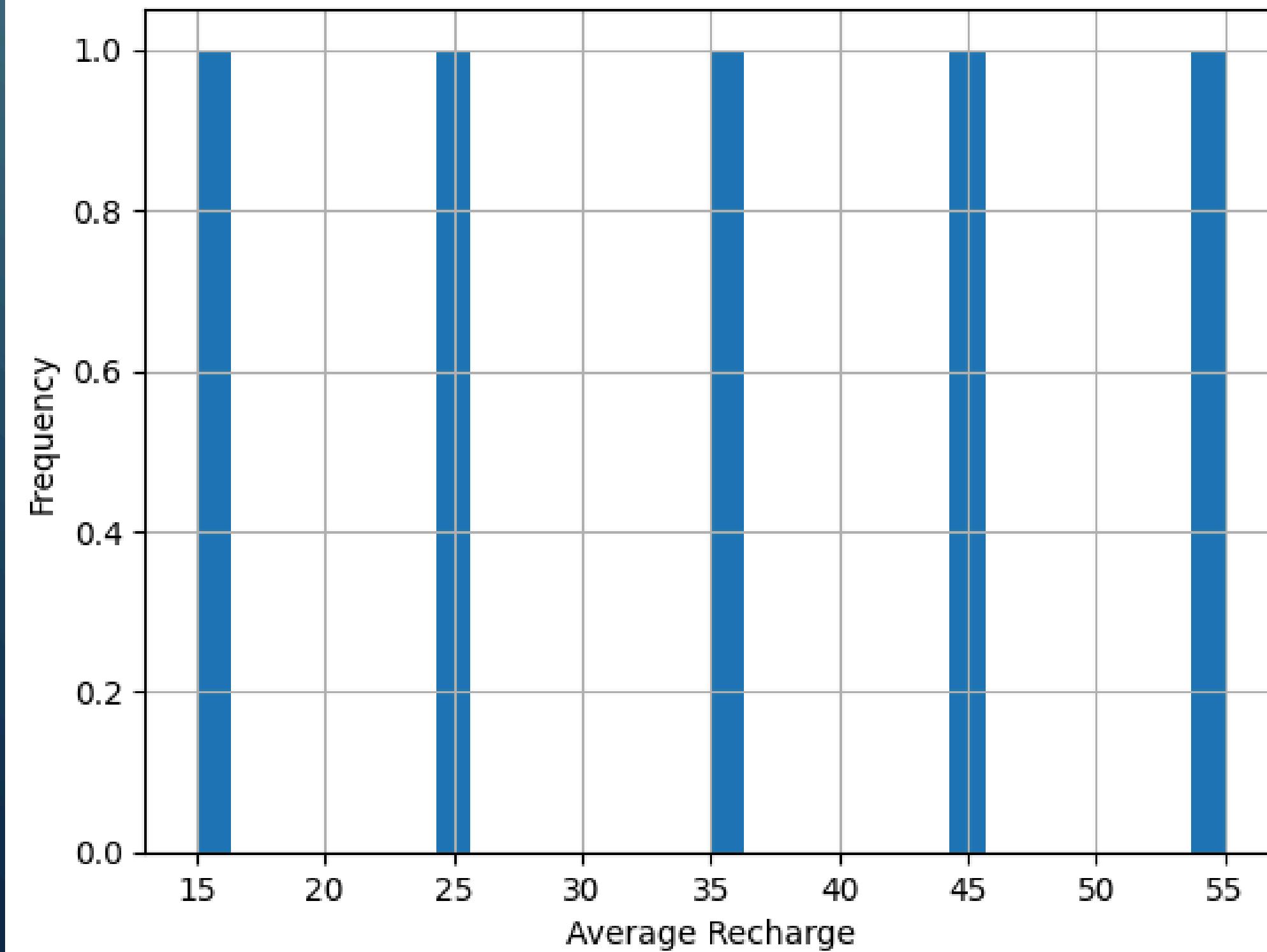








## Distribution of Average Recharge Amount

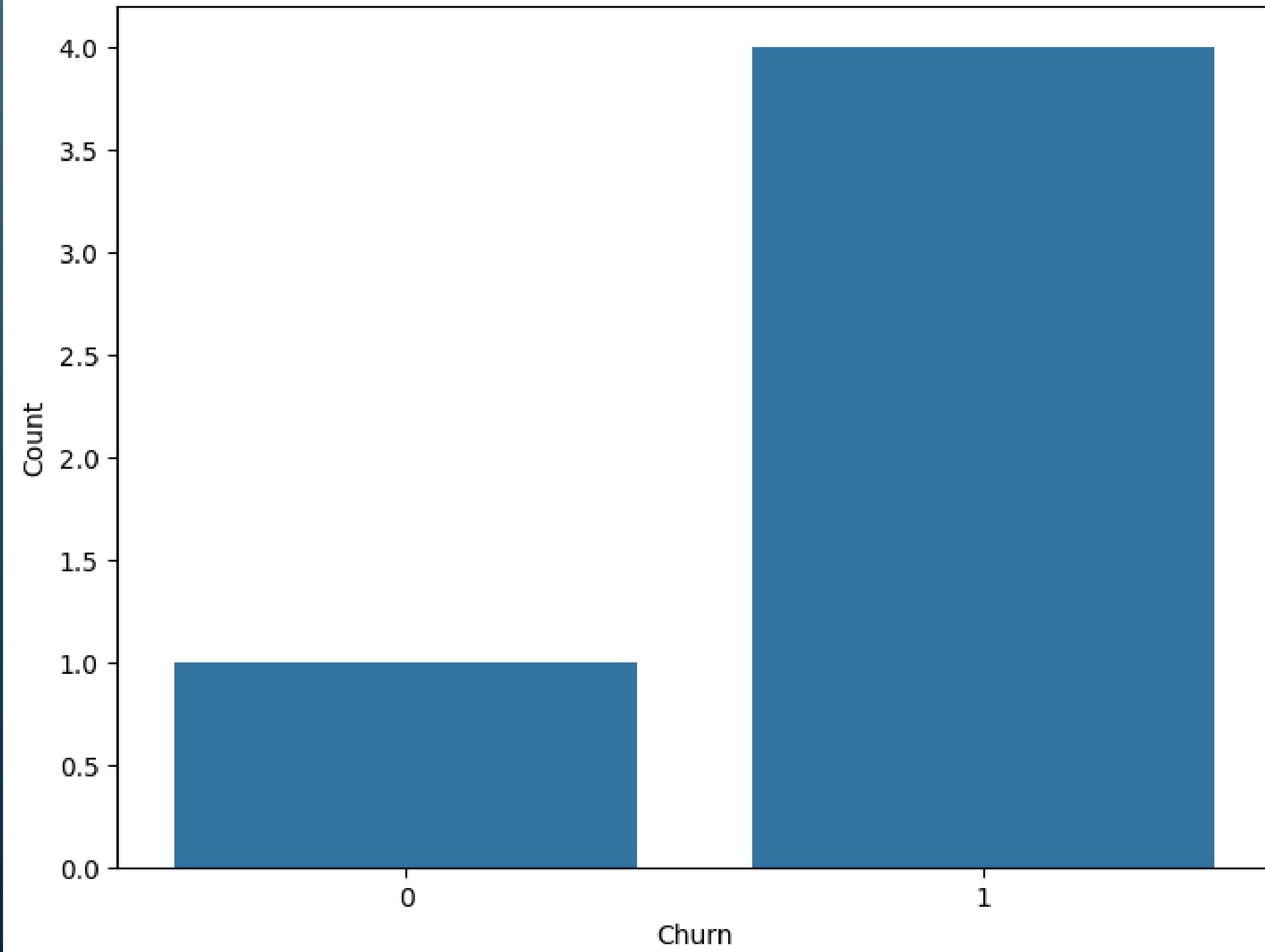


### Box Plot of Average Recharge Amount

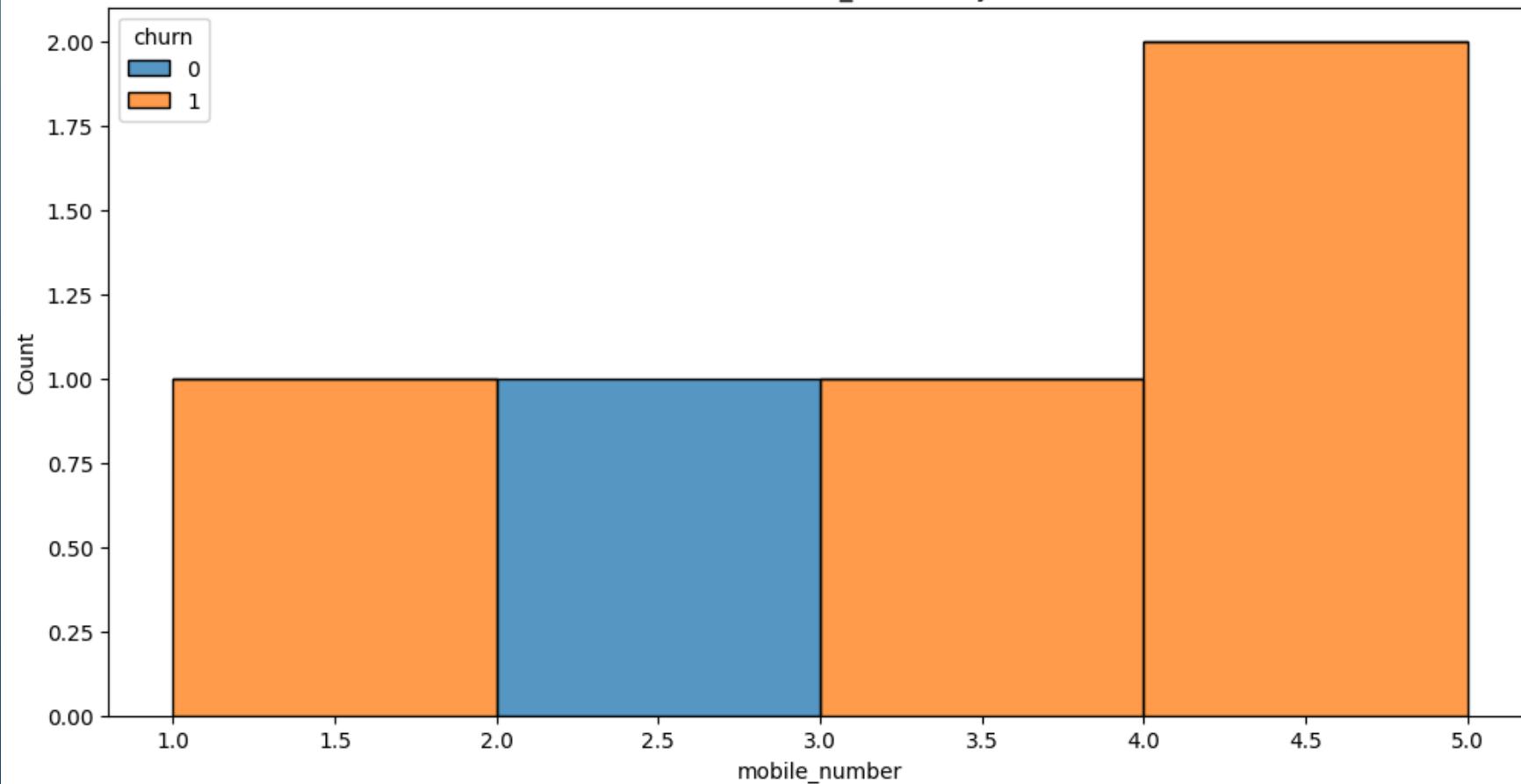




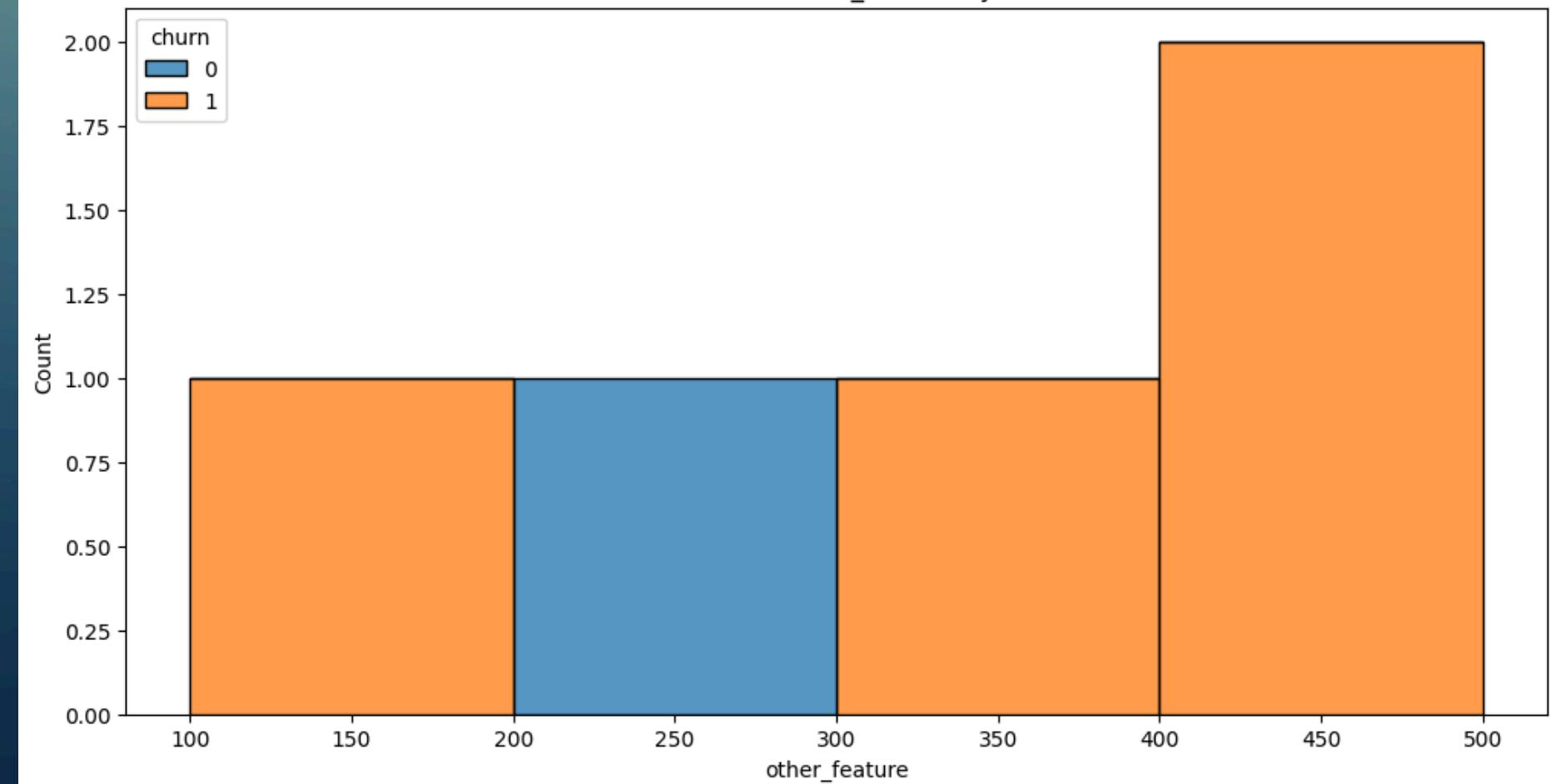
### Distribution of Churned vs. Non-Churned Customers

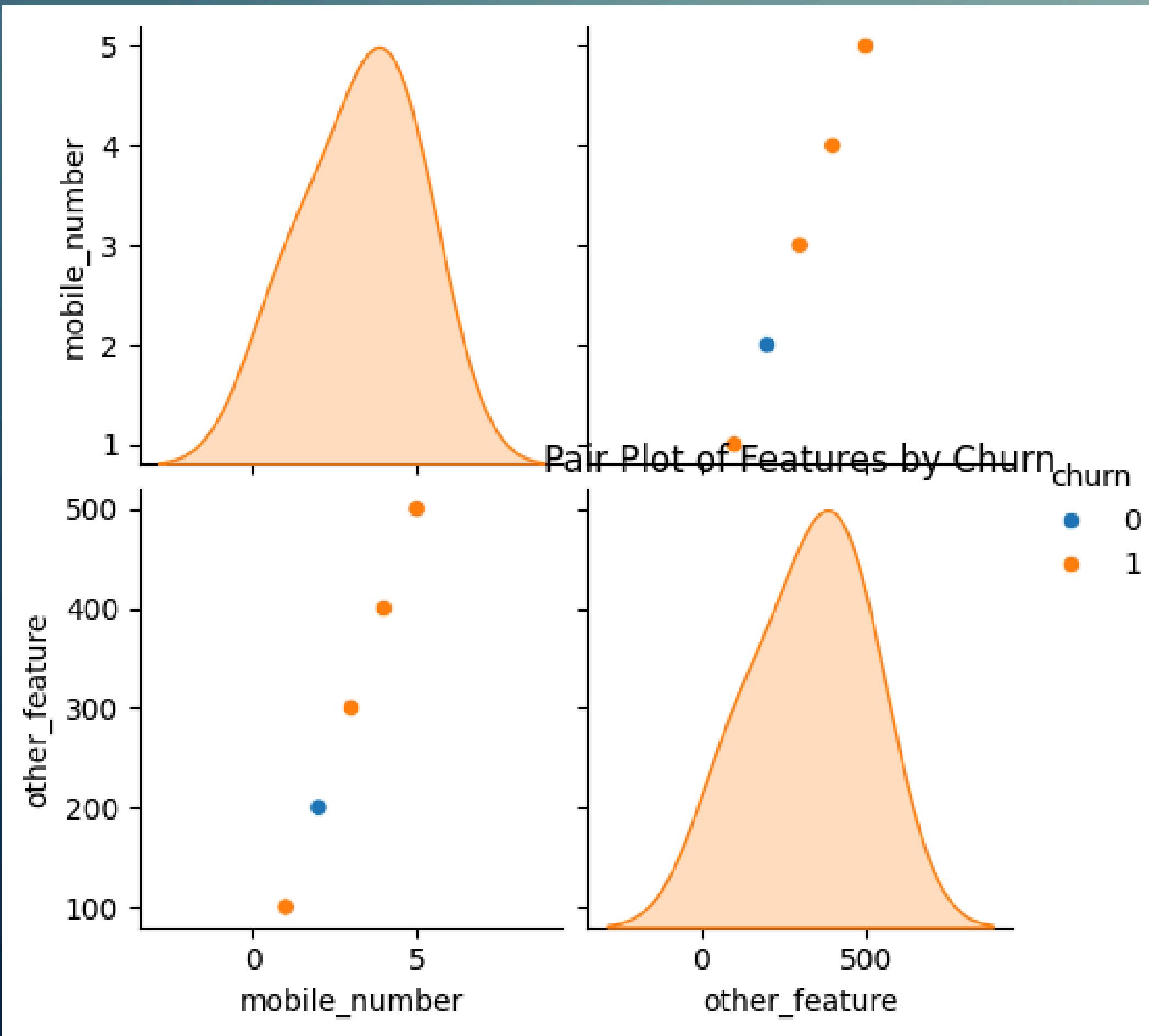


Distribution of mobile\_number by Churn



Distribution of other\_feature by Churn







# Conclusion

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- Summarize the importance of churn prediction.
- Highlight the benefits of retaining high-value customers.
- Emphasize the need for continuous improvement in prediction models and strategies.



# Recommendations

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Based on the analysis, the following recommendations are made to reduce churn:

- Increase customer engagement through targeted offers.
- Monitor high-risk customers identified by key predictors.
- Provide incentives for low usage customers.