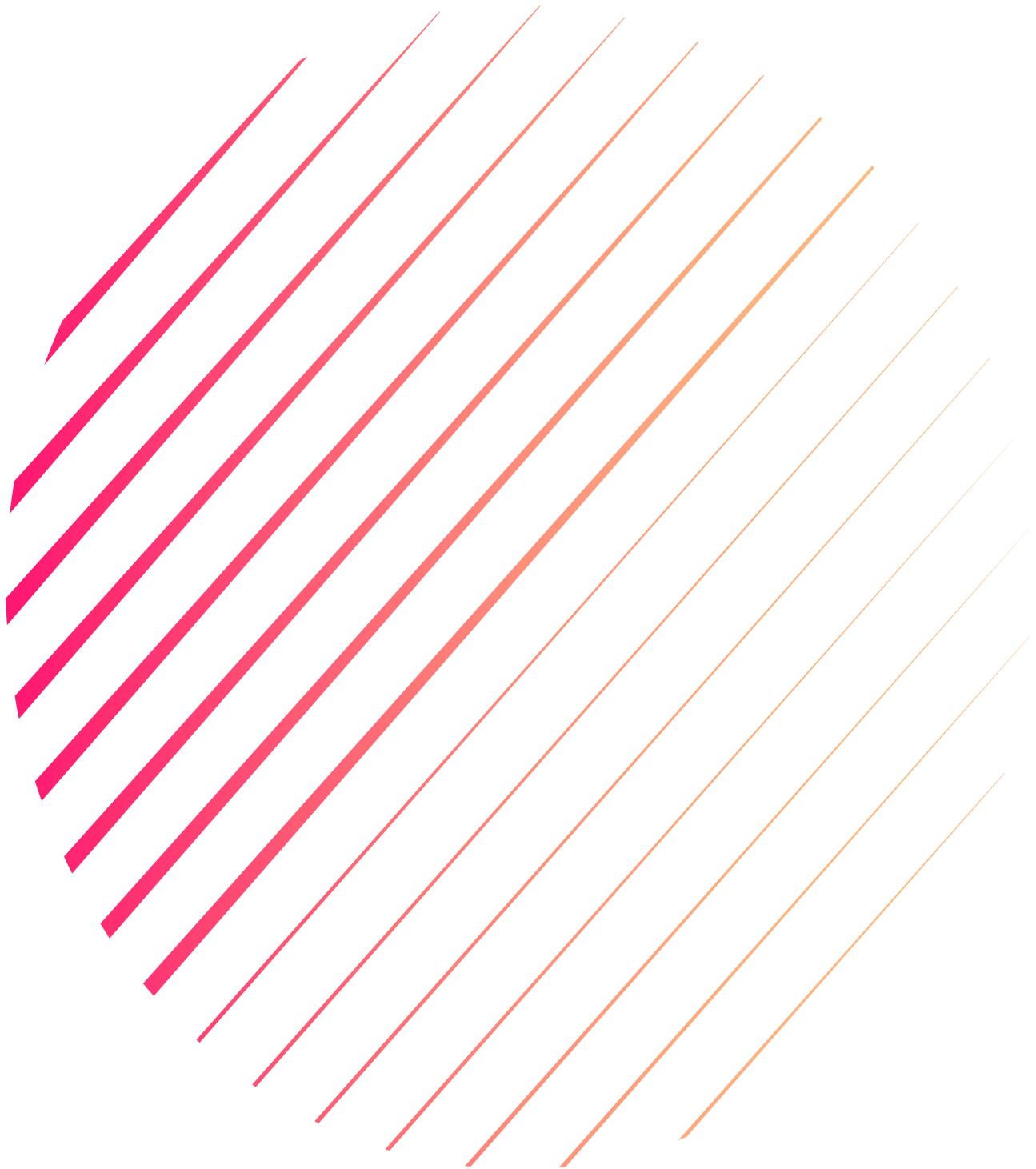# TELECO CUSTOMER CHURN ANALYSIS

UNDERSTANDING THE TELECOMMUNICATIONS CUSTOMER

25TH NOVEMBER   HRISHAV MISHRA

DADS INTERNSHIP MENTORED BY: NIDHI MA'AM

INTRODUCTION

This Report addresses Customer Churn for a Telecommunication firm, Customer Churn is the rate at which a commercial customer leaves the commercial business and takes their money elsewhere.

The Data we have has 7043 rows each representing a unique customer with 21 columns: 19 features, 1 target feature. The data is composed of both numerical and categorical features, so we will need to address each of the datatypes respectively.

Understanding customer churn is vital to the success of a company and a churn analysis is the first step to understanding the customer. The customer here is of utmost importance, including being able to understand the behavior patterns of that customer.

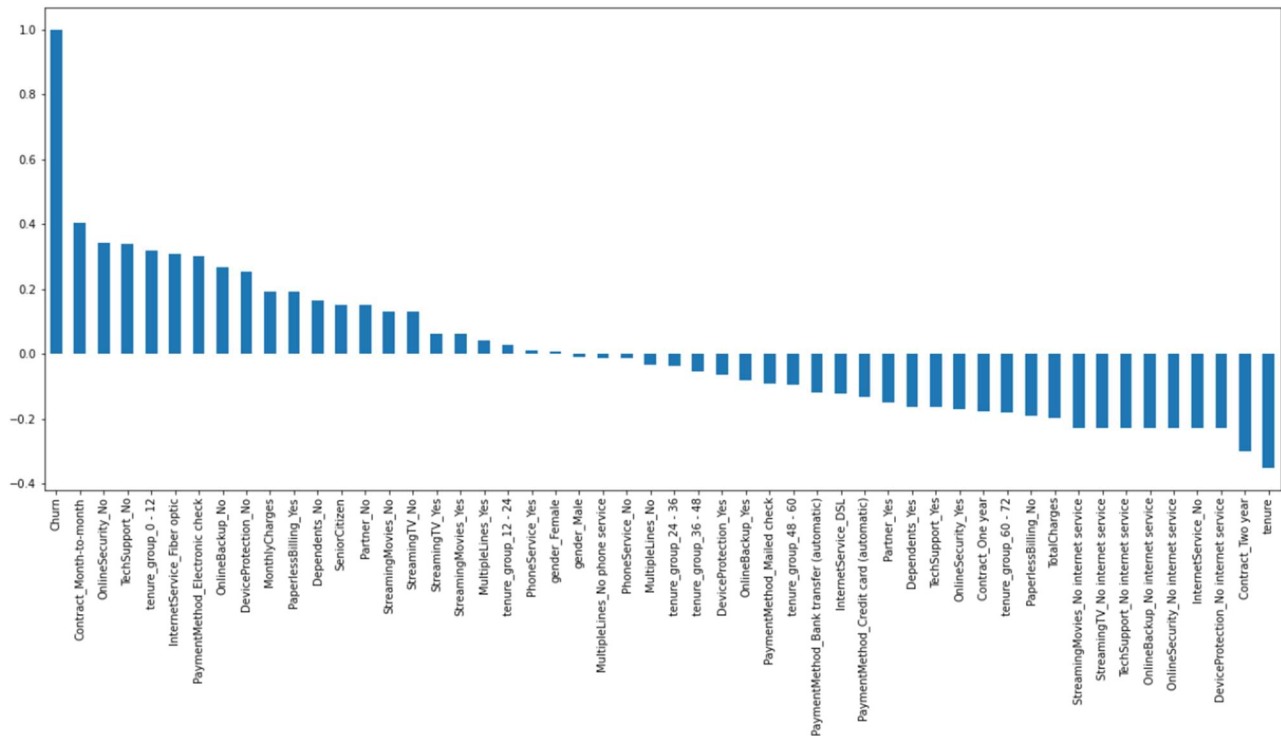## Exploratory Data Analysis

Target – Customer Churn
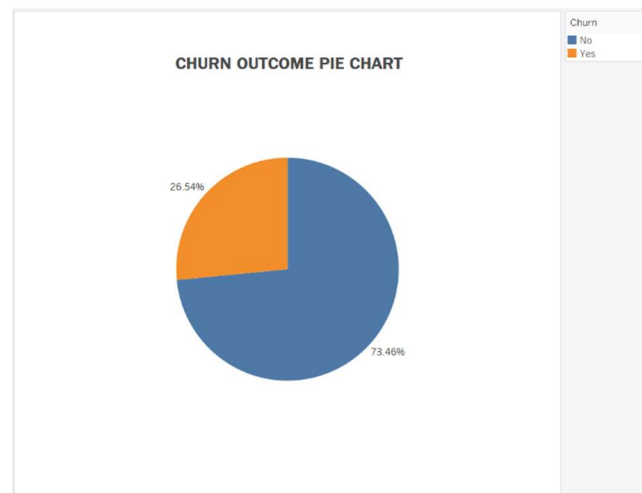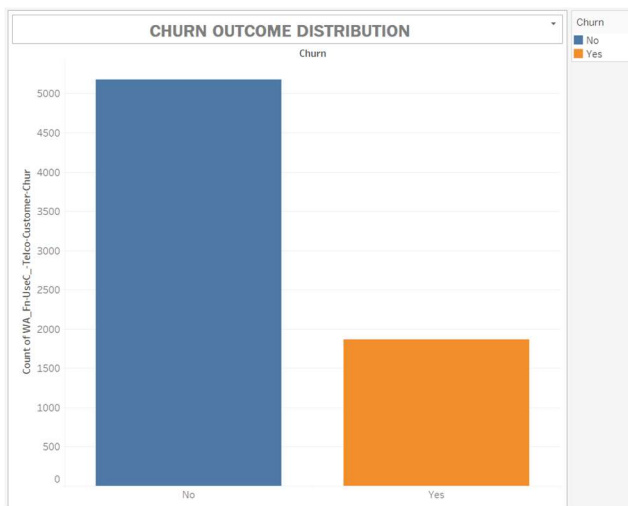
- Data is highly imbalanced, ratio is 73:27

- We analyze the data with other features while taking the target values separately to get some insights.

- 1869 Customers off 7043 Churned Out of the system

- 26.53% have Churned Out

Feature Correlation to Churn

Derived Insight:

- HIGH Churn seen in case of Month-to-month contracts, No online security, No Tech support, First year of subscription and Fiber Optics Internet

- LOW Churn is seen in case of long-term contracts, Subscriptions without internet service and the customers engaged for 5+ years

- Factors like Gender, Availability of Phone Service and Number of multiple lines have almost NO standalone impact on Churn
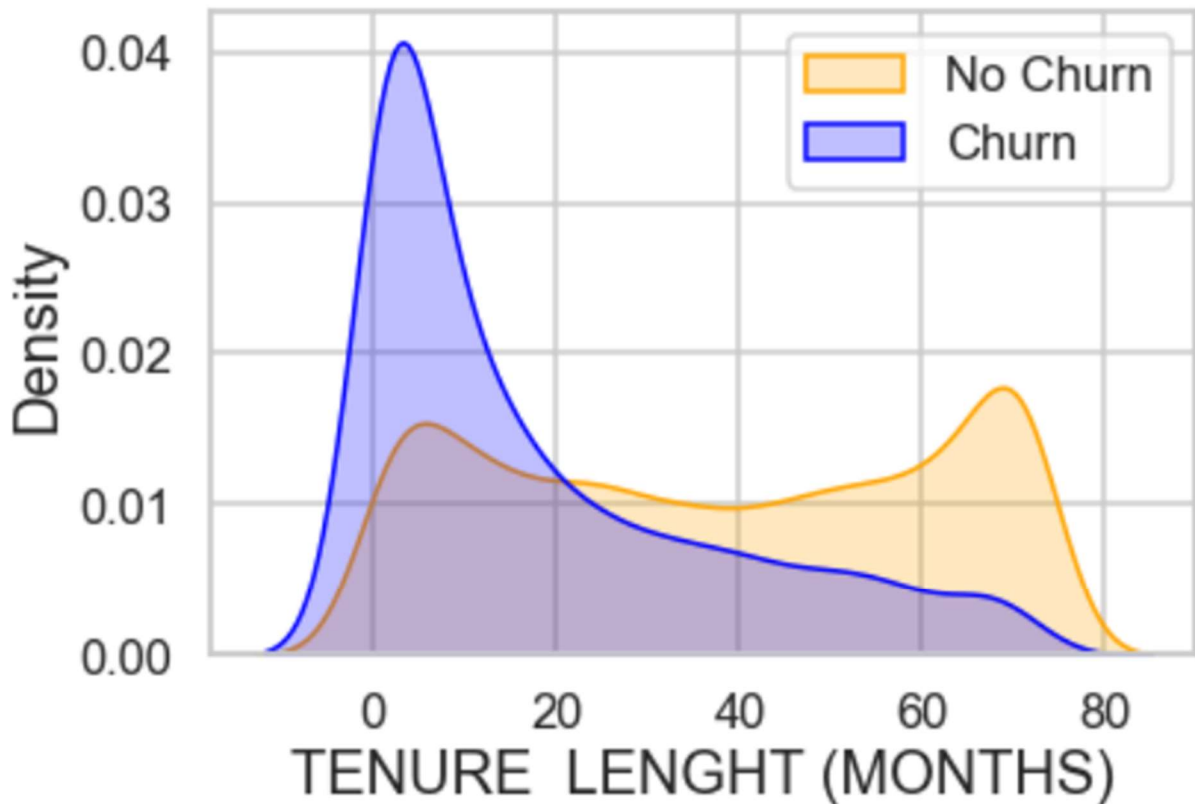
- This is also evident from the Heatmap below
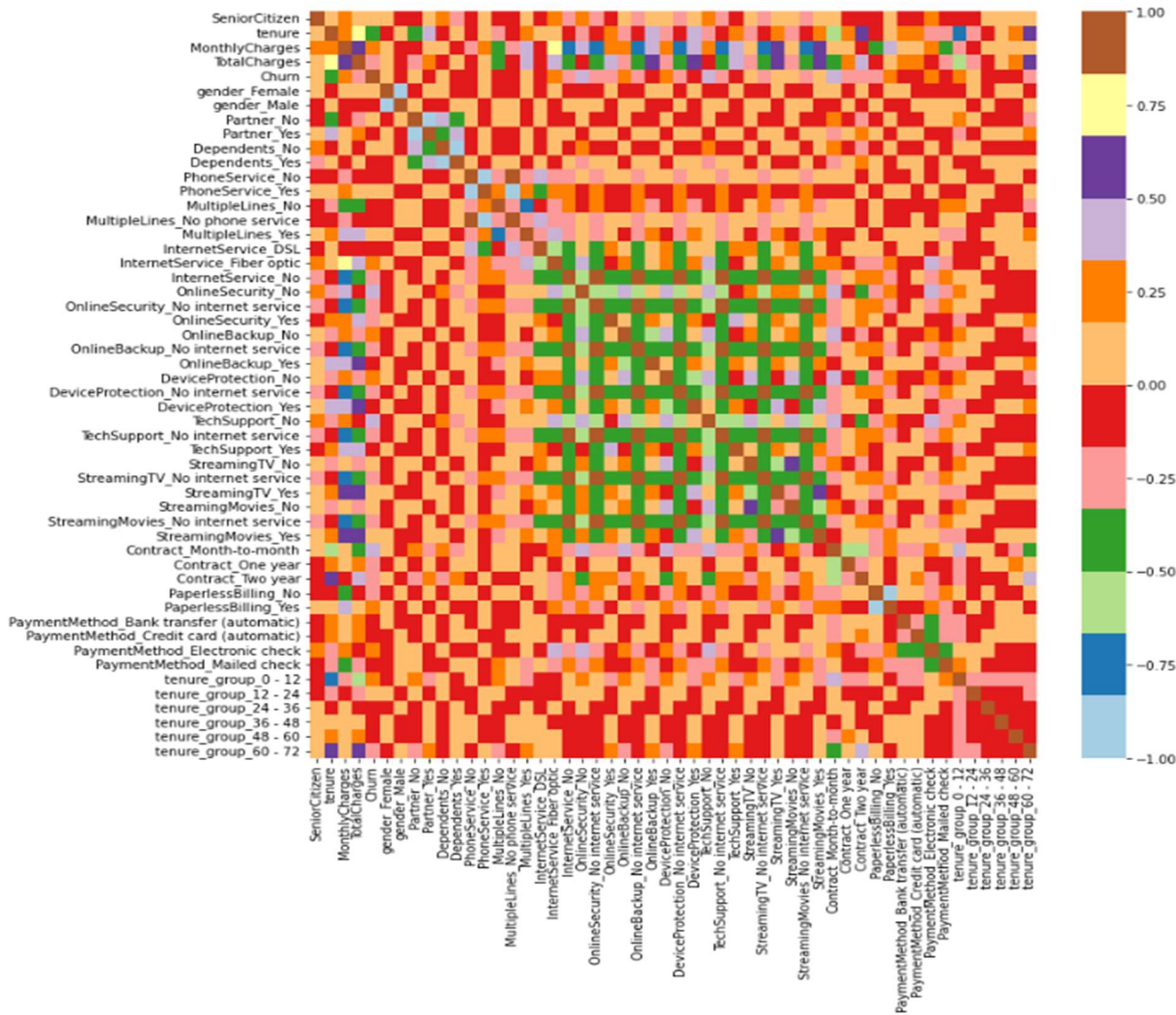
CHURN BY MONTHLY CHARGES, TOTAL CHARGES & TENURE
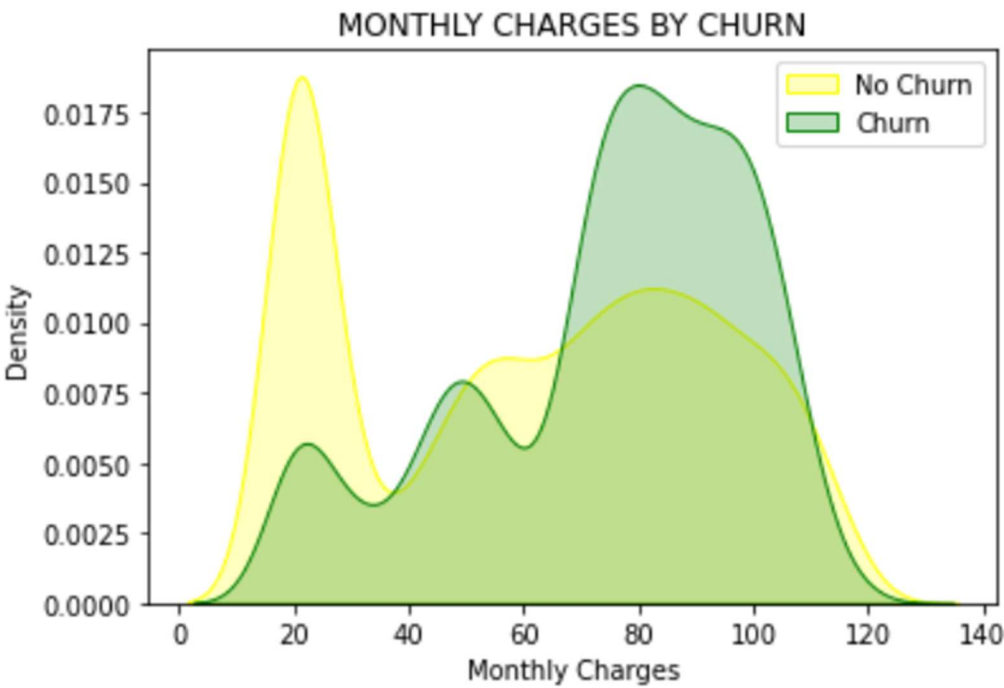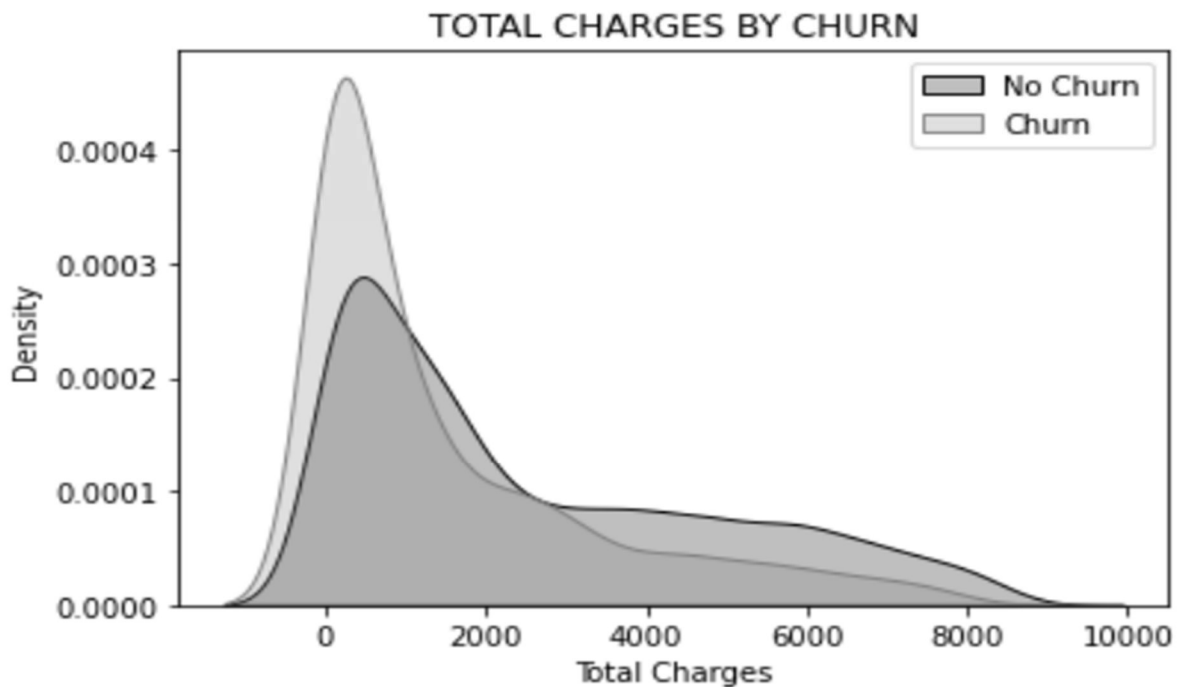
INSIGHT:

- Churn is high when Monthly Charges are high

TENURE BY CHURN

- Customers are significantly more likely to churn within the first year of their tenure with the firm

- As tenure increases, probability of churn decreases

TOTAL CHARGES BY CHURN

Surprising insight as higher Churn at lower Total Charges

However, if we combine the insights of 3 parameters i.e. Tenure, Monthly Charges & Total Charges then the picture is bit clear: – Higher Monthly Charge at lower tenure results into lower Total Charge. Hence, all these 3 factors viz Higher Monthly Charge, Lower tenure and Lower Total Charge are linked to High Churn.
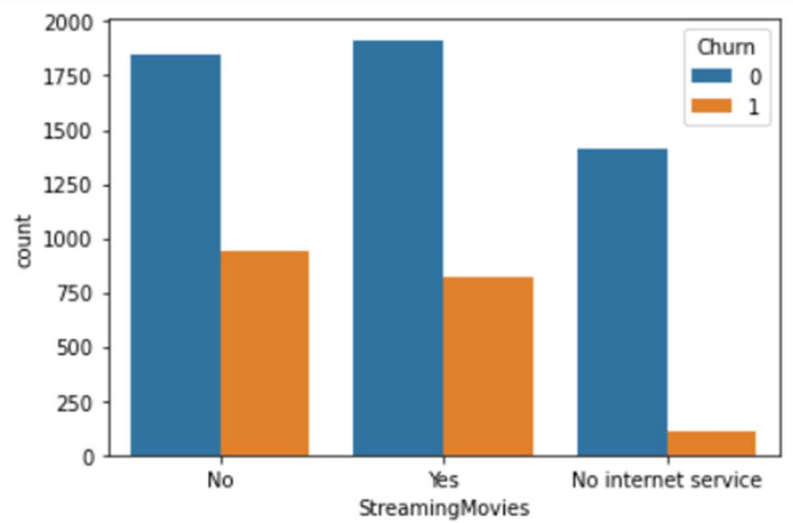
CHURN CONSIDERING ADD-ON SERVICES
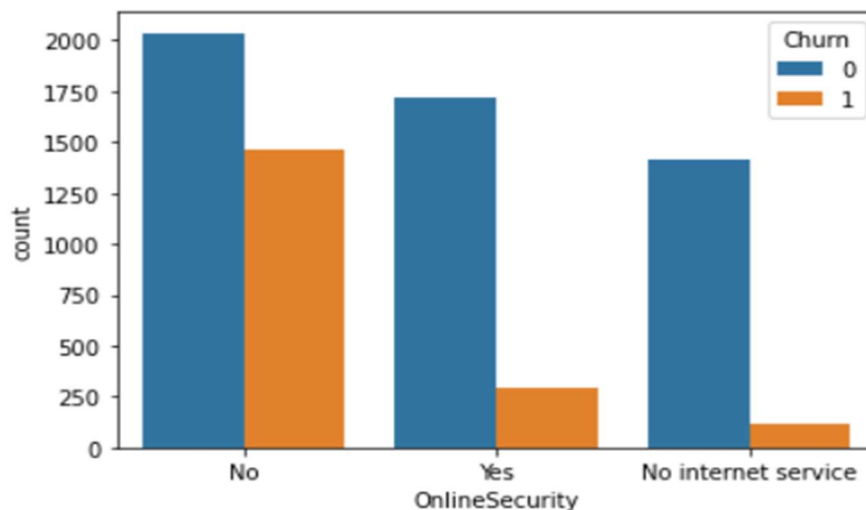
Customers with online security and/or Tech support add-ons will churn the least
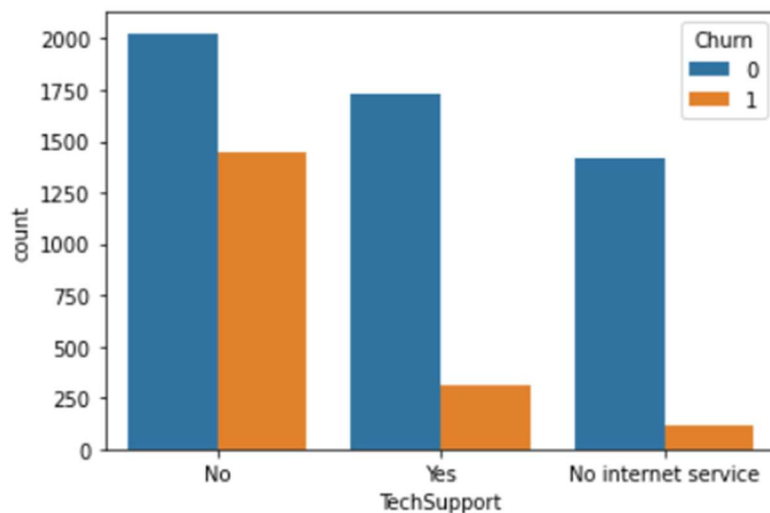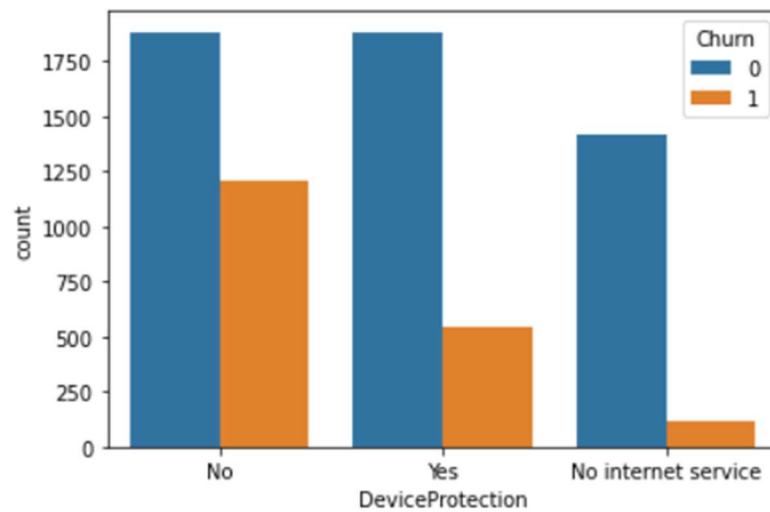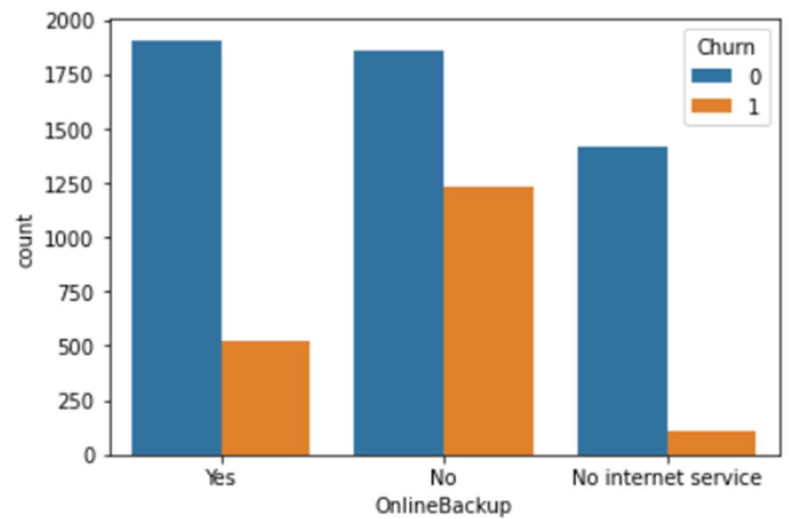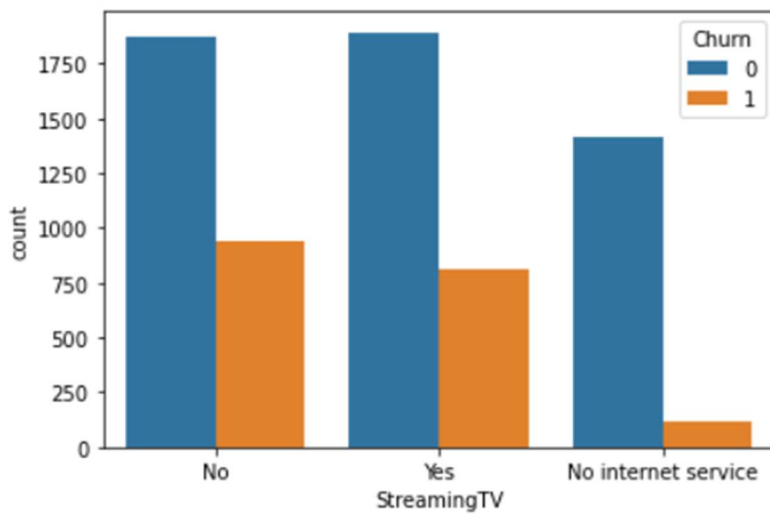
Customers with Streaming Services (TV/Movies) will Churn the Most

CONCLUSION

These are some of the quick insights from this exercise:

1. Electronic check medium are the highest churners
2. Contract Type - Monthly customers are more likely to churn because of no contract terms, as they are free to go customers.
3. No Online security, No Tech Support category are high churners
4. Non senior Citizens are high churners