

Telecom Customer Churn Analysis

This project focuses on analyzing customer churn within the telecommunications industry. Customer churn, the rate at which customers discontinue services, is a critical metric impacting revenue and growth. Using a comprehensive dataset, we developed predictive models to identify customers at risk of churning, aiming to provide actionable insights to stakeholders.

Objective and Purpose

The primary goal is to develop robust predictive models capable of classifying potential churn customers based on various demographic and behavioral factors. This involves addressing data imbalance and leveraging machine learning techniques to improve accuracy.

Methodology

1. Data Collection and Preparation:

- Utilized a diverse dataset including customer demographics, service usage details, contract terms, and billing preferences.
- Conducted rigorous data cleaning, handling missing values, and transforming variables for analysis readiness.

2. Analysis and Insights:

- Applied exploratory data analysis (EDA) to uncover patterns and correlations.
- Developed and evaluated predictive models to forecast customer churn behavior.

3. Dashboard Development:

- Created an interactive Power BI dashboard showcasing key metrics and insights.
- Visualized customer segmentation, churn rates across demographics, and impact analysis of service factors.

7K

Total Custom...

16.06M

Total Charges

2.3K

Avg Retention Per Cu...

Monthly Charges

456,116.60

Sum

64.76

Average

1585

Count

Churn

All

Gender

All

Partner

All

Payment Method

All

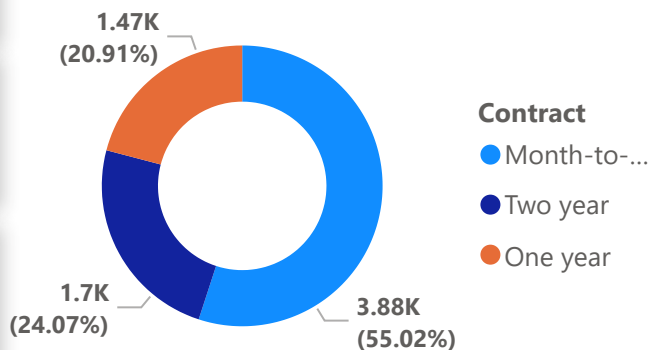
Contract

All

Internet Service

All

Customer Distribution by Contract Type Analysis



Total Charges

16,056,1...

Sum

2,283.30

Average

6531

Count

Tenure Range

227990

Sum

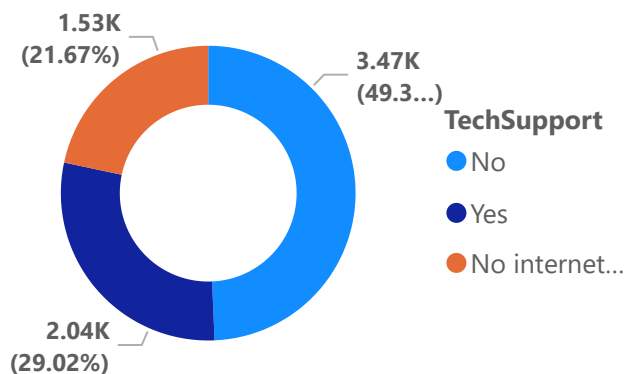
32.37

Average

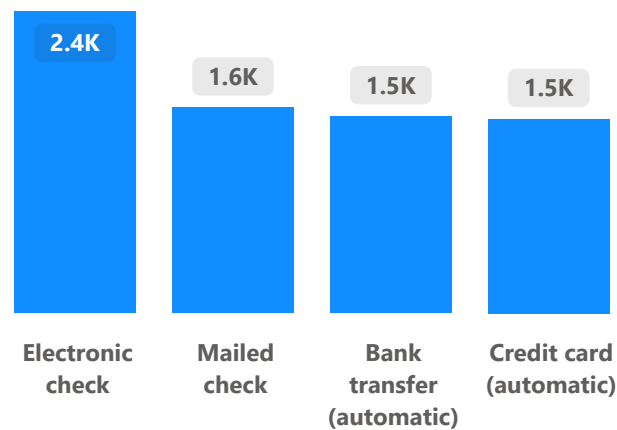
73

Count

Customer Distribution by Tech Support Usage



Payment Method Utilized by Internet Service





0.27

Churn Rate

0.73

Retention Rate

7043

Total Customers

1869

Churned Custom...

2.86M

Churned Revenue

13.19M

Retained Revenue

Churn

All

Contract

All

Internet Service

All

Payment Method

All

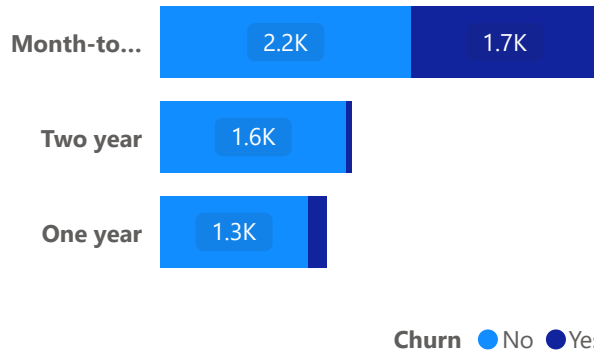
Senior Citizen

All

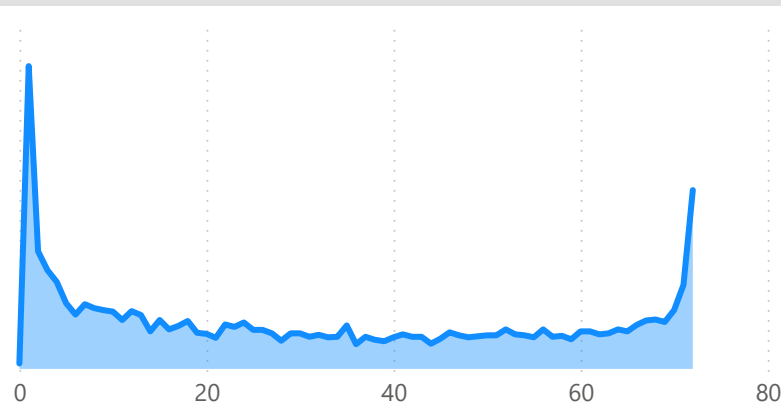
Gender

All

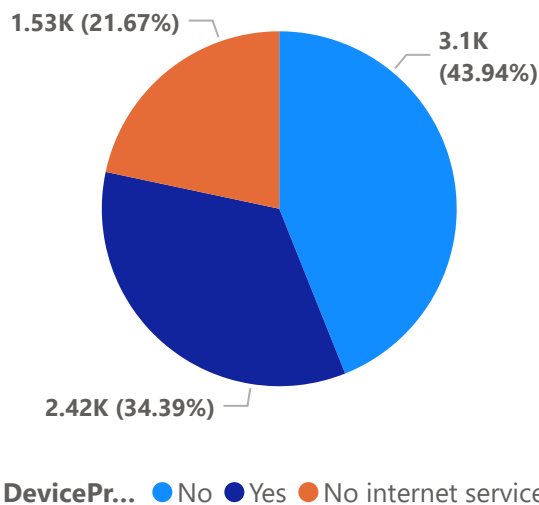
Customer Count by Contract and Churn



Churn Rate Analysis over Customer Tenure



Customer Distribution by Device Protection Enrollment



Churn Rate by Preferred Payment Method

