# Telco Customer Churn Analysis

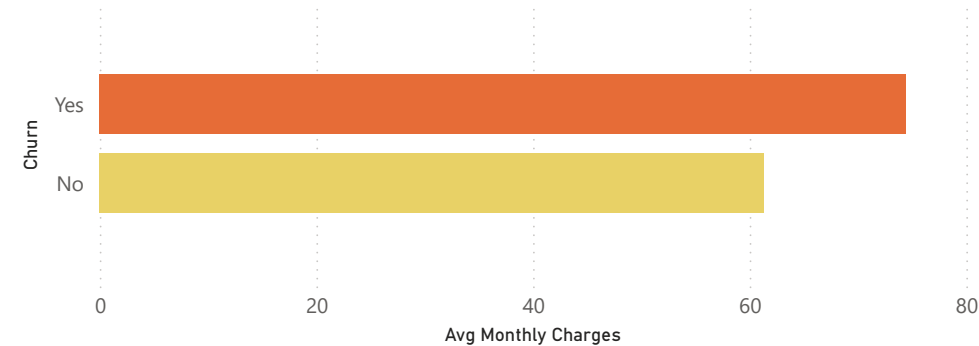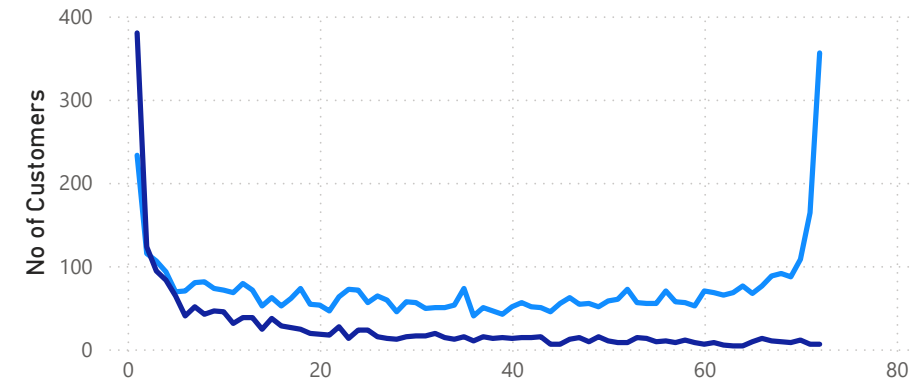| Churn Rate % | Avg Monthly Charges | Avg Tenure | No of Customers |
|---|---|---|---|
| **26.58** | **64.8** | **32.42** | **7.032K** |

## Monthly Charges

Churn ● Yes ● No



Avg Monthly Charges

## Tenure v/s Churn

Churn ● No ● Yes



No of Customers — Tenure

## Total Charges

Churn ● No ● Yes
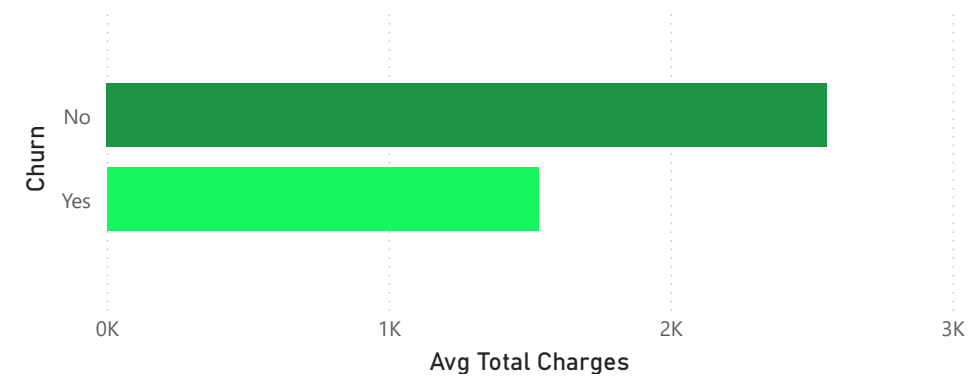


Avg Total Charges

## TotalCharges by Contract



4.47M (27.82%)
6.28M (39.13%)
5.31M (33.05%)

**Contract**
● Two year
● Month-to...
● One year

## Gender v/s Churn



0.94K (13.35%)
2.62K (37.24%)
2.54K (36.18%)
0.93K (13.23%)
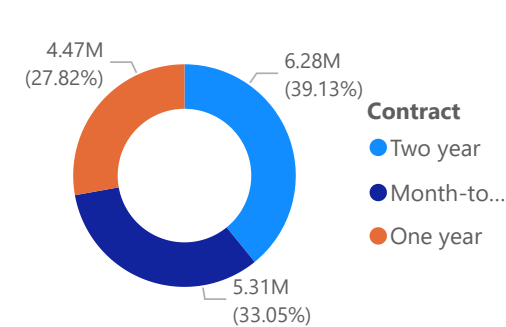
**Gender**
● Male
● Female
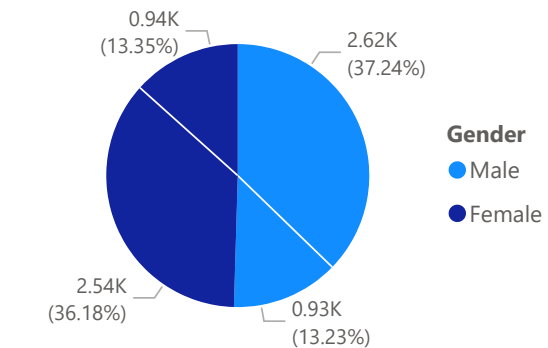
# COMPANY SERVICES V/S CHURN

## Internet Service



0.11K
0.46K (6.05%)
(24.5...)

1.3K (69.4%)

**Internet Service**
● Fiber optic
● DSL
● No

## Device Protection



0.11K (6.05%)

0.55K
(29.16%)

1.21K (64.79%)

**DeviceProtection**
● No
● Yes
● No internet service

## Contract



2,000

1,500

1,000

500

0

Count of customerID

Month-to-month    One year    Two year

## Tech Support



0.31K
(16.59%)

1.45K
(77.37%)

**TechSupport**
● No
● Yes
● No internet...

## Online Security



0.11K
0.3K (6.05%)
(15.78%)

1.46K
(78.17%)

**OnlineSecurity**
● No
● Yes
● No internet service

## Contract



0.23K (12.41%)

0.26K
(13.8%)

0.31K
(16.48%)

1.07K (57.3%)

**PaymentMethod**
● Electronic check
● Mailed check
● Bank transfer (au...
● Credit card (auto...
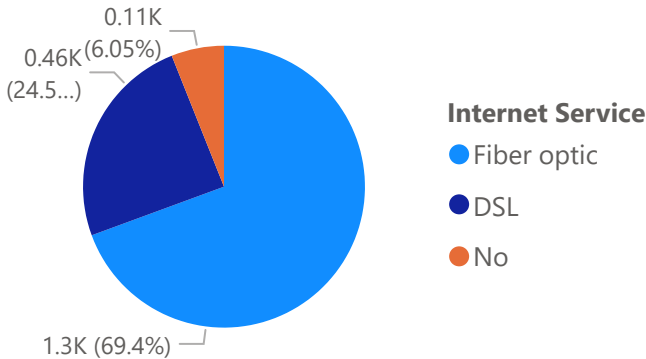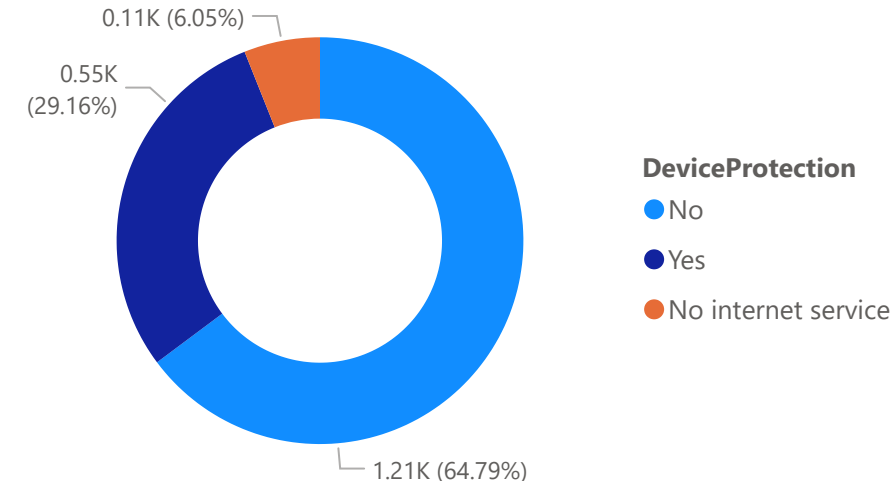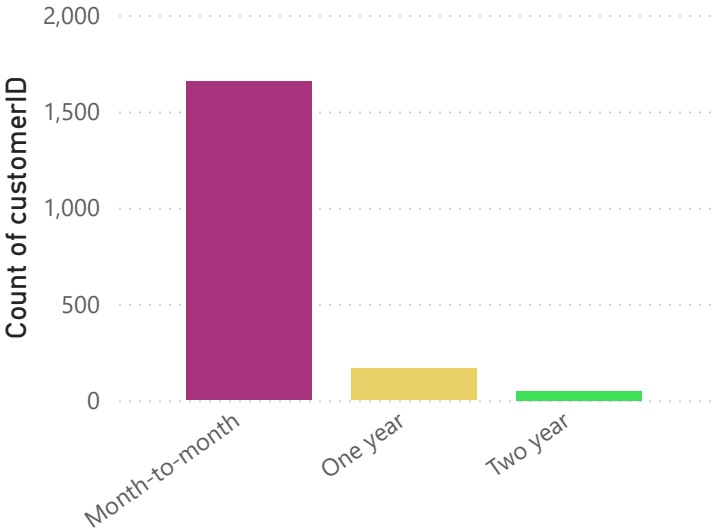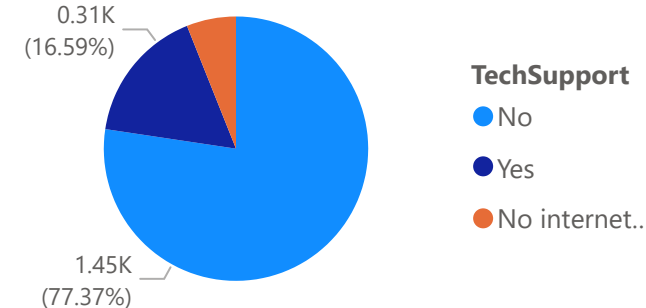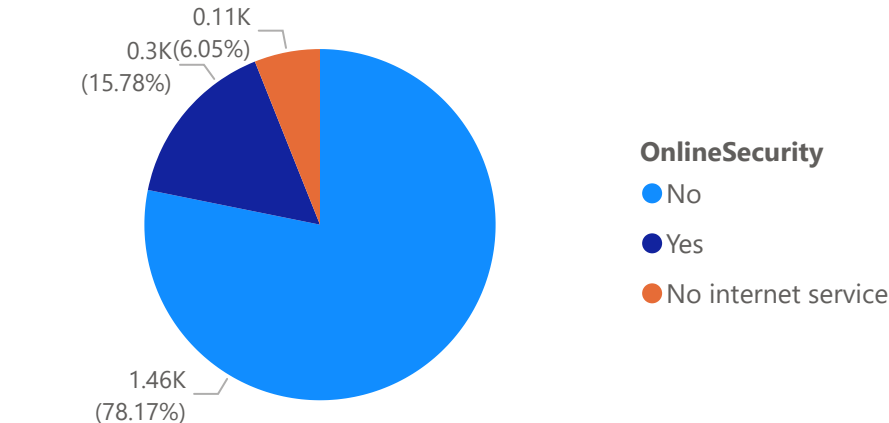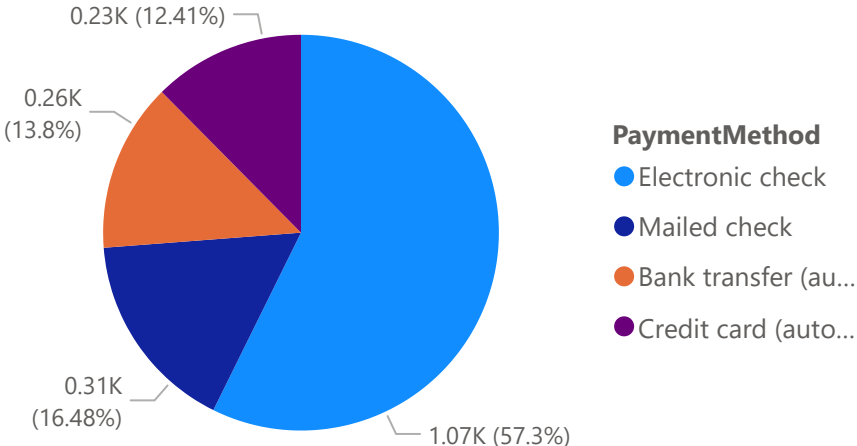
# MODEL RESULTS

| No of Customers(Test) | No of Correct Predictions | Accuracy |
|---|---|---|
| **1.407K** | **1K** | **0.79** |

## IMPORTANT FEATURES FROM SHAP
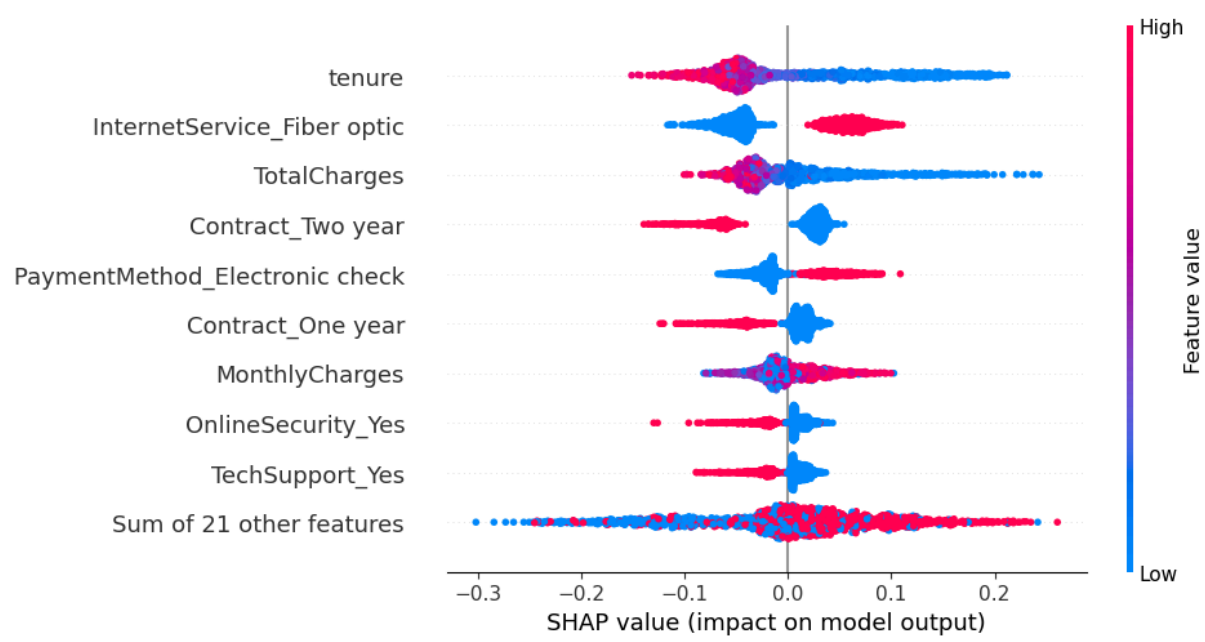


| Contract | MonthlyUsage | InternetService | OnlineSecurity ▲ | TechSupport | Churn_Rate% |
|---|---|---|---|---|---|
| Month-to-month | High | Fiber optic | No | No | 0.60 |
| Month-to-month | High | Fiber optic | No | Yes | 0.44 |
| Month-to-month | Low | DSL | No | No | 0.50 |
| Month-to-month | Low | DSL | No | Yes | 0.20 |
| Month-to-month | Medium | DSL | No | No | 0.38 |
| Month-to-month | Medium | DSL | No | Yes | 0.26 |
| Month-to-month | Medium | Fiber optic | No | No | 0.62 |
| Month-to-month | Medium | Fiber optic | No | Yes | 0.30 |
| One year | High | DSL | No | Yes | 0.09 |
| One year | High | Fiber optic | No | No | 0.22 |
| One year | High | Fiber optic | No | Yes | 0.21 |
| One year | Low | DSL | No | No | 0.13 |
| One year | Low | DSL | No | Yes | 0.11 |
| One year | Medium | DSL | No | No | 0.15 |
| One year | Medium | DSL | No | Yes | 0.10 |
| **Total** | | | | | **0.27** |