

Telco Customer Churn

Exploratory Data Analysis

The main strategies telecom companies use to generate more revenues are :

- (1) acquiring new customers
- (2) upselling the existing customers
- (3) increasing the retention of existing customers.

- It may cost five times more to attract a new customer compared to retaining an existing customer in the telecom industry and thus the third strategy is the most profitable strategy.
- Loyal customers also tend to spend more, refer more people, and are more willing to expand their purchasing into new categories provided by the company.
- Let's say you spend 'x' Indian Rupees per customer acquisition. The company will have to retain the customer for a given period just to break even.

Churn is a metric that shows customers who stop doing business with a company or a particular service offered by the company.

The different churn scenarios are:

- **Tariff plan churn:** The customer opts into a lower cost package
- **Service churn:** Weekly/monthly subscription
- **Product churn:** Postpaid plan to a prepaid plan
- **Usage churn:** Inactive or zero usage

All of these scenarios may lead to subscriber churn, where the customer ports out to the services offered by a competing company.

Purpose of EDA: To identify factors or patterns that can result in customer churn.

The main four churn segments are:

1. Conditionally loyal : Those customers who have thought about opting out of the services offered by the company but have decided to stay
2. Conditional churner: Those who have decided to leave the services because they have found a better offer elsewhere
3. Lifestyle migrator: Those who have opted out because their needs have changed
4. Unsatisfied churner: Those who have left because they are not satisfied with the services offered by the company

About the dataset

The Telco customer churn dataset was downloaded from Kaggle:

<https://www.kaggle.com/blastchar/telco-customer-churn>

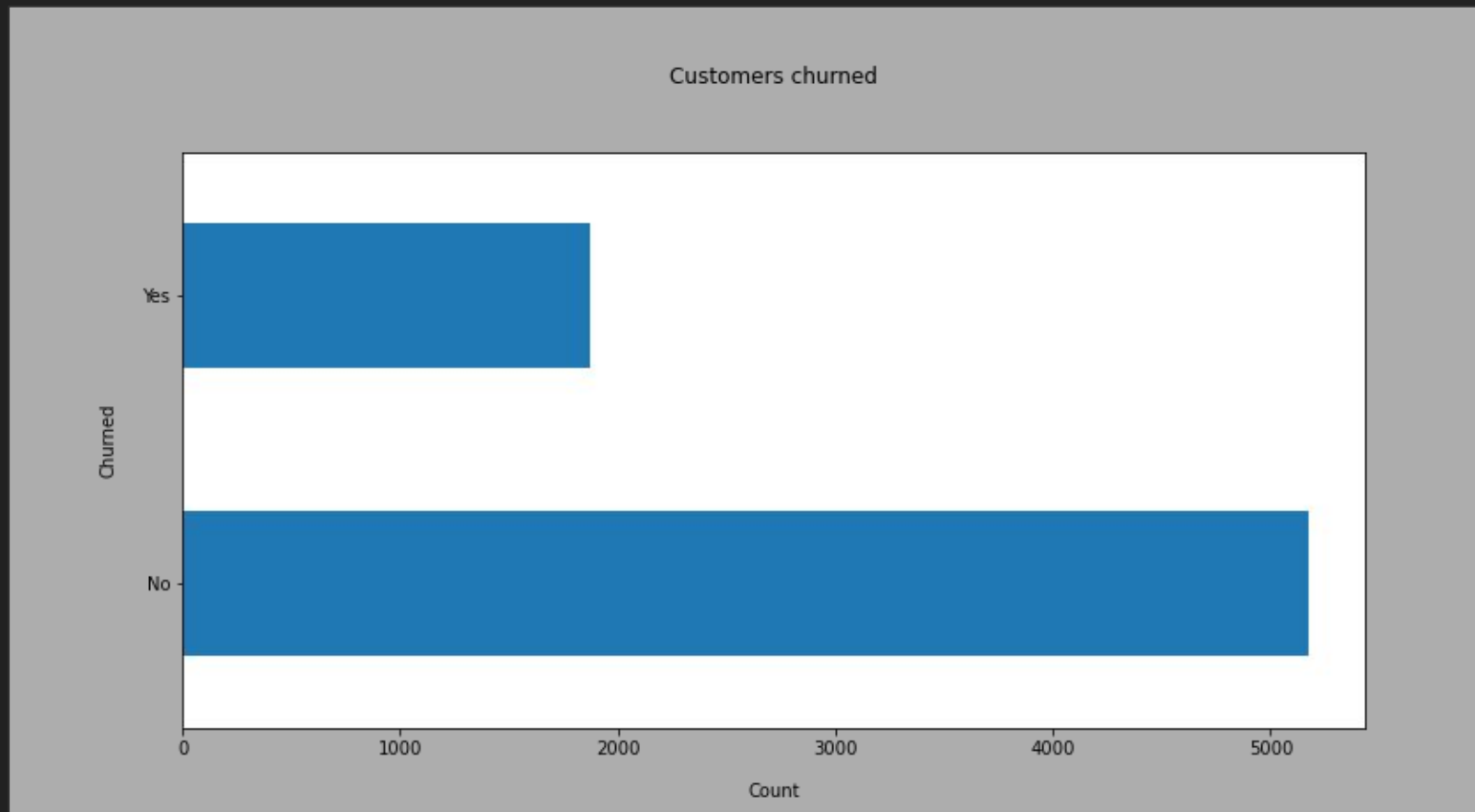
The dataset has 7043 rows, each representing a customer and 21 columns, each containing attributes pertaining to customers.

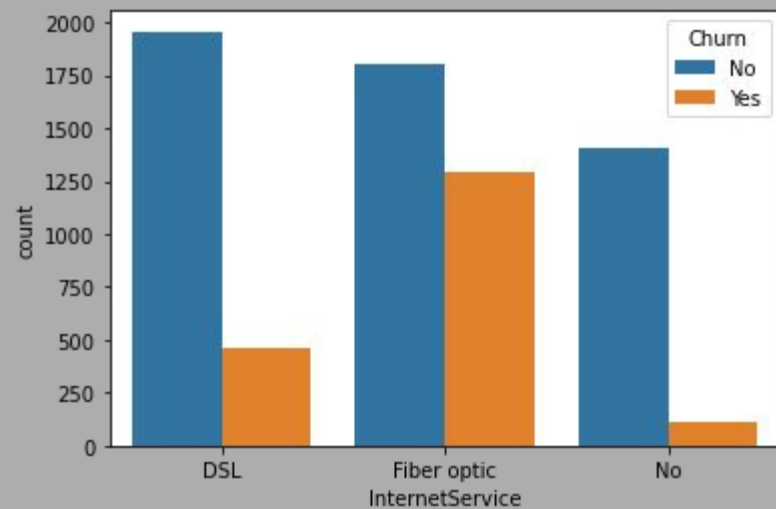
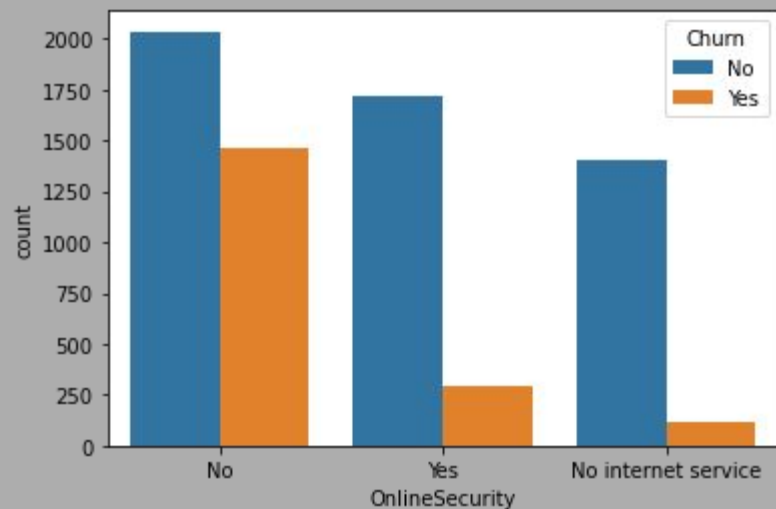
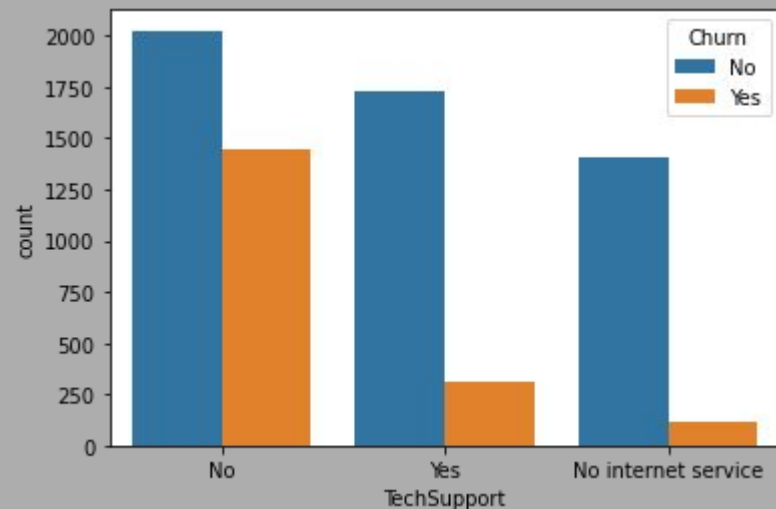
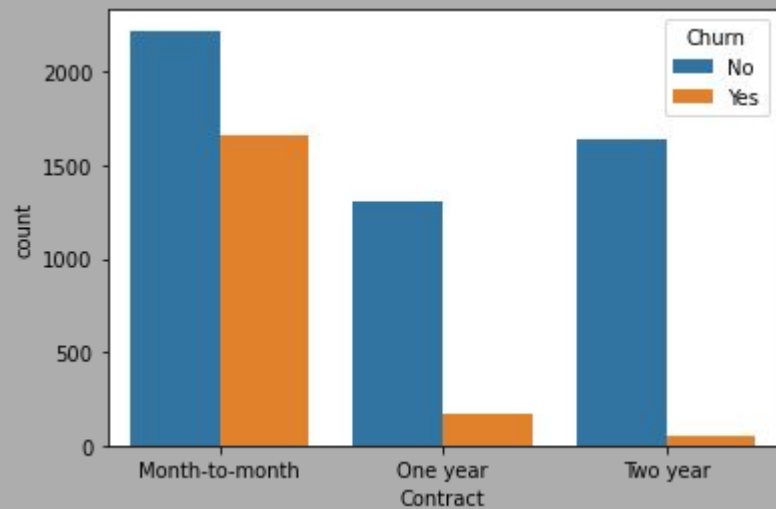
The data set includes information about:

- **Customers who left within the last month** – the column is called Churn
- **Services that each customer has signed up for** – phone, multiple lines, internet, online security, online backup, device protection, tech support, and streaming TV and movies
- **Customer account information** – how long they've been a customer, contract, payment method, paperless billing, monthly charges, and total charges
- **Demographic info about customers** – gender, age range, and if they have partners and dependents

(Source: Kaggle)

Out of 7043 customers, 1869 customers were found to have churned in the previous month. This amounts to 26.53% of the total number of customers.





Preliminary analysis and insights:

1. Customers who use electronic check medium to make payments are found to be the highest churners
2. Customers with monthly contracts are more likely to churn as they are not bound by longer term contracts
3. Customers using optic fiber service are found to be high churners
4. Customers with monthly contracts between ₹70 and ₹110 are high churners
5. Those without online security and tech Support services are high churners
6. Non senior Citizens are also shown to be high churners

Potential next steps:

- Carrying out bivariate/multivariate analysis
- Creating a model to predict customers who has a high chance of churning
- Devising a plan to improve on marketing, product quality and retaining customers