

# Project Title: TCA - Telecom Customer Analysis

## Key Points Summary

### 1. Dataset Used:

- The dataset contains information about telecom customers (e.g., their services, account info, churn status).
- Main columns: `gender`, `SeniorCitizen`, `Partner`, `PhoneService`, `InternetService`, `Contract`, `PaymentMethod`, `Churn`, etc.

### 2. Data Cleaning:

- Checked for null values.
- Removed or handled missing values, especially in `TotalCharges`.

### 3. Data Visualization:

- Used `seaborn` and `matplotlib` to plot:
  - Countplots for service features like `PhoneService`, `InternetService`, etc.
  - Pie chart for churn distribution (how many customers left vs. stayed).
  - Heatmap for correlation between numeric features.
  - Boxplot to compare churn with numerical features.

### 4. Insights from Plots:

- Customers with month-to-month contracts are more likely to churn.
- Fiber optic users and those without tech support or online security churn more.
- Senior citizens and customers without partners have slightly higher churn.

### 5. Modeling (if any):

- (Not included in this notebook – currently focused on EDA only.)

## 6. 🧠 **Tools Used:**

- Python libraries: `pandas`, `numpy`, `matplotlib`, `seaborn`