

## Summary and Recommendations

### Objective:

This analysis provides insights into customer behavior and service preferences for a telecommunications company. Using various visualizations and statistical analyses, we explored key trends and distributions within the dataset.

### Key Findings:

#### 1. Customer Demographics:

- The dataset includes details such as gender, age group (SeniorCitizen), and dependents.
- The majority of customers are non-senior citizens, and a smaller proportion have dependents.

#### 2. Service Preferences:

- Popular services include PhoneService and InternetService. However, advanced features like OnlineSecurity and TechSupport are less frequently opted for.
- Subscription to streaming services (StreamingTV and StreamingMovies) shows moderate engagement.

#### 3. Contract Types and Payment Methods:

- Customers with longer-term contracts (e.g., one-year or two-year) are less likely to churn compared to those on month-to-month plans.
- Paperless billing is common, and electronic payment methods are highly preferred.

#### 4. Churn Analysis:

- Churn is influenced significantly by contract type, monthly charges, and tenure.
- Higher churn rates are observed among customers with short tenures and high monthly charges.

#### 5. Monetary Metrics:

- MonthlyCharges range from \$18.25 to \$118.75, with an average of ~\$64.76.
- Total charges exhibit a wide range, reflecting customer tenure and service adoption levels.

## Visual Insights:

- **Count Plots:** Visualizations for categorical variables like **InternetService** and **PaymentMethod** provide an overview of customer preferences.
- **Churn Distribution:** Clear differences in churn rates based on contract types and additional service usage.
- **Histograms:** Tenure and total charges are explored to understand customer engagement and billing patterns.

## Recommendations:

1. **Enhance Retention Strategies:** Focus on converting month-to-month customers to long-term contracts.
2. **Upsell Value-Added Services:** Promote features like **OnlineSecurity** and **TechSupport** to increase revenue.
3. **Customer Segmentation:** Identify high-risk churn segments based on tenure and monthly charges for targeted retention efforts.

This analysis offers actionable insights to drive customer satisfaction and reduce churn.