Executive Summary: Telco Customer Churn Analysis

Objective

This analysis aims to identify key drivers of customer churn in a telecom company by examining customer demographics, service usage, and billing patterns. The insights will help in formulating effective retention strategies.

Key Insights & Findings

1. **Overall Churn Rate**

   o **26.54% of customers have churned**, as shown by the pie chart analysis.

   o This indicates a substantial loss of customers, necessitating proactive measures to reduce churn.

2. **Demographic Factors & Churn**

   o **Gender does not significantly impact churn**: Churn rates are nearly equal for male and female customers.

   o **Senior Citizens are more likely to churn**: Analysis reveals a higher churn rate among older customers, indicating a need for tailored retention strategies for this segment.

3. **Service-Related Factors & Churn**

   o **Contract Type**: Customers with month-to-month contracts have higher churn rates compared to those with longer contracts.

   o **Internet Service**: Certain types of internet service plans might be contributing to churn. More detailed analysis is needed to determine which specific service plans see the highest churn.

   o **Billing and Payment Methods**: Initial exploration suggests that customers using electronic checks tend to have higher churn rates, possibly due to payment-related dissatisfaction.

4. **Billing & Charges Impact on Churn**

   o Customers with **higher monthly charges** tend to churn more often, indicating price sensitivity.

   o **Total charges appear to be lower for churned customers**, which suggests that newer customers might be churning at a higher rate than long-term customers.

Visualizations & Analysis Used

The notebook includes various insightful visualizations, including:

• **Count plots** to show churn distribution across different categories.

• **Pie charts** illustrating overall churn percentage.

• **Grouped bar charts** comparing churn rates by gender, senior citizen status, and contract type.

- **Box plots and histograms** analysing the relationship between churn and numerical features like monthly charges.

Actionable Recommendations

- **Improve Retention Strategies for Senior Citizens**: Introduce loyalty programs or personalized support for older customers to reduce churn.

- **Encourage Long-Term Contracts**: Offer incentives (discounts, added benefits) to customers on month-to-month plans to encourage longer commitments.

- **Reassess Pricing Strategies**: Identify potential pricing pain points and introduce cost-effective bundles or promotions for high-risk customers.

- **Optimize Customer Experience**: Investigate pain points in service and billing that might be driving dissatisfaction, especially among customers using electronic check payments.

- **Use Predictive Modelling**: Leverage machine learning models to predict churn-prone customers and implement targeted interventions.