



Executive Summary: Customer Churn Analysis

This analysis explores customer churn trends using the Telco dataset to identify key behavioral and demographic patterns influencing customer retention and attrition. The insights are derived from data preprocessing and a series of insightful visualizations.



Key Visual Insights

1. Overall Churn Count

- A countplot of the **Churn** column shows a noticeable imbalance, with more customers retained than churned.

2. Demographic Factors

- **Gender** does not show a strong impact on churn, as both male and female customers churn at similar rates.
- **Senior Citizens** tend to churn more compared to younger customers, as visualized by a stacked bar chart showing percentage churn.

3. Tenure and Churn

- Customers with lower **tenure** (shorter relationships with the company) are significantly more likely to churn.
- Churn rate stabilizes and declines with increasing tenure, highlighting the importance of early customer engagement.

4. Contract Type

- Customers on **month-to-month contracts** show a much higher churn rate than those on **one-year or two-year contracts**, suggesting contract duration impacts retention.

5. Services Subscribed

You created a 3x3 grid of countplots for various service features:

- **Streaming services**, **Tech Support**, and **Online Security** show churn correlations.

- Customers without **OnlineSecurity** and **TechSupport** are more likely to churn.
- Availability and bundling of services may influence loyalty.

6. Payment Method

- Customers using **Electronic Check** are more prone to churn compared to other payment methods.
- This could hint at either dissatisfaction or higher correlation with month-to-month contracts.

Conclusion

Your visual analysis effectively pinpoints that churn is strongly associated with:

- **Low tenure**
- **Month-to-month contracts**
- **Senior citizen status**
- **Lack of additional services**
- **Specific payment methods**

These insights can help drive targeted retention strategies — for example, encouraging long-term contracts or bundling services like Tech Support and Online Security.