Executive Summary: Telecom Customer Churn Analysis

This analysis evaluates customer churn behavior using a telecom dataset to identify the key factors influencing customer retention and attrition. Through exploratory data analysis and visualizations, the study examines churn across demographics, tenure, contract type, service usage, pricing, and payment methods. The objective is to convert data-driven insights into actionable strategies that reduce churn and improve customer lifetime value.

1. Overall Churn Distribution

The dataset contains 7,043 customers. 26.54% (1,869 customers) have churned, while 73.46% (5,174 customers) remain active. This indicates that more than one-quarter of the customer base is being lost, posing a significant risk to recurring revenue and increasing acquisition costs.

2. Demographic Insights

Gender:

Male churn rate ~26%, Female churn rate ~27%. Gender does not significantly influence churn.

Senior Citizen Status:

Senior citizens ~42% churn, non-senior customers ~24% churn. Senior citizens represent a high-risk churn segment.

3. Tenure-Based Churn Patterns

Customers with tenure below 12 months show the highest churn. Churn declines steadily with increased tenure. Customers beyond 24 months show minimal churn.

4. Contract Type Influence

Month-to-month contracts ~43% churn, 1-year contracts ~11%, 2-year contracts ~3%. Nearly 90% of churned customers are on month-to-month contracts.

5. Service Usage & Add-On Impact

Fiber optic users show the highest churn, especially without add-ons. Customers without online security (~40%), tech support (~38%), or backup (~36%) churn more.

6. Payment Method Analysis

Electronic check users churn at ~45%, compared to 15–18% for other methods.

7. Monthly Charges & Customer Value

Higher monthly charges combined with month-to-month contracts and no add-ons increase churn risk.

8. Key Recommendations

Improve onboarding, promote long-term contracts, bundle services, simplify plans for seniors, and encourage automated payments.

Conclusion

Churn is primarily driven by contract flexibility, early tenure experience, service value perception, pricing, and payment behavior. Targeted strategies can significantly reduce churn and improve customer lifetime value.