Customer Churn Analysis

This customer churn analysis explores patterns and behaviors from a telecom dataset to identify the key reasons why customers leave. The analysis was conducted using Python libraries such as Pandas, Seaborn, and Matplotlib to visualize trends and correlations across various customer segments.

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1. **Overall Churn Rate**:

   ○ Approximately **26.54%** of the customers in the dataset have **churned**, while **73.46%** have stayed. This indicates that more than one-fourth of the customer base is being lost, representing a significant business concern.

2. **Tenure vs. Churn**:

   ○ A sharp contrast is observed in customer behavior based on **tenure**:

      ■ Customers who have stayed with the company for **less than 2 months** show a **much higher churn rate**.

      ■ In contrast, **long-tenured customers (more than 2 years)** have a **markedly lower churn rate**, indicating higher brand loyalty or satisfaction.

   ○ This suggests the **onboarding experience and early months are critical** for customer retention.

3. **Contract Type Impact**:

   ○ **Customers on month-to-month contracts** are the most likely to churn.

      ■ Visual analysis shows that a **large majority of churned customers** fall into this category.

   ○ In comparison:

      ■ Customers with **1-year or 2-year contracts** exhibit **significantly lower churn rates**.

      ■ Promoting long-term contracts with benefits or discounts could help reduce churn.

4. **Payment Method Behavior**:

- Among all payment methods, **electronic check users** have the **highest churn rate**.

    - This may imply issues with transaction reliability, user trust, or convenience.

- Other methods like **credit cards or bank transfers** are associated with better retention.

5. **Demographic Segments**:

    - **Senior citizens (age 65+)** show a **higher churn percentage** compared to non-senior customers.

        - This could be due to unmet service expectations or a lack of tailored offerings.

        - Targeted campaigns and better customer service support might improve retention in this group.

6. **Gender Factor**:

    - No major difference in churn behavior between **male and female** customers was observed.

        - Churn rates are fairly balanced across gender, indicating other features hold stronger predictive power.