Executive Summary – Customer Churn Analysis

This analysis examines customer churn behavior to identify key factors contributing to customer attrition and to support data-driven retention strategies. After preprocessing the data—handling missing *Total Charges* values for zero-tenure customers and transforming categorical variables like *Senior Citizen* into readable formats—multiple visualizations were created to uncover meaningful churn patterns.

Overall Churn Rate

- The total churn rate is **26.54%**, meaning **approximately 1 in every 4 customers** has discontinued the service.

- The retention rate stands at **73.46%**, indicating that while most customers stay, a significant portion is at risk.

This level of churn highlights a **moderate-to-high attrition problem** that directly impacts revenue and customer lifetime value.

Churn by Customer Demographics

Senior Citizen Status

- **Senior citizens churn at a noticeably higher percentage** compared to non-senior customers.

- Although senior citizens represent a **smaller share of the total customer base**, they contribute a **disproportionately higher churn percentage**.

- This makes **senior customers a high-risk churn segment**.

Churn Rate by Tenure

- Customers with **0–12 months of tenure account for the highest churn percentage**.

- Churn decreases sharply as tenure increases:

  - **New customers** show the **highest likelihood of churn**

  - Customers with **36+ months tenure** demonstrate **strong retention and minimal churn**

- This indicates that the **first year is the most critical period** for customer retention.

Service-Based Churn Analysis

- Customers **not subscribed to services** such as Online Security, Tech Support, or Device Protection show **significantly higher churn percentages**.

- Customers using **multiple services** have **lower churn rates**, indicating higher engagement and satisfaction.

- Lack of add-on services strongly correlates with churn, suggesting **lower perceived value** among these users.

Contract & Payment Method Insights

- Customers on **month-to-month contracts contribute the highest share of churn cases**.

- In contrast:

  - **1-year contract customers show substantially lower churn**

  - **2-year contract customers have the lowest churn percentage**

- This highlights that **long-term contracts reduce churn risk significantly**.

Key Insights (Highlighted)

- **26.54% overall churn rate** indicates a major retention opportunity

- **Highest churn occurs within the first 12 months**

- **Senior citizens churn more despite being fewer in number**

- **Month-to-month contracts dominate churn cases**

- **Customers with fewer services are more likely to churn**

Conclusion & Business Recommendations

The analysis clearly shows that churn is driven by identifiable factors rather than randomness. Focusing on **early-stage customer engagement**, promoting **long-term contracts**, encouraging **service bundling**, and designing **targeted retention programs for senior citizens** can significantly reduce churn and improve long-term business performance.