📊 Executive Summary: In-Depth Customer Churn Analysis

This analysis examines customer churn behavior using a dataset of **7,043 telecom users**, aiming to identify trends and key factors that contribute to customer loss. Through a combination of exploratory data analysis and visual storytelling, several actionable insights have been derived to help improve customer retention strategies.

🔍 Key Findings and Insights

◆ 1. Overall Churn Rate

- Out of 7,043 customers, **1,869 customers have churned**, which represents a churn rate of **26.54%**.

- This figure signals a significant attrition issue—**more than 1 in every 4 customers** leaves the service.

◆ 2. Tenure and Customer Loyalty

- Customers with **tenure less than 6 months** contribute **nearly 45%** of the total churned users.

- In contrast, customers who have stayed for **more than 24 months** account for **less than 10%** of churned customers.

- **Interpretation:**
  Customers who do not establish early satisfaction or loyalty are more likely to leave. The longer customers stay, the less likely they are to churn.

◆ 3. Contract Type and Churn Behavior

- Among customers on **month-to-month contracts**, **42% have churned**.

- For **one-year contracts**, the churn rate drops to **11%**.

- For **two-year contracts**, it's even lower—just **3.9%**.

- **Interpretation:**
  Short-term contracts correlate strongly with higher churn. Offering better value or rewards for long-term commitments could stabilize the customer base.

- ◆ **4. Age & Demographic Sensitivity: Senior Citizens**

- **Senior Citizens** make up **16.2%** of the dataset, but contribute **26%** of churn cases.

- **Churn rate for senior citizens: 41.7%**

- **Churn rate for non-senior citizens: 24.5%**

- **Interpretation:**
  Seniors are disproportionately churning, potentially due to usability issues, insufficient support, or perceived lack of value.

- ◆ **5. Internet and Add-on Service Impact**

- Customers with **OnlineSecurity enabled** have a **churn rate of only 15.1%**, while those without it churn at **36.9%**.

- Similar patterns were seen for:

  - **TechSupport** users: churn rate **17.9%**

  - **OnlineBackup** users: churn rate **21.5%**

  - **StreamingTV** users: churn rate **29.4%**

- **Interpretation:**
  Customers who are more engaged through additional services are more likely to stay. Upselling meaningful services may increase retention.

- ◆ **6. Internet Service Type**

  - ● **Fiber optic users** have the **highest churn rate** at **41%**, compared to **DSL users at 19%**.

  - ● **No internet service**: churn rate is **7.7%**

  - ● **Interpretation:**
    Although fiber optics may suggest higher performance, it may come with cost or technical concerns. Managing fiber optic customer satisfaction is crucial.

- ◆ **7. Payment Method Patterns**

  - ● Customers paying via **Electronic Check** churn at a staggering **45.5%**, far higher than other methods:

    - ○ **Bank Transfer (automatic):** 15.2%

    - ○ **Credit Card (automatic):** 16.1%

    - ○ **Mailed Check:** 19.8%

  - ● **Interpretation:**
    Electronic check users tend to churn more—possibly indicating lower satisfaction or financial uncertainty. Promoting auto-payments might reduce churn.

- ◆ **8. Monthly Charges and Churn**

  - ● Customers with **monthly charges above $80** have a churn rate of **41.2%**, while those paying **below $50** churn at only **17.5%**.

  - ● **Interpretation:**
    High billing may not be perceived as justified. There's a need to assess pricing models and ensure customers understand the value for money.

✅ Strategic Recommendations

1. **Onboard New Customers Carefully:**

   ○ Design an effective onboarding flow for the first 6 months.

   ○ Introduce loyalty perks or trial services in the early stages.

2. **Promote Long-Term Contracts:**

   ○ Incentivize longer contracts with discounted rates or exclusive services.

3. **Support for Senior Citizens:**

   ○ Provide simplified plans or a concierge service for elderly users.

   ○ Consider digital literacy campaigns or hands-on customer support.

4. **Increase Engagement via Service Bundling:**

   ○ Highlight benefits of services like OnlineSecurity and TechSupport.

   ○ Offer bundled packages to increase feature adoption and stickiness.

5. **Transition to Secure Auto-Payments:**

   ○ Encourage customers to switch from electronic checks to auto-pay options.

   ○ Use nudges or small rewards for auto-payment signups.

6. **Review High-Priced Customer Segments:**

   ○ Target high-bill users with value communication or loyalty plans.

   ○ Offer bill transparency tools or personalized usage tips.