Summary and Recommendations

Objective

This analysis aims to understand the key drivers behind customer churn by examining customer behavior across multiple dimensions such as contract duration, payment methods, tenure length, service type, and demographic factors. The objective is to identify high-risk customer segments and suggest actionable strategies to improve customer retention.

Key Findings

1. Contract Type and Churn Behavior

Customers subscribed to **month-to-month contracts show the highest likelihood of churn**. Nearly **42%** of customers under this contract type discontinue the service. In contrast, customers with **one-year contracts show a churn rate of around 11%**, while those on **two-year contracts have the lowest churn rate at approximately 3%**.

Insight: Longer contractual commitments significantly reduce customer exit rates, indicating that contract stability plays a major role in retention.

2. Payment Method Impact on Churn

Payment preferences reveal a strong relationship with churn patterns. Customers using **electronic check payments experience the highest churn rate at about 45%**. Meanwhile, customers paying through **credit cards, bank transfers, or mailed checks exhibit much lower churn rates, typically ranging between 15% and 18%**.

Insight: Electronic check payments may be associated with lower trust, inconvenience, or inconsistent billing experiences, making these users more likely to leave.

3. Churn Trends Based on Customer Tenure

Customer tenure is one of the strongest predictors of churn. Customers with **less than one year of association show a churn rate close to 50%**. This rate decreases steadily with time — customers with **1–3 years of tenure churn at around 35%**, while customers retained for **over three years show a much lower churn rate of nearly 15%**.

Insight: The early phase of the customer lifecycle is the most vulnerable period for churn, emphasizing the importance of onboarding and early engagement.

4. Internet Service Type and Churn

Customers subscribed to **Fiber Optic services demonstrate a higher churn rate of approximately 30%**, whereas **DSL users show a relatively lower churn rate of around 20%**.

Insight: Higher churn among fiber optic users could indicate competitive alternatives, pricing concerns, or unmet performance expectations.

5. Senior Citizen Churn Analysis

The data indicates that **senior citizens (65+) churn at a rate of nearly 41%**, while **non-senior customers show a lower churn rate of about 26%**.

Insight: Age-specific challenges such as usability, service support, or pricing sensitivity may be contributing to higher churn among senior customers.

Visualization-Driven Observations

- Bar charts comparing churn by **payment method** clearly highlight electronic check users as the most churn-prone group.
- Line and trend plots based on **tenure** show a consistent decline in churn probability as customer experience with the company increases.
- Contract-based visualizations reinforce the strong inverse relationship between contract duration and churn rate.

Percentage Snapshot Summary

- **Payment Method:**
    - Electronic Check → ~45% churn
    - Credit Card / Bank Transfer → ~15% churn

- **Contract Type:**
    - Month-to-Month → ~42% churn
    - One-Year → ~11% churn
    - Two-Year → ~3% churn
- **Tenure:**
    - < 1 Year → ~50% churn
    - 3 Years → ~15% churn

Recommendations

- **Encourage Long-Term Contracts:** Introduce discounts or loyalty benefits for customers choosing yearly or multi-year plans.
- **Optimize Payment Methods:** Motivate customers to switch from electronic checks to more reliable digital payment options.
- **Strengthen Early Engagement:** Focus on onboarding, support, and incentives during the first year of service.
- **Target Senior Customers:** Design simplified plans, personalized assistance, and dedicated support for senior citizens.