

# Summary and Recommendation

## Key Insights from the Notebook Analysis

### 1. Customer Churn Overview:

- A total of **26.54% of customers** (approximately 1 in 4) have churned.
- **Senior citizens** exhibit a disproportionately high churn rate, making them a key demographic for targeted retention strategies.

### 2. Contract Types and Churn:

- Customers on **month-to-month contracts** account for the majority of churn, with over **40% churn rate** within this group.
- In contrast, customers with **one-year contracts** churn at a significantly lower rate of around **11%**, and those with **two-year contracts** at **3.9%**.
- The lack of long-term commitment appears to drive higher churn in flexible, short-term contracts.

### 3. Service Usage and Churn:

- **Internet service type** strongly correlates with churn.
  - Customers with **fiber-optic internet** show a churn rate of **30%**, likely due to reliability or cost issues.
  - Customers with **DSL services** have a lower churn rate of **13%**, indicating more satisfaction with this service type.
- **Add-on services** like tech support, online security, and backup services reduce churn rates.
  - For instance, customers who subscribe to tech support churn at a rate of **15%**, compared to **28%** for those without it.

### 4. Demographics and Churn:

- **Senior citizens** are **15% more likely to churn** compared to non-senior customers.
- Customers without dependents (single individuals) churn at a rate of **31%**, while customers with families churn at **21%**, suggesting that personal factors and family commitments influence loyalty.

### 5. Payment Methods and Churn:

- Payment methods significantly impact churn rates.
  - Customers using **electronic checks** churn at **42%**, compared to only **16%** for those using automated methods like credit cards or bank transfers.
- Automated payments offer convenience and may foster longer-term relationships with the service provider.

## Recommendations:

### 1. Retention Strategies for Senior Citizens:

- Offer senior-specific loyalty programs or bundled deals to address cost sensitivities.
- Provide personalized customer service to ensure their needs are met.
- 2. Incentivize Long-Term Contracts:**
  - Promote discounts or rewards for customers transitioning to one- or two-year contracts.
  - Highlight the cost savings and benefits of stability in promotional campaigns.
- 3. Improve Fiber-Optic Services:**
  - Investigate and address pain points, such as reliability and pricing.
  - Offer add-ons (e.g., free tech support or discounted online security) for fiber-optic users to increase satisfaction.
- 4. Encourage Automated Payments:**
  - Provide incentives, like discounts or rewards, for customers switching to automated payment methods.
  - Simplify the process for transitioning to automated payments through app or customer service support.
- 5. Upsell Add-On Services:**
  - Market the benefits of tech support, online security, and other add-ons to reduce churn risk among existing customers.

By targeting these critical areas, the company can significantly reduce churn and improve customer retention rates.