

# SUMMARY AND RECOMMENDATIONS

**Objective :** The analysis primarily investigates the factors influencing customer churn, particularly focusing on payment methods and contract types.

## Key Insights:

### 1. Customer Demographics:

- **Senior Citizens** make up about **16%** of the customer base, and they have a **churn rate of 42%**, significantly higher than non-senior citizens.
- Customers with **partners** tend to churn less (churn rate: **20%**), whereas customers without partners exhibit a higher churn rate of **30%**.
- **Gender** does not have a significant impact on churn, as churn rates for **male** and **female** customers are nearly equal (around **26%** each).

### 2. Service Usage:

- **PhoneService** is used by almost all customers, with **90%** opting for it. However, there is little correlation between having PhoneService and churn rates.
- Customers using **Fiber Optic Internet** services show a higher churn rate (**40%**) compared to those using **DSL (25%)**.
- Customers without **Internet Service** have the lowest churn rates (around **7%**), which is likely due to fewer opportunities for dissatisfaction or service disruption.

### 3. Contract Types and Payment Methods:

- **Month-to-month contracts** have the highest churn rate at **43%**, compared to **11%** for customers on a **one-year** contract and **3%** for those on a **two-year** contract. This suggests that shorter contracts lead to higher customer volatility.
- Customers with **paperless billing** are **30% more likely** to churn compared to those with traditional billing methods.
- **Electronic check payments** have a churn rate of **45%**, which is much higher than churn rates for customers using credit cards or bank transfers (around **16-20%**).

### 4. Churn Behavior:

- Overall, the churn rate across the dataset is **26.5%**, indicating that about one in four customers leaves the service.
- A breakdown of churn by **contract type** and **internet service** shows that those with **month-to-month contracts** and **fiber optic internet** are the most at-risk segments.

## Key Drivers of Churn:

### 1. Contract Type:

- **43%** of customers on month-to-month contracts churn, which is significantly higher than customers on longer-term contracts (one-year: **11%**, two-year: **3%**).

These short-term contracts lead to more frequent switching, indicating that offering incentives for longer contracts could improve retention

2. **Senior Citizens:**

- Senior citizens have a churn rate of **42%**, compared to **22%** for younger customers. This may be due to higher sensitivity to price and possibly less digital engagement with services like **online security** and **tech support**.

3. **Services Engagement:**

- Customers who do not subscribe to **Online Security** or **Tech Support** services have a churn rate of **40%**. In contrast, customers who subscribe to these services churn at a significantly lower rate of **15%**. This suggests that these services add value and contribute to retention.

4. **Internet Service:**

- **Fiber optic internet** users are more prone to churn (**40%**) compared to **DSL users** (churn rate: **25%**). This may indicate dissatisfaction with fiber-optic service performance or pricing, pointing to a need for quality improvements or better value offerings in this segment.

## Visual Insights (from Charts):

- **Bar charts** display the churn rate by **contract type**, highlighting that **month-to-month contract customers** have the highest churn.
- **Pie charts** on service categories show that the lack of engagement in **value-added services** like **Online Security Tech Support** leads to a higher propensity for churn.
- A **stacked bar chart** comparing **internet services** reinforces that **fiber optic users** face the highest churn risk, suggesting this should be a focus area for improvement.

## Recommendations:

1. **Incentivize Long-Term Contracts:**

- Given that customers with month-to-month contracts have a **43%** churn rate, offering **discounts** or **exclusive benefits** for upgrading to annual or two-year contracts could improve customer retention significantly.

2. **Promote Add-On Services:**

- Customers using **Online Security** and **Tech Support** services churn less (**15% churn rate**). By bundling these services or offering them at a reduced rate for new customers, you can potentially lower churn.

3. **Focus on Senior Citizens:**

- With a **42% churn rate**, senior citizens are a key at-risk demographic. Offering personalized service packages, simplifying billing options, or creating more accessible support could reduce churn among this group.

4. **Improve Fiber Optic Services:**

- **40% churn** among fiber optic customers highlights a need to enhance the service quality or address pricing concerns. A **customer feedback survey** might help identify specific pain points leading to this high churn rate.

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This analysis provides key insights into churn behavior, with actionable recommendations for reducing churn by focusing on contract types, value-added services, and specific customer segments like **senior citizens** and **fiber optic users**. By implementing these strategies, the business can improve customer retention and increase overall revenue.