

# Summary and Recommendation

## 1. Overall Churn Overview

- **Total Customers:** 7,043
- **Total Churned:** 1,869
- **Churn Rate:** 25.54%

This means **1 out of every 4 customers leaves the company**, signaling a major retention concern.

## 2. Demographic Breakdown

### a. Gender vs Churn

- Male Churn: ~26%
- Female Churn: ~25%

#### Interpretation:

There is **no meaningful churn difference** between genders. Gender is *not* a predictive feature for customer retention.

### b. Senior Citizen Status

- Senior Citizens Churn: ~42%
- Non-Senior Citizens Churn: ~23%

#### Key Insight:

Senior citizens churn **nearly twice as much** as younger customers.

Possible drivers: affordability issues, digital service challenges, or service relevance.

## 3. Tenure Influence on Churn

Your histogram clearly shows:

- Customers with **1–2 months tenure** churn at the **highest rate**, often exceeding **60%+**.
- Churn drops sharply after 6 months.
- Customers with **more than 2 years tenure** have churn rates below **10%**.

#### **Interpretation:**

Early-stage experience is the biggest factor.

Most customers who churn do so **within the first few months**, indicating poor onboarding, unmet expectations, or pricing dissatisfaction.

## **4. Contract Type & Churn**

This is one of the strongest predictors in the dataset.

### **Month-to-Month Contract**

- Makes up: ~55% of the customer base
- Churn Rate: **43%**

### **One-Year Contract**

- Churn Rate: **~11%**

### **Two-Year Contract**

- Churn Rate: **~3%**

#### **Interpretation:**

- Month-to-month customers are **14 times more likely** to churn than two-year contract customers.
- Long-term contracts create stickiness and reduce churn drastically.
- Price sensitivity and lack of commitment drive short-term customers to leave quickly.

## **5. Service Usage Patterns & Churn**

From your multi-plot service comparison:

## Phone Service

- Phone-service users churn less (~25%) than those without phone service (~31%).
- Customers without essential services tend to leave more.

## Internet Service

- Fiber-optic customers have **significantly higher churn (~41%)** than DSL users (~19%).
- “No internet service” category has the **lowest churn (~8%)**.

### Interpretation:

- Fiber users likely face issues with pricing or performance.
- DSL customers are more stable.
- Customers with no internet service are often fixed-line users with lower dissatisfaction.

## Add-on Services (Online Backup, Security, Device Protection, Tech Support)

Across multiple subplots:

- Customers **without these add-ons** show **higher churn**, typically **32–40%**.
- Customers **with these services** show lower churn, usually **15–20%**.

### Interpretation:

Service bundling leads to deeper engagement and lower churn.

Cross-selling security and support services may reduce churn further.

# 6. Key Customer Segments Most Likely to Churn

Based on your charts, the highest-risk customers are:

1. **Month-to-month customers**

2. **Tenure < 6 months**
3. **Senior citizens**
4. **Fiber-optic internet users**
5. **Customers with fewer add-on services**
6. **Customers without tech support / online protection**

This combination results in churn rates exceeding **40–60%** in some segments.

## 7. High-Level Recommendations

### 1. Improve Onboarding for New Customers

Target the first 3 months with:

- Personalized follow-ups
- Discounted introductory offers
- Setup support

### 2. Push for Longer-Term Contracts

Offer:

- Discounts for 1-year & 2-year plans
- Value-added service bundles

### 3. Improve Fiber-Optic Customer Experience

- Investigate performance or pricing issues
- Offer competitive upgrade or retention plans

### 4. Promote Add-on Services

Security, backup, and tech support services correlate with **15–20% lower churn**.

This analysis reveals that **churn is driven primarily by contract length, tenure, and service usage**, not gender. The churn rate is **25.54%**, but jumps to **43%** for month-to-month customers and **over 60%** for new users with low tenure. Senior citizens and fiber-optic users are also highly vulnerable segments. Customers who use bundled services and long-term contracts churn significantly less. Focusing on onboarding, service quality improvements, and contract conversions could materially reduce churn.