

# Customer Churn Analysis Report

## Introduction

Customer churn refers to the percentage of customers who stop using a company's product or service over a given period. Understanding churn is essential for improving customer retention, optimizing business strategies, and enhancing user satisfaction. This report analyzes customer churn using demographic, service-related, and billing information.

## Dataset Overview

- **Total Customers:** 7,043
- **Churned Customers:** 1,869 (~26.5%)
- **Non-Churned Customers:** 5,174 (~73.5%)
- **Key Features:**
  - **Demographics:** Gender, Senior Citizen status
  - **Subscription Details:** Internet Service, Streaming, Tech Support
  - **Billing & Tenure:** Payment Method, Monthly Charges, Tenure

## Exploratory Data Analysis (EDA)

### Churn Distribution

- **Overall churn rate is 26.5%, meaning about 1 in 4 customers leave the service.**
- A significant proportion of customers (73.5%) continue their subscriptions.

### Churn by Customer Tenure

- **High churn among new customers:**
  - Customers with **0-12 months of tenure** have the highest churn rate (~61.5%).
  - This suggests that early customer experience plays a key role in retention.
- **Longer-tenured customers tend to stay:**
  - **13-24 months:** ~25.3% churn
  - **25-48 months:** ~15.5% churn
  - **49-72 months:** ~10.2% churn
  - **73+ months:** ~4.8% churn

### Churn by Monthly Charges

- **Higher Monthly Charges = Higher Churn Risk**
  - **Customers paying \$90+ per month** have the highest churn (~41.1%).
  - Those in the **\$60-90 range** also show significant churn (~27.8%).

- **Lower Monthly Charges = More Stability**
  - Customers paying **\$0-30 per month** have the lowest churn (~10.1%).
  - The **\$30-60 range** churn rate is **moderate (19.2%)**.

## Churn by Payment Method

- **Electronic Check users have the highest churn rate (~45.6%)**
  - This may indicate a lack of trust, hidden fees, or inconvenience with this method.
- **Bank Transfer & Credit Card users have lower churn (~16-17%)**
- **Mailed Check customers churn at a moderate rate (~23.3%)**

## Churn by Internet Service Type

- Customers using **Fiber Optic Internet** have **higher churn (~42.2%)** compared to DSL users.
- **Customers without Internet Service have the lowest churn (~7.4%)**, likely because they have fewer contract commitments.

## Churn by Additional Services

- Customers who **do not** subscribe to **Tech Support or Online Security** have a **higher churn rate (~38-40%)**.
- Those who **have Tech Support or Online Security** show **lower churn (~14-18%)**.
- **Streaming Services (TV & Movies)** have **minimal impact** on churn.

# Key Takeaways & Recommendations

## Retention Strategy for New Customers

- **High churn occurs within the first 12 months (61.5%)**.
- Implement **customer onboarding programs**, tutorials, and proactive customer support.

## Pricing Adjustments

- **Higher monthly charges lead to increased churn.**
- Consider introducing **discounted retention plans** for high-paying customers.

## Addressing Payment Method Issues

- **Electronic Check users churn at nearly 2x the rate of other payment types.**
- Encourage customers to switch to **Credit Card or Bank Transfer for stability.**

## Importance of Support & Security Features

- Customers with **Tech Support & Online Security** have **lower churn (~14-18%)**.

- Offering **discounted security add-ons** could help in reducing churn.

## Conclusion

This analysis reveals that **early-stage customer engagement, pricing structure, and payment convenience are key factors influencing churn**. Companies can reduce churn by improving customer experience in the first year, optimizing pricing for high-paying customers, and encouraging secure payment methods.