

# **Customer Churn Analysis**

## **Summary and Recommendations**

### **Objective**

The objective of this analysis is to understand the factors contributing to customer churn within the telecom dataset. By identifying patterns related to demographics, tenure, services, and payment methods, the goal is to provide actionable insights that help reduce churn and improve customer satisfaction.

### **Methodology**

- Data was analyzed using descriptive statistics and visualizations such as pie charts and countplots.
- Key customer attributes like **Senior Citizen status**, **tenure**, **contract type**, **service usage**, **internet service**, and **payment methods** were examined.
- Churn patterns were explored both in terms of absolute numbers and percentages relative to the total customer base.
- Trends were identified by comparing churned vs retained customers across different segments.

### **Key Results**

#### **1. Churn Overview**

- Out of the total customer base, **26.54% of customers** have churned, meaning more than one in four customers discontinued the service. This churn rate signals potential areas of concern that require strategic intervention.

#### **2. Demographic Insights – Senior Citizens**

- A higher churn rate is observed among **senior citizen customers**, indicating that they are disproportionately leaving the service compared to other groups.
- This suggests a need to tailor engagement strategies specifically for senior customers, possibly through improved support services or customized offers.

#### **3. Tenure and Contract Influence**

- **Customers with shorter tenures (1–2 months)** are far more likely to churn, accounting for a significant portion of the churned population.

- **Month-to-month contracts** also contribute heavily to churn. Customers on such contracts are **significantly more likely to leave** compared to those on annual or biennial contracts.
- Recommendation: Introducing loyalty programs or incentives for long-term plans could help stabilize this segment.

#### 4. Service Offerings and Their Impact

The absence or limited availability of additional services is strongly associated with higher churn rates:

- **Tech Support:** Customers without tech support services are churn-prone. The lack of assistance during technical issues likely causes dissatisfaction.
- **Device Protection:** Those not opting for device protection are at higher risk of leaving, possibly due to fears of unforeseen expenses.
- **Streaming Services (TV and Movies):** Customers without entertainment services are less engaged and more likely to churn.

These trends underline that bundling essential and entertainment services could improve customer loyalty.

#### 5. Internet Service Type and Churn

- Customers using **DSL (Digital Subscriber Line)** and **Fiber optic connections** are more likely to stay with the service.
- Conversely, customers with **no internet service** show a churn rate significantly higher than average.
- **Internet availability** is a key factor in customer satisfaction and retention, making infrastructure expansion or bundling with internet services a priority.

#### 6. Payment Methods and Churn

- **Electronic check payments** are linked to higher churn, with these customers showing a marked departure trend compared to those using credit cards or other payment methods.
- This may point to billing reliability concerns or preferences for more automated payment systems.
- Recommendation: Encouraging customers to shift toward more secure, automated payment methods could reduce churn.

## 7. Behavioral Insights

- Customers who are **newer to the service** or using **limited packages** are at a higher risk of leaving.
- Engagement through personalized communication, service enhancements, and flexible plans can help build trust and loyalty.

### **Conclusions**

The analysis highlights that customer churn is significantly influenced by service availability, contract duration, demographic factors, and payment methods. Customers who are newer, underserved, or less engaged are at a higher risk of leaving the service.

### **Recommendations**

#### 1. **Targeted Retention Programs:**

- Focus on senior citizens and short-tenure customers through personalized offers and proactive communication.

#### 2. **Service Bundling:**

- Offer packages that include tech support, device protection, and entertainment services to enhance value and reduce churn.

#### 3. **Incentivize Long-Term Plans:**

- Provide discounts or loyalty benefits to encourage customers to shift from month-to-month contracts to longer commitments.

#### 4. **Improve Internet Accessibility:**

- Expand DSL and Fiber optic availability or bundle internet services to meet customer demands.

#### 5. **Optimize Payment Methods:**

- Promote secure and automated payment methods to build trust and reduce churn associated with manual billing processes.