

# TELCO CUSTOMER CHURN DATA ANALYSIS

## Objective

This report provides a detailed analysis of customer churn in the telecom industry, with a focus on understanding key factors that contribute to customer attrition. The analysis is based on demographic and service usage data, and it reveals significant insights into why customers leave the company.

## 1.2 Overview of the Dataset

The dataset contains key information about customer demographics and services offered, focusing on identifying potential reasons for customer churn. The primary goal is to explore which factors contribute the most to churn and to understand the distribution of customer churn across different services.

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## 2. Churn Distribution:

A pie chart was used to represent the **percentage of customers who have churned** versus those who have not.

- **Churned Customers:** 26.54%
- **Non-Churned Customers:** 73.46%

### Insight:

More than a quarter of the customer base (26.54%) has churned, indicating that customer retention is a significant concern. This is a clear indicator that further investigation into the factors contributing to churn is necessary.

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## 3. Tenure Analysis:

The distribution of **customer tenure** (the length of time a customer has been with the company) was analyzed to assess if the duration with the company influences churn behavior.

- **Insight:**  
Customers with **shorter tenure** (i.e., less than 20 months) show a higher likelihood of churn. This suggests that newer customers may require additional focus, such as better onboarding, customer service, or promotional retention strategies.
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## 4. Monthly Charges and Churn:

**Monthly charges** were visualized to understand their impact on churn.

- **High Monthly Charges and Churn:**  
Customers who pay **higher monthly charges** appear to churn more frequently than those

with lower charges. This can be attributed to pricing dissatisfaction or a perception of not receiving adequate value for the cost.

- **Insight:**  
Price sensitivity seems to be a driving factor for churn, with customers in the higher pricing brackets (e.g., over \$70 per month) churning more often than those in lower brackets.

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## 5. Service-Based Analysis and Churn

Subplots were generated to analyze the relationship between various service options and churn:

### Phone Services:

- **Insight:**  
A high percentage of customers with phone services do not churn. However, customers without phone service show slightly higher churn rates.

### Online Security:

- **Insight:**  
Customers without online security services are more likely to churn (over 50%). Providing online security as part of a bundled package could help retain customers.

### Online Backup:

- **Insight:**  
Similar to online security, the lack of an online backup service corresponds with a higher churn rate. Customers who have online backup are less likely to churn.

### Device Protection:

- **Insight:**  
Device protection does not show a very strong correlation with churn. However, customers with this service are slightly less likely to churn than those without.

### Tech Support:

- **Insight:**  
A clear correlation between churn and lack of tech support was observed. Customers without tech support are more likely to leave. Offering tech support packages or enhancing the customer service experience could help reduce churn.

### Streaming Services (TV & Movies):

- **Insight:**  
Customers who do not have streaming services are slightly more likely to churn compared to those who do. However, the difference here is less significant than other services.

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## 6. Percentage-Based Insights Summary:

- **Tenure:** Customers with tenure less than 20 months are **30% more likely** to churn compared to longer-term customers.

- **Monthly Charges:**  
Customers in the higher pricing brackets (over \$70 per month) are **40% more likely** to churn compared to those in lower brackets.
  - **Online Security:**  
Over **50% of customers without online security** are more likely to churn.
  - **Tech Support:**  
Customers without tech support are **35% more likely** to churn compared to those with support.
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## 7. Recommendations Based on Analysis

1. **Retention Focus for Newer Customers:**  
Customers with a tenure below 20 months are highly likely to churn. Implement targeted strategies such as onboarding programs, retention campaigns, and discounts for newer customers to improve retention.
  2. **Address Pricing Sensitivity:**  
Since customers with higher monthly charges are more likely to churn, it would be beneficial to review pricing strategies. Offering discounts, value-added services, or flexible payment plans could improve retention in this group.
  3. **Enhance Service Offerings:**  
Encourage customers to subscribe to online security, backup, and tech support services. These services have been shown to reduce churn rates. Offering them as part of a bundled package could help to retain customers.
  4. **Focus on Streaming Services:**  
While the impact of streaming services on churn is less significant, promoting them as part of a holistic entertainment package could still improve overall customer satisfaction and retention.
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## Conclusion

The analysis reveals that multiple factors contribute to customer churn, including tenure, monthly charges, and service subscriptions. By addressing these issues through targeted interventions, such as improved pricing models and better service packages, the company can reduce churn and improve overall customer satisfaction.