



Telco-Customer Churn Analysis Report

1. Executive Summary

This report analyzes **customer churn drivers** for a telecommunications company, uncovering key trends and providing **data-driven recommendations** to improve retention.

Key Findings:

- **Churn Rate:** 26.5% of customers churn.
- **High-Risk Customers:**
 - **Short-tenure customers (0–20 months)** have high churn rates.
 - **Customers with high MonthlyCharges (\$80+)** churn more frequently.
 - **Month-to-month contract users** are at higher churn risk.
 - **Electronic check payment users** exhibit the highest churn.
 - **Customers without OnlineSecurity & TechSupport churn more.**

Recommendations:

1. **Increase Long-Term Contracts** – Discounts for annual or two-year plans.
2. **Reduce High Monthly Charges Impact** – Loyalty discounts & tiered pricing.
3. **Improve Payment Experience** – Incentives for non-electronic check payments.
4. **Enhance Online Security & Tech Support Offerings** – Encourage adoption.
5. **Early-Stage Retention Programs** – Focus on **0–20 month** tenure customers.

2. Data Overview

- **Dataset Size:** 7,043 customers, 21 variables.
 - **Key Metrics:**
 - **Demographics:** *Gender, SeniorCitizen, Partner, Dependents.*
 - **Account Info:** *Tenure, Contract Type, Payment Method.*
 - **Usage:** *InternetService, OnlineSecurity, TechSupport.*
 - **Financials:** *MonthlyCharges, TotalCharges.*
 - **Target Variable:** *Churn (Yes/No).*
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3.Exploratory Data Analysis (EDA)

Churn Breakdown:

- **73.5% retained, 26.5% churned** → Indicates a moderate churn issue.

Key Objectives:

- 1. Tenure & Churn:**
 - Most churners have **less than 20 months** tenure.
 - **Retention improves significantly after 50 months.**
- 2. Monthly Charges & Churn:**
 - Higher churn among customers paying **\$80+ per month.**
- 3. Contract Type & Churn:**
 - **Month-to-month contracts have highest churn.**
 - Annual & two-year contracts significantly reduce churn.
- 4. Payment Method & Churn:**
 - Electronic check users churn the most.
- 5. Internet Service & Churn:**
 - **Fiber Optic users churn more than DSL users.**
 - Potential cost or service dissatisfaction issues.

4.Predictive Analysis

Key Churn Predictors (Feature Importance):

Rank	Feature	Importance (%)	Insight
1	TotalCharges	18.9%	High total spending = lower churn.
2	MonthlyCharges	17.8%	Higher charges = higher churn.
3	Tenure	15.7%	Longer tenure = lower churn.
4	Contract Type	7.9%	Month-to-month = high churn risk.
5	Payment Method	5.1%	Electronic check = highest churn.
6	Online Security	4.7%	Lack of security services = higher churn.
7	Tech Support	4.2%	No tech support = higher churn.

Model Performance:

- **Accuracy: 79.5%**
- **Strengths:** Identifies key churn drivers effectively.

- **Limitations:** Slightly less precise in predicting churners.
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5. Strategic Recommendations

1. Increasing Long-Term Contracts

- Offer discounts for **1-year & 2-year plans** to reduce churn risk.
- **Auto-renewal incentives** to improve contract commitment.

2. Address High Monthly Charges Sensitivity

- Introduce **tiered pricing plans** with lower-cost options.
- **Loyalty discounts** for long-term customers.

3. Improve Payment Experience

- **Incentivize auto-payments** (Credit Card/Bank Transfer over Electronic Check).
- Educate users on auto-payment benefits.

4. Promote Online Security & Tech Support

- Bundle services (Internet + Security/Support).
- Offer **free trials** to increase adoption.

5. Early Retention Focus on 0–20 Month Customers

- **Proactive outreach** within the first **3-6 months**.
 - **Personalized retention offers** for new users.
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6. Conclusion & Next Steps

This analysis identifies key churn drivers and **strategic actions** to improve retention. The company should **prioritize customer engagement in the early months** and **enhance service offerings** to increase loyalty.

Next Steps:

- ❖ Implement customer segmentation for **targeted retention campaigns**.
- ❖ Conduct **pricing optimization studies** to test impact on churn.
- ❖ Enhance **customer feedback mechanisms** for real-time insights.