

1. Executive Summary

This report analyzes customer churn patterns in a telecom dataset to identify key drivers of attrition and recommend retention strategies. Key findings include:

- **Overall churn rate:** [X]%
- **Top 3 churn drivers:** Fiber optic internet, lack of tech support, and month-to-month contracts.
- **Most loyal customers:** Those with long-term contracts and add-on services (e.g., online security).

Recommendations: Target high-risk customers with personalized discounts, improve fiber service reliability, and promote contract renewals.

2. Methodology

- **Dataset:** [TELECOM CHURN DATASET, e.g., "7,043 telecom customers with 20 features"].
- **Tools Used:** Python (Pandas, Seaborn, Scikit-learn), Google Colab.
- **Key Steps:**

1. Data cleaning (handled missing values, outliers).
2. Exploratory analysis (EDA) to compare churners vs. non-churners.
3. Feature importance analysis (logistic regression/random forest).

3. Key Insights

A. Demographics & Churn

- **Senior citizens** churn at [X]% (vs. [Y]% for younger customers).
- **Gender** has minimal impact on churn.

B. Service Impact on Churn

Insight

Highest churn; likely due to cost/reliability issues.

Critical for retention.

Bill shock may drive attrition.

C. Contract & Payment

- **Month-to-month contracts:** [X]% churn (vs. [Y]% for 1/2-year contracts).
- **Paperless billing users** churn more (potential UX issues).

4. Predictive Insights (Machine Learning)

- **Top 5 Features Predicting Churn:**

1. Contract type (monthly = high risk)
2. Internet service (fiber = high risk)
3. Tech support (lack of = high risk)
4. Monthly charges (higher = more churn)
5. Payment method (electronic check = high risk)

- **Model Accuracy:** [X]% (e.g., Random Forest achieved 82% precision).

5. Recommendations

Immediate Actions

1. **Target high-risk groups:**

- Offer discounts to fiber optic users.
- Free tech support trials for customers without it.

2. **Reduce contract flexibility:**

- Incentivize annual contracts (e.g., "Sign for 1 year, get 2 months free").

Long-Term Strategies

- **Improve fiber network reliability.**

- **Revamp paperless billing UX.**
- **Launch loyalty programs** (e.g., rewards for tenure).