



## Executive Summary – Customer Churn Analysis

This analysis focuses on customer churn patterns for a telecommunications company, using a dataset of 7,043 customer records with 21 attributes including services used, customer demographics, and billing details.

### Key Insights

- **Churn Rate:** A significant number of customers are on month-to-month contracts and are more likely to churn, especially when combined with paperless billing and electronic payment methods.
- **Service Factors:**
  - Customers without **online security**, **tech support**, or **device protection** showed higher churn rates.
  - Those using **Fiber Optic** internet were more likely to churn compared to DSL users, likely due to higher monthly charges.
- **Financial Correlation:**
  - Average monthly charges among churned customers were notably higher.
  - Churn is more frequent among customers with **lower tenure** (especially <12 months) and **lower total charges**, suggesting early-stage drop-offs.
- **Demographics:**
  - Senior citizens and customers with no dependents or partners showed slightly higher churn tendencies.



### Visuals Summary

Several well-constructed charts were included in the notebook:

- Bar plots of churn rate by contract type and internet service.
- Histograms comparing tenure and charges across churn statuses.
- Count plots for categorical features like gender, senior citizen status, and multiple lines.