

Executive Summary: Telco Customer Churn Analysis

Overview

This analysis explores customer churn patterns within a telecommunications dataset of **7,043 customers**. The key objective was to identify **drivers of customer churn (26.5%)** and provide actionable insights for retention strategies. Using advanced data visualization (bar charts, pie charts, and segmentation plots), we examined customer demographics, service usage, and billing preferences to uncover churn dynamics.

Key Insights

1. Churn Rate

- **26.54% of customers churned** (1 in 4 customers).
- Indicates significant revenue leakage requiring proactive intervention.

2. Demographics & Churn Behavior

- **Gender is not a strong predictor** – churn is fairly balanced across males and females.
- **Senior Citizens churn disproportionately more** compared to non-seniors, suggesting possible issues with service usability, pricing, or support for older customers.

3. Contract Type

- Customers on **month-to-month contracts** show the **highest churn rates**.
- Those with **1- or 2-year contracts** churn less, highlighting the retention value of long-term commitments.

4. Services Impact

- **Fiber optic internet users churn significantly more** than DSL users.
- **Lack of value-added services (e.g., online security, tech support)** correlates strongly with higher churn, implying unmet service expectations.

5. Billing & Payment

- Customers with **paperless billing and electronic checks** exhibit **higher churn rates**.
- Customers using **automatic payments (bank transfer/credit card)** show **greater loyalty**.

6. Tenure & Charges

- **Short-tenure customers (under 12 months)** are most likely to churn.
- Higher monthly charges without corresponding service satisfaction further increase churn risk.