Telecom Churn Analysis Project

Introduction

Overview of customer churn in the telecom industry:

- Customers can easily switch between providers, leading to high annual churn rates (15-25%).

- Customer retention is more cost-effective than acquisition, with costs being 5-10 times higher for new

Project Objective: Predict customer churn and analyze key factors influencing churn for a telecom

company.

Problem Statement

Defining Churn in Prepaid Telecom Services:

- Prepaid customers may stop using services without notice, making churn detection challenging.

- Focus on high-value customers (top 20% revenue contributors) as reducing their churn minimizes re

Goal: Predict churn and understand indicators for proactive retention strategies.

Understanding Churn Phases

Customer Churn Phases:

- Good Phase: Customer is satisfied with the service.

- Action Phase: Customer shows signs of dissatisfaction or interest in competitor offers.

- Churn Phase: Customer ceases usage (no calls or internet), indicating churn.

In this project, the first two months are the 'Good' phase, the third month is the 'Action' phase, and

the fourth month is the 'Churn' phase.

Dataset Overview

Data Span:

- Four-month data with months encoded as 6, 7, 8, and 9.

- Objective: Predict churn in month 9 using data from months 6-8.

Focus Market: Indian and Southeast Asian telecom markets where prepaid model dominates.

Data Preparation

Key Steps in Data Preparation:

- Filter high-value customers (top 30% based on recharge amounts).

- Tag churned customers (no activity in churn month for calls or internet).

- Exclude all churn month attributes from the training set.

Purpose: Train model on only relevant features while focusing on high-value customers.

Modeling Approach

Model Goals:

- Predict high-churn-risk customers for proactive retention strategies.

- Identify significant churn indicators to understand customer behavior.

Approach: Address class imbalance (low churn rate of 5-10%) and use logistic regression for feature importance, handling multicollinearity issues.

Key Indicators and Insights

Key Predictors of Churn:

- Analysis identifies critical variables that influence customer churn behavior.

- Visualizations (e.g., importance plots, tables) provide insights into feature impact on churn likelihood

Purpose: Guide retention strategies and inform customer support focus areas.

Recommendations

Recommendations to Reduce Churn:

- Personalized offers and loyalty rewards for high-risk customers.

- Monitoring indicators for early signs of churn in the 'action' phase.

- Improve customer satisfaction through responsive support and competitive offers.

Outcome: Increase retention among high-value customers, reducing revenue leakage.