

INTRODUCTION

- ▶ As a telecommunications company, we are facing challenges in retaining customers. Customer churn, defined as the rate at which customers stop doing business with a company, is a significant issue impacting revenue and profitability. To address this, we aim to build a customer churn prediction model that will help identify customers likely to leave and enable us to take proactive retention measures. The analysis uses historical customer data from SyriaTel to uncover patterns and insights that drive churn behavior and provide actionable strategies to improve customer retention.

BACKGROUND

- ▶ According to industry research, customer churn is one of the largest challenges for telecom companies, resulting in billions of dollars in lost revenue annually. High competition, price wars, and poor customer experience often lead to customer dissatisfaction. Telecom companies typically analyze customer demographics, service usage, and interactions with customer support to understand churn patterns. By identifying at-risk customers, businesses can implement strategies like loyalty programs, improved services, and better customer engagement. This project leverages historical customer behavior data to predict churn, reduce revenue loss, and ensure long-term business growth.

BUSINESS PROBLEM

- ▶ Customer churn results in significant revenue loss for telecommunications companies. SyriaTel currently faces increasing churn rates, which threaten its market position and financial stability. The primary challenge is to identify customers at risk of churning and determine the underlying factors contributing to churn. SyriaTel lacks a systematic approach to predict churn and retain customers, making it essential to leverage data analytics to build a churn prediction model. By addressing this problem, the company can reduce customer attrition, improve customer satisfaction, and increase profitability.

MODELING

- ▶ We performed three models:
- ▶ 1. Logistic regression and its accuracy score was around 85% while its f1-score was 27%
- ▶ 2. Decision tree and its accuracy score was 93% while its f1-score was 76%
- ▶ 3. Random Forest and its accuracy score was 94% while its f1-score was 77%
- ▶ Since Random forest classifier performed better than the other two in terms of accuracy score and also f1-score we decided to go with the random forest classifier as our final model for the project.

RECCOMENDATIONS

▶ Improve Customer Support:

▶ Address frequently raised complaints to improve customer satisfaction.

▶ Reduce response time and resolve issues proactively.

▶ Enhance Service Plans:

▶ Offer customized plans tailored to customer needs and preferences.

▶ Provide discounts or perks for customers on the verge of churning.

▶ Engage with At-Risk Customers:

▶ Use the predictive model to flag customers likely to churn.

▶ Implement targeted retention campaigns, such as loyalty rewards or personalized communications.

▶ Optimize Onboarding and Engagement:

▶ Focus on customers with shorter tenure or low engagement.

▶ Educate new customers about the full benefits of your services.

▶ Longer-Term Contracts:

▶ Incentivize customers to switch from monthly to annual contracts.