SRINIVAS UNIVERSITY INSTITUTE OF ENGINEERING AND TECHNOLOGY

MODULE 1

FOUNDATION OF AI

ASSIGNMENT 1

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CSE 'A'

4TH SEM

ASSIGNMENT 1

What is the business objective of telecom customer churn prediction?

Telecom Customer Churn Prediction

1. Business Objectives

- Identify customers who are likely to stop using the telecom service (churn).

- Reduce customer loss and improve retention.

- Increase revenue by keeping valuable customers.

Business Success Criteria

- Reduce churn rate by **15–20%**.

- Improve customer satisfaction score.

- Increase monthly recurring revenue.

2.Assess Situation

Requirements

- Accurate prediction of churn customers.

- Model should give results quickly for real-time offers.

Assumptions

- Past customer behavior predicts future churn.

- Available customer data is correct and complete.

Constraints

- Data privacy rules.

- Missing or incomplete customer records.

- Limited budget and time.

Costs and Benefits

Costs:

- Data storage and processing.

- Model development and maintenance.

- Skilled employees.

Benefits:

- Reduced customer loss.

- Better marketing strategy.

- Increased profit.

3. Determine Data Science Goals

Data Science Objectives (Technical View)

- Build a **classification model** to predict:

    - Churn (Yes)

    - Not Churn (No)

Data Science Tasks

- Data cleaning and preprocessing.

- Feature selection.

- Train ML models like Logistic Regression, Decision Tree, Random Forest.

Data Science Success Criteria

- High prediction accuracy.

- High recall for churn customers.

- Good precision to avoid wrong offers.

4. Produce Project Plan

Project Plan Overview

1. Business understanding – 1 week

2. Data collection – 2 weeks

3. Data preparation – 2 weeks

4. Model building – 3 weeks

5. Evaluation – 1 week

6. Deployment – 1 week

7. Monitoring – Continuous

Resources Needed

- Data scientists

- Telecom domain experts

- Cloud or server infrastructure

Tools & Techniques

- Python, Pandas, Scikit-learn

- SQL database

- Power BI / Tableau

Final Outcome

- **Customer Churn Prediction System** that helps telecom companies retain customers and increase profit.

DIAGRAM

Example: Telecom Customer Churn Prediction