Business Requirements Document: Customer Churn Predictive Model

1. Project Overview

1.1 Business Problem

The company is experiencing a high rate of customer churn, which is costly and impacts market share. It is currently cheaper to retain an existing customer than to acquire a new one, but our retention efforts are not targeted. We lack a data-driven way to identify *which* customers are at high risk of leaving and *why*.

1.2 Project Vision

To develop a predictive model that identifies customers at a high risk of churning. This model will power a new, proactive retention strategy, allowing us to target at-risk customers with specific interventions (e.g., special offers, support calls) to reduce the overall churn rate.

3. Business Objectives

This project will be considered a success if it achieves the following:

- Objective 1: Reduce the overall customer churn rate by 10% within 6 months of the model's implementation.
- Objective 2: Achieve a model accuracy of at least 75% in predicting customer churn.
- Objective 3: Identify the top 5 drivers (reasons) for customer churn to inform long-term product and pricing strategy.

4. Business Requirements

This section defines what the project must deliver.

- BR 1.0: Data Analysis:
    - BR 1.1: The system must identify the key demographic factors (e.g., Senior Citizen, Partner) correlated with churn.
    - BR 1.2: The system must analyze the relationship between churn and specific services (e.g., Internet Service, Tech Support).
    - BR 1.3: The system must identify the relationship between churn and contract/billing details (e.g., Contract type, Payment Method, Monthly Charges).
- BR 2.0: Predictive Model:
    - BR 2.1: The model must ingest customer data and output a "Churn Probability Score" (0-100%) for each active customer.
    - BR 2.2: The model must provide a list of the key features that contributed to its prediction (e.g., "High-risk because of Month-to-Month contract and low tenure").

- BR 3.0: Reporting:
    - BR 3.1: A final report (dashboard or presentation) must be created that visualizes the key drivers of churn.

5. Project Scope

- In-Scope:
    - Analysis of the provided `WA_Fn-UseC_-Telco-Customer-Churn.csv` dataset.
    - Data cleaning, visualization (EDA), and feature engineering.
    - Building and testing a machine learning pipeline (e.g., Logistic Regression, Decision Tree).
    - A final presentation deck with key insights and business recommendations.
- Out-of-Scope:
    - Implementation of the marketing campaigns.
    - Building a live, real-time "front-end" application for the model.
    - Integrating the model into the company's production CRM (this is a "Phase 2").

6. Key Success Metrics (KPIs)

- Primary KPI: Churn Rate (target: 10% reduction).
- Secondary KPIs:
    - **Model Performance**: Accuracy, Precision, and Recall.
    - **Business Performance:** Customer Retention Rate, Conversion rate on retention offers.