

Business Requirements Document (BRD)

Project Name: Project Sentinel: AI-Driven Retention & Revenue Recovery

Document Owner: Sakshi Narawade – Business Technology Systems Analyst

Version: 1.0 | **Date:** October 2023

Project Status: Requirements Phase

1. Executive Summary

1.1 Project Overview

Analysis of the California Telecommunications dataset (7,043 customers) identifies a critical "Service Gap" contributing to an overall churn rate of **26.54%**. The primary driver of revenue loss is the **Month-to-Month Fiber Optic** segment, which exhibits a **54.72% churn rate** when "Premium Tech Support" is absent.

Project Sentinel aims to build a predictive retention middleware that identifies high-risk customers in real-time and automates the deployment of "Offer A" (the highest performing retention offer with only **6.73% churn**) and technical support bundles to safeguard **\$2.49M in Monthly Recurring Revenue (MRR)**.

2. Business Goals & Objectives

ID	Objective	Success Metric (KPI)
OBJ-1	Reduce overall customer churn rate.	Decrease from 26.5% to 20.0% within 12 months.
OBJ-2	Target high-risk geographic hotspots.	Reduce churn in San Diego (64.9%) and Fallbrook (60.4%) by 15%.
OBJ-3	Increase "Premium Tech Support" adoption.	Transition 20% of M2M users to a support-bundled plan.

OBJ-4	Protect Revenue Leakage.	Recover \$350k+ of the \$2.49M revenue at risk in the M2M segment.
--------------	--------------------------	---

3. Stakeholders

- **Executive Sponsor:** Chief Revenue Officer (CRO)
- **Business Lead:** VP of Customer Success
- **Technical Lead:** Lead Systems Architect / Data Engineer
- **End Users:** Customer Retention Agents & Marketing Automation Team

4. Current State vs. Future State

4.1 Current State (The Problem)

- Churn is currently **reactive** (handled after the customer initiates cancellation).
- Marketing offers are generic; "Offer E" is widely used despite a **52.9% failure rate**.
- High-value Fiber Optic users are churning early (0-6 months) due to a lack of proactive technical support.

4.2 Future State (The Solution)

- A **proactive** system that flags customers based on "Risk Triggers" (Tenure, Contract, Service Type).
- Automated "Offer Migration" moving users from high-churn offers (E/D) to **Offer A/B**.
- CRM-integrated dashboards for agents showing a "Propensity to Churn" score.

5. Functional Business Requirements

These requirements define what the system must do based on the data findings.

5.1 Data Integration & Intelligence

- **BR-1.1:** The system shall ingest daily data from billing and support logs.
- **BR-1.2:** The system shall identify "High-Value" customers (Top 20% by Monthly Charges).
- **BR-1.3:** The system shall flag accounts in the "San Diego Hub" (Top churn city) for localized retention priority.

5.2 Predictive Logic & Rules

- **BR-2.1: The "Support Gap" Rule:** The system shall flag all Fiber Optic users who do *not* have Premium Tech Support.
- **BR-2.2: The "Tenure" Rule:** Customers in the 0-6 month cohort (53.3% churn) shall be enrolled in an "Automated Onboarding" journey.
- **BR-2.3: Risk Scoring:** The system shall generate a risk score (1–100) where a Month-to-Month contract adds +30 points.

5.3 Automated Intervention

- **BR-3.1:** If Risk Score > 75, the system shall trigger a REST API call to the Marketing Cloud to send an **Offer A** promotion.
- **BR-3.2:** For customers with Monthly Charges > \$70, the system shall trigger a manual outreach task for a "Premium Support" agent.

6. Non-Functional Requirements

- **Security (NFR-1):** All customer PII must be masked in the Tableau dashboard view (CCPA Compliance).
- **Availability (NFR-2):** The retention engine must have 99.9% uptime to ensure real-time scoring.
- **Performance (NFR-3):** Churn scores must update within 4 hours of a customer changing their service plan.

7. Risks and Constraints

Risk	Impact	Mitigation Strategy
Data Quality	Medium	Implement automated data validation during the ETL process.
Incentive Burn	High	Limit "Offer A" triggers to only the highest value/risk segments to preserve margins.

API Latency	Low	Use asynchronous processing for non-urgent retention emails.
-------------	-----	--

8. Project Timeline (Estimated)

- 1. Requirement Validation: 2 Weeks
- 2. Data Modeling & Scoring Design: 4 Weeks
- 3. CRM / Dashboard Integration: 3 Weeks
- 4. UAT (User Acceptance Testing): 2 Weeks
- 5. Go-Live: Month 4