

# Business Requirements Document (BRD)

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

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**Project Status:** Requirements Phase

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## 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)**.

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## 2. Business Goals & Objectives

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

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

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## 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.

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## 7. Risks and Constraints

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

<b>API Latency</b>	Low	Use asynchronous processing for non-urgent retention emails.
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## 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