Predicting Customer Churn for SyriaTel

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Overview

What is Customer Churn?

Customer churn refers to the loss of customers to other competitors. In this case, customers who stop using SyriaTel's services. This is a critical metric because it helps telecommunication companies know where and when to employ retention strategies for existing customers.

Acquiring new customers costs 5-25x more than retaining existing ones. Even a 5% increase in retention can boost profits by 25-95%.

Our Focus

Can we accurately predict which SyriaTel customers are likely to leave (churn) based on their usage patterns, plan types, and interactions with customer service?

How to do it:

1. Predict customer churn

2. Identify at-risk customers.

3. Provide insights to help SyriaTech develop retention strategies for long term profitability.

Data Understanding

The dataset contains a comprehensive customer historical information on call patterns, plan details, service usage metrics, and customer support interactions.

Target Variable: our target variable from the dataset is Churn

Key Factors Influencing Churn
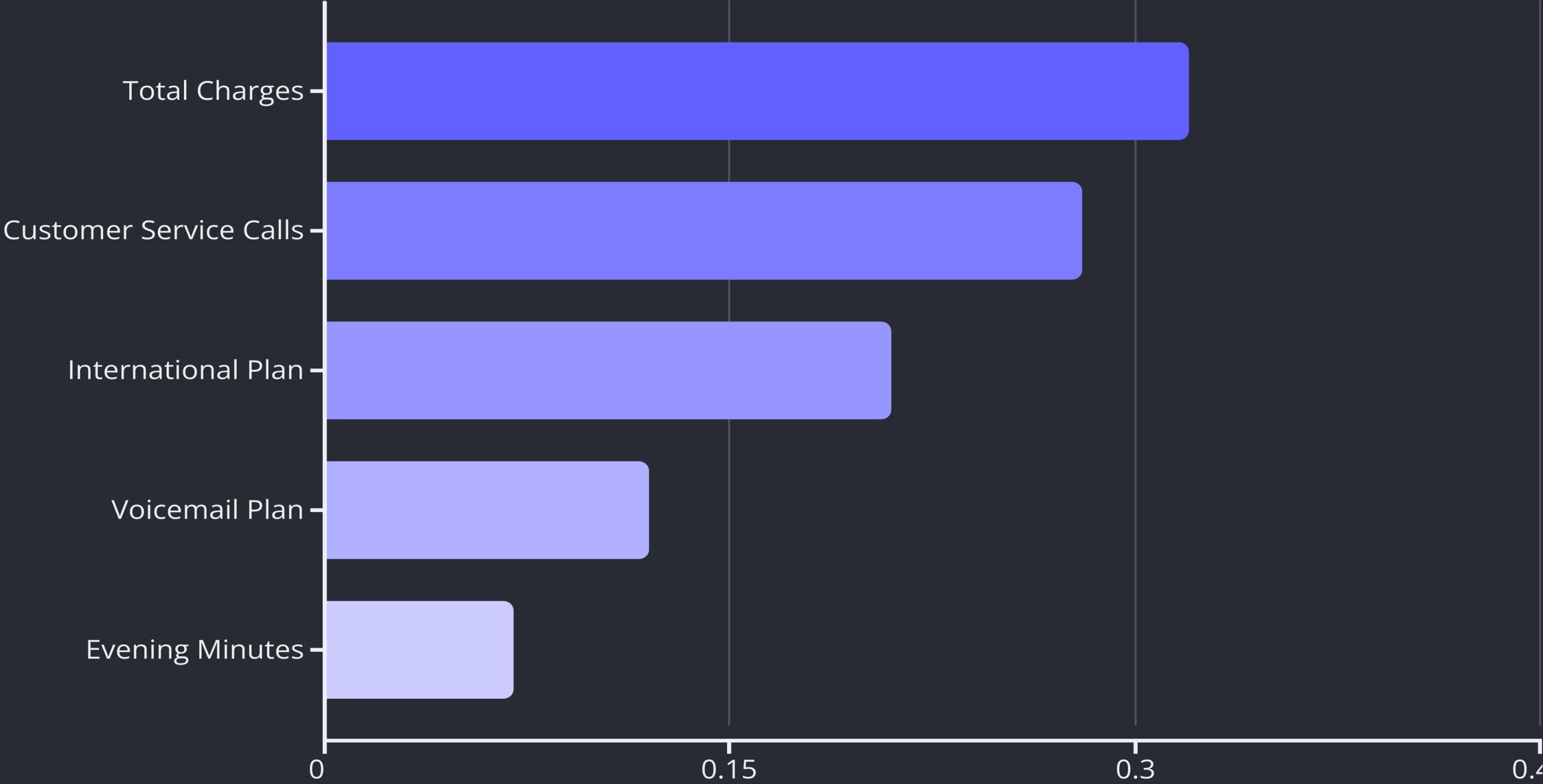
Modeling Approach

Classification Models Tested

- Logistic Regression
- Random Forest

Models were trained on 80% of historical data and validated on the remaining 20% to ensure reliable performance.

Classification modeling sorts customers into two categories: likely to stay or likely to leave, enabling proactive retention efforts.

Model Evaluation

Accuracy
93.7% of all predictions correctly identified customer status (staying or leaving).

Recall
92.1% of actual churning customers were successfully identified by our model.

Precision
89.5% of customers flagged as "at-risk" ended up churning.

Random Forest model outperformed Logistic Regression, providing highly reliable predictions with minimal False alarms. This ensures retention resources are targeted efficiently.

Strategic Recommendations

High-Value Customer Program

Implement tiered loyalty rewards for high-usage customers, with exclusive benefits increasing with spending level.

Customer Service Enhancement

Create specialized rapid-response team for customers who call support frequently. Resolve issues within 24 hours.

Plan Restructuring

Review and optimize international plan pricing. Bundle popular features with voicemail to increase stickiness.

Implementation Roadmap

Phase 1: Immediate (30 Days) — 1

- Begin proactive outreach to highest-risk customers
- Initiate international plan pricing review

Phase 2: Mid-term (90 Days) — 2

- Launch high-value customer loyalty program
- Implement specialized support team for frequent callers

Phase 3: Long-term (6+ Months) — 3

- Roll out revised plan structure and pricing
- Develop real-time churn prediction capabilities

Thank You

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