Presentation Title:

Predicting Customer Churn for SyriaTel

Using Machine Learning to Retain More Customers and Increase Revenue

Title Slide

Title : Predicting Customer Churn for SyriaTel

Subtitle: Data Science Project – Phase 3

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Agenda / Overview

What we will cover today:
>Business problem & why it matters
>Our data and approach
>Key findings from the model
>Financial impact
>Recommended actions

The Business Problem – Why Customers Leave

The Challenge:

SyriaTel loses ~15% of its customers each year.

That's thousands of customers and millions in lost revenue.

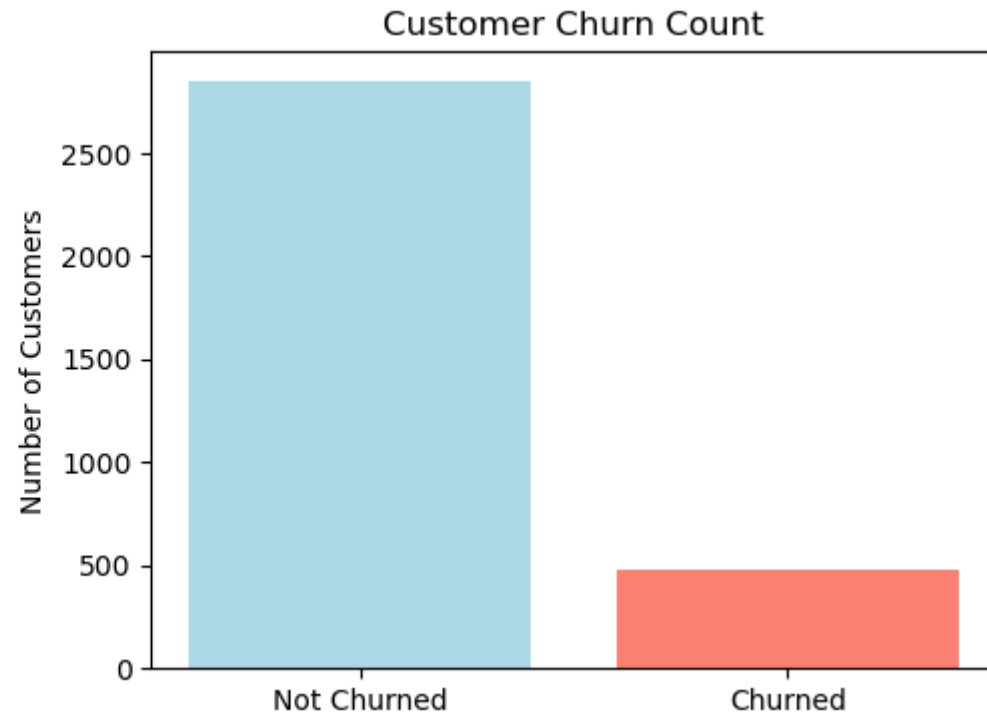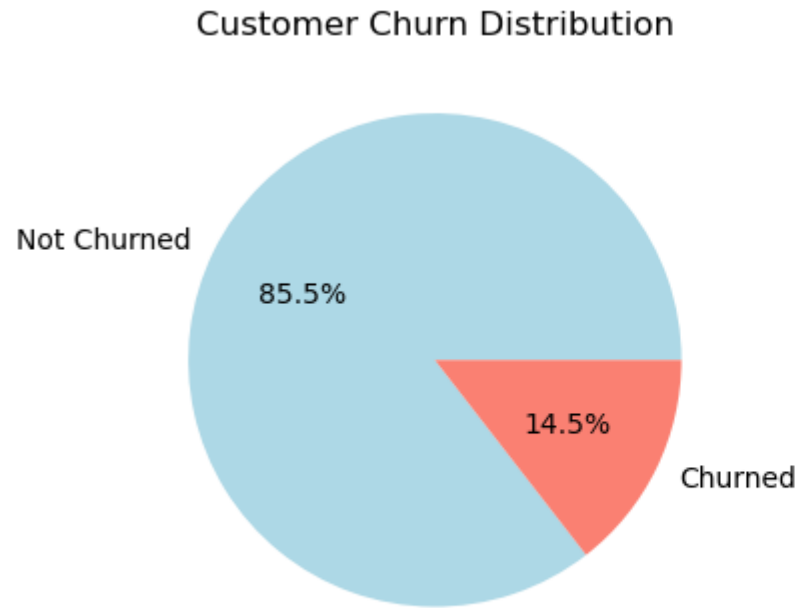Reacting *after* a customer leaves is expensive (cost to acquire a new customer is 5× higher than retaining one).

Our Goal:

Identify customers who are likely to churn before they leave.

Enable proactive retention offers – the right offer, to the right person, at the right time.

Visual: A simple bar chart showing current churn rate vs. target reduction.

Customer Churn Distribution

Our Data- What we Analyzed

Data source: 3,333 customer records from SyriaTel's system.
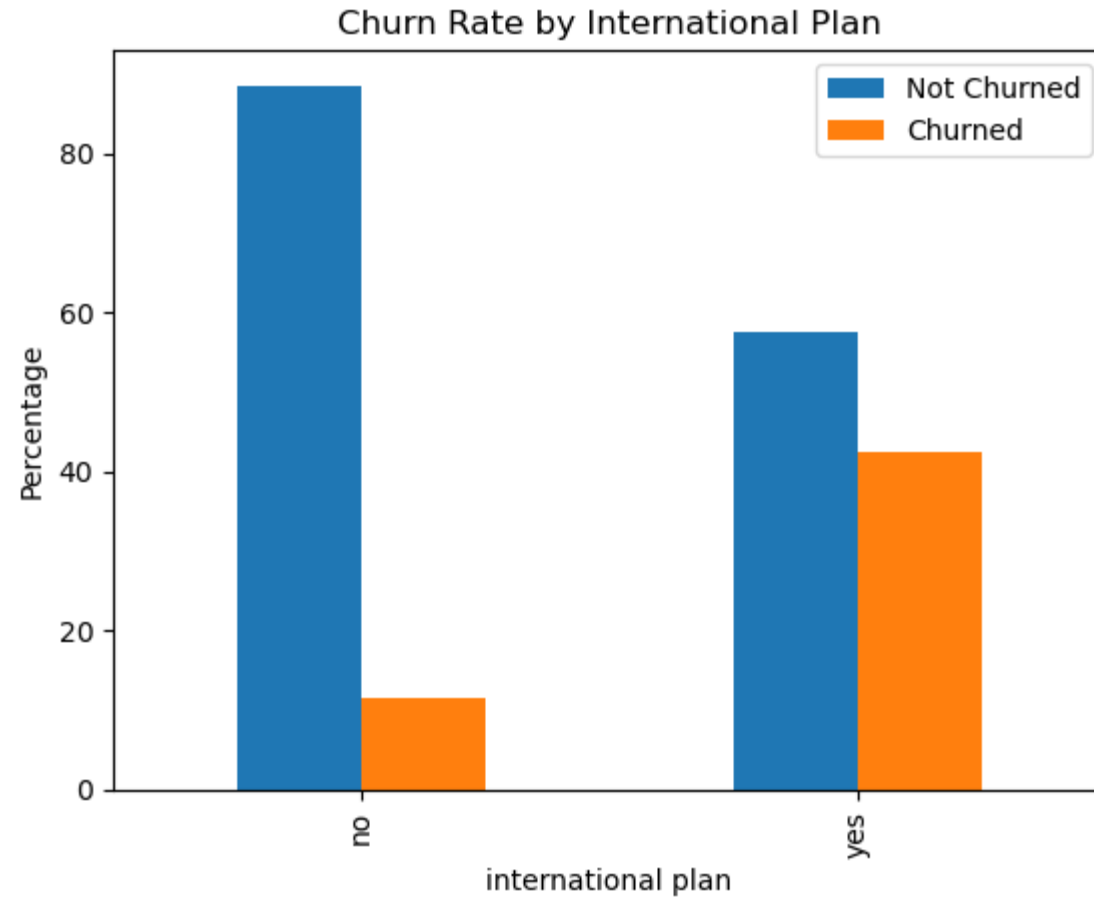
What we looked at:

- Account details (tenure, international plan, voicemail plan)
- Usage patterns (minutes & charges – day, evening, night, international)
- Customer service interactions (number of calls to support)

Key insight from data:

- Customers with international plans and frequent service calls are far more likely to churn.

Visual: Side-by-side bar chart showing churn rate for "international plan = yes" vs "no".

Churn by International Plan

Model Performance

Our primary metric: "Detection rate" (Recall)

How many of the customers who actually churned did we correctly flag?

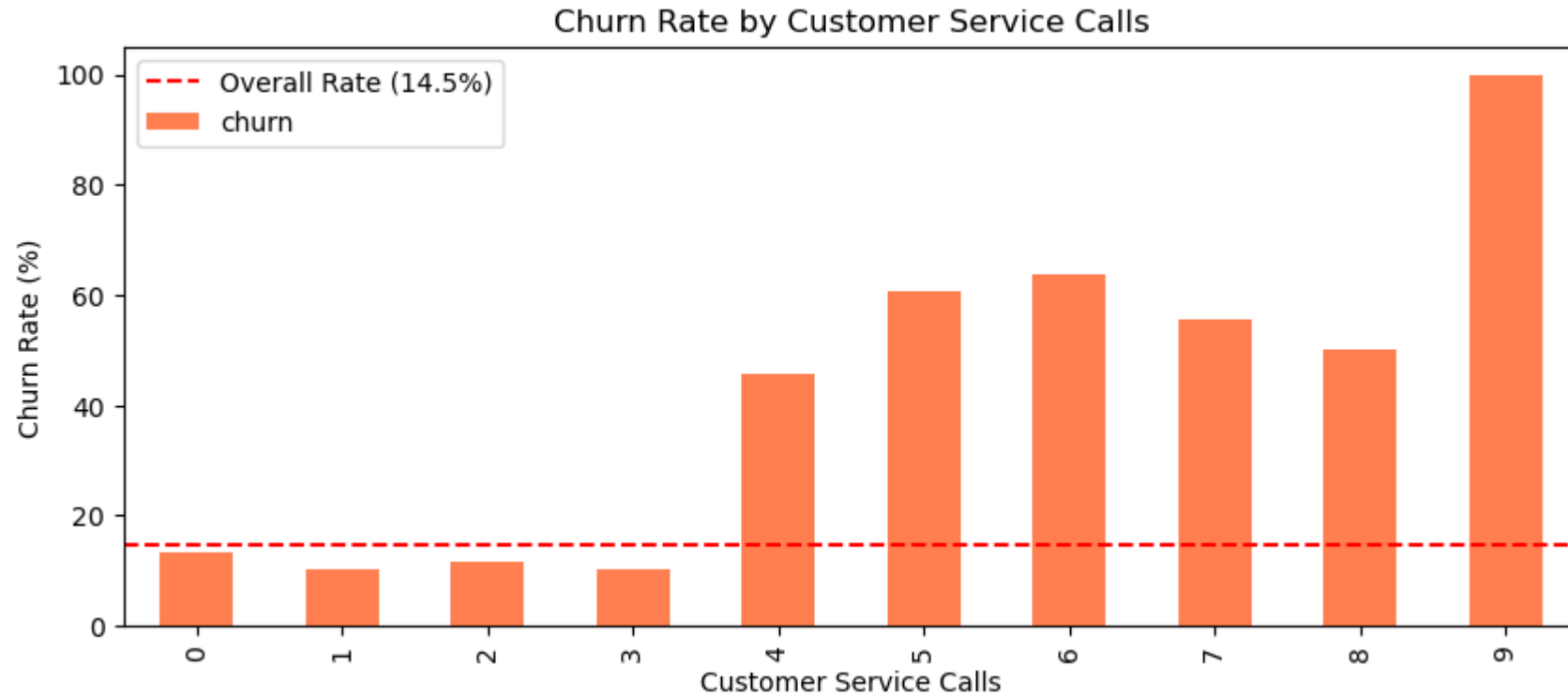**Result:** We identify 81% of churners before they leave.

Why this matters:

Without the model: react after they leave → high cost.

With the model: reach out while they are still customers → save revenue.

Visual: A bar chart showing "Churners identified" vs "Missed" (e.g., 81% vs 19%).

Churn Rate by Customer Service Calls

Financial Impact

Assumptions (based on industry averages):
- Average monthly revenue per customer: $50
- Retention offer success rate: 30%
- Cost of retention campaign: $20 per customer

Annual impact (projected):
- **Revenue saved:** $120,000
- **Campaign cost:** $40,000
- **Net benefit:** $80,000 per year
- **ROI:** 2× (for every $1 spent, SyriaTel gets $2 back)

Key Drivers

Top 3 factors (feature importance):

    Customer service calls – customers with 4+ calls are extremely high risk.

    International plan – these customers churn at nearly double the rate.

    Daytime charges – high usage correlates with higher churn.

What this tells us:

    Service problems are a major cause of churn.

    International plan may be overpriced or poorly valued.

    Our model gives us clear, actionable signals.

Recommendations

Immediate actions (next 30 days):

1. **Deploy the model** – score all customers weekly and flag those with >70% churn probability.

2. **Prioritize high-risk segments:**

   Customers with international plan + 3+ service calls

   Customers with 4+ service calls in the last month

3. **Offer targeted retention incentives** – e.g., one-month discount, free upgrade.

Customer service improvements:

Implement a callback system to reduce hold times.

Train agents to identify and assist at-risk customers.

Next Steps

Monitor & refine:

    Retrain the model every 3 months with fresh data.

    A/B test different retention offers to find what works best.

Expand the data:

    Include customer feedback, competitor pricing, and web/app usage.

Build a retention dashboard:

    Give management real-time visibility into churn risk.

THE END

THANK YOU