



# **THE SYRIATEL CUSTOMER CHURN PREDICTION**

AUTHOR:  
**MICHAEL KAMUYA  
MAKAO**

✗  
✗  
✗  
✗

# CHURN BACKGROUND

- SyriaTel is losing customers, which leads to revenue loss
- Acquiring new customers is more expensive than retaining existing ones
- Reducing churn is a key business priority

Understanding why customers leave allows SyriaTel to act before they churn.

✗ ✗ ✗

# BUSINESS PROBLEM & OBJECTIVE

× × × ×

- Problem: Customers are leaving SyriaTel services
- Impact: Revenue loss and increased acquisition costs
- Objective: Identify customers likely to churn before they leave



× × × ×



# BUSINESS UNDERSTANDING

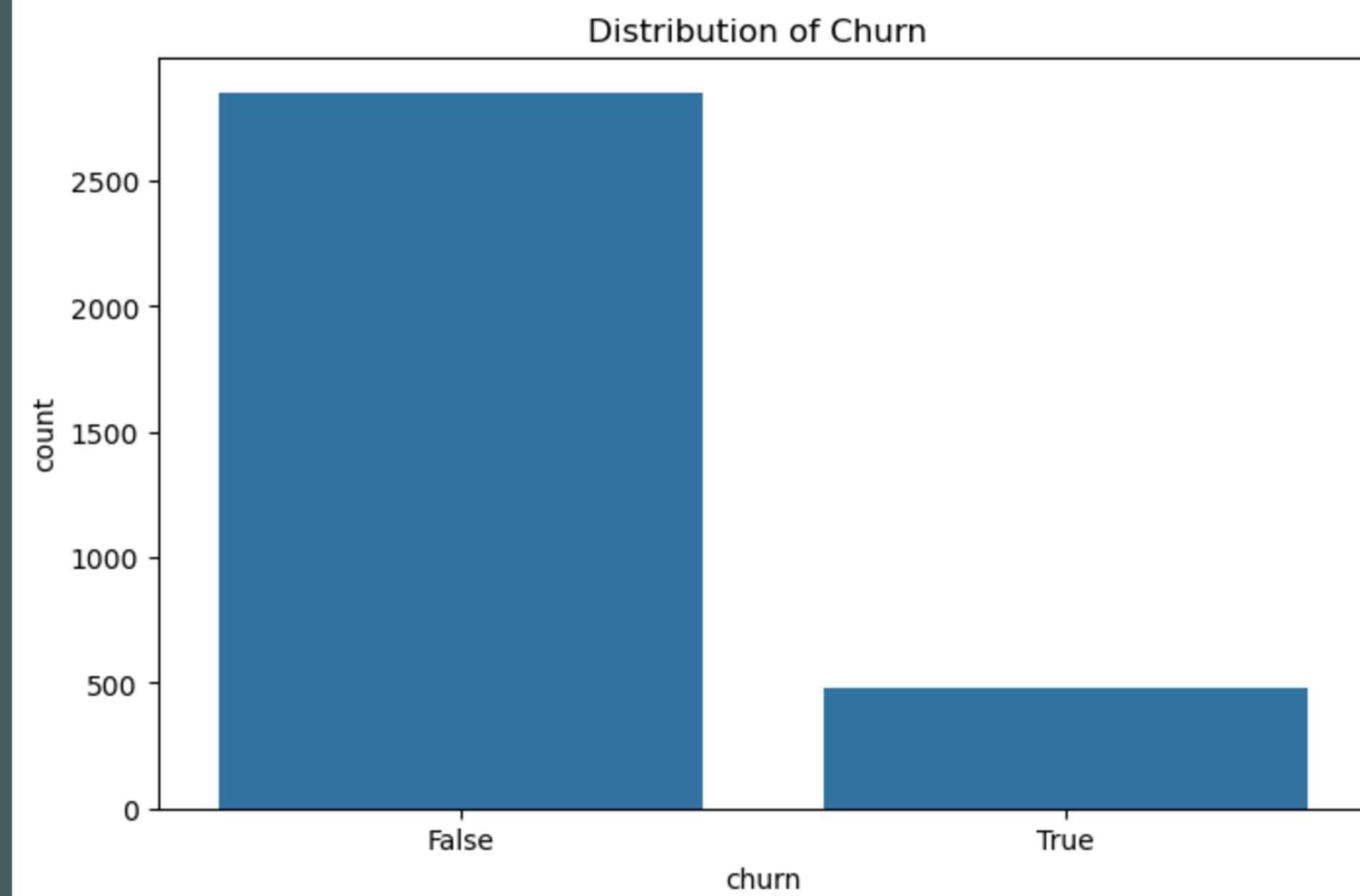


× × × ×

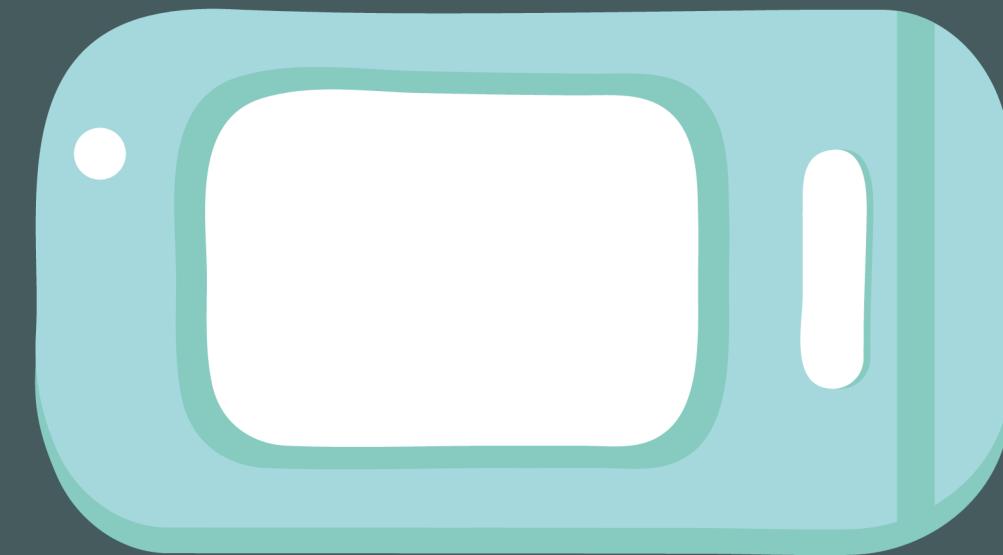
- Primary Stakeholders: SyriaTel management & retention team
- Business Value:
- Focus retention efforts on high-risk customers
- Reduce churn-related revenue losses
- Improve customer satisfaction

# DATA OVERVIEW

- The dataset contains 3,333 customers
- Includes usage patterns, service calls, and plan details
- Target variable: Churn (True / False)
- Most customers do not churn, making prediction challenging

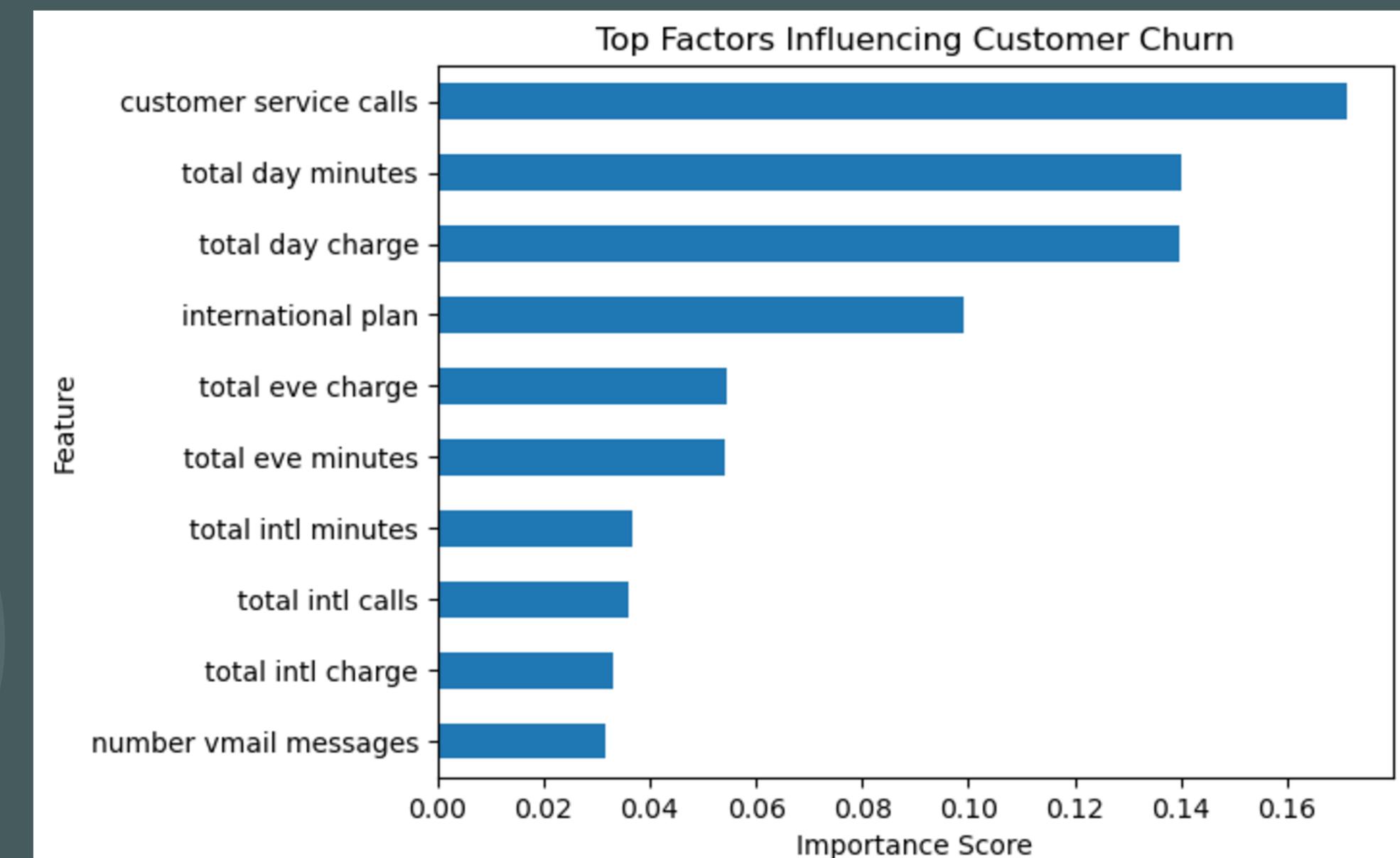


X X X X

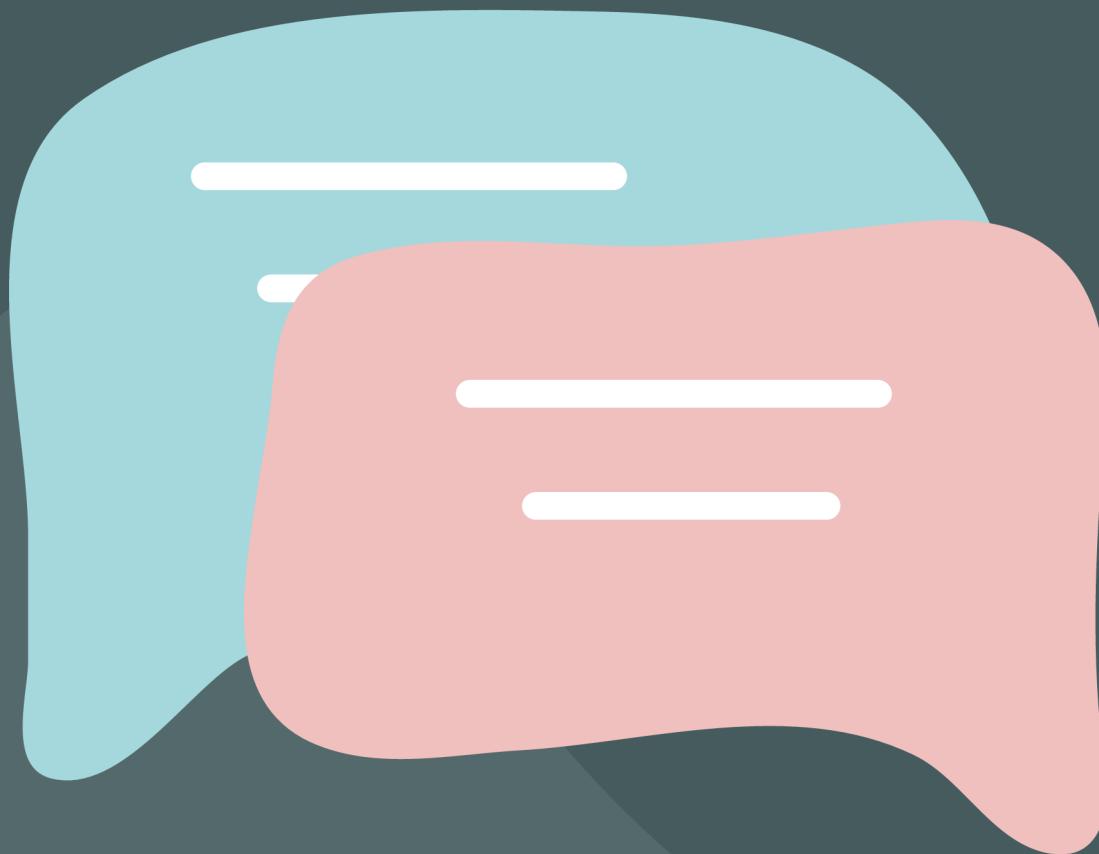


# KEY CUSTOMER FEATURES

- Day-time usage and charges
- Number of customer service calls
- International plan and charges
- Voice mail plan



# DATA PREPARATION



× × × ×

- Encoded categorical variables
- Scaled numerical features
- Split data into training and test sets
- These steps ensure fair and accurate model training.

# MODELING APPROACH

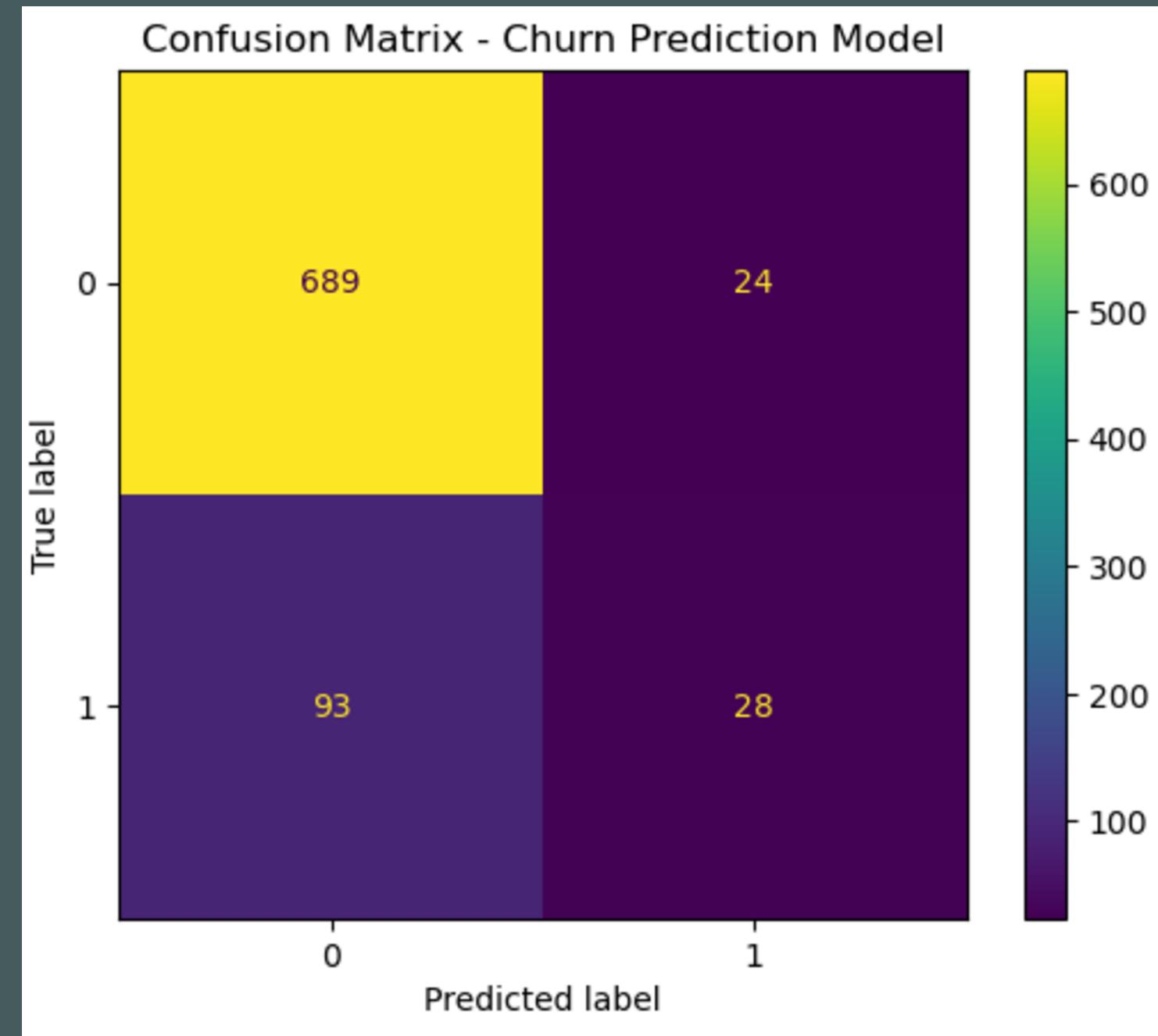


- Logistic Regression used as a baseline model
- Random Forest used to capture complex churn patterns
- Models compared using performance metrics

× × ×

# MODEL EVALUATION

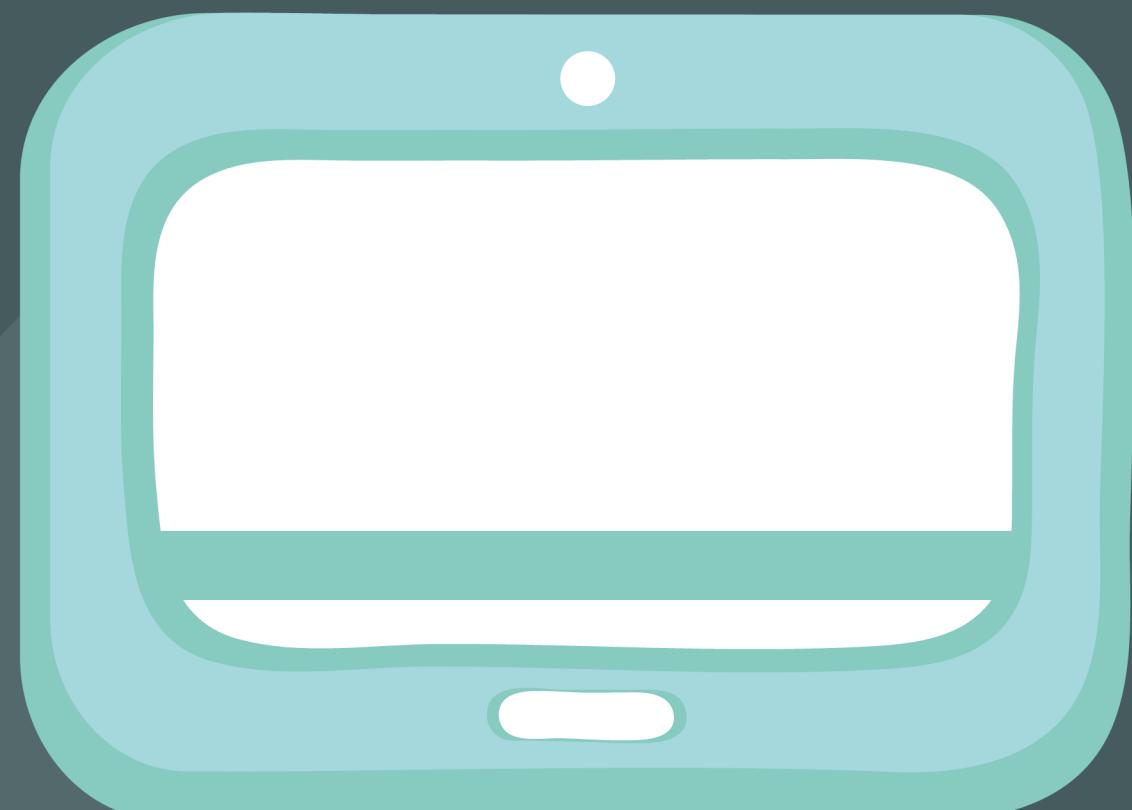
- Logistic Regression used as a baseline model
- Random Forest used to capture complex churn patterns
- Models compared using performance metrics
- Missing a chunner is more costly than contacting a loyal customer.



X X X X X X X X



# MODEL PERFORMANCE



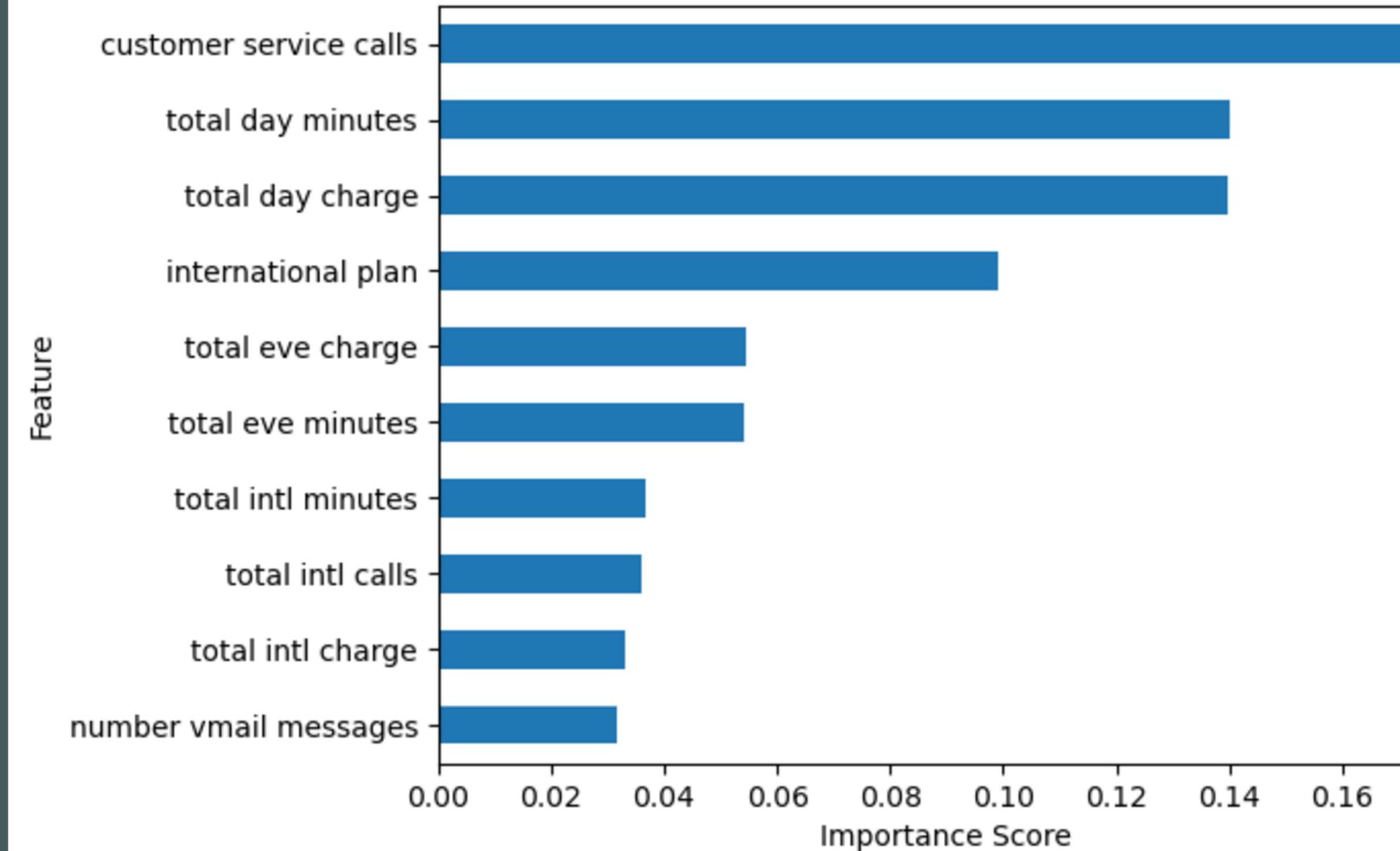
× × × ×

- Final model achieved 82% accuracy
- Recall for churners improved
- Model successfully identifies high-risk customers

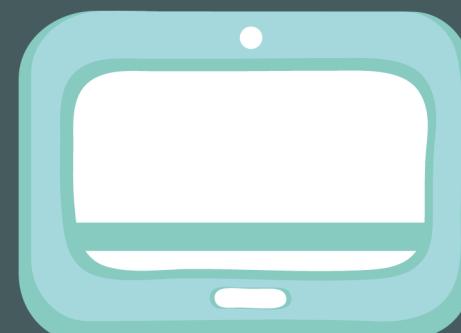
# KEY FACTORS DRIVING CUSTOMER CHURN

X X

Top Factors Influencing Customer Churn



- Multiple customer service calls strongly indicate dissatisfaction
- High daytime usage and charges increase churn risk
- International charges contribute to churn



# BUSINESS INSIGHTS

- Customers with high usage costs are more likely to churn
- Repeated service issues increase churn probability
- Pricing and service quality are key retention levers

# BUSINESS RECOMMENDATIONS FOR REDUCING CHURN

- PROACTIVELY SUPPORT CUSTOMERS WITH MULTIPLE SERVICE CALLS
- INTRODUCE DISCOUNTED PLANS FOR HIGH DAY-TIME USERS
- REVIEW INTERNATIONAL CALL PRICING
- USE THE MODEL AS AN EARLY WARNING SYSTEM

# BUSINESS IMPACT

- REDUCED CHURN AND REVENUE LOSS
- MORE TARGETED CUSTOMER RETENTION STRATEGIES
- IMPROVED CUSTOMER SATISFACTION AND LOYALTY

×  
×  
×

# LIMITATIONS & FUTURE WORK



- No customer demographics included
- Single time snapshot
- Future work:
  - Add customer tenure trends
  - Retrain the model periodically
  - SyriaTel can use this solution to retain valuable customers

× × ×

THANK YOU

QUESTIONS?