Customer Churn Prediction: Analysis and Recommendations

A Machine Learning Approach to Retaining Customers

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Project Overview

Churn Definition

Customers leaving services due to dissatisfaction or competitive offers

Impact

Revenue loss and customer retention challenges

Goal

Predict churn and identify factors contributing to customer dissatisfaction

Business Problem & Objectives

1 **Identify Churn-Prone Customers**

Develop strategies to retain them

2 **Predict Churn Using Machine Learning Models**

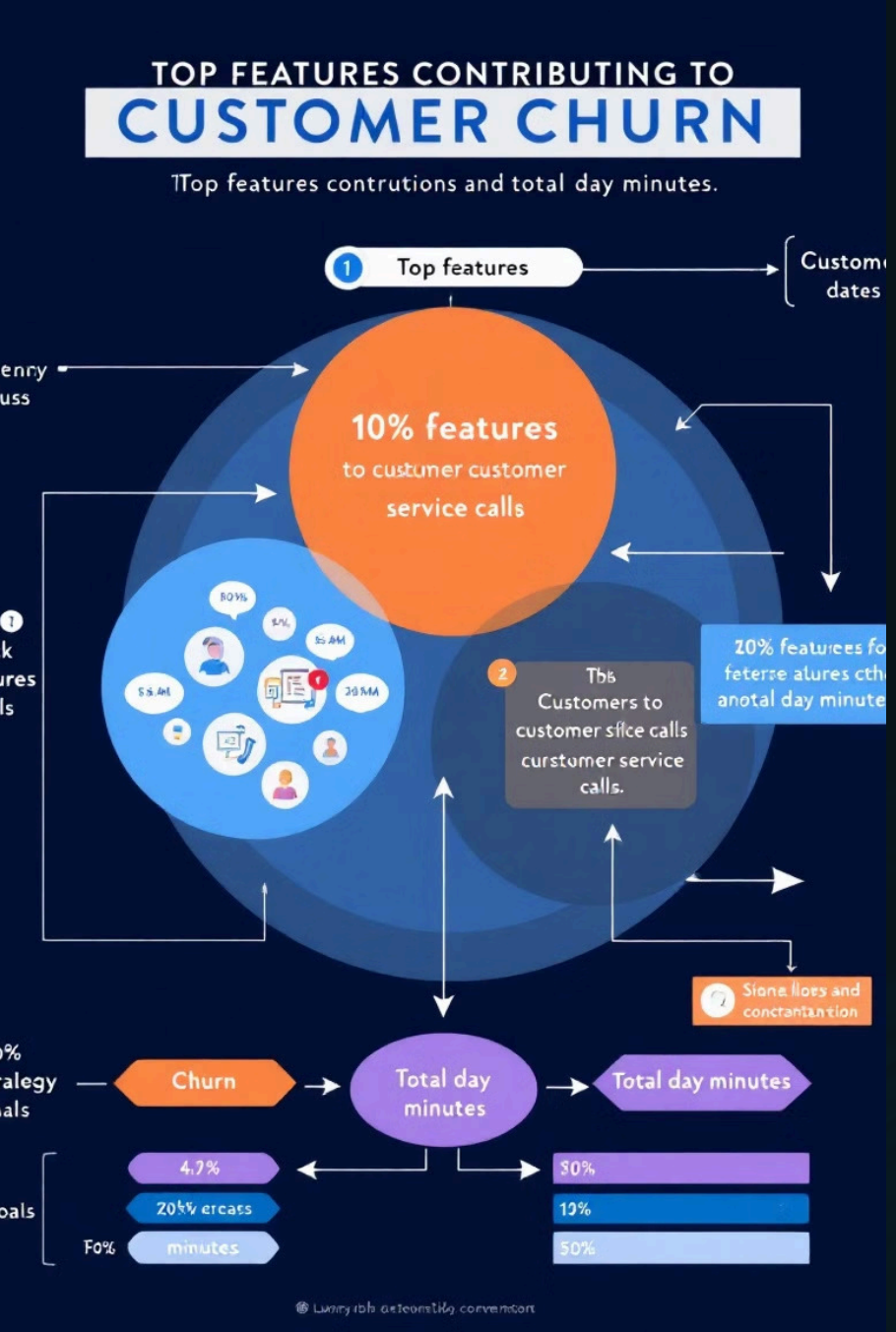
Evaluate and compare model performance

3 **Retain More Customers to Increase Revenue**

Identify key features contributing to churn

Model Performance

Model	Accuracy	Precision	Recall	F1 Score
Logistic Regression	86.21%	41.3%	75.25%	53.3%
Decision Tree	91.75%	53.38%	74.26%	60.7%
Random Forest	93.7%	82%	81.19%	81.6%



Key Insights & Features

Customer Service Calls

High correlation with churn

Total Day Minutes

Impact on churn prediction

Total Day Charges

Significant influence on churn

International Calls

Indicator of churn potential

Recommendations & Conclusion

1

Improve Customer Service

Training, reduce high calls

2

Pricing Evaluation

Re-evaluate day, eve, night, and international charges

3

Engage High-Usage Clients

Prevent churn among high-usage customers