

Customer Churn Prediction Project

Business Understanding

SyriaTel, a telecommunications company, experiences a customer churn rate of ~15% annually.

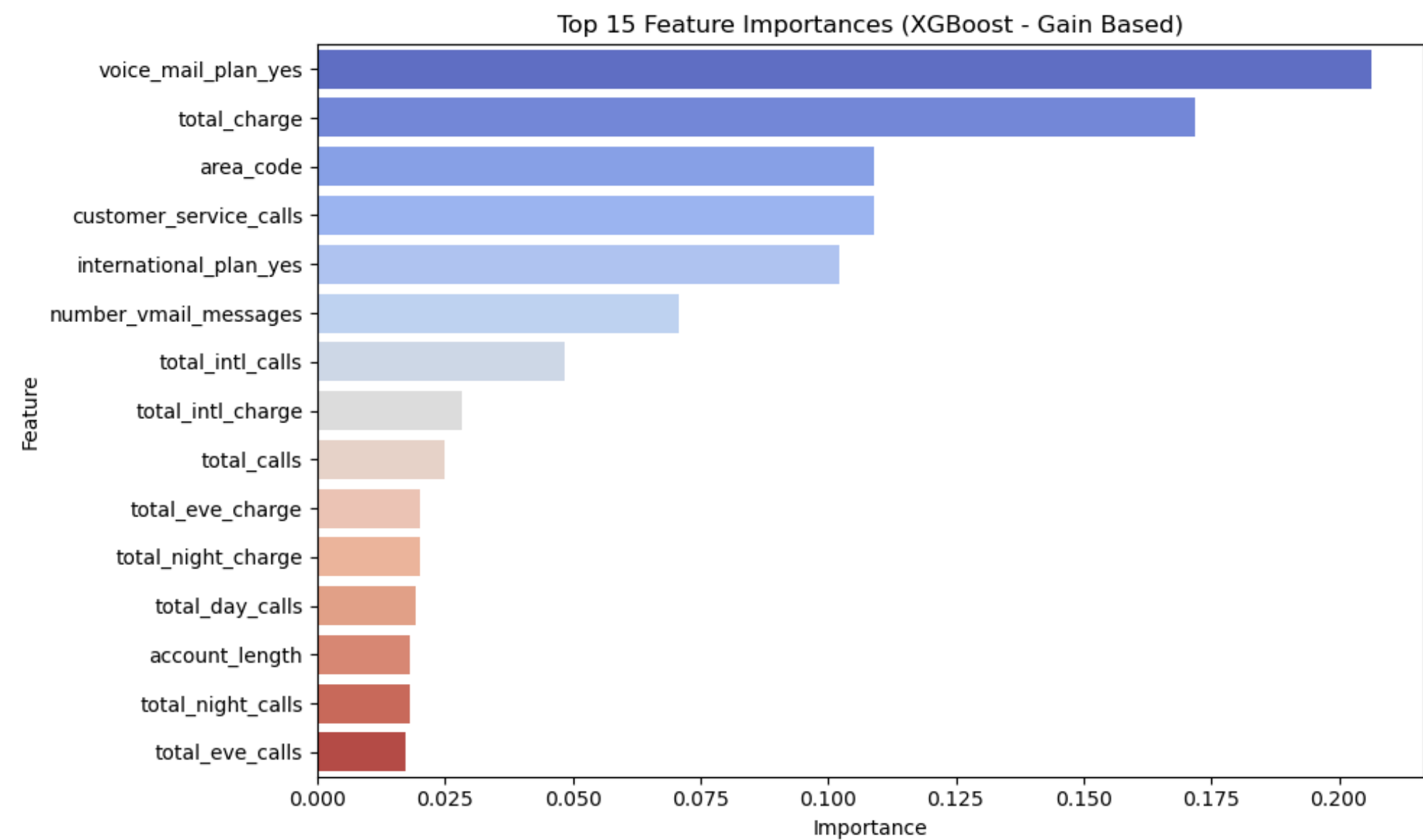
This translates into significant revenue losses, increased acquisition costs, and weakened customer

loyalty. The project objectives were: - Predict churn using customer behavior and service data. -

Identify key drivers of churn to guide business interventions. - Recommend strategies to improve customer retention.

Model

This are the features by order
of importance



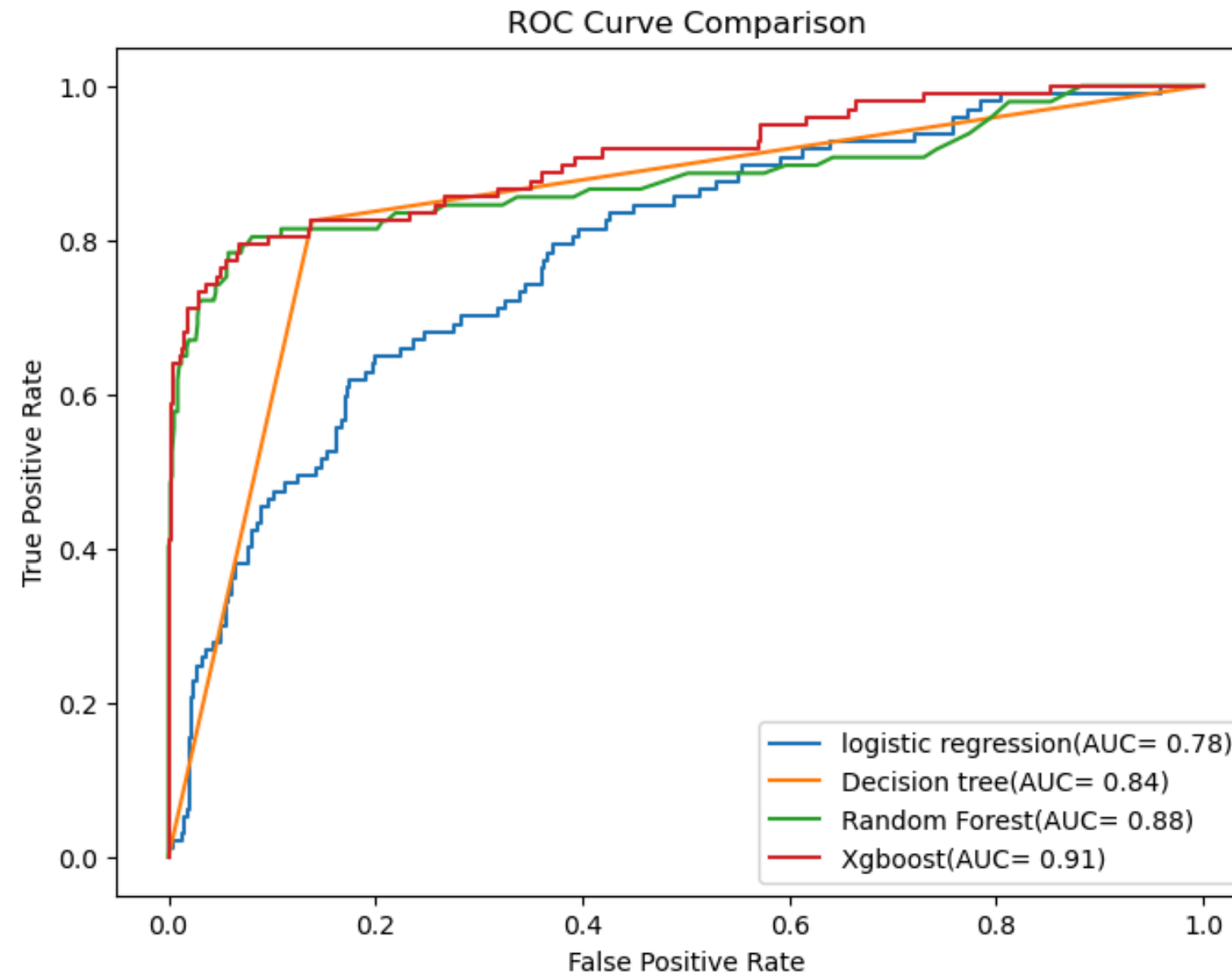
Recommendations

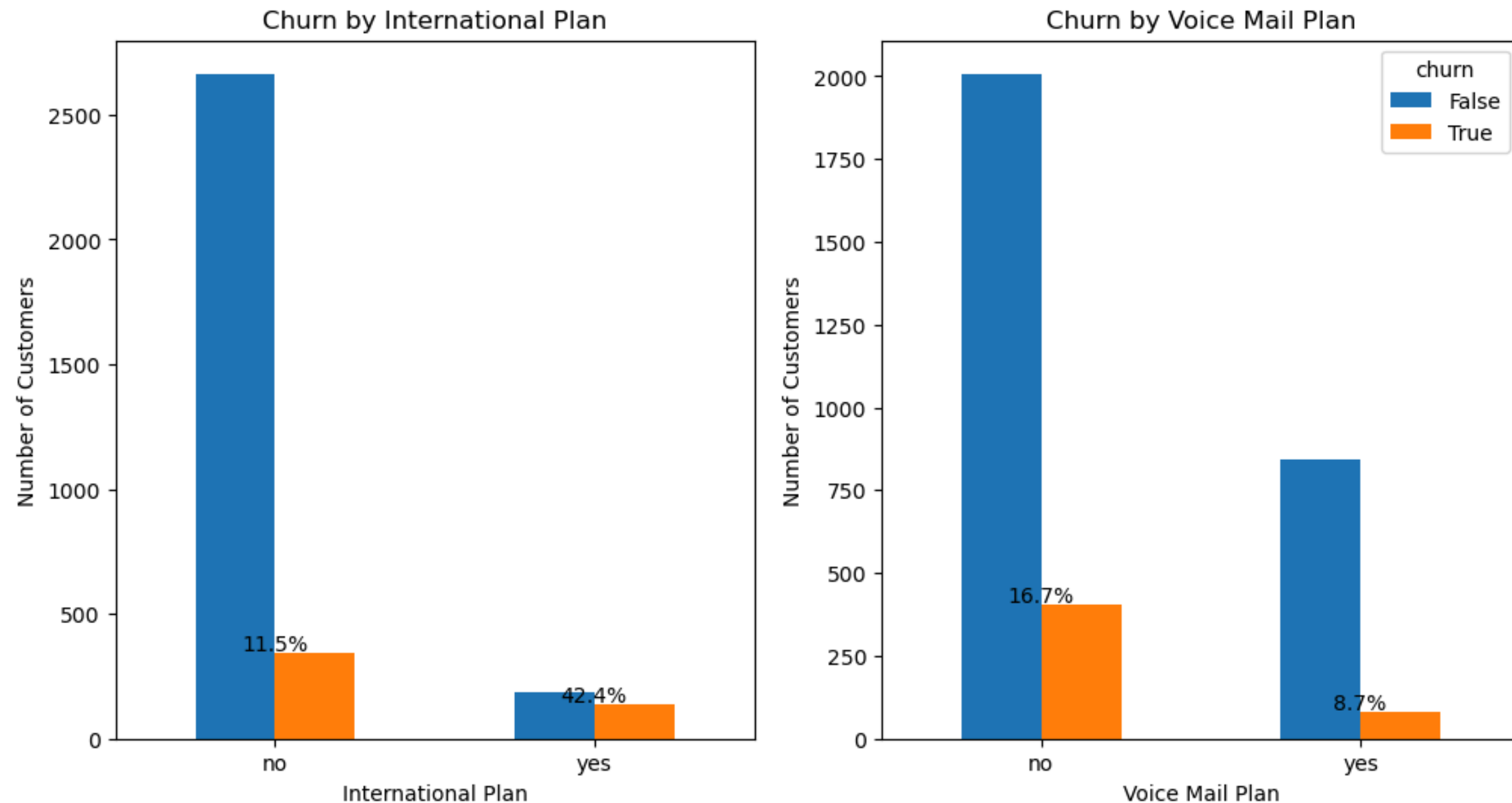
1. Target High-Risk Customers; Proactive retention campaigns (discounts, offers, loyalty programs). 2. Improve Customer Service; Reduce wait times, improve first-call resolution. 3. Personalized Plans; Tailor plans to heavy users (day/evening minutes). 4. Review International Plan → Reassess pricing and benefits. 5. Deploy the Model → Integrate XGBoost into production and retrain quarterly.

Conclusion

This project successfully built a robust churn prediction model for SyriaTel. - XGBoost is the best-performing model with 95% accuracy and 93% recall. - The model highlights churn drivers such as service dissatisfaction and high usage. - Implementing recommendations can reduce churn, save revenue, and strengthen customer loyalty. By focusing on early churn detection and addressing service pain points, SyriaTel can transform churn from a costly problem into an opportunity for stronger customer engagement.

The outermost model is
the best since it covers
the largest area





- Customers' plan are statistically significant, this means that we have an association between customer plan and churn
 - The churn rate for those with international plan is higher by about 30%
 - The churn rate for those without voice mail plan is higher by about 8%; they never get helped