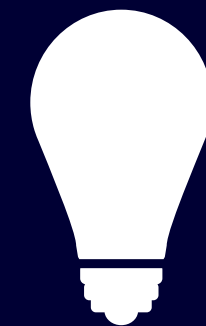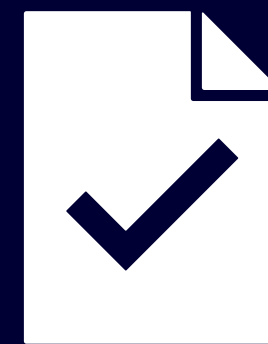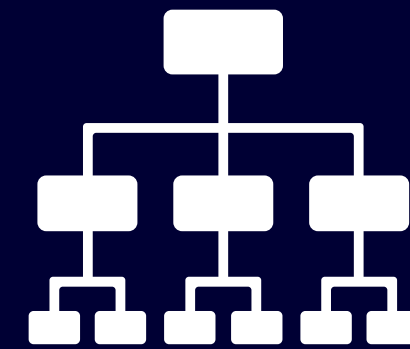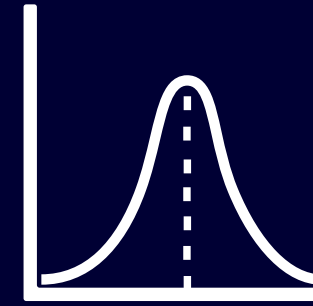# SYRIATEL COMMUNICATIONS: PREDICTING CUSTOMER CHURN

PHASE 3 PROJECT

BRIAN O'DONNELL

OVERVIEW

- BUSINESS DATA & UNDERSTANDING

- MODELING

- EVALUATION

- CONCLUSION

- NEXT STEPS

Business & Data Understanding

- Business Problem
  - SyriaTel has a high churn rate of 15%
  - What are the indicators of when a customer will churn?
- Data Understanding
  - Thorough inspection of data in effort to create most efficient models possible
- Data used
  - Dataset collected over the course of a year
 - Contains 19 Features and 3,333 Entries
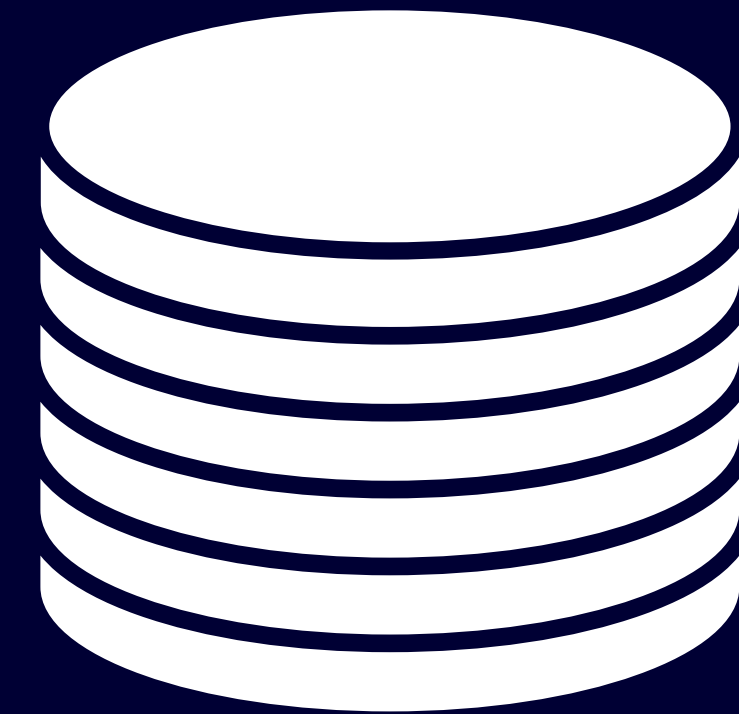
Modeling

- The classifier that was found to produce the best results is knows as XGBoost:

    - Provides state of the art machine learning algorithms.

- This model was chosen by creating specific parameters for the classifier in an attempt to optimize the metric output;

    - In machine learning, metrics are used as evaluators of the performance of the models.

- The output of our final model showed strong very strong metric scores and with this we were able to predict what features are indicators of customer churn

Evaluation

- Important features based off our model:
  - International Plan
  - Customer Service Calls
 - Total Day Minutes
  - Voicemail Plan
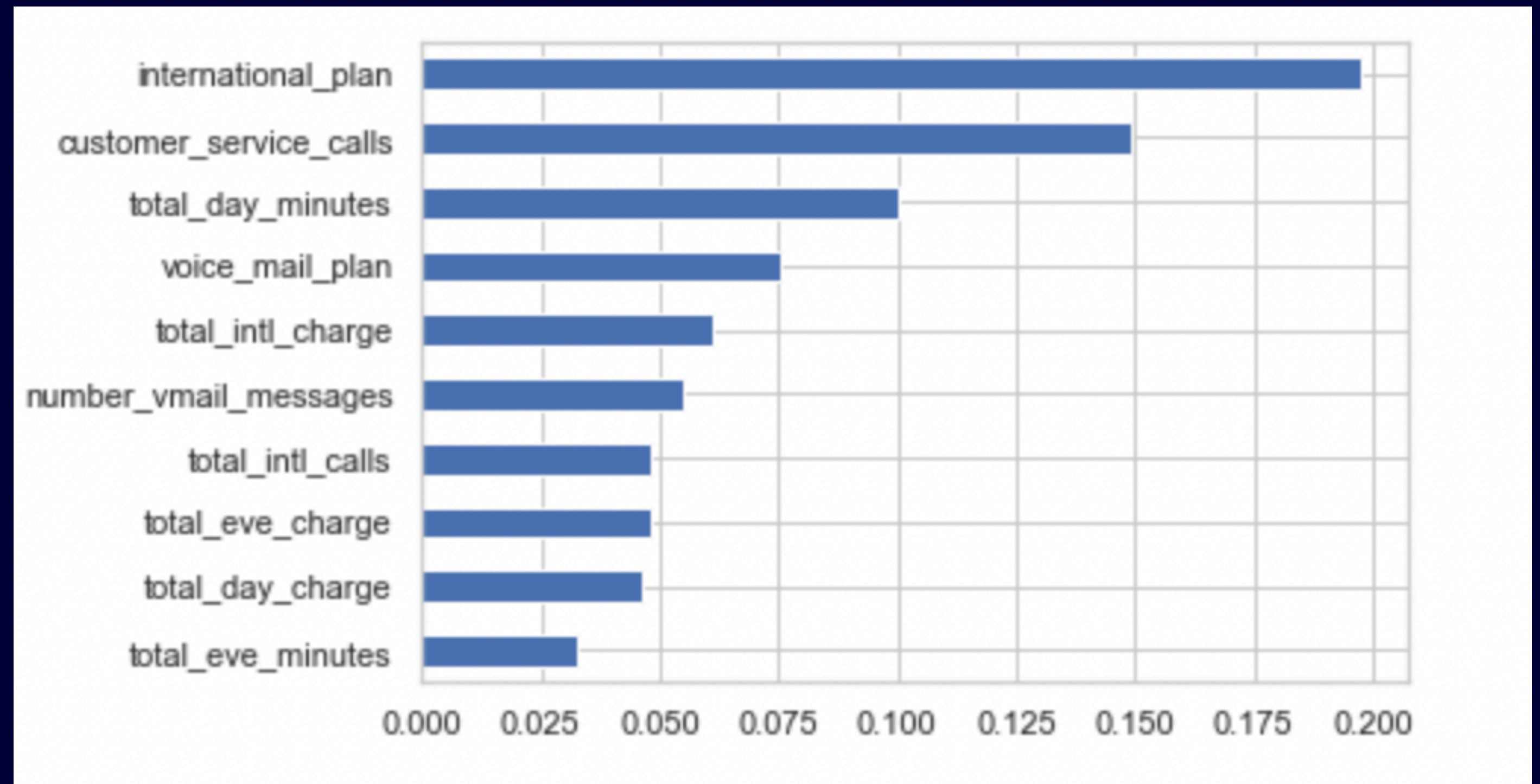
Conclusion

- **International Plan**

  - Reconsider pricing for customers with the International Plan which has highest churn rate

  - Determine if the pricing for this plan is competitive in the industry

  - It is possible customers are using this plan only when they are traveling and then cancel it when they return home, therefore when a customer initially signs up for the International plan, offer them an incentive to sign onto a longer term plan

Churn for Customers with International Plan

Conclusion

- **Customer Service Calls**

  - After 3 calls the odds of churn rises significantly

  - Resolve customer service issues promptly

  - If a customer makes their 3rd service call offer a coupon that can be used at a later date

  - Determine what is most common reason for service calls to stay ahead of the issue

Customer Service Calls & Churn
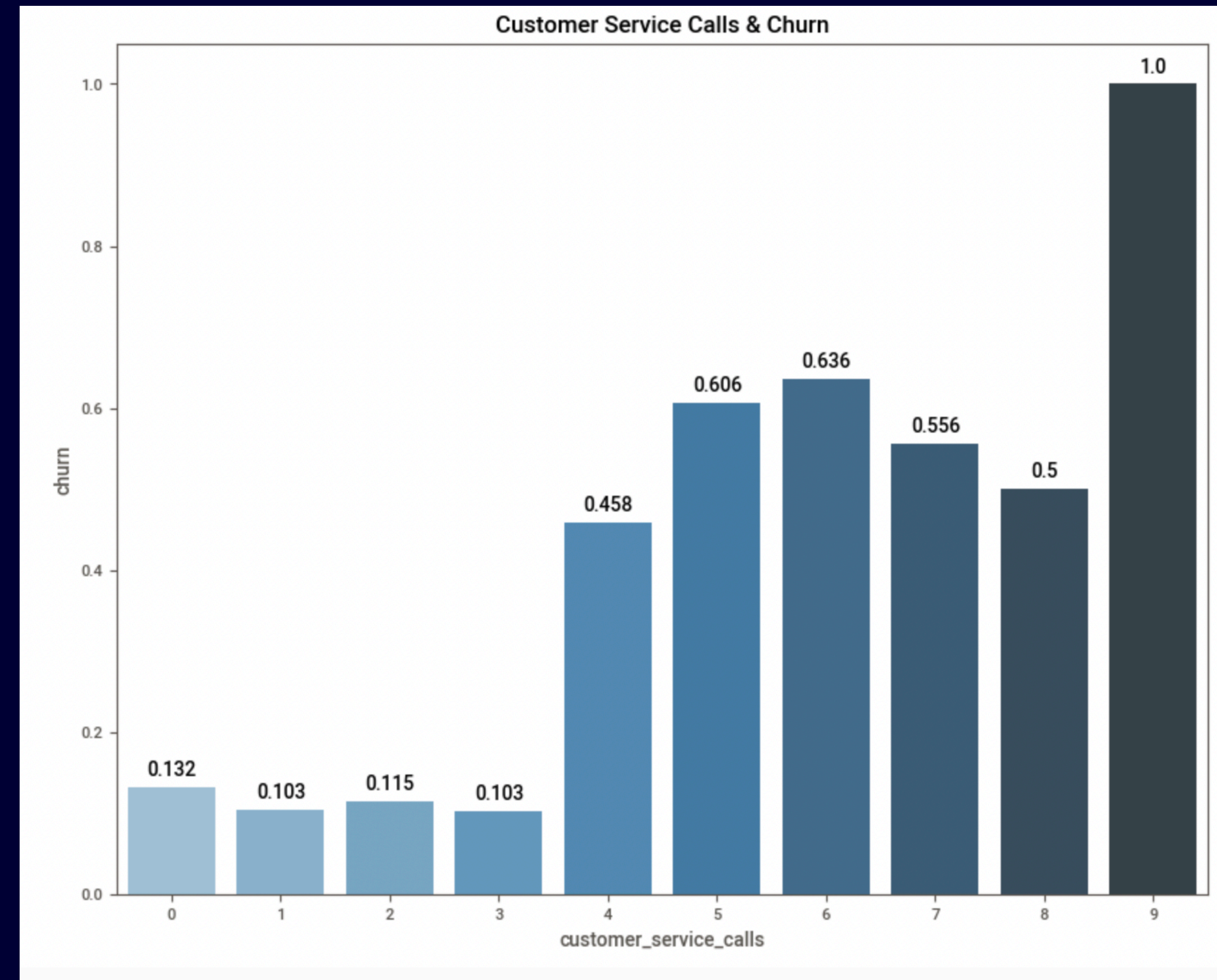
Conclusion

- **Voicemail Plan**

  - A customer not having a voicemail plan almost doubles the churn rate, at 16%

  - Every new customer should be given a Voicemail Plan

  - Every existing customer should be offered a small incentive to add a Voicemail Plan to their account

Customers with a Voice Mail Plan
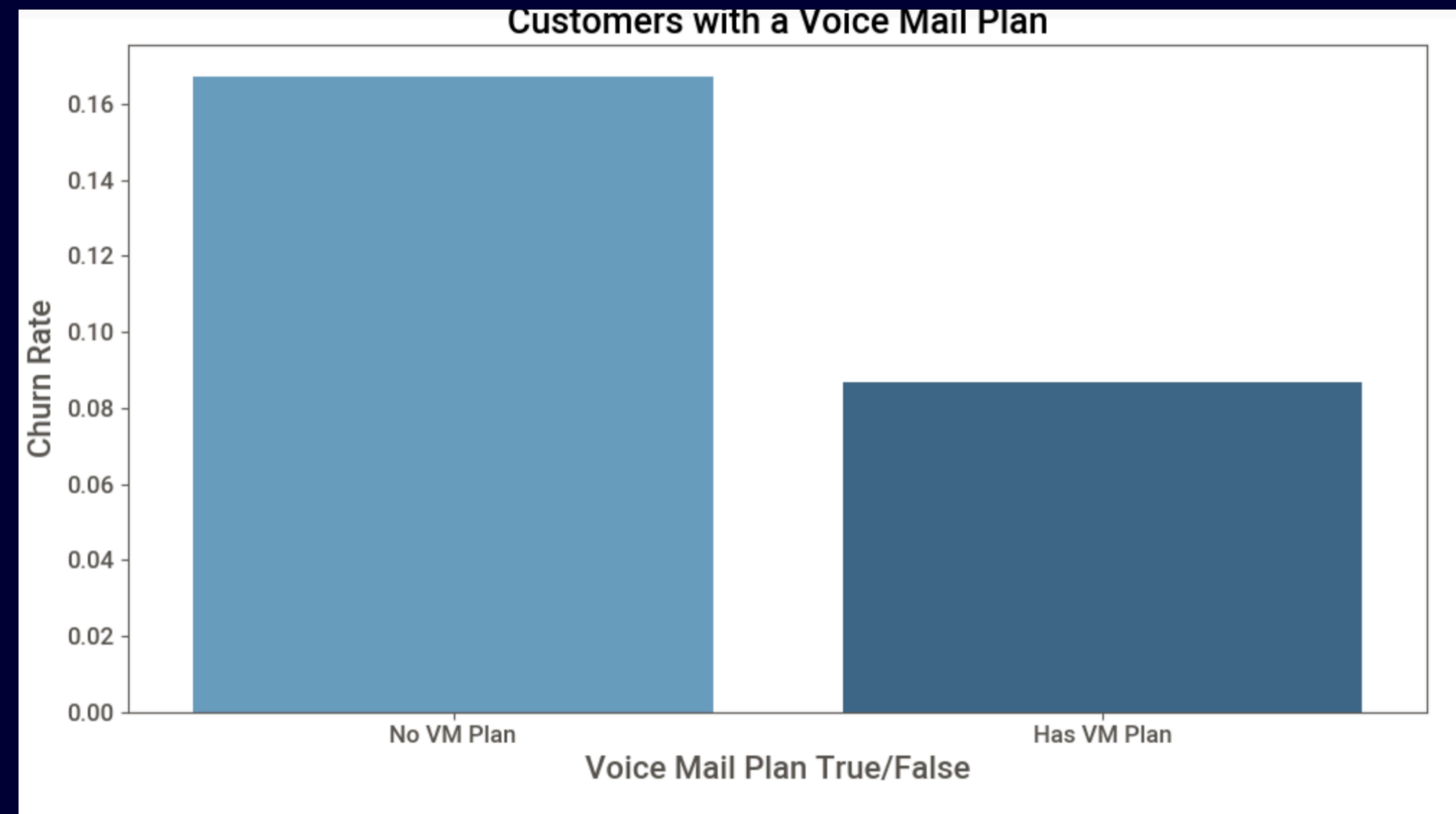
Next Steps

- Continue to add to the dataset to stay current on trends

- In general make sure rates, especially day time rates, are competitive

- Create surveys to better understand customers needs in regard to international plans

- Discover what issues customers are making service calls for the most and attempt to make the calls shorter and more efficient for the clients

- Find out how much it would cost the company to add voicemail plans to all customers, if a positive profit margin can be maintained it will lead to greater customer retention and therefore create more revenue

Questions?