



Module III: Telecom Customer Churn

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PROBLEM STATEMENT



Syriatel is a burgeoning telecom company offering **calling, voicemail, and international services** to 3K+ customers

We are analyzing **"customer churn"**, measured as the % of customers that stopped using our service for the 2020 fiscal year

BUSINESS VALUE



1

CHURN



2

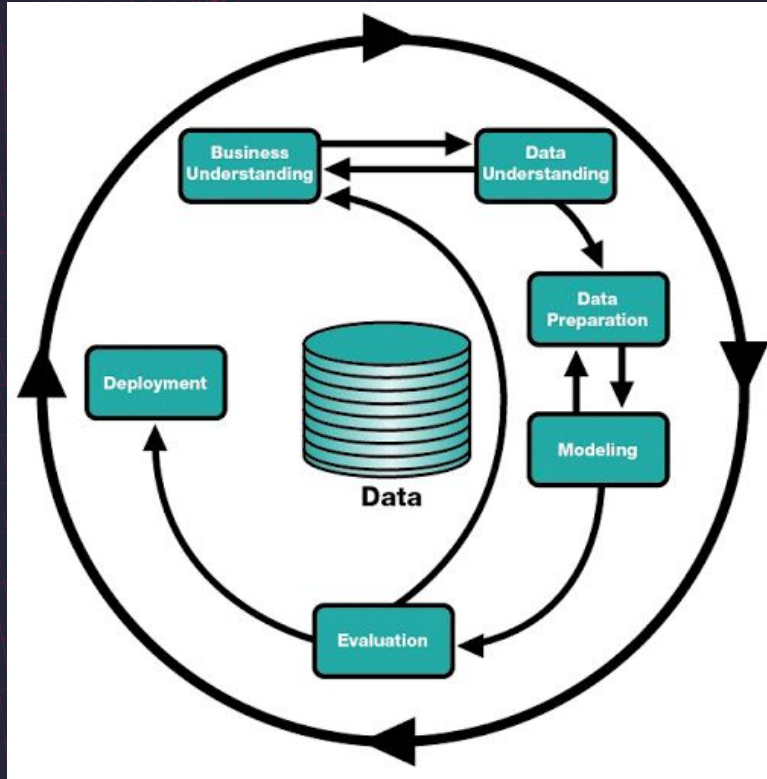
OFFERINGS



3

ADJUSTMENTS

METHODOLOGY

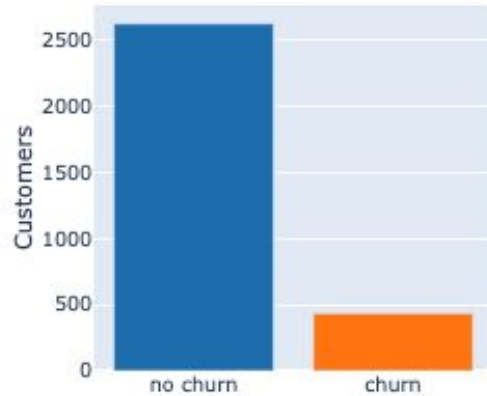


CRISP-DM Framework

1. Business Understanding
2. Data Understanding
3. Data Preparation
4. Modeling
5. Evaluation
6. Deployment

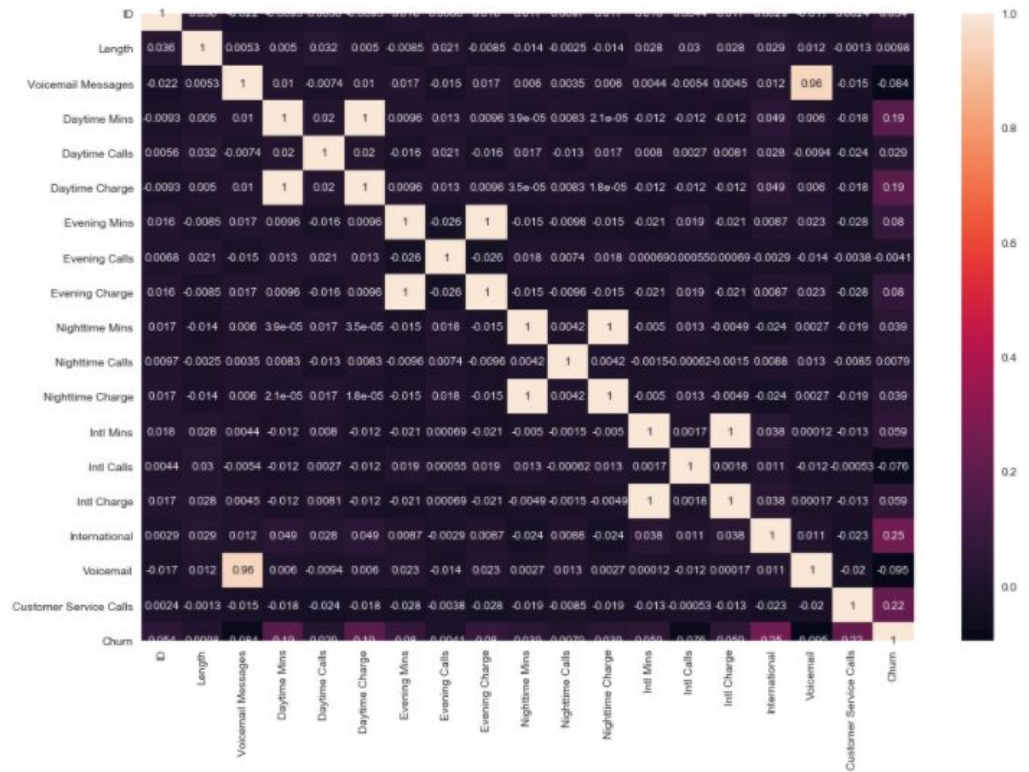
FINDINGS I

Churn Distribution



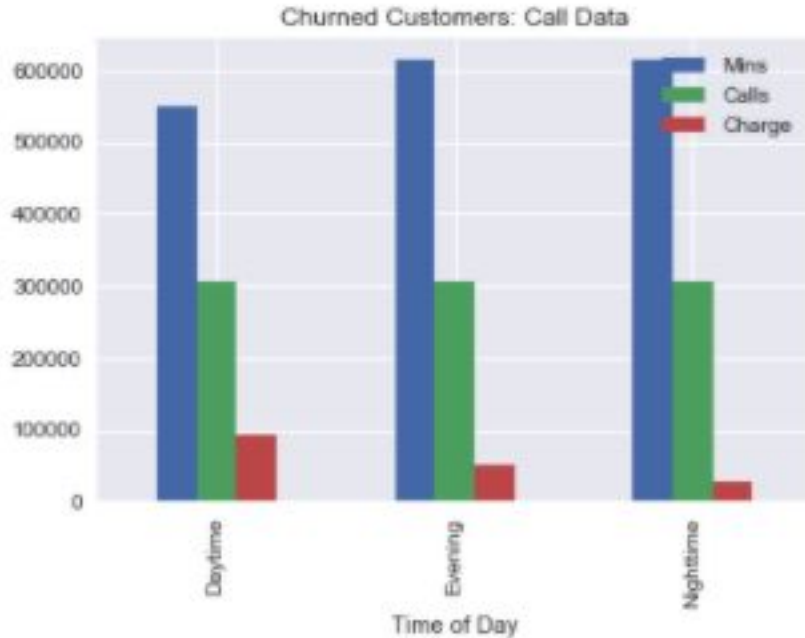
Number of churned customers: 434
Number of loyal customers: 2619

**14% of our customers
have churned this year**



Daytime calls/charge + International plan + Customer service calls = Most influence on churn

FINDINGS 2

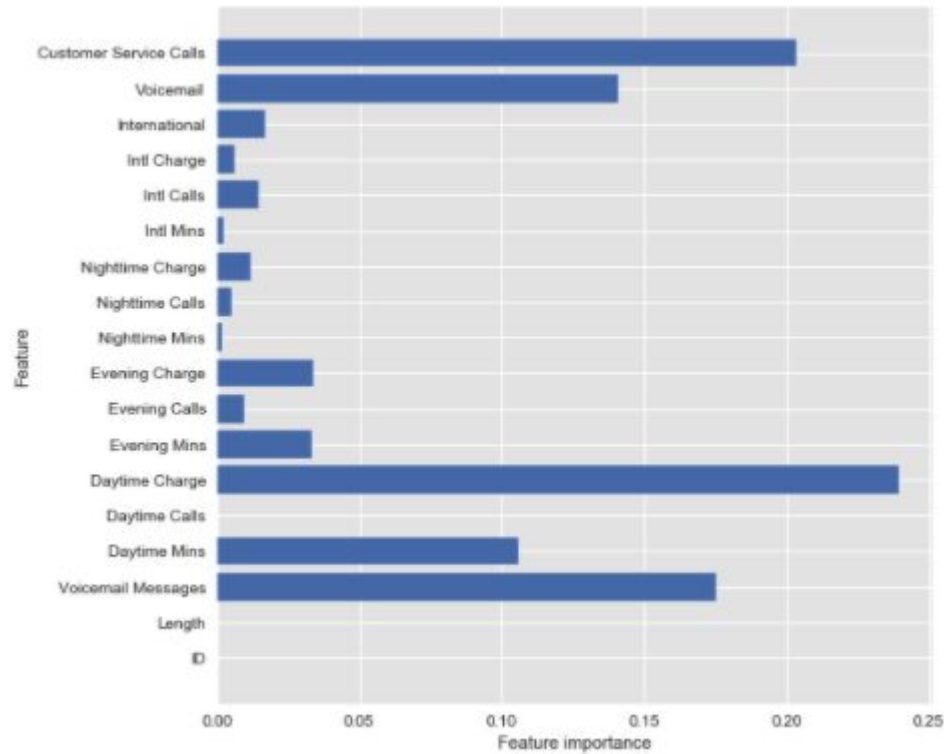


Highest correlations:
1) Daytime charge
2) Evening minutes



**~75% of churned customers
have made 2 or more customer
service calls**

FINDINGS 3



	Algorithm	Accuracy
3	GridSearch CV - Random Forest	0.900000
1	Gradient Boosting	0.881679
0	XGBoost	0.864122
2	GridSearch CV - Decision Trees	0.861069
7	Decision Trees w/ Scikit Learn	0.852672
5	Tree Ensembles - Bagged Trees	0.845038
4	Tree Ensembles - Decision Trees	0.818321
6	Tree Ensembles - Random Forest	0.816794

GridSearch CV (Random Forest) was our best ML model – with an accuracy of 90%

Our ML models show that Daytime Charge & Customer Service Calls are the biggest predictors for churn

SUMMARY & FUTURE WORK



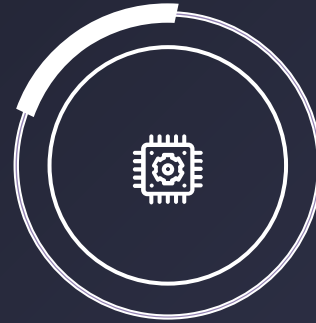
PRICING

**Lower costs, particularly
daytime charges**



CUSTOMER SERVICE

***Invest into white-glove
customer service and seek
to solve the problems of
our customers***



FUTURE WORK

- 1. Market Research***
- 2. Competitive Research***