

TELECOM CHURN CASE STUDY



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Introduction

- Churn Prediction is one of the most popular use cases in business as it helps in detecting customers who are likely to cancel a subscription for a service.
- Churn is a serious problem for telecom companies because it is more expensive to acquire a new customer than to keep your existing customer from leaving.

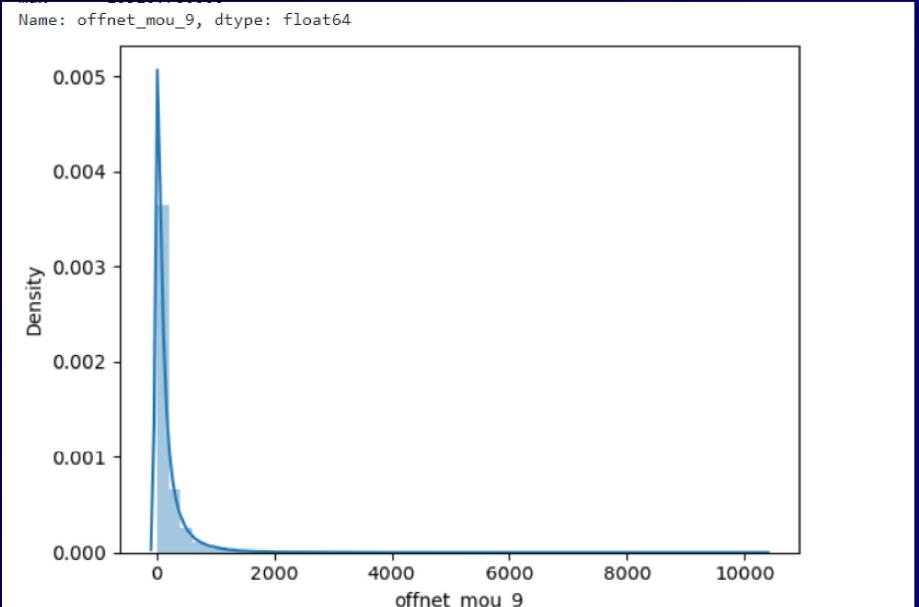
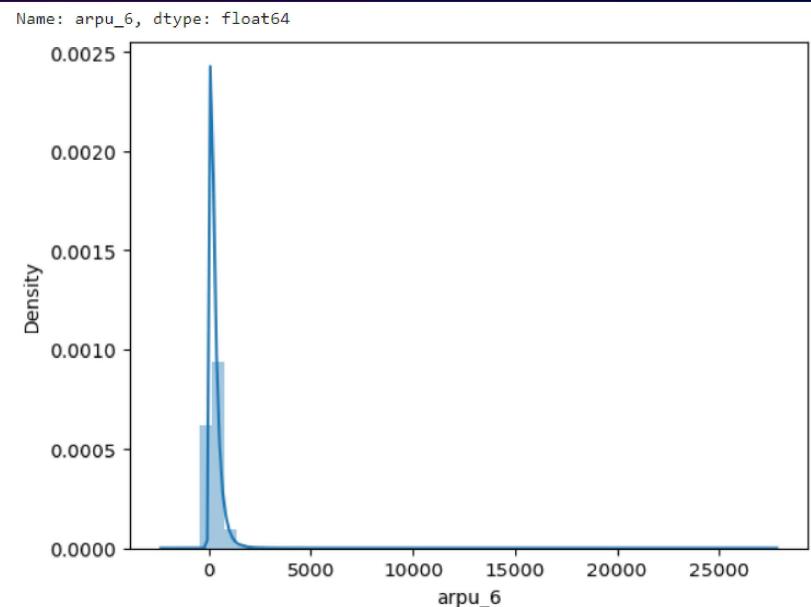
Objective

- For many incumbent operators, retaining high profitable customers is the number one business goal.
- To reduce customer churn, telecom companies need to predict which customers are at high risk of churn.
- In this project, you will analyse customer-level data of a leading telecom firm, build predictive models to identify customers at high risk of churn and identify the main indicators of churn.

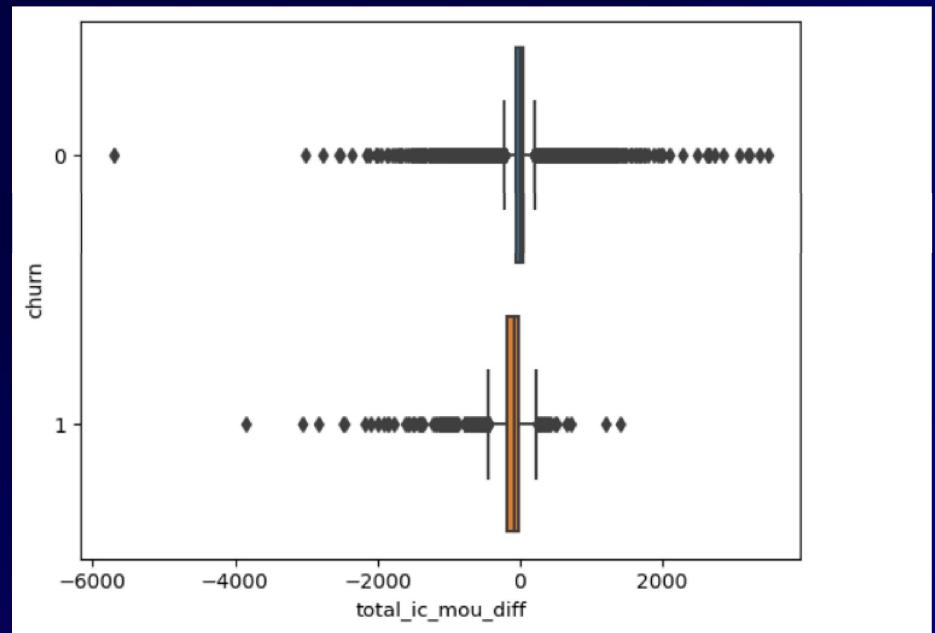
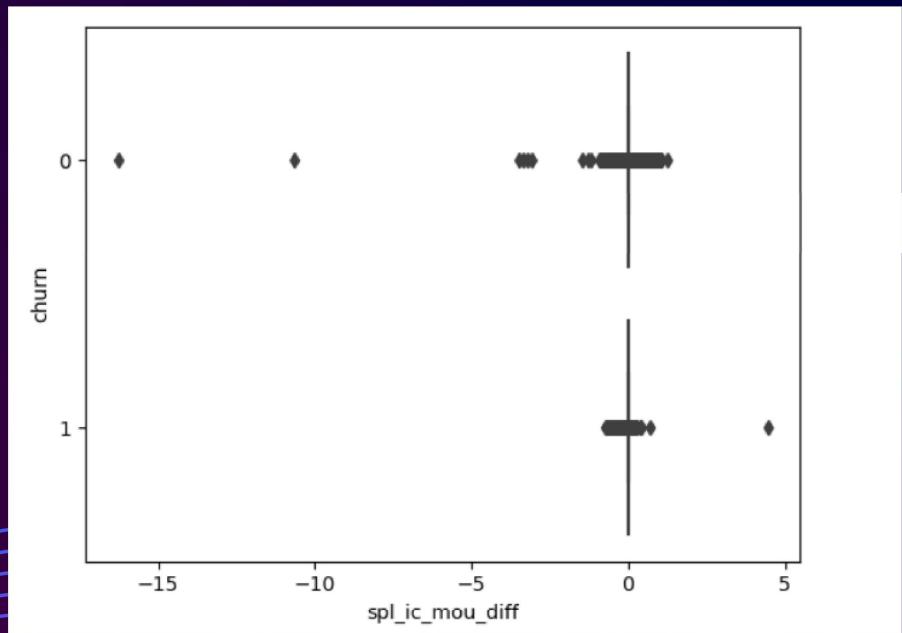
Methodology Used

- **EDA (Exploratory Data Analysis):** We have used EDA to clean the dataset, identify correlated variables, detect outliers and visualize the data.
- **Model Building:** We have used this for defining the purpose of the model, determine the model boundary, build the intrepret useful insights from the model.

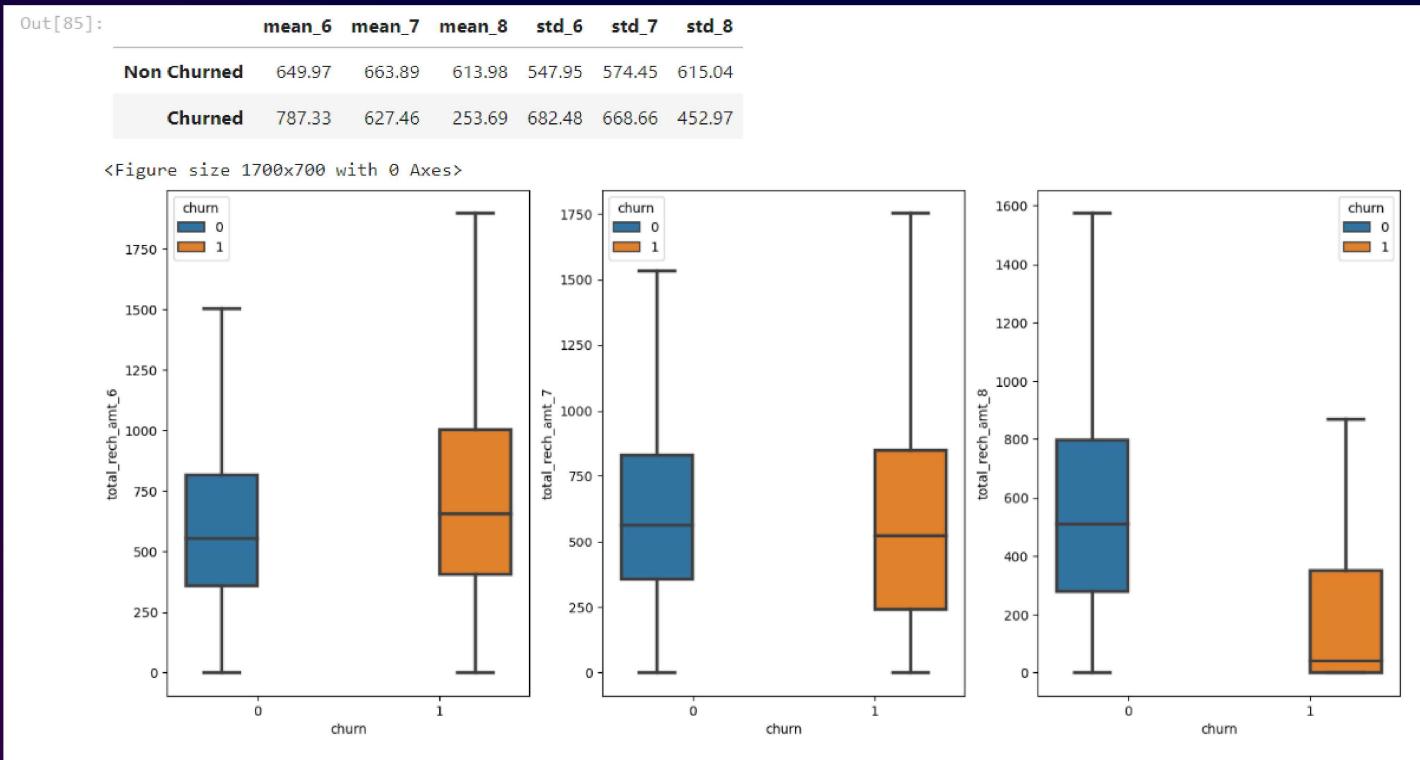
Univariate Analysis



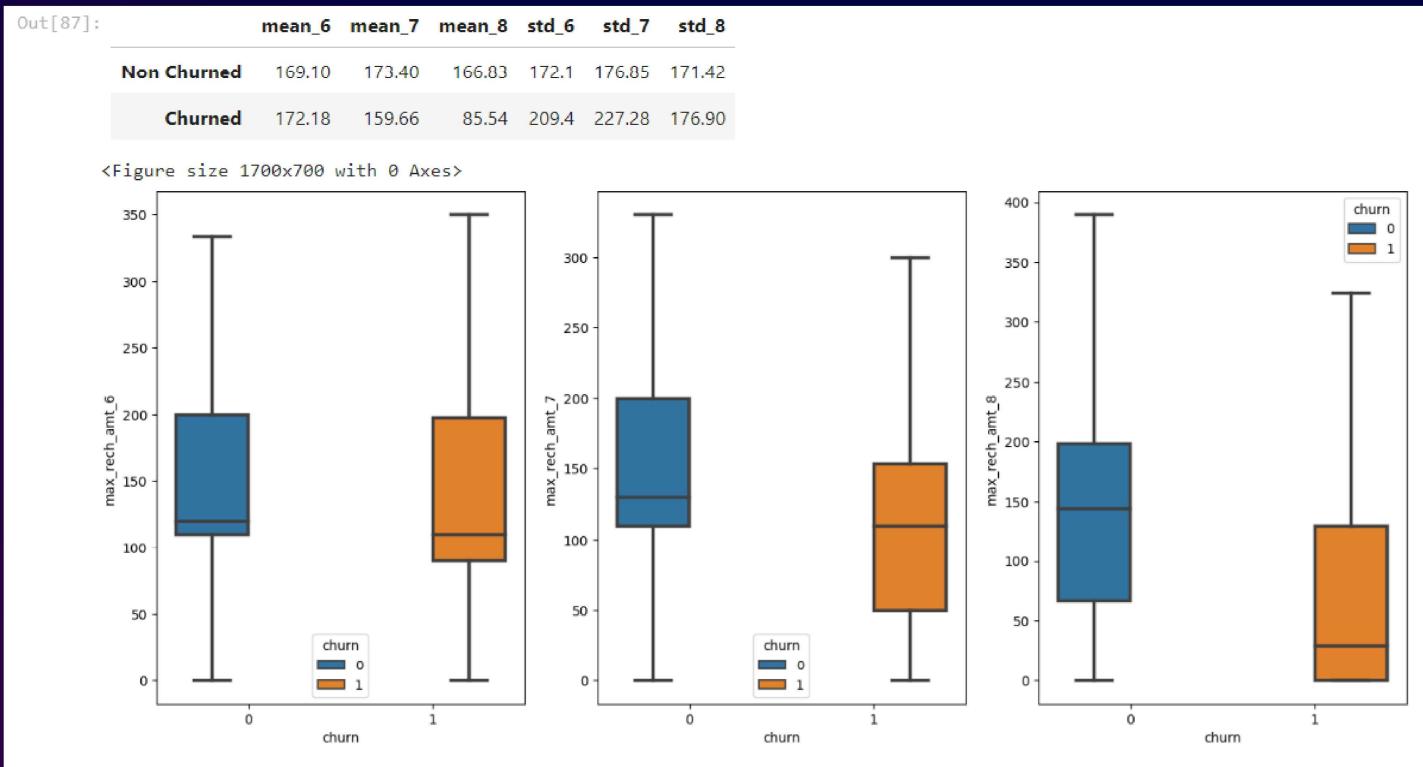
Bivariate Analysis



Churn Statistics(Mean and Standard Deviation)



Churn Statistics(Mean and Standard Deviation)



Churn Prediction on Test Data

- Sensitivity: 0.99
- Specificity: 0.96
- Accuracy: 0.994
- OOB Score: 0.99
- Sensitivity: 1.0
- Specificity: 1.0
- ROC: 1.0

Key indicators of churn

From our analysis, we observe that the primary factors influencing churn are as follows:

- **total_ic_mou_8:** Total incoming call minutes of usage in the action phase.
- **total_rech_amt_diff:** Difference in total recharge amounts.
- **total_og_mou_8:** Total outgoing call minutes of usage in the action phase.
- **arpu:** Average revenue per user.
- **roam_ic_mou_8:** Roaming incoming call minutes of usage in the action phase.
- **roam_og_mou_8:** Roaming outgoing call minutes of usage in the action phase.
- **std_ic_mou_8:** STD incoming call minutes of usage in the action phase.
- **std_og_mou_8:** STD outgoing call minutes of usage in the action phase.
- **av_rech_amt_data_8:** Average recharge amount in the action phase.

Proposed Steps to Help Reduce Churn

- Provide special discounts to customers based on their usage patterns.
- Offer additional internet services as part of recharges.
- Engage with customers to address their specific needs and preferences.
- Consider reducing tariffs for data usage and improving 2G coverage in areas where 3G is unavailable.
- Explore the expansion of the 3G network in regions where it is currently not available.

THANK YOU!