

Telecom Churn

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What is Churn?

- ▶ Here are three points that define churn from the provided text:
- ▶ **Revenue-Based Churn:** This refers to customers who have not generated any revenue through services like mobile internet, outgoing calls, or SMS within a given period. It can also be measured using aggregate metrics such as customers generating less than a specific amount of revenue per month.
- ▶ **Usage-Based Churn:** Customers who have not engaged with any services, such as making calls or using the internet, over a defined period. This definition focuses on customer activity rather than financial transactions.
- ▶ **Challenges in Predicting Churn:** Both definitions have limitations. For instance, revenue-based churn may overlook customers who only receive calls or SMS, especially in rural areas, and usage-based churn may be ineffective if predictive actions are taken too late, after the customer has already switched services.

Methods

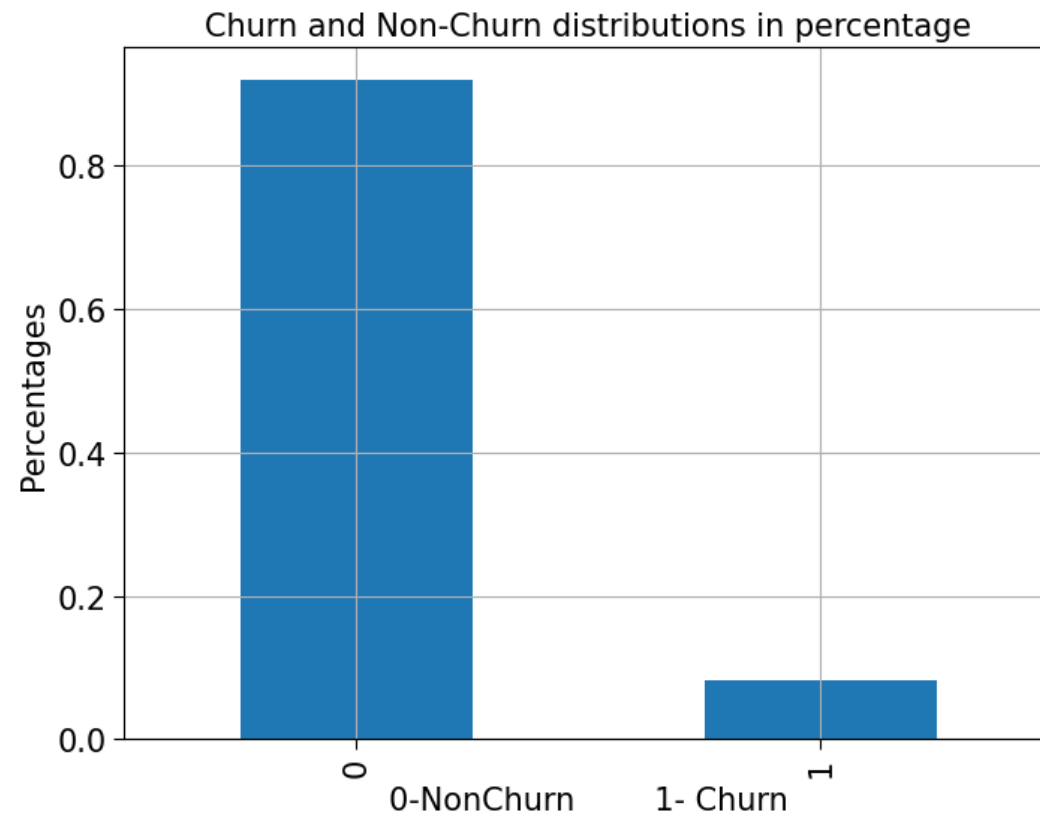
- ▶ Data preparation
 1. Filter high-value customers
 2. Tag churners and remove attributes of the churn phase
- ▶ Modelling
- ▶ Data Analysis

Dataset Description

- ▶ Dataset contains 99999 no of rows.
- ▶ 226 no of columns.
- ▶ Number of Float data type - 179
- ▶ Number of int datatype - 35
- ▶ Number of object datatype- 12

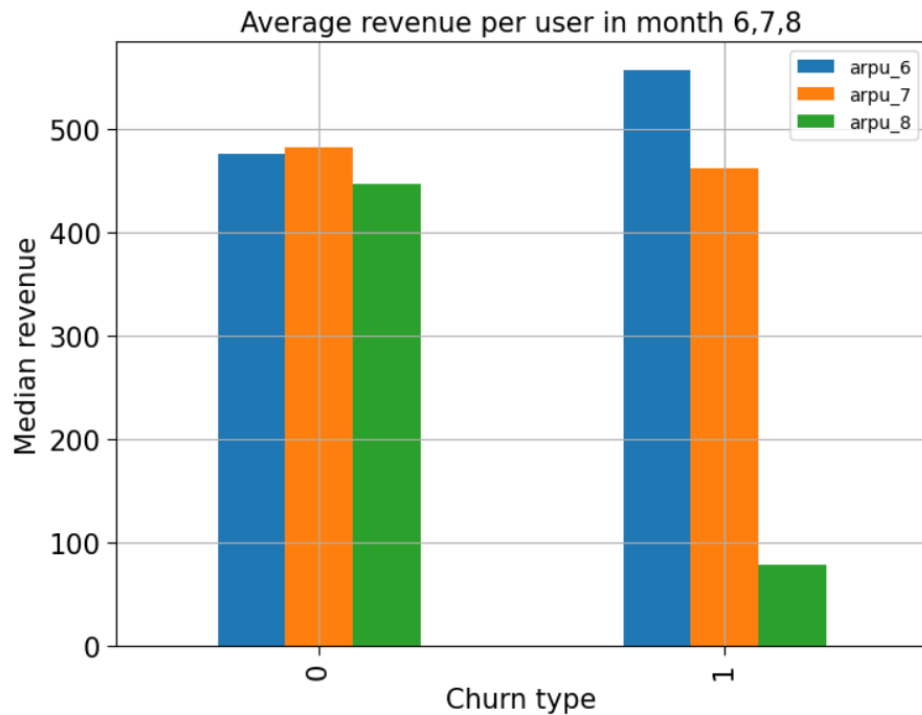
Churn VS Non-Churn

- We have 92% customers belong non-churn and 8% customers belong to Churn type.

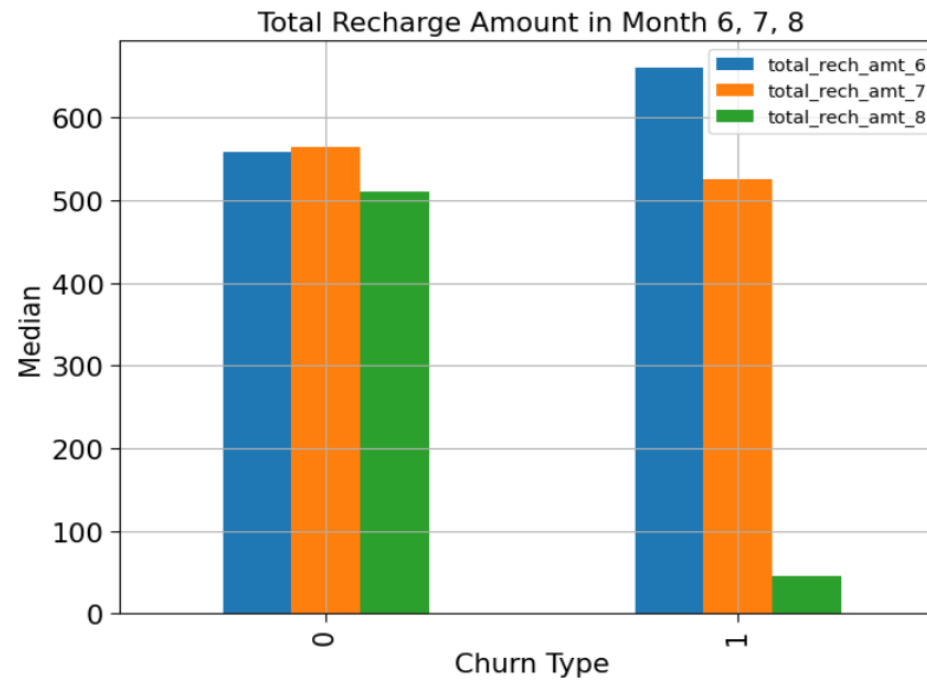


Comparing month 8 features vs month 6 and month 7 features

► average revenue per user

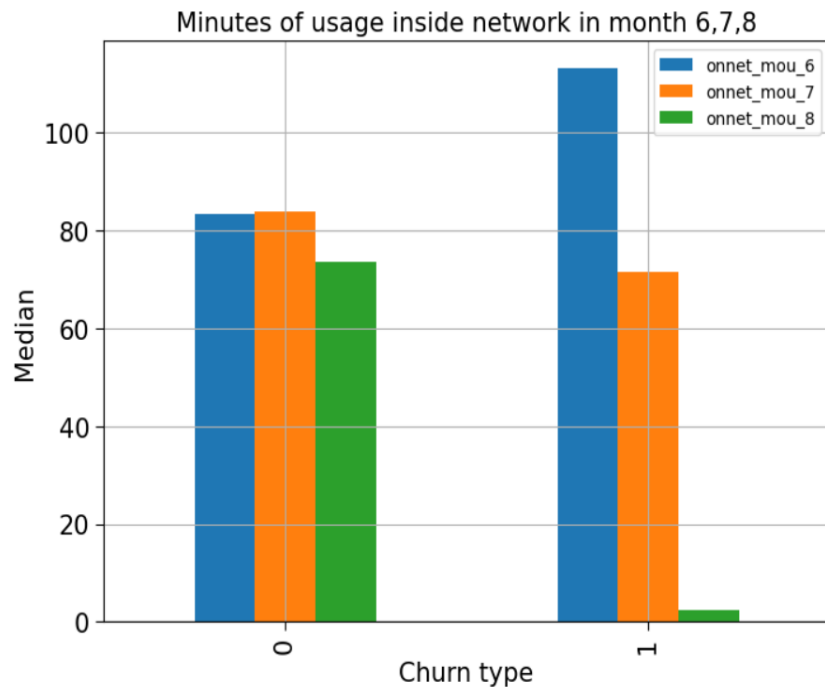


► total_rech_amt

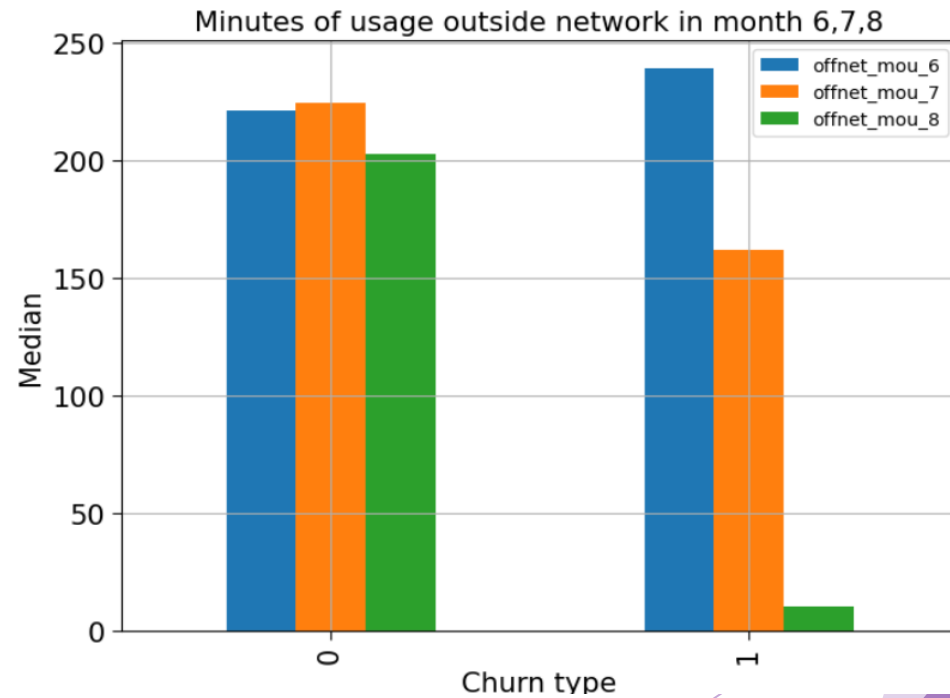


Comparing month 8 features vs month 6 and month 7 features

► onnet_mou



► offnet_mou



Model Building

- ▶ We have explored below models:
 - ▶ Logistic regression
 - ▶ Decision tree
 - ▶ Randomforest
 - ▶ Gradientboosting
 - ▶ XGboost

Conclusion

- ▶ The most important features are as shown in above graph.
- ▶ Average revenue per user more, those are likely to churn if they are not happy with the network.
- ▶ Local calls minutes of usage has also had impact on churn.
- ▶ Large difference between recharge amount between 6th and 7th month, also impact churn.
- ▶ Users who are using more Roaming in Outgoing and Incoming calls, are likely to churn. Company can focus on them too.