TELECOM CHURN CASE-STUDY

SUBMITTED BY:

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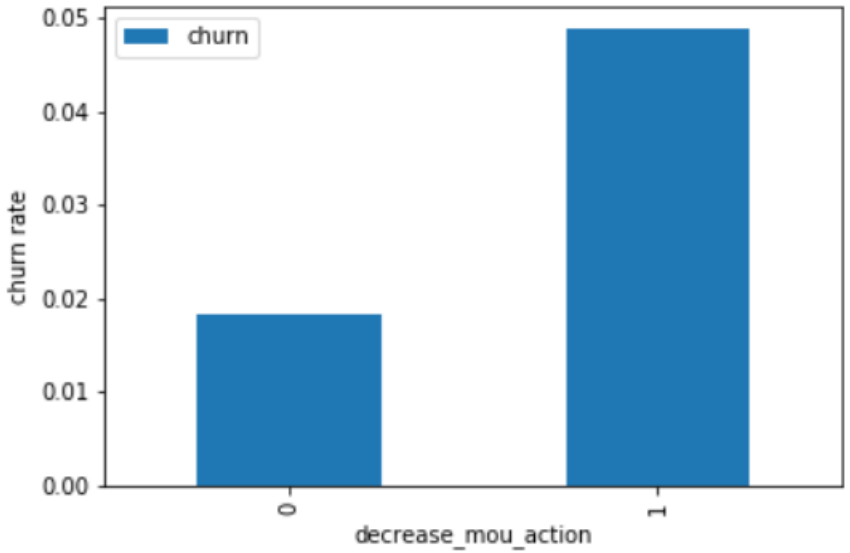
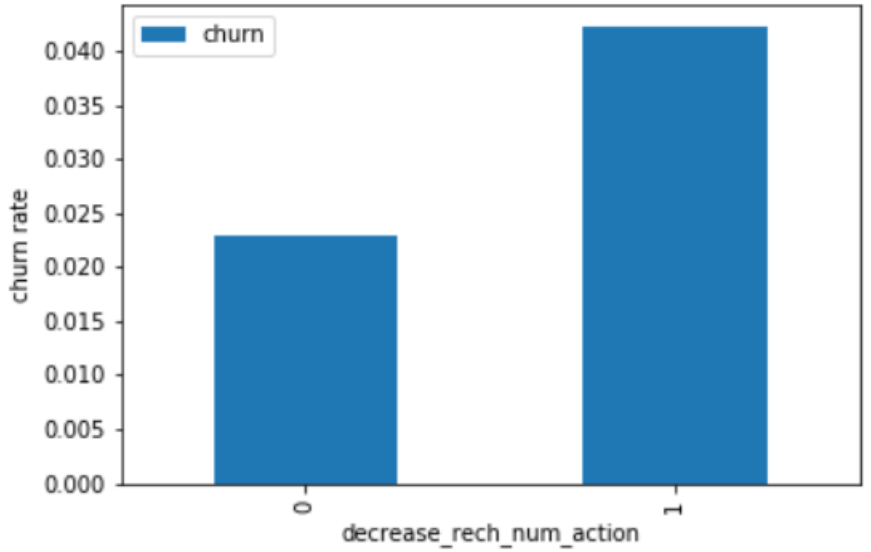
Problem Statement

In the telecom industry, customers are able to choose from multiple service providers and actively switch from one operator to another. In this highly competitive market, the telecommunications industry experiences an average of 15-25% annual churn rate. Given the fact that it costs 5-10 times more to acquire a new customer than to retain an existing one, **customer retention** has now become even more important than customer acquisition.

EXPLORATORY DATA ANALYSIS : UNIVARIATE



The churn rate is more for the customers, whose amount of recharge in the action phase is lesser than the amount in good phase.



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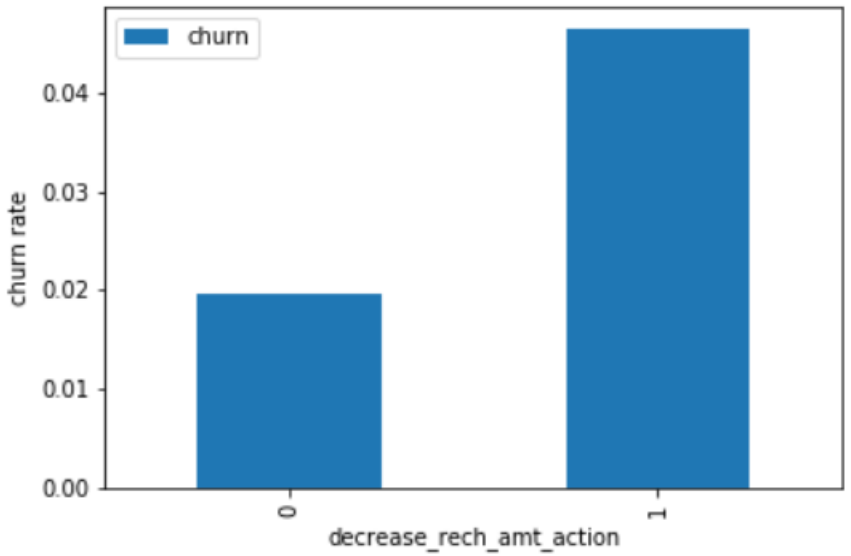

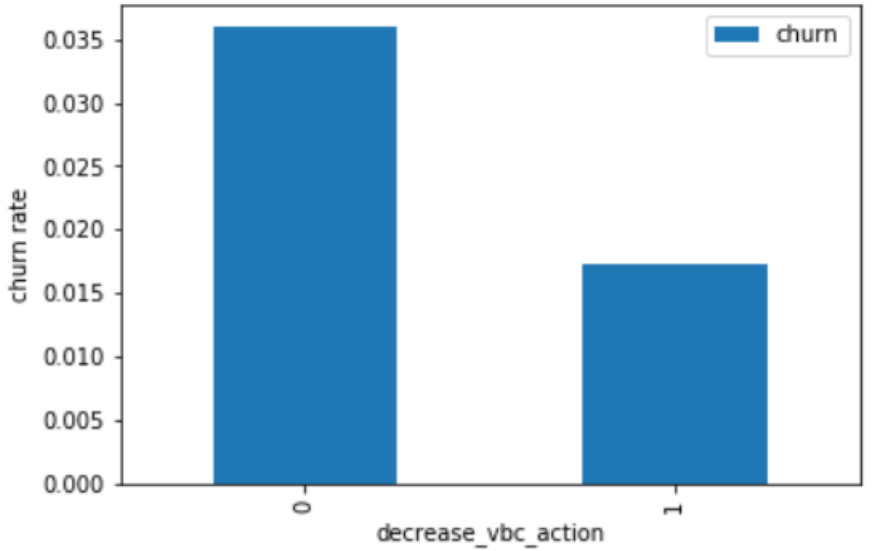

The churn rate is more for the customers, whose amount of recharge in the action phase is lesser than the amount in good phase.

Minutes of usage(MOU) of the churn customers is mostly populated on the 0 to 2500 range. Higher the MOU, lesser the churn probability.

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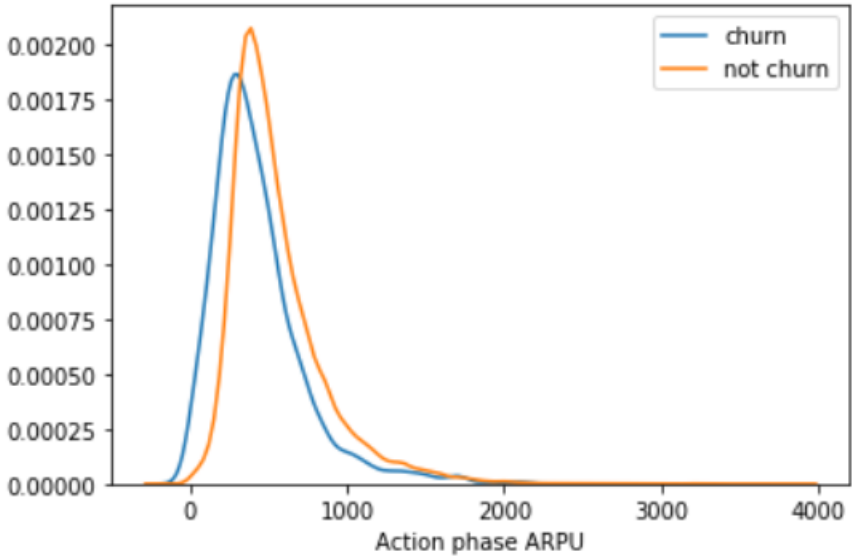

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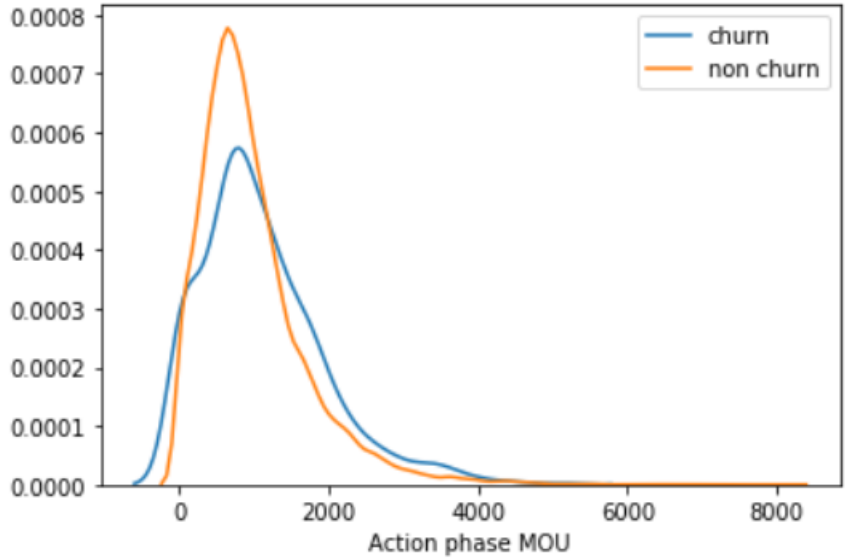

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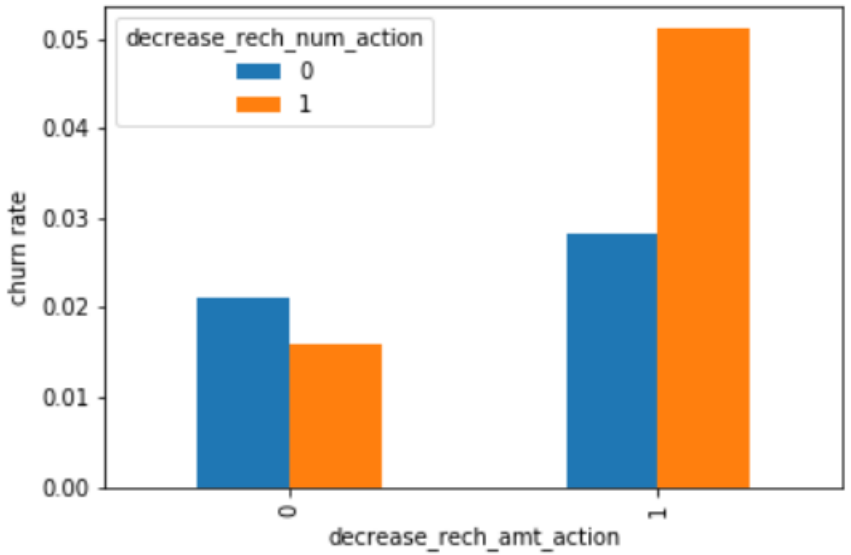

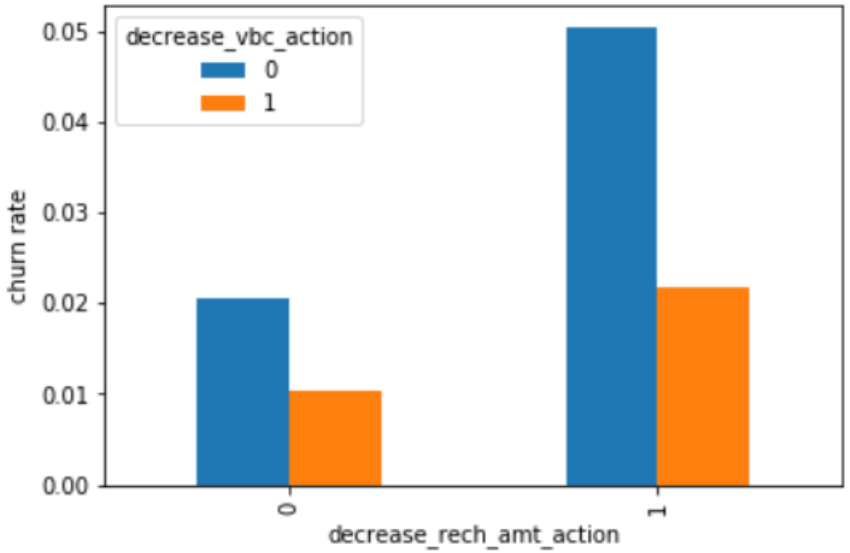

The churn rate is more for the customers, whose recharge amount as well as number of recharge have decreased in the action phase than the good phase.

The churn rate is more for the customers, whose recharge amount is decreased along with the volume based cost is increased in the action month.

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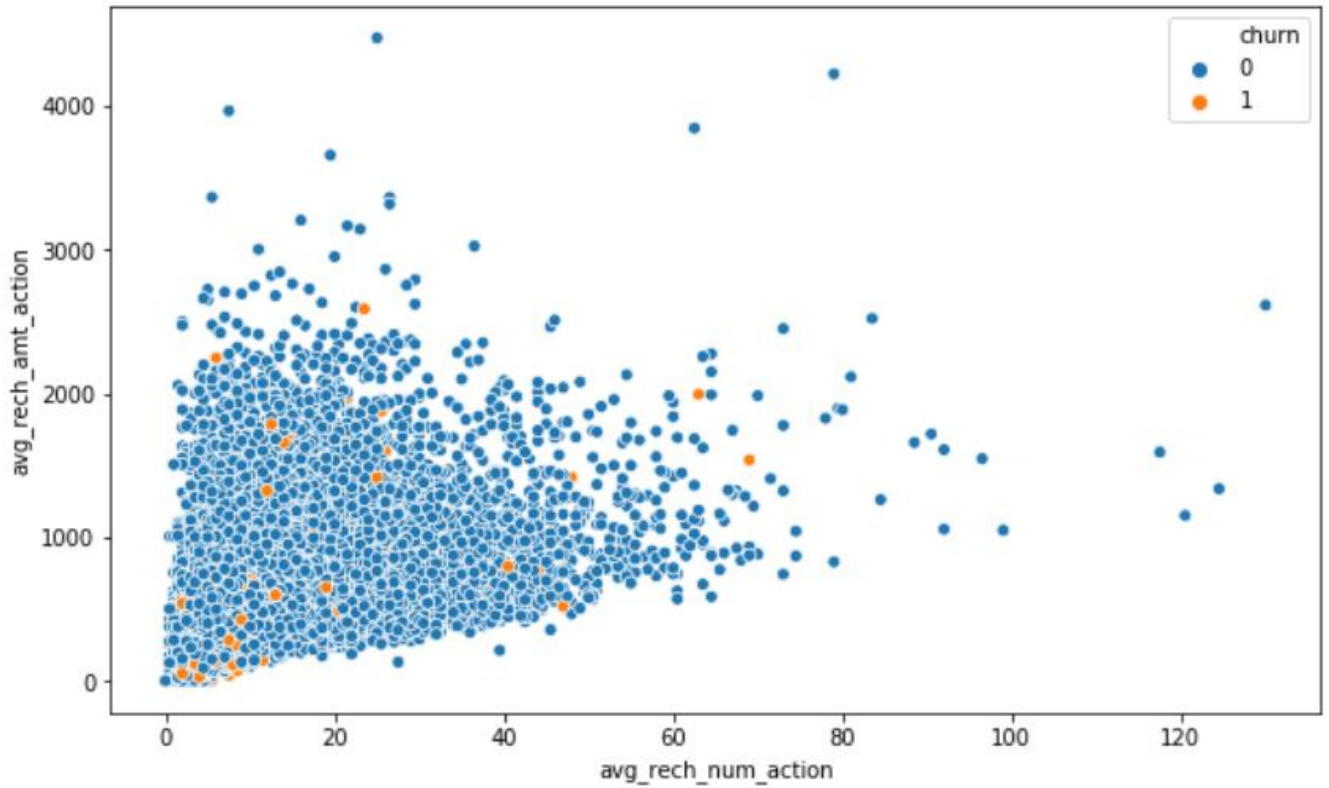
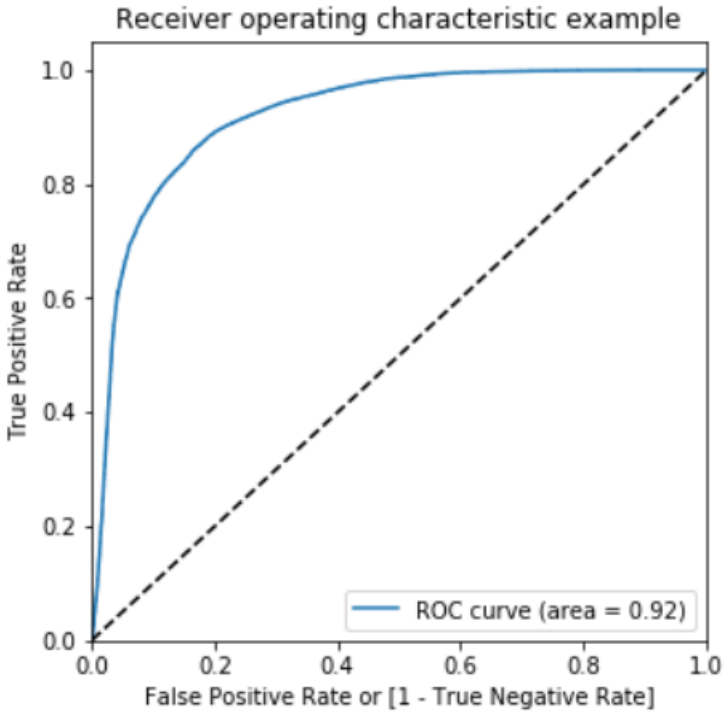


The recharge number and the recharge amount are mostly proportional. More the number of recharge, more the amount of the recharge.

ROC CURVE



Area of the ROC curve is closer to 1, whic is the Gini of the model.

Business Recommendation

1. Target the customers, whose minutes of usage of the incoming local calls and outgoing ISD calls are less in the action phase (mostly in the month of August).

2. Target the customers, whose outgoing others charge in July and incoming others on August are less.

3. Also, the customers having value based cost in the action phase increased are more likely to churn than the other customers. Hence, these customers may be a good target to provide offer.

4. Customers, whose monthly 3G recharge in August is more, are likely to be churned.

5. Customers having decreasing STD incoming minutes of usage for operators T to fixed lines of T for the month of August are more likely to churn.

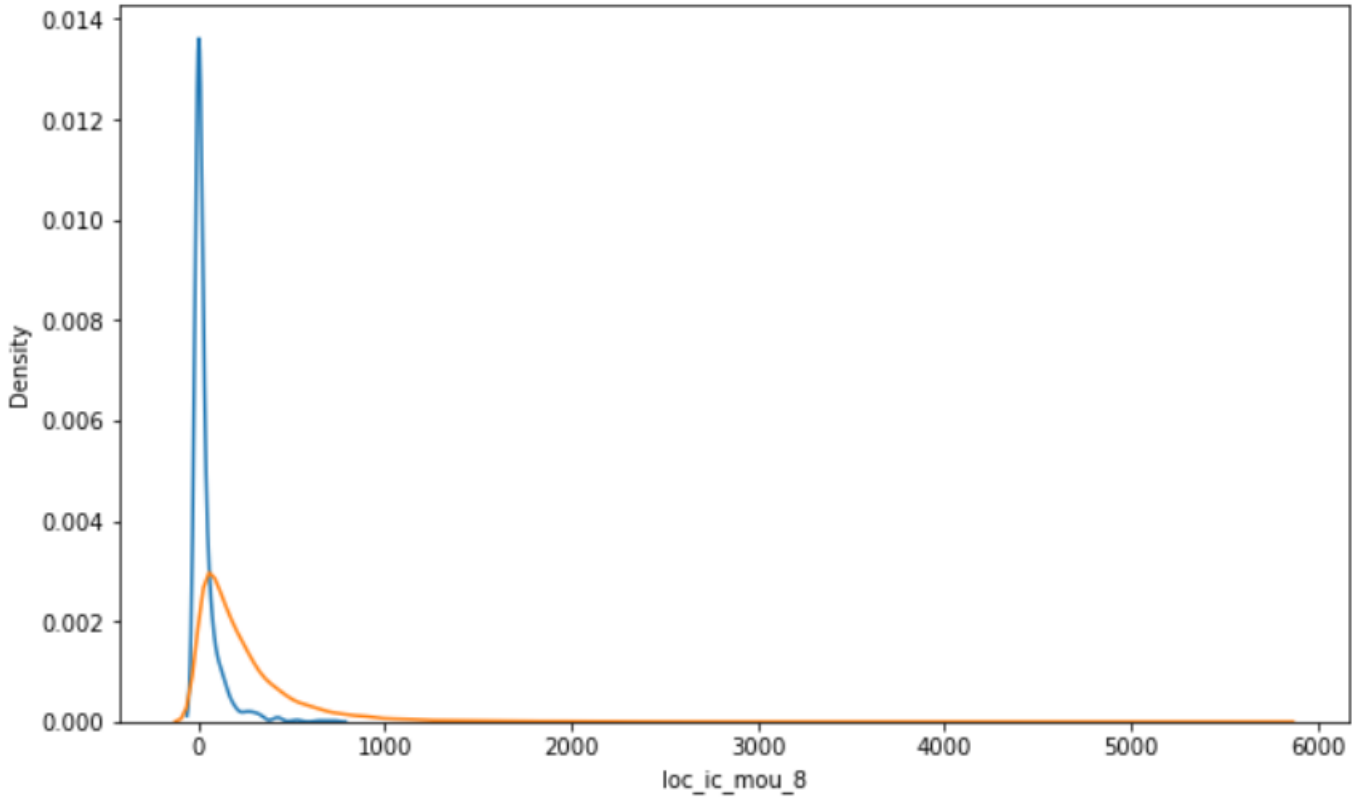
6. Customers decreasing monthly 2g usage for August are most probable to churn.

7. Customers having decreasing incoming minutes of usage for operators T to fixed lines of T for August are more likely to churn.

8. roam_og_mou_8 variables have positive coefficients (0.7135). That means for the customers, whose roaming outgoing minutes of usage is increasing are more likely to churn.

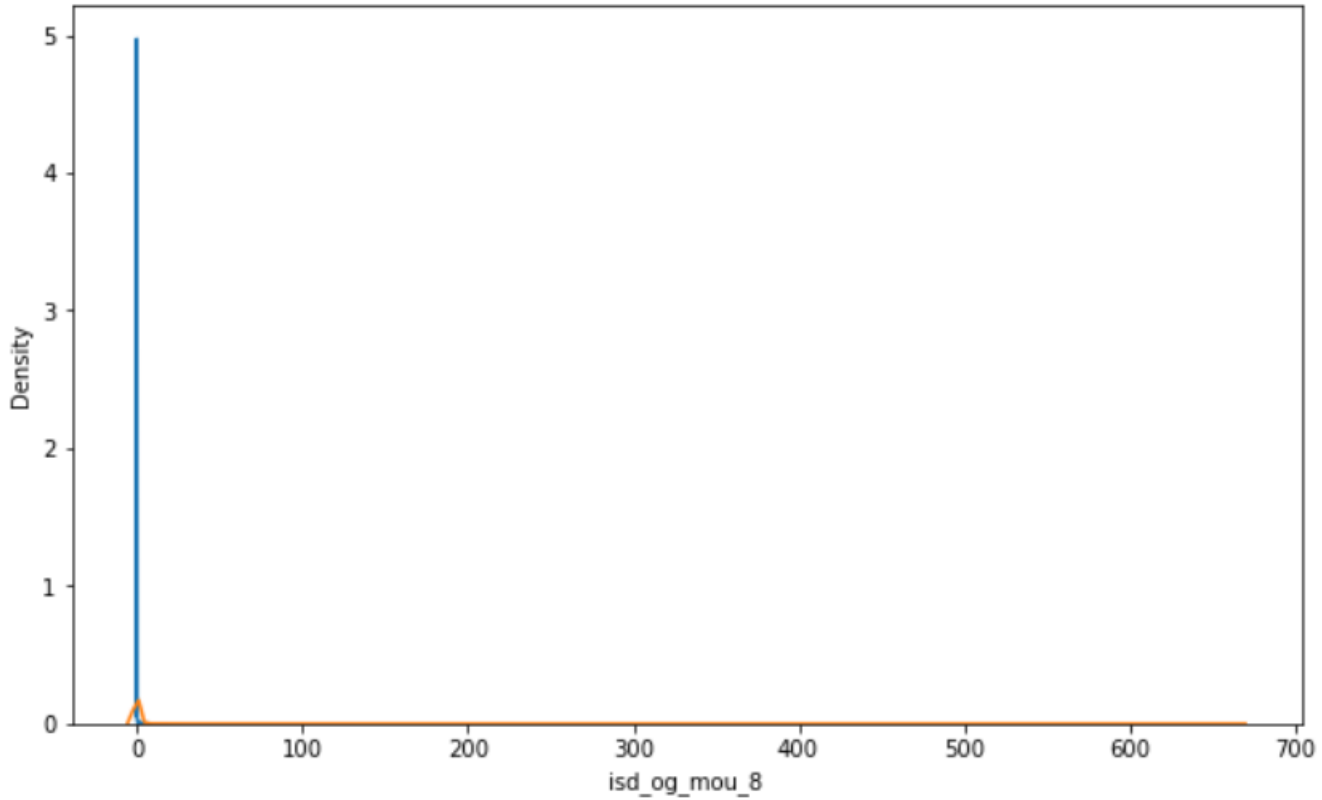
	coef	std err	z	P>|z|	[0.025	0.975]
const	-1.2058	0.032	-37.536	0.000	-1.269	-1.143
offnet_mou_7	0.3665	0.022	16.456	0.000	0.323	0.410
roam_og_mou_8	0.7135	0.024	29.260	0.000	0.666	0.761
std_og_t2m_mou_8	-0.2474	0.022	-11.238	0.000	-0.291	-0.204
isd_og_mou_8	-1.3811	0.212	-6.511	0.000	-1.797	-0.965
og_others_7	-2.4711	0.872	-2.834	0.005	-4.180	-0.762
loc_ic_t2f_mou_8	-0.7102	0.075	-9.532	0.000	-0.856	-0.564
loc_ic_mou_8	-3.3287	0.057	-58.130	0.000	-3.441	-3.216
std_ic_t2f_mou_8	-0.9503	0.078	-12.181	0.000	-1.103	-0.797
ic_others_8	-1.5131	0.129	-11.771	0.000	-1.765	-1.261
total_rech_num_8	-0.5060	0.018	-28.808	0.000	-0.540	-0.472
monthly_2g_8	-0.9279	0.044	-21.027	0.000	-1.014	-0.841
monthly_3g_8	-1.0943	0.046	-23.615	0.000	-1.185	-1.004
decrease_vbc_action	-1.3293	0.072	-18.478	0.000	-1.470	-1.188

Churn VS Non-Churn



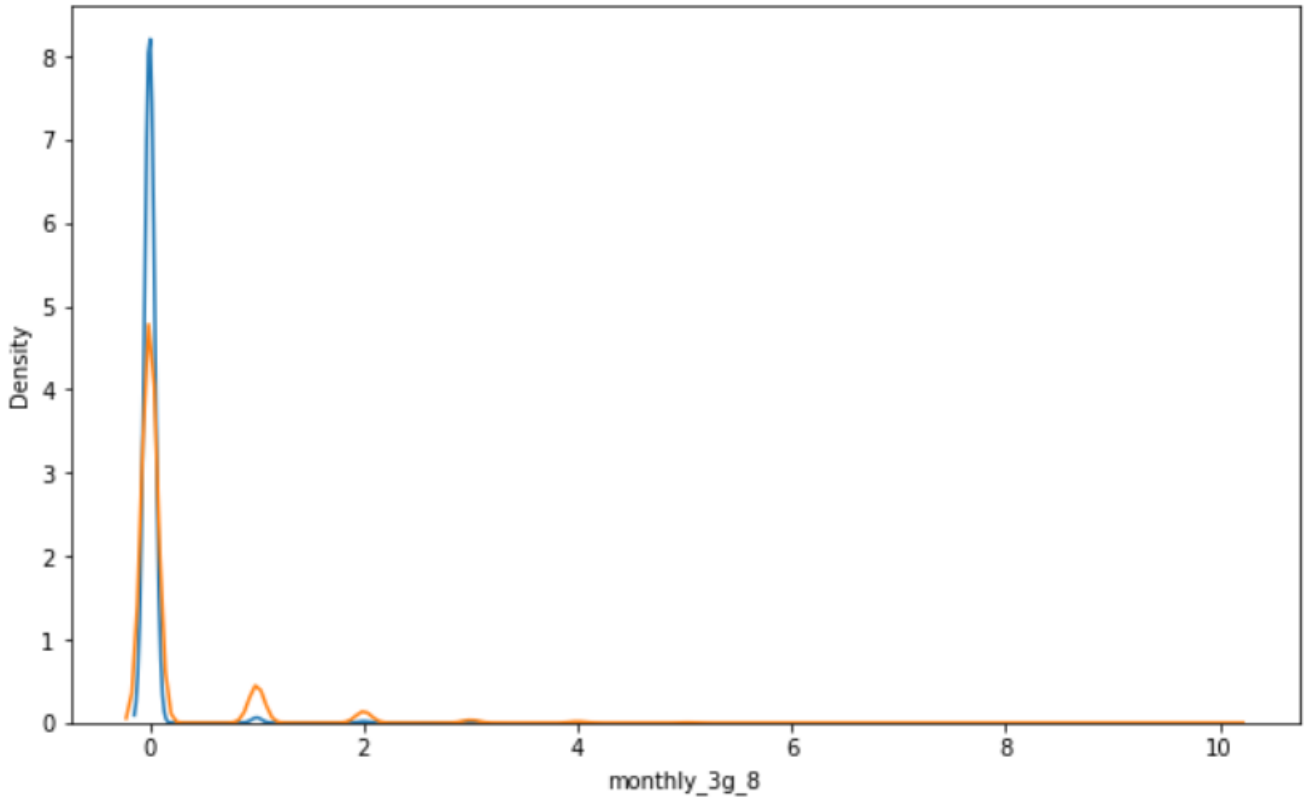
We can see that for the churn customers the minutes of usage for the month of August is mostly populated on the lower side than the non churn customers.

CHURN VS NON-CHURN : ISD OUTGOING



The ISD outgoing minutes of usage for the month of August for churn customers is dense approximately to zero. On the onther hand for the non churn customers it is little more than the churn customers.

CHURN VS NON-CHURN: DATA USAGE



The number of monthly 3g data for August for the churn customers is mostly populated around 0, whereas of non churn customers it spread across various numbers.