



Telecom churn

Problem Statement: 1

- Telecommunications industry experiences an average of 15-25% annual churn rate.
- To reduce customer churn, telecom companies need to predict which highly profitable customers are at risk of churn.

understanding problem

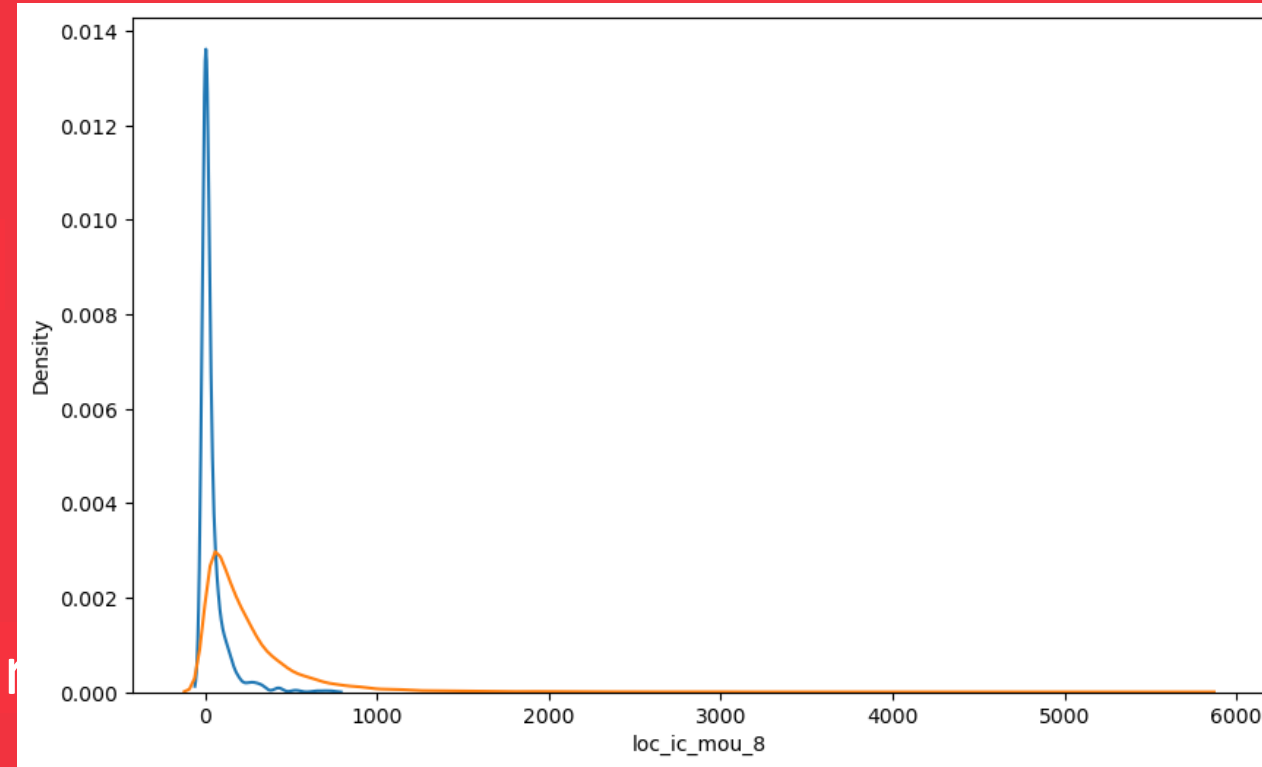
- Postpaid customers usually inform the existing operator to terminate the services, and you directly know that this is an instance of churn.
- **Prepaid customers simply stop using the services without any notice, and it is hard to know whether someone has actually churned or is simply not using the services temporarily.**

Type of churn

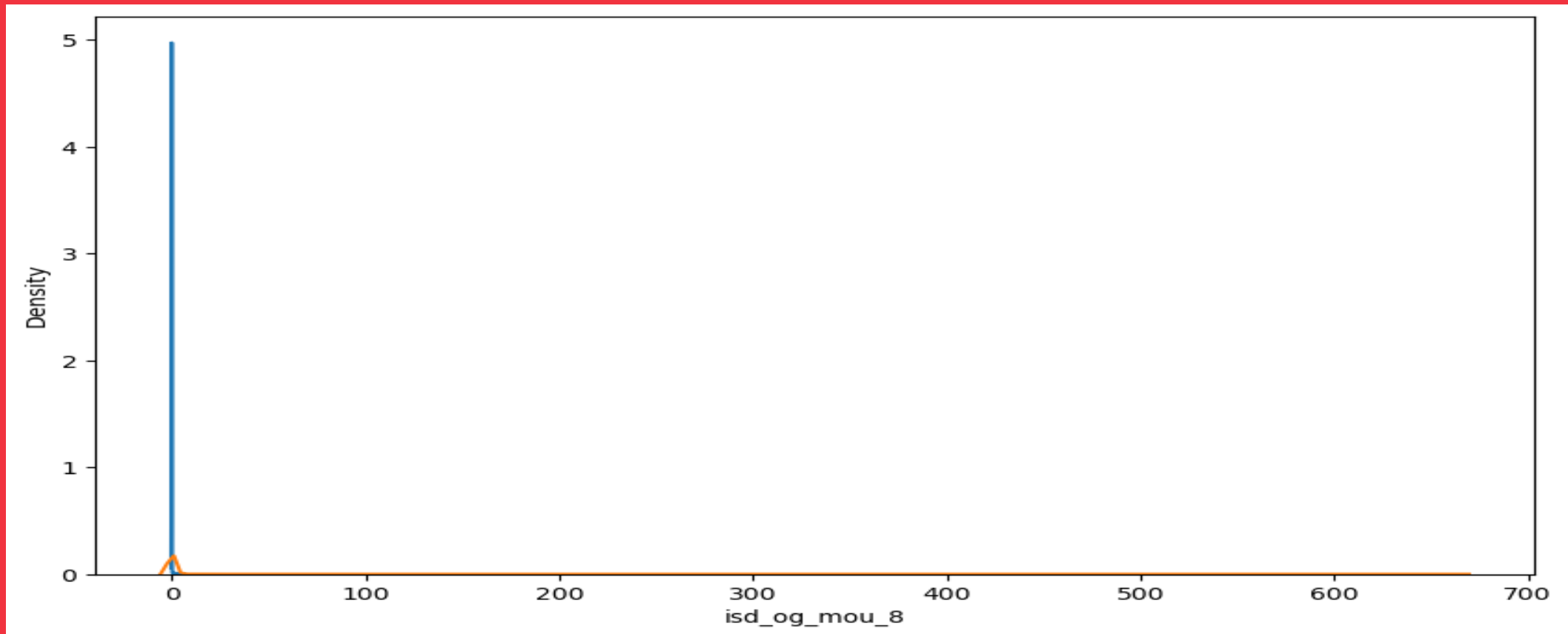
- Revenue-based churn Customers who have not utilised any revenue-generating facilities such as mobile internet, outgoing calls, SMS etc. over a given period of time.
- Usage-based churn Customers who have not done any usage, either incoming or outgoing - in terms of calls, internet etc. over a period of time.

plots:

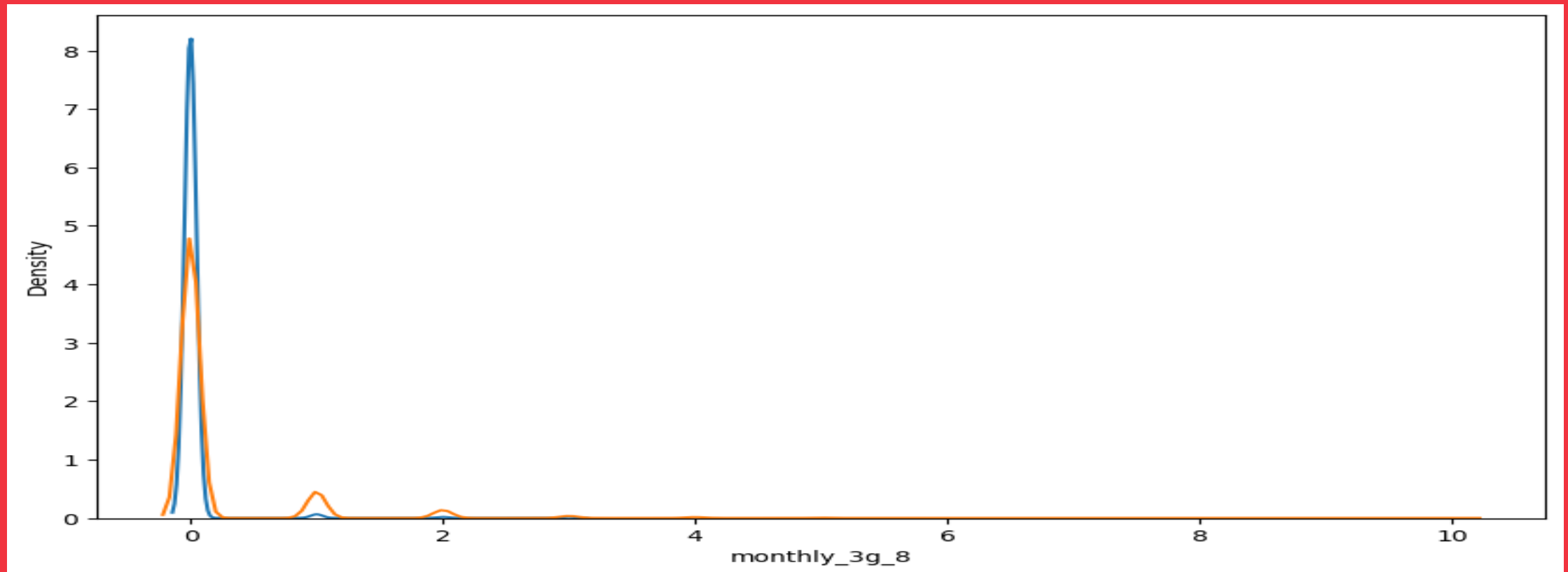
- We can see that for the churn
- customers the minutes of usage
- for the month of August is
- mostly populated on the lower
- side than the non churn customer



We can see that the ISD outgoing minutes of usage for the month of August for churn customers is densed approximately to zero. On the onther hand for the non churn customers it is little more than the churn customers.



The number of monthly 3g data for August for the churn customers are very much populated around 1, whereas for non churn customers it spreaded across various numbers.



. We can see most of the top variables have negative coefficients. That means, the variables are inversely correlated with the churn probability

Variables	Coefficients
loc_ic_mou_8	-3.3287
og_others_7	-2.4711
ic_others_8	-1.5131
isd_og_mou_8	-1.3811
decrease_vbc_action	-1.3293
monthly_3g_8	-1.0943
std_ic_t2f_mou_8	-0.9503
monthly_2g_8	-0.9279
loc_ic_t2f_mou_8	-0.7102
roam_og_mou_8	0.7135

Recommendations:

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).

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

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.

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

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.

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

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

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.