



Telecom Churn- Domain Oriented Case Study

To predict the churn using the data

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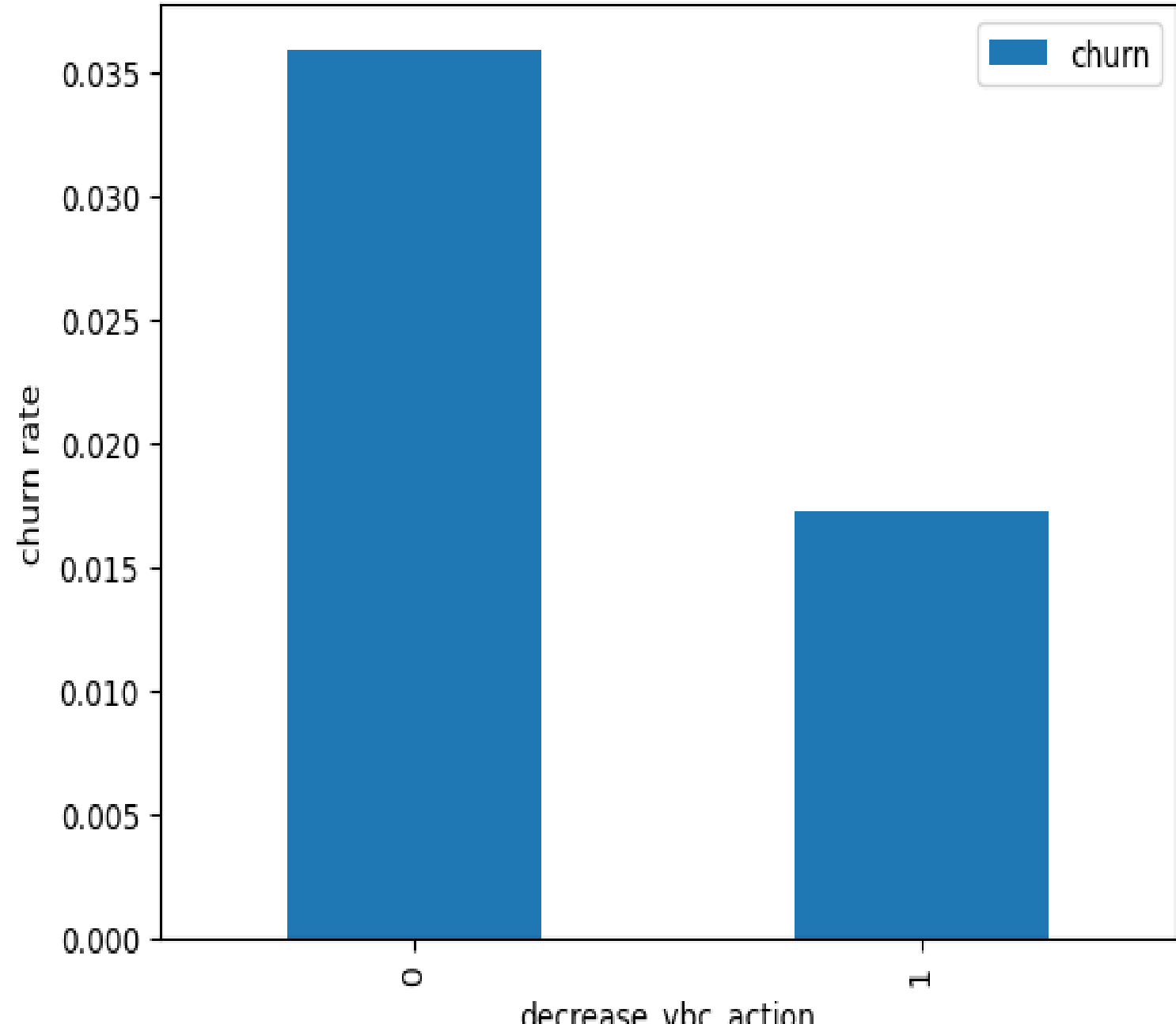
To Analyze customer-level data of a leading telecom firm

To create a model to identify customers at high risk of churn.

To identify the main indicators of churn .

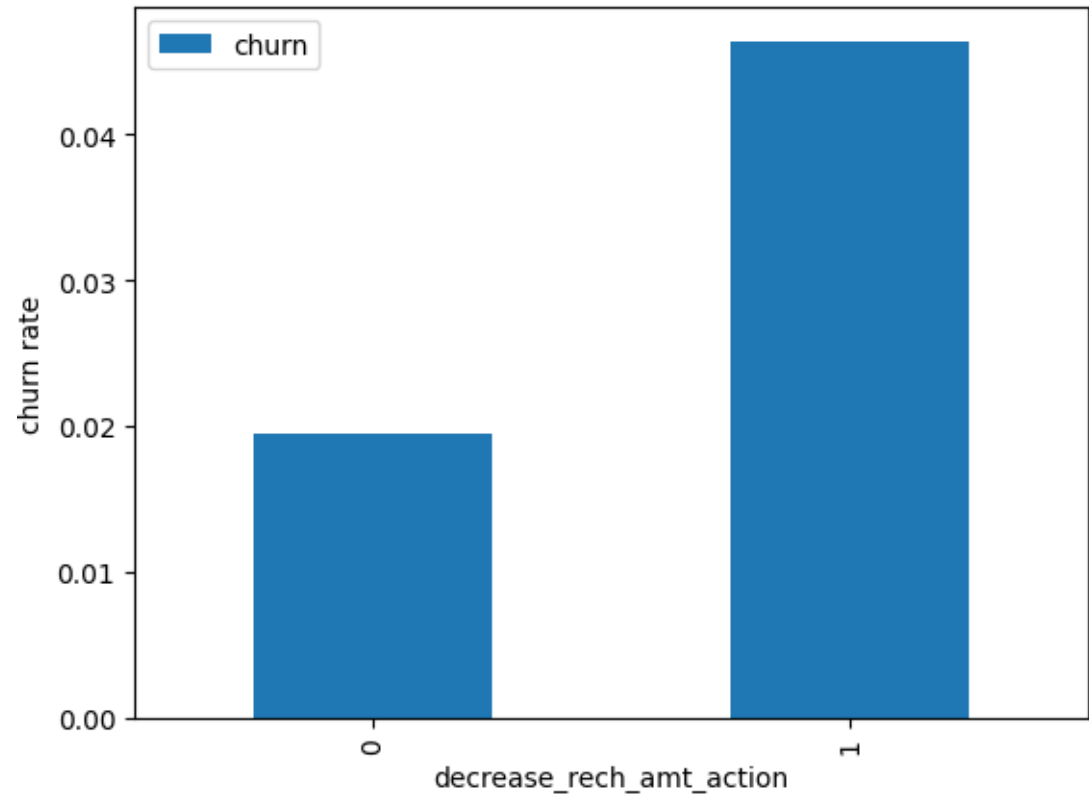
Churn rate on the bases of customer decreased her/his MOU in the action month

Customers whose minutes of usage (MoU) decreased in the action phase have a higher churn rate than those whose minutes of usage increased in the good phase.



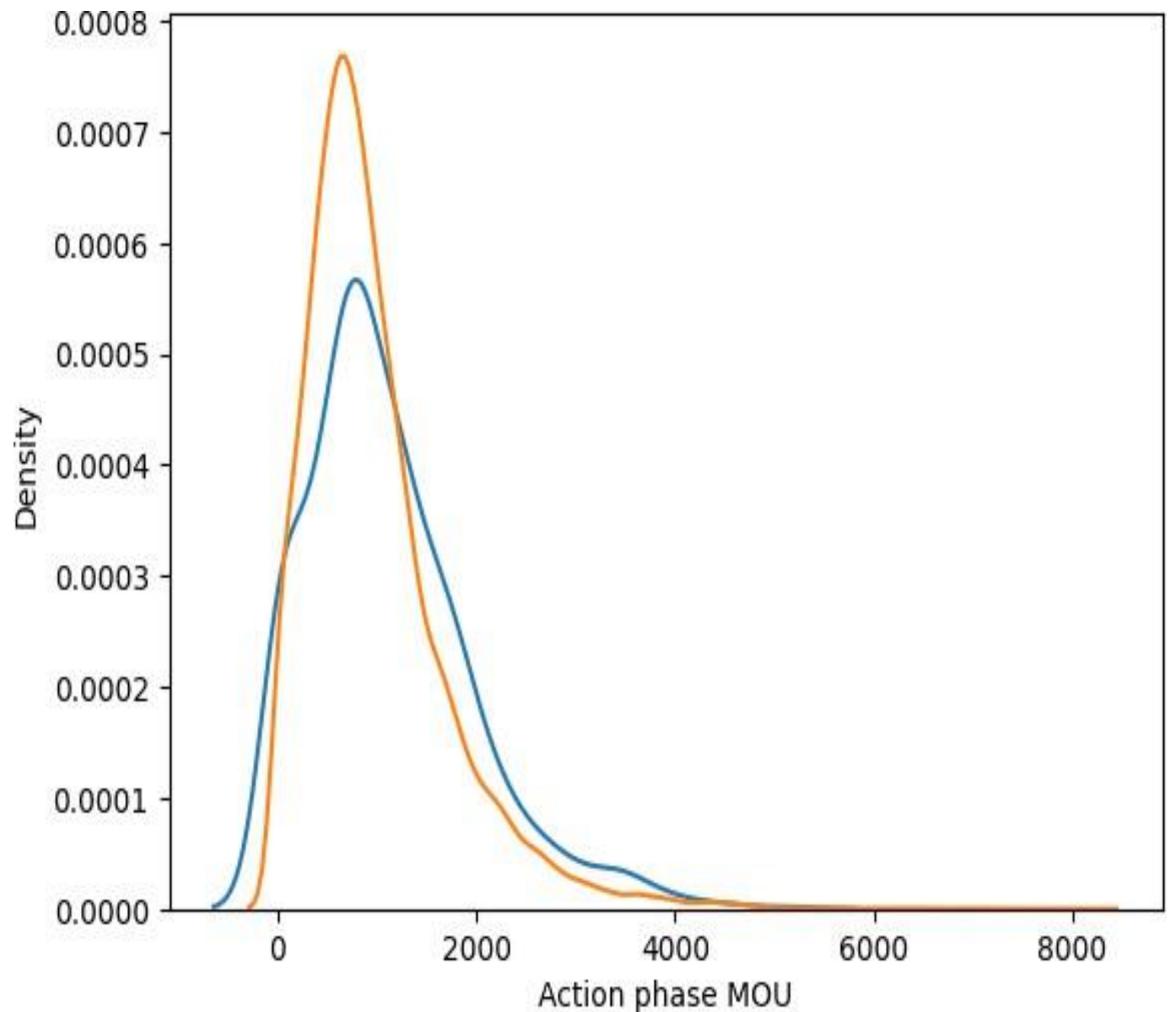
Churn rate on the basis of the customer decreased the amount of recharge

The churn rate is more for the customers as we see in the above graph the amount of recharge in the action phase is lesser than the amount in the good phase.



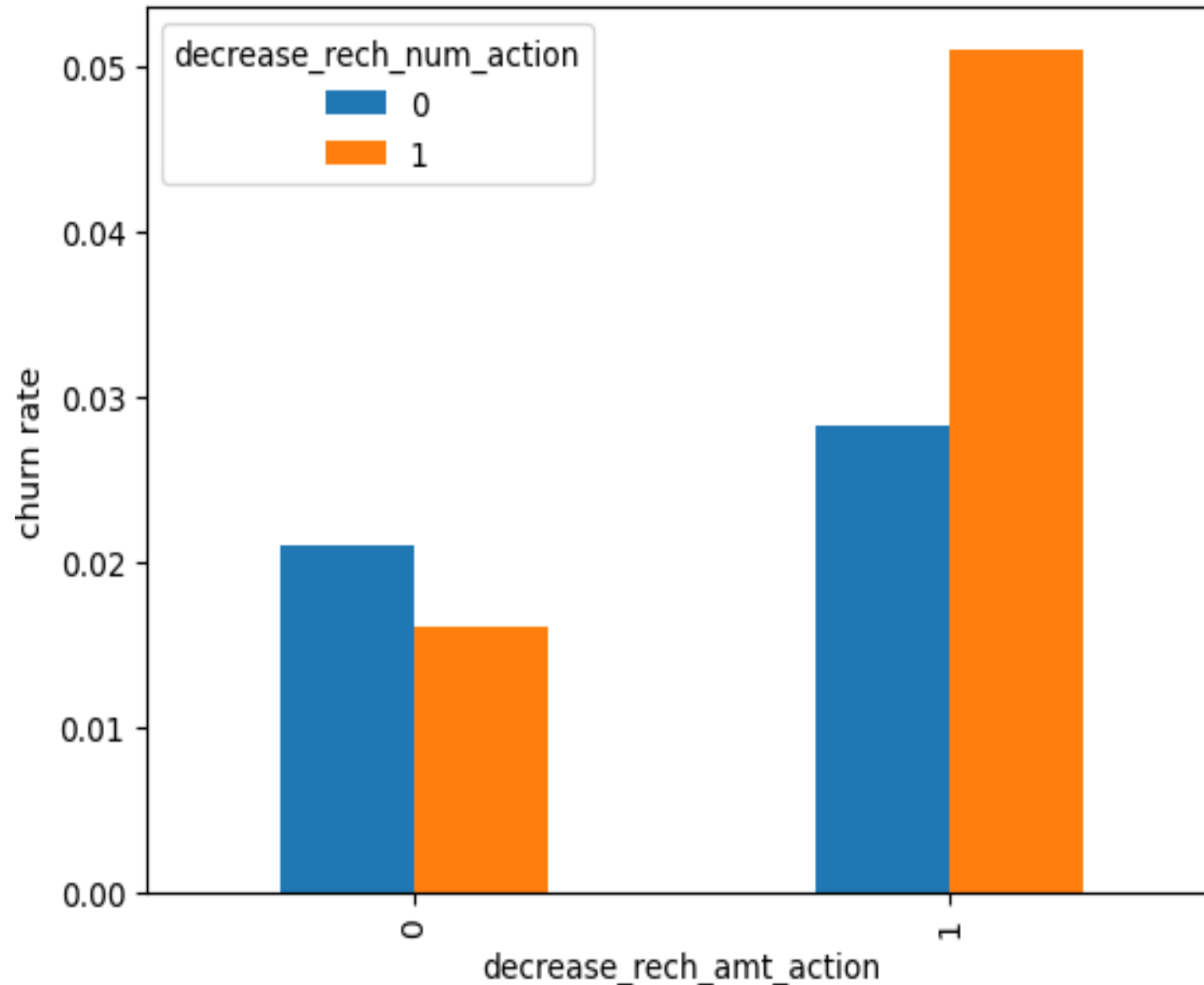
Analysis of the minutes of usage MOU (churn and not churn) in the action phase

Customers that churn tend to have minutes of usage (MOU) that range from 0 to 2500. Higher the MOU, the lesser the churn probability



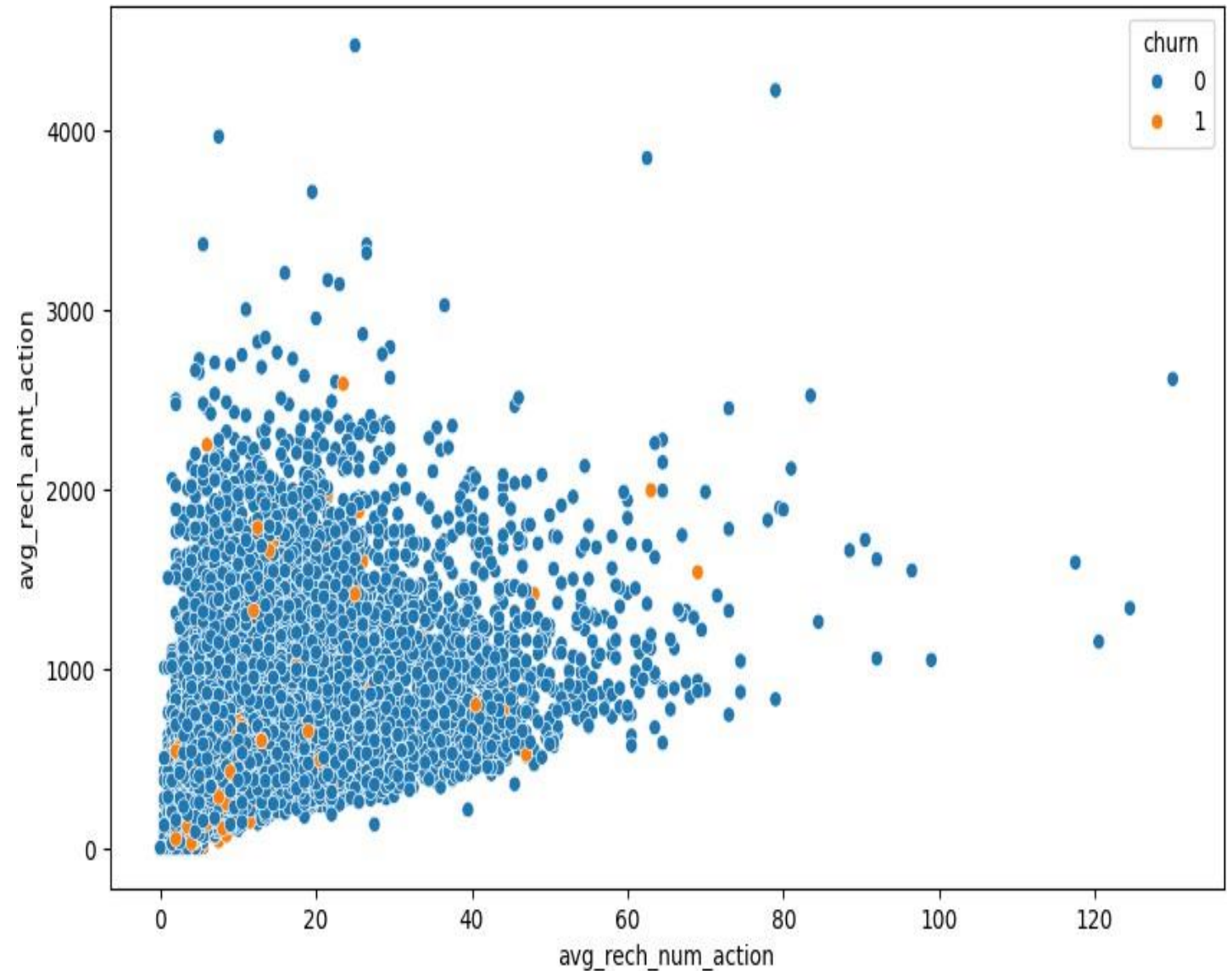
Analysis of churn rate by the decreasing recharge amount and number of recharge in the action phase

Customers churns that decreasing recharge amount and number of recharge

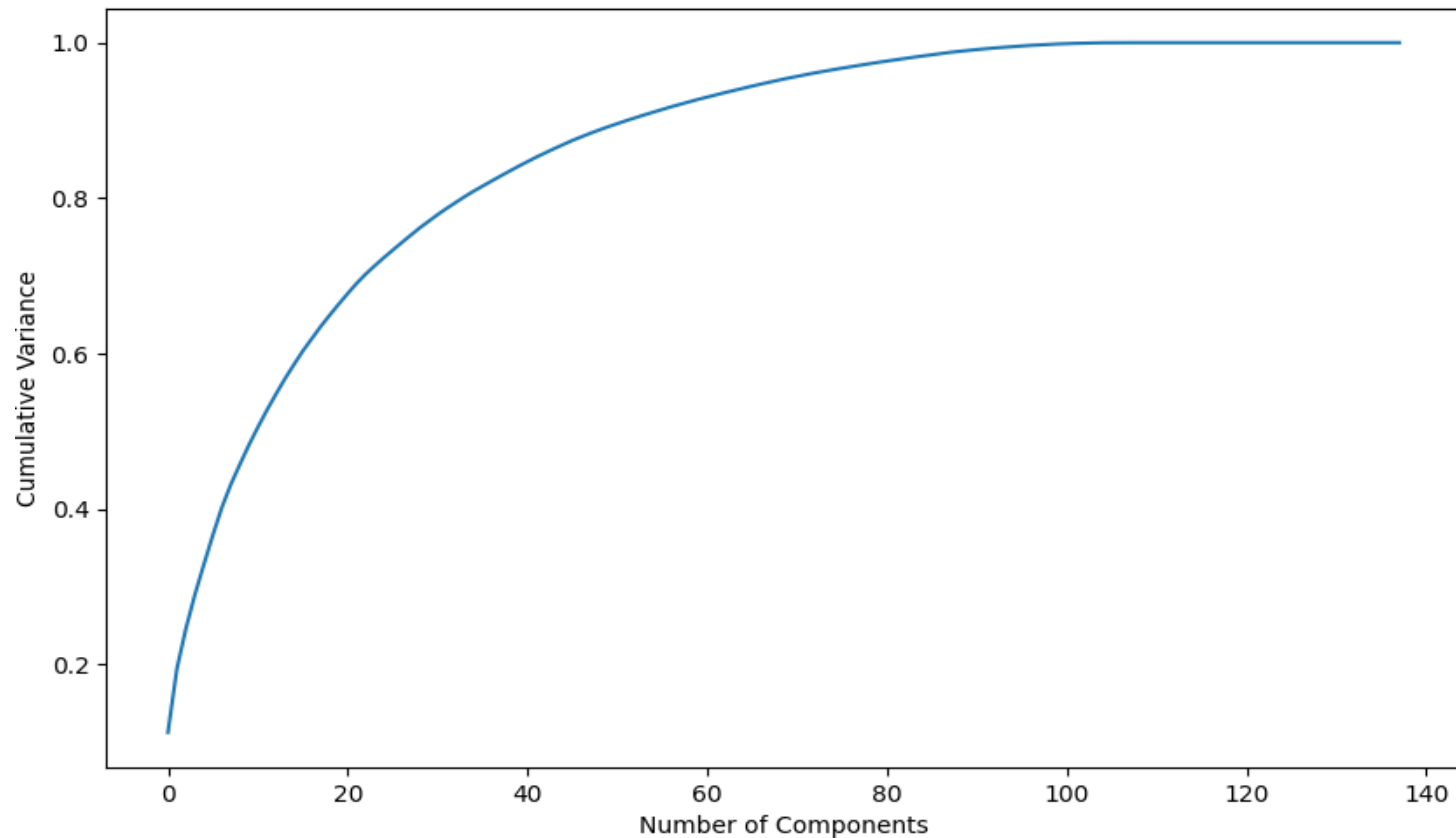


Analysis of recharge amount and number of recharge in action month

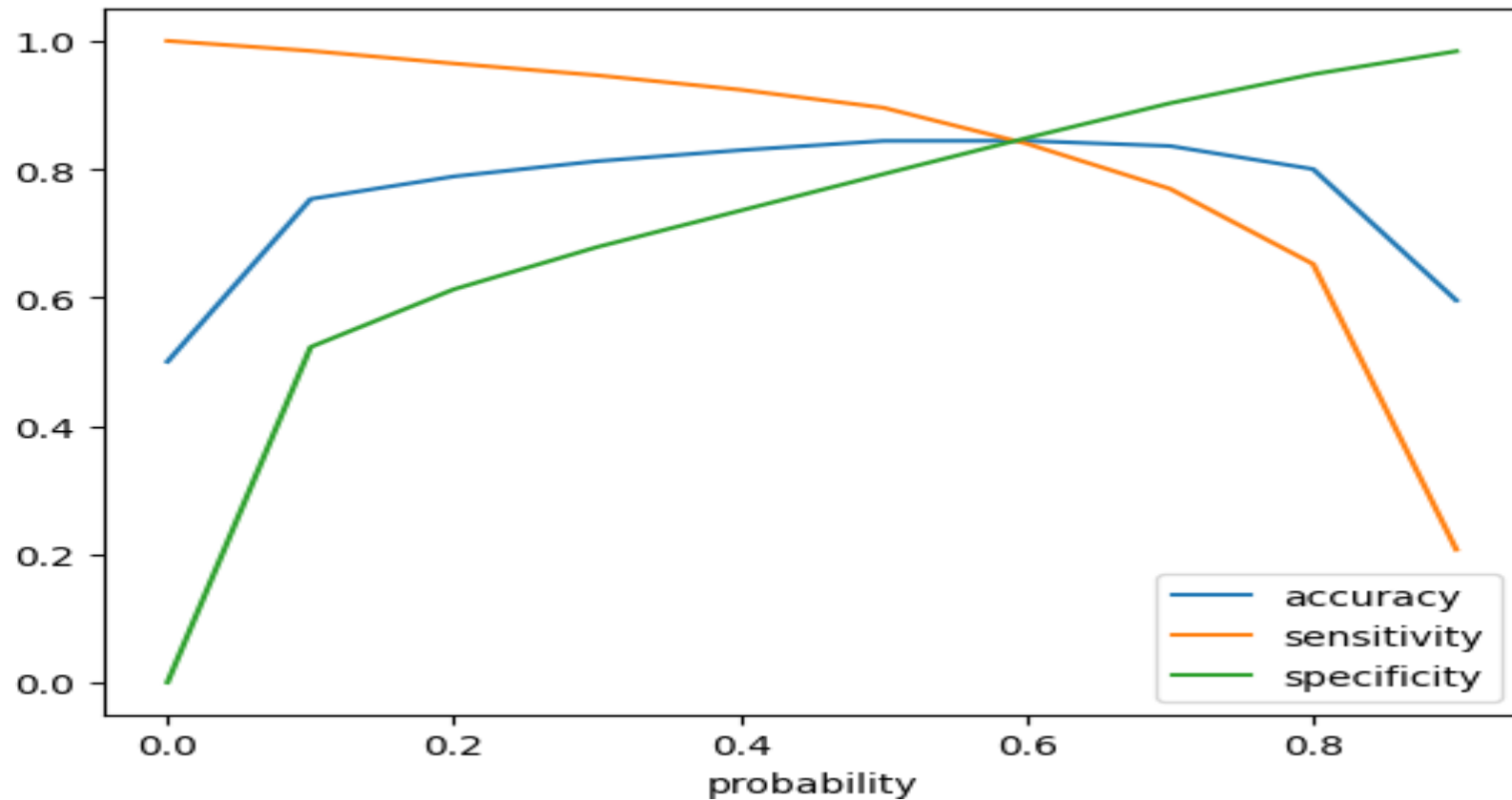
Here we see the higher the
number of recharges, the Higher
the amount of the recharge



We can see that `60 components` explain almost more than 90% variance of the data. So, we will perform PCA with 60 components.



Here we see accuracy, sensitivity and specificity for different probabilities



Analysis of the above curve

Accuracy - Becomes stable around 0.6

Sensitivity - Decreases with the increased probability.

Specificity - Increases with the increasing probability.

HERE WE ARE INTENDED TO ACHIEVE BETTER SENSITIVITY THAN ACCURACY AND SPECIFICITY. THOUGH AS PER THE ABOVE CURVE, WE SHOULD TAKE 0.6 AS THE OPTIMUM PROBABILITY CUTOFF, WE ARE TAKING **0.5** FOR ACHIEVING HIGHER SENSITIVITY, WHICH IS OUR MAIN GOAL.

Conclusion and Strategy

1. From EDA, we observed that there is a considerable drop in recharge, call usage and data usage in the 8th month which is the `Action Phase`
2. Average revenue per user in the `7th month` plays a vital role in deciding churn. A sudden drop in it might indicate that the customer might be thinking about churning ,
3. Local Minutes of usage (outgoing) are the most affecting features on the customer churn.
4. Roaming Minutes of usage (incoming & outgoing) are also affecting features on the customer churn.
5. Total minutes of usage for outgoing is also an important factor affecting the churn.

Following strategies can be incorporated

1. A sudden drop in Local Minutes of usage might be because of unsatisfactory customer service because of poor network or unsuitable customer schemes/plans. Efforts shall be made to provide a better network and focus on customer satisfaction. •
2. Based on the usage / last recharge/ net usage, routine feedback calls should be made for customer satisfaction and services that can understand their grievances & expectations. Appropriate action should be taken to avoid them from churning.
3. Various attractive offers can be introduced to customers showing a sudden drop in the total amount spent on calls & data recharge in the action phase to lure them.
4. Customized plans should be provided to such customers to stop them from churning.
5. Promotional offers can also be very helpful