BANK COSTOMER CHURN
## A Capstone Project in Data Science

Ganesh Bhandari

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Problem and it's background

- A manager at a ABC bank is disturbed because of more and more customers are leaving their credit card services. The manager would really appreciate it if someone could predict for them who is going to get churned.

- I was interested to solve the problem. I talked with the manager and he sent me a data containing records of customers at the bank. The data has 21 features.
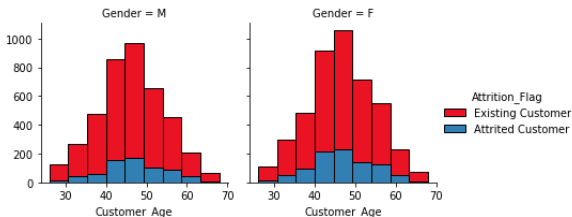
Current Situation

- 16% of the customers are gone to churn.
- 17 % of the female and 15 % of the male customers are churned.

Attrition Flag with Gender
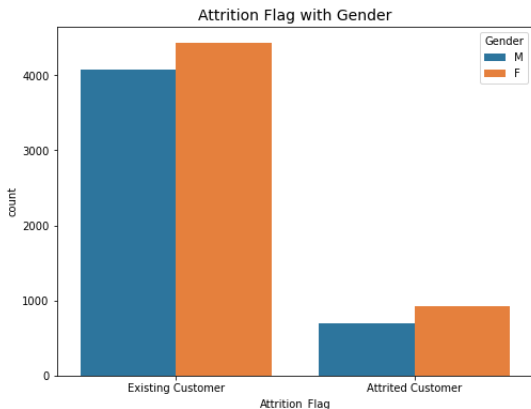
Current Situation

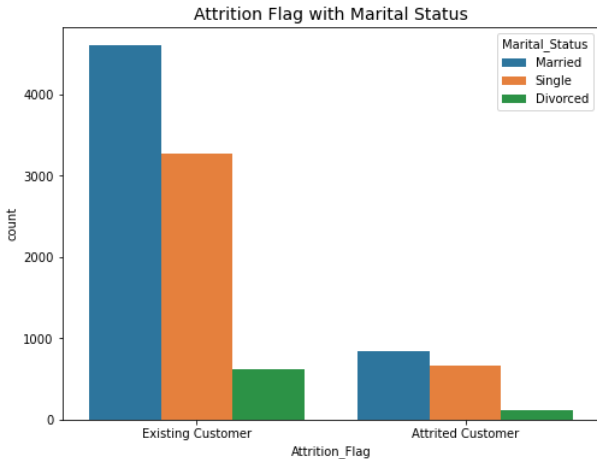- Most of the churned customers are of age 40 - 50.

Model

- I used classification algorithms like Logistic Regression, Naive Bayes, KNN, SVM, Decision Tree or Random Forest to create a suitable model.
- Based on the performance report the Random Fores model is more consistent and works better than the others.

| Algorithm	Accuracy Score	F1-score	LogLoss
Logistic Regression	0.91	0.91	0.21
Naive Bayes	0.88	0.88	0.48
KNN	0.88	0.87	1.43
SVM	0.92	0.91	NA
Decision Tree	0.92	0.92	0.22
Random Forest	0.95	0.95	0.14

Findings

- More than 16% of the customers are gone to churn.
- Divorced and Single customers have higher churned rate.

Attrition Flag with Marital Status

Findings

- 17 % of the female and 15 % of the male customers are churned.
- Most of the churned customers are of age 40 - 50.
- Customers with income level less than 40K have higher churning rate.

Attrition Flag with Income Category
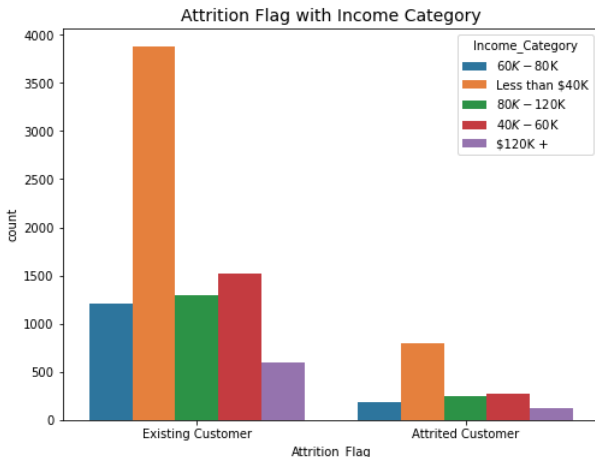
Recommendations:

- Emphasize on providing cards for male customers than female.

- Reduce the number of cases of providing cards for divorced and Single customers

- Reduce the number of cases of providing cards for the people of age around 40-50.

- Reduce the number of providing cards for the customers with income level less than 40K.

- Apply all the credit check methods strictly, collect correct data and do good research about the costumers before providing any credit card service.

- Apply the model for each customers information to predict whether the customer will be churned or not.

QUESTIONS?

THANK YOU!!!