ISM 6136 - Final Group Project
Group D

Group Members -

Himanshu Prajapati
Animesh Bhawtankar
Niveditha Yeginati
Sai Kiran Pemmasani

The problem statement -

The bank is facing a concerning trend of increasing customer attrition in their credit card services. To address this issue, they seek a predictive model that can identify customers likely to churn. By proactively engaging with these identified customers, the bank aims to provide personalized services and incentives, with the goal of retaining customers and reversing the decision to leave the credit card services.

Motivation

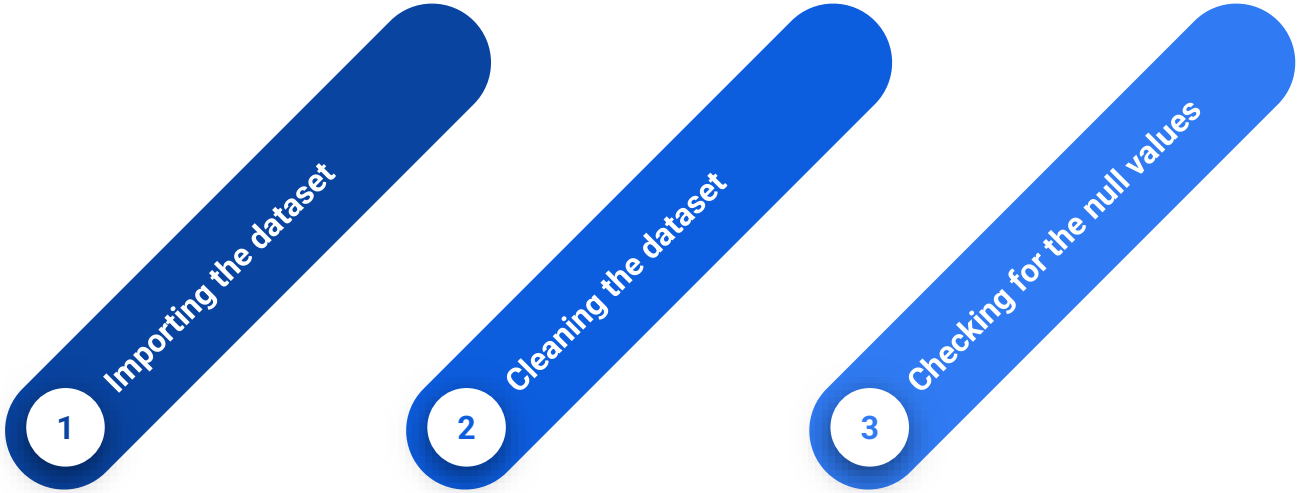
- Retain valuable customers for the bank.
- Minimize the revenue loss.
- Strategic Decision-Making.
- Improve overall customer satisfaction for the bank.

Brief Description of Dataset

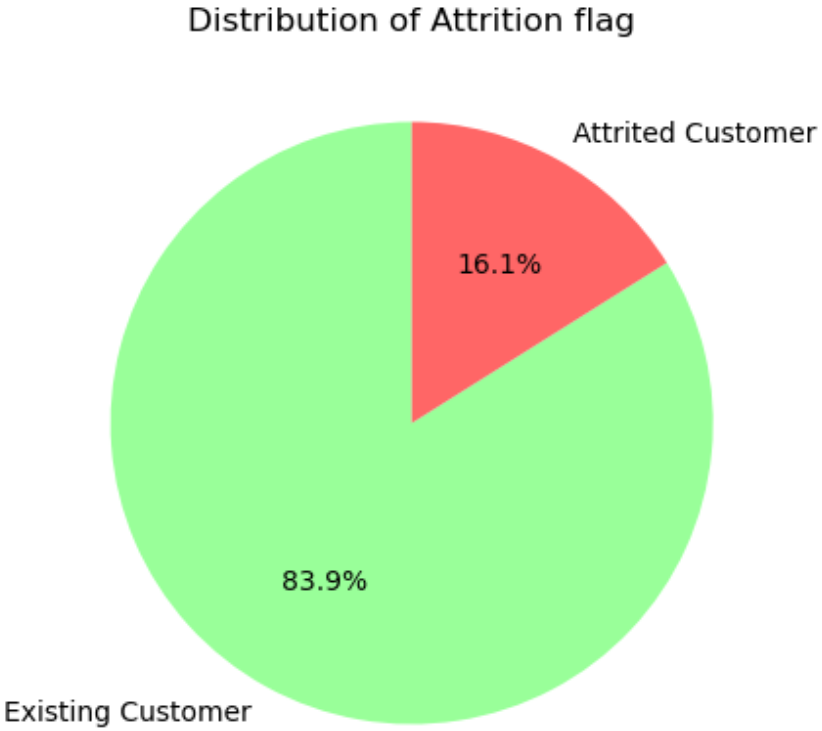
```
Index(['Attrition_Flag', 'Customer_Age', 'Gender', 'Dependent_count',
       'Education_Level', 'Marital_Status', 'Income_Category', 'Card_Category',
       'Months_on_book', 'Total_Relationship_Count', 'Months_Inactive_12_mon',
       'Contacts_Count_12_mon', 'Credit_Limit', 'Total_Revolving_Bal',
       'Avg_Open_To_Buy', 'Total_Amt_Chng_Q4_Q1', 'Total_Trans_Amt',
       'Total_Trans_Ct', 'Total_Ct_Chng_Q4_Q1', 'Avg_Utilization_Ratio'],
      dtype='object')
```

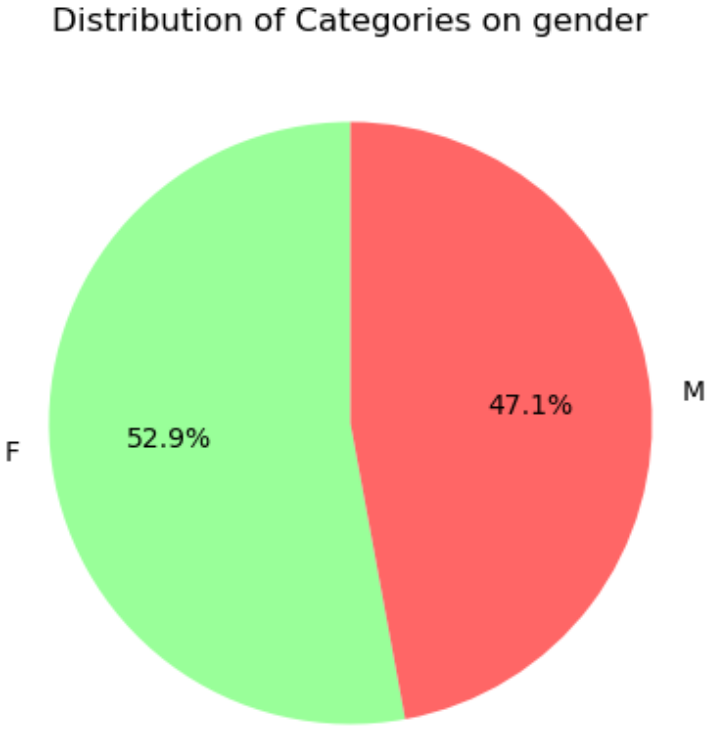
Implementation

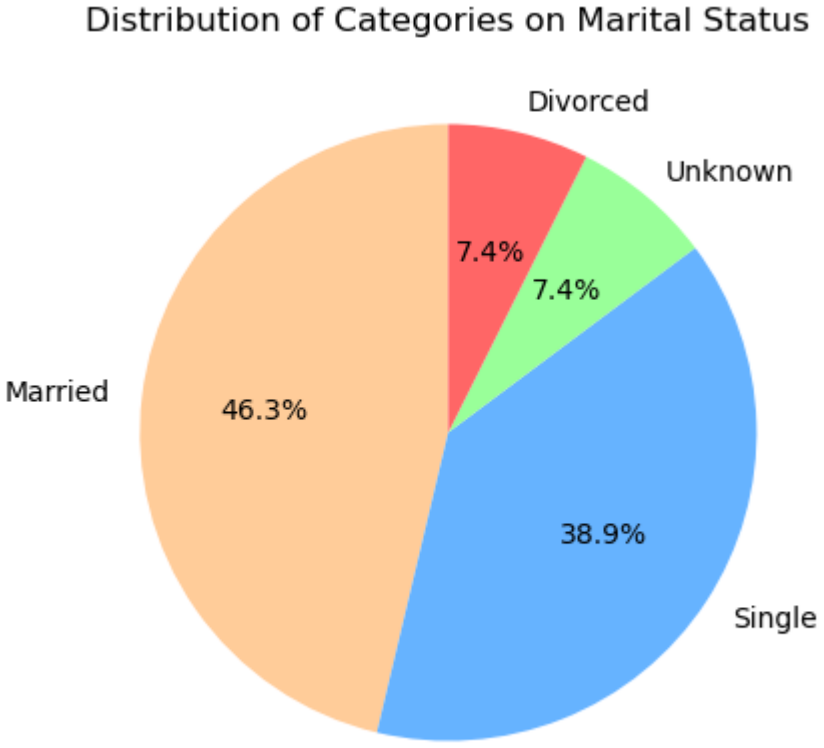
Pre processing



Exploratory data analysis






Distribution of Categories on Marital Status
Divorced
Unknown
Married
Single
7.4%
7.4%
46.3%
38.9%

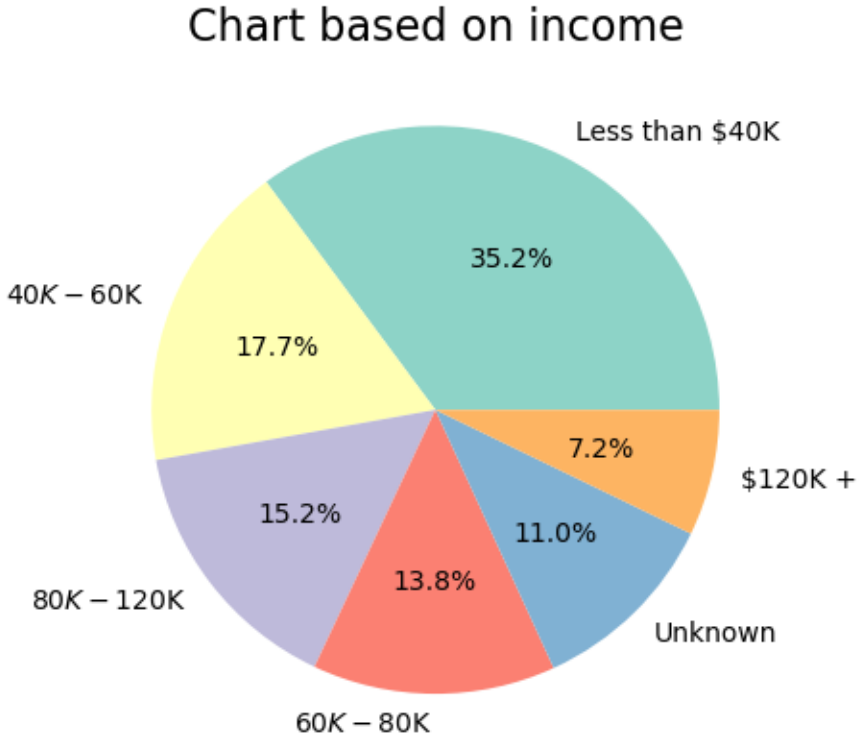
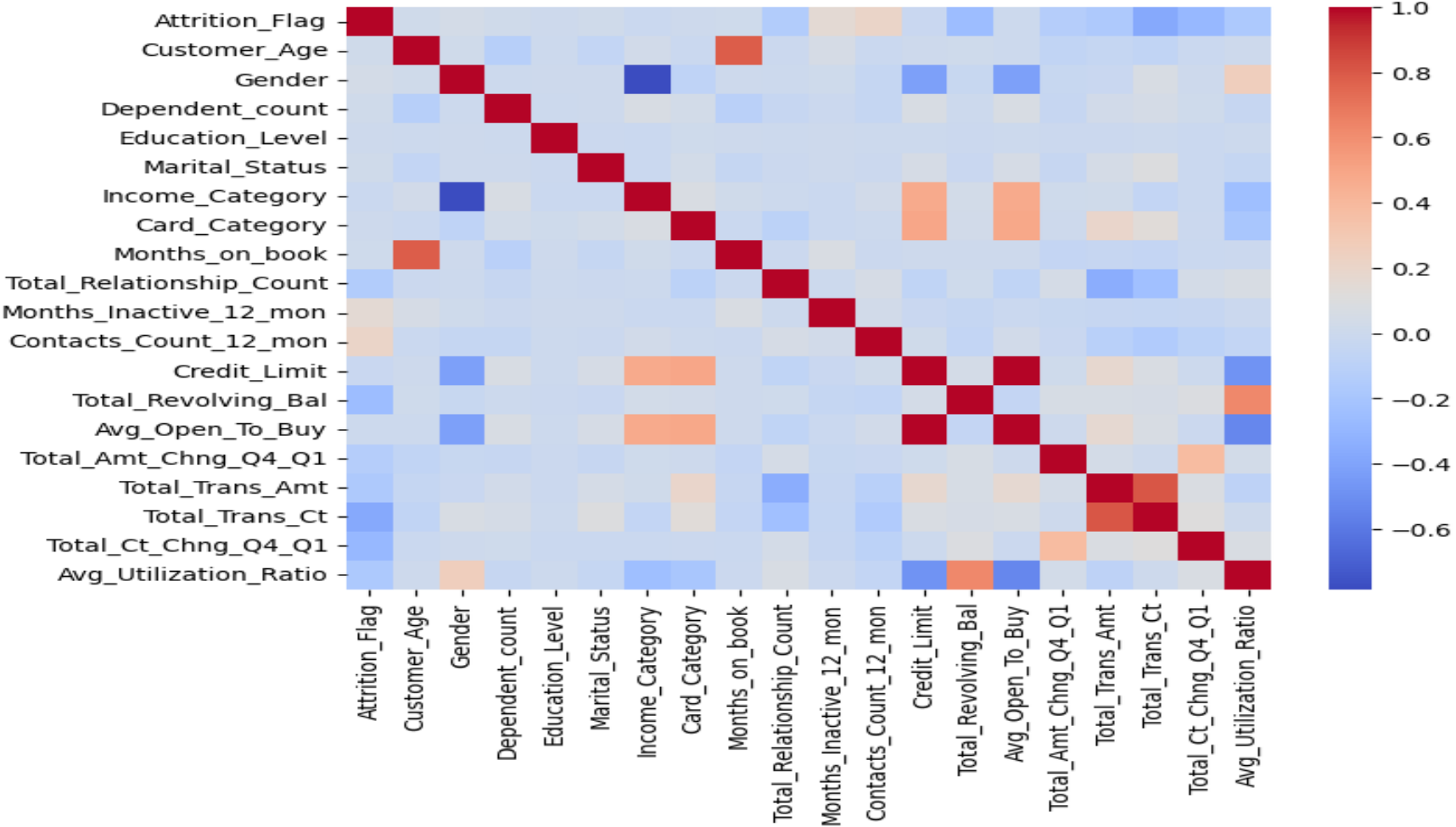
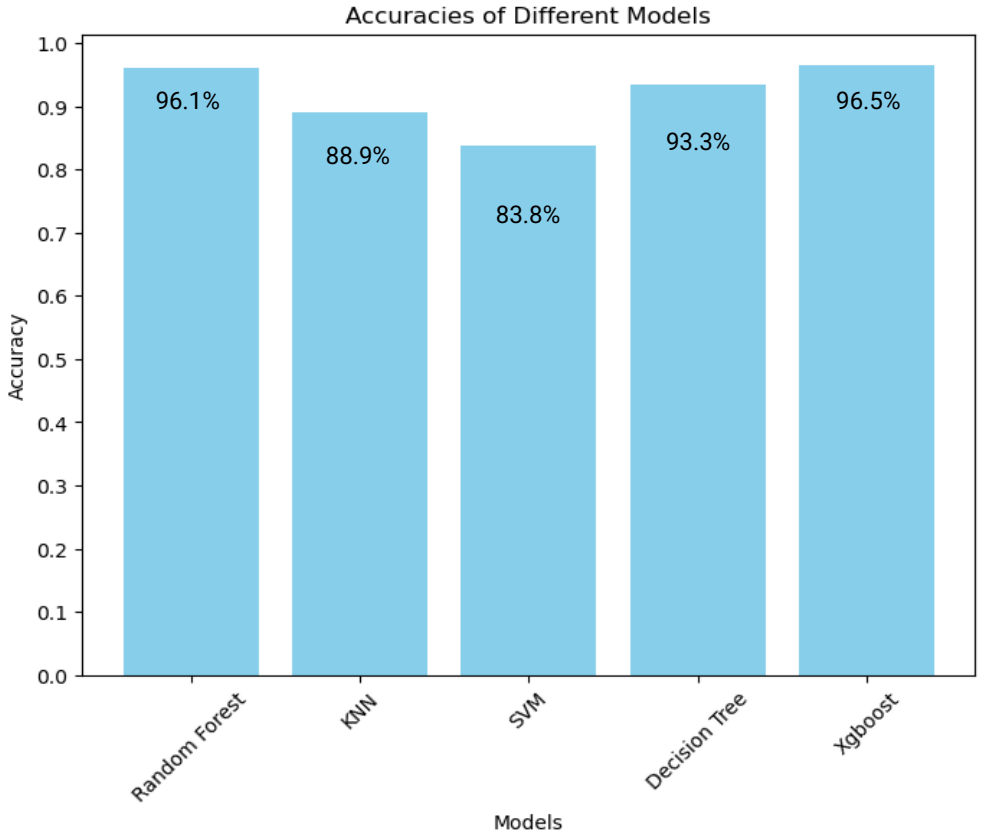


Chart based on income
Less than $40K
$40K - 60K
$120K +
$80K - 120K
Unknown
$60K - 80K
35.2%
17.7%
7.2%
15.2%
11.0%
13.8%

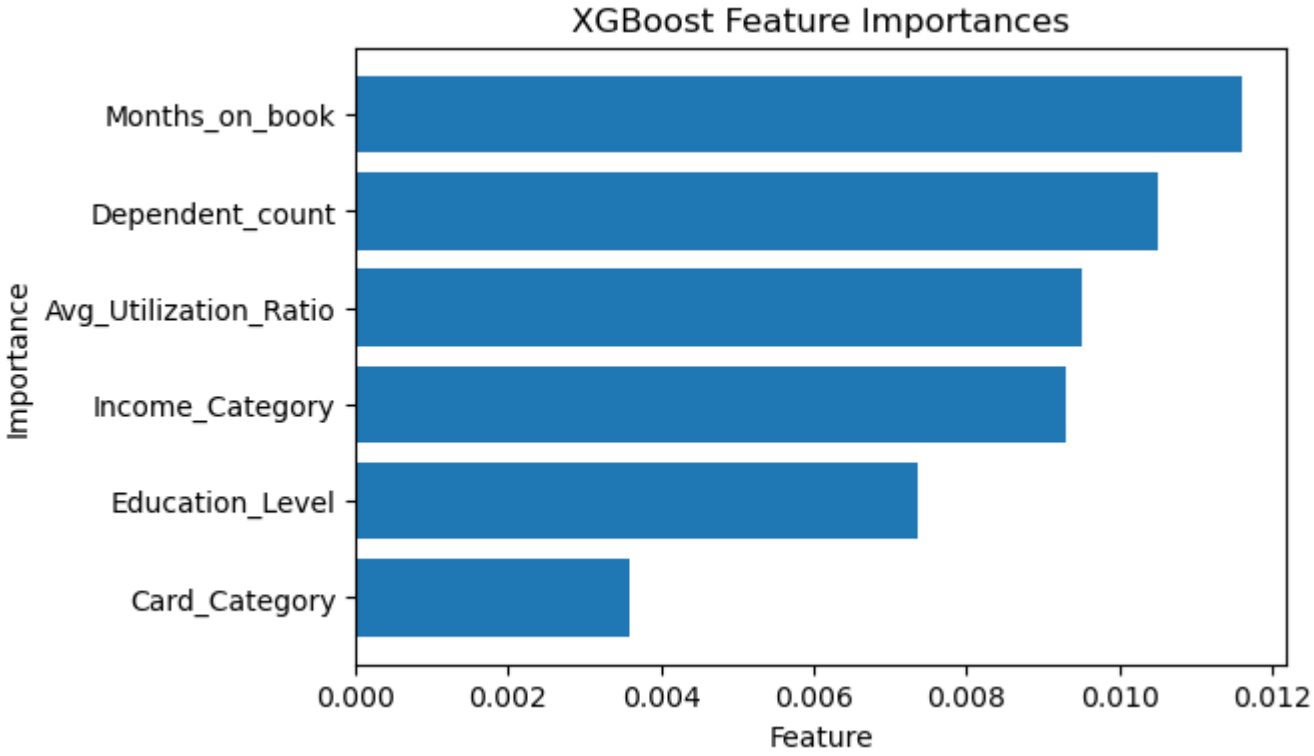
Correlation between numerical features



Model implemented - Accuracies



Important features



Business Questions

1. What is the relationship between "Total Trans Ct" and "Total Trans Amt," and how does their interaction influence the likelihood of customer churn?

1. How can the company use the information from the heat map to reduce customer churn?

Recommendations

Category of customers to be targeted -

1. Clients with lower incomes
2. Clients who lack formal education
3. Consumers with a low ratio of average utilization

THANK YOU!