

Data Analytics Bootcamp

Capstone Project

Done by: Syed Harith Zaki Bin Syed Jaffar Aljunied



01

Introduction

Overview of business problem &
data used

Problem Statement

In a bank, the manager of the credit card division is tasked with monitoring the attrition rate of credit card customers. More importantly, he/she can then implement measures to reduce and manage the attrition rate.

In order to do this, he/she needs to gain a better understanding of the profile of customers who are more likely to attrite. This will allow him/her to provide a more personalised service and build rapport with this group of customers to retain them in the long run.



Dataset

The dataset used in this project was downloaded from <https://www.kaggle.com/datasets/sakshigoyal7/credit-card-customers>

Certain variables were hidden from the original data source as they were irrelevant and not helpful to addressing the problem statement. They include:

- Avg_Open_To_Buy
- Total_Amt_Chng_Q4_Q1
- Total_Ct_Chng_Q4_Q1
- Avg_Utilization_Ratio

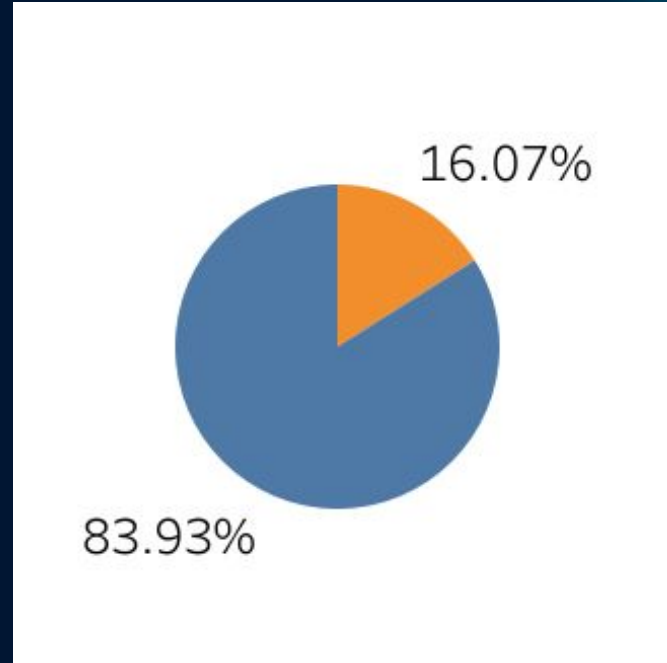


Variables in the Dataset

- CLIENTNUM: Unique identifier for the customer holding the account
- Attrition_Flag: 1 if true, 0 if false
- Customer_Age: Customer's Age in Years
- Gender: M= Male, F=Female
- Dependent_count: Number of dependents
- Education_Level: Educational Qualification of the account holder
- Marital_Status: Married, Single, Divorced, Unknown
- Income_Category: Annual Income Category of the account holder
- Card_Category: Type of Card
- Months_on_book: Period of relationship with bank
- Total_Relationship_Count: Total no. of products held by the customer
- Months_Inactive_12_mon: No. of months inactive in the last 12 months
- Contacts_Count_12_mon: No. of Contacts in the last 12 months
- Credit_Limit: Credit Limit on the Credit Card
- Total_Revolving_Bal: Total Revolving Balance on the Credit Card
- Total_Trans_Amt: Total Transaction Amount (Last 12 months)
- Total_Trans_Ct: Total Transaction Count (Last 12 months)

Overview

16.07% of the bank's customers have closed their credit card accounts.



https://public.tableau.com/views/Syed_Harith_Zaki_CapstoneProject/AttritionRate_1?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link



02

Findings & Recommendations

Deriving insights from data



01

Inactivity

02

Transactions

03

Contact

Card Inactivity

- The lower the credit card usage, the higher the likelihood of attrition.

Recommendation:

- The bank could possibly engage customers through communication tools such as SMSes and e-mail for marketing promotions such as giving out discounts or rewards. This will help incentivise customers to actively use their credit card. Additionally, it might remind certain customers who might have forgotten about the bank's credit cards due to having too many options.



Credit Card Transactions

- The higher the amount of transaction done in the last 12 months using the credit card, the lower the likelihood of attrition. Specifically, this correlation is best represented within each card category.

Recommendation:

The bank can study the spending habits of the customers within each card category and encourage them to spend on things that cater to their tastes and preferences based on this study.



Contact with Bank

- The higher the number of contact made by the customer with the bank, the higher the likelihood of attrition.

Recommendation:

The bank can flag customers who have made at least 2 calls in the last 12 months and give more attention in resolving their issues. By providing assistance adequately and increasing meaningful contact, it might help develop a stronger and long-lasting relationship that translates to reduced attrition.





03

Conclusion

Limitations & Conclusion

Limitations of the project

Lack of data

- Only 16.07% of the customers in the data source falls under attrition. This relatively small proportion might make it difficult to properly predict those who might churn their credit cards in the future.

Incomplete data

- The data for certain variables such as income category and marital status are incomplete shown as 'unknown'. The incomplete data prevent us from painting a clearer picture of the customer profile that might end up in attrition.

Conclusion

- Need to monitor customers' transactions, contact made with the bank and customers' lack of credit card activity
- Treat them as red flags to prompt a specific response from the bank either through marketing strategies or after-sales service
- Credit card attrition not just limited to the 3 factors mentioned above but addressing these 3 issues serve as an important step towards improving credit card attrition rates



THANKS!

Link to Tableau:

https://public.tableau.com/views/Syed_Harith_Zaki_CapstoneProject/AttritionRate_1?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

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