Churn for Bank Customers

Group Final Project

[FSDA-Aug22] Section Berlin – Group M
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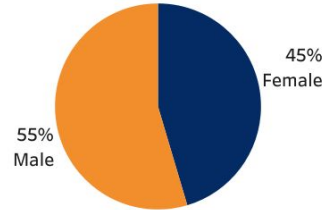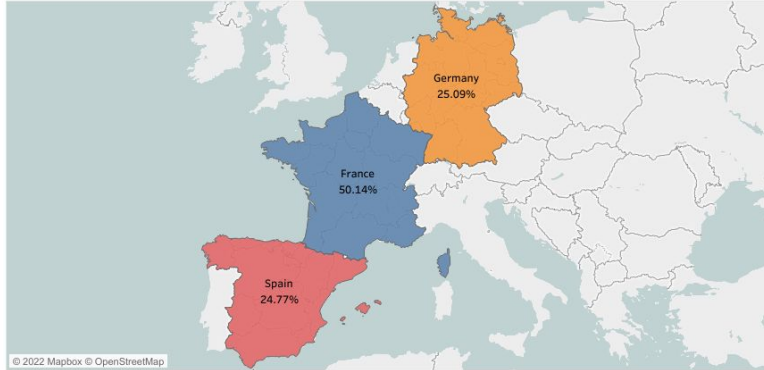- Ivan Sudibyo

Our Customers
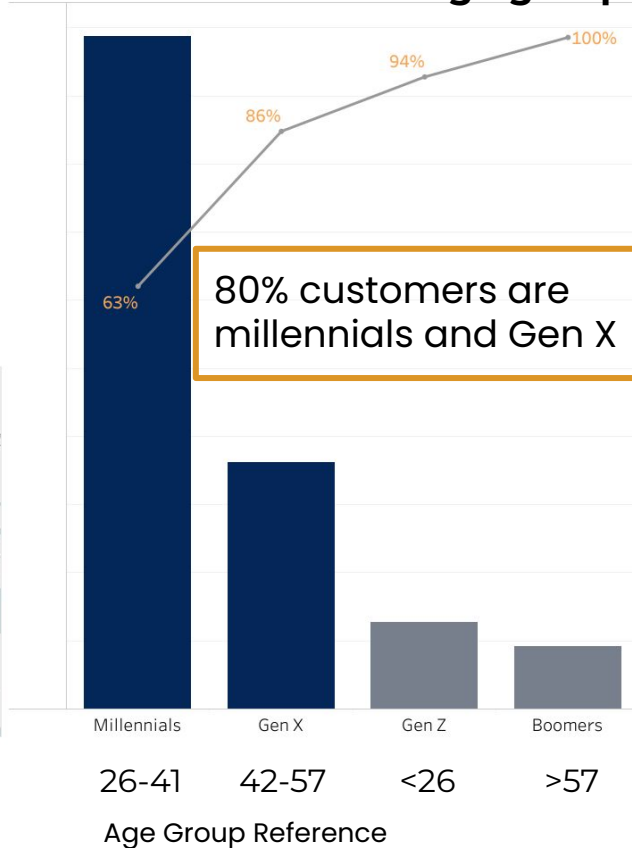
Background & Project Goal

Churn Rate 20.37%

Reduce customers churn rate from 20.37% to 15% at the end of next year

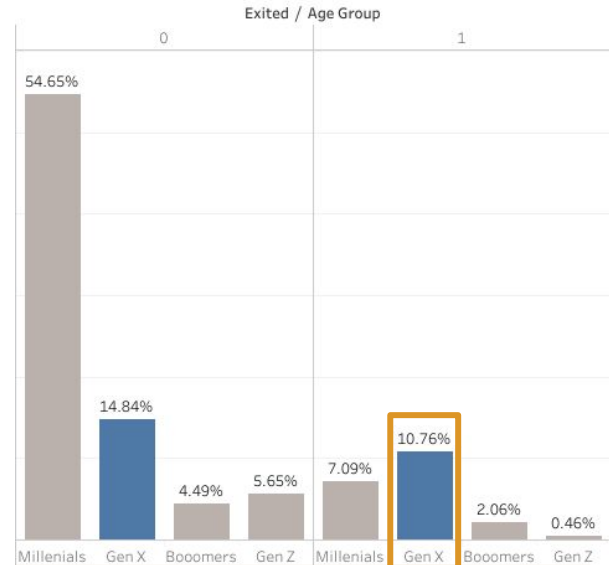Average Churn Rate Reference

Scope

Gen X

Churn Rate by Age Group
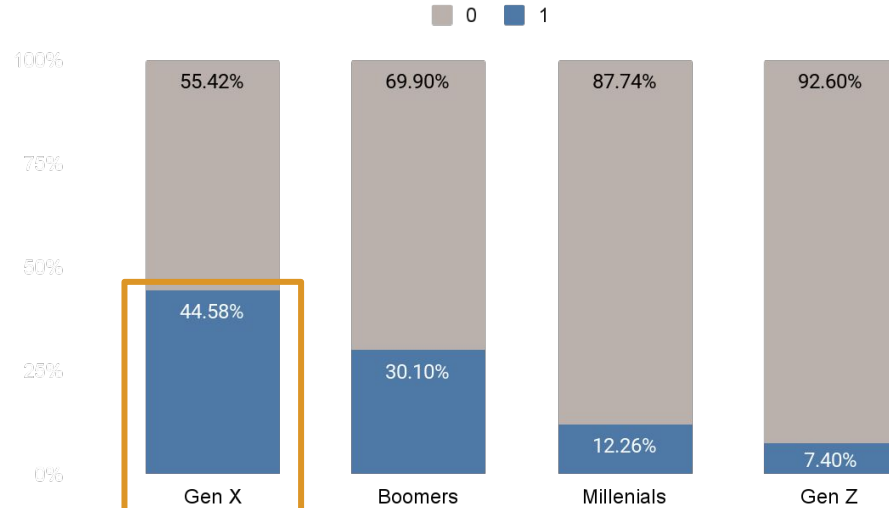
Gen X churn rate is 44.58%

Churn by Age Group

Overall Gen X churn is 10.76%

Tableau Link

Objective

Reduce Gen X customers churn rate from 44.58% to 22.9%

Methodology

Logistics Regression Model

Odd Ratio

Based on logit regression result and α = 5%

- **Is Active Member**
Being active member will lower probability to churn by 66%
- **Gender Category**
Female has 59% higher probability to churn than male

```
                      Logit Regression Results
================================================================
Dep. Variable:            Exited    No. Observations:       1844
Model:                     Logit    Df Residuals:           1839
Method:                      MLE    Df Model:                  4
Date:          Tue, 29 Nov 2022    Pseudo R-squ.:        0.05986
Time:                  16:33:15    Log-Likelihood:        -1190.2
converged:                  True    LL-Null:               -1265.9
Covariance Type:       nonrobust    LLR p-value:         9.382e-32
================================================================
                 coef    std err        z    P>|z|    [0.025    0.975]
----------------------------------------------------------------
const          0.1707     0.115    1.485    0.138    -0.055     0.396
NumOfProducts -0.2919     0.221   -1.318    0.187    -0.726     0.142
HasCrCard     -0.1017     0.105   -0.965    0.335    -0.308     0.105
IsActiveMember -1.0756    0.098  -10.940    0.000    -1.268    -0.883
Gender_category 0.4656    0.098    4.753    0.000     0.274     0.658
```
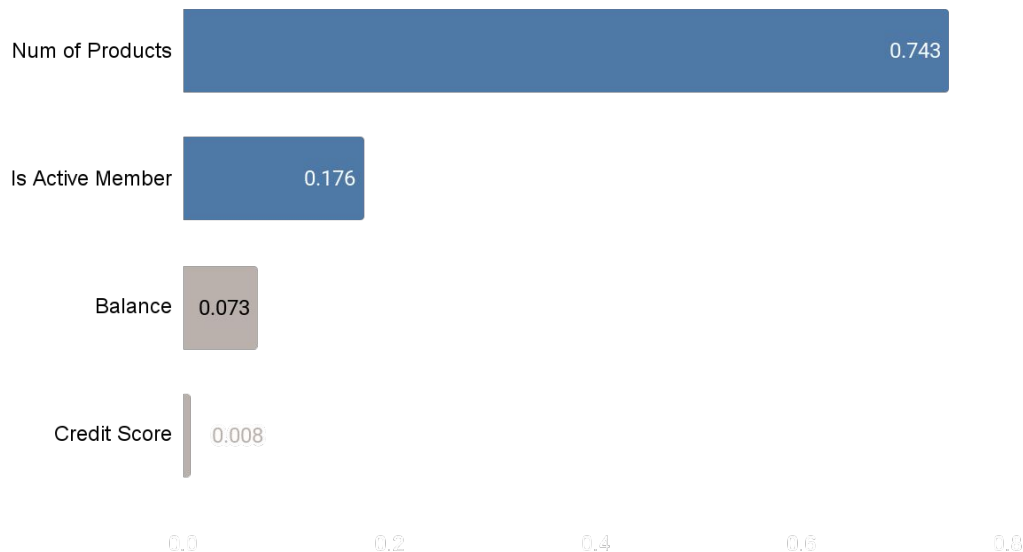
Google Colab Link

Decision Tree Model

99.16% customers using product 3 & 4 are churn.
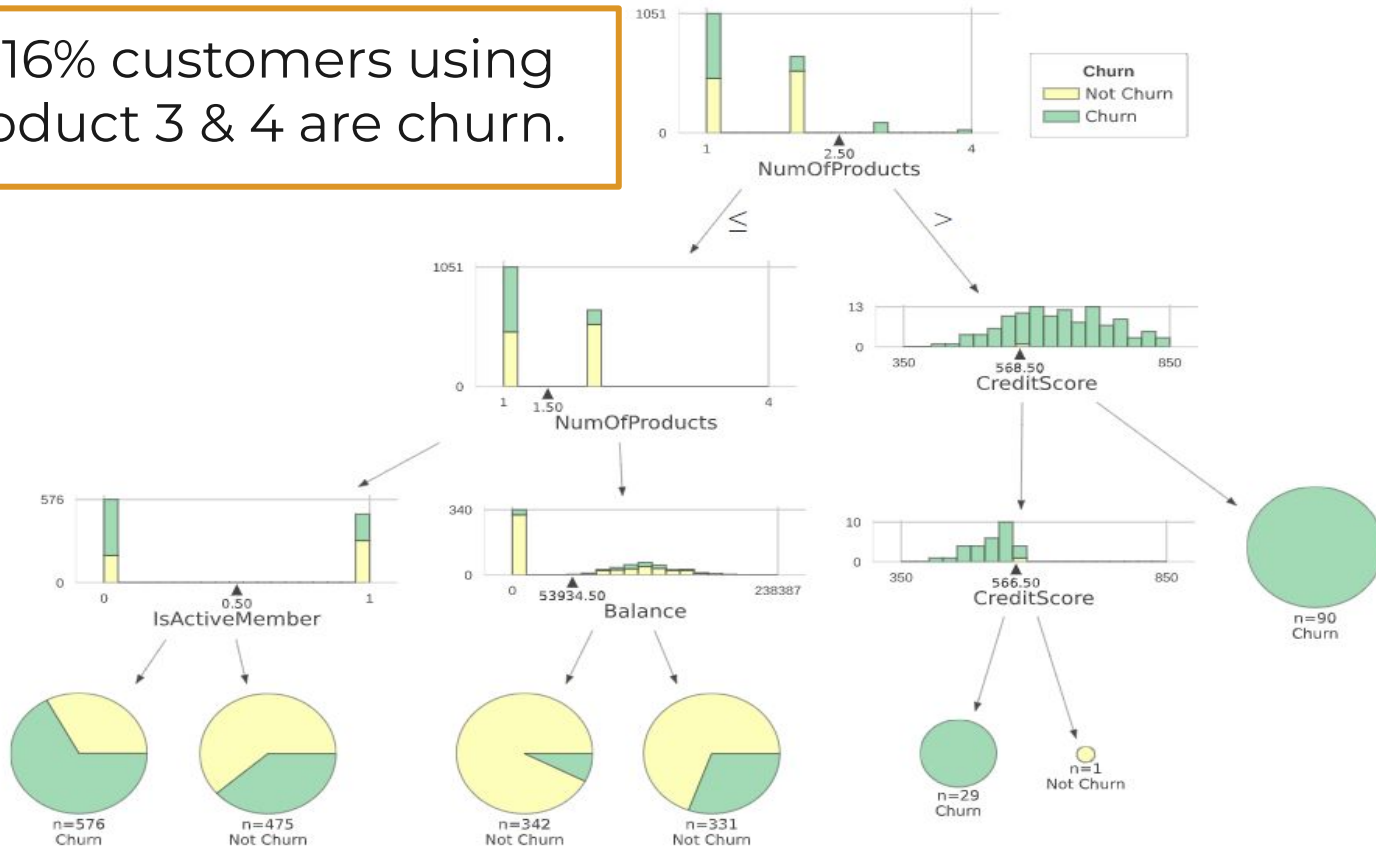
Decision Tree Model

Feature Importance

Variables which have significant effect on churn are
- Num of Products
- Is Active Member

Business Strategy to Reduce Churn Rate

Num of Products

- **99.16% customers using product 3 & 4 are churn.**
- **We recommend to stop these products temporarily for the evaluation.**

Gen X Churn Cluster

1 **Male Active Customers**

- Male
- Active Member

2 **Female Active Customers**

- Female
- Active Member

3 **Male Non Active Customers**

- Male
- Non Active Member

4 **Female Non Active Customers**

- Female
- Non Active Member

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Male Active Customers

Level	Balance	Interest Rate
Silver	< €45,000	1.38%
Gold	€45,000 - €90,000	1.50%
Platinum	> €90,000	2%

Interest Rate Reference

Promo for streaming service
- **Payment using our bank services**
- **Discount 20%**
- No minimum transaction
- Promo can be applied in partner merchants

2 # Female Active Customers

Level	Balance	Interest Rate
Silver	< €45,000	1.38%
Gold	€45,000 - €90,000	1.50%
Platinum	> €90,000	2%

Interest Rate Reference

Promo for fashion
- **Payment using our bank services**
- **Discount 12%**
- Minimum transaction €60
- Promo can be applied in partner merchants

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Male Non Active Customers

Promo for streaming service
- **Payment using our bank services**
- **Discount 20%**
- No minimum transaction
- Promo can be applied in partner merchants

Streaming Service Promo Reference

4 Female Non Active Customers

Promo for fashion
- **Payment using our bank services**
- **Discount 12%**
- Minimum transaction €60
- Promo can be applied in partner merchants

Fashion Promo Reference

Thank You!