Reduce Churn Rate With Data Analysis

Proposal to explore and analyze customer data of a bank

Wells Fargo Credit Card

February 2022

Introduction

The churn rate of the customers for credit cards of the 150-year old bank had risen to 16%, which was 8% in 2021.

According to Gary W. Class, the senior vice president of Wells Fargo, it pays to know the customer’s channel preferences, and to predict which products they might need.

GOAL

The goal of this analysis is to reduce the churn rate of the credit card customers from 16% to 8% or less.

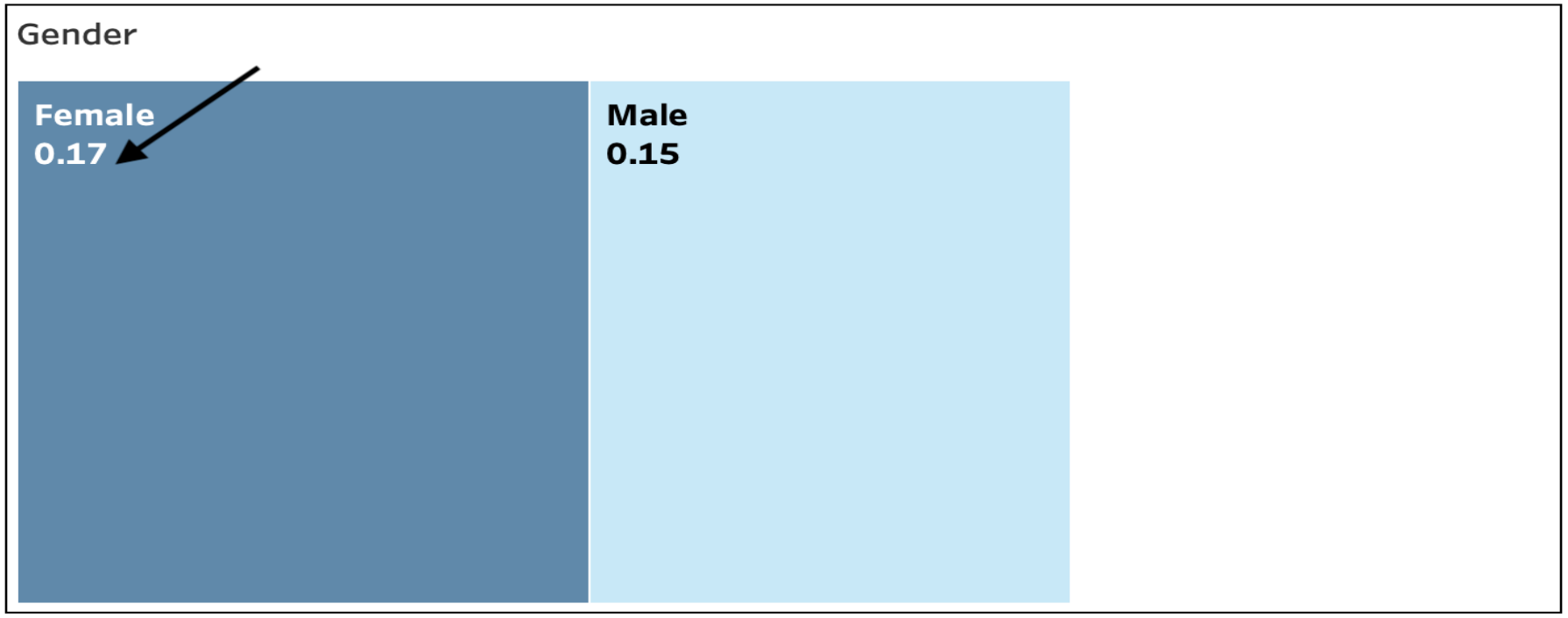
Impact Hypothesis

The desired business impact is to reduce customer loss and reduce the monetary loss of the bank .

- By determining which category of customers are leaving.
- By understanding the customer behavior and patterns.
- By increasing the incentives and promotions .

Solution Path

- Data of more than 10,000 customers with 22 attributes was studied.
- The process included data cleaning and analysis.
- Simple correlation study was done among two or three different features.
- Tools used are google sheets and tableau.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Female
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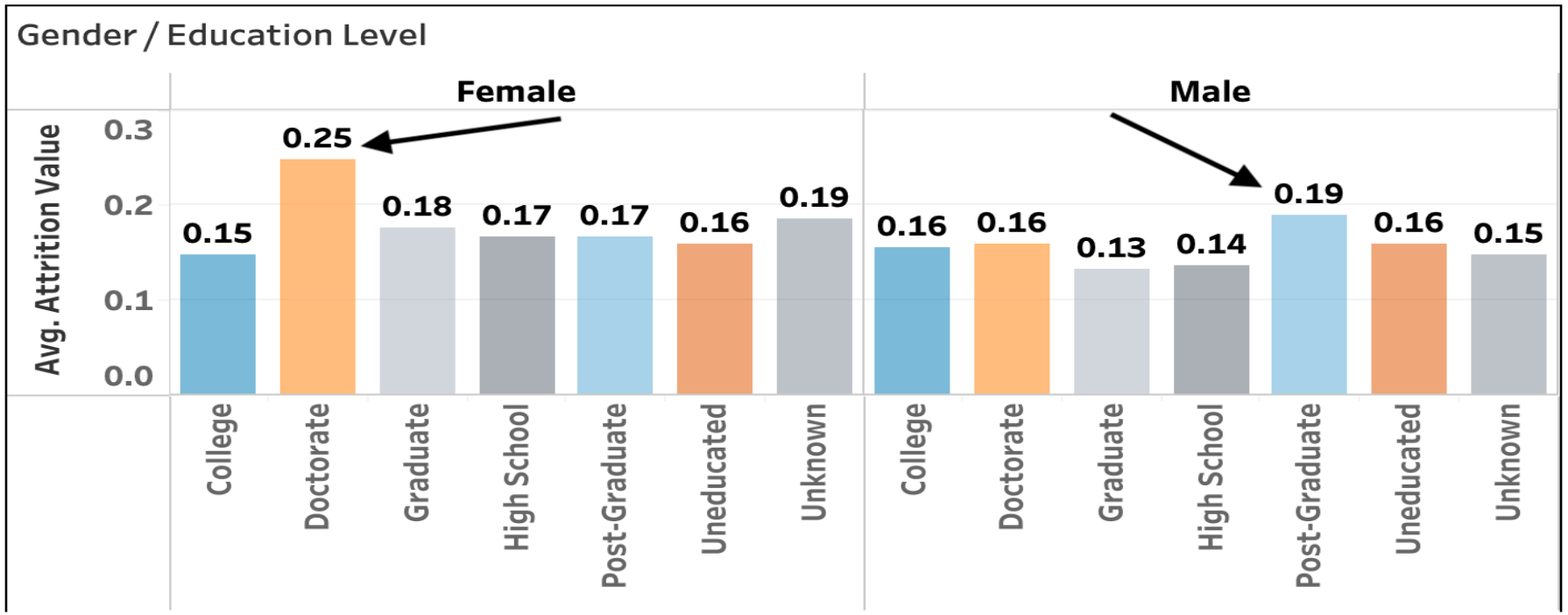
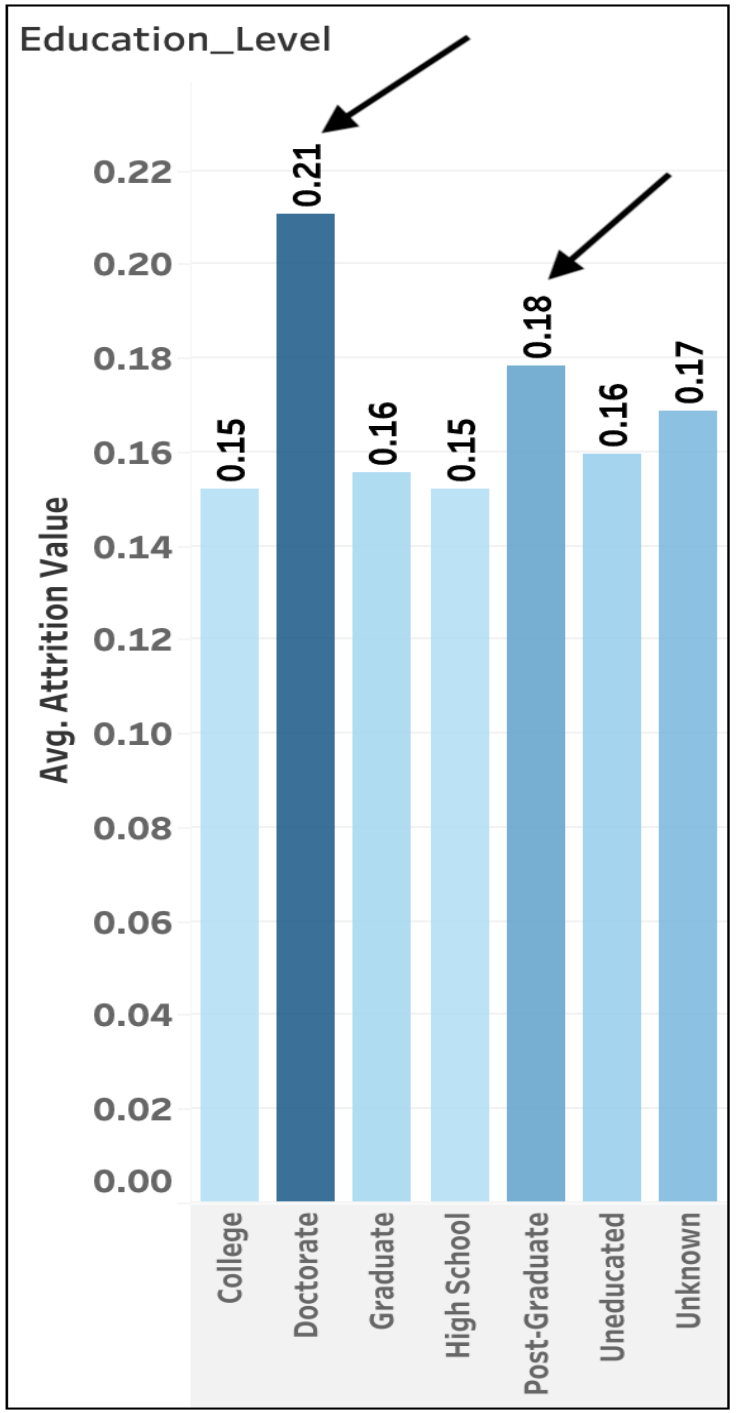
Male
0.15


Gender / Education Level
Female
Male
Avg. Attrition Value
0.3
0.2
0.1
0.0
0.15
0.25
0.18
0.17
0.17
0.16
0.19
0.16
0.16
0.13
0.14
0.19
0.16
0.15
College
Doctorate
Graduate
High School
Post-Graduate
Uneducated
Unknown


Education_Level
Avg. Attrition Value
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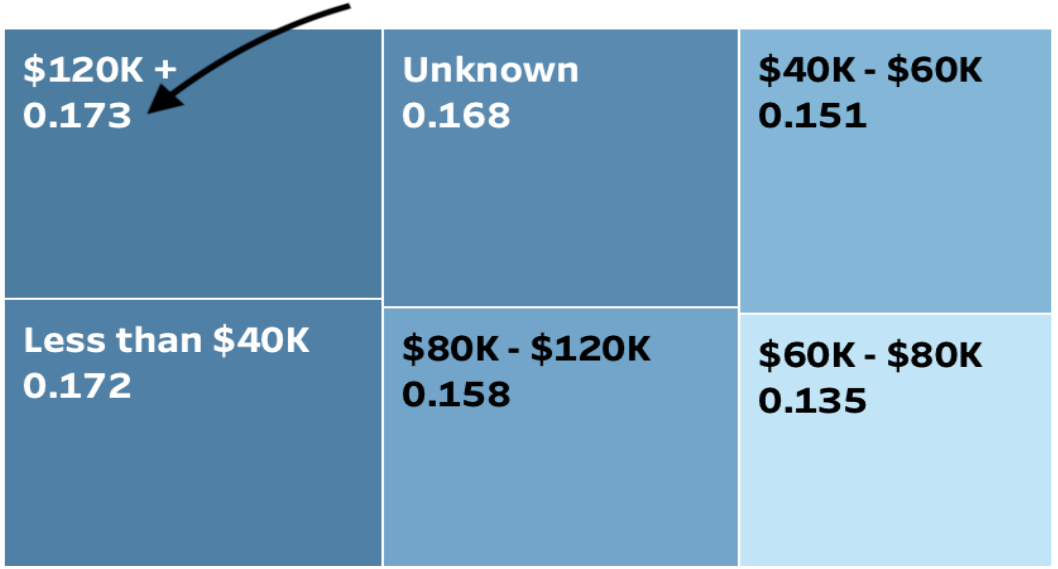
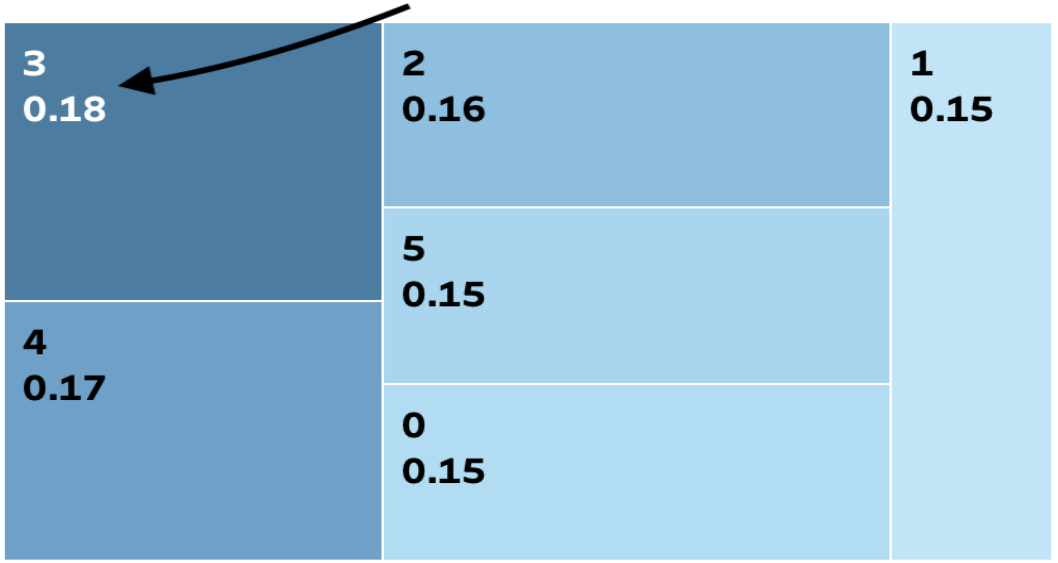
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.15
0.21
0.16
0.15
0.18
0.16
0.17
College
Doctorate
Graduate
High School
Post-Graduate
Uneducated
Unknown

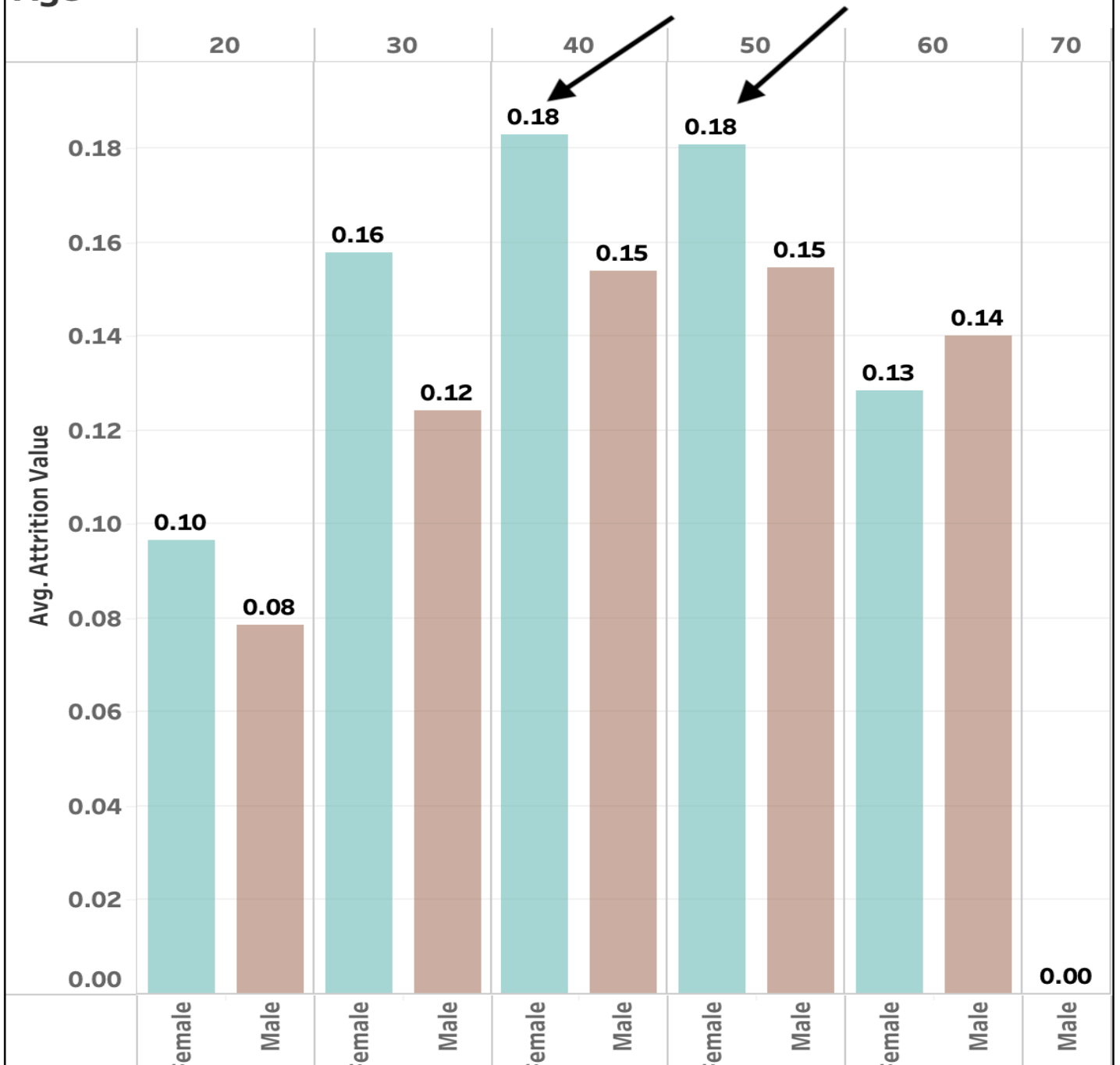
Income_Category



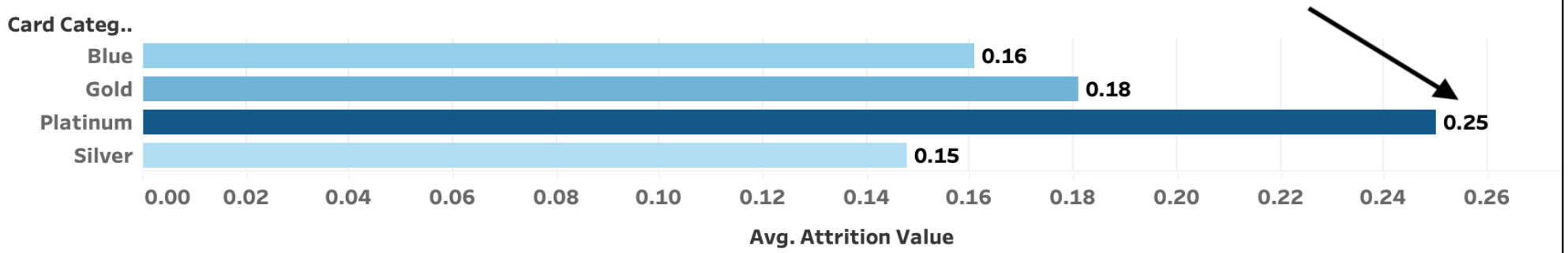
Dependent_TreeMap



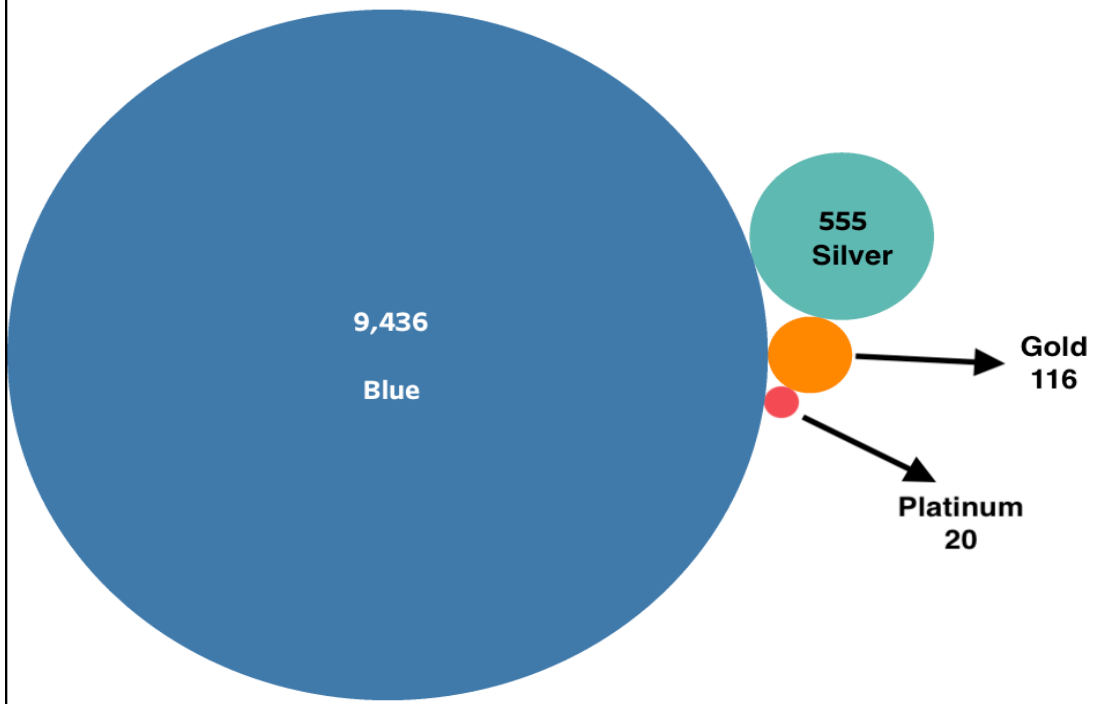
Age



card_category Vs attrition_rate



Customer_Count_Per_Card



Results

The category of customers who churned the most are

- Female
- Highly educated – Doctorate and Postgraduate
- Income more than 120k and less than 40k
- Age between 40 and 60
- With 3 or 4 dependents
- Who used platinum and gold type of cards, though the number is less, it is worth to be knowledgeable

Risks And Suggestions

- The main risk to consider is that the money used in promotions and incentives should not exceed the profit.
- What if a customer does not intend to leave and still promotions are given to them?
- This risk is very low as we have identified which category of customers are leaving.
- Introducing promotions like low interest rate and high cash back deals on shopping, can definitely help keep the customers happy.
- Considering other issues like cyber security and fraud.

Future Work

Modeling the data to predict which customer will stay or leave –

- Logistic regression algorithm
- Decision tree classifier
- Random forest classifier