

VI Capstone Project

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Problem Statement

- The number of customers terminating their credit card services are on the rise.
- The bank wants to know the profile of these people, such as their education, marital status, income category & transaction amounts etc.
- Ultimately, the bank wants to predict the people who are about to terminate their credit card services and implement a new retainment strategy using that data.

Benefits of the Data Charts

- With the provided charts and graphs, we can visualize clearly the summary of the bank's credit card services, as well as the profiles of the customers.
- These charts can provide the bank with a clearer indicator of customers that are about to leave the services; or have a higher chance of doing so.

Dataset

- The data used in this project was taken from Kaggle:

- <https://www.kaggle.com/datasets/sakshigoyal7/credit-card-customers>

# CLIENTNUM	Attrition_Flag	# Customer_Age	Gender	# Dependent_count	
Client number. Unique identifier for the customer holding the account	Internal event (customer activity) variable - if the account is closed then 1 else 0	Demographic variable - Customer's Age in Years	Demographic variable - M=Male, F=Female	Demographic variable - Number of dependents	
Education_Level	Marital_Status	Income_Category	Card_Category	Months_on_book	
Demographic variable - Educational Qualification of the account holder (example: high school, college graduate, etc.)	Demographic variable - Married, Single, Divorced, Unknown	Demographic variable - Annual Income Category of the account holder (< \$40K, \$40K - 60K, \$60K - \$80K, \$80K-\$120K, >	Product Variable - Type of Card (Blue, Silver, Gold, Platinum)	Period of relationship with bank	
Total_Relationshi...	Months_Inactive_...	Contacts_Count_1...	Credit_Limit	Total_Revolving_...	
Total no. of products held by the customer	No. of months inactive in the last 12 months	No. of Contacts in the last 12 months	Credit Limit on the Credit Card	Total Revolving Balance on the Credit Card	
Avg_Open_To_Buy	Total_Amt_Chng_...	Total_Trans_Amt	Total_Trans_Ct	Total_Ct_Chng_Q...	Avg_Utilization_R...
Average Open to Buy Credit Line	Change in Transaction Amount (Q4 over Q1)	Total Transaction Amount (Last 12 months)	Total Transaction Count (Last 12 months)	Change in Transaction Count (Q4 over Q1)	Average Card Utilization Ratio

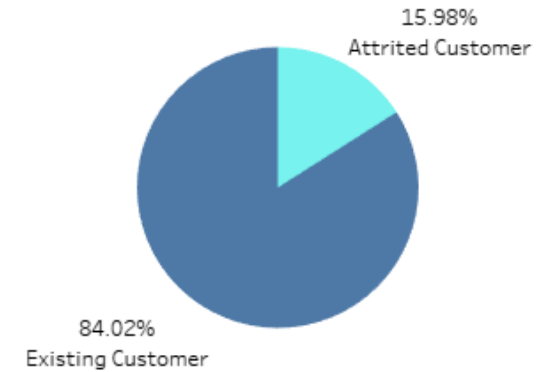
Tableau – Live version available here

- https://public.tableau.com/views/VICapstoneProject_16711104415370/CapstoneProject?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

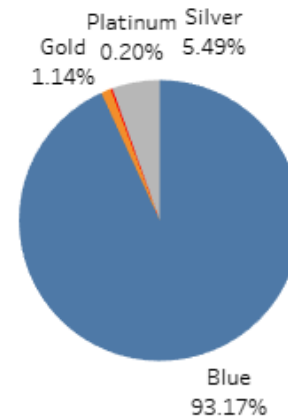
Data/Charts Explanation

- In the first slide, we have the bank's profile as well as customer's credit card categories.
- From the charts, we can tell that the attrition rate is approximately 16%.
- We can also tell that a majority of the card holders are under the "Blue" Card Category.

Attrition Rate

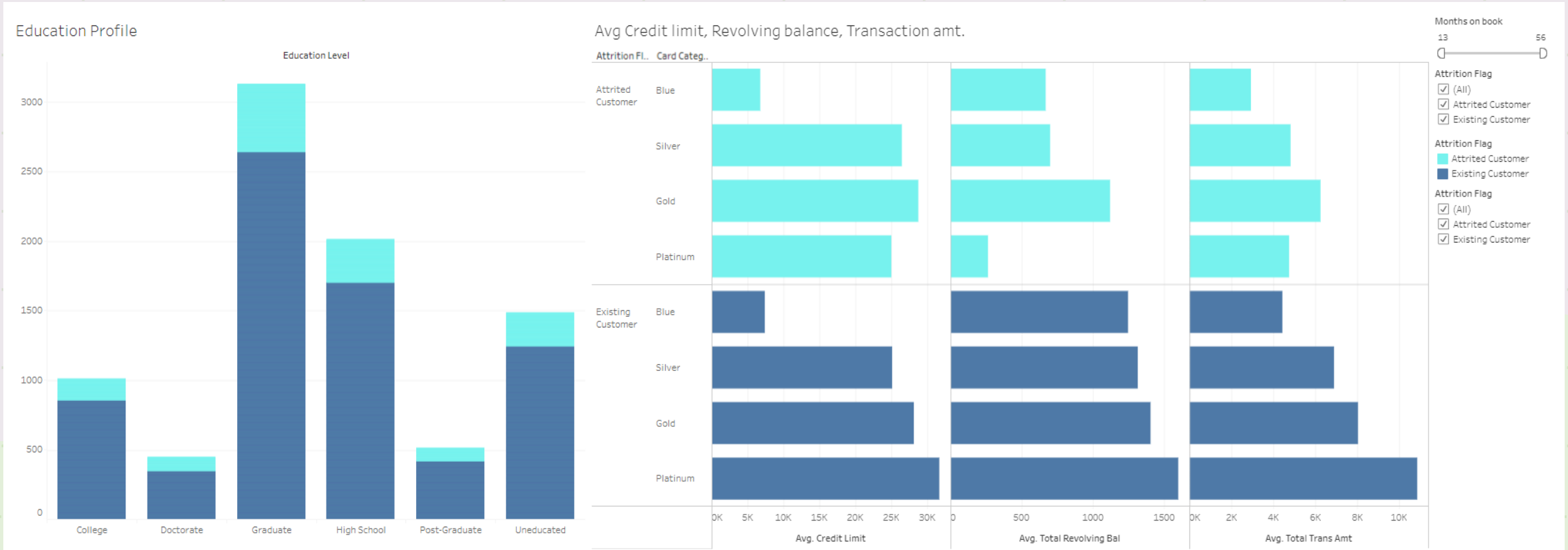


Card Category



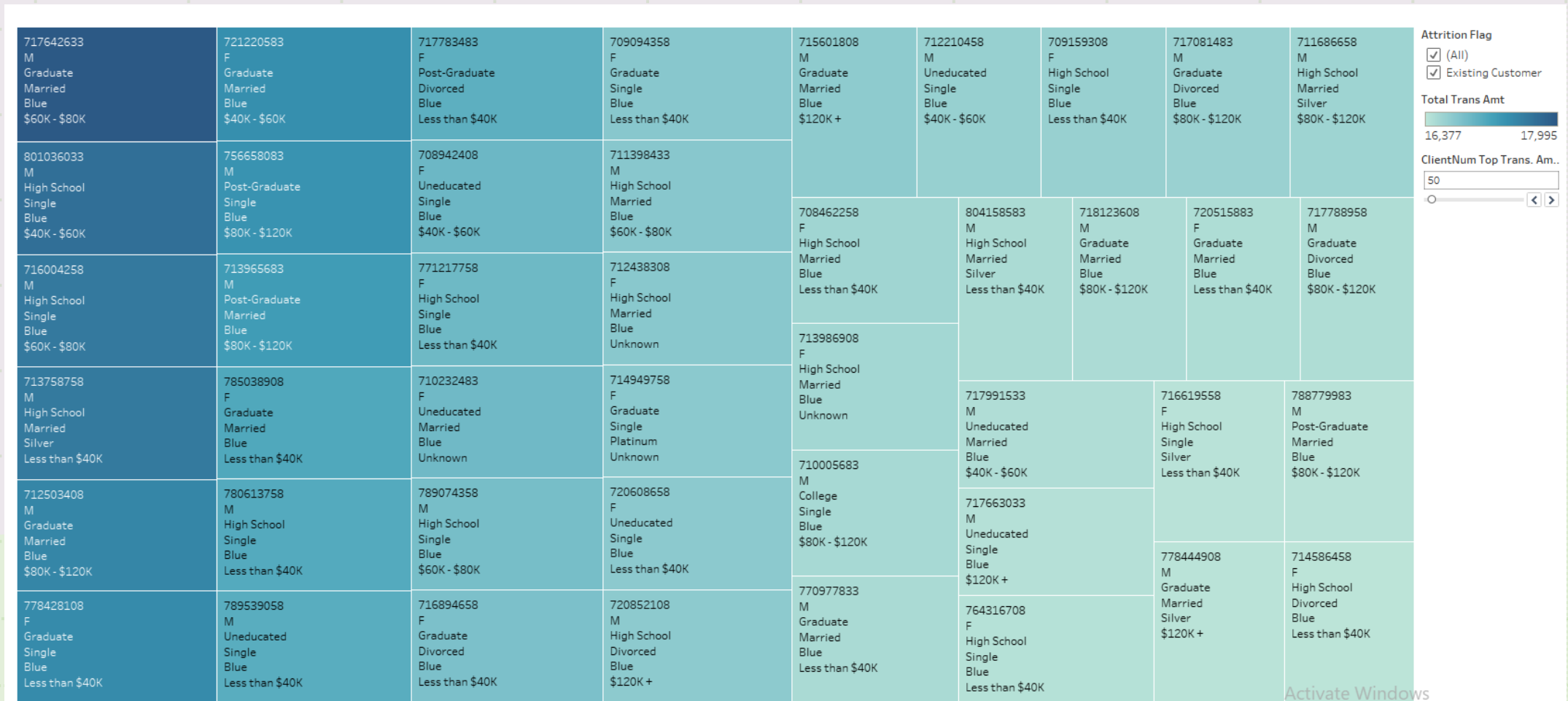
Data/Charts Explanation

- The first part of the next slide shows the customers' attrition rate according to their education level. From here, we can tell that a big portion of card holders fall under the "Graduate" category. We can also see that this category has the **highest attrition rate**.
- On the second chart, we can see the customers credit limit, revolving balance as well as the transaction amounts. By average, the **attrited customers has a lower credit limit, lower total revolving balance & lower total transacted amount**.



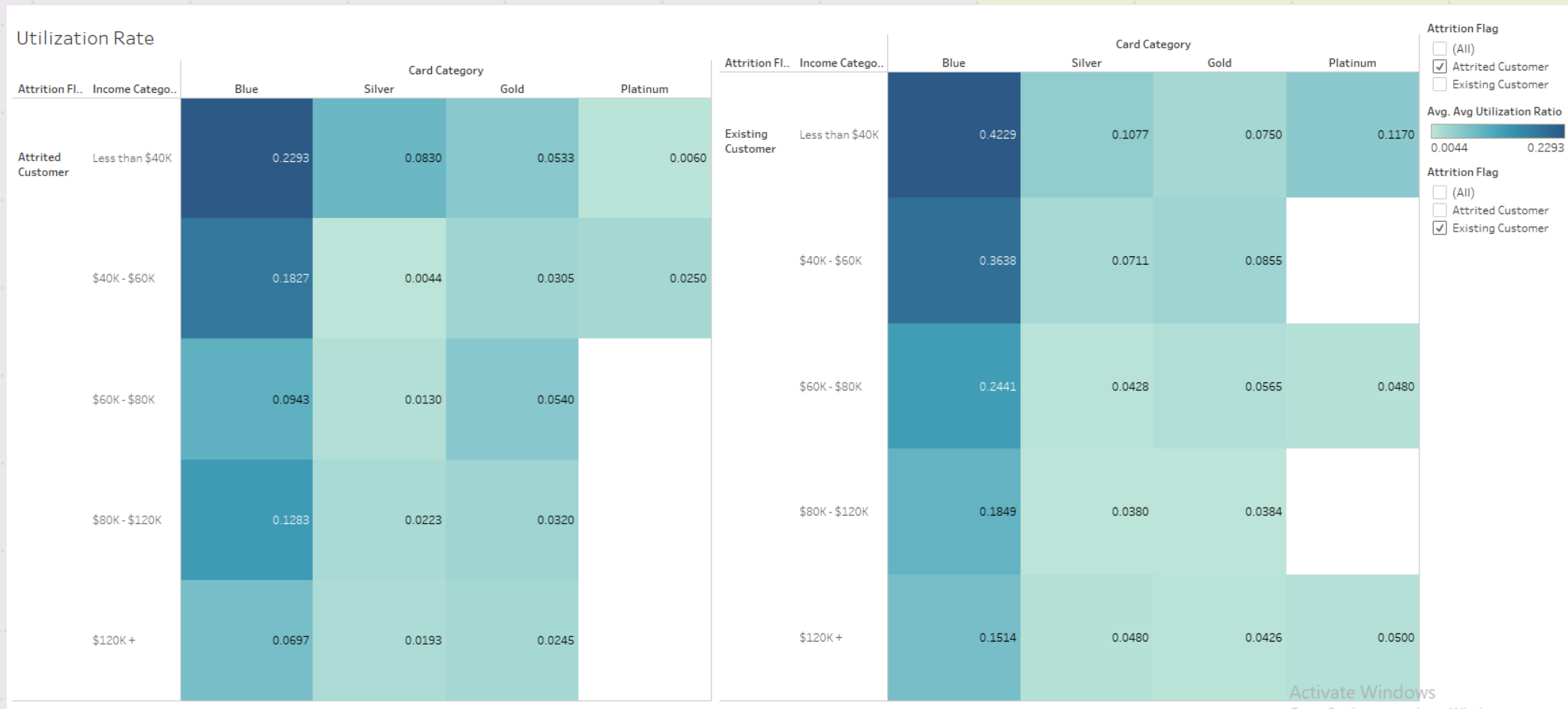
Data/Charts Explanation

- On the third slide, we can see the customers' transaction amounts based on their profiles, such as gender, marital status, education etc. in a tree map.
- From here, we can see that many of the top transaction amounts consist of existing customers and rarely the attrited customers (since it does not show up in the top few attrition flag filter).



Data/Charts Explanation

- On the last slide, the heatmap shows the utilization rates of the customers according to the card & income categories
- From both attrited and existing customer tree maps, we can tell that the blue card with customers income < \$40k has a high utilization rate. However, there is a significant difference between the utilization rate of the existing customers (**0.42**) and the attrited customers (**0.22**).



Possible conclusions

- With all the relevant data provided, certain insights can be concluded as follows:
 - i. Since a big chunk of cardholders are graduates, a starting point could be to look from the financial situations of a graduate.
 - **What are the financial struggles they face?**
 - **How or what services can the bank offer to this group of customers for a higher retainment rate?**
 - ii. A big percentage of the attrited customers have a low transaction amount, even though they are in the platinum category. Possible problems could be:
 - **Are the offers/services provided at the highest category (Platinum) not attractive enough?**
 - **Are more customers dropping off after facing a similar situation?**



THANK YOU