**OTOT - Task A2 Tableau**
**NAVEEN KUMAR JAKUVA PREMKUMAR - A0212252X**

**Title:** Bank Credit Card Data Visualization
**Dataset Name:** BankChurners.csv
**Data Source:** https://www.kaggle.com/sakshigoyal7/credit-card-customers
**Tableau Visualization:** My Visualizations on Tableau Online (CreditCard-A0212252X)
**Dataset Description:**
**(Only Important Columns are described here)**

| Column Name | Variable Type | Description |
|---|---|---|
| Attrition Flag | Categorical | Describes the type of customer, has 2 values:<br>a) Attrited Customer<br>b) Existing Customer |
| Customer Age | Numerical | Age of the bank customer, ranges from 26 to 73 |
| Gender | Categorical | Gender of the bank customer, contains two values<br>a) F (denotes female)<br>b) M (denotes male) |
| Education Level | Ordinal | Highest degree of education attained by the bank customer. This has got 7 categories given by :<br>a) College<br>b) Doctorate<br>c) Graduate<br>d) High School<br>e) Post-Graduate<br>f) Uneducated<br>g) Unknown |
| Marital Status | Categorical | Marital Status of the bank customer. This has got 4 values given by :<br>a) Divorced<br>b) Married<br>c) Single<br>d) Unknown |
| Income Category | Ordinal | Income category where the bank customer falls under. This has got 6 values given by: |

| | | |
|---|---|---|
| | | a) $120K +<br>b) $40K - $60K<br>c) $60K - $80K<br>d) $80K - $120K<br>e) Less than $40K<br>f) Unknown |
| Card Category | Categorical | The Credit Card Type, this has got 4 values given by:<br><br>a) Blue<br>b) Gold<br>c) Platinum<br>d) Silver |
| Credit Limit | Numerical | Credit card limit of the bank customer, ranges from 1,438.3 to 34,516 |
| Total Revolving Bal | Numerical | Total revolving balance of the bank customer, ranges from 0 to 2,517 |
| Total Trans Amt | Numerical | Total transaction amount spent by the bank customer, ranges from 510 to 18,484 |
| Total Trans Ct | Numerical | Total transaction count of the bank customer, ranges from 10 to 139 |
| Avg Utilization Ratio | Numerical | Credit card utilization of the bank customer. This ranges between 0 to 1. |

**Purpose of Visualization :**

Credit Cards are more commonly used by people nowadays, but the major problem with this mode of spending money is that the bank recollecting money back from the people, for which they employ collection agents to collect money from people. On the other side this problem can be solved by deciding upon whether to sanction money to a particular customer based on his characteristics. Visualizing the bank churners data we will know about the following insights :

a) What should be the credit limit for a customer with a certain income, age group and educational level.
b) Knowing about which age group of people trouble a lot.
c) Knowing about people of which gender, education level uses more credit cards.
d) Helping banks in various decision making activities with respect to credit sanction.

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**Visualization 1 : Gender Vs Credit Bar Chart**

**Queries Answered :**

a) **Which gender has the highest / lowest average credit card limit ?**
b) **What is the average transaction amount of the given gender ?**
c) **Is there any relation between gender and average revolving balance ?**

**Insights Found :**

a) Average credit limit of male is 2.5 times more than that of females.
b) Average transaction amount and the average revolving balance of both the gender is almost in the same range.

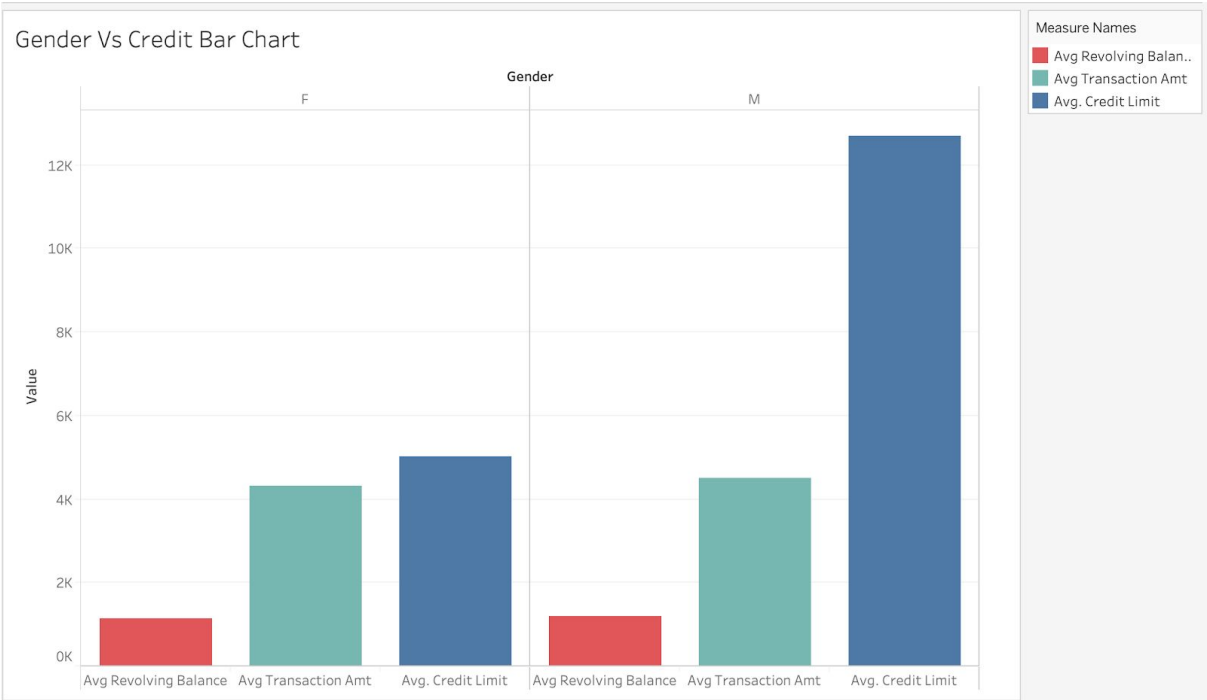
**Visualization Description :**

Marks: **Lines**
Channels: **Horizontal Position, Vertical Lengths and Colour**
Chart Type: **Bar Chart**

**Comparison of Average Revolving Balance, Average Transaction Amount, Average Credit Limit between two gender male and female .**

**Columns used:** Gender, Total Revolving Bal, Credit Limit, Total Trans Amt

Hovering on Bars shows the exact measure values with respect to the gender.



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**Visualization 2 : CardType Vs Average of Total Transaction Amount**

**Queries Answered :**

a) **Which card type has the highest / lowest average of total transaction amount ?**
b) **What is the average transaction amount of given card type in the given income category with the specified range of customer age ?**

**Insights Found :**

a) Platinum card type has the highest average for total transaction amount.
b) Blue card type has the lowest average for the total transaction amount.
c) Customers between the age group 26 to 38 don't have platinum cards.

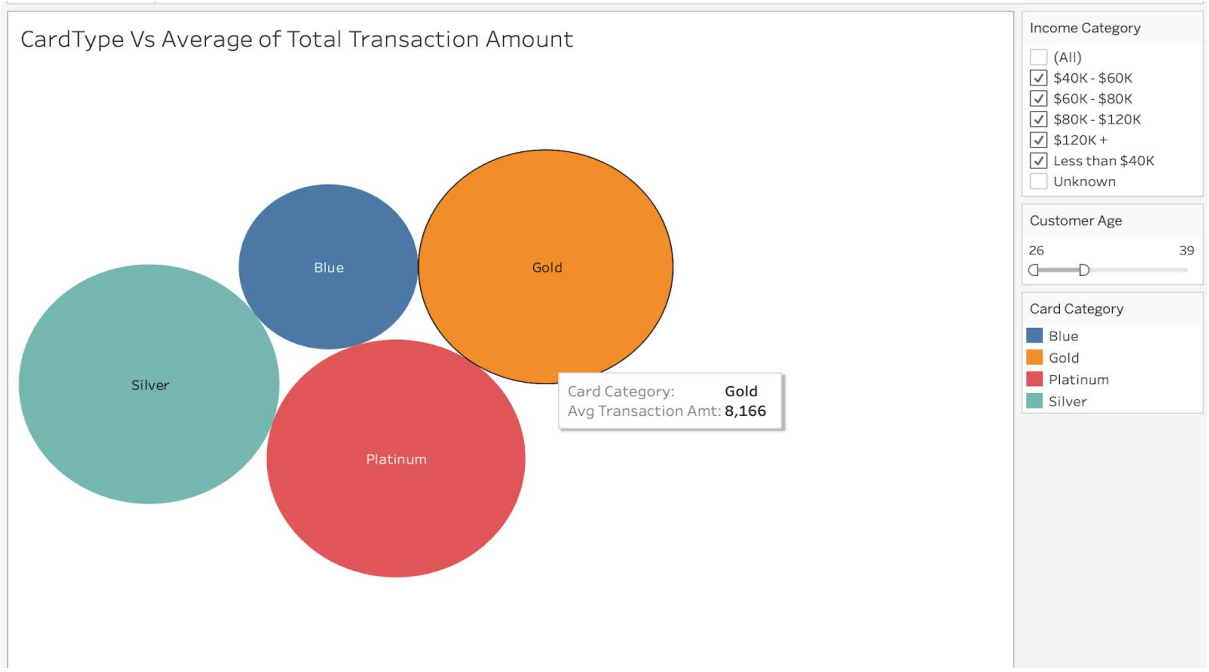
**Visualization Description:**

Marks: **Points**
Channels: **Colours and Area**
Chart Type: **Bubble Chart**

- Different categories of credit cards (categorical variable) are represented in different colors.
- The area of the circle occupied by each card type depends on the average of the total transaction amount (numerical variable).

**Columns used:** Income Category, Card Category, Total Trans Amt, Customer Age

Hovering on each Circle shows the average of the total transaction amount.
Customer Age filter and Income Category filters are available.



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## Visualization 3 : Income Category Vs Customer Transactions

**Queries Answered :**

a) **Which income category has the highest / lowest average credit limit?**
b) **What is the average transaction amount or average age of the customer in a specific income category?**

**Insights Found :**

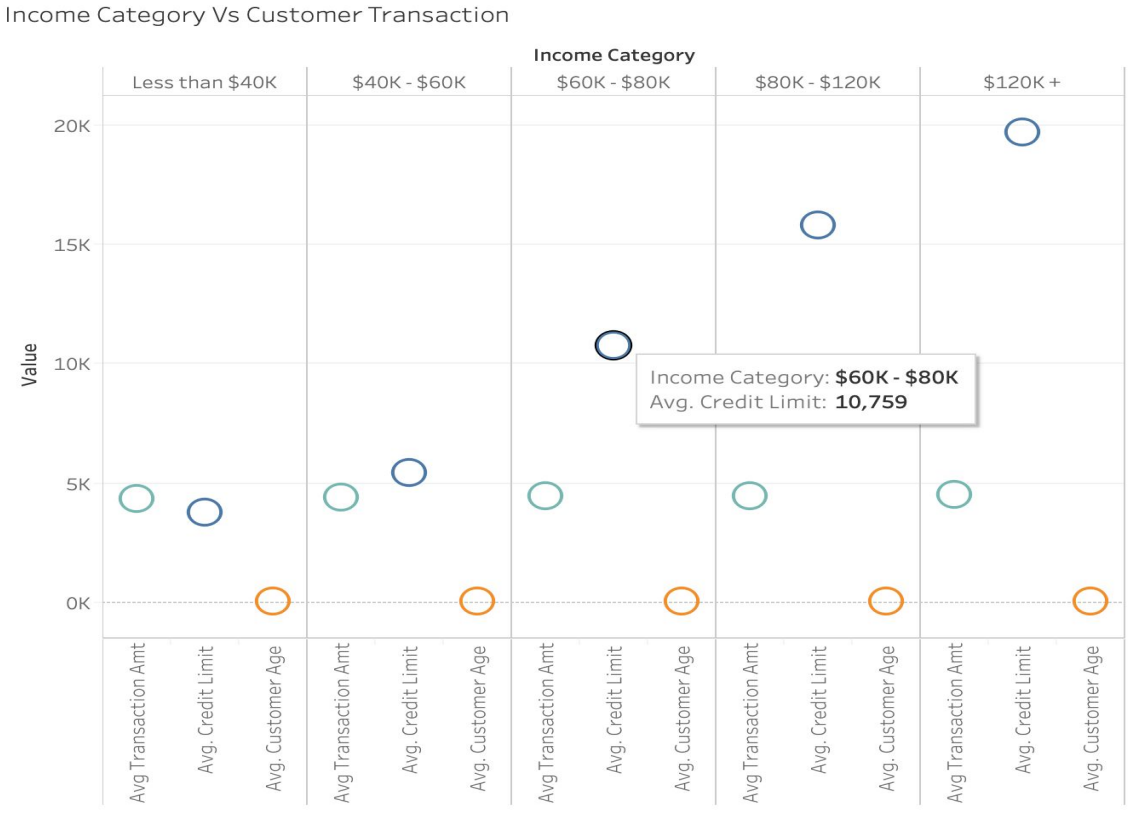
a) There is a positive correlation between the income category and average credit limit.
b) People in $120K+ income category have the highest average credit limit.
c) Average age of the customer who uses a credit card is 46 irrespective of the income category.

**Visualization Description :**

Marks : **Points**
Channels : **Horizontal and Vertical Positions, Colours**
Chart Type : Scatter Plot

**Comparison of Average Customer Age , Average Transaction Amount, Average Credit Limit across the 5 Income Categories.**

**Columns used:** Income Category, Total Trans Amt, Customer Age, Credit Limit



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## Visualization 4 : Education Level Vs Customer Transactions

### Queries Answered :

a) **Which education level has the highest credit card utilization ratio ?**
b) **Is there any cor-relation between the average credit limit and average of total transaction amount with respect to the education level?**

### Insights Found :

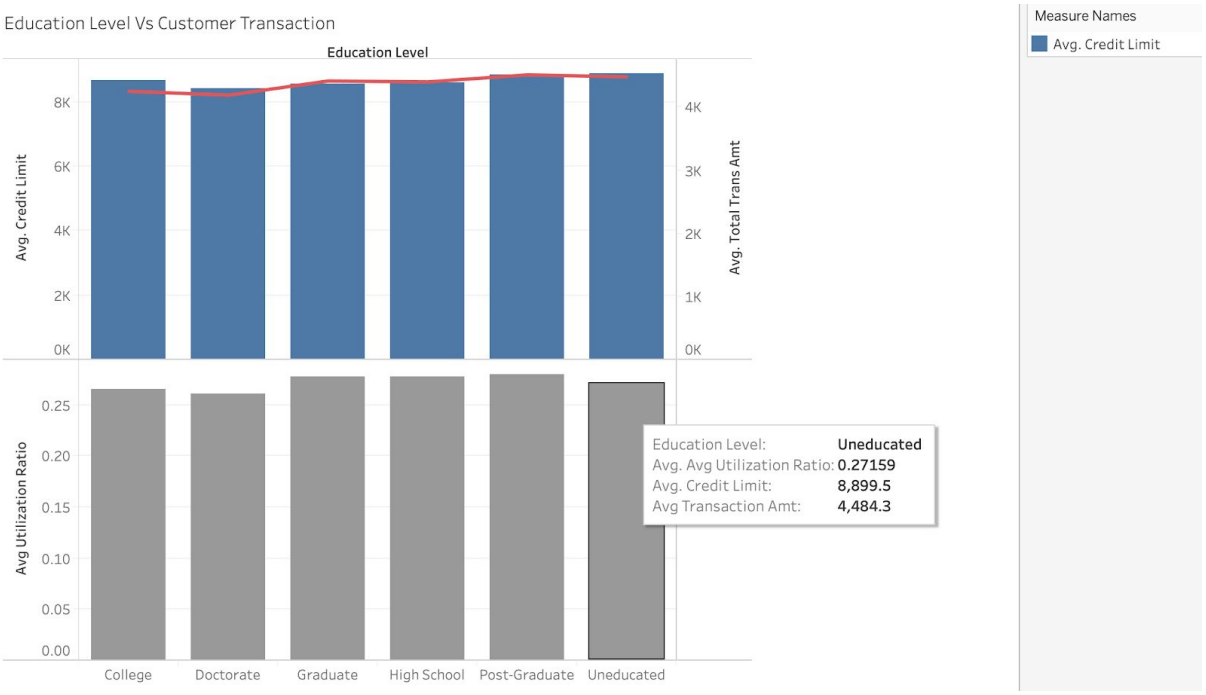
a) Bank customers with the Post-Graduate degree have the highest credit card utilization ratio.
b) There is positive correlation between the average credit limit and average of total transaction amount with respect to the education level.

### Visualization Description :

Marks : **Lines**
Channels : **Horizontal Positions and Vertical Lengths (Bar chart), Colours**
**Horizontal Positions and Vertical Positions (Line chart)**
Chart Type : Bar chart, Dual Axis bar chart with line

X-Axis : Education Level
Y-Axis : Average Utilization Ratio, Average Credit limit, Average of Total Transaction Amount

**Columns used :** Education Level, Total Trans Amt, Credit Limit, Avg Utilization Ratio



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## Visualization 5 : Marital Status Vs Customer Behaviour

**Queries Answered :**

a) **Customers with which marital status have the highest / lowest credit card utilization ratio ?**
b) **Which category of customers have utilized the credit card the most, either attrited customers or existing customers ?**

**Insights Found :**

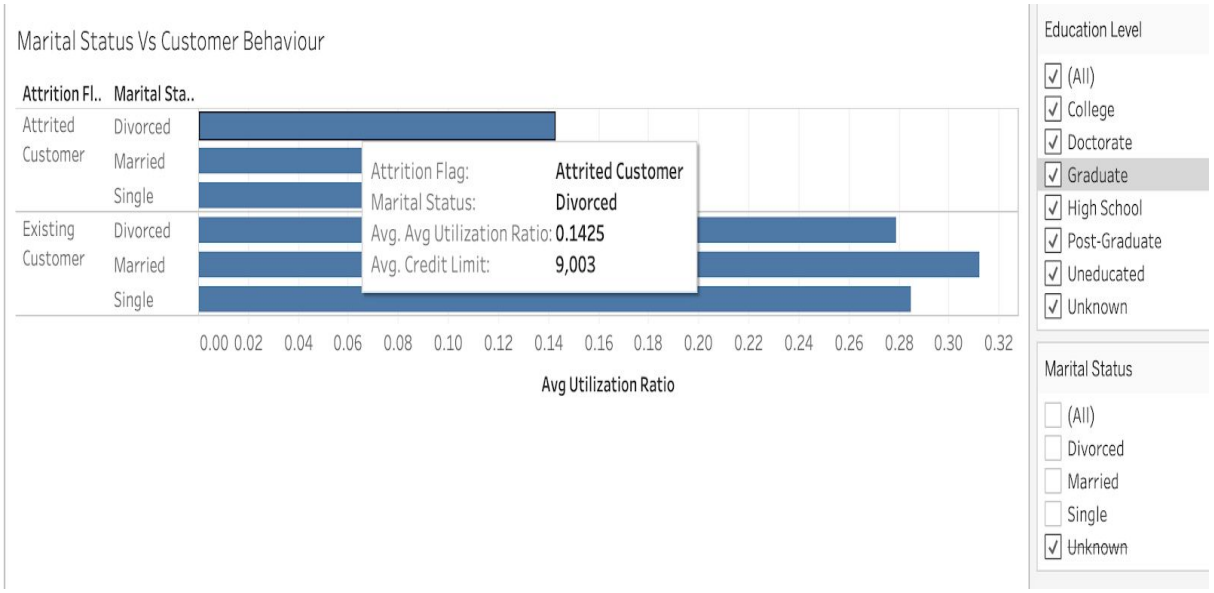
a) Married bank customers have utilized the credit card the most irrespective of either existing customer or attrited customer.

**Visualization Description :**

Marks : **Lines**
Channels : **Vertical Positions and Horizontal Lengths**
Chart Type : **Bar chart**

X-Axis : Average Utilization Ratio
Y-Axis : Marital Status grouped by either attrited customer or existing customer

**Columns used :** Avg Utilization Ratio, Marital Status, Attrition Flag



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## Bank Credit Card Visualization DashBoard :