Project 02 | Part 03

You have a sample dataset of banking domain having 100 sample transactions with following columns and sample data.

```
CustomerID,Name,Gender,Age,AccountType,AccountBalance,TransactionDat
e,TransactionAmount,TransactionType

1,John Doe,Male,35,Savings,5000,2024-04-01,-100,Withdrawal

1,John Doe,Male,35,Savings,4900,2024-04-03,2000,Deposit
```

You need to create two Power BI reports using Power BI Desktop

1. First one having some basic insights
2. Second one having the KPIs

Once created share your reports to **info@vigorcouncil.org** with subject line **Report from XYZ**

Insights for Report 1

Here are some insights that you can derive from the given dataset and represent using various Power BI visuals.

These insights cover a range of aspects related to customer transactions, account balances, demographics, and transaction behavior, and can be visualized using a variety of Power BI visuals to create a comprehensive report.

1. Account Balance Distribution by Account Type

- ✓ Visual: Stacked Column Chart or Clustered Column Chart
- ✓ Insight: Compare the distribution of account balances between savings and checking accounts.

2. Transaction Trend Over Time

- ✓ Visual: Line Chart or Area Chart
- ✓ Insight: Show how transaction amounts vary over time, highlighting any significant spikes or dips.

3. Top Customers by Transaction Amount

- ✓ Visual: Bar Chart or Treemap
- ✓ Insight: Identify the customers with the highest transaction amounts, providing insights into their transaction behavior.

4. Transaction Type Distribution

- ✓ Visual: Pie Chart or Donut Chart
- ✓ Insight: Analyze the proportion of withdrawals and deposits to understand the most common transaction type.

5. Customer Age Distribution

- ✓ Visual: Histogram or Box Plot
- ✓ Insight: Explore the distribution of customer ages to identify any patterns or outliers.

6. Average Transaction Amount by Gender

- ✓ Visual: Clustered Column Chart or Box Plot
- ✓ Insight: Compare the average transaction amounts between male and female customers to identify any gender-based spending differences.

7. Account Balance vs. Age Scatter Plot

- ✓ Visual: Scatter Chart
- ✓ Insight: Explore the relationship between customer age and account balance to identify any correlations.

8. Transaction Frequency by Customer

- ✓ Visual: Line Chart or Bar Chart
- ✓ Insight: Analyze the frequency of transactions for each customer to identify any loyal or inactive customers.

9. Monthly Transaction Amount Trend:

- ✓ Visual: Line Chart or Area Chart
- ✓ Insight: Show the trend of total transaction amounts over each month to identify any seasonal patterns.

10. Transaction Amount Distribution

- ✓ Visual: Histogram or Box Plot
- ✓ Insight: Analyze the distribution of transaction amounts to identify common transaction sizes and outliers.

Insights for Report 2

Here are some key performance indicators (KPIs) that you can include in your report to track the performance and health of the banking operations.

These KPIs provide a holistic view of the performance of the bank's operations, financial health, customer engagement, and growth prospects, allowing stakeholders to make informed decisions and strategies.

1. Average Account Balance

- ✓ Measure: Average of all account balances.
- ✓ Insight: Provides an overview of the financial stability of your customer base

2. Total Deposits

- ✓ Measure: Sum of all deposit amounts.
- ✓ Insight: Indicates the total amount of funds added to accounts over a specific period

3. Total Withdrawals

- ✓ Measure: Sum of all withdrawal amounts.
- ✓ Insight: Shows the total amount of funds withdrawn from accounts over a specific period.

4. Net Cash Flow

- ✓ Measure: Total Deposits - Total Withdrawals.
- ✓ Insight: Provides the overall cash flow direction, indicating whether more funds are being added or withdrawn.

5. Customer Acquisition Rate

- ✓ Measure: Number of new customers acquired / Total number of customers.
- ✓ Insight: Measures the rate at which new customers are joining the bank, indicating growth potential.

6. Customer Retention Rate

- ✓ Measure: ((Number of customers at the end of the period - Number of new customers acquired) / Number of customers at the start of the period) * 100.
- ✓ Insight: Indicates the percentage of customers retained over a specific period, highlighting customer loyalty.

7. Average Transaction Amount

- ✓ Measure: Average of all transaction amounts.
- ✓ Insight: Helps understand the typical size of transactions, which can inform marketing strategies and service offerings.

8. Transaction Volume

- ✓ Measure: Total number of transactions.
- ✓ Insight: Shows the overall activity level within the bank, indicating customer engagement and operational efficiency.

9. Transaction Success Rate

- ✓ Measure: (Number of successful transactions / Total number of transactions) * 100.
- ✓ Insight: Indicates the percentage of transactions completed successfully without errors or issues.

10. Account Closure Rate

- ✓ Measure: Number of closed accounts / Total number of accounts.
- ✓ Insight: Indicates the rate at which customers are closing their accounts, which can reflect customer satisfaction and service quality.

Dashboard designing based on given reports

Create a dashboard layout based on the provided insights and KPIs.

This layout provides a comprehensive overview of the bank's performance, customer behavior, and operational metrics, allowing stakeholders to make data-driven decisions and identify areas for improvement. Each visual on the dashboard should be interactive, allowing users to drill down into specific details and explore the data further.

1. Overall Performance Summary

- ✓ Visual: Card or KPI visual
- ✓ Display key KPIs such as Average Account Balance, Total Deposits, Total Withdrawals, Net Cash Flow, Customer Acquisition Rate, Customer Retention Rate.

2. Transaction Trends

- ✓ Visual: Line Chart
- ✓ Show the trend of Total Deposits and Total Withdrawals over time to identify any patterns or anomalies.

3. Customer Segment Analysis

- ✓ Visual: Stacked Column Chart
- ✓ Compare Total Deposits and Total Withdrawals between different customer segments (e.g., gender, age group) to understand transaction behavior.

4. Transaction Type Distribution

- ✓ Visual: Donut Chart or Pie Chart

- ✓ Show the distribution of transaction types (Withdrawal vs. Deposit) to understand the proportion of each type.

5. Top Customers by Transaction Amount

- ✓ Visual: Table or Bar Chart
- ✓ Display the top customers by transaction amount, along with their details such as name, gender, age, and total transaction amount.

6. Account Balance Analysis

- ✓ Visual: Histogram or Box Plot
- ✓ Analyze the distribution of account balances to understand the financial stability of customers.

7. Customer Demographics

- ✓ Visual: Treemap or Pie Chart
- ✓ Display a breakdown of customers by gender or age group to understand the demographic composition of the customer base.

8. Transaction Volume Analysis

- ✓ Visual: Bar Chart or Line Chart
- ✓ Show the total number of transactions over time to analyze transaction volume trends.

9. Transaction Success Rate

- ✓ Visual: Gauge or KPI visual
- ✓ Display the current transaction success rate as a percentage to monitor operational efficiency.

10. Account Closure Analysis

- ✓ Visual: Bar Chart or Line Chart
- ✓ Show the number of closed accounts over time to understand customer attrition trends.