PRESENTED BY

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Analyzing Financial Data by Performing Different DAX

Function in Power bi

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Running Total of Credit Card Transactions-

Explanation:-

A running total is the cumulative sum of values that change over time. It's calculated by adding the value of each new transaction to the previous running total

```
Running_total =
CALCULATE([Total_tran_Amount],FILTER(ALL(Credit_card_data),Credit_card_data[Week_Start_Date]<=MAX(Credit_card_data[Week_Start_Date])))
```

Calculate the 4-week moving average of the creditLimit for each client.

Explanation: -

The 4-week moving average (4WMA) is a technical analysis tool that averages the closing prices of an asset over the past four weeks to smooth out price data and identify trends.
The formula for calculating the 4WMA is:

4WMA=(P1+P2+P3+P4)/44 cap W cap M cap A equals open paren cap P 1 plus cap P 2 plus cap P 3 plus cap P 4 close paren / 4

$4WMA=(P1+P2+P3+P4)/4$

Where:

- P1: is the closing price of the first week
- P2: is the closing price of the second week
- P3: is the closing price of the third week
- P4: is the closing price of the fourth week

```
Moving _Average_4_weeks =
var weeks4 = DATESINPERIOD('Calendar'[Date],MAX('Calendar'[Date]),-28,DAY)
var total_amount = CALCULATE([Total_tran_Amount],weeks4)
var Num_of_weeks = CALCULATE(DISTINCTCOUNT('Calendar'[Week_Num]),weeks4)
RETURN DIVIDE(total_amount,Num_of_weeks,0)
```

Calculate the mom% growth and wow% growth on transaction amount.

Explanation: -

Month-over-month (MoM) growth is a metric companies use to determine the increase or decrease of the previous month's performance**.**

```
MOM _%_Growth =

var prev_month = CALCULATE([Total_tran_Amount],DATEADD('Calendar'[Date],-1,MONTH))

RETURN DIVIDE([Total_tran_Amount]-prev_month,prev_month,0)
```

Explanation: -

WoW growth is a metric that measures the percentage change in a performance indicator over a week-to-week period.

```
WOW _%_Growth =

var prev_Week = CALCULATE([Total_tran_Amount],DATEADD('Calendar'[Date],-7,DAY))

RETURN DIVIDE([Total_tran_Amount]-prev_Week,prev_Week,0)
```

Calculate Customer Acquisition Cost (CAC) as a Ratio of Transaction Amount.

Explanation: -

Customer acquisition cost (CAC) is the average cost a company incurs to acquire a new customer.

The CAC ratio was successfully calculated as the ratio of customer acquisition cost (CAC) to the transaction amount per customer,

```
Ratio_CAC_Transaction _Amount =
DIVIDE(SUM(Credit_card_data[Customer_Acq_Cost]),[Total_tran_Amount],0)
```

Calculate the yearly average of avg_utilization_ratio for all clients.

Explanation: -

our credit utilization ratio, generally expressed as a percentage, represents the amount of revolving credit you're using divided by the total credit available to you. A revolving account offers the borrower a steady source of credit that can be used for purchases and paid back multiple times.

```
Average_utilization_ratio = AVERAGE(Credit_card_data[Avg_Utilization_Ratio])
```

Calculate the percentage of Interest_Earned compared to Total_Revolving_Bal for each client.

Total_Revolving_Bal

A revolving balance is the amount of credit card debt that remains unpaid at the end of a billing cycle. It can change based on the amount borrowed and the amount repaid.

```
Interest_earned_by_revol_balance =
DIVIDE(SUM(Credit_card_data[Interest_Earned]),SUM(Credit_card_data[Total_Revolving_Bal]))
```

Calculate Top 5 Clients by Total Transaction Amount.

```
Top5_clints = TOPN(5,SUMMARIZE(Credit_card_data,Credit_card_data[Client_Num],"total amount",[Total_tran_Amount]),[total amount],DESC)
```

Identify clients whose Avg_Utilization_Ratio exceeds 80%.

Explanation: -

A credit utilization ratio of more than 80% can negatively impact your credit score. Lenders view high utilization with caution because it can lead to missed payments.

A good credit utilization ratio is generally considered to be below 30% of your available credit. If you can't keep it under 30%, you should try to keep it under 50%

```
Check_Exceeds_80 = IF(Credit_card_data[Avg_Utilization_Ratio]>0.80,TRUE,FALSE)
```

Customer Churn Indicator: Create a KPI that flags clients who have not made any transactions (Total_Trans_Amt = 0) in the last 6 months.

Explanation: -

Customer churn, also known as customer attrition, is when a customer stops using a product or service. The customer churn rate is calculated by dividing the number of customers who stop using a service by the total number of customers over a specific time period.

Some churn indicators include:

- **Low engagement rates:** Customers aren't consistently using the product or service, which could mean they're losing interest or exploring other options
- **Low survey engagement:** Customers aren't responding to surveys, which can make it difficult to understand what they want from the business
- **Delayed payments:** Delayed payments can indicate disengagement and potential churn
- **Reduced usage frequency:** Customers are using the product or service less frequently
- **Increased support requests:** Customers are making more support requests
- **Negative feedback:** Customers are providing negative feedback

Churn =

```
var balance =
CALCULATE([Total_tran_Amount],DATESINPERIOD('Calendar'[Date],MAX('Calendar'[Date]),-6,MONTH))
RETURN IF(ISBLANK(balance),"Churned","Not churned")
```

Delinquency Rate: Calculate the percentage of clients with Delinquent_Acc > 0.

Explanation: -

The delinquency rate is the percentage of loans that are past due or overdue. It's a metric used to assess the quality of a bank's or lending company's loan portfolio.
To calculate the delinquency rate, divide the total number of delinquent loans by the total number of loans held by the lender

```
Delinquency Rate =
var Greate_Zero
=CALCULATE(COUNTROWS(Credit_card_data),Credit_card_data[Delinquent_Acc]>0)

var Total_Rows = COUNTROWS(Credit_card_data)

RETURN DIVIDE(Greate_Zero,Total_Rows,0)
```

Credit Risk Score: Create a score for each client based on their Avg_Utilization_Ratio, Delinquent_Acc, and Total_Revolving_Bal.

Explanation: -

Credit scores are a key factor in determining loan eligibility, interest rates, and repayment terms. Lenders typically offer lower interest rates to borrowers with higher credit scores.

```
Credit_Risk_Score = Credit_card_data[Avg_Utilization_Ratio]*0.50 +
Credit_card_data[Normalized_Revolving_balance]*0.3 + Credit_card_data[Delinquent_Acc]*0.20
```

Income vs Credit Limit Correlation: Show the correlation between Income and Credit_Limit for all clients.

Explanation: -

our income has a direct correlation with your credit limit. Annual income impacts your DTI ratio, which helps credit card companies determine your creditworthiness. The lower your DTI ratio and the higher your income, the higher your credit limit may be

```
Normalized_Revolving_balance = DIVIDE(Credit_card_data[Total_Revolving_Bal] -
MIN(Credit_card_data[Total_Revolving_Bal]),MAX(Credit_card_data[Total_Revolving_Bal]) -
MIN(Credit_card_data[Total_Revolving_Bal]),0)
```

Average Customer Satisfaction Score by Credit Card Category: Calculate the average Cust_Satisfaction_Score by Card_Category

Explanation: -

What Is a Good Customer Satisfaction Percentage? Monitoring your CSAT score over time helps you get a highly specific overview of whether you're making progress in keeping your business customer-centric. While Customer Satisfaction Scores vary by industry, a good range is typically between 75% and 85%.

```
 Avg_satisfaction _score =
SUMMARIZE(Credit_card_data,Credit_card_data[Card_Category],"avg_satisfaction_score",AVERAGE(Cu
stomer_data[Cust_Satisfaction_Score]))
```

Loan Approval vs Credit Limit: Analyze how Credit_Limit affects Personal_loan approval by calculating the average credit limit for clients with and without loans.

```
Loan_approval_yea =
CALCULATE(AVERAGE(Credit_card_data[Credit_Limit]),Customer_data[Personal_loan] = "yes")

Loan_approval_no =
CALCULATE(AVERAGE(Credit_card_data[Credit_Limit]),Customer_data[Personal_loan] = "no")
```

High Risk Clients Flag: Create a flag for clients whose Total_Revolving_Bal exceeds 90% of their Credit_Limit and who have a high Avg_Utilization_Ratio.

```
Credit_Risk_Score = Credit_card_data[Avg_Utilization_Ratio]*0.50 +
Credit_card_data[Normalized_Revolving_balance]*0.3 + Credit_card_data[Delinquent_Acc]*0.20

Flag_clients =

IF(Credit_card_data[Normalized_Revolving_balance]>0.9 &&
Credit_card_data[Avg_Utilization_Ratio]>0.8, "Flagged","Not flagged")
```