FINANCIAL ANALYSIS

Created by **elizabeth pillai**

TASK

You are a Financial Data Analyst tasked with analyzing credit card usage and financial metrics for a banking institution. Using the provided data, you will create reports in Power BI by applying DAX functions.

Running Total of Credit Card Transactions

```
running total = CALCULATE(sum('credit cards'[Total_Trans_Amt]),
FILTER (ALL('credit cards'),
'credit cards'[Week_Start_Date] <= MAX('credit cards'[Week_Start_Date])))
```

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

```
cac_ta = DIVIDE(SUM('credit cards'[Customer_Acq_Cost]),
SUM('credit cards'[Total_Trans_Amt]))
```

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

```
Moving avg =

VAR time_period = DATESINPERIOD('credit cards'[Week_Start_Date],MAX('credit cards'[Week_Start_Date]),-28,DAY)

VAR  weeks = COUNTROWS(time_period)

var sales = CALCULATE(SUM('credit cards'[Credit_Limit]),time_period)

RETURN DIVIDE(sales,weeks,0)
```

Calculate the yearly average of avg_utilization_ratio for all clients.

```
avg_utilization rate = AVERAGE('credit cards'[Avg_Utilization_Ratio])/DISTINCTCOUNT('credit cards'[current_year])
```

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

```
mom%growth =

var prev_month = CALCULATE(SUM('credit cards'[Total_Trans_Amt]),DATEADD('calendar'[Date],-1,MONTH))

return DIVIDE(SUM('credit cards'[Total_Trans_Amt])-prev_month,prev_month,0)
```

```
wow%growth =

var prev_week = CALCULATE(SUM('credit cards'[Total_Trans_Amt]),DATEADD('calendar'[Date],-7,DAY))

RETURN DIVIDE(SUM('credit cards'[Total_Trans_Amt])-prev_week,prev_week,0)
```

Calculate Top 5 Clients by Total Transaction Amount.

```
top_5_clients_by_transaction_amt =

TOPN(5,SUMMARIZE('credit cards','credit cards'[Client_Num],"total amount", SUM('credit cards'[Total_Trans_Amt])),[total amount],DESC)

```

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

```
interest_by_rev_bal = DIVIDE(SUM('credit cards'[Interest_Earned]),SUM('credit cards'[Total_Revolving_Bal]),0)
```

Identify clients whose Avg_Utilization_Ratio exceeds 80%

```
avg_uti_exceeds_80% = IF('credit cards'[Avg_Utilization_Ratio]>0.8,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.

```
no_tran_last_6_months =

var months_6 = CALCULATE(SUM('credit cards'[Total_Trans_Amt]),DATESINPERIOD('calendar'[Date],MAX('calendar'[Date]), -6,MONTH))

RETURN IF(ISBLANK(months_6),TRUE,FALSE)

```

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

```
delinquency_rate =

var delinquent_acc = CALCULATE(COUNTROWS('credit cards'),'credit cards'[Delinquent_Acc]>0)

VAR total_accounts = COUNTROWS('credit cards')

RETURN DIVIDE(delinquent_acc,total_accounts,0)
```

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_yes = CALCULATE(AVERAGE('credit cards'[Credit_Limit]), 'customers data'[Personal_loan] = "yes")
```

```
loan_no = CALCULATE(AVERAGE('credit cards'[Credit_Limit]),'customers 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.

```
exceeds_90%_of_creditlimit =

VAR cl_90 =

'credit cards'[Credit_Limit]*0.9

RETURN IF('credit cards'[Total_Revolving_Bal] > cl_90, TRUE, FALSE)
```

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

```
avg_score_by_card_cat =

SUMMARIZE('credit cards','credit cards'[Card_Category], "avg score", ROUND(AVERAGE('customers data'[Cust_Satisfaction_Score]),2))

```

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

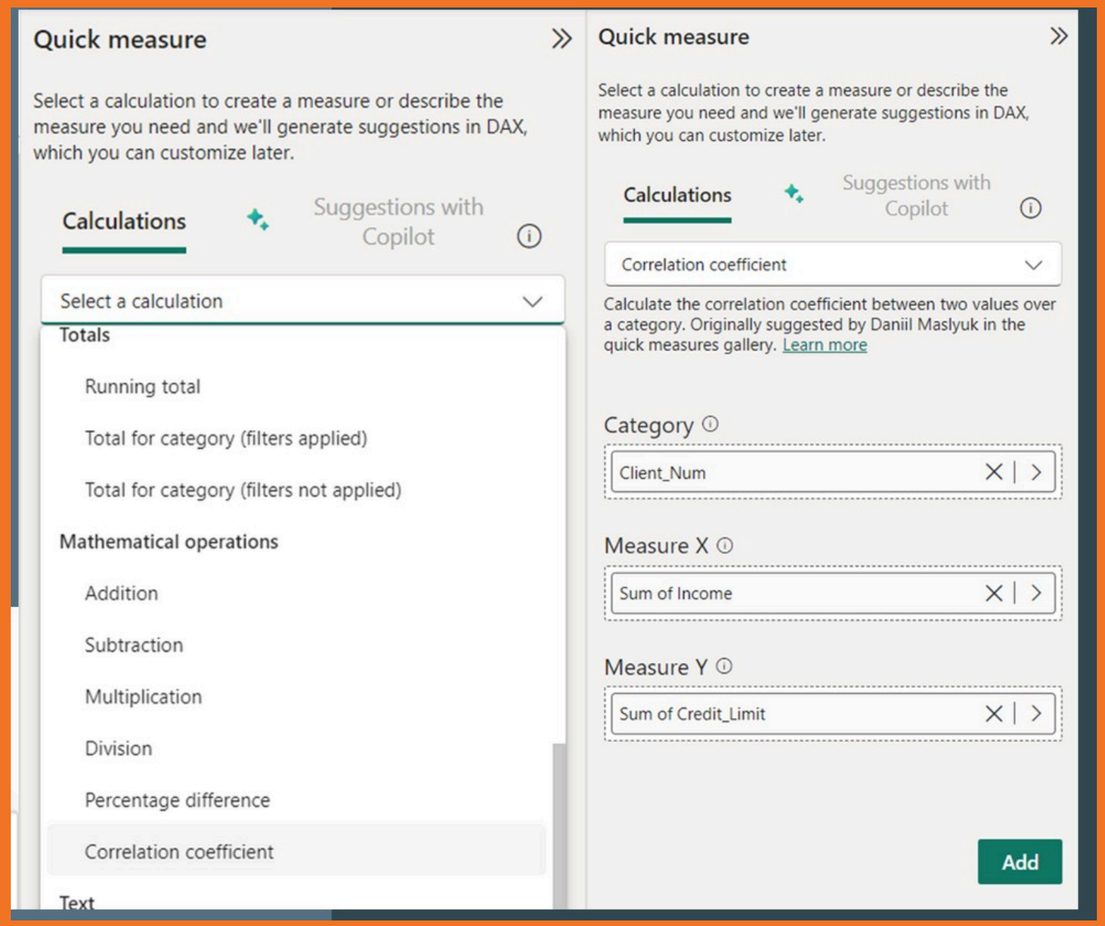
To create the credit risk score first we have to normalize the revolving balance between 0 and 1

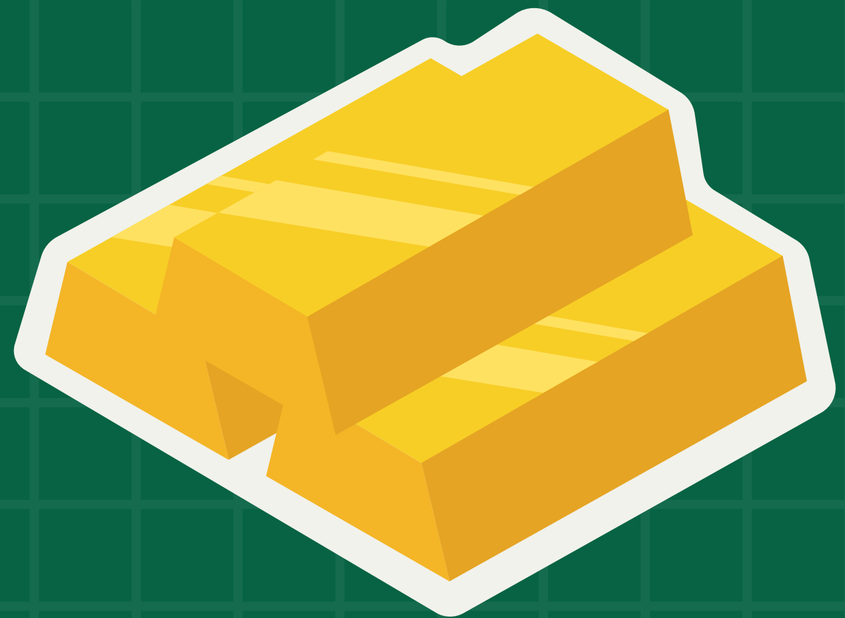
```
normalized_revolving_balance =

VAR min_value = MIN('credit cards'[Total_Revolving_Bal])

VAR max_value = MAX('credit cards'[Total_Revolving_Bal])

RETURN DIVIDE('credit cards'[Total_Revolving_Bal] - min_value, max_value - min_value,0)
```

Next we allocate them accordingly avg_uti_ratio =50%, delinquent_ac = 30% , total_revolving_bal = 20%

```
credit_risk_score =

0.5*'credit cards'[Avg_Utilization_Ratio] +
0.3*'credit cards'[Delinquent_Acc] +
0.2*'credit cards'[normalized_revolving_balance]
```

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





THANK YOU

+07446732035 elizabeth.pillai147@gmail.com