FINANCIAL ANALYSIS WITH POWER BI

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WHAT WE WILL TALK ABOUT

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INTRODUCTION

As a Financial Data Analyst, my role is to provide key insights into credit card usage and financial performance for a banking institution. Leveraging Power BI and advanced DAX functions, I analyze financial metrics such as running totals, moving averages, and growth rates. This project focuses on assessing critical customer behavior indicators, including credit utilization and delinquency risk, to identify patterns that influence customer retention and overall financial health. Through the develop

RUNNING TOTAL OF CREDIT CARD TRANSACTIONS

```
1 running total =
2
3 calculate(sum('credit card'[Total_Trans_Amt]),
4 filter(all('credit card'),'credit card'[Week_Start_Date]<=max('credit card'
  [Week_Start_Date])))
```

4-WEEK MOVING AVERAGE OF THE CREDITLIMIT FOR EACH CLIENTND TOPIC

```
moving average =

var weeks = DATESINPERIOD('calendar'[date],max('calendar'[date]),-28,day)

var sales = CALCULATE(sum('credit card'[Credit_Limit]), weeks)

var dis_week = CALCULATE(DISTINCTCOUNT('calendar'[weeknum]),weeks)

return DIVIDE(sales,dis_week)
```

Month on Month% Growth on Transaction Amount

```
1 mom%growth =
2
3 var prev_month = CALCULATE(SUM('credit card'[Total_Trans_Amt]),DATEADD
  ('calendar'[date],-1,month))
4
5 return DIVIDE(SUM('credit card'[Total_Trans_Amt])- prev_month,prev_month,0)
```

WEEK ON WEEK% GROWTH ON TRANSACTION AMOUNT

```
1 wow%growth =
2
3 var prev_week = CALCULATE(SUM('credit card'[Total_Trans_Amt]),DATEADD
  ('calendar'[date], -7,DAY))
4
5 return DIVIDE(SUM('credit card'[Total_Trans_Amt])-prev_week,prev_week,0)
```

CUSTOMER ACQUISITION COST (CAC) AS A RATIO OF TRANSACTION AMOUNT

```
1 cac_ta = DIVIDE(SUM('credit card'[Customer_Acq_Cost]),
2 sum('credit card'[Total_Trans_Amt]))
```

YEARLY AVERAGE OF AVG_ UTILIZATION _ RATIO FOR ALL CLIENTS.

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

PERCENTAGE OF INTEREST_EARNED COMPARED TO TOTAL_REVOLVING_BAL FOR EACH CLIENT.

```
1 interest_by_rev_bal = DIVIDE(SUM('credit card'[Interest_Earned]),sum
  ('credit card'[Total Revolving Bal]),0)
```

TOP 5 CLIENTS BY TOTAL TRANSACTION AMOUNT

```
1 top_5_cilents_by_traction_amount =
2
3 TOPN(5,SUMMARIZE('credit card','credit card'[Client_Num],"total amount",sum('credit card'
  [Total_Trans_Amt])),[total amount],DESC)
```

CLIENTS WHOSE AVG_UTILIZATION_RATIO EXCEEDS 80%

```
avg_uti_exceeds_80% =
if('credit card'[Avg_Utilization_Ratio]>0.8,TRUE,FALSE)
```

CUSTOMER CHURN INDICATOR: KPI THAT FLAGS CLIENTS WHO HAVE NOT MADE ANY TRANSACTIONS (TOTAL_TRANS_AMT = 0) IN THE LAST 6 MONTHS.

```
no_trans_in_last_6_months =

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

RETURN IF(ISBLANK(months_6),true,FALSE)
```

CALCULATE THE PERCENTAGE OF CLIENTS WITH DELINQUENT_ACC > 0

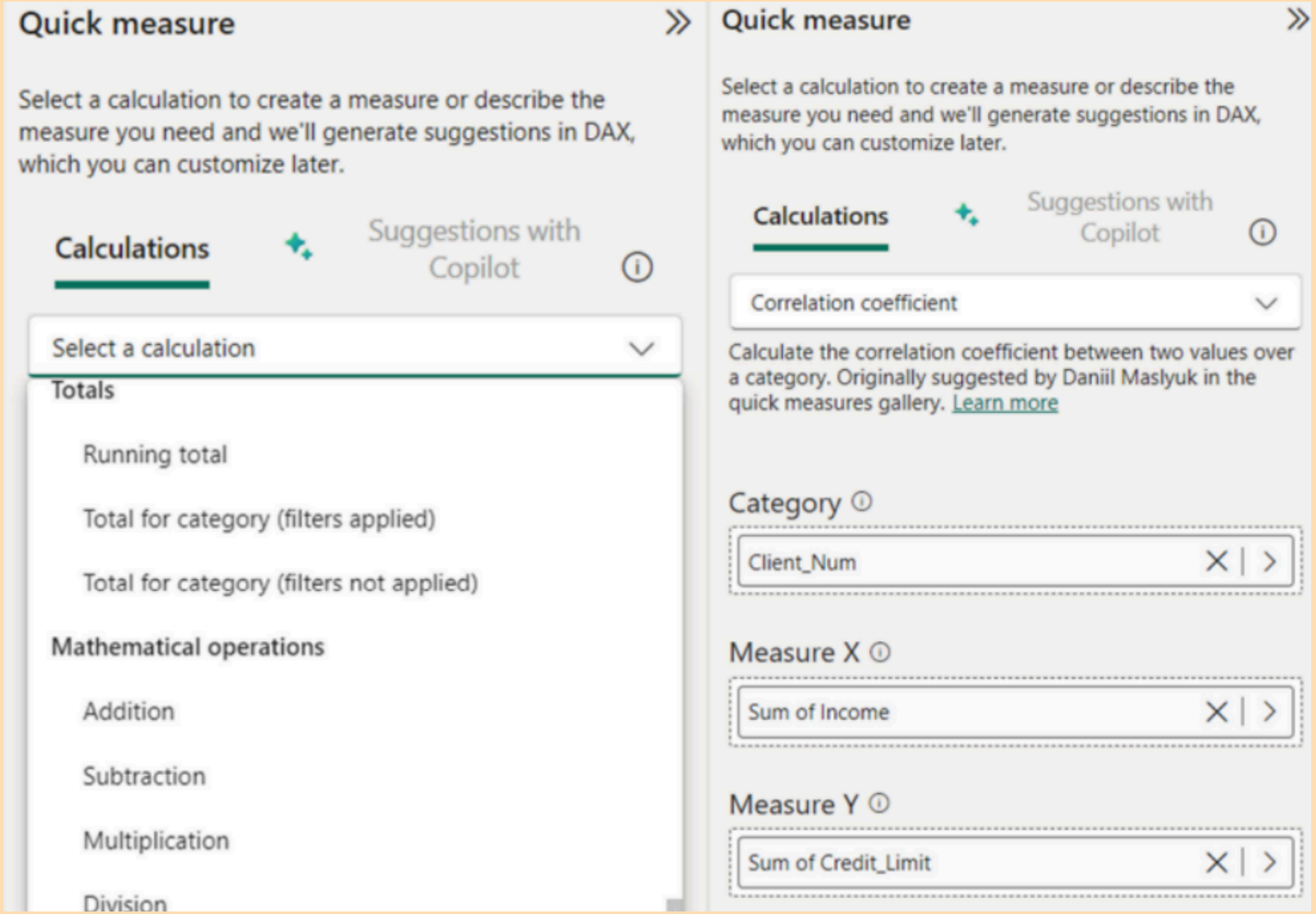
```
1 delinquency_rate =
2
3 var delinquency_acc = CALCULATE(COUNTROWS('credit card'),'credit card'[Delinquent_Acc]>0)
4
5 var total_accounts = COUNTROWS('credit card')
6
7 RETURN DIVIDE(delinquency_acc,total_accounts,0)
```

CREATE A SCORE FOR EACH CLIENT BASED ON THEIR AVG_UTILIZATION_RATIO, DELINQUENT_ACC, AND TOTAL_REVOLVING_BAL.

```
Normalised_Revolving_Balance =

var min_value = MIN(credit_card[Total_Revolving_Bal])
var max_value = MAX(credit_card[Total_Revolving_Bal])

return DIVIDE(credit_card[Total_Revolving_Bal]
  -min_value, max_value - min_value, 0)
```

```
credit_risk_score =

0.5*credit_card[Avg_Utilization_Ratio]+
0.3*credit_card[Delinquent_Acc]+
0.2*credit_card[Normalised_Revolving_Balance]
```

INCOME VS CREDIT LIMIT CORRELATION: SHOW THE CORRELATION BETWEEN INCOME AND CREDIT_LIMIT FOR ALL CLIENTS



CALCULATE THE AVERAGE CUST_SATISFACTION_SCORE BY CARD_CATEGORY.

```
avg_score_by_card_category =

SUMMARIZE(credit_card,credit_card[Card_Category], "avg score", ROUND(AVERAGE(customer[Cust_Satisfaction_Score]),2))
```

ANALYZE HOW CREDIT_LIMIT AFFECTS PERSONAL_LOAN APPROVAL BY CALCULATING THE AVERAGE CREDIT LIMIT FOR CLIENTS WITH AND WITHOUT LOANS.

```
loan_no = CALCULATE(AVERAGE(credit_card[Credit_Limit]), customer[Personal_loan] = "no")
```

```
loan_yes = CALCULATE(AVERAGE(credit_card[Credit_Limit]), customer[Personal_loan] = "yes")
```

CREATE A FLAG FOR CLIENTS WHOSE TOTAL_REVOLVING_BAL EXCEEDS 90% OF THEIR CREDIT_LIMIT AND WHO HAVE A HIGH AVG_UTILIZATION_RATIO.

```
1 exceeds_90%_credit_limit =
2
3 var clAbove90 = credit_card[Credit_Limit] * 0.9
4
5 RETURN IF(credit_card[Total_Revolving_Bal] > clAbove90 &&
  [Avg_Utilization_Ratio] > 0.5, True,False)
```

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