Advanced Financial Analysis with DAX in Power BI

Welcome to our comprehensive guide on leveraging DAX functions in Power BI for advanced financial analysis. This presentation will equip data analysts and financial professionals with powerful tools to calculate critical metrics, assess customer behavior, and generate actionable insights for improved customer retention and financial performance.

We'll explore 15 key DAX formulas, each designed to unlock valuable information from your banking institution's credit card usage data. Let's dive in and transform raw data into strategic advantage.

by Ritik Verma

Running Total of Credit Card Transactions

FORMULA

```
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 Credit Limit

Formula

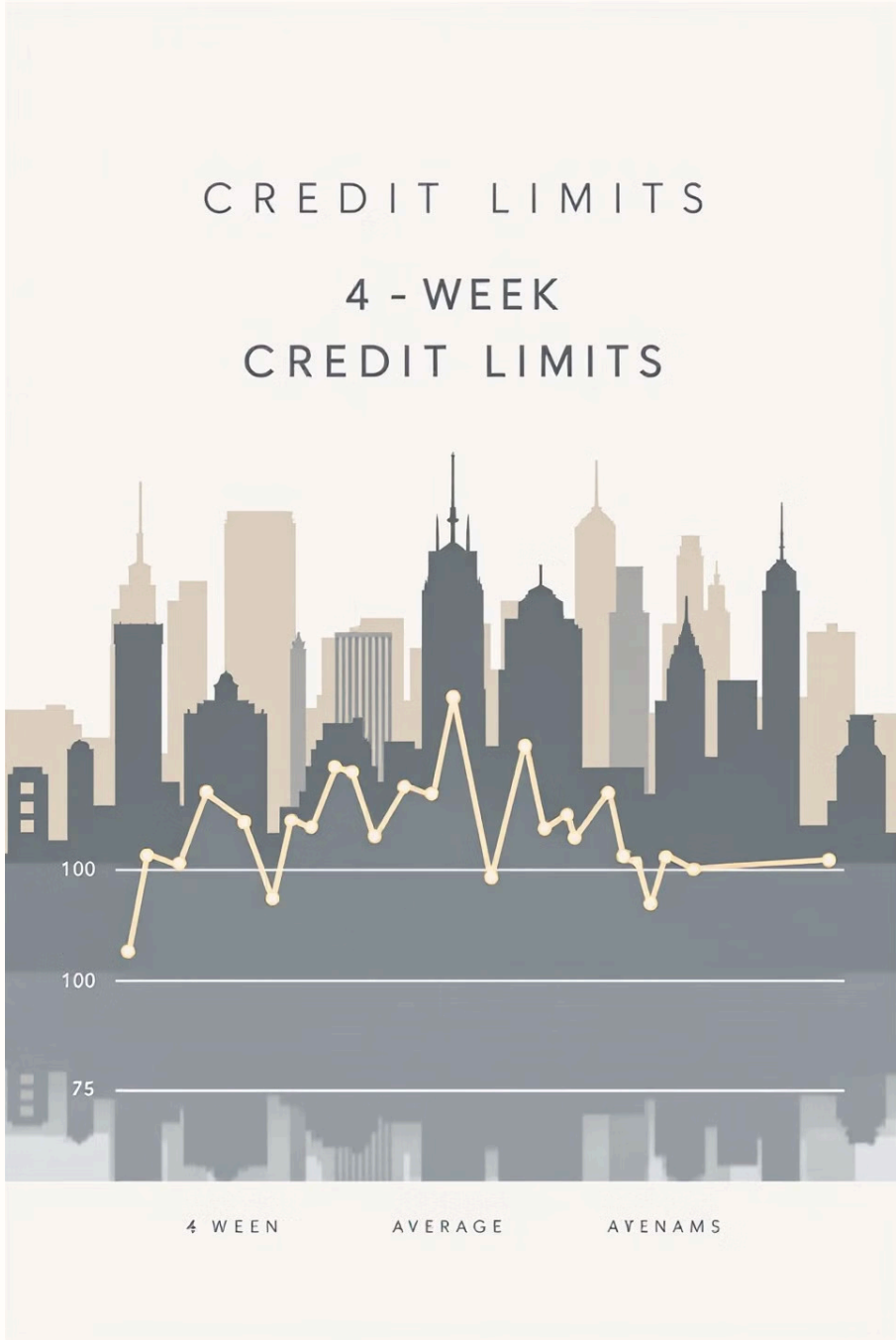
```
moving average =

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-over-Month and Week-over-Week Growth

FORMULA FOR MONTH OVER MONTH

```
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)
```

FORMULA FOR WEEK OVER WEEK

```
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) Ratio

FORMULA

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

Yearly Average Utilization Ratio

365

Days in Year

Calculates daily utilization

12

Months Averaged

Smooths out monthly fluctuations

FORMULA

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

Interest Earned vs Total Revolving Balance

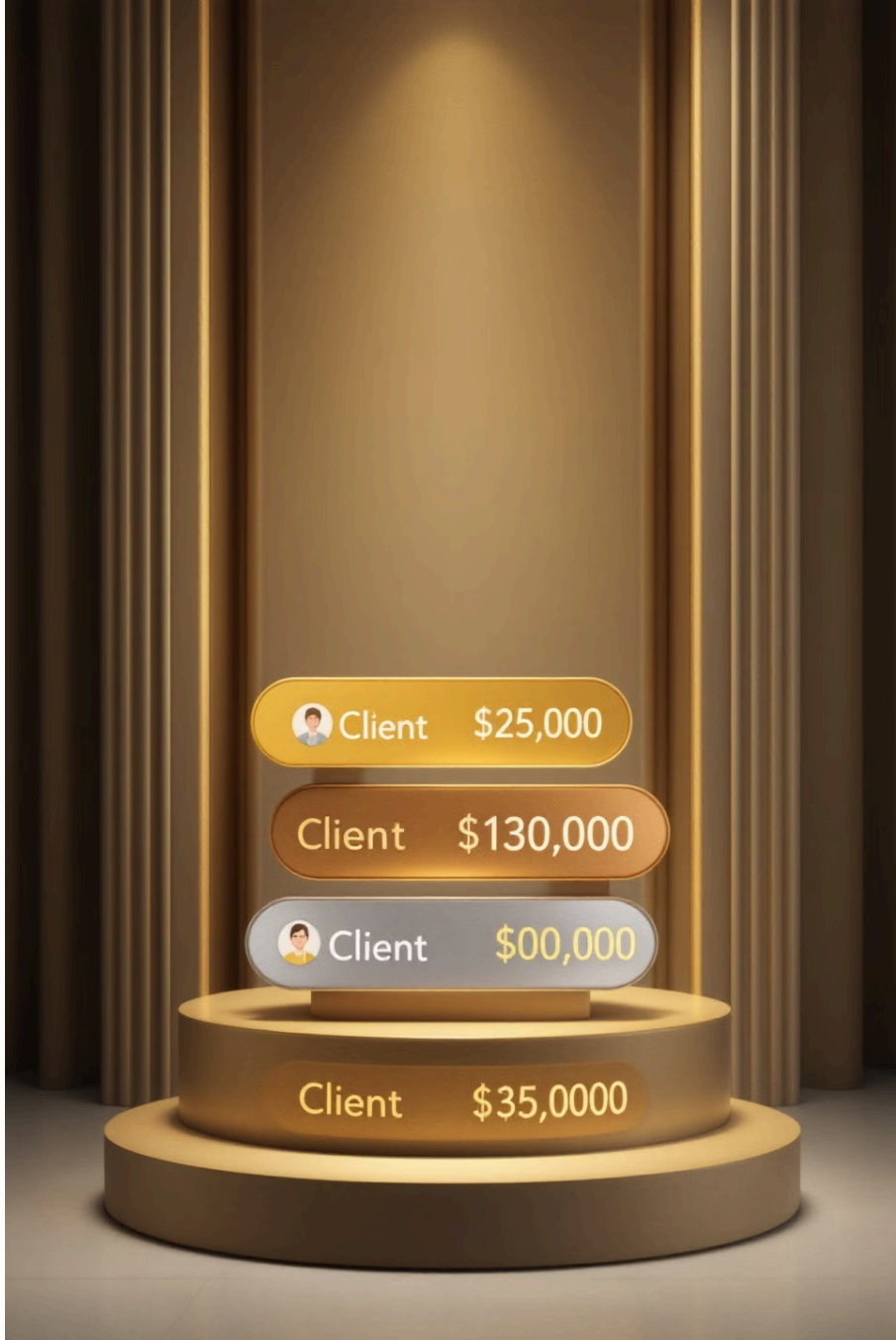
FORMULA

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

Top 5 Clients by Transaction Amount

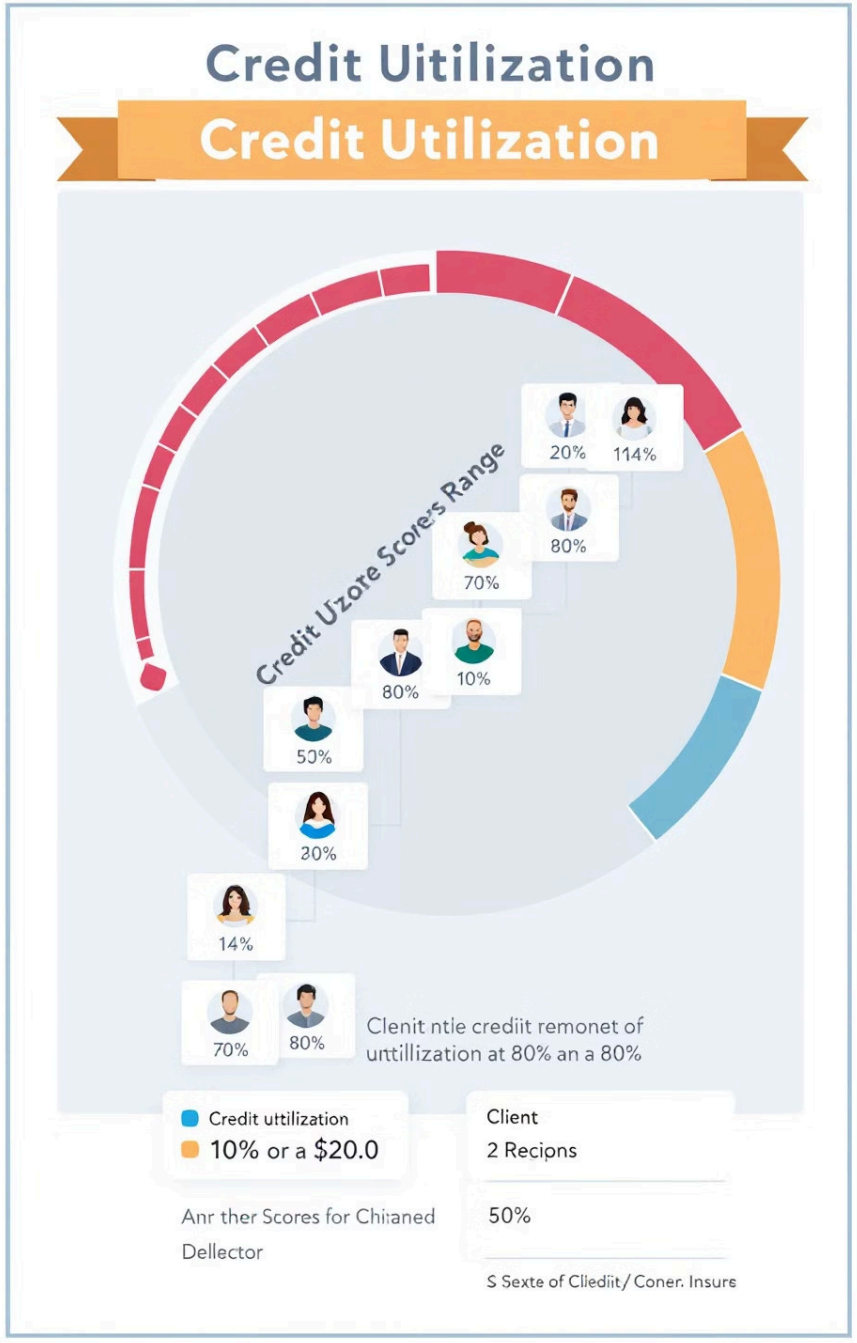
F

```
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)
```



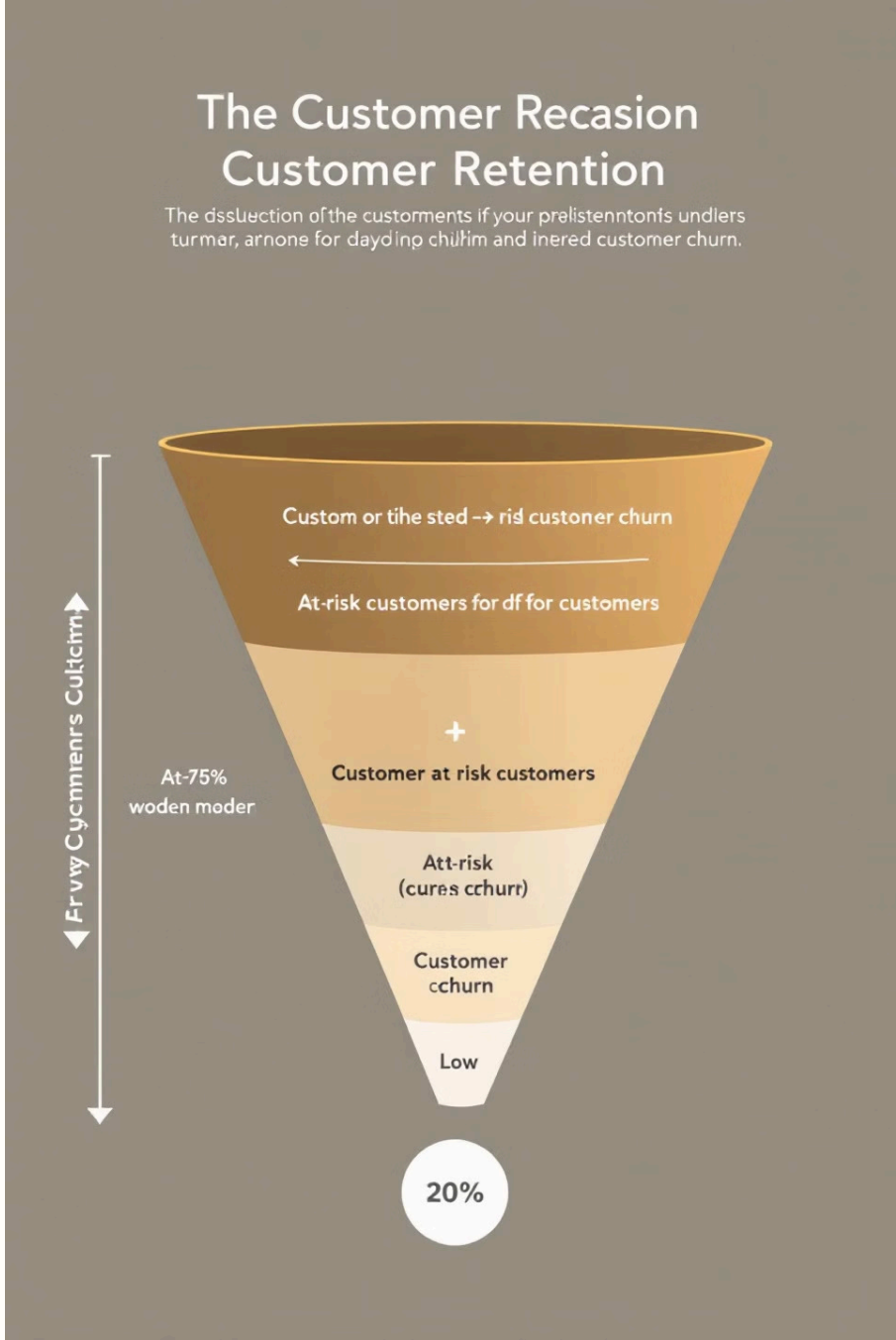
High Utilization Ratio Clients

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



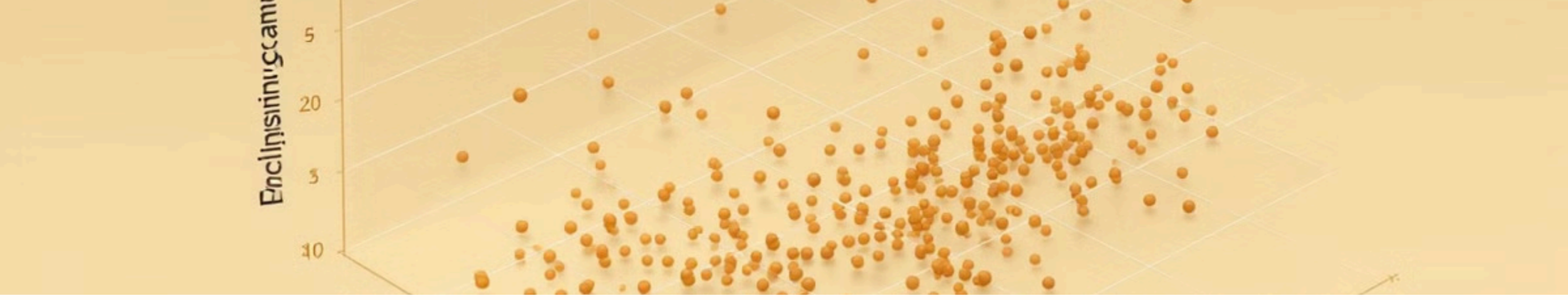
Customer Churn Indicator

```
1 no_trans_in_last_6_months =
2
3 var months_6 = CALCULATE(SUM('credit card'[Total_Trans_Amt]),DATESINPERIOD('calendar'[Date],MAX
  ('calendar'[Date]), -6,MONTH))
4
5 RETURN IF(ISBLANK(months_6),true,FALSE)
```



Delinquency Rate Calculation

```
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)
```

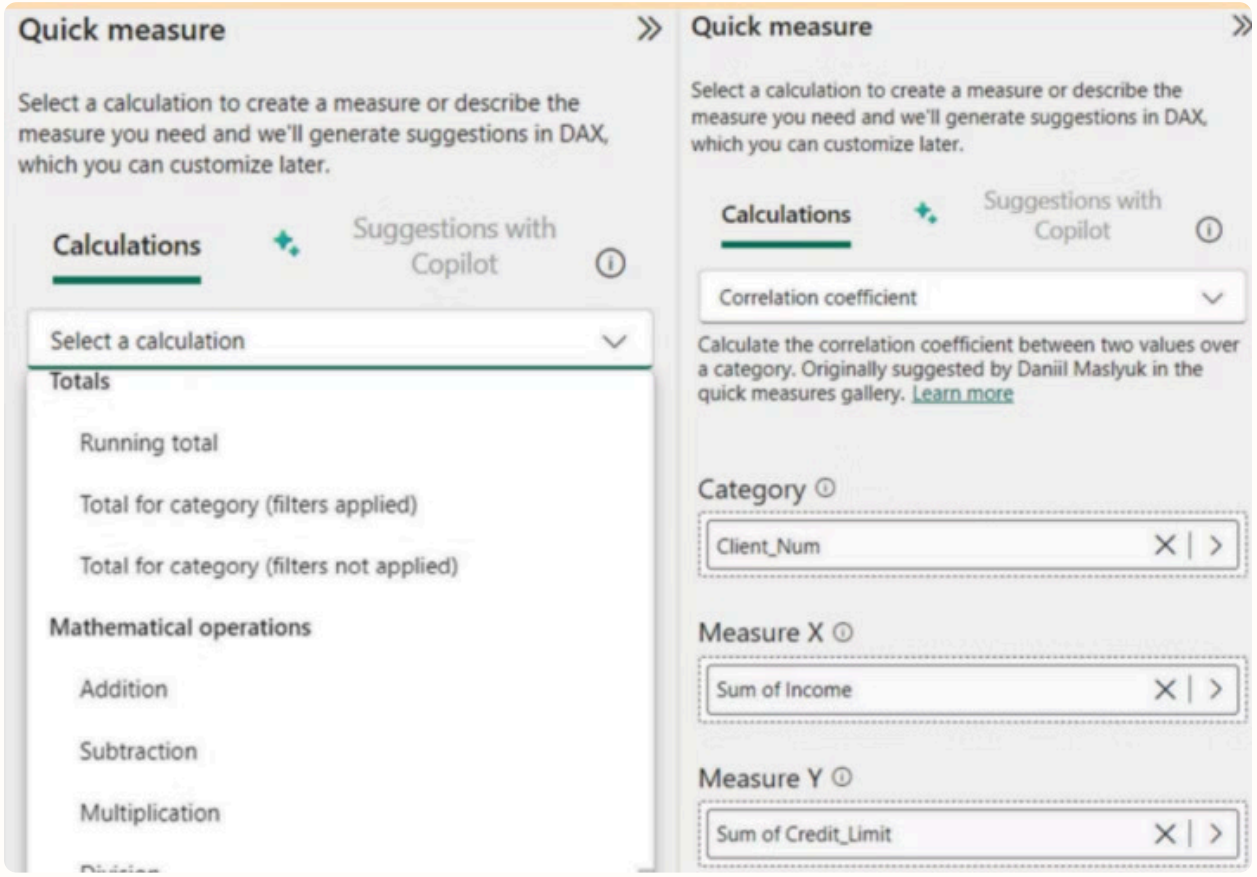


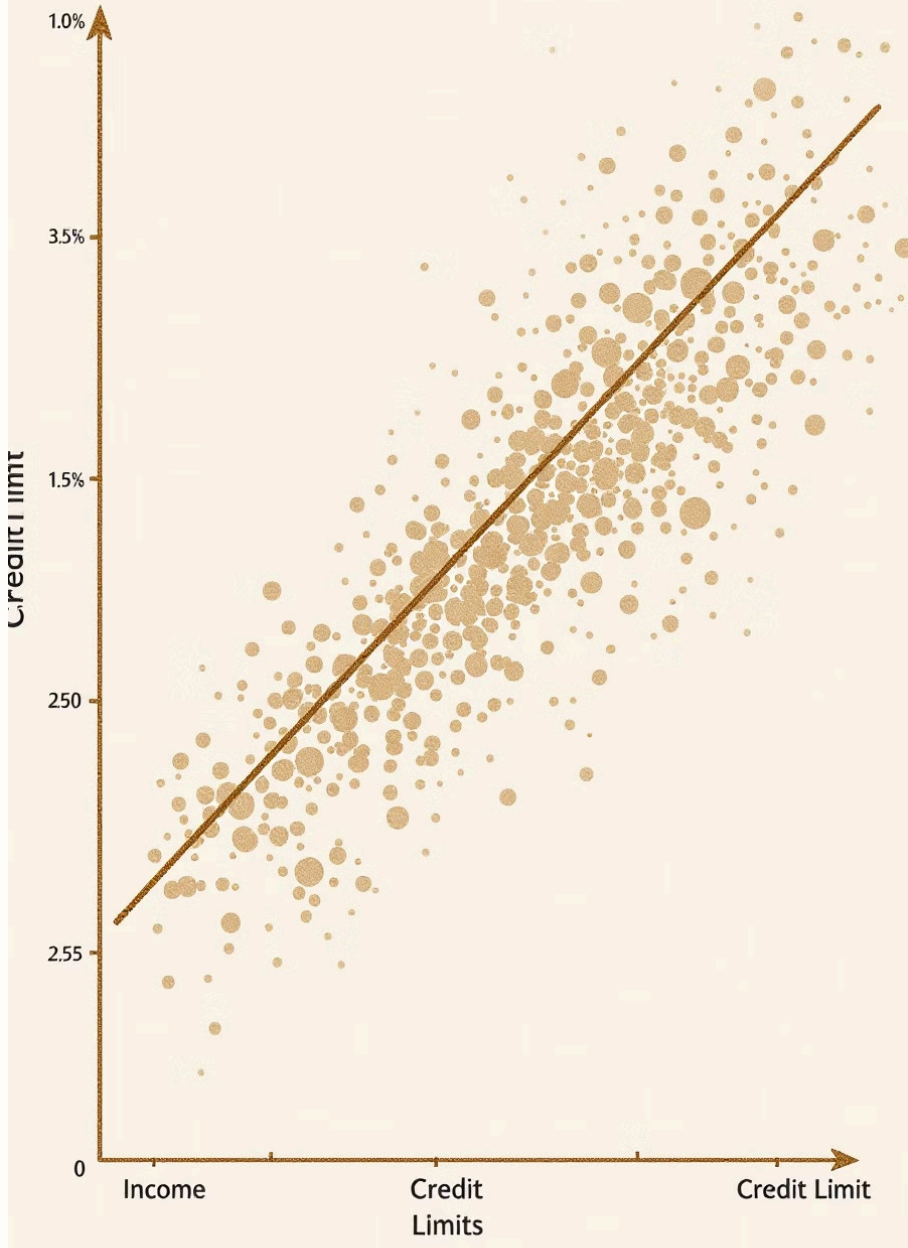
Credit Risk Score Calculation

```
1 Normalised_Revolving_Balance =
2
3 var min_value = MIN(credit_card[Total_Revolving_Bal])
4 var max_value = MAX(credit_card[Total_Revolving_Bal])
5
6 return DIVIDE(credit_card[Total_Revolving_Bal]
  -min_value, max_value - min_value, 0)
```

```
1 credit_risk_score =
2
3 0.5*credit_card[Avg_Utilization_Ratio]+
4 0.3*credit_card[Delinquent_Acc]+
5 0.2*credit_card[Normalised_Revolving_Balance]
```

Income vs Credit Limit Correlation

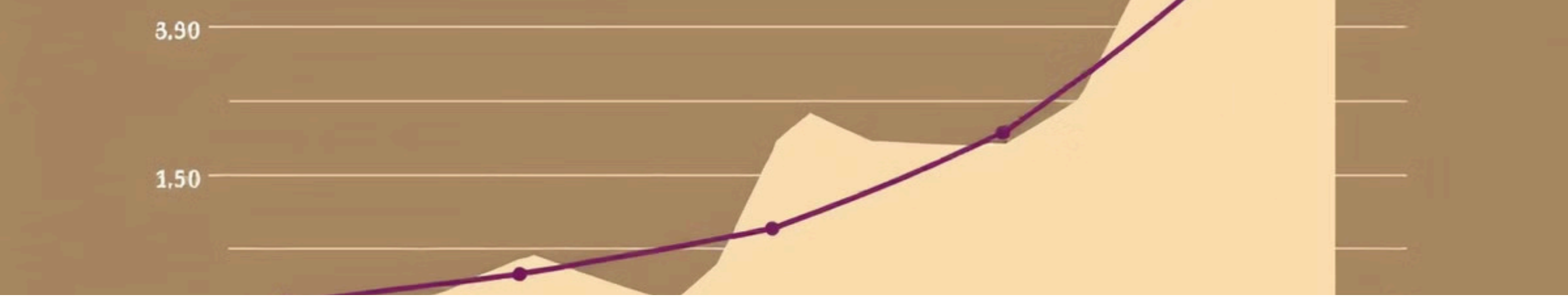




Average Customer Satisfaction by Card Category


```
avg_score_by_card_category =

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



Loan Approval vs Credit Limit Analysis

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

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