

Power BI Project

Credit Card Financial Dashboard

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Project Objective

This project aims to create a robust credit card dashboard capable of delivering up-to-date information on crucial performance indicators. By offering a clear and concise overview of key metrics and trends, this dashboard will empower stakeholders to make informed decisions, identify potential issues, and optimize credit card operations.



Data : Customer

Client_Num, Customer_Age, Gender, Dependent_Count, Education_Level, Marital_Status, state_cd, Zipcode, Car_Owner, House_Owner, Personal_loan, contact, Customer_Job, Income, Cust_Satisfaction_Score

Client_Num	Customer_Age	Gender	Dependent_Count	Education_Level	Marital_Status	state_cd	Zipcode	Car_Owner	House_Owner	Personal_loan	contact	Customer_Job	Income	Cust_Satisfaction_Score
708082083	24	F	1	Uneducated	Single	FL	91750	no	yes	no	unknown	Businessman	202326	3
708083283	62	F	0	Unknown	Married	NJ	91750	no	no	no	cellular	Selfemployed	5225	2
708084558	32	F	1	Unknown	Married	NJ	91750	yes	no	no	unknown	Selfemployed	14235	2
708085458	38	M	2	Uneducated	Single	NY	91750	no	no	no	cellular	Blue-collar	45683	1
708086958	48	M	4	Graduate	Single	TX	91750	yes	yes	no	cellular	Businessman	59279	1
708095133	33	F	1	High School	Single	NY	91750	no	yes	no	cellular	Selfemployed	14254	3
708098133	34	F	3	Graduate	Single	CA	91750	yes	no	no	telephone	Selfemployed	14975	2
708099183	34	F	2	Uneducated	Single	CA	91750	no	no	no	cellular	Retirees	31982	2
708100533	48	M	2	High School	Married	NJ	91750	yes	no	no	telephone	Businessman	86668	2
708103608	53	F	1	Graduate	Married	NJ	91750	yes	yes	no	cellular	Businessman	223196	1
708104658	31	F	0	Post-Graduate	Single	CA	91750	no	yes	no	telephone	Businessman	33625	2

Data : Card Transaction

Card_Category, Initial_Activation, Days_to_30_Days_Delinquency, Customer_Acquisition_Cost, Week_Start_Date, Week_Number_Current_Year, Credit_Limit, Total_Revolving_Balance, Total_Transactions_Amount, Total_Transaction_Volume, Average_Utilization_Rate, Most_Used_Chip_Type, Expenses, Interest_Paid, Last_Statement_Date, Delinquency_Status

Client_Num	Card_Category	Annual_Fees	Activation_30_Days	Customer_Acq_Cost	Week_Start_Date
708082083	Blue	200	0	87	01-01-2023
708083283	Blue	445	1	108	01-01-2023
708084558	Blue	140	0	106	01-01-2023
708085458	Blue	250	1	150	01-01-2023
708086958	Blue	320	1	106	01-01-2023
708095133	Blue	100	0	94	01-01-2023
708098133	Blue	225	1	75	01-01-2023
708099183	Blue	400	1	75	01-01-2023
708100533	Blue	200	1	64	01-01-2023
708103608	Platinum	95	1	80	01-01-2023

Week_Num	Qtr	current_year	Credit_Limit	Total_Revolving_Bal	Total_Trans_Amt	Total_Trans_Vol
Week-1	Q1	2023	3544	1661	15149	111
Week-1	Q1	2023	3421	2517	992	21
Week-1	Q1	2023	8258	1771	1447	23
Week-1	Q1	2023	1438.3	0	3940	82
Week-1	Q1	2023	3128	749	4369	59
Week-1	Q1	2023	33304	1833	1448	29
Week-1	Q1	2023	2834	1418	1598	39
Week-1	Q1	2023	5723	1873	2732	63
Week-1	Q1	2023	2679	2277	4943	85
Week-1	Q1	2023	11898	2517	15798	128

Avg_Utilization_Ratio	Use Chip	Exp Type	Interest_Earned	Delinquent_Acc
0.469	Chip	Travel	4393.21	0
0.736	Swipe	Entertainment	69.44	0
0.214	Chip	Bills	202.58	0
0	Online	Grocery	236.4	0
0.239	Swipe	Fuel	1004.87	1
0.055	Swipe	Bills	275.12	0
0.5	Swipe	Bills	159.8	1
0.327	Swipe	Grocery	409.8	0
0.85	Chip	Food	988.6	0
0.212	Chip	Grocery	3791.52	0

Import Data To SQL DataBase

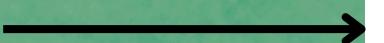
- Create Database
- Create Tables For Each Csv File With Same Header Names
- Copy Data Through CSV to SQL DataBase.



Create Table: Card Transaction

Create DataBase

```
CREATE DATABASE ccdb;
```



```
CREATE TABLE cc_detail (
    Client_Num INT,
    Card_Category VARCHAR(20),
    Annual_Fees INT,
    Activation_30_Days INT,
    Customer_Acq_Cost INT,
    Week_Start_Date DATE,
    Week_Num VARCHAR(20),
    Qtr VARCHAR(10),
    current_year INT,
    Credit_Limit DECIMAL(10,2),
    Total_Revolving_Bal INT,
    Total_Trans_Amt INT,
    Total_Trans_Ct INT,
    Avg_Utilization_Ratio DECIMAL(10,3),
    Use_Chip VARCHAR(10),
    Exp_Type VARCHAR(50),
    Interest_Earned DECIMAL(10,3),
    Delinquent_Acc VARCHAR(5)
);
```

Create Table: Customer

```
CREATE TABLE cust_detail (
    Client_Num INT,
    Customer_Age INT,
    Gender VARCHAR(5),
    Dependent_Count INT,
    Education_Level VARCHAR(50),
    Marital_Status VARCHAR(20),
    State_cd VARCHAR(50),
    Zipcode VARCHAR(20),
    Car_Owner VARCHAR(5),
    House_Owner VARCHAR(5),
    Personal_Loan VARCHAR(5),
    Contact VARCHAR(50),
    Customer_Job VARCHAR(50),
    Income INT,
    Cust_Satisfaction_Score INT
);
```



```
COPY cc_detail
FROM 'E:\PowerBI Project & Practice\Credit Card Dashboard\credit_card.csv'
DELIMITER ','
CSV HEADER
```

Copy: Card Transaction Data

```
COPY cust_detail
FROM 'E:\PowerBI Project & Practice\Credit Card Dashboard\customer.csv'
DELIMITER ','
CSV HEADER
```

Copy: Customer Data

Get Data

Search

All

File

Database

Microsoft Fabric

Power Platform

Azure

Online Services

Other

Database

SQL Server database

Access database

SQL Server Analysis Services database

Oracle database

IBM Db2 database

IBM Informix database (Beta)

IBM Netezza

MySQL database

PostgreSQL database

Sybase database

Teradata database

SAP HANA database

SAP Business Warehouse Application Server

SAP Business Warehouse Message Server

Amazon Redshift

Impala

Connect

Cancel

Load / Get Data In Power BI



Certified Connectors

Template Apps

DAX Measures and Their Purpose

1. AgeGroup

Purpose: Categorizes customers into age groups based on their customer_age.

Example: Customers aged 25-30 would be assigned to the "20-30" group.

2. IncomeGroup

Purpose: Categorizes customers into income groups based on their income.

Example: Customers with an income between \$35,000 and \$70,000 would be assigned to the "Med" group.

3. week_num2

Purpose: Calculates the week number of a given week_start_date.

Example: If week_start_date is January 1st, 2024, week_num2 would be 1.

4. Revenue

Purpose: Calculates the total revenue for a customer based on annual fees, total transaction amount, and interest earned.

Example: If a customer has annual fees of \$100, total transaction amount of \$500, and interest earned of \$20, their Revenue would be \$620.

5. Current_week_Revenue

Purpose: Calculates the total revenue for the current week.

Example: If the current week is week 10, this measure would sum the Revenue for all customers in week 10.

6. Previous_week_Revenue

Purpose: Calculates the total revenue for the previous week.

Example: If the current week is week 10, this measure would sum the Revenue for all customers in week 9.

DAX Queries

Age Group

```
AgeGroup = SWITCH(TRUE(),  
'public cust_detail'[customer_age] < 30, "20-30",  
'public cust_detail'[customer_age] >= 30 && 'public cust_detail'[customer_age] < 40, "30-40",  
'public cust_detail'[customer_age] >= 40 && 'public cust_detail'[customer_age] < 50, "40-50",  
'public cust_detail'[customer_age] >= 50 && 'public cust_detail'[customer_age] < 60, "50-60",  
'public cust_detail'[customer_age] >= 60, "60+",  
"unknown"  
)
```

Week_num2

```
week_num2 = WEEKNUM('public cc_detail'[week_start_date])
```

Income Group

```
IncomeGroup = SWITCH( TRUE(),  
'public cust_detail'[income] < 35000, "Low",  
'public cust_detail'[income] >= 35000 && 'public cust_detail'[income] <70000, "Med",  
'public cust_detail'[income] >= 70000, "High",  
"unknown" )
```

Revenue

```
Revenue = 'public cc_detail'[annual_fees] + 'public cc_detail'[total_trans_amt] +  
'public cc_detail'[interest_earned]
```

Current_Week_revenue

```
Current_week_Reveneue = CALCULATE(  
SUM(  
    'public cc_detail'[Revenue]),  
FILTER( ALL('public cc_detail'), 'public cc_detail'[week_num2]  
= MAX('public cc_detail'[week_num2])))
```

Previous_Week_Revenue

```
Current_week_Reveneue = CALCULATE(  
SUM(  
    'public cc_detail'[Revenue]),  
FILTER( ALL('public cc_detail'), 'public cc_detail'[week_num2]  
= MAX('public cc_detail'[week_num2])-1))
```

Insights

Credit Card Performance Overview

- Revenue: Up 28.8% WoW; YTD: \$57M
- Transactions: Total Amount: \$46M
- Customers: Activation Rate: 57.5%
- Interest Income: \$8M YTD
- Gender Contribution:
 - Males: \$31M | Females: \$26M
- Card Types: Blue & Silver: 93% of Transactions
- Top States: TX, NY, CA contribute 68% of Revenue
- Delinquency Rate: 6.06%

Optimizing Credit Card Performance: A Strategic Approach

By strategically targeting key demographics, leveraging partnerships, and optimizing product offerings, you can effectively increase credit card usage and revenue. Continuously monitor performance metrics, analyze customer feedback, and adapt your strategies to meet evolving market trends and customer preferences.

Thank you
very much!

Yash Shukla