

Credit Card Financial Weekly Report using Power BI & SQL

1. Introduction

In today's dynamic financial landscape, credit card businesses rely heavily on data-driven insights to make informed decisions, enhance customer satisfaction, and optimize revenue. This project focuses on developing a comprehensive Credit Card Financial Weekly Dashboard using **Power BI** and **SQL**, aiming to provide a centralized view of critical financial and customer behavior metrics. By integrating and analyzing transaction data alongside customer demographics, the dashboard empowers stakeholders to monitor trends, identify performance drivers, and make proactive decisions. This initiative also demonstrates the use of business intelligence tools to translate raw data into actionable insights.

2. Objective

To develop a comprehensive credit card weekly dashboard that provides real-time insights into key performance metrics and trends, enabling stakeholders to monitor and analyze credit card operations effectively.

3. Understanding the Data

credit_card.csv

This dataset contains credit card-related metrics for customers:

1. **Client_Num** – Unique identifier for the customer.
2. **Card_Category** – Type of credit card (e.g., Platinum, Gold).
3. **Annual_Fees** – Annual fee charged for the credit card.
4. **Activation_30_Days** – Indicator of activation within 30 days (likely binary or count).
5. **Customer_Acq_Cost** – Cost incurred to acquire the customer.
6. **Week_Start_Date** – Start date of the tracking week.
7. **Week_Num** – Week number (as a string).
8. **Qtr** – Quarter of the year.
9. **current_year** – Year of transaction data.
10. **Credit_Limit** – Customer's assigned credit limit.
11. **Total_Revolving_Bal** – Amount the customer carries as a revolving balance.
12. **Total_Trans_Amt** – Total transaction amount.
13. **Total_Trans_Vol** – Total number of transactions.
14. **Avg_Utilization_Ratio** – Average ratio of credit used to the limit.

15. **Use Chip** – Whether chip-enabled transactions are used.
16. **Exp Type** – Type/category of expenditure.
17. **Interest_Earned** – Interest earned by the bank from the customer.
18. **Delinquent_Acc** – Number of delinquent accounts.

customer.csv

This dataset contains demographic and profile information about customers:

1. **Client_Num** – Unique identifier for the customer.
2. **Customer_Age** – Age of the customer.
3. **Gender** – Gender (Male/Female/Other).
4. **Dependent_Count** – Number of dependents.
5. **Education_Level** – Education level (e.g., Graduate, High School).
6. **Marital_Status** – Marital status (e.g., Married, Single).
7. **state_cd** – State code of residence.
8. **Zipcode** – Customer's ZIP code.
9. **Car_Owner** – Whether the customer owns a car.
10. **House_Owner** – Whether the customer owns a house.
11. **Personal_loan** – Whether the customer has a personal loan.
12. **contact** – Preferred mode of contact (e.g., Email, Phone).
13. **Customer_Job** – Job or profession of the customer.
14. **Income** – Customer's annual income.
15. **Cust_Satisfaction_Score** – A numeric score representing customer satisfaction.

4. All Links

Datasets:

https://github.com/Ishita2003M/Credit-Card-Financial-Dashboard/blob/main/credit_card.csv

<https://github.com/Ishita2003M/Credit-Card-Financial-Dashboard/blob/main/customer.csv>

https://github.com/Ishita2003M/Credit-Card-Financial-Dashboard/blob/main/cc_add.csv

https://github.com/Ishita2003M/Credit-Card-Financial-Dashboard/blob/main/cust_add.csv

SQL queries:

<https://github.com/Ishita2003M/Credit-Card-Financial-Dashboard/blob/main/SQL%20Query%20-%20Financial%20Dashboard%20Data.sql>

Reports:

https://github.com/Ishita2003M/Credit-Card-Financial-Dashboard/blob/main/Credit_Card_Report.pdf

5. Procedure

- Prepare csv file
 - Create tables in SQL
 - Import csv file into SQL Generate a Factorial Design
 - Connect SQL database to PowerBI
 - Perform Dax Queries
 - Create Visualizations for BI reports
 - Extend data in SQL, then refresh in Power BI
 - Export the Reports
-

6. DAX Queries

```
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"
)
```

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

```

"unknown"

)

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

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

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

7. Interpretation and Conclusion

Interpretation

- Revenue increased by 28.8%,
- Overall revenue is 57M
- Total interest is 8M
- Total transaction amount is 46M
- Male customers are contributing more in revenue 31M, female 26M
- Blue & Silver credit card are contributing to 93% of overall transactions
- TX, NY & CA is contributing to 68%
- Overall Activation rate is 57.5%
- Overall Delinquent rate is 6.06%

Conclusion

The Credit Card Financial Weekly Dashboard successfully consolidates diverse data sources to provide a holistic view of credit card operations. Through in-depth analysis of revenue streams, customer segmentation, and transaction behavior, several key insights emerged:

- A significant **28.8% increase in revenue** was observed.
- The total revenue reached **\$57 million**, with **\$46 million** from transaction volume and **\$8 million** from interest earnings.
- **Male customers** accounted for the majority of revenue, contributing **\$31 million**.
- **Blue and Silver cards** dominated, responsible for **93% of transactions**.
- Geographically, **Texas, New York, and California** were the top performers, making up **68%** of total revenue.
- The **activation rate stood at 57.5%**, while the **delinquency rate was relatively low at 6.06%**.

These findings underscore the importance of targeted customer strategies and regional focus. The dashboard not only enhances visibility into key metrics but also supports strategic decision-making for sustained growth and profitability.
