CREDIT CARD FINANCIAL ANALYTICS USING SQL & POWER BI

TRANSACTION AND CUSTOMER INSIGHTS DASHBOARD

Arshaan khan

PROJECT OVERVIEW

- **Objective:**
  Analyze and visualize financial & customer behavior from credit card data using SQL & Power BI.

- **Tools Used:**

  - SQL (Data Cleaning & Transformation)

  - Power BI (Dashboard Development & DAX for Calculations)

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DATA CLEANING IN SQL

Removed nulls, duplicates, and inconsistent formats

Standardized income & age formats

Created joins between customer & transaction tables

Created SQL views for Power BI connection

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POWER BI DASHBOARDS

Transaction Dashboard:

Weekly revenue, transaction count & amount

WoW metrics

Customer Dashboard:

Age group, income group, delinquency rate, activation rate

Geographic & gender-based financial insights

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KEY DAX MEASURES

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

IncomeGroup = SWITCH(TRUE(),
    [income] < 35000, "Low",
    [income] < 70000, "Med",
    [income] >= 70000, "High", "unknown")

Revenue = [annual_fees] + [total_trans_amt] + [interest_earned]

Current_Week_Revenue = CALCULATE(SUM([Revenue]), FILTER(ALL('cc_detail'), [week_num2] = MAX([week_num2])))

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

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INSIGHTS

- **Revenue increased by:** 28.8%

Year-to-Date Insights

- Total Revenue: **$57M**

- Interest Earned: **$8M**

- Transaction Amount: **$46M**

- Gender Revenue Split: Male: **$31M**, Female: **$26M**

- Top Credit Cards: Blue & Silver → **93% of transactions**

- Top States: TX, NY, CA → **68% contribution**

- Activation Rate: **57.5%**

- Delinquency Rate: **6.06%**

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KEY TAKEAWAYS

- Revenue growth shows strong end-of-year performance
- High-performing demographics: Males aged 30-50, High income
- Key focus areas:
    - Boost activation rate
    - Reduce delinquency in target states

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FUTURE SCOPE

- Add customer segmentation clustering
- Include monthly trends for better long-term forecasting
- Predictive modeling for churn & delinquency risk

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THANK YOU

MADE BY-

ARSHAAN KHAN

- Project- https://github.com/arsh44n/credit_card_analysis_dashboard

- Linked In- http://www.linkedin.com/in/arsh44n

- Git-hub-https://github.com/arsh44n

- Email -http://arsh44n.me@gmail.com