

CREDIT CARD ANALYSIS REPORT

Presented By :- Aarushi Aggarwal

Introduction

Project Description: This Credit Card Analysis Project, using Power BI and PostgreSQL, aims to provide a thorough understanding of credit card transactions and customer behavior. The analysis covers transaction trends, spending patterns, and demographic insights to refine marketing strategies, enhance customer satisfaction, and boost overall business performance.

Project Goals

Weekly Dashboard Development

Objective: Develop an extensive credit card weekly dashboard that delivers real-time insights into key performance metrics and trends. This will allow stakeholders to effectively monitor and analyze credit card operations.

The project will analyze weekly credit card transaction data along with customer information to accomplish the following objectives:

- Track Key Performance Indicators (KPIs)
- Conduct Week-on-Week Comparisons
- Examine Customer Spending Habits
- Study Customer Demographics

Dataset Details

| | |
|--------------------|--|
| Source | Kaggle |
| Number of Datasets | 2 |
| File Type | .CSV |
| Details | Includes credit card transactions and customer information |
| Time Span | January 2023 to December 2023 |
| Total Records | 10,293 |

Data Processing

STEP - 1

Database Setup

A data repository was established within PostgreSQL, and tables for both Credit Card Transaction and Customer Information data were created within the database.

STEP - 2

Data Import

The raw CSV data was loaded into the PostgreSQL database, populating the tables that were created.

STEP - 3

Data Connection

The PostgreSQL database was connected directly to Power BI to facilitate real-time data visualization and analysis.

STEP - 4

Data Integrity

It was ensured that there were no missing values or inconsistencies in the dataset, guaranteeing its reliability and accuracy.

STEP - 5

Data Aggregation

DAX queries were utilized to aggregate and transform the data, calculating important metrics and KPIs such as total revenue, average utilization ratio, and customer acquisition cost.

STEP - 6

Metric Creation

New columns and measures, including 'Age group', 'Income group', 'Average Utilization Ratio', and 'Delinquency Rate', were added to derive insights into customer demographics and financial performance.

STEP - 7

Data Update

weekly financial and customer data was integrated into the PostgreSQL database to ensure that analytics reflected the most current trends and patterns.

Dashboards

Credit Card Transaction Report

Key Features:

- Tracks essential KPIs related to credit card usage and financial performance.
- Provides quarterly, monthly, and weekly revenue breakdowns for detailed trend analysis.
- Segments revenue based on age groups for targeted insights and by expenditure type to understand spending habits and preferences.

Credit Card Customer Report

Key Features:

- Offers a comparative analysis of weekly revenue changes, enabling trend identification and forecasting.
- Analyzes the impact of revenue on customer demographics based on gender, including educational level, job type, marital status, and income group, to facilitate targeted marketing strategies.
- Identifies the top five states contributing to overall revenue, allowing for focused marketing efforts and regional strategy development.

INSIGHTS



Project Insights

- **Revenue Growth:** The company's revenue increased by 28.8% compared to the previous week.
- **Customer Growth:** The number of active customers grew by 12.80% compared to the previous week.
- **Transaction Count and Amount:** For the current week, the transaction count rose by 3.39%, and the transaction amount increased by 35% compared to the previous week.

Financial Overview

- **Overall Revenue:** The total revenue generated from credit card transactions for the analyzed period is \$57 million.
- **Cost-to-Revenue Ratio:** The customer acquisition cost represents approximately 1.74% of the total revenue generated.
- **Overall Activation Rate:** The overall activation rate is 57.5%, indicating the proportion of issued credit cards that have been activated by customers.

Performance Metrics

- **Delinquency Rate:** The overall delinquency rate for the credit card portfolio is 6.06%.
- **Utilization Ratio:** The average utilization ratio for the credit card portfolio was approximately 13.47%.
- **Customer Satisfaction Score:** The average customer satisfaction score for the credit card company is 3.19 out of 5.

Customer Insights

- **Spending Categories:** Analysis shows that customers primarily use their credit cards for essential expenses such as bill payments (24.7%), entertainment (17.3%), and fuel (16.9%).
- **Transaction Method:** The swipe method remains the most popular choice among customers, accounting for 66.9% of all transactions.
- **Credit Card Contribution:** A significant portion of the total transaction volume is driven by the Blue and Silver credit cards, collectively accounting for about 93% of overall transactions.

Demographic Analysis

- **Revenue Contribution by Gender:** Male customers are the leading contributors to the total transaction revenue about 54.4% (\$31M) and female customers contributed 45.6% (\$26M).
- **Top 3 States Contribution:** The top three states, Texas (TX), New York (NY), and California (CA), collectively account for about 68% of the total transaction amount.
- **Customer Age Group:** Customers aged 40 to 50 contribute the highest revenue which is about 43.7% (\$25M).

Customer Demographics

- **Educational Level:** Customers with a graduate degree have a higher propensity to spend and contribute significantly to the credit card company's revenue (40.3%).
- **Income Level:** Customers with high income levels have a greater ability to spend on credit cards, contributing nearly half of the total revenue (49%).
- **Job Type:** Businessmen, characterized by their professional status and likely higher income, contribute a substantial portion of the total revenue (31.3%).

Conclusion

Overall Analysis: The credit card analysis provided valuable insights into customer behavior, spending patterns, and financial performance, enabling targeted marketing strategies and business optimization.

Acknowledgment: Thank you for watching and engaging with the insights presented in this report