POWER BI

Revenue and Customer Behavior Analysis Through

Credit Card Transactions

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Revenue and Customer Behavior Analysis Through Credit Card Transactions Dashboard

Problem Statement

The primary objective of this Power BI project is to analyze and visualize credit card transaction data to gain insights into customer behavior, revenue trends, and overall financial performance. The dashboard aims to provide a comprehensive view of credit card transactions, helping stakeholders make informed decisions to optimize marketing strategies, enhance customer engagement, and improve revenue generation.

Reason for Creating the Dashboard

This dashboard was created to address the need for a centralized, interactive platform that allows for the easy monitoring and analysis of credit card transactions. By aggregating and visualizing key metrics, the dashboard helps financial institutions and decision-makers understand various aspects of credit card usage, such as revenue distribution, customer demographics, spending patterns, and the effectiveness of different transaction channels.

Details about the Dashboard Components

Cards

1. **Total Revenue**: Displays the total revenue generated from credit card transactions.
2. **Total Transaction Amount**: Shows the cumulative amount spent in all credit card transactions.
3. **Total Interest Earned**: Indicates the total interest earned from credit card transactions.
4. **Total Transaction Count**: Represents the total number of credit card transactions.
5. **Total Defaulter Customers**: Shows the number of customers who have defaulted on their credit card payments.

Slicers

1. **Year, Month**: Allows users to filter data based on specific years and months.
2. **Gender**: Enables filtering of data based on the gender of customers.

Card Category (Blue, Gold, Platinum, Silver): Filters data based on the type of credit card.

Charts and Graphs

1. **Revenue by Gender**: A bar chart showing revenue distribution between male and female customers.
2. **Revenue by Quarter**: A line chart depicting revenue trends across four quarters.
3. **Revenue by Month**: A line chart showing monthly revenue trends, highlighting peak and low months.
4. **Revenue by Chip Usage**: A bar chart displaying revenue based on the transaction method (swipe, chip, online).
5. **Revenue by Expenditure Type**: A bar chart breaking down revenue by different expenditure categories (e.g., bills, entertainment, fuel).
6. **Revenue by Education**: A bar chart showing revenue distribution based on customers' education levels.
7. **Revenue by Customer Job**: A bar chart depicting revenue based on the occupation of customers (e.g., businessman, white-collar, self-employed).
8. **Revenue by Card Category**: A bar chart illustrating revenue generated by different card categories.

How This Project Helps

This Power BI project helps in several ways:

1. **Data-Driven Decision Making**: Provides stakeholders with comprehensive insights into transaction data, facilitating informed decision-making.
2. **Identifying Trends**: Helps in identifying revenue trends and patterns over different periods and across various customer demographics.
3. **Targeted Marketing**: Enables targeted marketing strategies by understanding which customer segments generate the most revenue.
4. **Resource Allocation**: Assists in efficient resource allocation by highlighting high and low-performing segments.
5. **Customer Insights**: Provides deep insights into customer behavior, spending patterns, and preferences, aiding in better customer relationship management.
6. **Risk Management**: Helps in identifying defaulter customers and managing credit risks effectively.

KPIs, Measures, and DAX Used

- **KPIs (Key Performance Indicators):**
  - Total Revenue
  - Total Transaction Amount
  - Total Interest Earned
  - Total Transaction Count
  - Total Defaulter Customers
- **Measures:**
  - **Revenue by Gender**: Sum of transaction amounts filtered by gender.
  - **Revenue by Quarter**: Sum of transaction amounts grouped by fiscal quarters.
  - **Revenue by Month**: Sum of transaction amounts grouped by months.
  - **Revenue by Chip Usage**: Sum of transaction amounts filtered by transaction method.
  - **Revenue by Expenditure Type**: Sum of transaction amounts categorized by expenditure types.
  - **Revenue by Education**: Sum of transaction amounts filtered by customer education levels.
  - **Revenue by Customer Job**: Sum of transaction amounts filtered by customer occupations.
  - **Revenue by Card Category**: Sum of transaction amounts grouped by card categories.
- **DAX (Data Analysis Expressions):**
  - Used to create calculated columns and measures for aggregating and filtering transaction data.
  - Example DAX formulas:
    - Total Revenue = SUM(Transaction[Amount])
    - Revenue by Gender = CALCULATE(SUM(Transaction[Amount]), Transaction[Gender] = "M")
    - Revenue by Month = SUMMARIZE(Transaction, Transaction[Month], "Monthly Revenue", SUM(Transaction[Amount]))

- Defaulter Customers = COUNTROWS(FILTER(Customers, Customers[Status] = "Defaulter"))

Conclusion:

This project leverages Power BI's robust data visualization and analysis capabilities to provide valuable insights into credit card transaction data, supporting better business decisions and strategies.