Credit Card Data Analytics Report

1. Problem Statement
The objective of this project is to analyze credit card customer and transaction data to understand customer demographics, revenue drivers, spending behavior, card usage patterns, and profitability. The insights help financial institutions improve customer targeting, optimize card offerings, and increase revenue.

2. Dataset Overview
The dataset consists of two primary tables:
• Customer Table – Customer demographics such as age, gender, income group, education, marital status, dependents, state, job type, and card category.
• Transaction Table – Revenue, transaction amount, interest earned, expense type, transaction mode (Swipe/Chip/Online), and time attributes (week, quarter).

3. Data Preprocessing
• Removed duplicate records
• Handled missing and inconsistent values
• Standardized column names
• Converted date fields into proper date format
• Created time hierarchy (Year, Quarter, Month, Week)

4.1 Credit Card Customer Analysis

This analysis focuses on identifying which customer segments generate maximum revenue. Dashboards include revenue by income group, age group, gender, education, marital status, dependents, top-performing states, and weekly revenue trends.

Key Insights:
• High-income customers generate the highest revenue.
• Age group 40–59 is the most profitable.
• Married customers contribute higher revenue compared to single customers.
• Certain states consistently outperform others in revenue contribution.

4.2 Credit Card Transaction Analysis

This section analyzes spending behavior and transaction performance. It includes revenue by quarter, expense type, card category, education level, customer job, and transaction mode.

Key Insights:
• Swipe transactions dominate total revenue.
• Blue card category contributes the highest revenue.
• Bills and entertainment are the top spending categories.
• Q3 shows the highest transaction volume.

5.Key Performance Indicators (KPIs)
• Total Revenue: 55.32M
• Total Interest Earned: 8M
• Total Transaction Amount: 45M
• Total Transactions Count: 656K

6. DAX Measures Used

Total Revenue
Total Revenue = SUM(Transactions[Revenue])

Total Interest Earned
Total Interest = SUM(Transactions[Interest_Earned])

Total Transaction Amount
Total Amount = SUM(Transactions[Total_Trans_Amt])

Total Transaction Count
Transaction Count = COUNT(Transactions[Transaction_ID])

Revenue by Quarter
Revenue Qtr = CALCULATE([Total Revenue], VALUES(Date[Quarter]))

Average Revenue per Customer
Avg Revenue per Customer = DIVIDE([Total Revenue],
DISTINCTCOUNT(Customers[Customer_ID]), 0)

Customer Count
Customer Count = DISTINCTCOUNT(Customers[Customer_ID])

Revenue Contribution %
Revenue Contribution % = DIVIDE([Total Revenue], CALCULATE([Total Revenue],
ALL(Customers)), 0)

7.Business Recommendations

a. Focus marketing campaigns on high-income and middle-aged customers.
b. Encourage digital transactions through rewards and cashback offers.
c. Upsell premium card categories to high-spending customers.
d. Design category-specific offers for high-spend areas like bills and entertainment.

8.Conclusion

The Credit Card Analytics Report provides a comprehensive view of customer and transaction behavior. By leveraging Power BI dashboards and DAX-driven insights, organizations can enhance decision-making, improve customer experience, and drive higher profitability.