Credit Card Customer and Transaction Analysis Dashboard

Overview This project showcases two interactive Power BI dashboards designed to analyze credit card customer and transaction data. The goal is to provide actionable insights into revenue generation, customer behavior, and transaction patterns to enhance decision-making for business strategy and growth.

The dashboards include the following pages:

1. Customer Overview
2. Revenue Insights
3. Transaction Patterns
4. Demographic Analysis

Dataset Description

The dataset follows a STAR SCHEMA structure with the following tables:

Dimension Tables:

- **Dim Customer**: Contains customer_id, age, gender, marital_status, education_level, and job.
- **Dim Card**: Includes card_category, card_limit, and card_type.
- **Dim Date**: Captures transaction_date, week_number, month, and quarter.

Fact Tables:

- **Fact Revenue**: Includes customer_id, card_category, revenue_generated, transaction_count, and interest_earned.
- **Fact Transactions**: Contains transaction_id, customer_id, transaction_amount, transaction_type, and transaction_status.

Dashboard Breakdown

Customer Overview

This page highlights:

- Total revenue and transaction count segmented by customer demographics such as age, gender, and income level.
- Job-specific revenue trends, with Businessmen contributing the highest revenue (17.39M) and Retirees contributing the least (4.54M).

Revenue Insights

This page focuses on:

- Total revenue (₹55M) generated across all customers, with the Blue card category accounting for the majority (₹46M).
- Revenue segmentation by states, showing Texas, California, and Florida as the top-performing states.

Transaction Patterns

This page provides insights into:

- Quarterly revenue and transaction trends, with Q3 recording the highest revenue (₹14.2M) and Q1 the lowest (₹13.3M).
- Revenue breakdown by transaction type, showing "Swipe" transactions as the highest contributor (₹34.91M).

Demographic Analysis

This page analyzes:

- Revenue contributions by age groups, with customers aged 30-40 generating the highest revenue (₹14M).
- Ratings and satisfaction levels segmented by education levels, with Doctorate-level customers showing the highest revenue contribution (₹22.3M).

Insights and Suggestions

1. **Revenue Trends**:
    - The Blue card category generates the most revenue (₹46M), suggesting promotional campaigns targeting Blue cardholders can be beneficial.
2. **Customer Segmentation**:
    - Customers aged 30-40 are the highest revenue generators, indicating a focus on this age group through targeted offers.
3. **Transaction Patterns**:
    - Swipe transactions dominate revenue, highlighting opportunities to improve revenue realization for online and chip-based transactions.
4. **Regional Performance**:
    - Texas, California, and Florida are top-performing states, while underperforming states may require localized marketing efforts.

Key Learnings

1. Built interactive dashboards in Power BI for analyzing customer and transaction data.
2. Modeled data effectively using STAR SCHEMA for efficient analysis.

3. Identified trends in customer demographics, transaction patterns, and revenue performance to provide actionable recommendations.
4. Enhanced skills in data visualization and storytelling to present insights effectively.

Future Enhancements

1. Incorporate real-time data streams for dynamic analysis.
2. Expand the dataset to include international transactions and customer data.
3. Develop predictive models to forecast revenue and customer behavior.

This project demonstrates the importance of data visualization in understanding customer behavior and optimizing business strategies for credit card services.