📊 Project Title

Credit Card Launch Analysis for a Legacy Bank (SQL + Power BI)

🧭 Project Overview

A legacy Indian bank planned to introduce a new credit card to expand its product portfolio. Before committing to a full-scale launch, the bank requested a pilot analysis using historical customer spending data to understand customer behavior, spending patterns, and potential target segments.

This project analyzes customer demographics and transaction behavior to support **data-backed decisions** around:

- Target customer segments
- Ideal launch timing
- High-impact spending categories
- Feature and distribution strategy for the credit card

The analysis was performed using **SQL for data exploration and aggregation**, followed by **Power BI for visualization and insight communication**.

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🎯 Business Objective

- Understand **who is most likely to use a new credit card**
- Identify **where and how customers spend**
- Estimate **income utilization patterns**
- Recommend **launch strategy and card features** based on data insights

🗂️ Dataset Summary

The analysis was conducted on a sample dataset containing **~4,000 customers across five Indian cities**, structured into two tables:

customer identifier to analyze spending behavior across demographic dimensions.

1. dim_customers

Customer-level attributes:

- Age group
- Gender

- Occupation
- City
- Monthly income

2. fact_spends

Transaction-level data:

- Spending category (Bills, Groceries, Electronics, etc.)
- Transaction amount
- Month of transaction
- Payment behavior

These tables were joined using a customer identifier to analyze spending behavior across demographic dimensions.

🔍 Data Analysis (SQL-Based)

Data Preparation

- Joined dim_customers and fact_spends to map spending behavior to customer demographics
- Validated joins and removed inconsistencies where required
- Created aggregated views for age group, occupation, city, category, and month

Key Metrics Computed

- **Total spend by age group**
- **Average income utilization %**
- **Income Utilization = Average Monthly Spend / Average Monthly Income**
- **Spend distribution by category**
- **Monthly transaction trends**
- **City-level contribution to total spend**

📈 Key Insights

1. Customer Demographics

- **Age group 25–34** shows the highest spending, followed by **35–45**
- Majority of high-spend customers in the 25–34 group are **salaried IT professionals**

2. Spending Categories

Top categories by transaction value:

- Bills
- Groceries
- Electronics

Bills alone account for the **largest share of recurring transactions**, indicating strong potential for repeat credit card usage.

3. Income Utilization

- Salaried IT professionals show **higher income utilization**, indicating comfort with credit-based spending
- This group is more likely to adopt a credit card with higher limits and automation features

4. Seasonal Trends

- Transaction volumes peak in **September**, followed by **August**
- Suggests optimal timing for a **soft or pilot launch** during these months

5. Geographic Concentration

- **Mumbai, Delhi NCR, and Bangalore** together contribute ~**70% of total spending**
- These cities represent the strongest initial market for rollout

💡 Strategic Recommendations

Based strictly on observed data:

1. **Primary Target Segment**
   - Salaried IT professionals aged **25–34**
   - High spend, high utilization, predictable income
2. **Launch Strategy**
   - Soft launch in **Mumbai, Delhi NCR, and Bangalore**
   - Time launch around **August–September**
3. **Card Features**
   - Strong incentives on **bill payments**
   - Auto-pay enablement to retain customers in the ecosystem
   - Higher credit limits for salaried professionals
4. **Payment Ecosystem Consideration**
   - Since many users rely on UPI, the card should be:
     - **RuPay-enabled**, or
     - Offer rewards compelling enough to replace UPI for mid-size transactions

📊 Visualization & Reporting

A **Power BI dashboard** was created to:

- Visualize spend by age group, occupation, city, and category
- Track income utilization percentages
- Compare monthly transaction trends

The dashboard was designed for **decision-makers**, focusing on clarity rather than decoration.

🧠 What This Project Demonstrates

- Translating raw transactional data into **business-relevant insights**
- Using SQL to answer **open-ended strategy questions**
- Connecting analysis outcomes directly to **product and launch decisions**
- Communicating insights clearly using visual analytics