Credit Card Annual Revenue & Risk Analysis

Excel, SQL & Power BI Dashboard Project

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Project End Date: 20-Jan-2026

Role: Aspiring Business / Data Analyst

Project Objective

To analyze annual credit card transaction and customer data to identify revenue trends, customer behavior patterns, and risk indicators. The objective is to transform raw data into meaningful business insights that support data-driven decision-making in credit card operations.

Dataset Overview

Credit_Card_Detail	Transaction-level data: revenue, interest, transaction amount, card category, delinquency, dates, etc....
Customer_Detail	Customer demographics: age, income, gender, job type, satisfaction score, etc....

- ~10,000+ records
- Tables joined using Client_Num
- Data sourced from CSV files

Data Understanding & Initial Exploration:

CSV Review

Reviewed CSV files in Excel to understand structure and data quality.

Field Identification

Identified numeric, categorical, and date fields for analysis.

Data Quality Check

Checked for missing values and inconsistent formats.

SQL Import

Imported datasets into SQL Server (SSMS) for structured analysis.

Data Challenges & Problem Solving

Import Issues

Faced data import issues due to numeric and decimal formats.

String Import

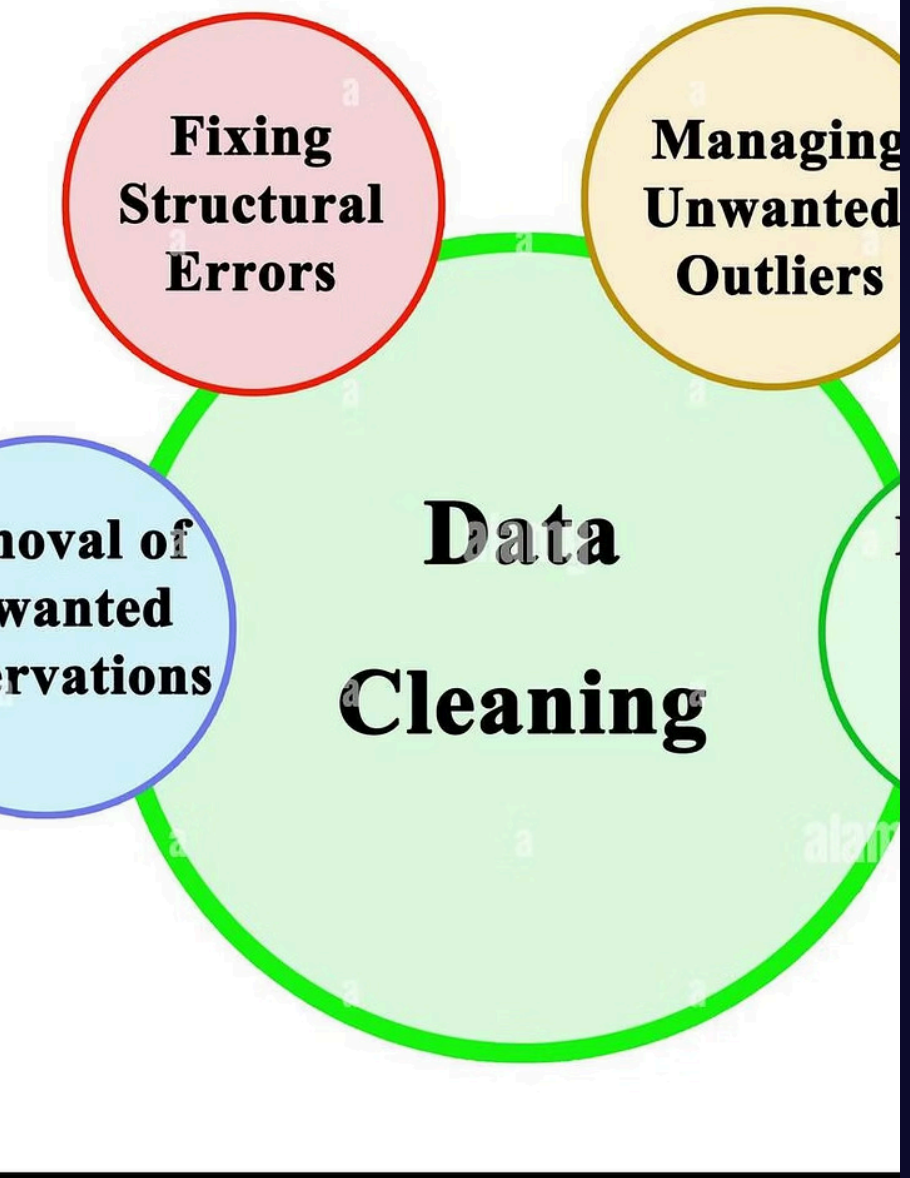
Initially imported columns as string to avoid load failures.

Conversion Problems

Datatype conversion caused duplicates and null values.

Invalid Records

Identified and removed invalid records; recreated tables with corrected schema.



Data Cleaning & Transformation

SQL Validation

- Validated row counts, nulls, and duplicates.
- Removed inconsistent records.
- Loaded cleaned data into Power BI.

Power Query

- Converted string to numeric and decimal values.
- Converted string dates into proper date formats.
- Ensured consistency before visualization.

Feature Engineering & Calculations (DAX):

Revenue Measure

Created using DAX: Annual Fees + Transaction Amount + Interest Earned.

Month Name

Extracted month name from transaction dates for trend analysis.

Customer Groups

Created customer Age Groups and Income Groups.

Data Preparation

Prepared data for annual and trend-based analysis.

Dashboard Overview: Key Metrics

$57M
Total Revenue

$46M
Total Transactions

$8M
Interest Earned

667K
Total Transactions

3.19
Customer Satisfaction

Visuals

Revenue by Income Group, Customer Job, Card Category, Age Group, Quarterly Trend, Top 5 States by Revenue.

Dashboard :- https://github.com/anirudhkumar6/Credit_Card_Annual_Revenue

Key Business Insights

- ## Revenue Concentration

  High-income customers contribute a large share of revenue, creating concentration risk.

- ## Card Performance

  Blue and Silver cards account for ~93% of transactions.

- ## Segment Strength

  Businessman and white-collar segments show strong revenue with lower delinquency.

- ## Geographic Contribution

  TX, NY, and CA contribute ~68% of total revenue.

- ## Interest Contribution

  Lower interest contribution indicates timely customer repayments.

Conclusion & Recommendations:

> This project demonstrates how annual credit card data can be analyzed using Excel, SQL and Power BI to generate actionable business insights, even at a beginner level.

Recommendations

- Increase credit limits only for disciplined, low-delinquency customers.
- Avoid limit increases for delinquent accounts.
- Strengthen retention strategies for high-value segments.
- Use early warning indicators such as utilization and delinquency.
- Balance revenue growth with regulatory compliance.

Through this project, I strengthened my skills in data analysis, business understanding, and real-world problem solving in banking.