



CREDIT CARD DASHBOARD



Project Overview

An interactive Power BI analytics solution for monitoring credit card portfolio performance, customer behavior, and risk metrics across 10,000+ customers and transactions. This dual-dashboard system provides executive-level insights into revenue trends, delinquency rates, customer segmentation, and spending patterns—designed to support decision-making for Finance, Risk, and Commercial Banking teams.



Business Objectives

This project addresses key questions that credit card portfolio managers need answered:

A. Revenue & Performance:

- Q. What is the current week's revenue performance vs. prior week?
- Q. Which card types (Blue, Silver, Gold, Platinum) generate the most revenue per transaction?
- Q. How do transaction volumes vary by usage method (Swipe, Chip, Online)?

B. Risk Management:

- Q. What is the portfolio-wide delinquency rate and how does it trend over time?
- Q. Which customer segments show high credit utilization (>80%)?
- Q. What is the customer acquisition cost by card tier?

C. Customer Insights:

- Q. How are customers distributed across age groups, income bands, and education levels?
- Q. Which states/geographies contribute the highest revenue?
- Q. What is the cross-sell rate for ancillary products (personal loans)?

D. Spending Behavior

- Q. How do customers spend across categories (Bills, Entertainment, Fuel, Grocery, Food, Travel)?
- Q. Which transaction methods drive the most revenue within each category?

Dataset

The analysis uses two relational tables extracted from a simulated banking dataset:

File	Rows	Key Columns
CREDIT_CARD.CSV	10,000+	<ul style="list-style-type: none">• Client_Num• Week_Start_Date• Card_Category• Annual_Fees• Total_Trans_Amt• Use_Chip• Exp_Type• Total_Trans_Vol• Interest_Earned• Total_Revolving_Bal• Credit_Limit• Delinquent_Acc
CUSTOMER.CSV	10,000+	<ul style="list-style-type: none">• Client_Num• Customer_Age• Gender• Dependent_Count• Education_Level• Marital_Status• Income_Category• Customer_Job• Personal_Loan

Data Model:

One-to-many relationship between CUSTOMER (DIMENSION) and CREDIT_CARD (FACT TABLE) ON CLIENT_NUM, enabling demographic slicing of transactional metrics.

Dashboard Breakdown

Dashboard 1: Credit Card Executive Summary

Purpose: Track portfolio-level KPIs, revenue trends, and transaction patterns.

Dashboard 2: CC Clientele Base Summary

Purpose: Analyze customer demographics, segmentation, and behavioral patterns.

Dashboard 1: Credit Card Executive Summary

Key Visuals

I. KPI Cards (Top Row):

- Current Week Revenue: ₹933.1K
- Revenue per Transaction: ₹84.37
- Credit Utilization: 13% (portfolio average)
- Average Customer Acquisition Cost: ₹973K

II. WoW Revenue Gauge:

-12.8% decline vs. previous week (red alert indicator)

III. Interactive Filters (Slicers):

- Card Type: Blue, Gold, Platinum, Silver
- Time Period: Q1, Q2, Q3, Q4
- Week-level drill-down

IV. Charts & Insights:

i. Total Revenue vs Transaction Amount (Stacked Area)

- Compares quarterly revenue (green) with transaction volume (red)
- *Insight: Q1 peak at ₹14M revenue with ₹11.3M transaction base*

ii. Transactions by Usage Method (Horizontal Bar)

- Swipe: 438.7K ; Chip: 177.7K ; Online: 39.3K
- *Insight: Swipe dominates; online channel underutilized*

iii. High Volume Transaction Weeks (Column Chart)

- Identifies peak transaction weeks (Week 21: 13,237 transactions)
- *Useful for capacity planning and fraud monitoring*

iv. Card x Customer Acquisition Cost (Diverging Bar)

- Compares min/max acquisition costs by card tier
- Blue card: ₹40 (min) to ₹172 (max)
- *Insight: Premium cards (Platinum: ₹160 max) have higher acquisition costs but justify via interest earned (₹2,412 average)*

v. Spendings by Expenditure Category × Usage Method (Stacked Bars):

- Bills: Highest at ₹7.8M (dominated by Swipe)
- Entertainment/Fuel/Grocery: ₹4-5M range
- Travel: Lowest at ₹3.5M
- *Shows chip/online adoption varies by category*

- vi. Revenue Generated by Category × Usage Method (Stacked Bars):
- Parallel analysis showing which combos drive revenue (vs. just spend)
 - Bills via Swipe: ₹9.8M revenue

V. **Card Performance Table:**

Shows Average Annual Fees, Transaction Value, Earned Interest per Card.

Dashboard 2: CC Clientele Base Summary

Key Visuals

I. **KPI Cards (Top Row):**

- Total Active Customers: 10K
- Accounts Activated in Last 30 Days: 6K
- Revenue per Customer: ₹5.5K
- Cross Sell Rate: 13% (customers with personal loans)

II. **Delinquency Rate Gauge:**

6% (green = healthy portfolio)

III. **Interactive Filters (Slicers):**

- Income Level: High, Medium, Low
- Customer Age: Select all / specific age bands
- Gender: F (Female), M (Male)
- Week: Dynamic time filter

IV. **Charts & Insights:**

i. Number of Customers & Satisfaction Score (Line Chart)

- Tracks number of customers with their satisfaction score on the scale of 1-5.
- *Insight: Satisfaction peaked at 3 (3,068 customers), dropped at 4 (2,099)*

ii. Customer Age × Loan Ownership (Stacked Bar)

- Breaks down loan vs. no-loan by age band (20-25, 25-30, ..., 60+)
- *Insight: 40-45 age group has highest loan uptake (1,857 yes vs. 1,682 no)*

- iii. Average Balance & Credit Limit × Client Job × Card Type (Grouped Bar)
 - Compares credit limit (green) vs. revolving balance (red) across job & card
 - Business cardholders show highest credit limits
 - *Insight: Retired segment has lowest utilization despite decent limits*
- iv. Top 5 Customers with Maximum Credit Usage (List)
 - *Insight: Client IDs having High-risk watchlist for collections/intervention*
- v. Customers × Card Type (Bar Chart)
 - Blue: 9,214 (92% of portfolio) Silver: 639 (6%) Gold: 188 (2%) Platinum: 67 (0.7%)
 - *Insight: Heavy concentration in entry-level Bluecard*
- vi. Top Customers Having Both House & Car vs. Number of Dependents (Clustered Column)
 - 1,064 customers with both assets and 3 dependents
 - *Insight: Client Profiles high-value, stable customers for upsell*
- vii. Top 5 States × Max Revenue Generated (Bar Chart)
 - *Insight: Revenue balanced across top states. (no geography dominates)*

V. Customer Job × Education Matrix Table:

Insight: Graduated professionals in Business and Private sectors are the largest segment (prime target for premium card upgrades).

💡 Key Insights Delivered

- Revenue Concentration: 92% of customers hold Blue cards, but Platinum generates 3.4× more interest per customer
- Channel Optimization: Online transactions represent only 6% of volume, digital adoption opportunity
- Risk Hotspots: 6% delinquency rate with identifiable high-utilization customers
- Geographic Balance: Top 5 states generate nearly equal revenue—no over-reliance on single market
- Cross-Sell Gap: Only 13% cross-sell rate—potential to bundle personal loans with premium cards
- Acquisition ROI: Platinum cards cost ₹160 to acquire but earn ₹2,412 in interest vs. Blue at ₹40/₹705

Technical Implementation

Data Preparation (Power Query):

Data Cleaning-

- Validated data types (dates, numerical, categorical)
- Handled nulls/blanks in income, education fields
- Standardized category labels (e.g., "Swipe" vs. "swipe")

Calculated Columns:

Credit_Cards (Fact table)-

```
Revenue = credit_card[Annual_Fees] + credit_card[Total_Trans_Amt] +  
credit_card[Interest_Earned]
```

```
WeekNum = WEEKNUM(credit_card[Week_Start_Date])
```

Customer (Dimension Table)-

```
AgeGroup = SWITCH(TRUE(),  
customer[Customer_Age] < 30, "20-30",  
customer[Customer_Age] >= 30 && customer[Customer_Age] < 40, "30-40",  
customer[Customer_Age] >= 40 && customer[Customer_Age] < 50, "40-50",  
customer[Customer_Age] >= 50 && customer[Customer_Age] < 60, "50-60",  
customer[Customer_Age] >= 60, "60+", "Unknown")
```

```
IncomeGroup = SWITCH(TRUE(),  
customer[Income] < 35000, "Low",  
customer[Income] >= 35000 && customer[Income] < 70000, "Medium",  
customer[Income] >= 70000, "High", "Unknown")
```

```
Job_Sector = SWITCH(TRUE(),  
customer[Customer_Job] = "Govt", "Public",  
customer[Customer_Job] = "Retirees", "Retired",  
customer[Customer_Job] = "Businessman", "Business",  
customer[Customer_Job] = "Selfemployed", "Business",  
customer[Customer_Job] = "Blue-collar", "Private",  
customer[Customer_Job] = "White-Collar", "Private")
```

<i>Qualification</i>	=	<i>SWITCH(TRUE(),</i>
<i>customer[Education_Level]</i>	=	"Graduate", "Graduated",
<i>customer[Education_Level]</i>	=	"Uneducated", "Un-educated",
<i>customer[Education_Level]</i>	=	"High School", "High-School",
<i>customer[Education_Level]</i>	=	"Post-Graduate", "Graduated++",
<i>customer[Education_Level]</i>	=	"Doctorate", "Graduated++",
<i>customer[Education_Level]</i>	=	"Unknown", "Unknown")

DAX Measures:

<i>Active_customers</i>	=	<i>CALCULATE(DISTINCTCOUNT(credit_card[Client_Num])s),credit_card[Total_Trans_Vo l]>0)</i>
<i>Average_Trans_Val</i>	=	<i>divide(sum(credit_card[total_trans_amt]),sum(credit_card[Total_Trans_Vol]))</i>
<i>Credit_Utilization</i>	=	<i>divide(sum(credit_card[Total_Revolving_Bal]),sum(credit_card[Credit_Limit]),0)</i>
<i>Cross_Sell_Rate</i>	=	<i>DIVIDE(CALCULATE(COUNTROWS(customer),customer[Personal_Loan] = "Yes"),COUNTROWS(customer), 0)</i>
<i>CurrentWeekRevenue</i>	=	<i>CALCULATE(sum(credit_card[Revenue]),filter(ALL(credit_card),credit_card[WeekNum] =MAX(credit_card[WeekNum])))</i>
<i>Delinquency_Rate</i>	=	<i>DIVIDE(CALCULATE(DISTINCTCOUNT(credit_card[Client_Num]),credit_card[Delinqu ency_Acc]=1),DISTINCTCOUNT(credit_card[Client_Num]),0)</i>
<i>PreviousWeekRevenue</i>	=	<i>CALCULATE(sum(credit_card[Revenue]),filter(ALL(credit_card),credit_card[WeekNum] =MAX(credit_card[WeekNum])-1))</i>

Revenue_per_customer =
divide(SUM(credit_card[Revenue]),credit_card[Active_customers],0)

Revenue_per_transaction =
divide(SUM(credit_card[Revenue]),sum(credit_card[Total_Trans_Vol]),0)

WkOnWkRevenue =
IF(credit_card[PreviousWeekRevenue]=0,BLANK(),divide(credit_card[CurrentWeekRevenue]-credit_card[PreviousWeekRevenue],credit_card[PreviousWeekRevenue],0))

Design Choices:

- Dark Theme: Professional executive aesthetic with high contrast for clarity
 - Consistent Color Palette:
 - Blue (primary data)
 - Green (positive/targets)
 - Red (alerts/risks)
 - Conditional Formatting: WoW gauge turns red when negative &
Delinquency gauge stays green till the value is <30%
 - Cross-Filtering: Slicers affect all visuals on the page
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Contact

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This project uses publicly available sample data for portfolio purposes.

