

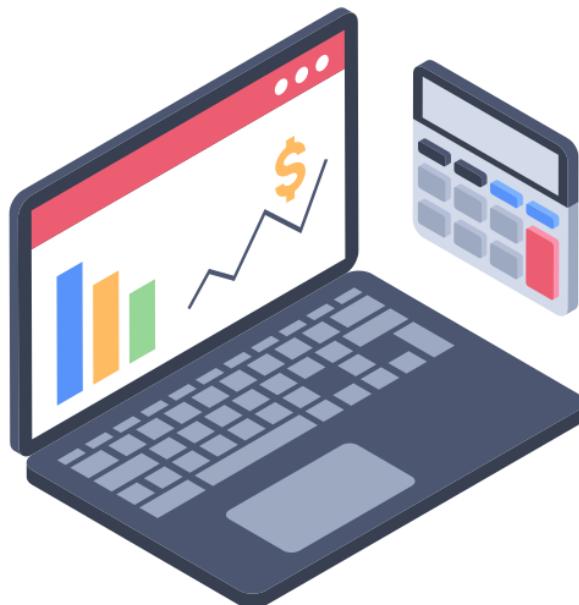
Bank Customer Analytics Dashboard

Developer: Vaibhav Subhash Kharate

Pune, India

vaibhav.s.kharate@gmail.com

November 2025



1. Introduction

The **Bank Customer Analytics Dashboard** is a Power BI project designed to analyze customer data from a banking institution. The goal of this project was to **transform raw financial data into actionable insights**, enabling better understanding of customer behavior, deposit and loan trends, and engagement levels.

This was my **first complete Power BI project**, built by learning from a YouTube tutorial and then refined with my own improvements in layout, logic, and presentation. Through this, I explored how **data visualization can bring clarity, story, and value** to business decisions.

2. Project Objective

The project aims to deliver a comprehensive view of banking performance and customer segmentation.

The key objectives were:

- To analyze **total deposits, loans, and engagement duration** across customers.

- To segment clients by **banking relationships, income bands, and nationalities**.
 - To identify patterns that drive **customer loyalty and profitability**.
 - To design a **professional, interactive dashboard** that communicates insights clearly.
-

3. Tools & Technologies Used

Tool / Technology	Purpose
Power BI Desktop	Building reports, visuals, and KPIs
Power Query Editor	Data cleaning and transformation
Microsoft Excel	Initial dataset preparation
DAX (Data Analysis Expressions)	Calculating dynamic measures and metrics
Power BI Service (optional)	Publishing and online sharing

4. Data Overview

The dataset used in this project represents bank customer details such as:

- Customer Name and Relationship Type
- Deposit and Loan Amounts
- Engagement Start Date (Joined Bank)
- Gender, Nationality, and Income Band

Before creating visuals, the dataset was cleaned and formatted using **Power Query** to handle null values, ensure consistent data types, and standardize column naming. This process ensured that **DAX formulas and visuals worked seamlessly** across the report.

5. Dashboard Structure

The dashboard is divided into **four well-structured and interactive pages**, each focusing on a distinct part of the analysis.

Page 1: Home

The **Home Page** gives a high-level snapshot of all key business metrics. It includes KPIs such as Total Loan, Total Deposit, Total Clients, and Engagement Days. It also features dynamic filters for quick segmentation by **gender, relationship type, and investment advisor**.

Visual Elements:

- KPI Cards for core metrics
 - Donut Chart showing gender-based deposits
 - Bar Chart showing total deposits by banking relationship
-

Page 2: Deposit Analysis

This page focuses on understanding customer deposits in depth. It provides insights into which segments (income band, nationality, or relationship type) contribute the most.

Visual Elements:

- Donut Chart for deposit distribution by income band
- Tree Map for deposit values by nationality
- Bar Chart showing total deposits by relationship type

Purpose:

To help identify **key customer groups** driving deposit growth and retention.

Page 3: Loan Analysis

This section explores loan data across different banking relationships. It highlights how loans vary based on gender, advisor, and customer type.

Visual Elements:

- Bar Chart showing total loan distribution

- KPI Cards for loan value and customer count
- Filter options for relationship, gender, and income band

Purpose:

To understand **loan allocation patterns and business exposure.**

 **Page 4: Summary / Drill-Through**

This is an **interactive client-level analysis page.**

Users can right-click on any client or category in the main pages and drill through to see personalized details.

Displayed Metrics:

- Customer Name
- Total Deposit
- Total Loan
- Engagement Days
- Advisor Name and Relationship Type

Purpose:

To enable **deep-dives into specific customers** without losing overall context.

6. DAX Measures Used

A few core DAX formulas power the entire dashboard:

Total Deposit = SUM('bank_analysis customer'[Deposit Amount])

Total Loan = SUM('bank_analysis customer'[Loan Amount])

Engagement Days = DATEDIFF('bank_analysis customer'[Joined Bank], TODAY(), DAY)

Total Fees = SUM('bank_analysis customer'[Fees])

Total Clients = DISTINCTCOUNT('bank_analysis customer'[Customer Name])

These measures ensure the dashboard remains **dynamic and automatically updates** with any filter or slicer interaction.

7. Insights & Key Findings

Through this project, several valuable insights were derived:

-  **Private Banking Clients** contribute the highest overall loan and deposit value.
-  Customers in higher **income bands (₹200K–₹500K)** are the most profitable group.
-  **Female clients** show a higher deposit-to-loan ratio, indicating stronger saving behavior.
-  European customers represent a **significant share of total loan value**, exceeding ₹700M.
-  Clients with longer engagement days are typically more loyal and high-value.

These findings show how Power BI can uncover relationships hidden in raw data.

8. Design Choices

I chose a **clean, light theme** with white and blue tones inspired by professional banking dashboards.

The focus was on **clarity, minimalism, and consistency** rather than excessive visuals.

Design highlights:

- Consistent color palette for deposit vs. loan metrics
- Legible typography with clear alignment
- Balanced spacing between charts for readability
- Interactive slicers and drill-throughs for exploration

The result is a dashboard that feels **trustworthy, data-rich, and business-oriented**.

9. Key Learnings

This project gave me practical, hands-on experience with:

- Data transformation in Power Query
- Data modeling and establishing relationships
- Writing efficient **DAX measures**
- Designing **story-driven dashboards**

- Building **interactive filters and drill-through functionality**

It taught me that **visual design and analytical thinking** go hand in hand when presenting insights.

10. Challenges Faced

Every project has its learning curve — here were mine:

- Handling date-based DAX functions for engagement duration
- Ensuring visuals stay responsive with multiple filters
- Maintaining consistent formatting across pages

Overcoming these challenges helped me gain deeper confidence in using Power BI effectively.

11. Future Enhancements

While I consider this project complete for now, I plan to:

- Add **month-over-month trend analysis** for deposits and loans
 - Introduce a **customer churn prediction metric**
 - Connect a **real-world anonymized banking dataset**
 - Embed this dashboard directly into my **portfolio website** for live viewing
-

12. About the Developer

I'm **Vaibhav Subhash Kharate**, a passionate **data enthusiast**. I love creating things that combine **data, design, and technology** — whether it's a website, dashboard, or analytical report.

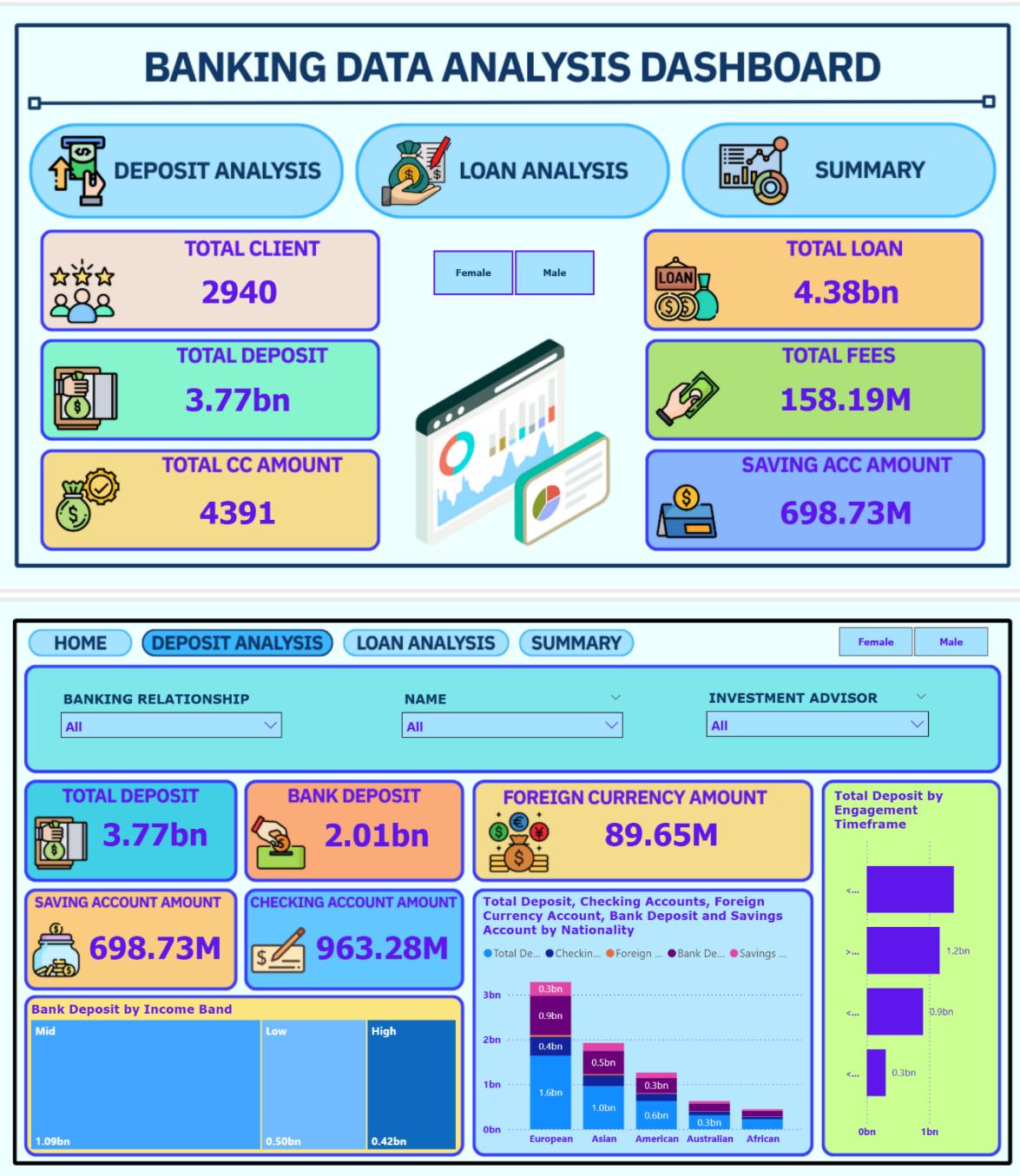
This Power BI project represents the start of my journey in **data analytics**, where I aim to explore business intelligence, visualization, and insights-driven storytelling.

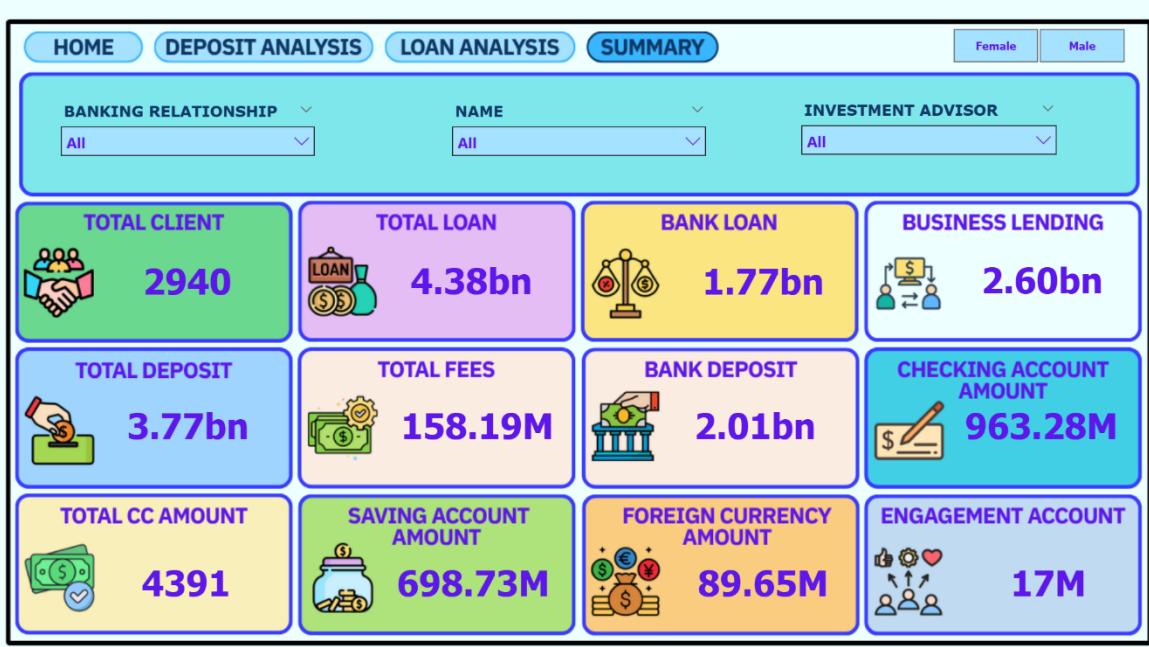
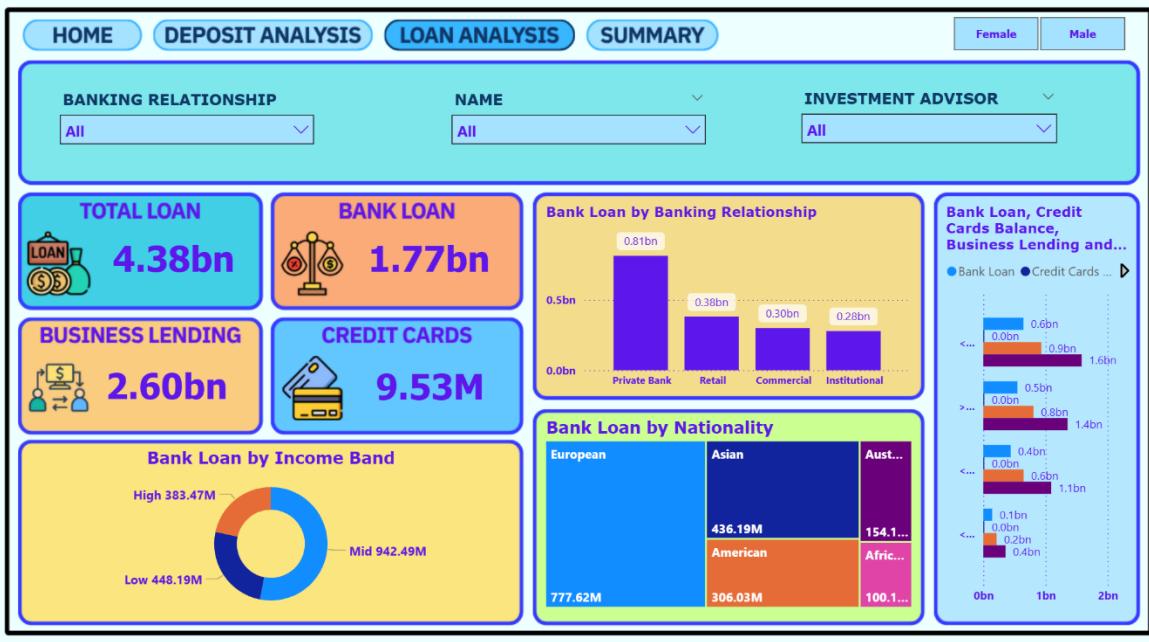
13. Acknowledgment

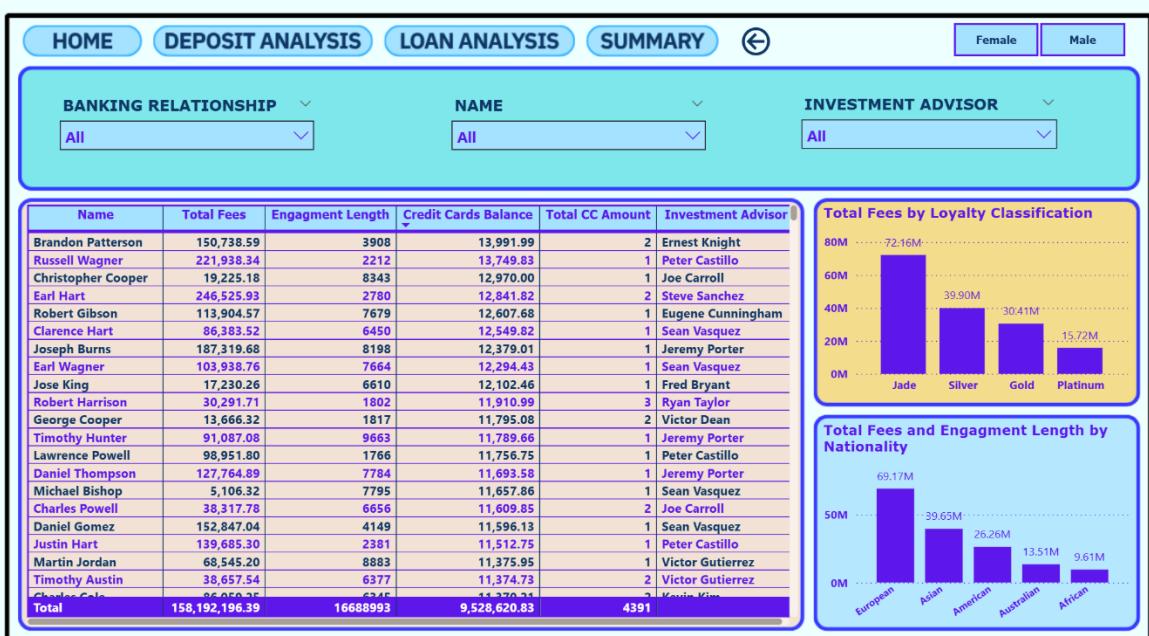
This project was inspired by a YouTube tutorial on Power BI banking analytics. I followed it as a learning foundation and customized the visuals, layout, and structure to align with my own ideas and professional standards.

I'm grateful to the **Power BI community** for its open resources and incredible learning support.

14. Screenshots







15. References

- Microsoft Power BI Documentation
- Power BI Community Forum
- YouTube Power BI Case Study on Bank Analytics