Banking Dashboard Project

Team Members:

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INTRODUCTION

Objective:

To explore, visualize, and analyze bank loan and transaction data using industry tools like Excel, Tableau, and Power BI.

Goal:

Create interactive dashboards that help in identifying key financial patterns, client insights, and decision-making indicators for financial institutions.

PROBLEM STATEMENT

- The banking sector deals with huge amounts of client and loan data, which is difficult to analyze manually.

- This project focuses on converting that raw data into clear, interactive dashboards to help banks track performance, understand customer behavior, and make data-driven decisions.

KPIS & INSIGHTS

Key Performance Indicators (KPIs):

- Total Clients: 65.54K
- Total Loan Amount: ₹751M
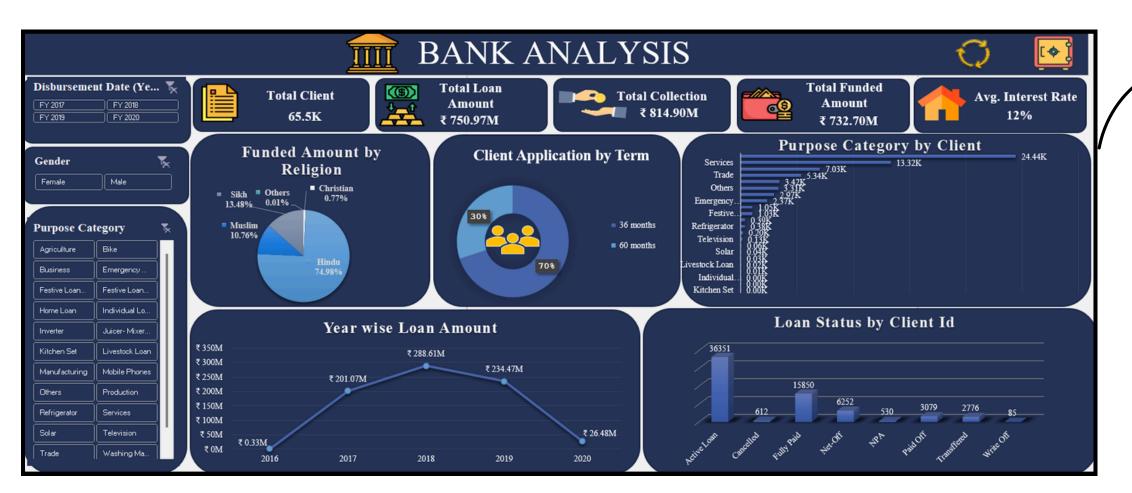- Total Funded Amount: ₹733M
- Total Collection: ₹814.9M
- Average Interest Rate: 12.03%

Insights:

- Home Loans were the most availed loan type.
- Hindu clients formed 75% of the dataset.
- The majority of loans were 36-month terms.
- Highest active loan count: 36K
- Most clients applied in 2018 (26K).

EXCEL DASHBOARD

BANK ANALYSIS

Disbursement Date (Ye...
FY 2017 | FY 2018
FY 2019 | FY 2020

Total Client 65.5K
Total Loan Amount ₹ 750.97M
Total Collection ₹ 814.90M
Total Funded Amount ₹ 732.70M
Avg. Interest Rate 12%

Gender: Female | Male

Purpose Category:
Agriculture | Bike
Business | Emergency ...
Festive Loan... | Festive Loan...
Home Loan | Individual Lo...
Inverter | Juicer- Mixer...
Kitchen Set | Livestock Loan
Manufacturing | Mobile Phones
Others | Production
Refrigerator | Services
Solar | Television
Trade | Washing Ma...

Funded Amount by Religion
Sikh 13.48% | Others 0.01% | Christian 0.77%
Muslim 10.76%
Hindu 74.98%

Client Application by Term
30% | 70%
36 months | 60 months

Purpose Category by Client
Services 24.44K
Trade 13.32K
Others 7.03K
Emergency... 5.34K
Festive... 3.42K / 3.31K / 2.97K / 2.57K / 1.05K
Refrigerator 0.39K
Television 0.38K
Solar 0.20K
Livestock Loan 0.13K
Individual... 0.00K
Kitchen Set 0.00K

Year wise Loan Amount
₹ 350M / ₹ 300M / ₹ 250M / ₹ 200M / ₹ 150M / ₹ 100M / ₹ 50M / ₹ 0M
₹ 0.33M (2016) | ₹ 201.07M (2017) | ₹ 288.61M (2018) | ₹ 234.47M (2019) | ₹ 26.48M (2020)

Loan Status by Client Id
36351 (Active Loan) | 612 (Cancelled) | 15850 (Fully Paid) | 6252 (Net-Off) | 530 (NPA) | 3079 (Paid Off) | 2776 (Transffered) | 85 (Write Off)

1. **Dashboard shows 68% clients chose 36-month loan term**
2. **Total loan disbursed is ₹31.35M with 2.5K clients.**

Credit & Debit Bank Dashboard

Total Credit ₹ 127.60M
Total Debit ₹ 127.29M
Net Balance ₹ 318.12K
Total Customers 100000
Total Amount ₹ 254.89M

Transaction Method:
Bank Transfer | Credit Card | Debit Card

Bank Name:
Axis Bank | HDFC Bank | ICICI Bank | Kotak Mahindra B... | Punjab National Ba... | State Bank of India

Months (Transaction D...):
Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

Total Customer By Description
9946 (Bonus Payment) | 10114 (Client Payment) | 10070 (Dinner at Restaurant) | 10048 (Freelance Payment) | 9957 (Grocery Shopping) | 9983 (Online Shopping) | 9899 (Refund for Overcharge) | 9938 (Refund from Retailer) | 9916 (Salary Deposit) | 10129 (Utility Bill Payment)

Credit VS Debit
₹ 127.60M (CREDIT) | ₹ 127.29M (DEBIT)

Total Customer By Branch
Main Branch 16782
East Branch 16727
City Center Branch 16719
Suburban Branch 16645
Downtown Branch 16627
North Branch 16500

Total Amount & Transaction by Month
₹ 48.21M | ₹ 48.68M | ₹ 48.86M | ₹ 48.53M | ₹ 46.99M | ₹ 49.41M | ₹ 46.51M
₹ 45.04M | ₹ 47.44M | ₹ 47.03M | ₹ 47.84M
₹ 23.96M | ₹ 23.56M | ₹ 23.74M | ₹ 23.51M | ₹ 22.75M | ₹ 22.65M
₹ 21.70M | ₹ 22.73M | ₹ 22.74M | ₹ 23.03M | ₹ 23.75M
₹ 0.78M | ₹ 1.53M
Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

1. **Dashboard shows ₹127.60M credit, ₹127.29M debit, and 100K customers.**
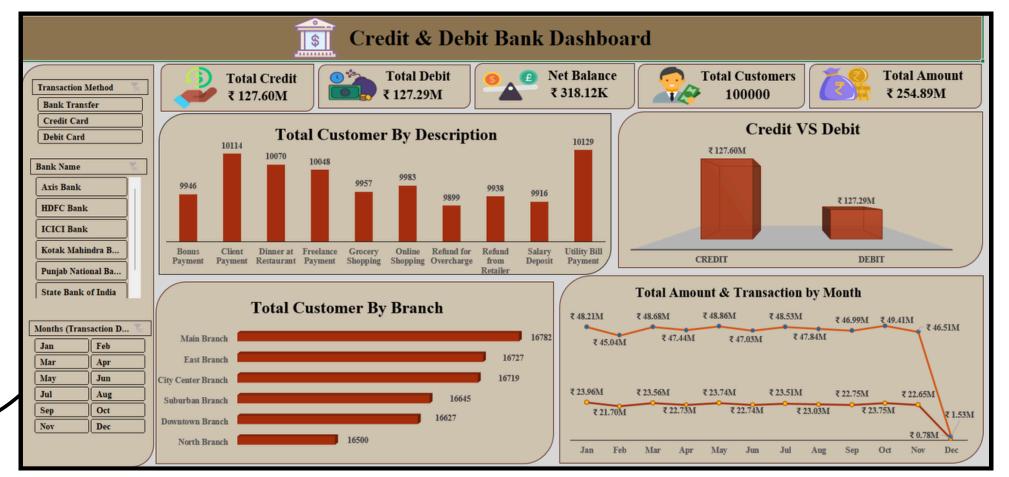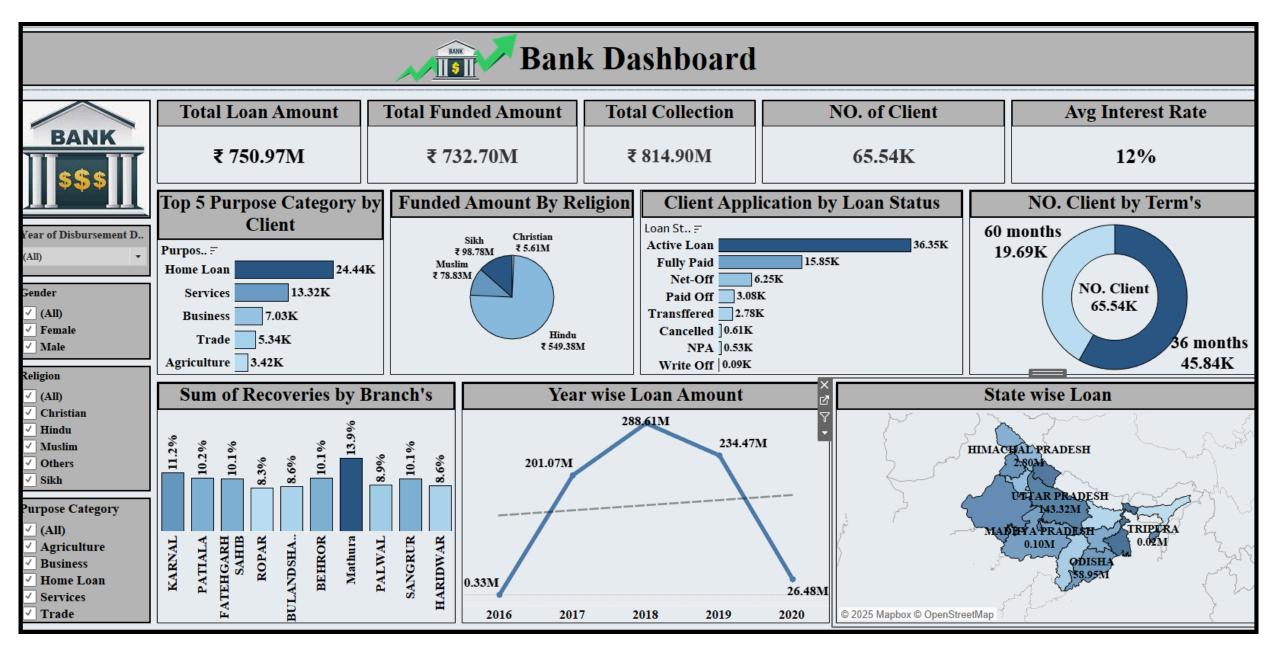2. **Main Branch leads with 16.78K customers; Dec shows sharp balance drop.**

TABLEAU DASHBOARD

- **In this Tableau dashboard, total loan is ₹750.97M with 65.54K clients at 12% interest.**

- **Most clients chose 36-month term and Home Loan is the top category.**
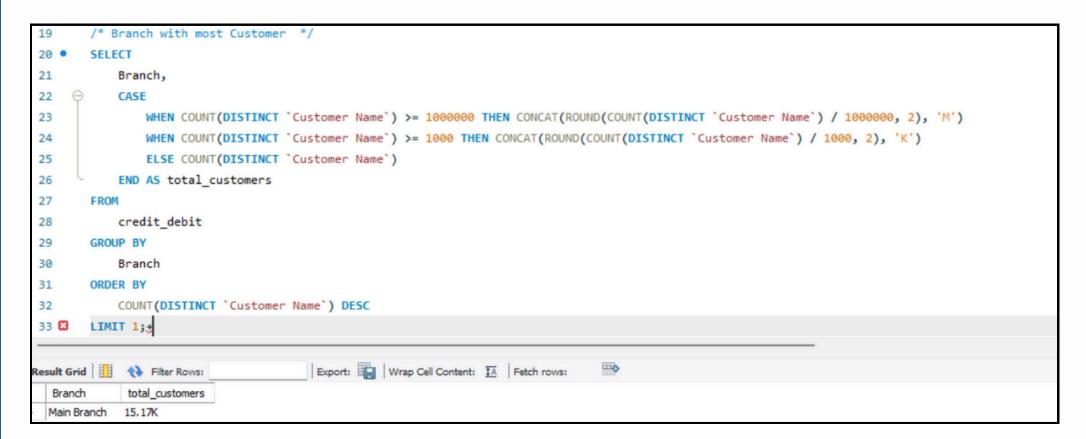
- **1.82K clients have fully paid their loans.**

SQL QUERIES

```sql
3      /* top 5 bank with most customer */
4  •   SELECT
5          `Bank Name`,
6          CASE
7              WHEN COUNT(DISTINCT `Customer Name`) >= 1000000 THEN CONCAT(ROUND(COUNT(DISTINCT `Customer Name`) / 1000000, 2), 'M')
8              WHEN COUNT(DISTINCT `Customer Name`) >= 1000 THEN CONCAT(ROUND(COUNT(DISTINCT `Customer Name`) / 1000, 2), 'K')
9              ELSE COUNT(DISTINCT `Customer Name`)
10         END AS total_customers
11     FROM
12         credit_debit
13     GROUP BY
14         `Bank Name`
15     ORDER BY
16         COUNT(DISTINCT `Customer Name`) DESC
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

Bank Name	total_customers
Axis Bank	15.22K
Kotak Mahindra Bank	15.21K
Punjab National Bank	15.11K
State Bank of India	15.09K
ICICI Bank	15.06K

- 📊 **Displays Top 5 Banks with the Most Unique Customers from the credit_debit table.**
- 🔁 **Formats Customer Counts: Converts to 'K' (thousands) or 'M' (millions) for better readability using a CASE statement.**

- 💰 **Calculates total credit amount from all transactions.**
- 🔢 **Formats the sum in 'K' or 'M' for easier understanding.**

```sql
35     /* Total Credit */
36
37  •  SELECT
38     CASE
39         WHEN SUM(amount) >= 1000000 THEN CONCAT(ROUND(SUM(amount)/1000000, 2), 'M')
40         WHEN SUM(amount) >= 1000 THEN CONCAT(ROUND(SUM(amount)/1000, 2), 'K')
41         ELSE ROUND(SUM(amount), 2)
42     END AS total_credit
43     FROM credit_debit
44     WHERE `Transaction Type` = 'Credit';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_credit
127.6M

SQL QUERIES

```
19        /* Branch with most Customer  */
20  •   SELECT
21          Branch,
22          CASE
23              WHEN COUNT(DISTINCT `Customer Name`) >= 1000000 THEN CONCAT(ROUND(COUNT(DISTINCT `Customer Name`) / 1000000, 2), 'M')
24              WHEN COUNT(DISTINCT `Customer Name`) >= 1000 THEN CONCAT(ROUND(COUNT(DISTINCT `Customer Name`) / 1000, 2), 'K')
25              ELSE COUNT(DISTINCT `Customer Name`)
26          END AS total_customers
27      FROM
28          credit_debit
29      GROUP BY
30          Branch
31      ORDER BY
32          COUNT(DISTINCT `Customer Name`) DESC
33 ⊠   LIMIT 1;;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

Branch	total_customers
Main Branch	15.17K

- 🏦 **Finds the branch with the highest number of unique customers.**
- 🔢 **Displays the customer count in 'K' or 'M' format.**

- 💸 **Calculates total debit amount from all debit transactions.**
- 🔢 **Displays the value in 'K' or 'M' format for clarity.**

```
46        /* Total Debit */
47
48  •       SELECT
49      ⊖   CASE
50              WHEN SUM(amount) >= 1000000 THEN CONCAT(ROUND(SUM(amount)/1000000, 2), 'M')
51              WHEN SUM(amount) >= 1000 THEN CONCAT(ROUND(SUM(amount)/1000, 2), 'K')
52              ELSE ROUND(SUM(amount), 2)
53          END AS total_debit
54      FROM credit_debit
55      WHERE `Transaction Type` = 'Debit';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_debit
127.29M

POWER BI DASHBOARD

- The average interest rate is 12.03%, and total recoveries stand at ₹6.52M.

- Home Loan is the top purpose category with 24.44K clients.

- Patiala branch has the highest number of clients at 1.8K.

PROJECT SUMMARY

- **Domain: Banking Analytics – visualizing client and loan data**
- **Problem: Raw banking data is hard to interpret manually**
- **Tools Used: Excel, Tableau, Power BI, SQL**
- **Built: Dashboards showing KPIs, loan trends, client insights**
- **Challenges: Data cleaning, tool learning, visual selection**
- **Learnings: Gained skills in visualization, SQL, storytelling**
- **Outcome: Clear dashboards for better decision-making**

THANK YOU!