

Bank Analytics

P932 – GROUP 2

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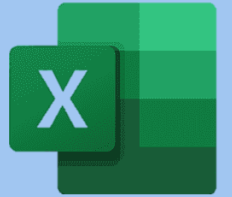
Project Summary

This project analyzed two core banking datasets — **Bank Loan** and **Credit-Debit Transactions** — using Excel, Tableau, Power BI, and SQL.

The Bank Loan Dashboard focused on disbursement trends, borrower demographics, and risk indicators like delinquency and defaults, helping identify key segments and high-risk products.

The Credit-Debit Dashboard evaluated customer transaction behavior across cards and transfers, leading to a strategic plan to boost revenue through targeted offers and customer engagement tactics.

Together, the analysis helped uncover financial patterns, improve risk management, and propose strategies for sustainable banking growth.



KPI Overview

Bank Loan KPIs

Loan Amount

Delinquent Clients

Delinquent Loan Rate

Average Interest Rate

State wise Performance

Loan Performance Trend

Age Group wise Share

Religion wise Share

Product wise Distribution

Credit and Debit KPIs

Credit Amount

Debit Amount

Net Transaction Amount

A/C Activity Ratio

Branch wise Performance

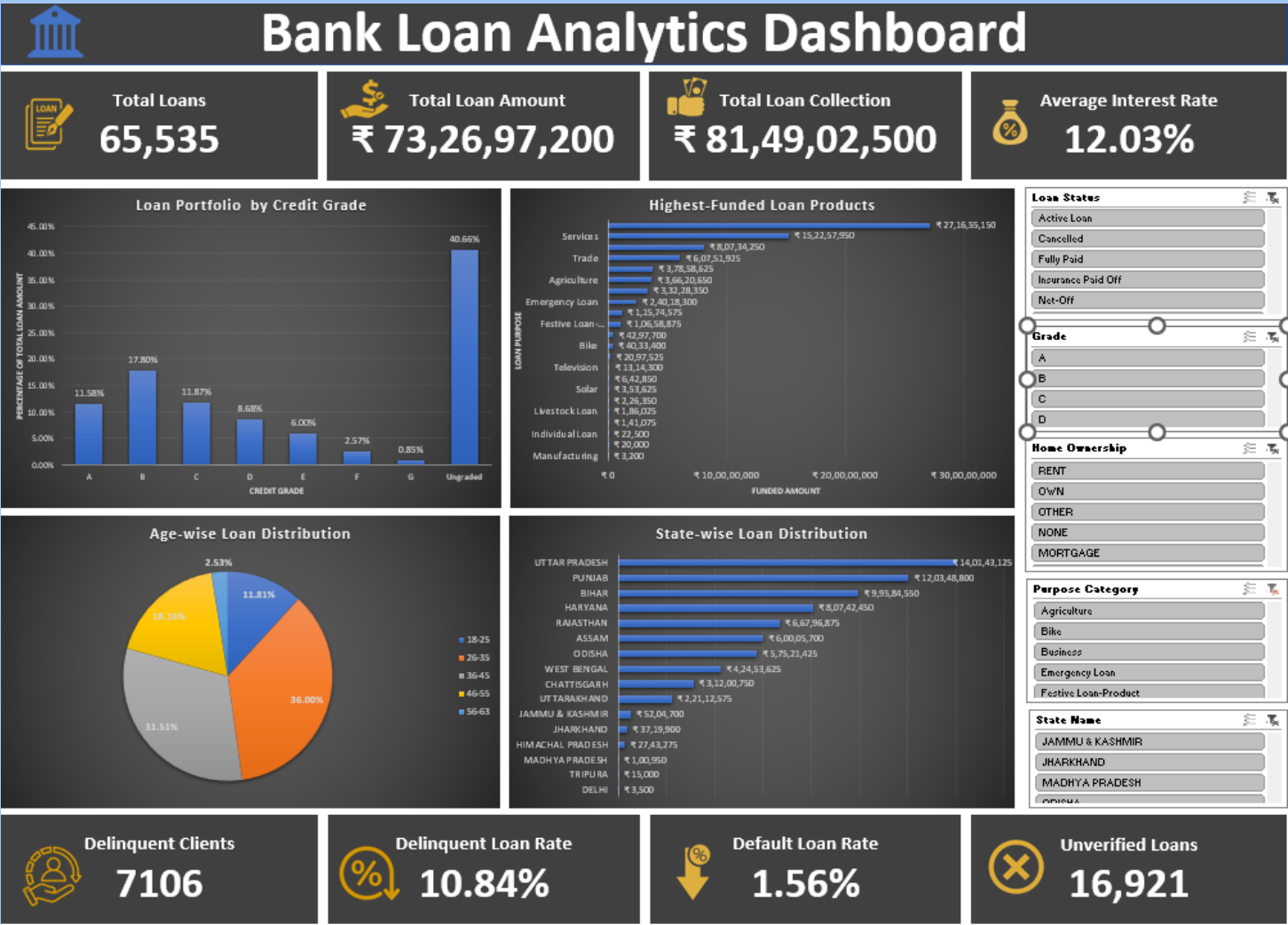
Bank wise Performance

Method wise Transaction

Monthly Credit v/s Debit Trend

Transaction Trend

Excel Dashboard (Bank Loan Data)



Excel Dashboard (Credit and Debit Data)

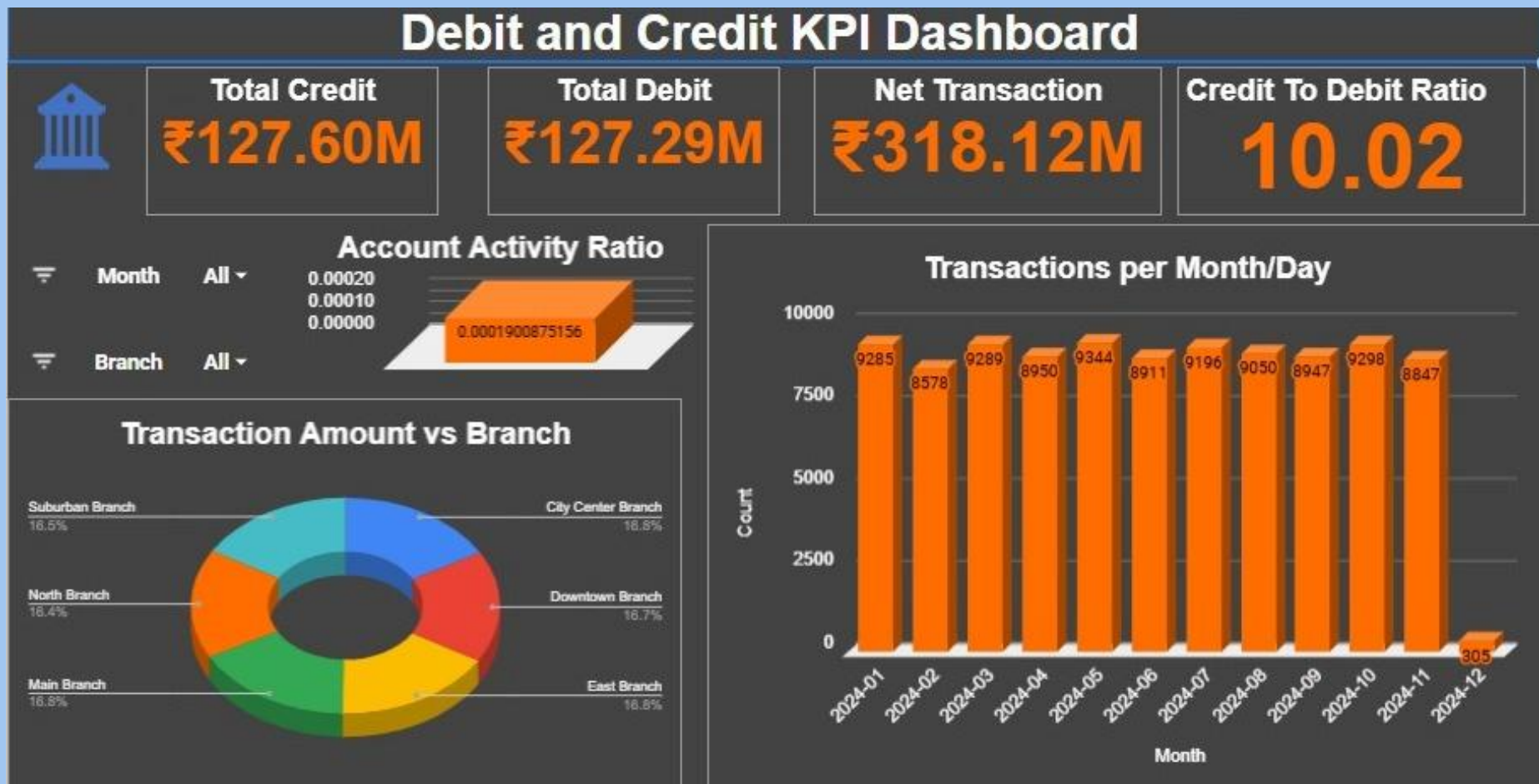


Tableau Dashboard (Bank Loan Data)

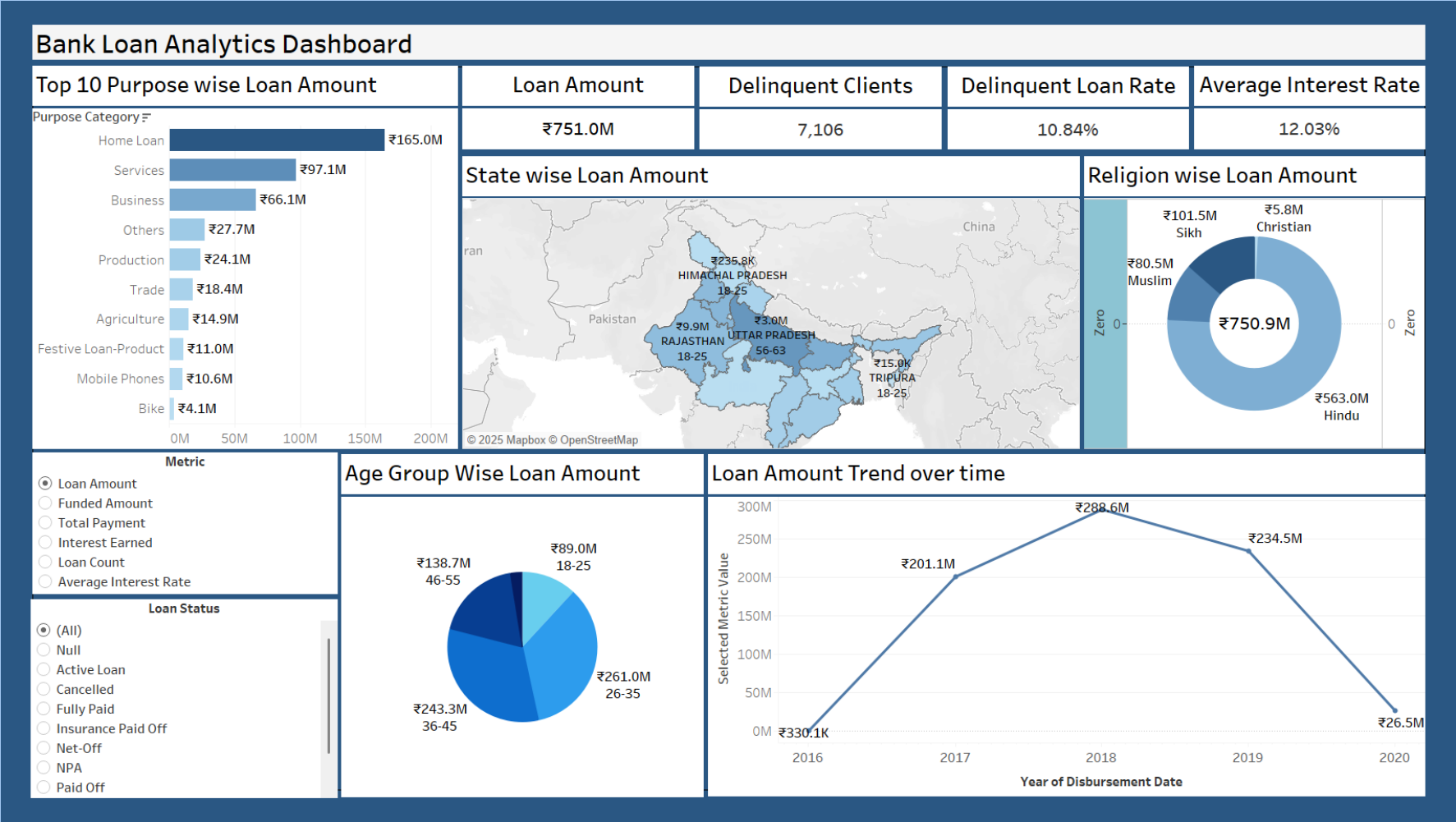
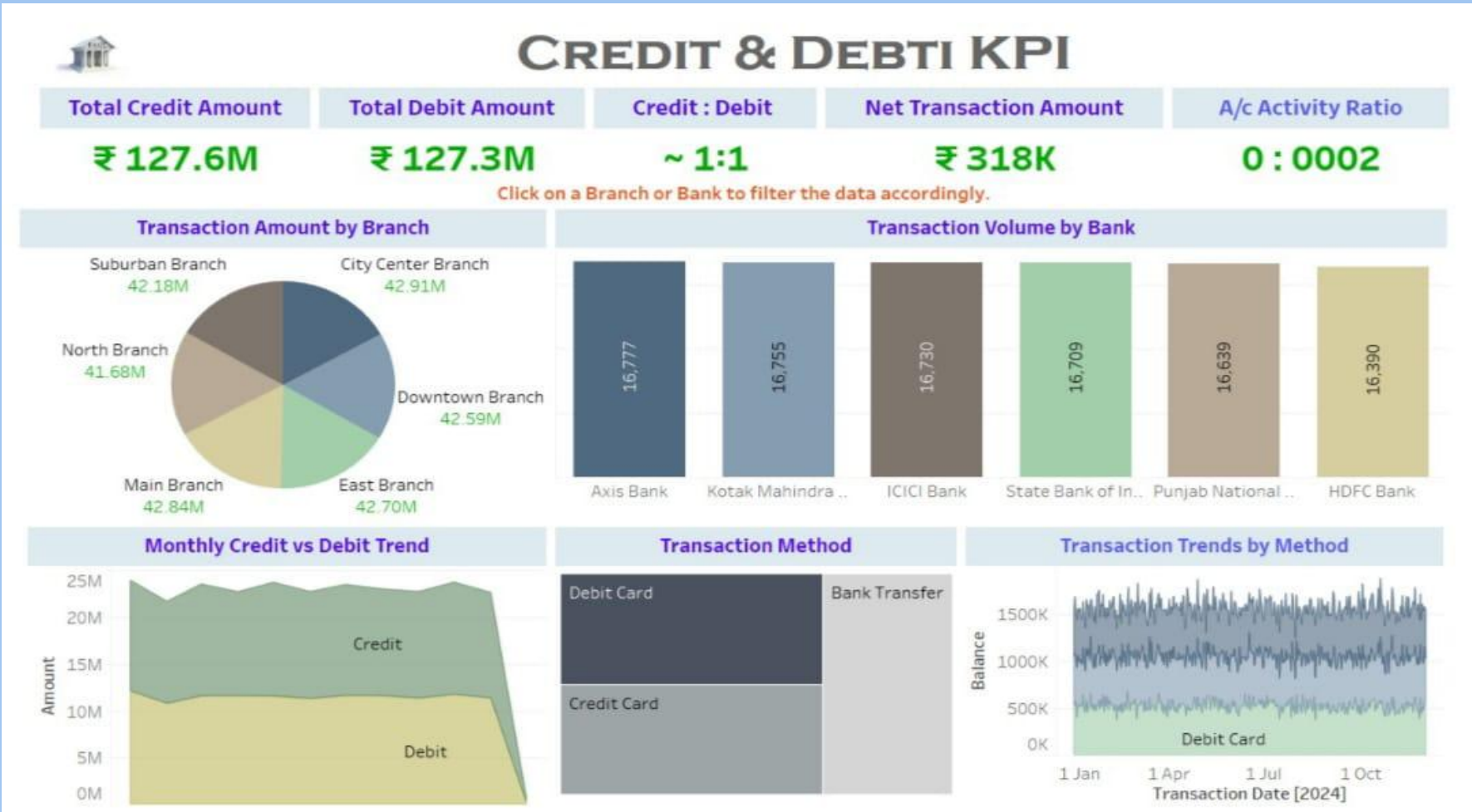
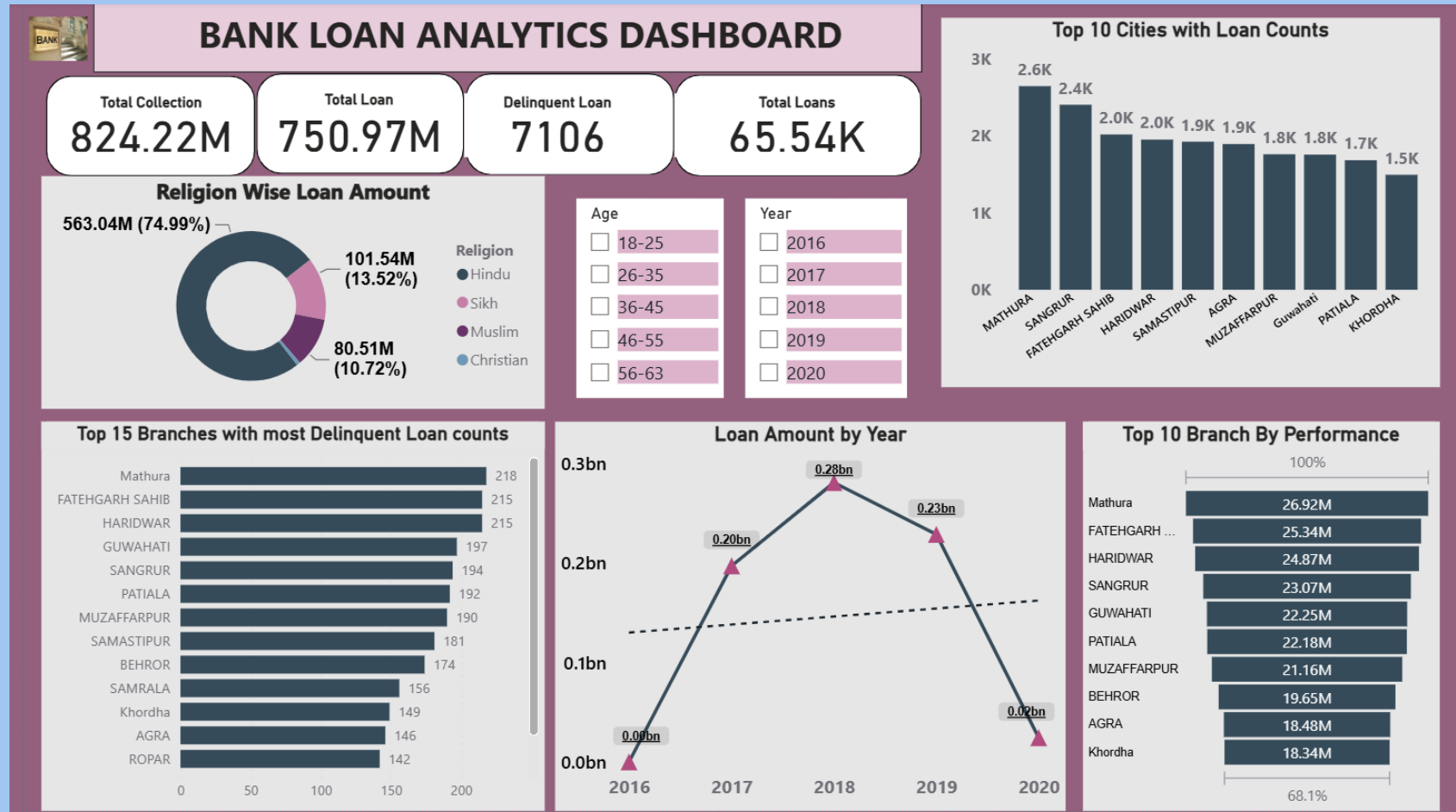


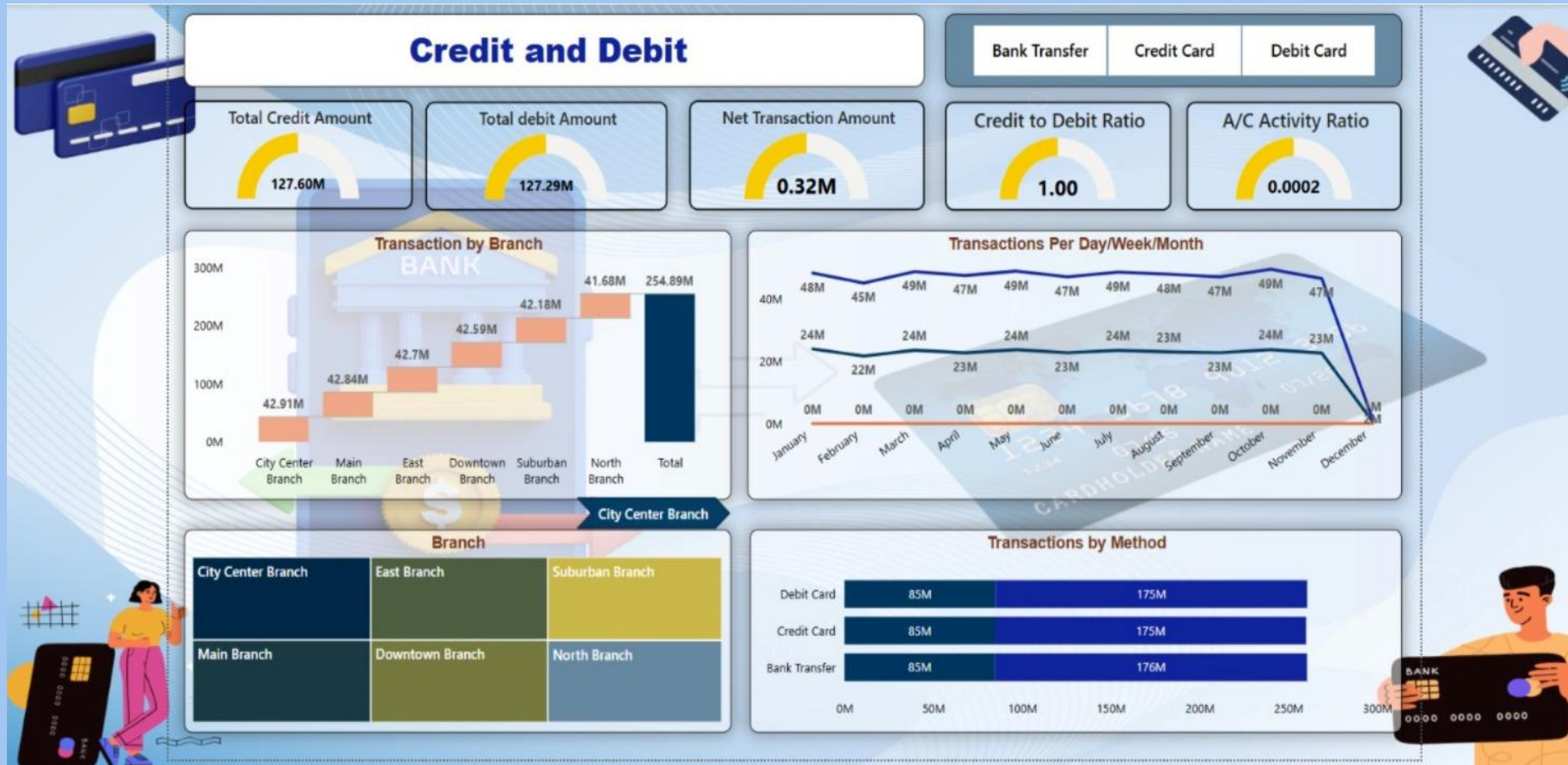
Tableau Dashboard (Credit and Debit Data)



Power BI Dashboard (Bank Loan Data)



Power BI Dashboard (Credit and Debit Data)



MySQL Queries (Bank Loan Data)



```
1 • use bank_loan_data;
2
3 #KPI-1. Total Loan Amount Funded
4
5 • select sum(`funded amount`) as total_loan_amount_funded
6   from bank_loan_data;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
total_loan_amount_funded			
▶ 465094725			

```
20 #KPI-4. Total Interest
21
22 • select
23   round(avg(`int rate`), 2) as average_interest_rate
24   from bank_loan_data;
25
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
average_interest_rate			
▶ 12.08			

```
57 #KPI-8. Product Group-Wise Loan - Purpose Category
58
59 • select `purpose category`,
60   count(`account id`) as loan_count,
61   round(sum(`funded amount`), 0) as total_loan_amount
62   from bank_loan_data
63   group by `purpose category`
64   order by total_loan_amount desc;
65
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
purpose category	loan_count	total_loan_amount	
▶ Home Loan	15601	169941850	
Services	9136	103498900	
Business	5766	65669000	
Others	2467	28111400	
Production	2251	25071500	
Trade	2264	24898375	
Agriculture	1623	16513475	
Festive Loan-Product	1029	10647175	

```
118 #KPI-14. Loan Status-Wise Loan
119
120 • select `loan status`,
121   count(*) as loan_count,
122   sum(`funded amount`) as total_loan_amount
123   from bank_loan_data
124   group by `loan status`;
125
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
loan status	loan_count	total_loan_amount	
▶ Fully Paid	15589	184128200	
Paid Off	2239	24933175	
Cancelled	411	4126025	
Insurance Paid Off	644	6767150	
Active Loan	14179	149148100	
Net-Off	6113	64754500	
Transferred	2659	28719625	
NPA	155	1379575	
Write Off	82	1138375	

```
126 #KPI-15. Age Group-Wise Loan
127 • select `age` as age_group,
128   count(*) as loan_count,
129   round(sum(`funded amount`), 2) as total_loan_amount,
130   concat(
131     round(
132       sum(`funded amount`) * 100.0 /
133       (select sum(`funded amount`)
134         from bank_loan_data where `age` is not null), 2 ), '%' )
135     as percentage_of_total
136   from bank_loan_data
137   where `age` is not null
138   group by `age`
139   order by total_loan_amount desc;
140
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
age_group	loan_count	total_loan_amount	percentage_of_total
▶ 26-35	18032	194886350	41.90%
36-45	12158	138726075	29.83%
18-25	5818	65624625	14.11%
46-55	5292	57247000	12.31%
56-63	771	8610675	1.85%

```
48 #KPI-7. Religion-Wise Loan
49
50 • select religion,
51   count(`account id`) as loan_count,
52   round(sum(`funded amount`), 0) as total_loan_amount
53   from bank_loan_data
54   group by religion
55   order by total_loan_amount desc;
56
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
religion	loan_count	total_loan_amount	
▶ Hindu	30254	336214825	
Sikh	6621	73937925	
Muslim	4839	51271850	
Christian	352	3602900	

MySQL Queries (Credit and Debit Data)



```
1 -- 1 Total credit amount
2 • SELECT SUM(Amount) AS TotalCredit
3 FROM debit_and_credit_data
4 WHERE `Transaction Type` = 'Credit';
5
```

Result Grid | Filter Rows: | Export:

TotalCredit
127603386.40999956

```
6 -- 2 Total debit amount
7 • SELECT SUM(Amount) AS TotalDebit
8 FROM debit_and_credit_data
9 WHERE `Transaction Type` = 'Debit';
```

Result Grid | Filter Rows: | Export:

TotalDebit
127285269.22000195

```
-- 5 Account Activity ratio
SELECT
    ROUND(COUNT(`Account number`) / SUM(Balance), 9)
    AS Account_Activity_Ratio
FROM debit_and_credit_data;
```

Result Grid | Filter Rows: | Export:

Account_Activity_Ratio
0.000190086

```
-- 4 Net transaction Amount
SELECT
    SUM(CASE WHEN `Transaction Type` = 'Credit' THEN Amount ELSE 0 END) -
    SUM(CASE WHEN `Transaction Type` = 'Debit' THEN Amount ELSE 0 END) AS NetTransactionAmount
FROM debit_and_credit_data;
```

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

NetTransactionAmount
318117.18999761343

```
-- 3 Credit to debit ratio
SELECT
    SUM(CASE WHEN `Transaction Type` = 'Credit' THEN Amount ELSE 0 END) AS TotalCredit,
    SUM(CASE WHEN `Transaction Type` = 'Debit' THEN Amount ELSE 0 END) AS TotalDebit,
    SUM(CASE WHEN `Transaction Type` = 'Credit' THEN Amount ELSE 0 END) /
    NULLIF(SUM(CASE WHEN `Transaction Type` = 'Debit' THEN Amount ELSE 0 END), 0)
    AS CreditToDebitRatio
FROM debit_and_credit_data;
```

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

TotalCredit	TotalDebit	CreditToDebitRatio
127603386.40999956	127285269.22000195	1.0024992459217552

```
55 -- 7 total transaction amount by branch
56 • SELECT
57     Branch,
58     SUM(Amount) AS TotalTransactionAmount
59 FROM debit_and_credit_data
60 GROUP BY Branch
61 ORDER BY TotalTransactionAmount DESC;
```

Result Grid | Filter Rows: | Export:

Branch	TotalTransactionAmount
City Center Branch	42911469.79000005
Main Branch	42839450.40999995
East Branch	42697111.170000106
Downtown Branch	42587216.19000001
Suburban Branch	42176276.35000002
North Branch	41677131.719999984

```
ORDER BY Day;
-- week
SELECT
    YEAR(`Transaction Date`) AS Year,
    WEEK(`Transaction Date`) AS Week,
    COUNT(*) AS TransactionsPerWeek
FROM debit_and_credit_data
GROUP BY YEAR(`Transaction Date`), WEEK(`Transaction Date`)
ORDER BY Year, Week;
```

Result Grid | Filter Rows: | Export: |

Year	Week	TransactionsPerWeek
2024	0	1785
2024	1	2079
2024	2	2062
2024	3	2135
2024	4	2086
2024	5	2098
2024	6	2061

Key Takeaways

Loan Transactions

While loan disbursement remains strong across key regions, delinquency and verification gaps present ongoing risks. To enhance portfolio quality, reduce defaults, and deepen borrower relationships, banks are advised to adopt a targeted and data-driven approach to lending.

To Improve Repayment Behavior and Minimize Delinquencies:

- **Start early reminders** via SMS or app notifications and use **gentle, consistent communication methods** to encourage on-time payments.
- **Mandate full verification** of all new loans to reduce fraud risk and maintain healthy borrower profiles.

To maximize returns in high-performing areas:

- Focus on **top-contributing states** such as **Uttar Pradesh, Punjab, and Bihar**, where loan volumes are highest. Banks should invest in **staff training, performance incentives, and local engagement strategies** to increase efficiency and growth in these regions.

Loan Transactions

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To manage home loan risk and improve retention:

- Offer **insurance-backed protection** and **restructured repayment options** for **home loan defaulters**, the most affected category across loan types.

To foster long-term borrower relationships:

- Develop **specialized loan products** for the **18–25 age group**, such as **education loans, startup funding, or career-builder schemes**, to support early-stage borrowers and build loyalty.

Together, these initiatives aim to enhance credit quality, lower risk exposure, and promote inclusive and sustainable growth across the bank's loan portfolio.

Credit and Debit Transactions

Strategic Revenue Enhancement Plan for Banking Channels

All bank branches are currently performing well, with revenue from **net transactions** across **Debit Card, Credit Card, and Bank Transfer** channels remaining **consistently strong**. To further **ramp up revenues** and **deepen customer engagement**, it is recommended that banks **introduce more attractive and differentiated offers** for each transaction category:

- **Credit Cards:** Enhance customer **appeal** with **increased cashback** and **exclusive payment offers**.
- **Debit Cards:** **Reduce** transaction **fees** to encourage **higher usage**.
- **Bank Transfers:** Introduce **incentives** for **high-value** transfers (e.g., **discounts** or **fee waivers** above a set threshold).

Credit and Debit Transactions

These measures will not only boost transaction volumes but also motivate customers to recycle their funds through **Fixed Deposits** and **Savings Plans**, supporting long-term monetary objectives. To retain and grow customer balances, banks should:

- Promote **auto-savings** and **recurring deposit** products
- Encourage usage of **UPI** and **Net Banking** as complementary digital channels.
- Launch **seasonal campaigns**, **referral programs**, and **strategic partnerships** to drive customer acquisition and engagement.

Together, these strategies aim to increase customer loyalty, optimize revenue streams, and ensure sustainable growth across all banking services.

THANK YOU