Date: 1 September 2025

P976
BANK ANALYTICS

Compiled & Presented By

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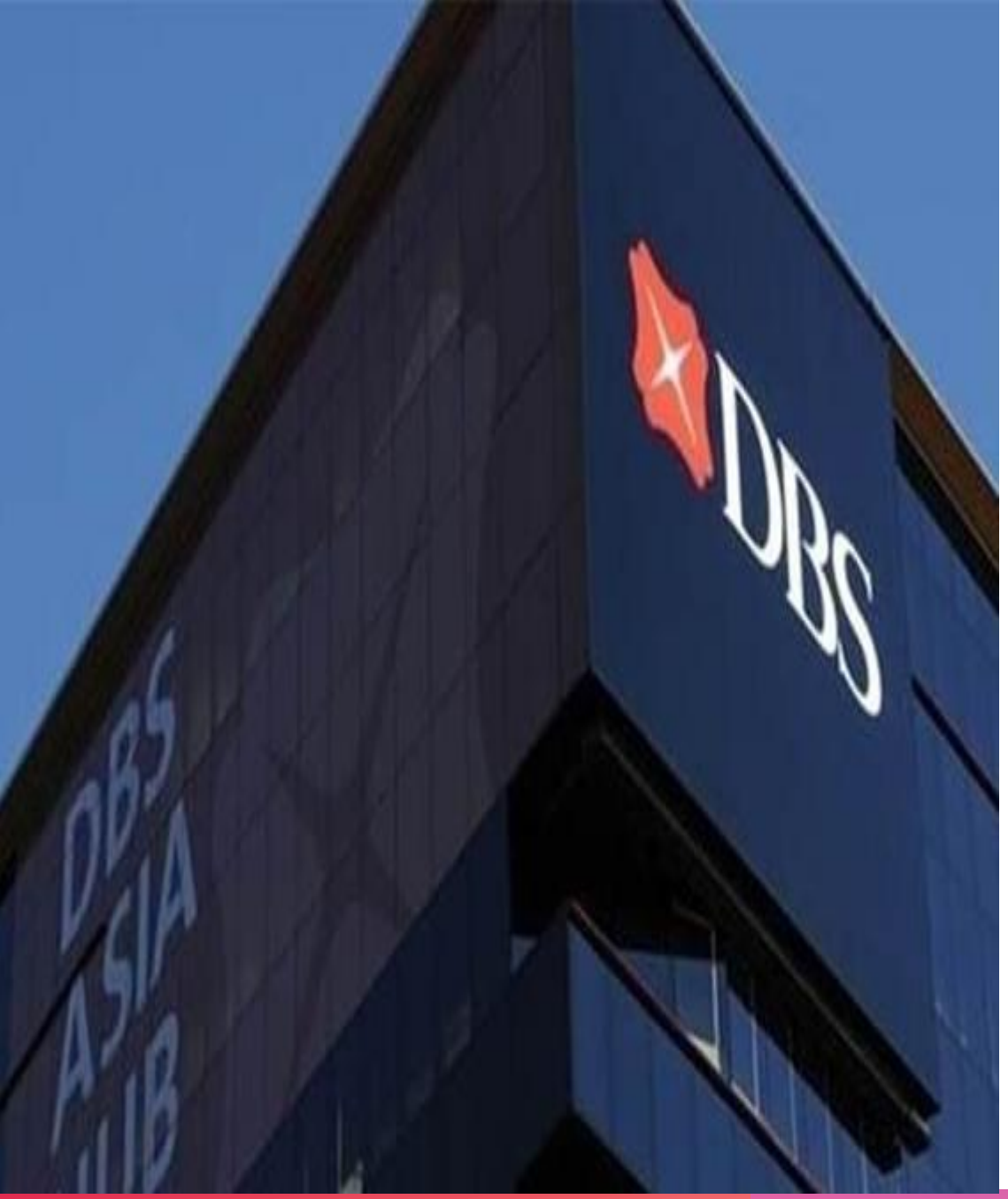


BANK LOAN ANALYSIS

Project Summary

We analyzed banking loan portfolios using **Excel, Tableau, Power BI, and SQL** to demonstrate how different tools can deliver powerful insights from the same dataset.

The dashboard empowers stakeholders to:

- Compare **states, banks, and branches** on loan disbursements and collections.
- Identify **top loan segments and borrower groups** driving growth.
- Track **disbursement and repayment trends** for better portfolio planning.
- Monitor **loan status distribution** to assess portfolio health.
- Support **data-driven decision-making** through clear, interactive visual storytelling.

Impact:

By leveraging multiple tools, we showcased flexibility in analysis, validated KPIs across platforms, and delivered actionable insights on **loan performance, regional trends, borrower demographics, and recovery strategies**.

KPIs Description:

- **Total Loan Amount Funded**:.
- **Total Loans**:
- **Total Collection**
- **Total Interest**:
- **Branch-Wise Performance**.
- **State-Wise Loan**:
- **Product Group-Wise Loan**:
- **Disbursement Trend**:
- **Grade-Wise Loan**.
- **Loan Status-Wise Loan**
- **Age Group-Wise Loan**.

BANK LOAN ANALYSIS DASHBOARD: MS Excel

STATE- WISE LOAN ANALYSIS

CREDIT & DEBIT DASHBOARD

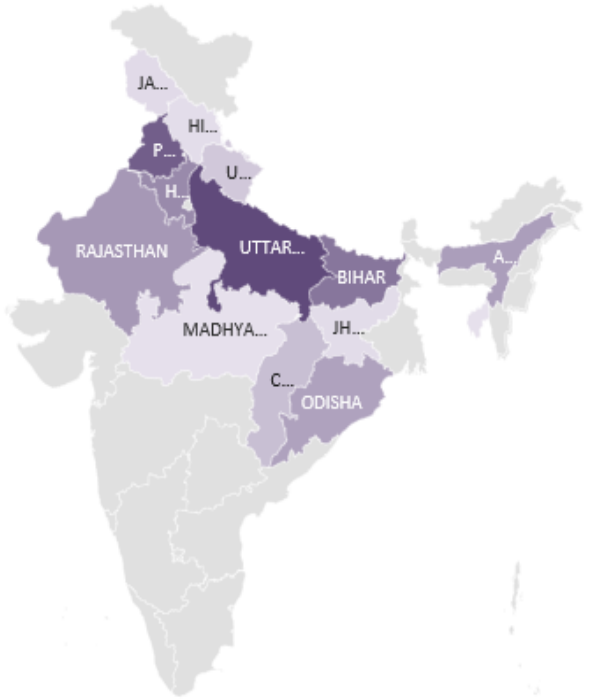
State Name

- ASSAM
- BIHAR
- CHATTISGARH
- DELHI
- HARYANA
- HIMACHAL PRADESH
- JAMMU & KASHMIR
- JHARKHAND
- MADHYA PRADESH
- ODISHA
- PUNJAB
- RAJASTHAN
- TRIPURA
- UTTAR PRADESH
- UTTARAKHAND
- WEST BENGAL

Disbursement D...

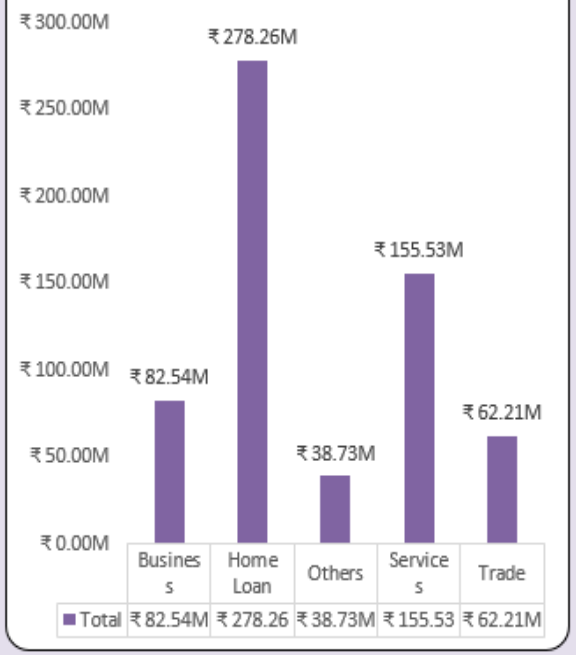
- FY 2017
- FY 2018
- FY 2019
- FY 2020

State-wise Distribution

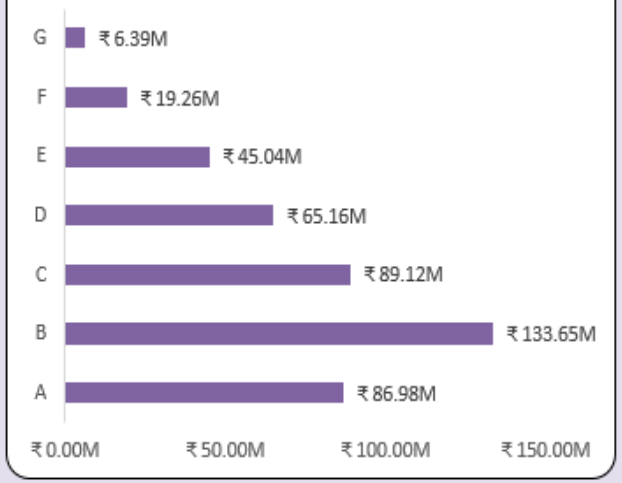


Total Loan Funded	Total Number Loans	Total Intrest Collected
₹ 750.97M	65,535	₹ 155.29M

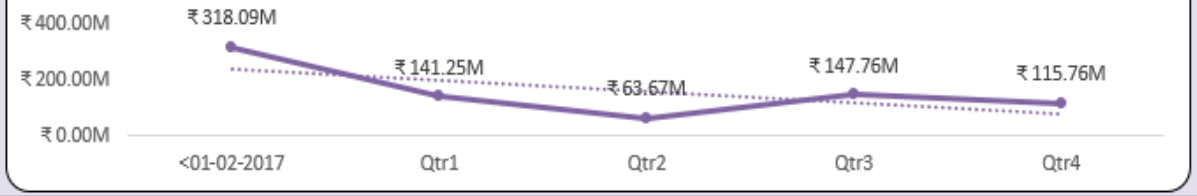
Top 5 Products



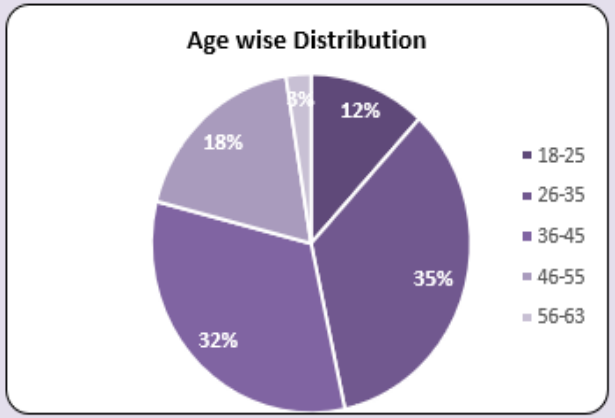
Grade Wise Distribution of Loan



Total Investment by Quarter



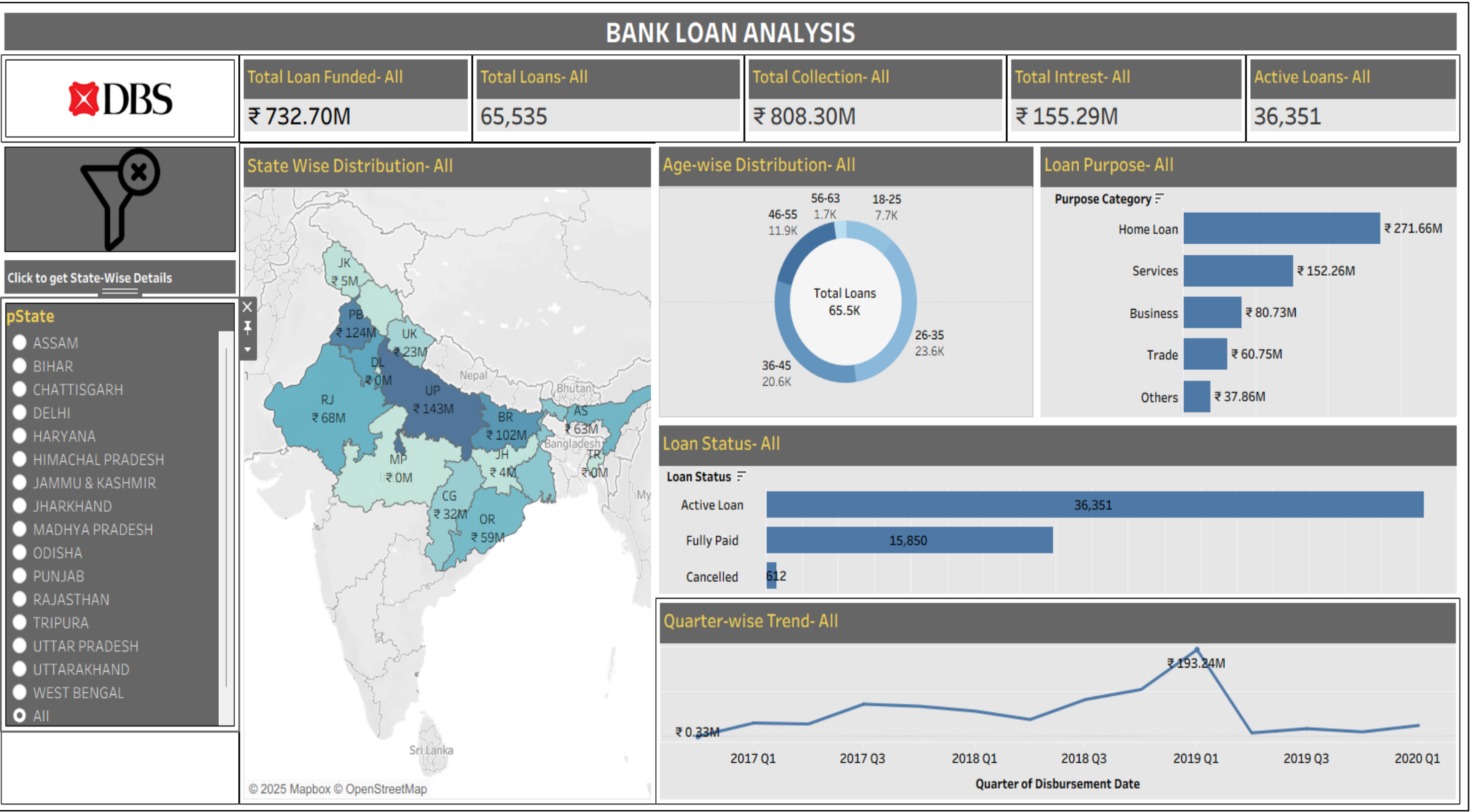
Age wise Distribution



Strength

- Quick prototyping with Pivot Tables & Charts
- Easy KPI validation
- Widely accessible

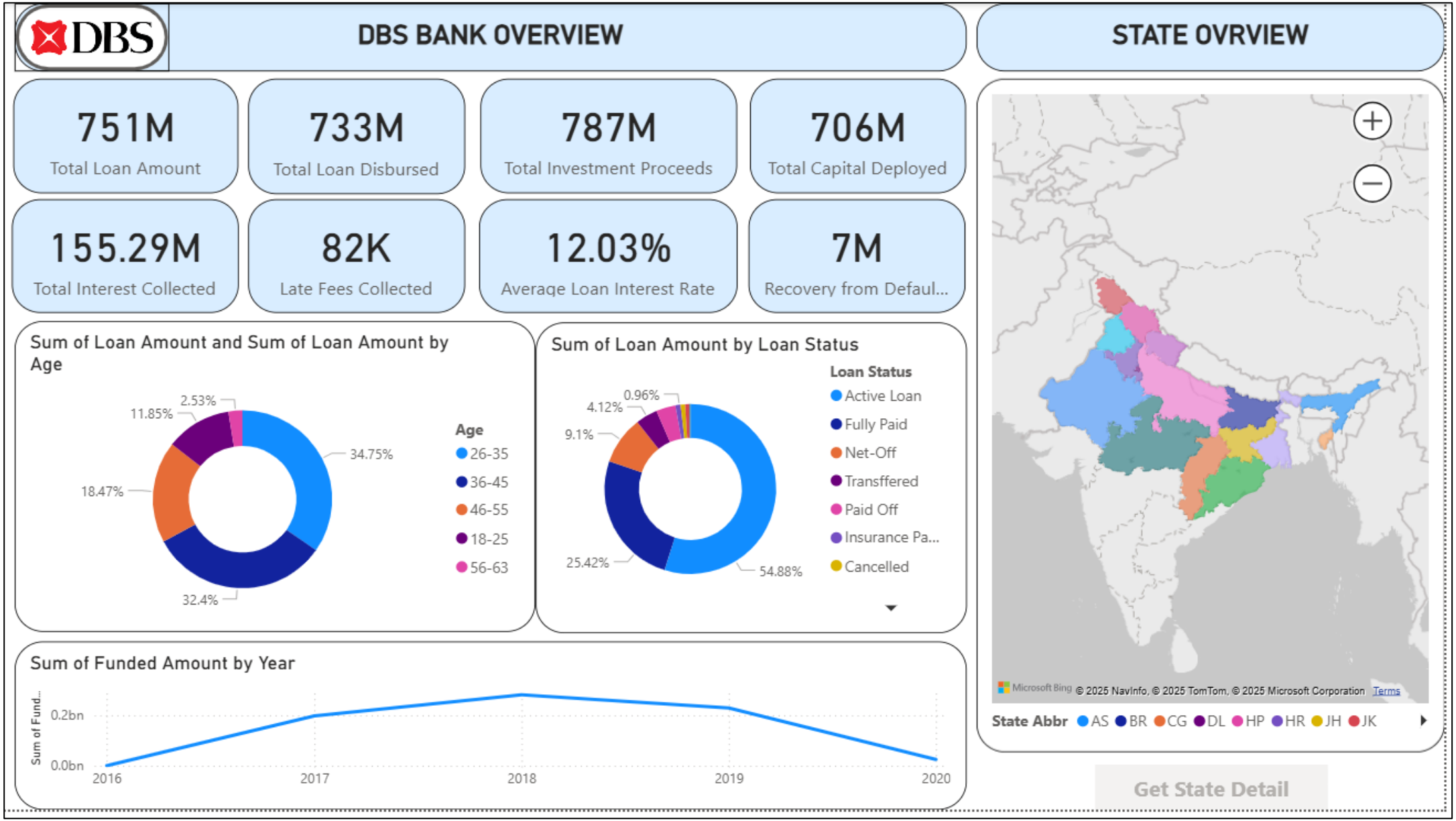
BANK LOAN ANALYSIS DASHBOARD: Tableau



Strength

- Highly interactive dashboards
- Powerful visuals (State parameter, YoY, trend lines)
- Excellent drill-down & storytelling

BANK LOAN ANALYSIS DASHBOARD: Power BI



Strength

- Strong DAX for custom measures
- Seamless with Microsoft ecosystem
- Good for enterprise sharing & reports

BANK LOAN ANALYSIS DASHBOARD: Power BI

Destination Page (Drill-Through)

STATE OVRVIEW

RAJASTHAN	68M	67M	72M	65M
First State Name	Total Loan Amount	Total Loan Disbursed	Total Investment Proceeds	Total Capital Deployed

14.39M Total Interest Collected

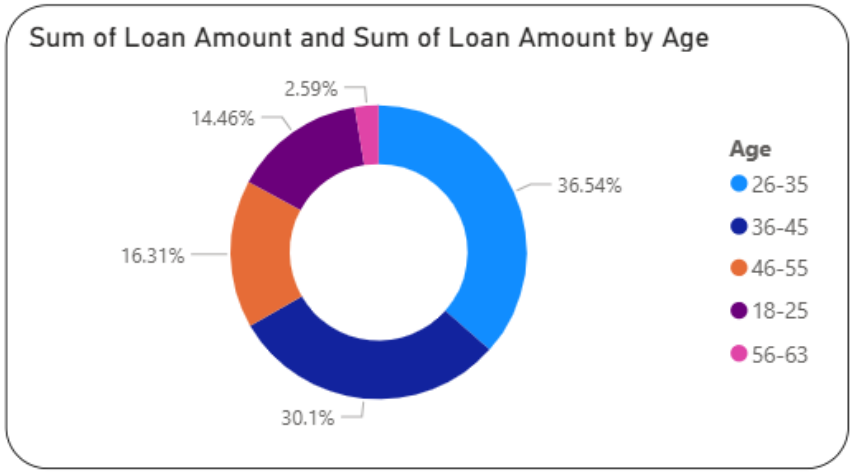
7449 Late Fees Collected

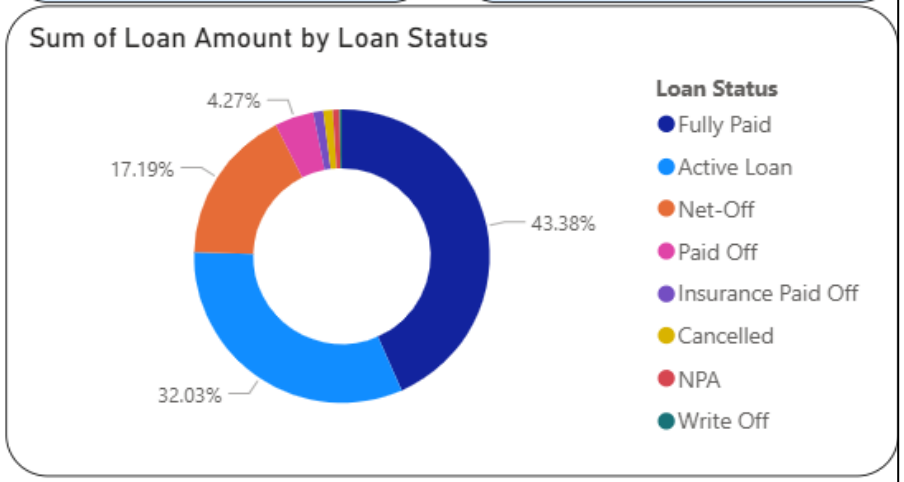
12.14% Average Loan Interest Rate

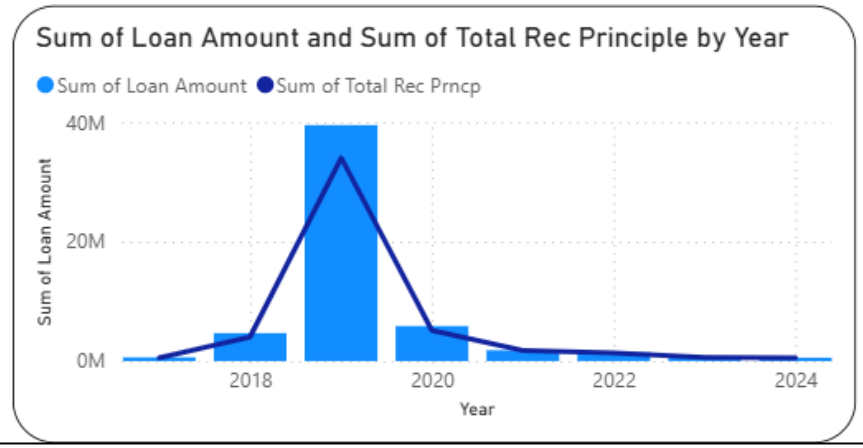
623K Recovery from Defaults

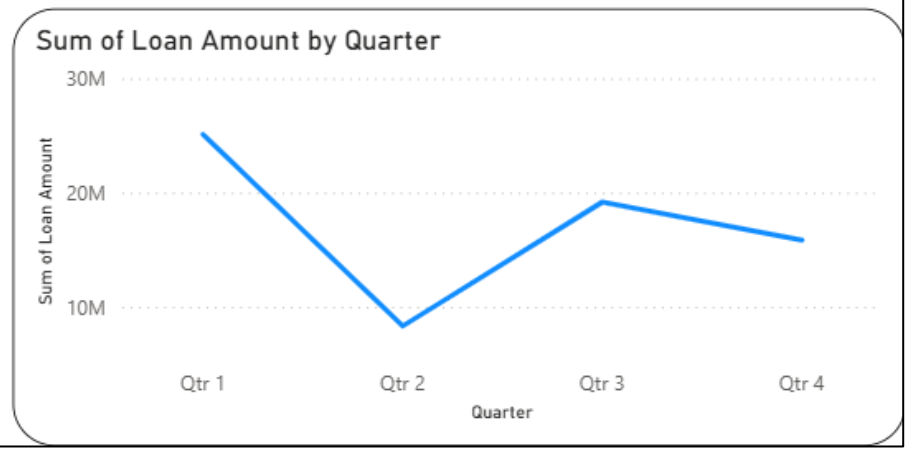
Page Navigator

Overview | State Details









Strength

- Strong DAX for custom measures
- Seamless with Microsoft ecosystem
- Good for enterprise sharing & reports

BANK LOAN ANALYSIS QUERIES: MySQL

```sql
-- 1. Total loan amount
SELECT SUM(loan_amount) AS total_loan_amount
FROM bank_loans_data;
```

total_loan_amount
750967500.00

```sql
-- 2. Total funded amount
SELECT SUM(funded_amount) AS total_loan_amount_funded
FROM bank_loans_data;
```

total_loan_amount_funded
732697200.00

```sql
-- 3. Total interest amount
SELECT SUM(total_rec_int) AS total_interest_received
FROM bank_loans_data;
```

total_interest_received
155288805.82

```sql
-- 4. Total  payment
SELECT SUM(total_pymnt) AS total_payment_received
FROM bank_loans_data;
```

total_payment_received
814902500.54

```sql
-- 5. Monthly Disbursement
SELECT
  MONTHNAME(disbursement_date) AS disbursement_month,
  SUM(funded_amount) AS total_disbursed
FROM bank_loans_data
GROUP BY
  MONTH(disbursement_date),
  MONTHNAME(disbursement_date)
ORDER BY MONTH(disbursement_date);
```

disbursement_month	total_disbursed
January	80049550.00
February	78307600.00
March	146014325.00
April	17296225.00
May	29162525.00
June	27220275.00
July	32186500.00
August	32585600.00
September	107160925.00
October	74704600.00
November	41381075.00
December	66628000.00

```sql
-- 6. State wise loan
SELECT
  state_name,
  SUM(loan_amount) AS total_loan_amount
FROM bank_loans_data
GROUP BY state_name;
```

state_name	total_loan_amount
PUNJAB	119108325.00
UTTAR PRADESH	138464250.00
CHATTISGARH	30650425.00
RAJASTHAN	67082825.00
HARYANA	80581250.00
BIHAR	95183725.00
WEST BENGAL	39645275.00
MADHYA PRADESH	100950.00
JAMMU & KASHMIR	4830325.00
ODISHA	47285800.00
ASSAM	45197250.00
TRIPURA	15000.00
UTTARAKHAND	22089900.00
JHARKHAND	3480350.00
HIMACHAL PRADE...	2696775.00

```sql
-- 7. age group wise loan
SELECT
  age_group,
  SUM(loan_amount) AS total_amount
FROM bank_loans_data
GROUP BY age_group;
```

age_group	total_amount
36-45	243321675.00
46-55	138733950.00
18-25	88957600.00
26-35	260954775.00
56-63	18999500.00

```sql
-- 9.Product Group-Wise Loan
SELECT
  product_code,
  SUM(loan_amount) AS total_loan_amount,
  COUNT(*) AS loan_count
FROM bank_loans_data
GROUP BY product_code;
```

product_code	total_loan_amount	loan_count
XLG	656923925.00	56902
XL	65261300.00	5962
IML	458375.00	41
XLS	816800.00	67
XTL	27507100.00	2563

BANK LOAN ANALYSIS QUERIES: MySQL

```sql
-- 8. branch wise performance
SELECT
  branch_name,
  SUM(total_rec_int) AS total_interest,
  SUM(total_fees) AS total_fees,
  SUM(total_rec_prncp + total_rec_int + total_fees) AS total_revenue
FROM bank_loans_data
GROUP BY branch_name;
```

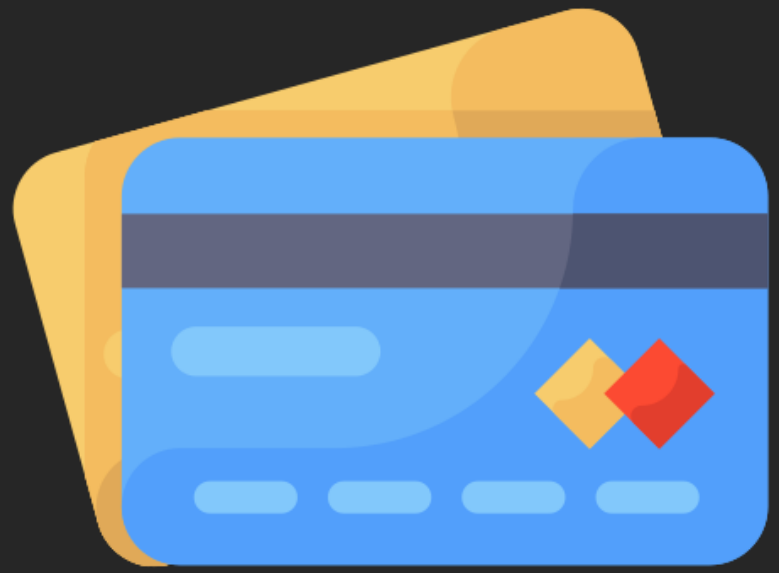
branch_name	total_interest	total_fees	total_revenue
PATIALA	4297515.72	25298.49	21821639.39
JALANDHAR	1925499.54	13841.60	9726681.05
SANGRUR	4414348.04	32202.22	22714312.41
Mathura	5261721.00	29116.95	26419744.55
MAHASAMUND	980116.91	6129.77	4941618.46
BEHROR	3796857.71	22225.80	19285498.21
NEEM KA THANA	2136084.58	15355.48	10811637.56
PALWAL	2927818.38	16919.75	14730319.61
BILASPUR	2305077.77	18020.20	12074263.26
PAOTA	1681828.65	8092.81	8627742.96
VARANASI	1611102.58	11088.53	8240316.45
PANIPAT	2035910.65	11444.07	10084529.77
AGRA	3525974.82	27076.92	18312353.44
BULANDSHAHR	2937930.36	23415.16	15518408.69
BUXAR	689387.71	7593.18	3841579.87
ASANSOL	629624.32	4931.62	3397686.03
CHHATA	1370864.76	10571.02	7309544.47
DURGAPUR	1106734.50	10808.58	5811368.67
KURUKSHETRA	2556162.20	18076.59	12952281.63
KARNAL	3317086.05	13645.42	16053679.34

```sql
-- 10. Loan category wise
SELECT
  CASE
    WHEN loan_status = 'Active Loan' THEN 'Active'
    WHEN loan_status IN ('NPA', 'Write Off') THEN 'Default'
    WHEN loan_status IN (
      'Fully Paid', 'Paid Off', 'Cancelled',
      'Insurance Paid Off', 'Net-Off', 'Transferred'
    ) THEN 'Closed'
    ELSE 'Other'
  END AS loan_category,
  COUNT(DISTINCT client_id) AS client_count
FROM bank_loans_data
GROUP BY loan_category;
```

loan_category	client_count
Active	36351
Closed	25793
Default	615
Other	2776

Strength

- Data cleaning & transformation at source
- Scalable queries for large records
- Reusable calculations



DEBIT & CREDIT ANALYSIS DASHBOARD

Project Summary

We analyzed banking debit and credit transactions using Excel, Tableau, Power BI, and SQL to showcase how different tools can deliver insights from the same dataset.

The dashboard empowers stakeholders to:

- Compare banks and branches on transaction activity.
- Identify high-value customers and growth opportunities.
- Track transaction patterns for better financial planning.
- Support data-driven decision-making through clear, visual storytelling.

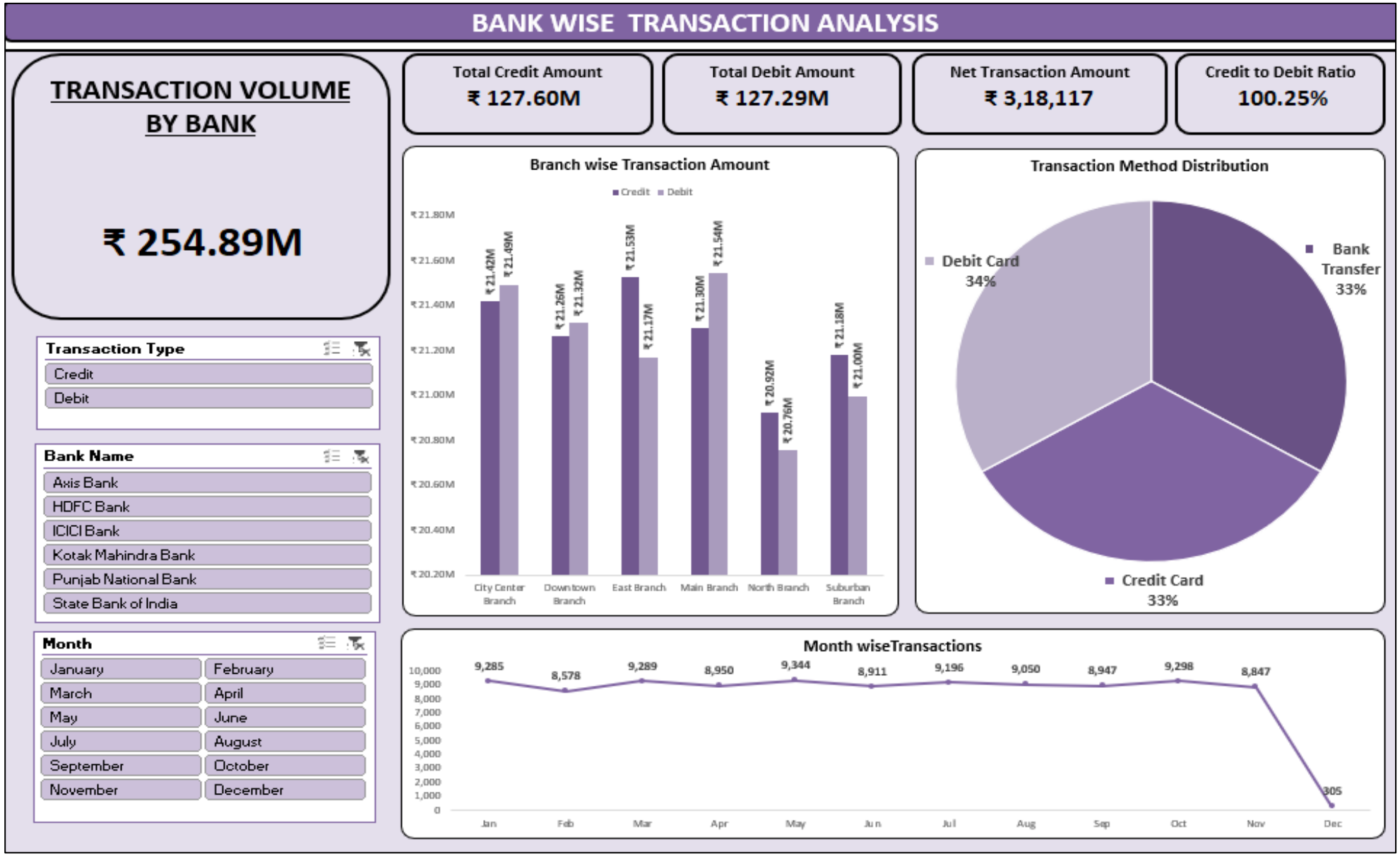
Impact:

By leveraging multiple tools, we demonstrated flexibility in analysis, validated results across platforms, and delivered actionable insights on bank performance, branch trends, and top customers.

KPIs Description:

- Total Credit Amount:
- Total Debit Amount:
- Credit to Debit Ratio:
- Net Transaction Amount:
- Account Activity Ratio:
- Transactions per Day/Week/Month:
- Total Transaction Amount by Branch:
- Transaction Volume by Bank:
- Transaction Method Distribution:
- Branch Transaction Growth:

DEBIT & CREDIT ANALYSIS DASHBOARD: MS Excel



Strength

- Quick prototyping with Pivot Tables & Charts
- Easy KPI validation
- Widely accessible

DEBIT & CREDIT ANALYSIS DASHBOARD: Tableau

BANK-WISE CREDIT & DEBIT ANALYSIS

Total Credit Amt.- All Banks	Total Debit Amt.- All Banks	Net Transaction- All Banks	Total Transactions- All Banks
₹ 127.60M	₹ 127.29M	₹ 318.12K	1,00,000

Credit-Debit Ratio- All Banks

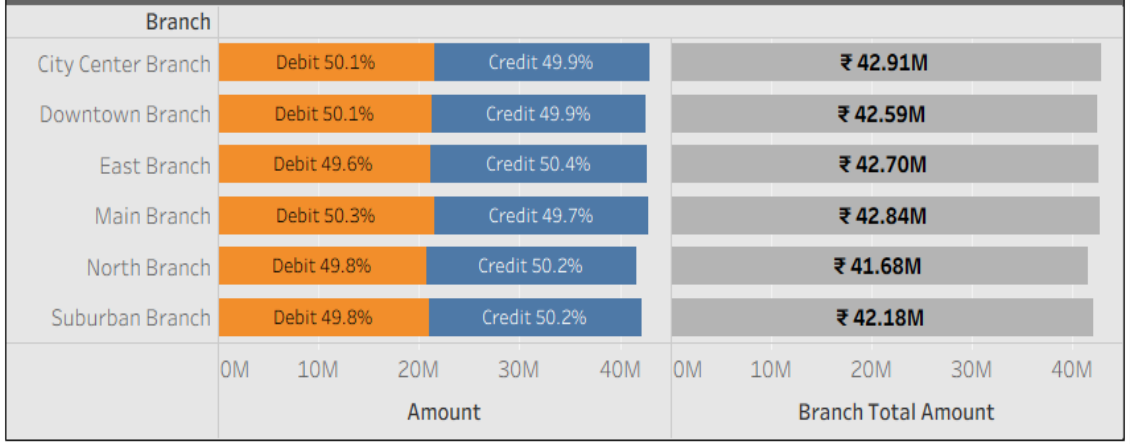
100.25%

Click to get Bank-wise Analysis

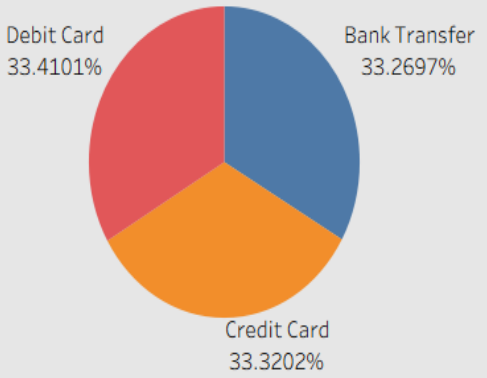
Bank selector

- Axis Bank
- HDFC Bank
- ICICI Bank
- Kotak Mahindra Bank
- Punjab National Bank
- State Bank of India
- All Banks

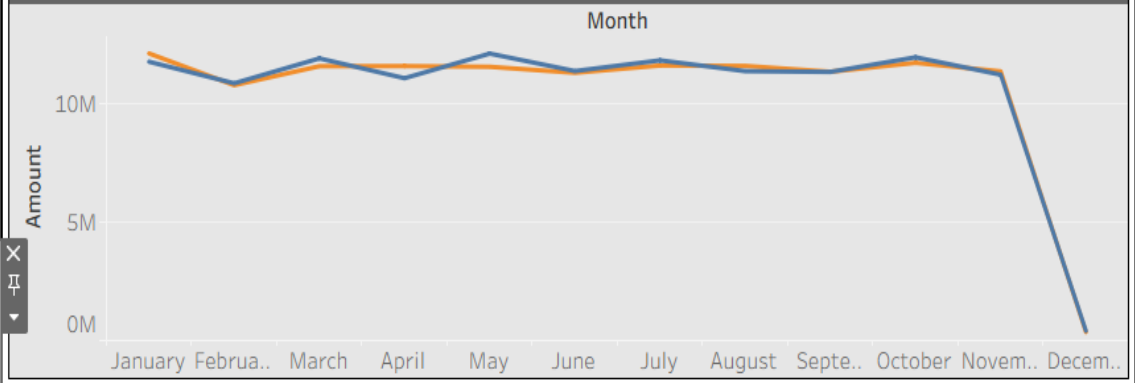
Branch Performance- All Banks



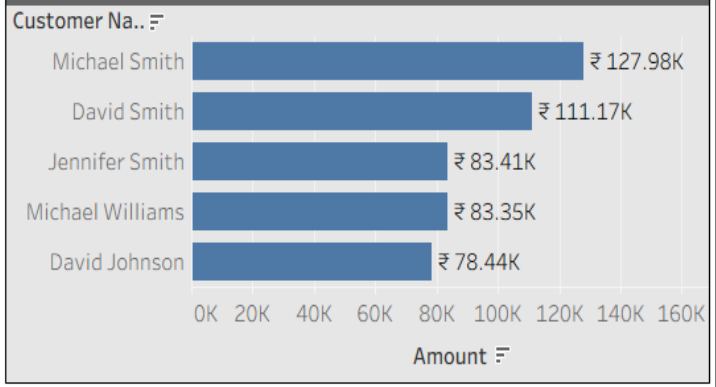
Transaction Method- All Banks



Monthly Credit vs Debit Trend- All Banks



Top 5 Customers- All Banks



Strength

- Highly interactive dashboards
- Powerful visuals (State parameter, YoY, trend lines)
- Excellent drill-down & storytelling

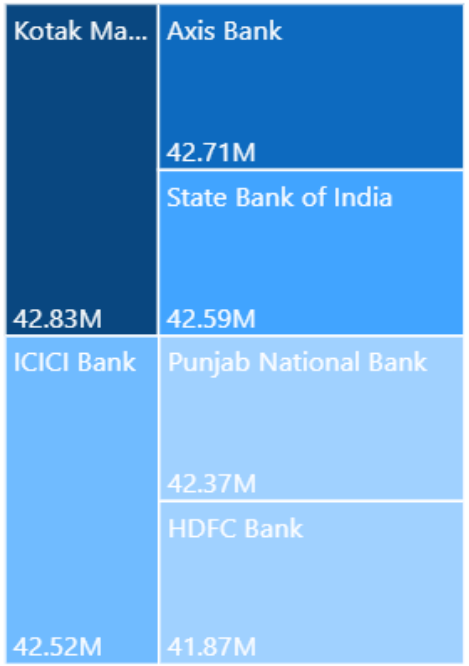
DEBIT & CREDIT ANALYSIS DASHBOARD: Power BI

TRANSACTION ANALYSIS: OVERVIEW

254.89M	127.60M	127.29M	318.12K	100.00%
Transaction Volume	Total credit	Total debit	Net Transaction	%GT Credit to Debit Ratio %

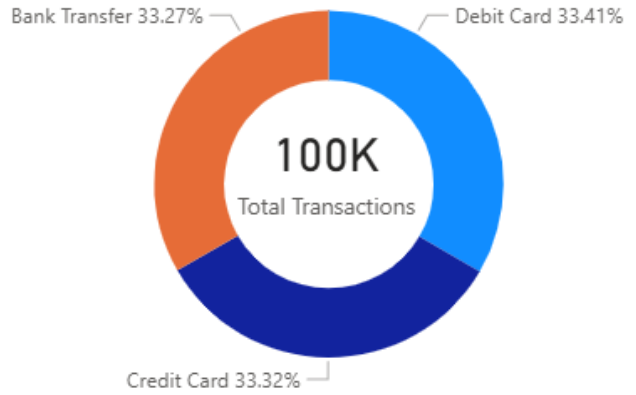
Contribution by Bank

Select Bank to get Bank Details

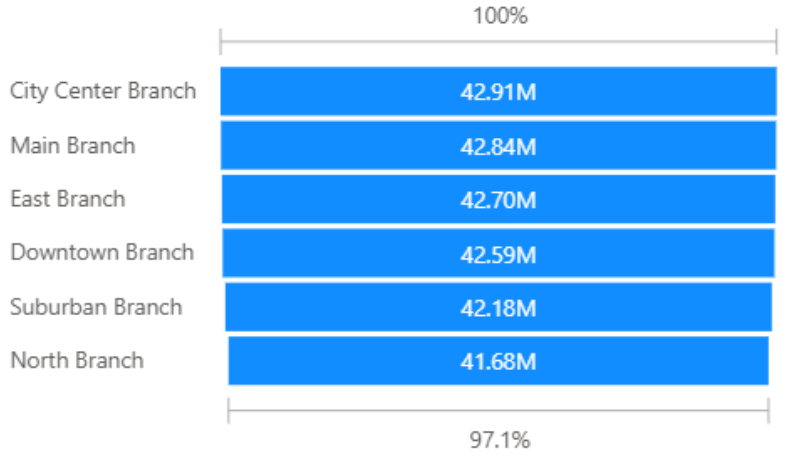


Get Bank Details

Distribution by Transaction Method



Sum of Amount by Branch



Total credit and Total debit by Month

Strength

- Strong DAX for custom measures
- Seamless with Microsoft ecosystem
- Good for enterprise sharing & reports

DEBIT & CREDIT ANALYSIS DASHBOARD: Power BI

Destination Page (Drill-Through)

TRANSACTION ANALYSIS: OVERVIEW

State Bank of India	21.43M	21.16M	260.82K	100.00%
First Bank Name	Total credit	Total debit	Net Transaction	%GT Credit to Debit Rati...

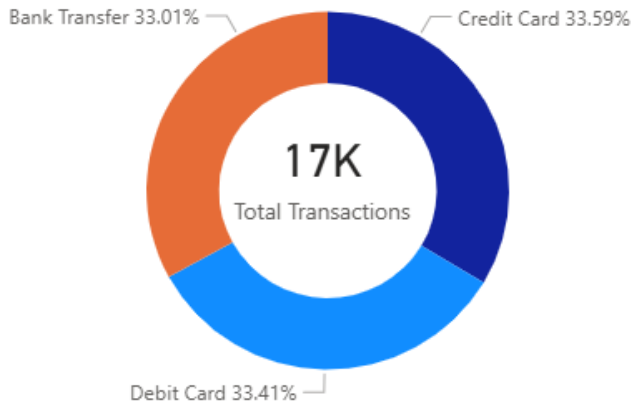
42.59M
Transaction Volume

Branch Name
Select to get Branch Data

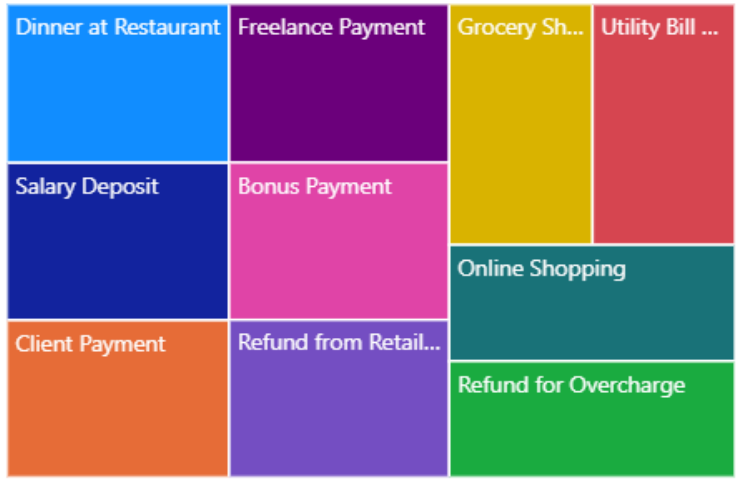
- Select all
- Downtown Branch
- City Center Branch
- East Branch
- North Branch
- Main Branch
- Suburban Branch

Overview | Bank Details

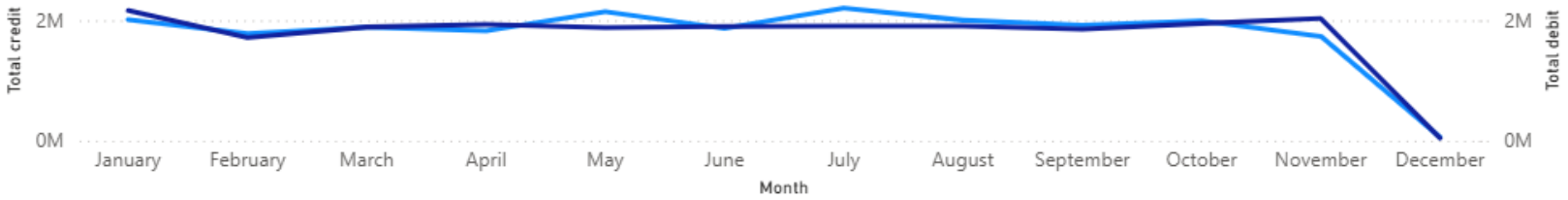
Distribution by Transaction Method



Sum of Amount by Description



Total credit and Total debit by Month



Strength

- Strong DAX for custom measures
- Seamless with Microsoft ecosystem
- Good for enterprise sharing & reports

DEBIT & CREDIT ANALYSIS QUERIES: MySQL

```sql
-- 1.Total Credit Amount
SELECT SUM(amount) AS total_credit_amount
FROM transactions
WHERE transaction_type = 'Credit';
```

total_credit_amount
127603386.41

```sql
-- 2. Total Debit Amount
SELECT SUM(amount) AS total_debit_amount
FROM transactions
WHERE transaction_type = 'Debit';
```

total_debit_amount
127285269.22

```sql
-- 3. credit debit ratio
SELECT
  ROUND(
    SUM(CASE WHEN transaction_type = 'Credit' THEN amount ELSE 0 END) /
    NULLIF(SUM(CASE WHEN transaction_type = 'Debit' THEN amount ELSE 0 END), 0),
    2
  ) AS credit_debit_ratio
FROM transactions;
```

credit_debit_ratio
1.00

```sql
-- 4.Net Transaction Amount (Credit - Debit)
SELECT
  SUM(CASE
        WHEN transaction_type = 'Credit' THEN amount
        WHEN transaction_type = 'Debit' THEN -amount
        ELSE 0
      END) AS net_transaction_amount
FROM transactions;
```

net_transaction_amount
318117.19

```sql
-- 5.Number of Credit and Debit Transactions
SELECT
  transaction_type,
  COUNT(*) AS total_transactions
FROM transactions
WHERE transaction_type IN ('Credit', 'Debit')
GROUP BY transaction_type;
```

transaction_type	total_transactions
Credit	50028
Debit	49972

```sql
-- 6. Credit and Debit by Branch
SELECT
  branch,
  transaction_type,
  SUM(amount) AS total_amount
FROM transactions
WHERE transaction_type IN ('Credit', 'Debit')
GROUP BY branch, transaction_type
ORDER BY branch;
```

branch	transaction_type	total_amount
City Center Branch	Credit	21418348.49
City Center Branch	Debit	21493121.30
Downtown Branch	Credit	21263152.26
Downtown Branch	Debit	21324063.93
East Branch	Credit	21526010.93
East Branch	Debit	21171100.24
Main Branch	Credit	21296707.07
Main Branch	Debit	21542743.34
North Branch	Credit	20920840.21
North Branch	Debit	20756291.51
Suburban Branch	Credit	21178327.45
Suburban Branch	Debit	20997948.90

```sql
-- 7. Credit and Debit Over Time (Monthly)
SELECT
  DATE_FORMAT(transaction_date, '%Y-%m') AS month,
  transaction_type,
  SUM(amount) AS total_amount
FROM transactions
WHERE transaction_type IN ('Credit', 'Debit')
GROUP BY month, transaction_type
ORDER BY month;
```

month	transaction_type	total_amount
2024-01	Credit	11803260.69
2024-01	Debit	12155110.86
2024-02	Credit	10890482.54
2024-02	Debit	10809602.78
2024-03	Credit	11945127.19
2024-03	Debit	11614080.73
2024-04	Credit	11106333.72
2024-04	Debit	11619623.18
2024-05	Credit	12148231.37
2024-05	Debit	11589368.51
2024-06	Credit	11409196.18
2024-06	Debit	11335137.08
2024-07	Credit	11862386.19
2024-07	Debit	11643555.57
2024-08	Credit	11404014.87
2024-08	Debit	11625767.46
2024-09	Credit	11372395.45
2024-09	Debit	11379403.95
2024-10	Credit	11992324.10
2024-10	Debit	11758043.90

DEBIT & CREDIT ANALYSIS QUERIES: MySQL

```sql
-- 8. Credit vs Debit by Bank
SELECT
  bank_name,
  transaction_type,
  SUM(amount) AS total_amount
FROM transactions
WHERE transaction_type IN ('Credit', 'Debit')
GROUP BY bank_name, transaction_type
ORDER BY bank_name;
```

bank_name	transaction_type	total_amount
Axis Bank	Credit	21424335.62
Axis Bank	Debit	21283096.85
HDFC Bank	Credit	20987844.96
HDFC Bank	Debit	20878594.05
ICICI Bank	Credit	21449472.56
ICICI Bank	Debit	21075315.61
Kotak Mahindra Bank	Credit	21581841.32
Kotak Mahindra Bank	Debit	21252013.87
Punjab National Bank	Credit	20734169.12
Punjab National Bank	Debit	21631343.60
State Bank of India	Credit	21425722.83
State Bank of India	Debit	21164905.24

```sql
-- 10. Average Transaction Amount by Type
SELECT
  transaction_type,
  ROUND(AVG(amount), 2) AS avg_transaction_amount
FROM transactions
WHERE transaction_type IN ('Credit', 'Debit')
GROUP BY transaction_type;
```

transaction_type	avg_transaction_amount
Credit	2550.64
Debit	2547.13

Strength

- Data cleaning & transformation at source
- Scalable queries for large records
- Reusable calculations

KEY TAKEAWAYS:

SOFTWARE AWARENESS

Tool	Strengths in Project	Best Use Case
Excel	➞ Quick prototyping with Pivot Tables & Charts ➞ Easy KPI validation ➞ Widely accessible	Initial analysis, quick summaries, validating KPIs
Tableau	➞ Highly interactive dashboards ➞ Powerful visuals (State parameter, YoY, trend lines) ➞ Excellent drill-down & storytelling	Executive dashboards, interactive exploration
Power BI	➞ Strong DAX for custom measures ➞ Seamless with Microsoft ecosystem ➞ Good for enterprise sharing & reports	Business reporting, integration with corporate systems
SQL	➞ Data cleaning & transformation at source ➞ Scalable queries for large records ➞ Reusable calculations	Preparing datasets, validating results, backend logic

DOMAIN AWARENESS

Key Takeaways from the Project

➞ Gained domain knowledge of banking operations (funding, collections, defaults)

➞ Improved dataset understanding by working with 54 attributes across demographics, loan details, and repayment

➞ Learned to validate KPIs across multiple tools for consistency

➞ Explored the strengths of different BI platforms (Excel, Tableau, Power BI, SQL)

➞ Developed an end-to-end analytical workflow: SQL → Excel → Tableau & Power BI

➞ Delivered actionable insights on loan performance, borrower trends, and portfolio health

THANK YOU