



PROJECT

BANK LOAN ANALYSIS



MySQL

IMPORT DATA

Excel csv File



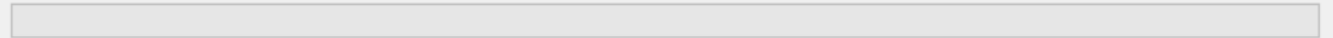
Table Data Import

Import Data

The following tasks will now be performed. Please monitor the execution.

- ☒ Prepare Import
- ☐ Import data file

Data import



Message Log

- Data import
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Hide Logs



MySQL

WRITING QUERIES

```
1 • SELECT
2     loan_status,
3     COUNT(ID) AS Loan_Count,
4     SUM(total_payment) AS Total_Amount_Received,
5     SUM(loan_amount) AS Total_Funded_Amount,
6     AVG(Int_rate * 100) AS Interest_Rate,
7     AVG(DTI * 100) AS DTI
8 FROM bank_loan_data
9 GROUP BY loan_status ;
```

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

	loan_status	Loan_Count	Total_Amount_Received	Total_Funded_Amount	Interest_Rate	DTI
▶	Charged Off	5333	37284763	65532225	13.878574910931917	14.004732795799695
	Fully Paid	32145	411586256	351358350	11.641070773058658	13.167350754394164
	Current	1098	24199914	18866500	15.0993260473588	14.724344262295068



Result
Grid

FIRING SQL QUERIES TO SOLVE THE BUSINESS PROBLEMS

COMPARING RESULTS WITH POWER BI and EXCEL

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Result
Grid

BANK LOAN ANALYSIS

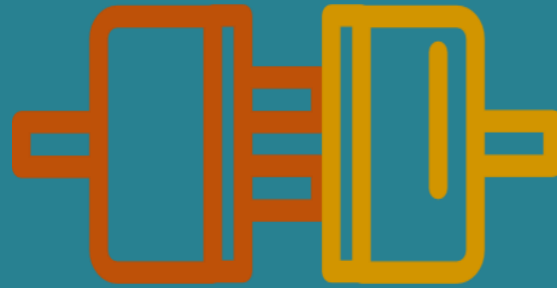
PART 2

POWER BI



POWER BI

IMPORT DATA





BANK LOAN REPORT | SUMMARY



SUMMARY



OVERVIEW



DETAILS

State

All

Grade

All

Purpose

All

Total Loan Application



38.6K

MTD

4.3K

MoM

6.9%

Total Funded Amount

\$435.8M

MTD

\$54.0M

MoM

13.0%

Total Amount Received

\$473.1M

MTD

58.1M

MoM

15.8%

Avg Interest Rate

12.0%

MTD

12.4%

MoM

3.5%

Average DTI

13.3%

MTD

13.7%

MoM

2.7%



Good Loan Application

33K

Good Loan Funded Amount

\$370.2M

Good Loan Received Amount

\$435.8M



Bad Loan Application

5.3K

Bad Loan Funded Amount

\$65.5M

Bad Loan Received Amount

\$37.3M

LOAN STATUS

loan_status	Total Loan Applicatin	Total Funded Amount	Total Amount Received	MTD Funded Amount	MTD Total Amount Received	Avg Intrest Rate	Avg DTI
Fully Paid	32145	\$351,358,350 ▲	\$411,586,256	\$41,302,025 ▲	47815851	11.64%	13.17%
Charged Off	5333	\$65,532,225 ▼	\$37,284,763	\$8,732,775 ▼	5324211	13.88%	14.00%
Current	1098	\$18,866,500 ▼	\$24,199,914	\$3,946,625 ▼	4934318	15.10%	14.72%



BANK LOAN REPORT | OVERVIEW



SUMMARY



OVERVIEW



DETAILS

Select Measure

Total Loan Applic...

State

All

Grade

All

Good v Bad Loan

All

Total Loan Application



38.6K

MTD

4.3K

MoM

6.9%

Total Funded Amount

\$435.8M

MTD

\$54.0M

MoM

13.0%

Total Amount Received

\$473.1M

MTD

58.1M

MoM

15.8%

Avg Interest Rate

12.0%

MTD

12.4%

MoM

3.5%

Avg DTI

13.3%

MTD

13.7%

MoM

2.7%

Total Loan Application by Month

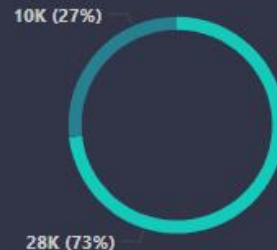


Total Amount Received by State

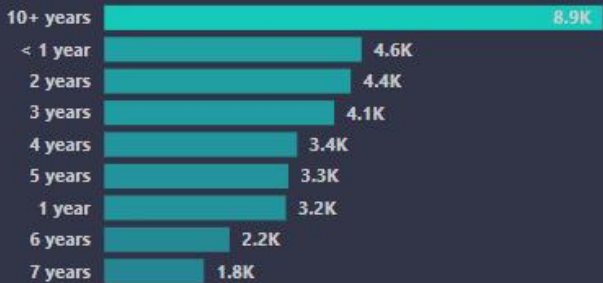


Total Loan Application by term

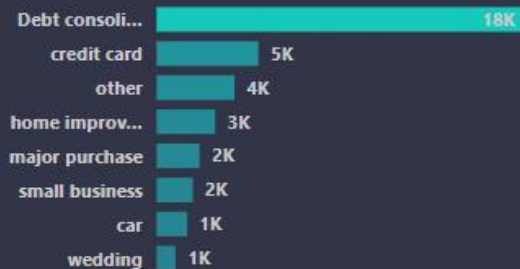
36 months 60 months



Total Loan Application by Employee Length



Total Loan Application by purpose



Total Loan Application by Home Ownership





BANK LOAN REPORT | DETAILS



Total Loan Application

**38.6K**

MTD

4.3K

MoM

6.9%

Total Funded Amount

\$435.8M

MTD

\$54.0M

MoM

13.0%

Total Amount Received

\$473.1M

MTD

58.1M

MoM

15.8%

Avg Interest Rate

12.0%

MTD

12.4%

MoM

3.5%

Avg DTI

13.3%

MTD

13.7%

MoM

2.7%



SUMMARY



OVERVIEW



DETAILS

Select Measure

Total Loan Applic... ▾

State

All ▾

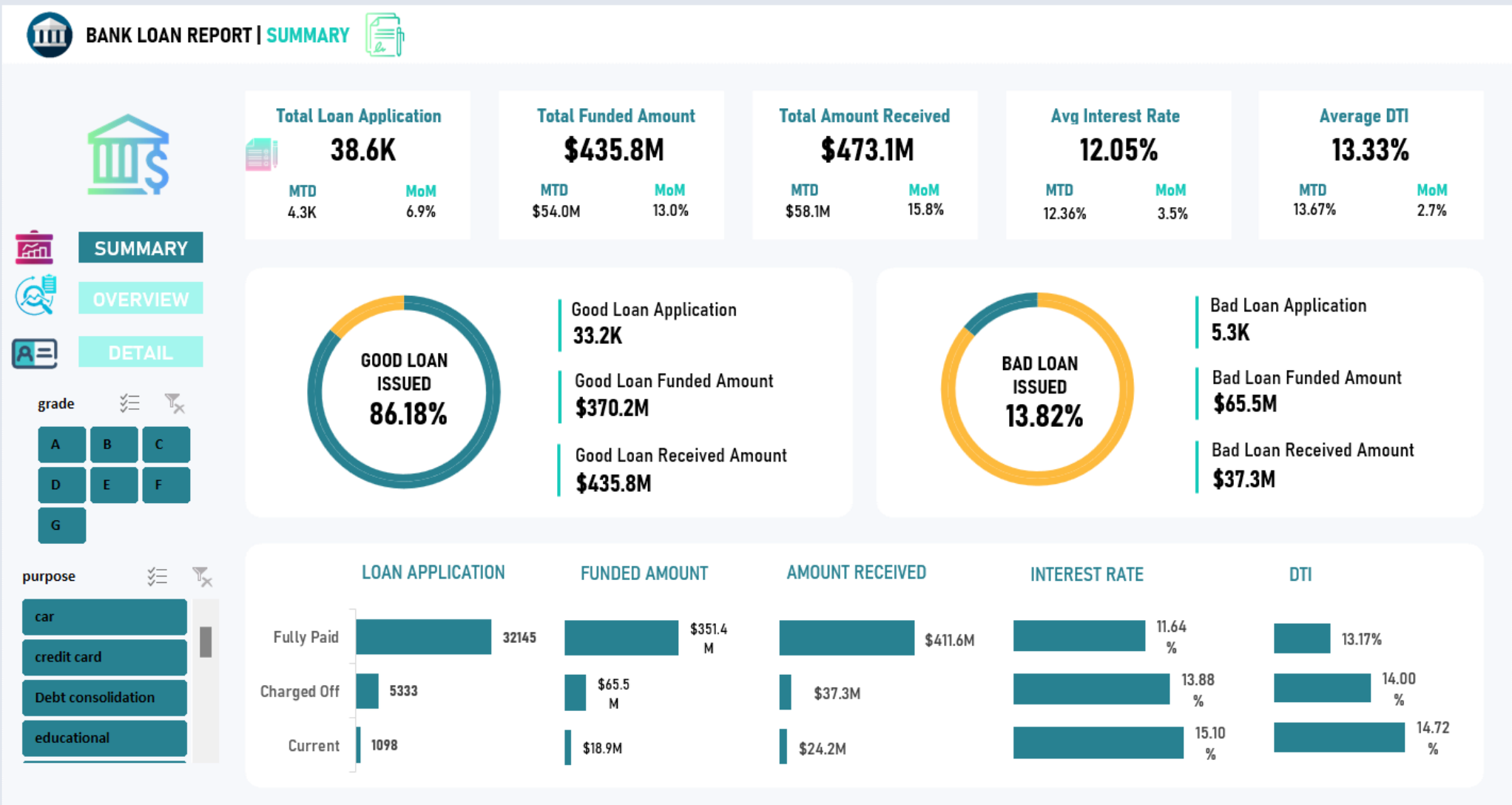
Grade

All ▾

Good v Bad Loan

All ▾

id	Purpose	Home Ownership	Grade	Sub Grade	Issue Date	Total Funded Amount	int_rate	Sum of installment	Total Amount Received
989285	Debt consolidation	RENT	G	G1	2021-10-11	\$35,000	0.23	981.45	▲ \$58,564
812976	Debt consolidation	MORTGAGE	G	G2	2021-08-11	\$35,000	0.22	976.24	▲ \$58,480
972576	credit card	MORTGAGE	F	F5	2021-10-11	\$35,000	0.22	973.64	▲ \$57,835
874599	Debt consolidation	MORTGAGE	G	G3	2021-09-11	\$35,000	0.23	983.66	▲ \$56,849
768930	small business	MORTGAGE	F	F3	2021-06-11	\$35,000	0.21	946.68	▲ \$56,663
674448	Debt consolidation	MORTGAGE	G	G2	2021-02-11	\$35,000	0.20	936.66	▲ \$56,199
914211	Debt consolidation	MORTGAGE	F	F1	2021-10-11	\$35,000	0.21	944.71	▲ \$55,907
772157	small business	RENT	G	G1	2021-06-11	\$35,000	0.22	968.86	▲ \$55,769
1057770	Debt consolidation	MORTGAGE	E	E5	2021-12-11	\$35,000	0.20	933.14	▲ \$55,139
833224	Debt consolidation	MORTGAGE	F	F2	2021-08-11	\$35,000	0.21	939.41	▲ \$55,106
698163	home improvement	MORTGAGE	G	G2	2021-03-11	\$35,000	0.20	936.66	▲ \$54,774





BANK LOAN REPORT | OVERVIEW



SUMMARY



OVERVIEW



DETAIL

grade

A	B	C
D	E	F
G		

purpose

car
credit card
Debt consolidation
educational

Total Loan Application



38.6K

MTD

4.3K

MoM

6.9%

Total Funded Amount

\$435.8M

MTD

\$54.0M

MoM

13.0%

Total Amount Received

\$473.1M

MTD

\$58.1M

MoM

15.8%

Avg Interest Rate

12.05%

MTD

12.36%

MoM

3.5%

Average DTI

13.33%

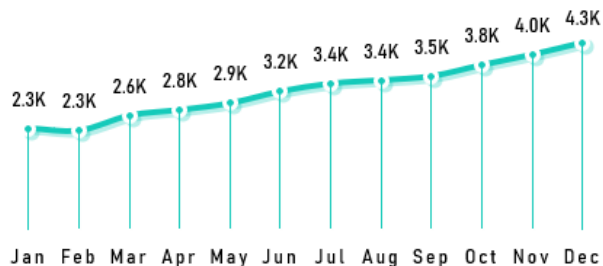
MTD

13.67%

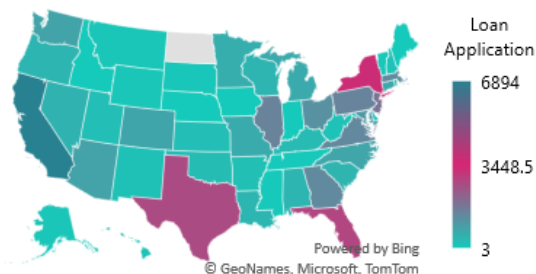
MoM

2.7%

Total Loan Application by Month



Total Loan Application by State

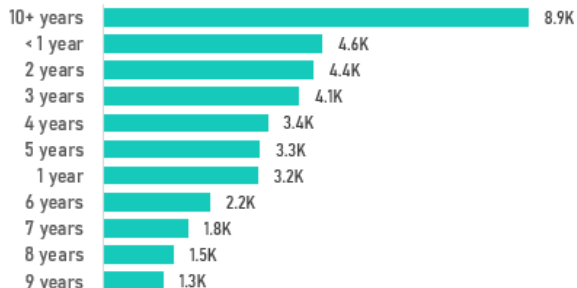


Total Loan Application by Term

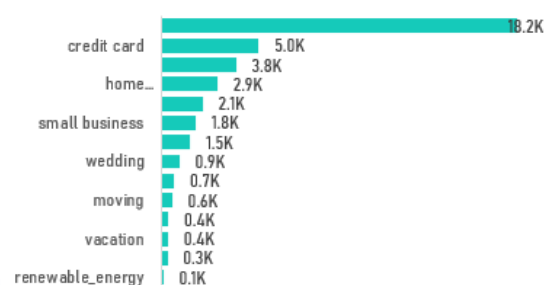
36 months 60 months



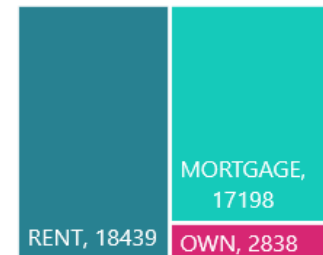
Total Loan Application by Emp Lenght



Total Loan Application by Purpose



Total Loan Application by Home Ownership



PROBLEM STATEMENT

DASHBOARD 1: SUMMARY

Key Performance Indicators (KPIs) Requirements:

- 1. Total Loan Applications:** We need to calculate the total number of loan applications received during a specified period. Additionally, it is essential to monitor the Month-to-Date (MTD) Loan Applications and track changes Month-over-Month (MoM).
- 2. Total Funded Amount:** Understanding the total amount of funds disbursed as loans is crucial. We also want to keep an eye on the MTD Total Funded Amount and analyse the Month-over-Month (MoM) changes in this metric.
- 3. Total Amount Received:** Tracking the total amount received from borrowers is essential for assessing the bank's cash flow and loan repayment. We should analyse the Month-to-Date (MTD) Total Amount Received and observe the Month-over-Month (MoM) changes.
- 4. Average Interest Rate:** Calculating the average interest rate across all loans, MTD, and monitoring the Month-over-Month (MoM) variations in interest rates will provide insights into our lending portfolio's overall cost.
- 5. Average Debt-to-Income Ratio (DTI):** Evaluating the average DTI for our borrowers helps us gauge their financial health. We need to compute the average DTI for all loans, MTD, and track Month-over-Month (MoM) fluctuations.

PROBLEM STATEMENT

DASHBOARD 1: SUMMARY

Good Loan v Bad Loan KPI's

Good Loan:

1. Good Loan Application Percentage
2. Good Loan Applications
3. Good Loan Funded Amount
4. Good Loan Total Received Amount

Bad Loan

1. Bad Loan Application Percentage
2. Bad Loan Applications
3. Bad Loan Funded Amount
4. Bad Loan Total Received Amount

Loan Status Grid View

In order to gain a comprehensive overview of our lending operations and monitor the performance of loans, we aim to create a grid view report categorized by 'Loan Status.' By providing insights into metrics such as 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received,' 'Month-to-Date (MTD) Funded Amount,' 'MTD Amount Received,' 'Average Interest Rate,' and 'Average Debt-to-Income Ratio (DTI),' this grid view will empower us to make data-driven decisions and assess the health of our loan portfolio.

PROBLEM STATEMENT

DASHBOARD 2: OVERVIEW

CHARTS

1. **Monthly Trends by Issue Date (Line Chart):** To identify seasonality and long-term trends in lending activities
2. **Regional Analysis by State (Filled Map):** To identify regions with significant lending activity and assess regional disparities
3. **Loan Term Analysis (Donut Chart):** To allow the client to understand the distribution of loans across various term lengths.
4. **Employee Length Analysis (Bar Chart):** How lending metrics are distributed among borrowers with different employment lengths, helping us assess the impact of employment history on loan applications.
5. **Loan Purpose Breakdown (Bar Chart):** Will provide a visual breakdown of loan metrics based on the stated purposes of loans, aiding in the understanding of the primary reasons borrowers seek financing.
6. **Home Ownership Analysis (Tree Map):** For a hierarchical view of how home ownership impacts loan applications and disbursements.

Metrics to be shown: 'Total Loan Applications,' 'Total Funded Amount,' and 'Total Amount Received'

PROBLEM STATEMENT

DASHBOARD 3: DETAILS

GRID

Need for a comprehensive 'Details Dashboard' that provides a consolidated view of all the essential information within our loan data. This Details Dashboard aims to offer a holistic snapshot of key loan-related metrics and data points, enabling users to access critical information efficiently.

FUNCTIONALITIES YOU WILL LEARN

MySQL

- ✓ Creating Database
- ✓ Creating Table
- ✓ Select
- ✓ Datename
- ✓ Datepart
- ✓ Cast
- ✓ Decimal
- ✓ Month
- ✓ Hour
- ✓ Quarter
- ✓ Day
- ✓ Group by
- ✓ Order by
- ✓ Decimal
- ✓ Limit
- ✓ Count
- ✓ Distinct
- ✓ CTE
- ✓ Partition

POWER BI

- ✓ Import Data Excel csv file
- ✓ Data Cleaning
- ✓ Data Modelling
- ✓ Data Processing
- ✓ Power Query
- ✓ Date Tables
- ✓ Time Intelligence Func
- ✓ DAX
- ✓ Date Function
- ✓ Text Function
- ✓ Filter Function
- ✓ Calculate
- ✓ SUM/ SUMX
- ✓ Creating KPI's
- ✓ New Card Visual
- ✓ Creating Charts
- ✓ Formatting visuals
- ✓ Creating Functions
- ✓ Navigations

SOFTWARE USED

MS EXCEL

MySQL

POWER BI

POWER QUERY