



Data Analytics Project (Bank Loan)

Problem Statement:

- 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
 - o Total Loan Applications
 - o Total Funded Amount
 - o Total Amount Received
 - o Month-to-Date (MTD) Funded Amount
 - o MTD Amount Received
 - o Average Interest Rate
 - o Average Debt-to-Income Ratio (DTI)
- **This Analytics Report will empower us to make data-driven decisions and assess the health of our loan portfolio.**

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.

Good Loans:

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

Bad Loans:

5. Bad Loan Application Percentage
6. Bad Loan Applications
7. Bad Loan Funded Amount
8. Bad Loan Total Received Amount

Chart's Requirement:

1. Monthly Trends by Issue Date (Line Chart):

To identify seasonality and long-term trends in lending activities

2. Regional Analysis by State :

To identify regions with significant lending activity and assess regional disparities

3. Loan Term Analysis :

To allow the client to understand the distribution of loans across various term lengths.

4. Employee Length Analysis:

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:

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 :

For a hierarchical view of how home ownership impacts loan applications and disbursements.

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