**SOFTWARE USED**

**MS OFFICE/EXCEL: VERSION 2021**

**MS SQL SERVER: 19.0**

**SQL SERVER MANAGEMENT STUDIO - 19.0.20209.0**

**POWER BI: JUNE 2023 Version**

**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.

**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.

**Objective:**

The primary objective of the Details Dashboard is to provide a comprehensive and user-friendly interface for accessing vital loan data. It will serve as a one-stop solution for users seeking detailed insights into our loan portfolio, borrower profiles, and loan performance.