**BANK LOAN REPORT**

PROBLEM STATEMENT

The main goal of this project is to perform an end-to-end data analysis of bank loan data within the finance domain. The analysis aims to provide valuable insights into lending activities and loan performance.

**Business Requirements (BRD)**

This document outlines the business requirements for a data analysis project focused on bank loan data. The goal is to provide key insights into lending activities, loan performance, and borrower behavior. The analysis will be driven by specific Key Performance Indicators (KPIs) and data visualizations.

**Key Performance Indicators (KPIs)**

The following KPIs are required for this project to effectively measure and monitor the lending portfolio's performance:

**General Loan Metrics**

* **Total Loan Applications:** We need to calculate the total number of applications received over a specified period. It is also essential to track the Month-to-Date (MTD) Loan Applications.
* **Total Funded Amount:** The total amount of funds disbursed as loans is a crucial metric, and we also need to monitor the MTD total.
* **Total Amount Received:** We will track the total amount received from borrowers to assess cash flow and repayment, as well as the MTD total.
* **Average Interest Rate:** Calculating the average interest rate provides insights into the overall cost of the lending portfolio.
* **Average Debt-to-Income Ratio (DTI):** We will evaluate the average DTI for borrowers to gauge their financial health.

**Good Loan vs. Bad Loan KPIs**

The project also requires a set of KPIs to differentiate between good and bad loans.

* **Good Loan:**
* **Good Loan Application Percentage**
* **Good Loan Applications**
* **Good Loan Funded Amount**
* **Good Loan Total Received Amount**
* **Bad Loan:**
* **Bad Loan Application Percentage**
* **Bad Loan Applications**
* **Bad Loan Funded Amount**
* **Bad Loan Total Received Amount**

**Charts and Visualizations**

The following charts are required to visualize the data and provide a comprehensive overview of the lending portfolio. All charts should display the

Total Loan Applications, Total Funded Amount, and Total Amount Received.

* **Monthly Trends (Line/Area Chart):** To identify seasonality and long-term trends in lending activities.
* **Regional Analysis by State (Bar Chart):** To identify regions with significant lending activity and assess regional disparities.
* **Loan Term Analysis (Donut Chart):** To help the client understand the distribution of loans across various term lengths.
* **Employee Length Analysis (Bar Chart):** To show how lending metrics are distributed among borrowers with different employment lengths.
* **Loan Purpose Breakdown (Bar Chart**)**:** To provide a visual breakdown of loan metrics based on the stated purposes of the loans.
* **Home Ownership Analysis (Treemap/Heatmap):** To provide a hierarchical view of how home ownership impacts loan applications and disbursements.