**BANK LOAN REPORT**

**PROBLEM STATEMENT**

**DASHBOARD 1: SUMMARY**  
To effectively monitor and evaluate the bank's lending activities and performance, we need to develop a comprehensive Bank Loan Report. This report should provide valuable insights into key loan-related metrics and track changes over time. By doing so, it will support data-driven decision-making, help monitor the health of our loan portfolio, and identify trends that can inform our lending strategies.

**Key Performance Indicators (KPIs) Requirements:**

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

**Good Loan vs. Bad Loan KPIs**  
To assess the quality of our loan portfolio and evaluate the performance of our lending activities, we need a report that differentiates between 'Good Loans' and 'Bad Loans' based on specific loan status criteria.

**Good Loan KPIs:**

1. **Good Loan Application Percentage**: We need to calculate the percentage of loan applications classified as 'Good Loans,' which includes loans with a status of 'Fully Paid' and 'Current.'
2. **Good Loan Applications**: Identify the total number of loan applications categorized as 'Good Loans,' including those with a status of 'Fully Paid' and 'Current.'
3. **Good Loan Funded Amount**: Calculate the total amount of funds disbursed for 'Good Loans,' encompassing the principal amounts of loans with a status of 'Fully Paid' and 'Current.'
4. **Good Loan Total Received Amount**: Track the total amount received from borrowers for 'Good Loans,' which includes all payments on loans with a status of 'Fully Paid' and 'Current.'

**Bad Loan KPIs:**

1. **Bad Loan Application Percentage**: Calculate the percentage of loan applications categorized as 'Bad Loans,' which specifically includes loans with a status of 'Charged Off.'
2. **Bad Loan Applications**: Identify the total number of loan applications categorized as 'Bad Loans,' specifically those with a 'Charged Off' status.
3. **Bad Loan Funded Amount**: Determine the total amount of funds disbursed for 'Bad Loans,' which includes the principal amounts of loans with a 'Charged Off' status.
4. **Bad Loan Total Received Amount**: Track the total amount received from borrowers for 'Bad Loans,' which includes all payments made on loans with a 'Charged Off' status.

**Loan Status Grid View**  
To gain a thorough overview of our lending operations and track the performance of loans, we aim to create a grid view report categorized by 'Loan Status.' This report will offer a detailed analysis of key indicators linked to different loan statuses, such as:

* Total Loan Applications
* Total Funded Amount
* Total Amount Received
* MTD Funded Amount
* MTD Amount Received
* Average Interest Rate
* Average Debt-to-Income Ratio (DTI)

This grid view will enable data-driven decisions and provide a clear snapshot of our loan portfolio’s health.

**DASHBOARD 2: OVERVIEW**  
For our Bank Loan Report project, we intend to visually represent key loan-related metrics and trends through various chart types. These charts will offer a clear and insightful view of our lending operations, supporting data-driven decisions and providing valuable insights into various loan parameters. Below are the specific chart requirements:

1. **Monthly Trends by Issue Date (Line Chart):**
   * **Chart Type**: Line Chart
   * **Metrics**: Total Loan Applications, Total Funded Amount, Total Amount Received
   * **X-Axis**: Month (based on Issue Date)
   * **Y-Axis**: Values of the metrics
   * **Objective**: This chart will showcase how the Total Loan Applications, Total Funded Amount, and Total Amount Received fluctuate over time, allowing us to detect seasonality and longer-term trends in lending activities.
2. **Regional Analysis by State (Filled Map):**
   * **Chart Type**: Filled Map
   * **Metrics**: Total Loan Applications, Total Funded Amount, Total Amount Received
   * **Geographic Regions**: States
   * **Objective**: The filled map will provide a visual representation of lending metrics by state, highlighting areas with high lending activity and identifying regional disparities.
3. **Loan Term Analysis (Donut Chart):**
   * **Chart Type**: Donut Chart
   * **Metrics**: Total Loan Applications, Total Funded Amount, Total Amount Received
   * **Segments**: Loan Terms (e.g., 36 months, 60 months)
   * **Objective**: This donut chart will display the distribution of loan metrics based on different loan terms, helping us understand the allocation of loans by term length.
4. **Employee Length Analysis (Bar Chart):**
   * **Chart Type**: Bar Chart
   * **Metrics**: Total Loan Applications, Total Funded Amount, Total Amount Received
   * **X-Axis**: Employee Length Categories (e.g., 1 year, 5 years, 10+ years)
   * **Y-Axis**: Values of the metrics
   * **Objective**: This bar chart will show how lending metrics are distributed among borrowers based on their employment length, providing insights into the impact of employment history on loan applications.
5. **Loan Purpose Breakdown (Bar Chart):**
   * **Chart Type**: Bar Chart
   * **Metrics**: Total Loan Applications, Total Funded Amount, Total Amount Received
   * **X-Axis**: Loan Purpose Categories (e.g., debt consolidation, credit card refinancing)
   * **Y-Axis**: Values of the metrics
   * **Objective**: This bar chart will break down loan metrics by loan purpose, helping us understand the primary reasons borrowers seek loans.
6. **Home Ownership Analysis (Tree Map):**
   * **Chart Type**: Tree Map
   * **Metrics**: Total Loan Applications, Total Funded Amount, Total Amount Received
   * **Hierarchy**: Home Ownership Categories (e.g., own, rent, mortgage)
   * **Objective**: This tree map will categorize loan metrics by home ownership status, providing a hierarchical view of how home ownership influences loan applications and disbursements.

These diverse chart types will improve our ability to visually communicate insights and make strategic decisions based on loan data.

**DASHBOARD 3: DETAILS**  
The Bank Loan Report project also requires a **'Details Dashboard'** that consolidates all critical loan-related data in one accessible location. This dashboard will provide a comprehensive view of key loan metrics, borrower profiles, and loan performance, helping users access essential information efficiently.

**Objective**:  
The primary goal of the Details Dashboard is to create an intuitive, user-friendly interface where stakeholders can easily access detailed insights into the loan portfolio, borrower demographics, and loan performance. This dashboard will serve as a one-stop hub for evaluating the full scope of our lending activities.