**PROBLEM STATEMENT**

**DASHBOARD 1: SUMMARY**  
To monitor and assess our bank's lending performance, we need a comprehensive Bank Loan Report. This report will offer insights into key loan metrics and their trends, supporting data-driven decisions, tracking portfolio health, and guiding lending strategies.

**Key Performance Indicators (KPIs):**

1. **Total Loan Applications**: Track the total loan applications received in a period, Month-to-Date (MTD) applications, and Month-over-Month (MoM) changes.
2. **Total Funded Amount**: Measure the total funds disbursed, with attention to MTD and MoM changes.
3. **Total Amount Received**: Track borrower payments, MTD received amounts, and MoM changes.
4. **Average Interest Rate**: Calculate the average interest rate for all loans, MTD, and track MoM variations.
5. **Average Debt-to-Income Ratio (DTI)**: Evaluate the average DTI for borrowers, MTD, and MoM fluctuations.

**Good Loan vs. Bad Loan KPIs**  
To assess loan portfolio quality, we need to distinguish between 'Good Loans' (Fully Paid and Current status) and 'Bad Loans' (Charged Off status).

**Good Loan KPIs:**

1. **Good Loan Application Percentage**: Percentage of loans classified as 'Good Loans.'
2. **Good Loan Applications**: Total 'Good Loans' applications (Fully Paid and Current).
3. **Good Loan Funded Amount**: Total funds disbursed for 'Good Loans.'
4. **Good Loan Total Received Amount**: Total payments received for 'Good Loans.'

**Bad Loan KPIs:**

1. **Bad Loan Application Percentage**: Percentage of loans categorized as 'Bad Loans.'
2. **Bad Loan Applications**: Total 'Bad Loans' applications (Charged Off).
3. **Bad Loan Funded Amount**: Total funds disbursed for 'Bad Loans.'
4. **Bad Loan Total Received Amount**: Total payments received for 'Bad Loans.'

**Loan Status Grid View**  
To track loan performance, we'll create a report categorized by 'Loan Status' with key metrics like 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received,' and 'Average Interest Rate.' This grid will offer a comprehensive view of lending operations.

**DASHBOARD 2: OVERVIEW**  
We will represent key loan metrics visually with charts to assist data-driven decision-making.

1. **Monthly Trends by Issue Date (Line Chart):**
   * **Metrics**: 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received'
   * **Objective**: Visualize trends over time to identify seasonality and long-term lending patterns.
2. **Regional Analysis by State (Filled Map):**
   * **Metrics**: 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received'
   * **Objective**: Highlight regional lending disparities.
3. **Loan Term Analysis (Donut Chart):**
   * **Metrics**: 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received'
   * **Objective**: Show loan distribution by term lengths.
4. **Employee Length Analysis (Bar Chart):**
   * **Metrics**: 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received'
   * **Objective**: Assess lending impact based on borrower employment length.
5. **Loan Purpose Breakdown (Bar Chart):**
   * **Metrics**: 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received'
   * **Objective**: Breakdown of loan purposes, e.g., debt consolidation.
6. **Home Ownership Analysis (Tree Map):**
   * **Metrics**: 'Total Loan Applications,' 'Total Funded Amount,' 'Total Amount Received'
   * **Objective**: Visualize loan metrics by home ownership status.

These charts will provide insights into various aspects of our lending operations, guiding strategic decisions.