**BANK LOAN REPORT**

**PROBLEM STATEMENT**

**DASHBOARD 1: SUMMARY**

"In order to monitor and assess our bank's lending activities and performance, we need to create a comprehensive Bank Loan Report. This report aims to provide insights into key loan-related metrics and their changes over time. The report will help us make data-driven decisions, track our loan portfolio's health, 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 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.

***Terminologies:***

* ***Month-to-Date (MTD):*** *It is a period starting at the beginning of the current calendar month and ending on either the current date or the last business day before the current date.*
* ***Month-over-month (MoM)*** *growth shows the change in the value of a specific metric as a percentage of the previous month's value.*
* *Your* ***Debt-to-income ratio (DTI)*** *is all your monthly debt payments divided by your gross monthly income. This number is one way lenders measure your ability to manage the monthly payments to repay the money you plan to borrow. Different loan products and lenders will have different DTI limits.*

**Good Loan v Bad Loan KPIs:**

In order to evaluate the performance of our lending activities and assess the quality of our loan portfolio, we need to create a comprehensive report that distinguishes 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.' This category includes loans with a loan status of 'Fully Paid' and 'Current.'

**2. Good Loan Applications:** Identifying the total number of loan applications falling under the 'Good Loan' category, which consists of loans with a loan status of 'Fully Paid' and 'Current.'

**3. Good Loan Funded Amount:** Determining the total amount of funds disbursed as 'Good Loans.' This includes the principal amounts of loans with a loan status of 'Fully Paid' and 'Current.'

**4. Good Loan Total Received Amount:** Tracking the total amount received from borrowers for 'Good Loans,' which encompasses all payments made on loans with a loan status of 'Fully Paid' and 'Current.'

***Terminologies:***

* *In the context of loans,* ***"Current"*** *is a* ***loan status*** *that indicates that the borrower is making regular and timely payments according to the terms of the loan agreement. Essentially, it means that the borrower is up to date on all required payments, and the loan is in good standing.*
* *When a loan is labelled as "Current," it reflects a positive status, indicating that the borrower is meeting their financial obligations. The borrower has not fallen behind on payments, and there are no issues or concerns regarding the repayment of the loan.*

**Bad Loan KPIs:**

**1. Bad Loan Application Percentage:** Calculating the percentage of loan applications categorized as 'Bad Loans.' This category specifically includes loans with a loan status of 'Charged Off.'

**2. Bad Loan Applications:** Identifying the total number of loan applications categorized as 'Bad Loans,' which consists of loans with a loan status of 'Charged Off.'

**3. Bad Loan Funded Amount:** Determining the total amount of funds disbursed as 'Bad Loans.' This comprises the principal amounts of loans with a loan status of 'Charged Off.'

**4. Bad Loan Total Received Amount**: Tracking the total amount received from borrowers for 'Bad Loans,' which includes all payments made on loans with a loan status of 'Charged Off.'

***Terminologies:***

* *When a* ***loan*** *is marked as* ***"charged off"*** *it means that the lender has determined that the borrower is unlikely to repay the remaining balance. This decision is typically made after a certain period of non-payment, and the lender considers the loan as a loss.*
* *"Charged off" doesn't mean the borrower is off the hook for repaying the debt; instead, it reflects the lender's acknowledgment that they don't expect to recover the full amount. The lender may sell the debt to a collection agency, and the borrower is still responsible for settling the debt with the new owner or negotiating a repayment plan.*
* *A "charged off" status has significant negative consequences for the borrower's credit report, as it indicates a serious delinquency and can adversely affect their credit score. It's essential for individuals in this situation to work towards resolving the debt and repairing their credit.*

**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.'** This report will serve as a valuable tool for analysing and understanding the key indicators associated with different loan statuses. 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.

**DASHBOARD 2: OVERVIEW**

In our Bank Loan Report project, we aim to visually represent critical loan-related metrics and trends using a variety of chart types. These charts will provide a clear and insightful view of our lending operations, facilitating data-driven decision-making and enabling us to gain 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

X-Axis: Month (based on 'Issue Date')

Y-Axis: Metrics Values

Objective: This line chart will showcase how 'Total Loan Applications’ vary over time, allowing us to identify seasonality and long-term trends in lending activities.

**2. Regional Analysis by State (Filled Map):**

Chart Type: Filled Map

Metrics: Total Loan Applications

Geographic Regions: States

Objective: This filled map will visually represent lending metrics categorized by state, enabling us to identify regions with significant lending activity and assess regional disparities.

**3. Loan Term Analysis (Donut Chart):**

Chart Type: Donut Chart

Metrics: Total Loan Applications

Segments: Loan Terms (e.g., 36 months, 60 months)

Objective: This donut chart will depict loan statistics based on different loan terms, allowing us to understand the distribution of loans across various term lengths.

**4. Employee Length Analysis (Bar Chart):**

Chart Type: Bar Chart

Metrics: Total Loan Applications

X-Axis: Employee Length Categories (e.g., 1 year, 5 years, 10+ years)

Y-Axis: Metrics Values

Objective: This bar chart will illustrate how lending metrics are distributed among borrowers with different employment lengths, helping us assess the impact of employment history on loan applications.

***Terminologies:***

* ***Employee length analysis****, in the context of loans, typically refers to the evaluation of a borrower's employment history and the length of time they have been with their current employer. Lenders often consider the stability and consistency of an individual's employment as one of the factors in assessing their creditworthiness.*
* *Here's how employee length analysis may impact the loan application process:*
  1. ***Stability and Reliability:*** *Lenders may view a longer employment history with the same employer as a positive factor. It suggests stability and reliability, indicating that the borrower has a steady source of income.*
  2. ***Income Verification:*** *A consistent employment history makes it easier for lenders to verify and assess the borrower's income. This is crucial in determining the borrower's ability to repay the loan.*
  3. ***Risk Assessment:*** *Individuals with a longer tenure at their current job may be perceived as lower risk by lenders, as they are less likely to experience sudden income disruptions.*
  4. ***Creditworthiness:*** *Employment stability can contribute to a borrower's overall creditworthiness. Lenders often consider factors such as employment history, credit score, and income to determine the risk associated with lending money.*
* *It's important to note that while employment length is a factor, lenders consider various aspects when evaluating loan applications, including credit history, debt-to-income ratio, and the purpose of the loan.*
* *If you're applying for a loan, having a stable employment history can positively influence the lender's decision. However, other factors will also play a role in determining your eligibility and the terms of the loan.*

**5. Loan Purpose Breakdown (Bar Chart):**

Chart Type: Bar Chart

Metrics: Total Loan Applications

X-Axis: Loan Purpose Categories (e.g., debt consolidation, credit card refinancing)

Y-Axis: Metrics Values

Objective: This 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):**

Chart Type: Tree Map

Metrics: Total Loan Applications

Hierarchy: Home Ownership Categories (e.g., own, rent, mortgage)

Objective: This tree map will display loan metrics categorized by different home ownership statuses, allowing for a hierarchical view of how home ownership impacts loan applications and disbursements.

These diverse chart types will enhance our ability to visualize and communicate loan-related insights effectively, supporting data-driven decisions and strategic planning within our lending operations."

**DASHBOARD 3: DETAILS**

In our Bank Loan Report project, we recognize the 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.

It’s a kind of grid view containing rows and columns i.e. data is stored in tabular format.