**Bank Loan Analysis Report**

## **1. Introduction**

The Bank Loan Analysis dashboard provides a dynamic and interactive platform to assess loan performance, analyze key trends, and evaluate borrower behavior. By leveraging interactive charts and filterable metrics, this dashboard helps financial institutions gain a comprehensive understanding of their lending portfolio.

This report details the insights derived from the Power BI dashboard, structured across key sections including an overview of good vs. bad loans, key performance indicators (KPIs), and critical observations that can guide strategic decision-making for the bank.

## **2. Summary of Dashboard Pages**

### **Dashboard 1: Summary**

This page presents an overview of the bank’s loan applications, total funded amount, total received amount, and other core KPIs. It provides:

* **Total Loan Applications**: Displays the number of loan applications within a selected period, along with Month-to-Date (MTD) and Month-over-Month (MoM) trends.
* **Total Funded Amount**: Shows the total amount disbursed as loans, with an emphasis on tracking monthly variations.
* **Total Amount Received**: Highlights the amount repaid by borrowers, crucial for assessing the bank’s cash flow.
* **Average Interest Rate**: Monitors the average interest rate applied across loans, helping the bank understand its lending costs.
* **Average Debt-to-Income Ratio (DTI)**: Evaluates the borrowers’ financial health by measuring the average DTI ratio.
* **Good Loan vs. Bad Loan KPIs**:
  + Good loans include those where borrowers are repaying on time.
  + Bad loans include those where the funded amount exceeds the received amount, indicating potential defaults.
* **Loan Status Grid View**: A tabular representation of loan applications segmented by status, offering a quick snapshot of loan portfolio health.

### **Dashboard 2: Overview**

This section presents a more detailed visualization of loan distributions using various charts:

* **Monthly Trends by Issue Date (Line Chart)**: Displays seasonality and long-term lending trends.
* **Regional Analysis by State (Filled Map)**: Highlights lending activity by geography to assess regional disparities.
* **Loan Term Analysis (Donut Chart)**: Categorizes loans based on term lengths.
* **Employee Length Analysis (Bar Chart)**: Evaluates loan distribution based on borrowers’ employment history.
* **Loan Purpose Breakdown (Bar Chart)**: Identifies the primary reasons borrowers seek financing.
* **Home Ownership Analysis (Tree Map)**: Shows how home ownership status impacts loan applications and disbursements.

### **Dashboard 3: Details**

The details dashboard consolidates essential loan data into a structured grid for a more in-depth review:

* Aims to provide a user-friendly, all-encompassing view of loan-related metrics.
* Includes borrower profiles and repayment history.
* Helps financial analysts and decision-makers access critical information efficiently.

## **3. Key Observations**

1. **Good vs. Bad Loans**:
   1. A significant proportion of loans fall into the ‘Good Loan’ category, indicating strong repayment trends.
   2. Bad loans, where the funded amount exceeds the received amount, suggest areas of concern for potential defaults.
2. **Regional Disparities**:
   1. Certain states show higher default rates, signaling a need for region-specific credit assessment.
3. **Employment Length & Loan Approval**:
   1. Borrowers with longer employment histories tend to have higher loan approval rates, suggesting employment stability as a strong factor in loan repayment.
4. **Loan Purpose Insights**:
   1. Most loans are taken for personal use, debt consolidation, and home improvement, which can influence lending policies.
5. **Impact of Home Ownership**:
   1. Homeowners tend to secure larger loan amounts, while non-homeowners have a higher rate of small, short-term loans.

## **4. How This Data Helps the Bank**

* **Risk Assessment**: Identifies bad loans early, allowing for proactive risk mitigation strategies.
* **Operational Efficiency**: Helps streamline loan approvals and ensure resources are allocated effectively.
* **Customer Targeting**: Improves understanding of borrower demographics, aiding in personalized financial product offerings.
* **Strategic Planning**: Enables data-driven decisions to optimize lending policies and enhance profitability.
* **Regulatory Compliance**: Ensures compliance with financial regulations by maintaining accurate and transparent loan records.

## **5. Overall Review of the Bank’s Loan Portfolio**

The bank’s loan portfolio demonstrates a balanced mix of good and bad loans. While the majority of borrowers are repaying their loans effectively, there are areas where default rates are concerning. The insights from this dashboard can help the bank enhance its credit risk assessment framework, improve customer segmentation strategies, and implement better financial forecasting models.

By leveraging data visualization and interactive analysis, this dashboard serves as a powerful tool for enhancing decision-making and strengthening the bank’s financial health.