■ Bank Loan Report – Project Summary

Project Overview

This project analyzes financial loan data from a bank to monitor lending activities, measure portfolio performance, and assess loan quality. The analysis supports risk management, decision-making, and customer insights by transforming raw loan data into meaningful business KPIs and visualizations.

Objectives

• Track total loan applications, funded amounts, repayments, and borrower health indicators.
• Identify and separate Good Loans (Fully Paid, Current) vs Bad Loans (Charged Off).
• Provide insights into monthly trends, loan purposes, employment history, home ownership, and regional lending activity.
• Enable the bank to improve lending strategies, fraud detection, and credit risk management.

Dataset

The dataset contains information about loan applications (ID, loan amount, issue date, purpose), borrower details (employment length, home ownership, state), financial metrics (interest rate, DTI, payments), and loan status (Fully Paid, Current, Charged Off). Source: financial_loan_data_excel.xlsx.

Key KPIs

1. Total Loan Applications (overall, MTD, PMTD)
2. Total Funded Amount (overall, MTD, PMTD)
3. Total Amount Received (overall, MTD, PMTD)
4. Average Interest Rate (portfolio-level & monthly trends)
5. Average Debt-to-Income (DTI) Ratio

■ Good Loans: Fully Paid + Current
■ Bad Loans: Charged Off

Analysis & Visualizations

1. Loan Status Distribution
2. Monthly Loan Trends
3. Loan Purpose Analysis
4. Employment Length Analysis
5. Home Ownership Analysis
6. Regional Analysis
7. Correlation Heatmap

Key Insights

• Most loans are issued for debt consolidation and credit card refinancing.
• Good Loans make up the majority, but Bad Loans contribute significantly to financial losses.
• Borrowers with stable employment (10+ years) show better repayment behavior.
• Home ownership influences loan amounts, with higher funding seen among mortgage holders.
• Loan trends show seasonal variations in applications and disbursements.

Tools & Technologies

Python (Pandas, NumPy, Matplotlib, Seaborn, Squarify), Excel (data source), Jupyter Notebook (analysis & reporting).

Outcome

The project successfully transforms raw financial data into business-driven dashboards and KPIs. It provides the bank with actionable insights for credit risk management, portfolio monitoring, fraud detection, and customer segmentation. This demonstrates the role of a Data Analyst in bridging raw data with strategic decision-making.