

# Comprehensive Bank Loan Portfolio Analysis

## Project Summary

This project presents a complete analysis of a bank's loan portfolio, addressing the critical need for data-driven insights to mitigate risk and optimize profitability. The result is a series of three interactive dashboards, developed in Tableau, that transform raw lending data into an intuitive visual tool designed for stakeholders to monitor performance, assess portfolio health, and make informed strategic decisions.

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## Key Business Questions Addressed

The analysis was designed to answer critical business management questions:

- What are the portfolio's key performance indicators (KPIs), and how are they trending over time?
  - What are the key characteristics and profiles of borrowers who default (**bad loans**) compared to those who pay on time (**good loans**)?
  - Which geographic regions, loan purposes, or borrower profiles are the most profitable or carry the highest risk?
  - Are there seasonal patterns in loan applications or disbursements that can inform business and resource strategy?
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## Dashboard Breakdown

The solution is structured into three complementary dashboards that offer a comprehensive view of lending operations:

**1. Summary Dashboard** Provides an executive summary of the most important KPIs for a quick performance assessment. Key metrics include total loan applications, funded amount, amount received, average interest rate, and debt-to-income (DTI) ratio. This dashboard clearly distinguishes between "Good Loans" and "Bad Loans" to quickly identify trends and areas for improvement.

**2. Overview Dashboard** Enables a deep-dive analysis of portfolio trends through multiple interactive visualizations, such as:

- **Monthly Trends (Line Chart):** To identify seasonal patterns in applications, disbursements, and repayments.
- **Regional Analysis (Map):** To geographically pinpoint high- and low-performing areas.

- **Loan Term Analysis (Donut Chart):** To understand borrower preferences regarding loan duration.
- **Loan Purpose Breakdown (Bar Chart):** To align product offerings with customer needs.
- **Employment Length and Home Ownership Analysis (Bar & Treemap Charts):** To assess how job stability and home ownership status influence borrower risk and behavior.

**3. Details Dashboard** Serves as a comprehensive reference tool for granular analysis. This dashboard consolidates detailed data on portfolio performance and borrower demographics into a unified interface, streamlining access to critical information for in-depth decision-making.