

Home Loan Default Risk Analysis

Executive Summary

This report analyzes home loan applicant data to identify key drivers of loan default risk and support better credit risk decision-making. The analysis highlights credit history, income stability, loan amount relative to income, and employment status as the most influential factors. Applicants with weaker credit profiles and unstable income exhibit a significantly higher likelihood of default.

Business Problem Statement

Home loans are long-term financial commitments and a major revenue source for banks. Loan defaults negatively impact profitability, liquidity, and regulatory compliance. This analysis focuses on identifying high-risk applicant profiles and supporting data-driven lending decisions.

Data Overview

The dataset represents home loan applicants and includes demographic, financial, and credit-related attributes. The target variable indicates whether a loan resulted in default.

Analytical Approach & Methodology

The analysis involved data cleaning, exploratory analysis, risk segmentation, and business interpretation. Python was used as the analytical tool, with emphasis placed on insight generation rather than technical complexity.

Key Insights

Credit history is the strongest predictor of loan default. Income instability and high loan-to-income ratios increase default risk. Applicants with unstable employment profiles demonstrate higher delinquency rates. Default risk increases significantly when multiple risk indicators are present.

Business Recommendations

Strengthen credit screening thresholds. Apply income-based lending limits. Enhance verification for unstable employment profiles. Adopt a risk-based loan approval framework to balance growth and risk.

Limitations & Future Scope

The analysis does not include macroeconomic variables or post-disbursement behavior. Future enhancements may include predictive risk scoring and portfolio-level stress testing.

Conclusion

This project demonstrates how analytical insights can support practical credit risk management. By focusing on key risk indicators, banks can reduce default exposure while maintaining sustainable loan growth.