

Data gathering and defining stakeholders + KPIs

1 Dataset Overview

- Dataset Name: Data from WellsFargo Bank.
- Data Composition: The training set consists of approximately 21,000 accounts and the evaluation set consists of approximately 5400 accounts.

The dataset includes:

- Binary variable, bad flag, that indicates credit performance (1 means the person is unlikely to default and 0 means the person is likely to default).
- Predictor variables like the FICO scores, payment-to-income ratios, loan-to-values ratios, and other credit and loan features.
- Categorical features like gender and race to evaluate fairness.

2 Problem Description

This project will focus on developing and evaluating predictive models for an Auto Loan Credit Decisioning system to enhance the application approval process for applicants. Using the dataset, the goal is to predict the applicants' creditworthiness based on a binary variable (bad flag) that distinguishes between good and poor credit quality. We will build several models and compare them to recommend the most effective one for accurately identifying applicants likely to repay their loans. We will ensure the models do not unfairly discriminate against applicants based on gender or race.

3 Stakeholders of the Project

- Internal Stakeholders:
 - Product Managers: Responsible for designing the system's features and ensuring it meets business goals.
 - Data Analysts: Analyze application data, trends, and loan outcomes.
 - Customer Service Team: Handles customer inquiries and issues related to loan applications.
 - Executives: Oversee the overall performance of the loan application system, focusing on KPIs like profitability and growth.
- External Stakeholders:
 - Customers: Individuals applying for loans, whose satisfaction and feedback are crucial.
 - Regulators: Government bodies ensuring that the loan system adheres to financial regulations.
 - Credit Agencies: Provide credit scores that help in making decisions on loan approvals.
 - Investors/Shareholders: Interested in the profitability and growth of the loan system.

4 Company Key Performance Indicators (KPIs)

- Approval Rate: Percentage of loan applications approved out of the total received.
- Processing Time: Average time taken to process a loan application.
- Customer Satisfaction: Based on customer feedback regarding the loan application process.
- Error Rate: The percentage of loan applications that require manual intervention due to data entry issues or system errors.
- Loan Default Rate: Percentage of loans that are not paid back according to the terms.
- Operational Costs: Costs associated with processing each loan application.