Lending Club Case Study

Introduction

A consumer finance company specializes in lending various types of loans to urban customers. The company must decide whether to approve loans based on the applicant's risk of default.
Two key risks exist:

- Losing business by not approving loans for reliable applicants

- Financial losses from approving loans for unreliable applicants

The goal is to identify patterns indicating if an applicant is likely to default, which can inform actions like denying loans, reducing loan amounts, or charging higher interest rates.

Data Cleaning

01
Missing Data Removal

Eliminate columns with a high volume of missing data to ensure the accuracy of the analysis.

02
Unique Value Columns

Remove columns with minimal unique values to streamline the dataset for meaningful insights.

03
Data Type Conversion

Adjust data types as necessary to facilitate comprehensive analysis.

Exploratory Data Analysis

01

Univariate Analysis

Examine key columns such as loan amount and interest rate individually to understand their distributions and characteristics.

02

Segmented Analysis

Analyze loan term and grade categories to identify patterns and trends within specific segments.

03

Correlation Study

Investigate the relationships and dependencies between different variables to uncover significant insights.

Correlation Matrix

01

There is a strong positive correlation between the number of public derogatory records and public bankruptcies records

02

Individuals with high revolving utilization tend to have elevated interest rates

Key Insights

01

Repayment Behavior

Most borrowers demonstrate a strong repayment record, indicating a low default risk.

02

Loan Grade Impact

Lower loan grades exhibit higher default rates, highlighting the importance of grade assessment in risk evaluation.

03

Interest Rate Influence

Loans with interest rates exceeding 15% are associated with elevated default rates, necessitating careful consideration.

04

Loan Term Impact

60-month loans exhibit a higher default rate compared to 36-month loans, indicating a need for cautious evaluation.

Conclusions

01

Loan Approval Evaluation

Evaluate high-risk applicants closely before approving loans

02

Loan Term Strategy

Consider offering 36-month loans before 60-month loans.

03

Default Rate Analysis

Set maximum interest thresholds based on default rate data

Thank You

~ Anil