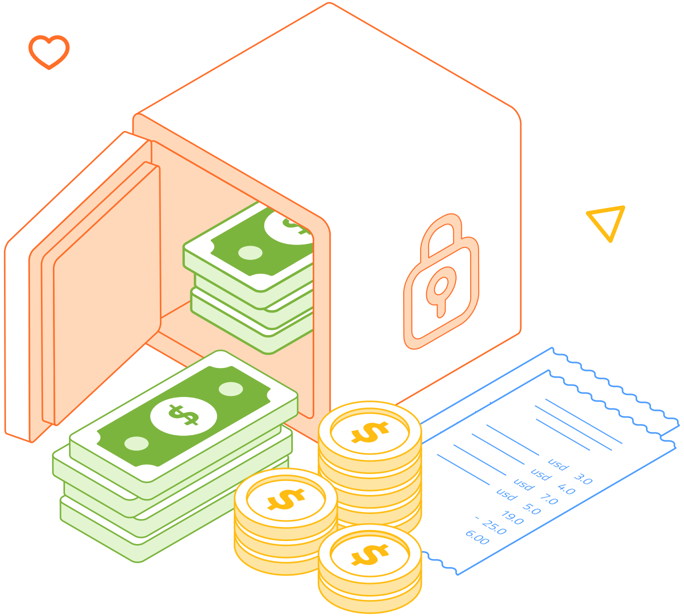


Credit Default Risk

Loan Applicant Data

By Fiona Siow

Problem statement

The loan manager aims to evaluate the credit risk of recent applicants to ensure they maintain good standing. This assessment is vital for minimizing risks and promoting financial stability within the organization.

By understanding each applicant's creditworthiness, the loan manager can make informed decisions that align with the company's goals.

Dataset Information

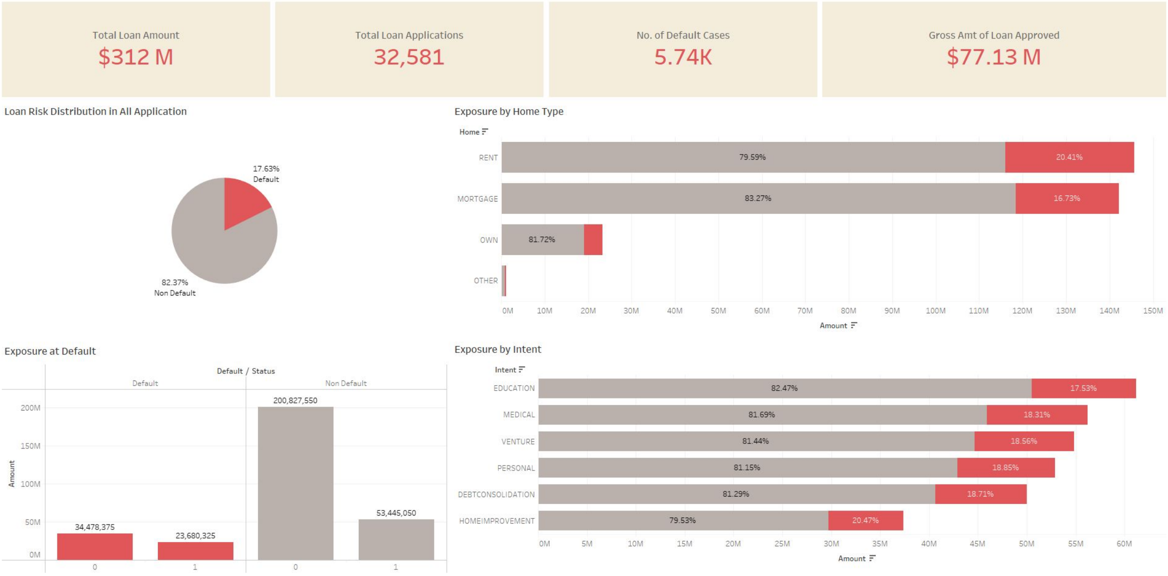
Loan Applicant Data for Credit Risk Analysis

https://www.kaggle.com/datasets/nanditapore/credit-risk-analysis

Includes metadata for:

- **ID:** Unique identifier for each loan applicant.
- **Age:** Age of the loan applicant.
- **Income:** Income of the loan applicant.
- **Home:** Home ownership status (Own, Mortgage, Rent).
- **Emp_Length:** Employment length in years.
- **Intent:** Purpose of the loan (e.g., education, home improvement).
- **Amount:** Loan amount applied for.
- **Rate:** Interest rate on the loan.
- **Status:** Loan approval status. (0: Not approve, 1: approved)
- **Percent_Income:** Loan amount as a percentage of income.
- **Default:** Whether the applicant has defaulted on a loan previously (Yes, No).
- **Cred_Length:** Length of the applicant's credit history.

Credit Risk Analysis



- **17.63%** of the 32,581 loan applicants have **previously defaulted on a loan**.
- There is a **high default risk for $23M in loans being approved** for applicants with a history of defaults.
- **Applicants who rent** have the highest default risk at **20.41%**.
- **Home improvement** loans have the highest default risk at **20.47%**.
- However, **Education loans** have the highest default value at **$10.7M due to their large total loan value.**

Tableau Dashboard - Credit Risk Analysis

Problem and solution

Problem

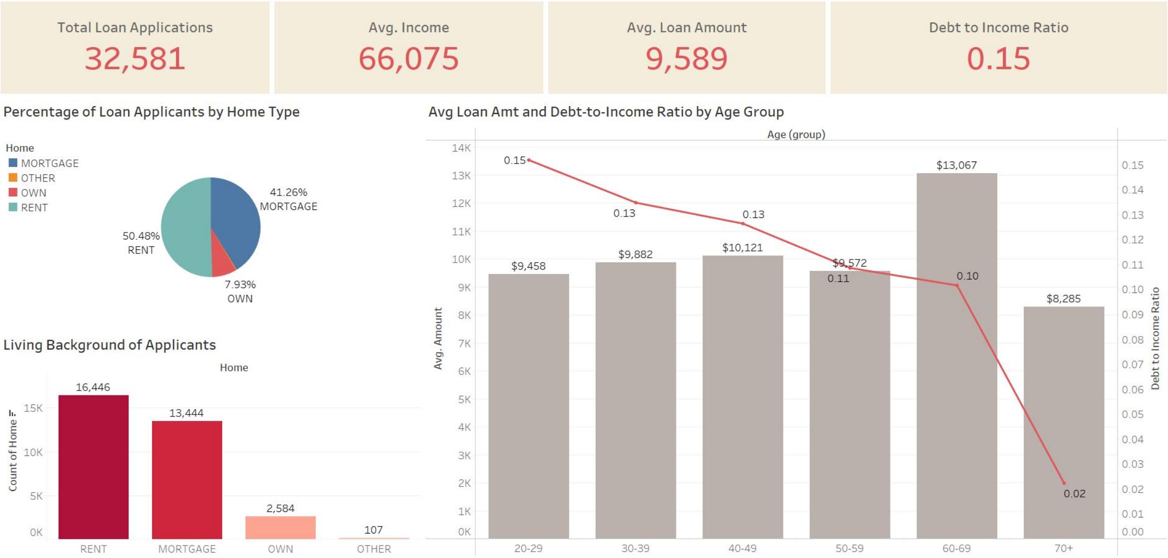
Based on the default risk analysis, we can see that there are some applications that were approved despite that the borrower has a record of defaulting the loan previously.

Solution

Investing in staff training is crucial for the risk management team to effectively recognize the risks of loan applicants. Establishing specific guidelines and parameters ensures everyone is aligned and empowered with the necessary knowledge.

For approved loans, we will monitor applicant payment histories and **regularly review their accounts**. We will also **implement effective collection strategies** and use a systematic approach to handle delinquent accounts.

Loan Portfolio Analysis



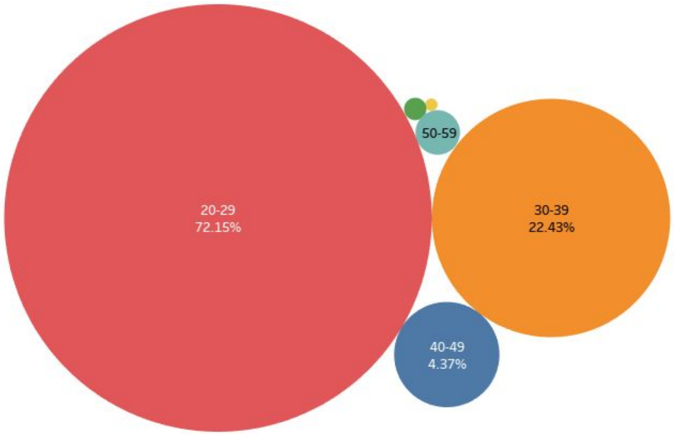
- The overall **debt-to-income ratio is a healthy 15%**.
- The average income is relatively high at $66k compared to the average loan amount of $9k.
- **Half of the applicants are renting**, followed by 41% with mortgages. Previous credit risk analysis indicates that **renters have a high default risk**, so their accounts **need regular monitoring**.
- **Young borrowers have the highest debt-to-income ratio**, which is expected as they are early in their careers. However, we must closely monitor their repayment habits to **detect early credit risk**.

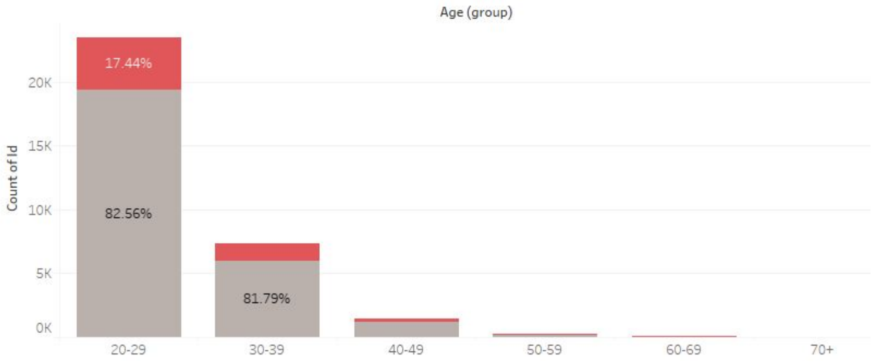
[Tableau Dashboard - Loan Portfolio Analysis]

72.2%

Of the loan applicants are young borrowers (below their 30s).

Young borrowers are often seen as most prone to financial mistakes. **However, credit default risk is highest among middle-aged borrowers and lower for both young and elderly borrowers.**





Problem and solution

Problem

Majority of the borrowers are young adults and they have the highest loan amount value. Young borrowers more likely to experience minor delinquencies, perhaps because they have less financial experience than older borrowers.

Solution

Establish **clear communication with borrowers from the start**. As this is their first loan, they are attentive and open to understanding the terms and conditions.

Provide **financial education resources** to borrowers, including debt management strategies and advice on building and maintaining good credit.

Offer **flexible repayment plans** to accommodate changes in the borrower's financial situation.

Best Practices for Controlling Credit Risk

Reducing loan delinquency is a critical aspect of effect risk management for us. Here are some strategies to prevent loan delinquency.

Portfolio Review

✔ Conduct regular loan portfolio reviews to identify trends and risks.
✔ Address issues before they escalate.

Technology

✔ Utilize technology for automated risk monitoring and analysis.
✔ Implement predictive analytics and AI for early delinquency detection and targeted interventions.

Early Intervention

✔ Establish systems for early detection of payment issues.
✔ Regularly monitor borrower accounts.
✔ Promptly intervene to discuss solutions if financial distress signs emerge.

Thanks!

View all dashboards in my **Tableau Public**.