

Hi Jagadeesh,

I like your hypothesis about how credit history affects home loan approval. It is a crucial topic, and I found a dataset that could help you test it effectively.

Suggested Dataset:

- **Dataset:** Loan-Approval-Prediction-Dataset
- **Source:** Kaggle
- **Link:**
<https://www.kaggle.com/datasets/architsharma01/loan-approval-prediction-dataset>
- **Description:** This dataset includes important details like CIBIL score, income, employment status, loan amount, and whether the loan was approved or not. It is ideal for seeing how credit history and other factors influence loan approval (Kaggle, n.d.).

Variables to Consider:

- **CIBIL Score (cibil_score):** This shows the applicant's credit history, which is key in deciding if a loan gets approved.
- **Loan Status (loan_status):** This tells us whether the loan was approved or not.
- **Income (income_annum):** This is the applicant's annual income, which could also affect loan approval along with credit history.
- **Loan Amount (loan_amount):** The amount of money the applicant wants to borrow, which might play a role in the decision.
- **Self-Employed (self_employed):** Whether the applicant is self-employed, as this might impact loan approval.
- **Loan Term (loan_term):** The length of the loan, which could be another factor in the approval process.
- **No of Dependents (no_of_dependents):** The number of dependents the applicant has, which could affect their financial stability and loan approval.

- **Education (education):** Whether the applicant is a graduate, which might also be considered by lenders (Kaggle, n.d.).

Suggested Statistical Methods:

- **Chi-Square Test:** You can use this to check if there is a significant link between credit history (good vs. bad) and whether the loan was approved (Bobbitt, 2021; Turney, 2022).
- **Logistic Regression:** This method will help you predict the chances of loan approval based on credit history while also taking into account other factors like income and loan amount (Kanade, 2022).

This dataset and these methods should clearly show how credit history affects home loan approval.

References

Bobbitt, Z. (2021, August 25). *4 Examples of Using Chi-Square Tests in Real Life*. Statology.
<https://www.statology.org/chi-square-test-real-life-examples/>

Kaggle (n.d.). *Loan-Approval-Prediction-Dataset*. Retrieved August 23, 2024, from
<https://www.kaggle.com/datasets/architsharma01/loan-approval-prediction-dataset/data>

Kanade, V. (2022, April 8). *What Is Logistic Regression? Equation, Assumptions, Types, and Best Practices*. Spiceworks.
<https://www.spiceworks.com/tech/artificial-intelligence/articles/what-is-logistic-regression/>

Turney, S. (2022, May 23). *Chi-Square (X^2) Tests | Types, Formula & Examples*. Scribbr.
<https://www.scribbr.com/statistics/chi-square-tests/>