Structured Pyramid Analysis Plan

Project Name - Prediction for loan defaulter

Group no - 2

SMART goal: Will the person default his loan?

Dependent variables:

- Annual income
- Interest rates
- Loan term
- Loan amount
- Loan status

Specific questions:

- Annual income -> Does annual income contribute to defaulting of loan?
- Interest rates -> Does the Rate of interest contribute to default of loan?
- Loan term -> Does loan term contribute to defaulting of loan?
- Loan amount -> Does the loan amount contribute to loan default?
- Loan status -> Does loan status contribute to loan default?

Independent variable:

- Annual income -> **employee title, employment length, application type, joint income, appraisal,** employer
- Interest rates -> **purpose, address state, home ownership**
- Loan term -> **purpose, grade, sub grade, social factors, environmental factors**
- Loan amount -> **purpose, employee title, home ownership,** loan type
- Loan status -> **outstanding principal amount, delinquent amount**
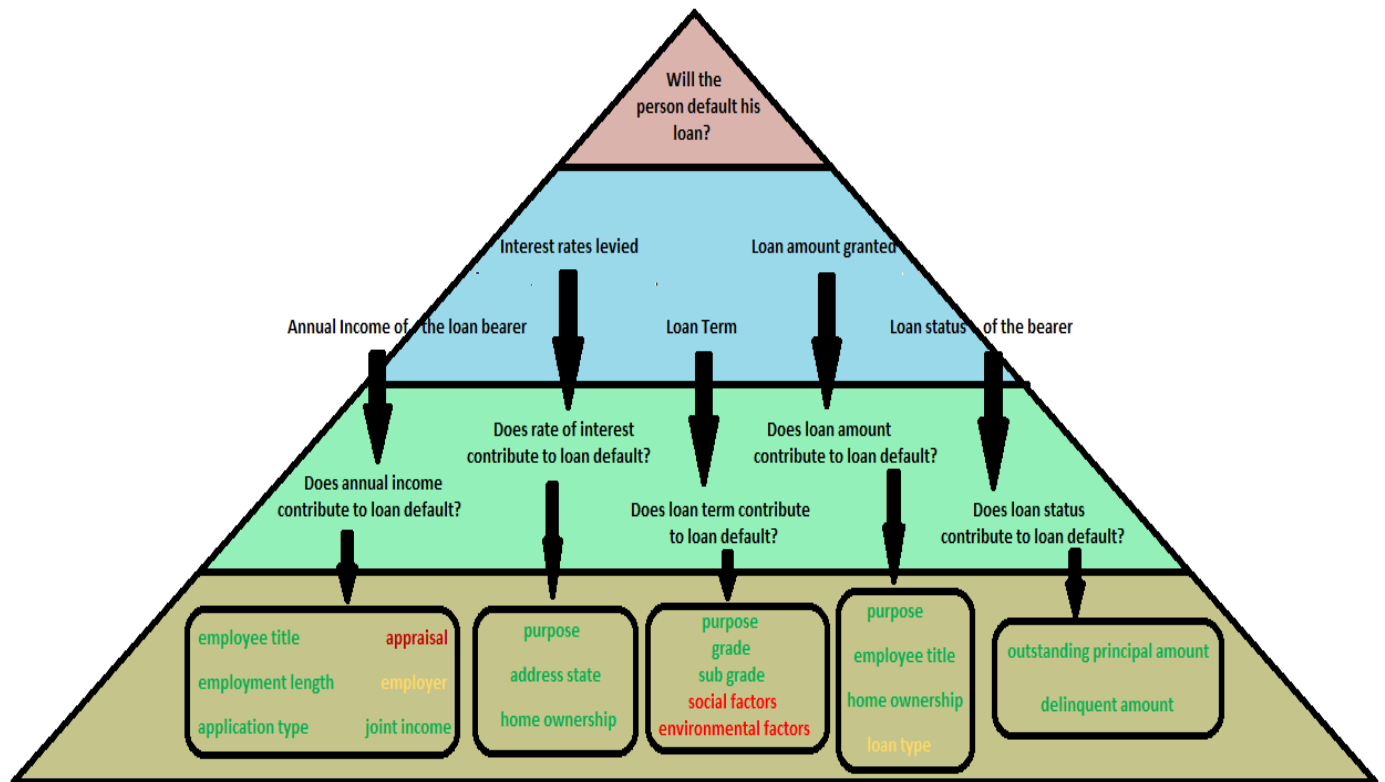
Null Hypothesis

Question: Whether a person will default his loan or not?

- **Null Hypothesis:**

The Null Hypothesis here for every variable will be that the given variable is significant in answering the question stated above.

- **Alternate Hypothesis:**

The Alternate Hypothesis here will be the exactly opposite i.e. The variable is insignificant in answering the above question.

If we conclude that the variable is significant, we will accept the **Null Hypothesis**.

If not, we reject it and accept the **Alternate Hypothesis.**

For example:

N(0): Loan Amount is significant in predicting whether the person will default his loan or not.

N(A): Loan Amount in insignificant in predicting whether the person will default his loan or not.

By Analyzing all the variables, we reach to the conclusion that we won't reject the Null Hypothesis for the following variables:

- Loan Amount
- Loan Status
- Loan repayment time
- Interest rate

Key performance indicators:

- The desired outcome of this project is that we want to analyze and predict whether the loan bearer will default his loan or not.
- It is important for us to predict this as we have come across that there are many people who are unable to pay their loan but there are no proper parameters that have been defined.
- We can measure the progress of our project by setting definite timelines.
- Depending upon the parameters defined above we can influence the outcome of the project.
- The loan bearer is responsible for the business outcome.
- By applying various techniques and algorithms on our test and training sets we can achieve the outcome.