**Consumer Creditworthiness Analysis**

Creditworthiness is crucial for banks as it signifies how deserving a consumer is of getting credit. A consumer is said to be creditworthy if the bank believes that he/she can pay the debt on time.

There are various factors that determine the consumers credit worthiness.

* Consumers credit history
* Consumers payment history, debts, DTI, Income
* Fixed Assets
* Collaterals
* Geographical location.

## **Impact of each Feature on the Target:**

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Description** | **Impact on Target feature** |
| Loan\_ID | Unique Loan ID issued on every loan for an applicant | It doesn’t have any impact on the Target feature as it is unique for every application. |
| Gender | Gender of an applicant whether male or female | Defaulters in both the genders male and female. This feature may not be useful to predict the loan approval. |
| Married | Marital status of an applicant i.e., Yes for married and NO for single | Defaulters in both the married and non-married. This feature may not be useful to predict the loan approval. |
| Dependents | Number of individuals who are financially dependent on applicant | Defaulters are in all the categories. This feature may not be useful to predict the loan approval. |
| Education | Highest Education of applicant i.e., Bachelor, Post-Graduation etc | There are a greater number of Graduates where the loan was rejected. But we cannot clearly say if this feature impacts the target. Needs further analysis in EDA. |
| Self-employed | Whether the applicant is self-employed or not i.e., Yes for self-employed or else NO | There are a greater number of non-self-employed people whose loan was rejected. Usually employed consumers can easily pay the debts.  This feature can be useful to predict the loan approval. |
| Applicant Income | Income of the applicant | Applicants Income is crucial factor to take into account as it decides his capacity to pay his debts.  Applicants with high income can have greater chances of getting loan approval. |
| CoapplicantIncome | Applicant have to put one nominee name that is called Co-Applicant. So, it is column related to co-applicant income | Co Applicants Income is crucial factor to take into account as it decides his capacity to pay his debts.  Co Applicants with high income can have greater chances of getting loan approval. |
| LoanAmount | Amount of loan applicant wants to issue from the bank. | Loan Amount is also an important factor because as the Loan amount increases the repayment can be risky.  Lesser is the Loan amount greater are the chances of getting loan approval. |
| Loan\_Amount\_Term | The amount of time the lender gives you to repay your whole loan. | Loan\_Amount\_Term is an important factor because shorter time periods can make the repayment risky.  Lesser is the Loan Amount Term greater are the chances of getting loan approval. |
| Credit\_History | It tells about the credit done in the past by the applicant. | Credit history scores are crucial to determine the creditworthiness. High credit score implies the consumer is credit worthy. People with Credit history = 1 might have higher chances of getting Loan Approval |
| Property\_Area | This tells about the applicant property is in which area i.e., Rural or Urban. | There are defaulters in all the areas like Rural, urban and semi urban. But we cannot clearly say if this feature impacts the target. Needs further analysis in EDA. |
| Loan\_Status | It is a target variable column which tells about whether the applicant application for loan approval is passed or not. | This is the target feature hence it is important |

## **Ways in which the organization can benefit as a result of analysing the data**

* Analysing the credit reports helps the company to assess the creditworthiness of a potential customer.
* It helps the business from late payment or non-payment
* It is an effective way to reduce the financial risk on the company.

## **Missing Features and their importance:**

|  |  |  |
| --- | --- | --- |
| **Feature** | **Description** | **Impact on Target Feature** |
| DTI | DTI is Debt to Income ratio = Monthly debt repayments/ Gross monthly income. | A low DTI ratio indicates a healthy balance between debt and income, whereas a high DTI ratio shows that a client has more obligations than the monthly income. DTI ratio of 36% or lower is considered ideal. |
| Credit history (Credit score and credit report) | This data includes how long the customer has been in business, bankruptcies, whether they make timely payments. Credit scores vary from 300 to 850. | A high credit score shows that the borrower has a clean record of paying debt on time, which makes it easy for a client to access credit from creditors. Borrowers with a history of delayed repayments and non-payment of loans have a reduced credit score, decreasing their chances of getting credit approvals from creditors. |
| Capacity | Capacity refers to the ability of the customer to repay their debt. To evaluate the capacity of a customer, consider cash flow statements, business debt, and payment history. |  |
| Capital | Assets owned by the customer. Ex. Fixed Assets, Assets values. Review the customer’s bank records and financial statements to get a clear picture of their capital. | If these statements show a trend of strong capital growth, the customer is less risky and can be assigned a higher credit limit. |
| Collateral | Collaterals are assets that a customer commits to back a line of credit. These are fixed assets like inventories, corporate bonds, or real estate. | Collaterals can be collected as an assurance for extending credit. When the consumer is risky, collaterals can limit the likelihood of bad debts. |

## **Ways to collect the data for the suggested features.**

* Consumers can fill credit application.
* Online applications can be better option as we can collect all the information in one place.
* Various questionaries can be given in the form to get complete information (mark the important features as required fields).