

Credit scoring and segmentation encompass the evaluation of individuals' or businesses' creditworthiness and the subsequent categorization into specific groups, guided by their credit profiles. The primary objective is to gauge the probability of borrowers fulfilling their financial obligations, thereby enabling financial institutions to make well-informed choices regarding lending and credit risk management.

Overview:

The process of calculating credit scores and segmenting customers based on their credit scores involves several steps. Firstly, relevant data about borrowers, such as payment history, credit utilization, credit history, and credit mix, is collected and organized. Then, using complex algorithms and statistical models, the collected data is analyzed to generate credit scores for each borrower.

These credit scores are numerical representations of the borrower's creditworthiness and indicate the likelihood of default or timely repayment. Once the credit scores are calculated, customers are segmented into different risk categories or credit tiers based on predefined thresholds.

This segmentation helps financial institutions assess the credit risk associated with each customer and make informed decisions regarding loan approvals, interest rates, and credit limits. By categorizing customers into segments, financial institutions can better manage their lending portfolios and effectively mitigate the risk of potential defaults.

Below is the description of all the features in the data:

1. Age: This feature represents the age of the individual.
2. Gender: This feature captures the gender of the individual.
3. Marital Status: This feature denotes the marital status of the individual.
4. Education Level: This feature represents the highest level of education attained by the individual.
5. Employment Status: This feature indicates the current employment status of the individual.
6. Credit Utilization Ratio: This feature reflects the ratio of credit used by the individual compared to their total available credit limit.
7. Payment History: It represents the monthly net payment behaviour of each customer, taking into account factors such as on-time payments, late payments, missed payments, and defaults.
8. Number of Credit Accounts: It represents the count of active credit accounts the person holds.
9. Loan Amount: It indicates the monetary value of the loan.
10. Interest Rate: This feature represents the interest rate associated with the loan.

11. Loan Term: This feature denotes the duration or term of the loan.
12. Type of Loan: It includes categories like “Personal Loan,” “Auto Loan,” or potentially other types of loans.

Within the iteration, the FICO formula is applied to calculate the credit score for each individual. The formula incorporates the weighted values of the features mentioned earlier:

1. 35% weight for “Payment History”,
2. 30% weight for “Credit Utilization Ratio”,
3. 15% weight for “Number of Credit Accounts”,
4. 10% weight for “Education Level”,
5. and 10% weight for “Employment Status”.

The calculated credit score is then stored in a list called “credit_scores”.

Summary

Credit scoring and segmentation refer to the process of evaluating the creditworthiness of individuals or businesses and dividing them into distinct groups based on their credit profiles. It aims to assess the likelihood of borrowers repaying their debts and helps financial institutions make informed decisions regarding lending and managing credit risk.