Credit One has seen an increase in the number of customers who have defaulted on loans they have secured from various partners, and Credit One, as their credit scoring service, could risk losing business if the problem is not solved right away. The bottom line is they need a much better way to understand how much credit to allow someone to use or, at the very least, if someone should be approved or not.

Data Science process to be followed is mentioned as below:

**Step One: Business Question**

Identify the real business questions behind an ask. This means closely validating with the stakeholders and understanding the impact of the problem. The Credit one company is giving credit to customers and default customers are those customers who fail to repay the loan back.The scope is to deliver and develop predictive credit rating in risk communication models and budgeting application by determining consumer profitability of default through supervised classification methods.

**Step Two: Analysis Plan**

.This allows for choosing the appropriate data and the correct analysis techniques. Statistical analysis is made with appropriateness of data and correctness of assumptions.Here we will validate the credibility of clients.How does a person’s age , marital status , credit limit,past payments, and bill amounts affect the chances of having default payment.

**Step Three: Data Collection**

Collected data for the appropriate time period, applying rules to shunt the long tail in the data and performing a data audit. Data is collected from CSV file and stored.Then it is cleaned, removed the duplicates,checked for missing values.Then the variables are transformed into same data types .Outliers are removed.Then the data

**Step Four: Derive Insights and Build Model**

Data sets from sources are restructured and models are developed and tested to fit inData Analytics tools.We will validate which variables are corelated with each other and which variable have variances.Critical areas of business operations and Consumer education are evaluated.We can find out which customers are at high risk of defaulting next month or the next couple of periods.Which customers could we target with credit modifications plans to assist with debt management.Which customers or credit applicants are likely to have a high response rate and benefit from a pushed notification for a budgeting application.

Analyze the data to gain insight into its significance as related to the hypotheses, build and validate model. The statistical analysis is done by finding out the mean, median and standard deviation.

**Step Five: Recommendations**

Defaults of Credit card bill payment can result in great financial loss, In order to reduce or even prevent loss of this kind banks need to determine appropriate given credit for each specific client Here we will use Machine Learning methods and create the model which will calculate the Probability of Default using the data.Data will be processed and refined and then developed into models for testing.

Below is the process of data analysis of Credit One predicting default credit card

