**Observations**:

1. The default case holds multiple credit card or loan accounts.
2. If the customer’s high\_credit\_limit is higher that his credit limit then it is more likely that he may default.
3. Large Number of DPD’s in payment history also indicates that the customer may default.
4. If the customer is an active user of credit card i.e he uses all his credit limit quite often, strongly suggests that he will default.
5. If the customer is in multiple recent 30+ dpd then it is highly likely that e may default.
6. The length of payment history indicates how often the customer is enquired and hence it’s length enhances the chances of being default.
7. His recent enquiry purpose also raises chances of being default.

**Derived** **Features**:

|  |  |
| --- | --- |
| **Name** | **Description** |
| 1. diff\_opened\_lastPaymt\_dt\_sum | Sum of the amount difference between high credit amount and credit limit |
| 1. diff\_highcr\_creditlim\_mean | mean of the amount difference between high credit amount and credit limit |
| 1. 1DPDReported\_mean | Sum of the amount difference between high credit amount and current balance |
| 1. 2DPDReported\_mean | mean of the amount difference between high credit amount and credit limit |
| 1. 3DPDReported\_mean | Mean high credit amount of a user |
| 1. totalDPD\_sum | Mean of credit limit of a user |
| 1. frequencyofDPDreported\_mean | Mean current balance amount of a user |
| 1. ratio\_totalCurrbal\_totalcrlim | Ratio of the total high credit amount and total credit limit |
| 1. ratio\_totalCurrbal\_totalhighCr | Ratio of the total current balance and total credit limit |
| 1. ratio\_totalhighcr\_totalcrlim | (total\_current balance/ total\_credit\_limit) /(mean\_credit\_limit) |
| 1. avg\_creditcount | Totals days between last payment date and opened date |
| 1. avg\_loancount | Average number of credit accounts hold by the customer |
| 1. avg\_payhistlength | Average number of loan account hold by the customer |
| 1. meanAcctWithHighCrGreaterThanCreditLim | Average payment history length |
| 1. meanAcctWithCurrBalEqualsZero | Ratio of the mean curr balance amount and mean credit limit |
| 1. meanGapEnquiryDates | Ratio of the mean high credit amount and mean credit limit |
| 1. mostFrequentEnquiryPorpose | Ratio of the mean high credit amount and mean current balance |
| 1. mostRecentEnquiryPorpose | Sum of latest DPD of the customer |

**Top 10 Features according to Gain :**

|  |  |
| --- | --- |
| Feature Name | Gain Score |
| 1. 1DPDReported\_mean | 0.052 |
| 1. feature\_19 | 0.039 |
| 1. diff\_opened\_lastPaymt\_dt\_sum | 0.034 |
| 1. meanAcctWithCurrBalEqualsZero | 0.031 |
| 1. avg\_payhistlength | 0.021 |
| 1. mostRecentEnquiryPorpose | 0.021 |
| 1. feature\_52 | 0.018 |
| 1. feature\_49 | 0.018 |
| 1. feature\_44 | 0.015 |
| 1. feature\_42 | 0.015 |

Gini index: 20.6

**Rank Ordering**

|  |  |
| --- | --- |
| Decile Rank | Feature Ensemble |
| 1 | 0.128342797515 |
| 2 | 0.0834155719494 |
| 3 | 0.111299181389 |
| 4 | 0.131475279881 |
| 5 | 0.0197837798486 |
| 6 | 0.0374596895964 |
| 7 | 0.0985501736448 |
| 8 | 0.114921725016 |
| 9 | 0.148944244915 |
| 10 | 0.156254044522 |