| Big Data &Data Analytics-2 | | |
|---|---|---|
| **PROJECT-2** | | |
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## WEEK-9

## SECTION-A

**2. What conclusions are you derived from the single variable analysis?**

**Ans:**

- There are 81% of Male and 19% of Female in loan applications
- Number of married people are 65%
- Number of unmarried people are 35%
- In Total number of 611 people 398 are married and 213 are unmarried.
- In a total of 582 people 14% i.e. 134 are Self-employed and 86 % i.e. 480are Not Self-employed.
- In the total applicants 78% are Graduated i.e. 480 persons and 22% are not Graduated i.e. 134 people.
- Applicants from Semi urban area are 38% i.e. 233 people
- Applicants from Urban area are 33% i.e. 202 people
- Applicants from Rural area are 29% i.e. 179 people

**4. What conclusions are you derived from the multi variable analysis?**

**Ans:**

- ➢ **Conclusion from Relation between Loan Status and Gender**
  - No of Female whose Loan was approved are 75
  - No of Male whose Loan was approved are 339
  - No of Female whose Loan was not approved are 37
  - No of Female whose Loan was approved are 150

  **Conclusion**: We can observe that the proportion of Male applicants is higher for the approved loans.
- ➢ **Conclusion of relation between Loan Status and Martial status**

- No of Married people whose Loan was approved are 285
- No of Married people whose Loan was not approved are 113
- No of Unmarried people whose Loan was approved are 134
- No of Unmarried people whose Loan was not approved are 79

**Conclusion**: We can observe that the proportion of Married applicants is higher for the approved loans.

➢ **Conclusion of relation between Loan Status and Dependents**

| Number of dependents on the loan applicant |
| :---: |
| 0 and Loan was approved: 238 |
| 0 and Loan was not approved: 107 |
| 1 and Loan was approved: 66 |
| 1 and Loan was not approved: 36 |
| 2 and Loan was approved: 76 |
| 2 and Loan was not approved: 25 |
| 3+ and Loan was approved: 33 |
| 3+ and Loan was not approved: 18 |

**Conclusion:** We can observe that the distribution of applicants with 1 or 3+ dependents is similar across both the categories of Loan Status

➢ **Conclusion of relation between Loan Status and Education.**
- No of People who are Graduate and Loan was approved are 340
- No of People who are Graduate and Loan was no approved are 140
- No of people who are Not Graduate and Loan was approved are 82
- No of People who are Not Graduate and Loan was not approved are 52

**Conclusion:** We can observe that the proportion of Graduate applicants is higher for the approved loans.

➢ **Conclusion from Relation between Loan Status and Self-employed.**

- No of People who are Self-employed and Loan was approved are 56
- No of People who are Self-employed and Loan was not approved are 26
- No of People who are not Self-employed and Loan was approved are 343
- No of People who are not Self-employed and Loan was not approved are 157
  **Conclusion:** There is nothing that we can signify and infer from Self-employed vs Loan Status plot.

➢ **Conclusion from relation between Loan Status and Credit History**

- No of People with credit history as 1 and loan was approved are 378
- No of People with credit history as 1 and loan was not approved are 97
- No of People with credit history as 0 and loan was approved are 7
- No of People with credit history as 0 and loan was not approved are 82
  **Conclusion:** We can observe that, it seems people with credit history as 1 are more likely to get their loans approved.

➢ **conclusion from Relation between Loan Status and Property Area**

- No of People who are from Rural area and loan was approved are 110
- No of People who are from Rural area and loan was not approved are 69
- No of People who are from Semiurban area and loan was approved are 179
- No of People who are from Semiurban area and loan was not approved are 54
- No of People who are from Urban area and loan was approved are 133
- No of People who are from Semiurban area and loan was not approved are 69

**Conclusion:** We can observe that the Proportion of loans getting approved in semiurban area is higher as compared to that in rural or urban areas.

➢ We can observe that applicant income does not affect the chances of loan approval.

➢ We can observe that if co-applicant's income is less the chances of loan approval are high. This might be because of if there is no co-applicant then his income is marked as ZERO. So, I think so we cannot infer any conclusion from here.

➢ We can observe that low income people have less change of getting loan approved compared to Average, High and Very High Income.

- No of Applicants whose Total Income was Low and loan was approved: 10
- No of Applicants whose Total Income was Low and loan was not approved: 14
- No of Applicants whose Total Income was Average and loan was approved: 87
- No of Applicants whose Total Income was Average and loan was not approved: 32
- No of Applicants whose Total Income was High and loan was approved: 159
- No of Applicants whose Total Income was High and loan was not approved: 65
- No of Applicants whose Total Income was Very High and loan was approved: 166
- No of Applicants whose Total Income was Very High and loan was not approved: 81

➢ **Conclusions from Relation between Loan Status and Loan Amount**

- No of Applicants whose Loan Amount was low and Loan was approved are 86
- No of Applicants whose Loan Amount was low and Loan was not approved are 38
- No of Applicants whose Loan Amount was Average and Loan was approved are 207
- No of Applicants whose Loan Amount was Average and Loan was not approved are 83
- No of Applicants whose Loan Amount was High and Loan was approved are 39

- No of Applicants whose Loan Amount was High and Loan was not approved are 27

  **Conclusion:** We can observe that the proportion of approved loans is higher for Low and Average Loan Amount as compared to that of High Loan Amount

➢ **More correlated variables:**
  - Applicant Income - Loan Amount
  - Credit History - Loan Status