

CREDIT EDA CASE STUDY

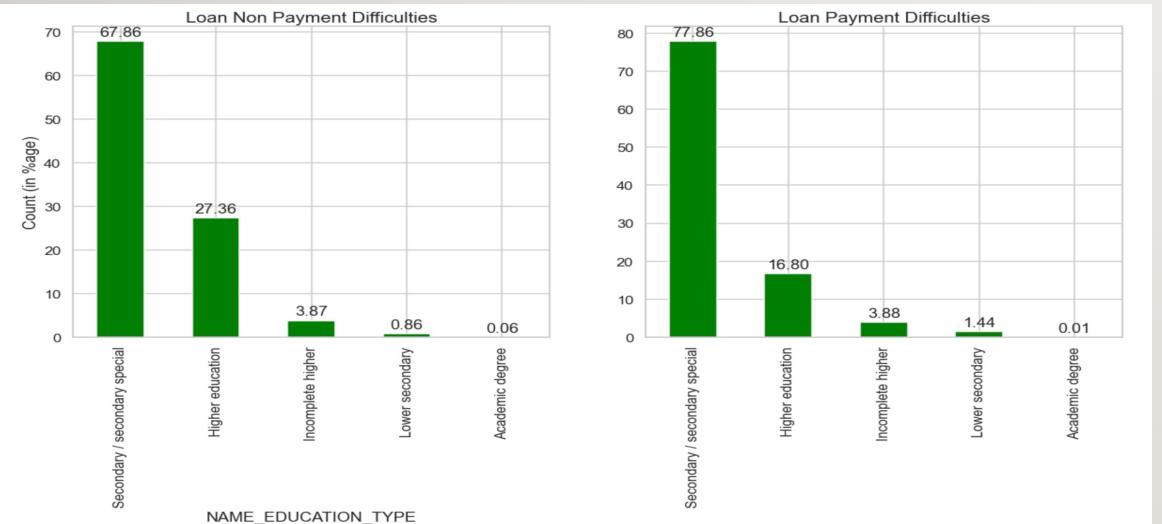
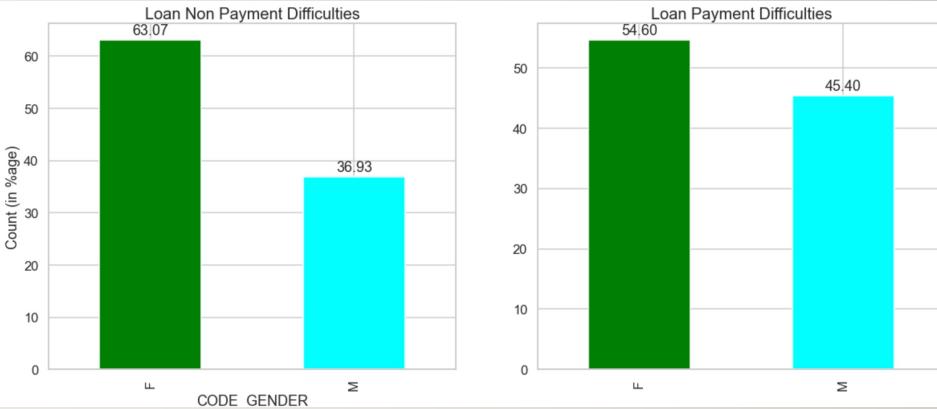
BY NEHA CHOPRA

Business objective

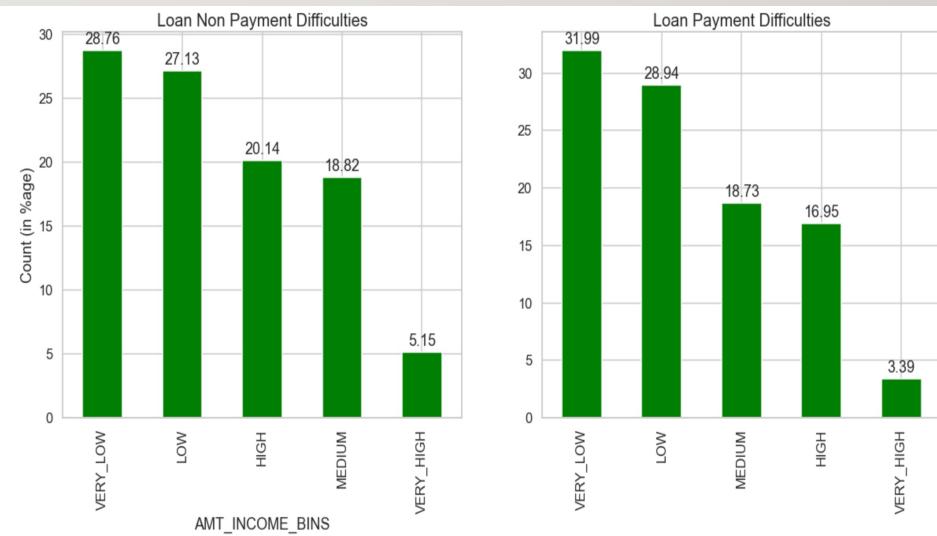
- The loan providing companies find it hard to give loans to the people due to their insufficient or non-existent credit history. Because of that, some consumers use it as their advantage by becoming a defaulter. Suppose you work for a consumer finance company which specialises in lending various types of loans to urban customers. You have to use EDA to analyse the patterns present in the data. This will ensure that the applicants capable of repaying the loan are not rejected.
- When the company receives a loan application, the company has to decide for loan approval based on the applicant's profile.
- Two types of risks are associated with the bank's decision:
 - If the applicant is likely to repay the loan, then not approving the loan results in a loss of business to the company
 - If the applicant is not likely to repay the loan, i.e. he/she is likely to default, then approving the loan may lead to a financial loss for the company.
- The data given below contains the information about the loan application at the time of applying for the loan.
- It contains two types of scenarios:
 - The client with payment difficulties: he/she had late payment more than X days on at least one of the first Y instalments of the loan in our sample,
 - All other cases: All other cases when the payment is paid on time.
- When a client applies for a loan, there are four types of decisions that could be taken by the client/company):
 - Approved: The Company has approved loan Application
 - Cancelled: The client cancelled the application sometime during approval. Either the client changed her/his mind about the loan or in some cases due to a higher risk of the client he received worse pricing which he did not want.
 - Refused: The company had rejected the loan (because the client does not meet their requirements etc.).
 - Unused offer: Loan has been cancelled by the client but on different stages of the process.

Education v/s Income v/s Gender

- **High percentage of Females for stepping forward for a loan**
- **Males have high possibility to turn out to be a defaulter when compared to female**



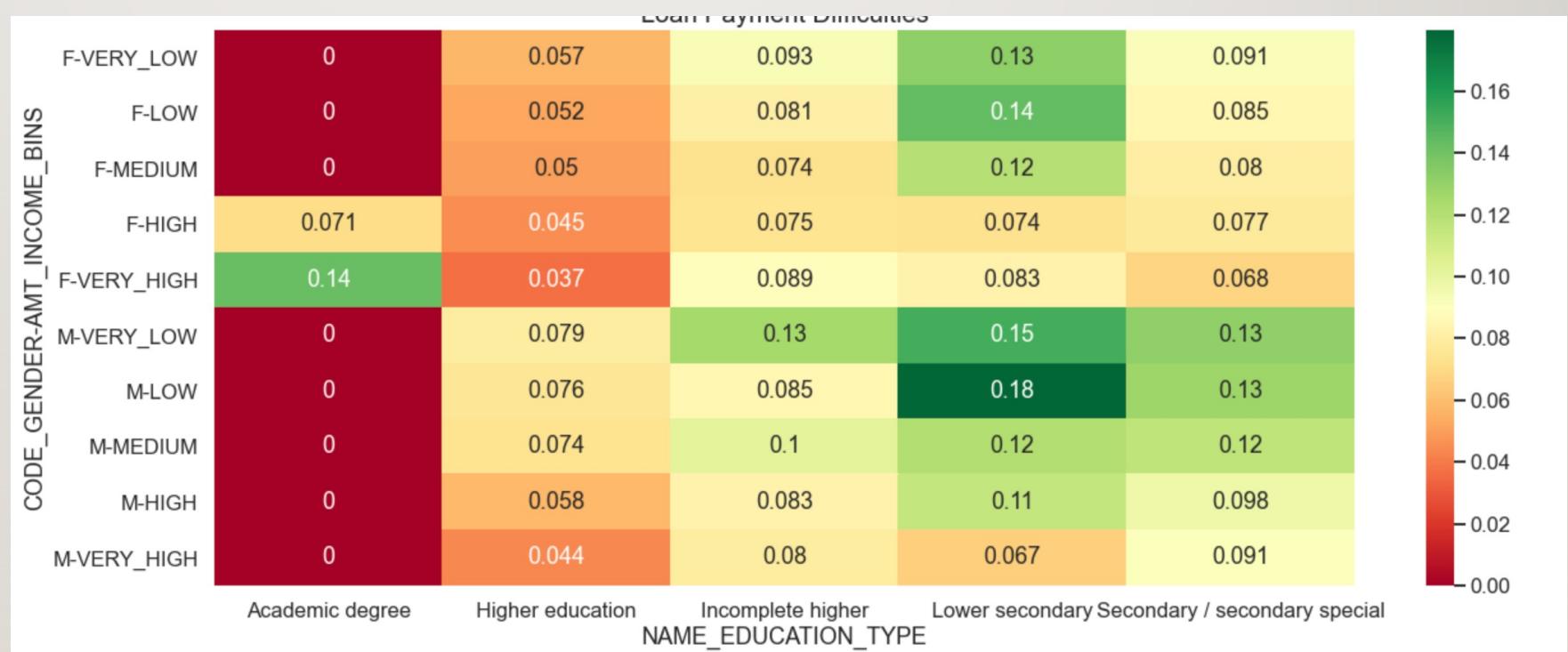
- **Client with VERY_LOW and LOW income are highly likely to have Loan Payment Difficulties**
- **Client with VERY_HIGH and HIGH income won't face any kind of repaying the loan back**



- **Secondary/secondary special educational qualifications have high possibility of turning out to be defaulters**
- **One with Academic degree can easily repay the loan.**

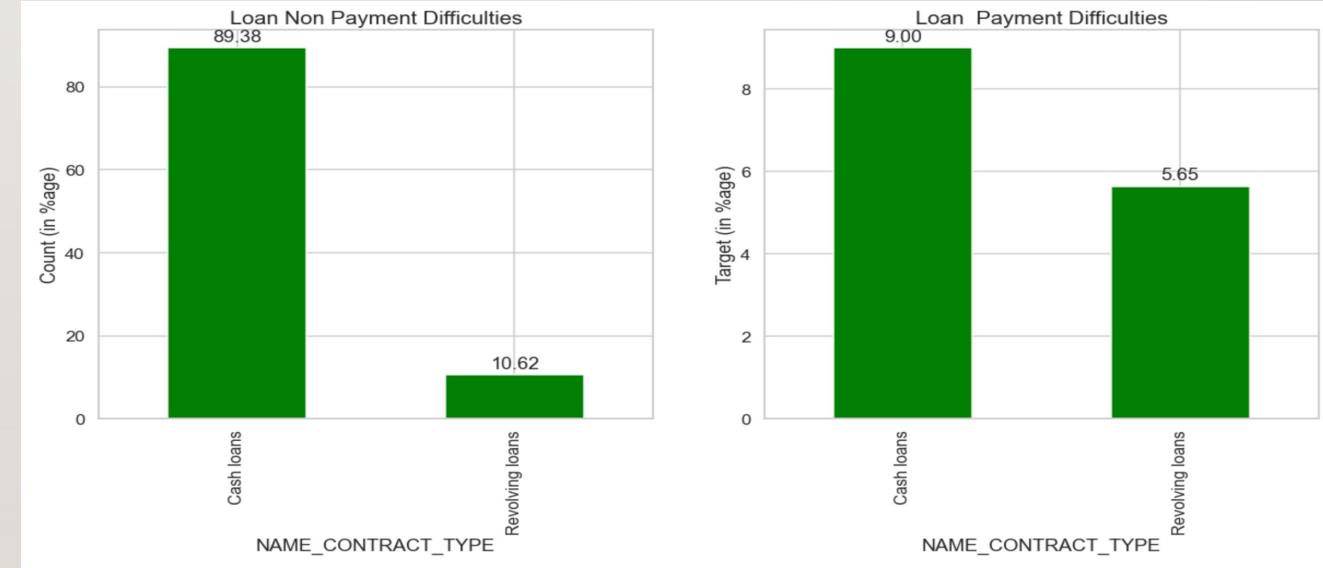
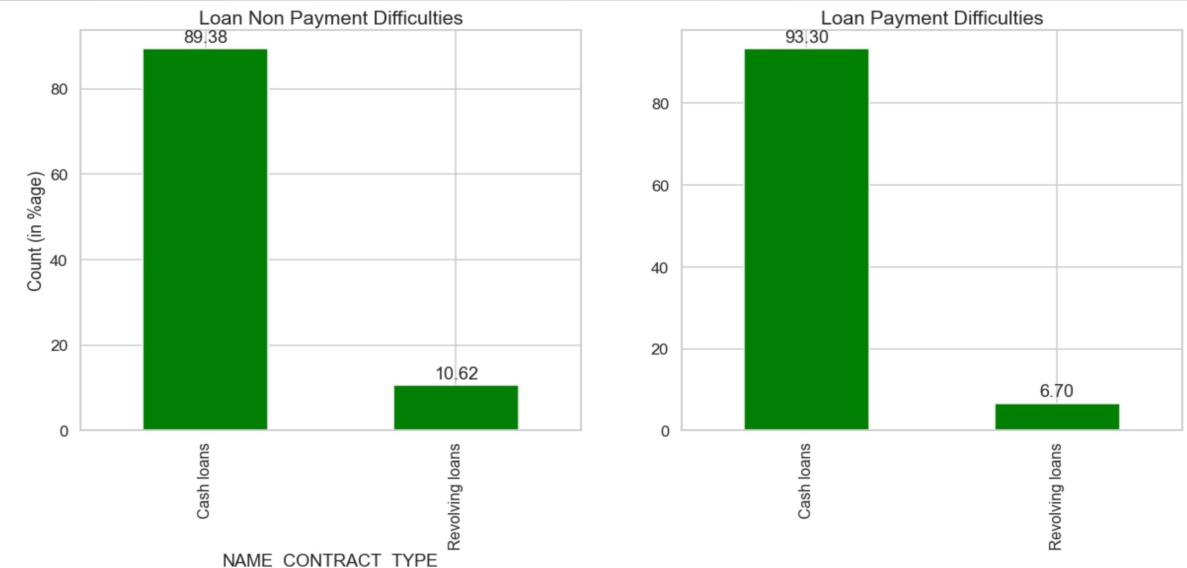
Education v/s Income v/s Gender

- Education qualification**
Academic degree with variety of income range can easily repay the loan except females with high or very income are likely to turn out to be defaulters
- Male with educational qualification** Lower secondary and income range Medium can face loan payment difficulties
- Higher education have high %age of Loan Payment difficulties for both gender**



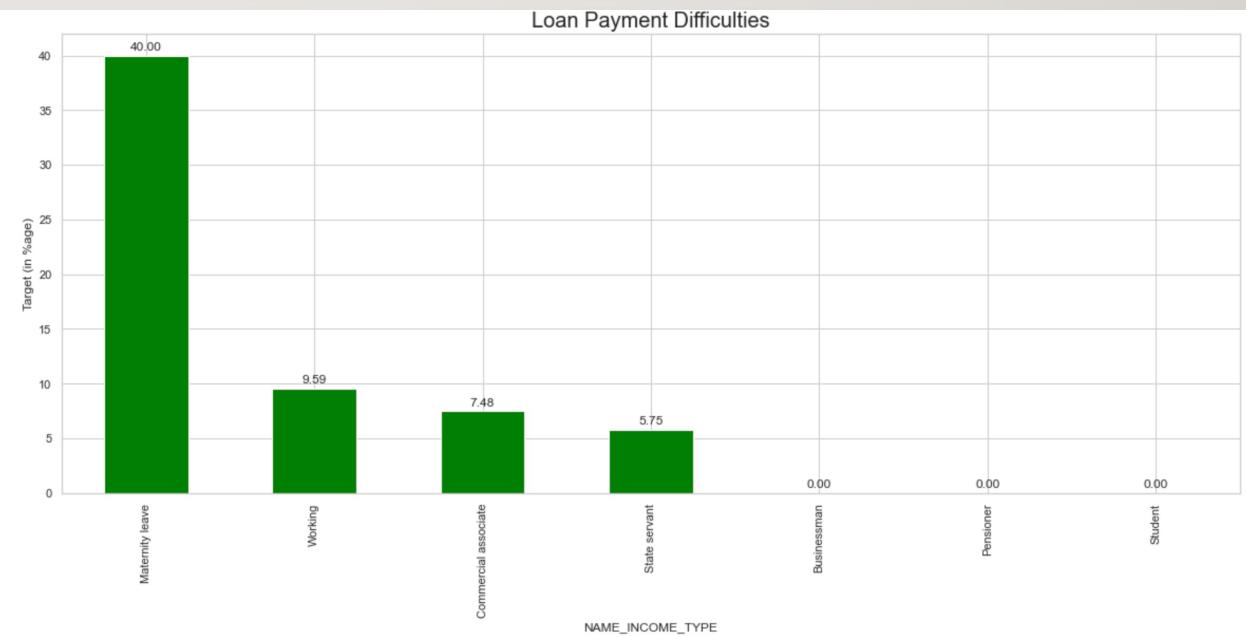
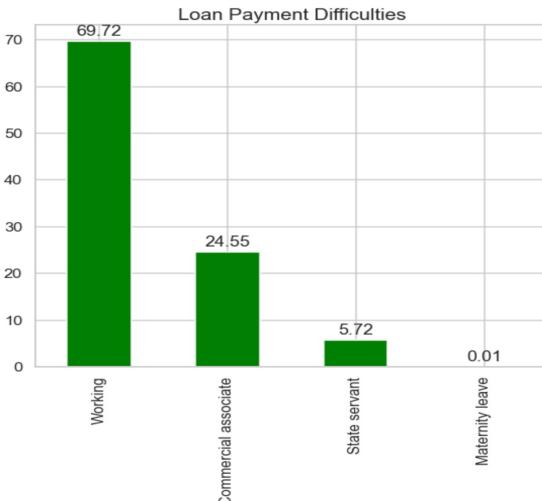
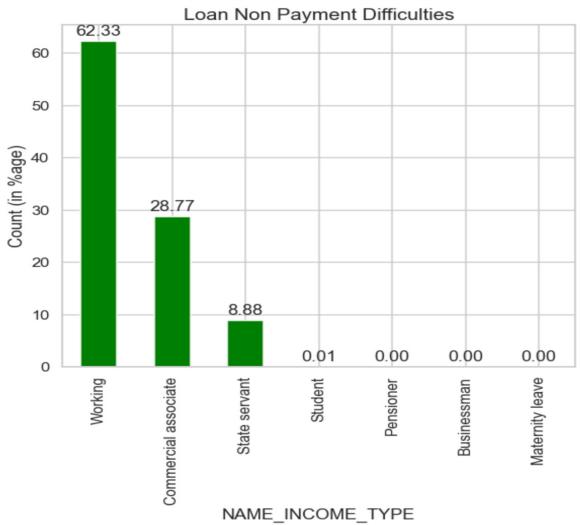
Loan payment difficulties – Loan Contract

- For contract type 'cash loans' is having large number of credits than 'Revolving loans'.
- Cash loans has highest possibility with loan payment difficulties.
- On the other hand, Revolving loans has least possibility for defaulters



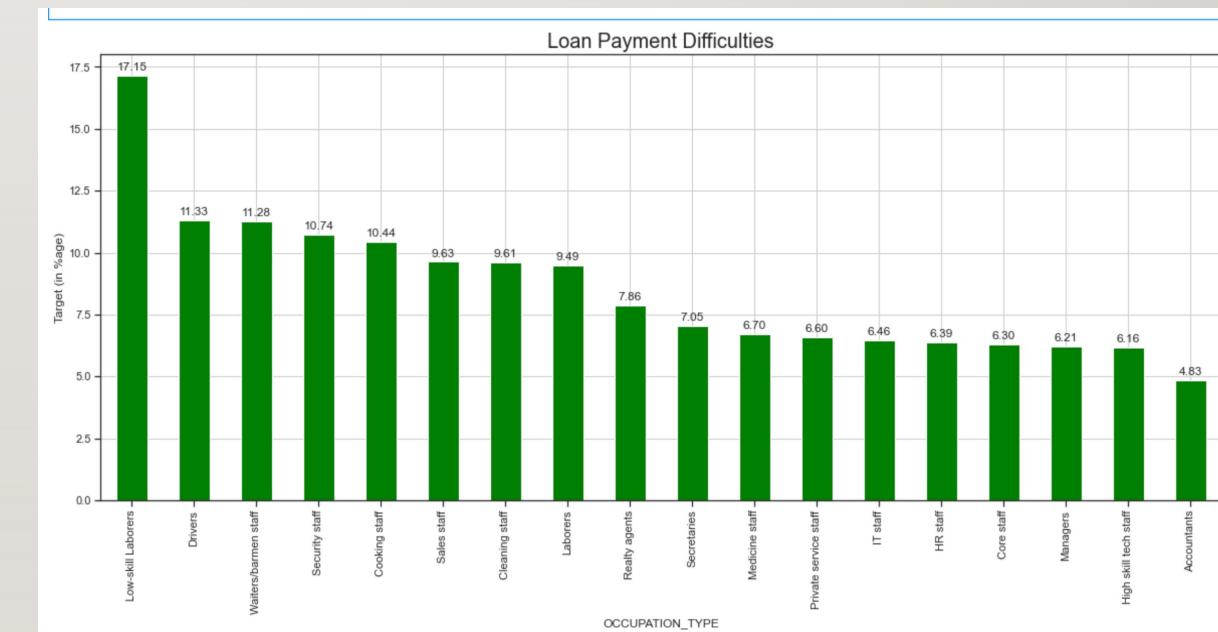
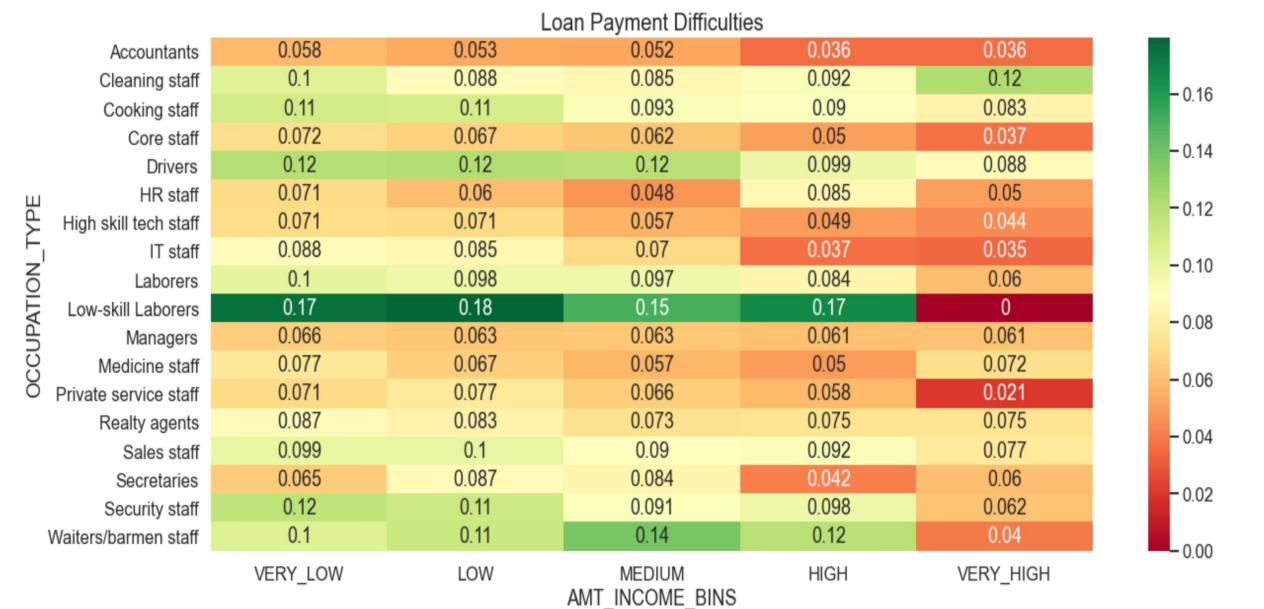
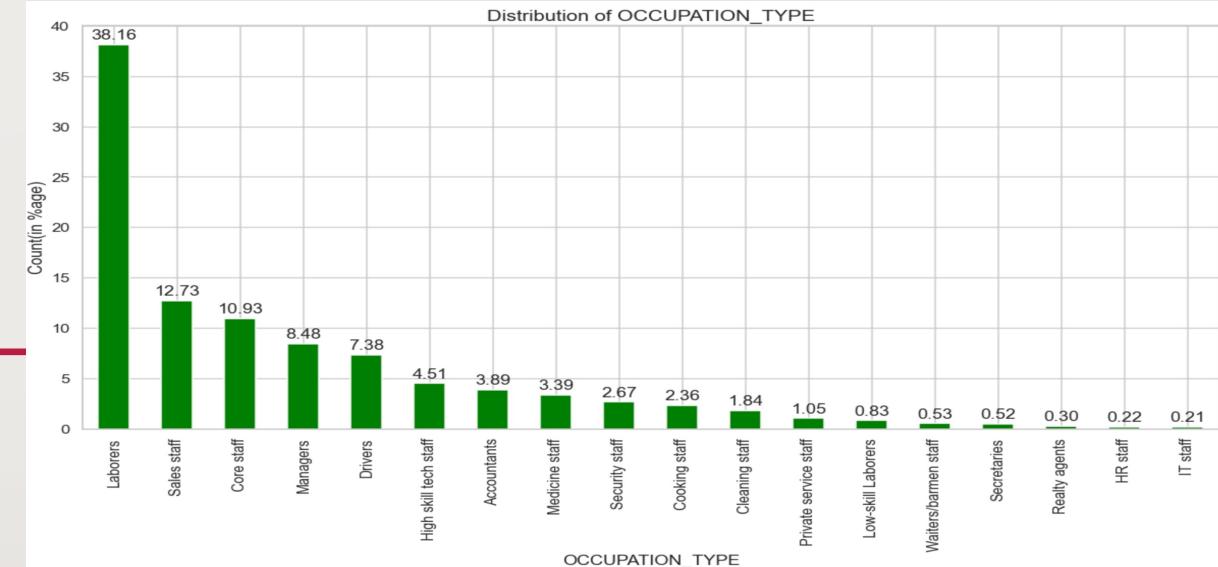
Income type

- Banks should try to focus more on contract type 'Student' , 'pensioner' and 'Businessman' for successful payments.
- Banks should be considerate when providing loans to income type 'Working', because they are having maximum number of unsuccessful payments.
- 'Maternity leave' distribution is least in 'NAME_INCOME_TYPE', and also high %age of payment difficulties- around 40%. Therefore, client with income type as 'Maternity leave' are the driving factors for Loan Defaulters.



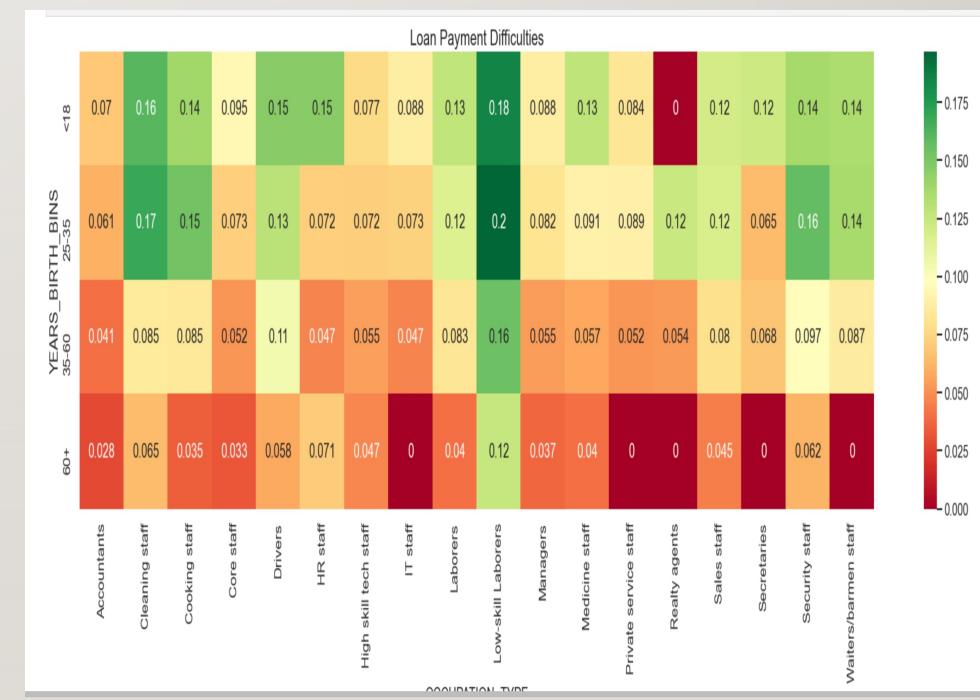
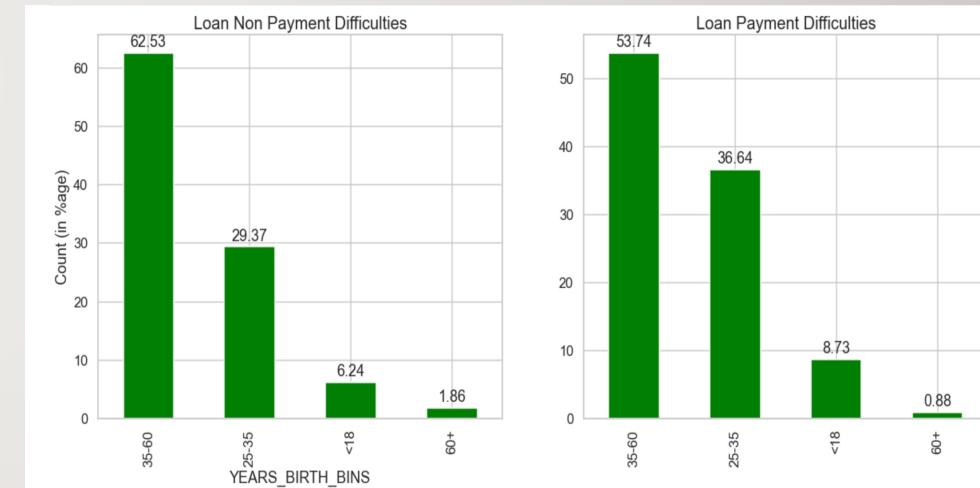
Occupation v/s Income

- Low skilled Laborers occupation type has the least distribution in terms of number, but maximum chances to face difficulties in paying back to bank.



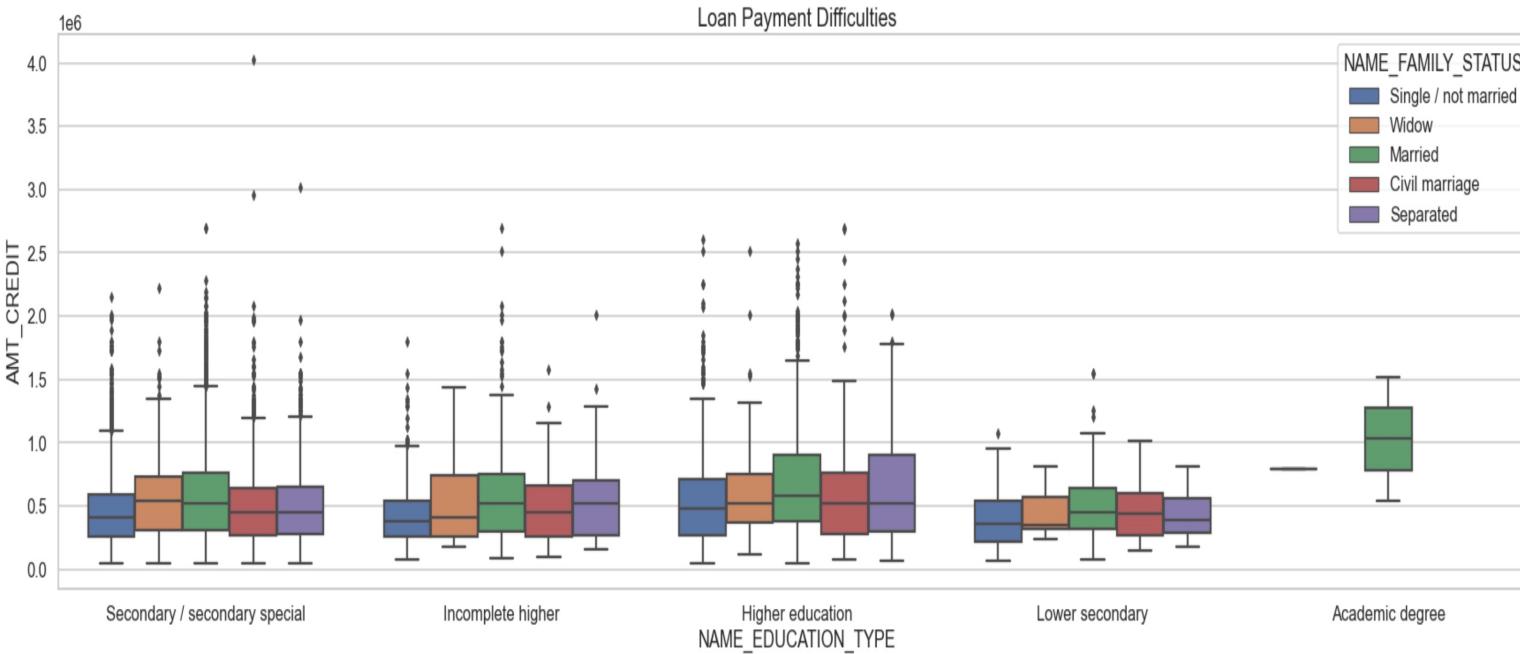
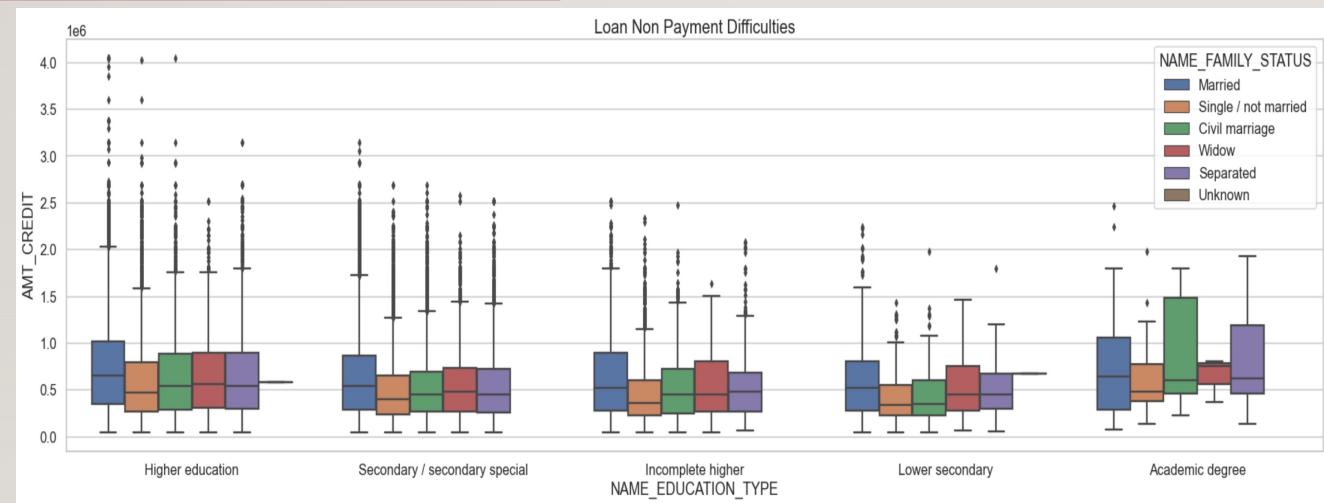
Age v/s Income

- <18 are mostly the Low-skilled laborers and they do have the high possibility of not repaying back to the bank
- 35-60 and 60+ are less likely to turn out to be defaulter, bank can consider them after considering their source and income range



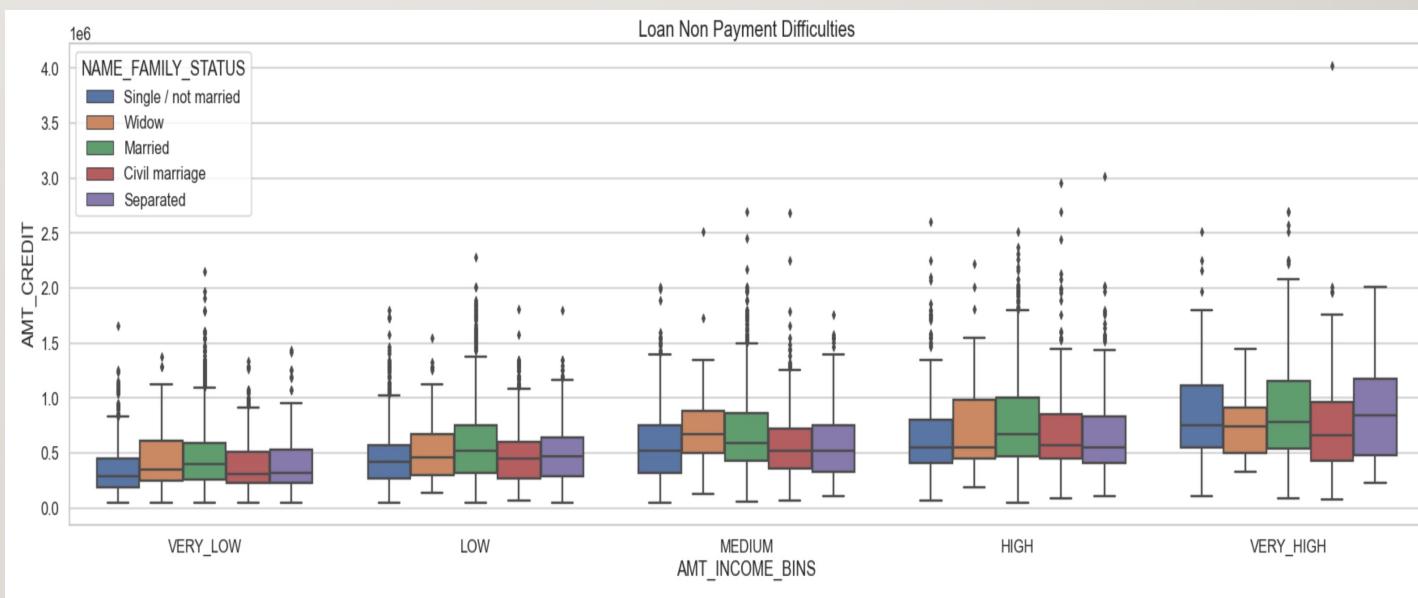
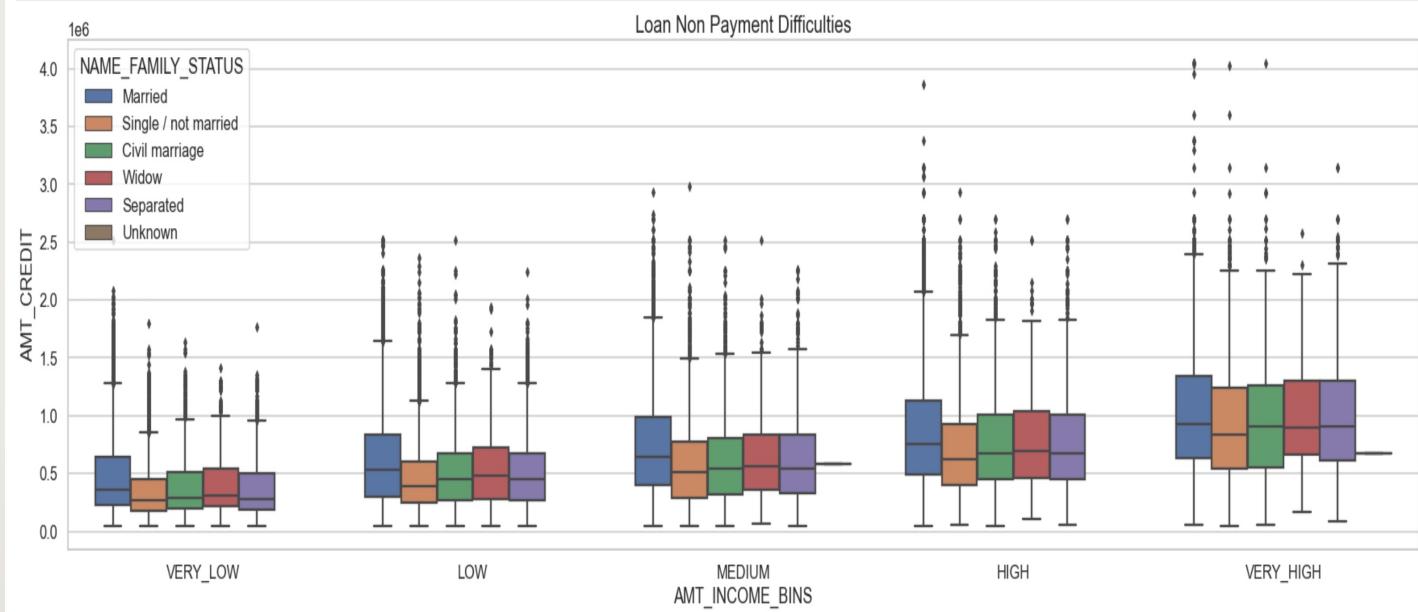
- With Family status of 'married' , 'civil marriage' and 'separated' of Academic degree education they entertain higher number of credits than others.

Amount credit v/s education



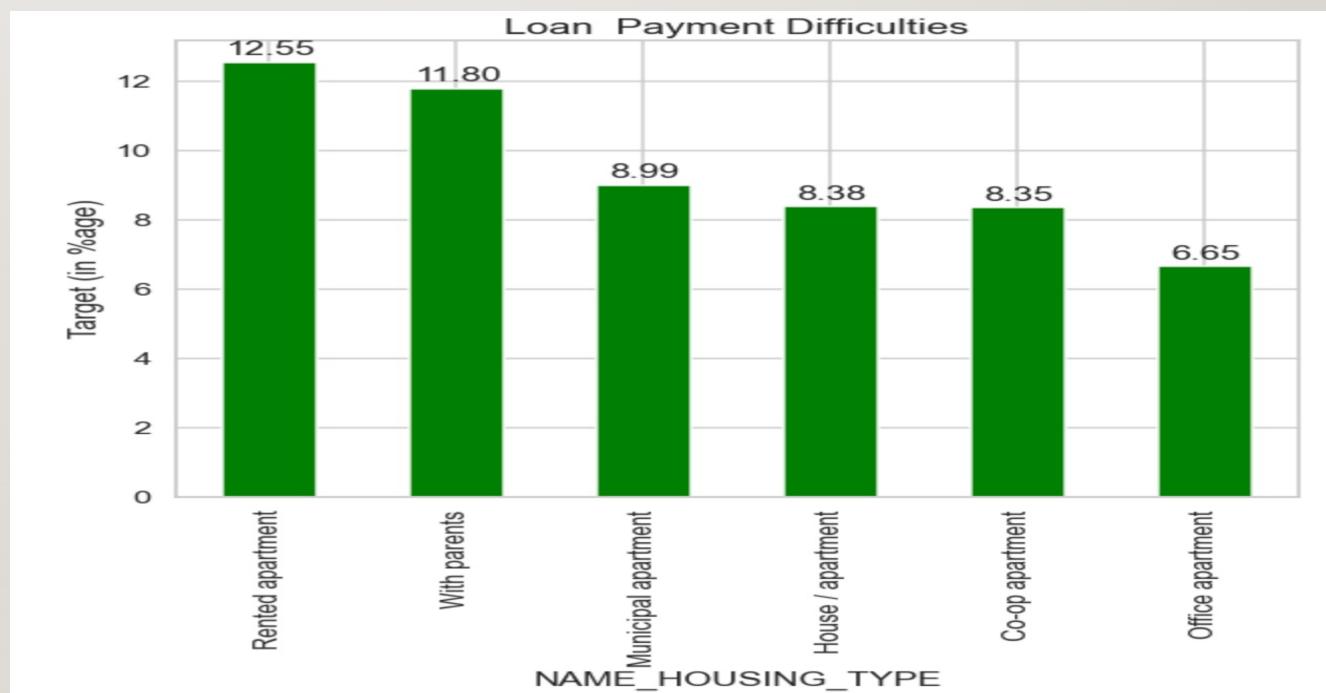
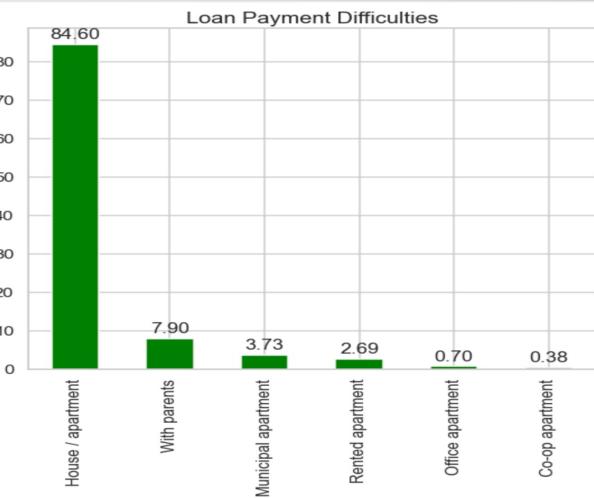
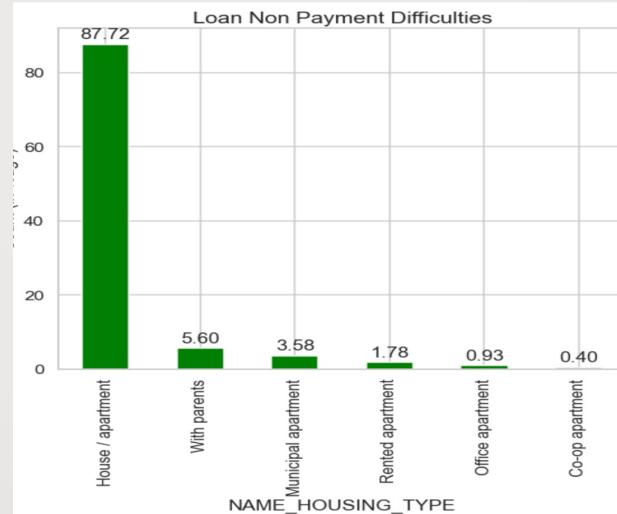
Amout Credit v/s Amount Income

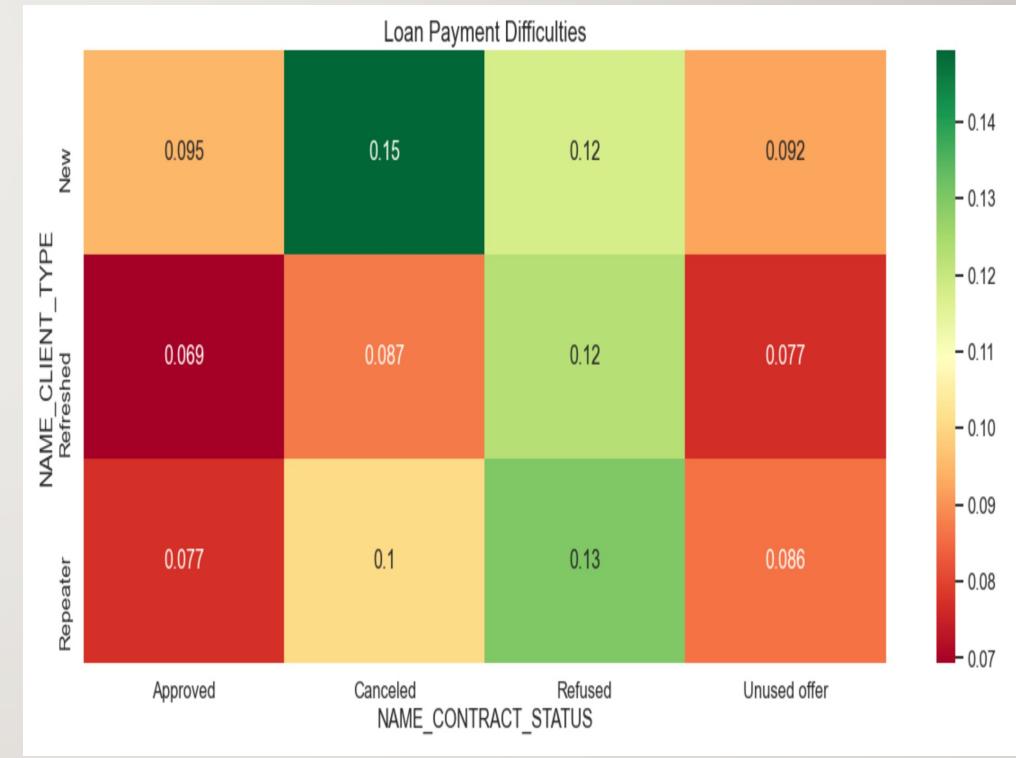
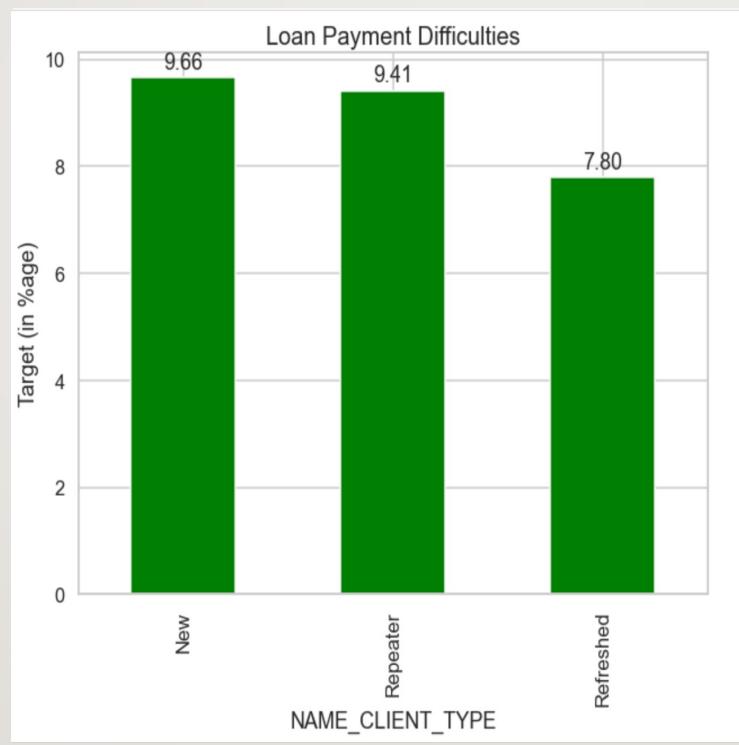
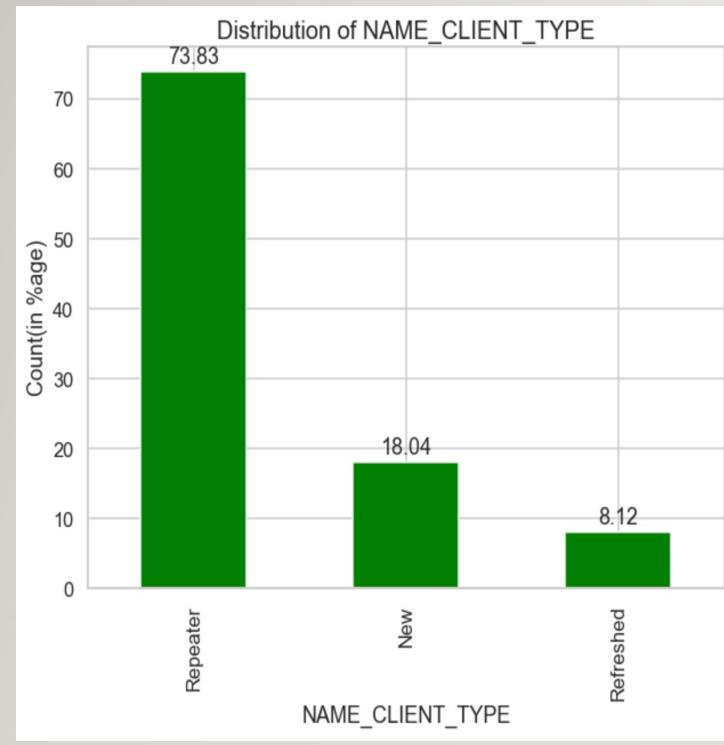
- With Family status of 'married' , 'civil marriage' and 'separated' of Academic degree education they entertain higher number of credits than others.
- From previous slides, client with academic degree has least possibility to face payment difficulties. Client can target clients with above-mentioned family status with academic degree



Housing type

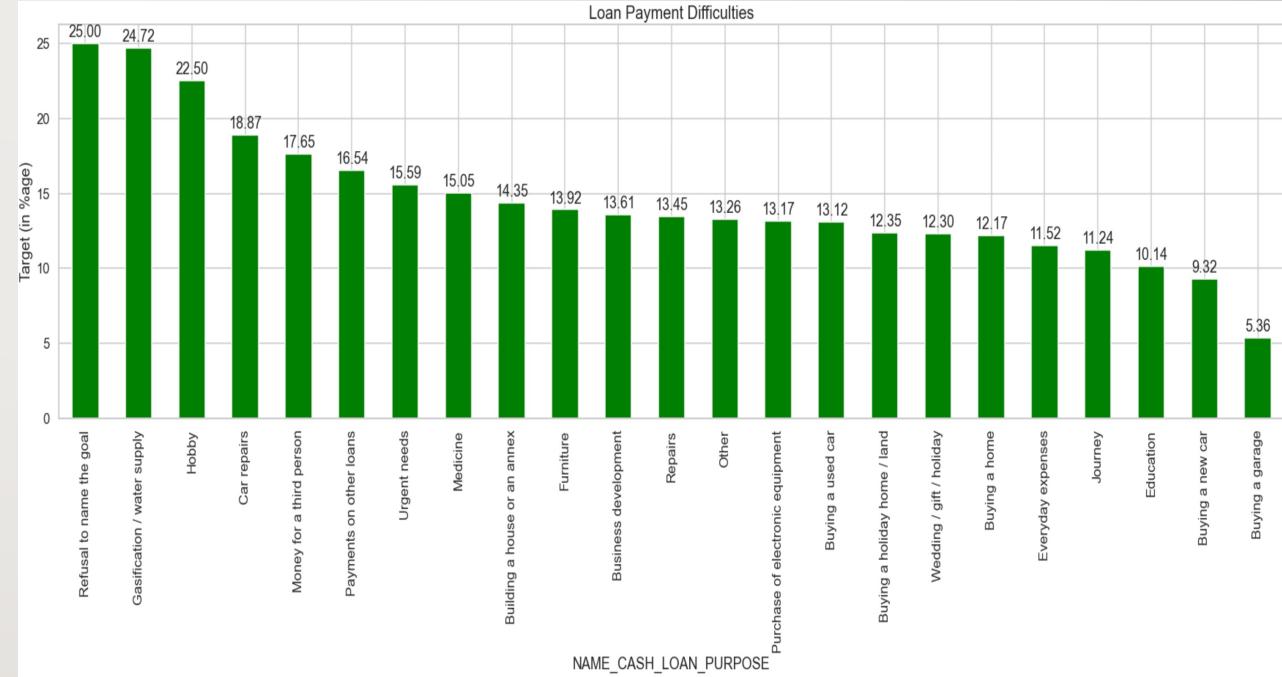
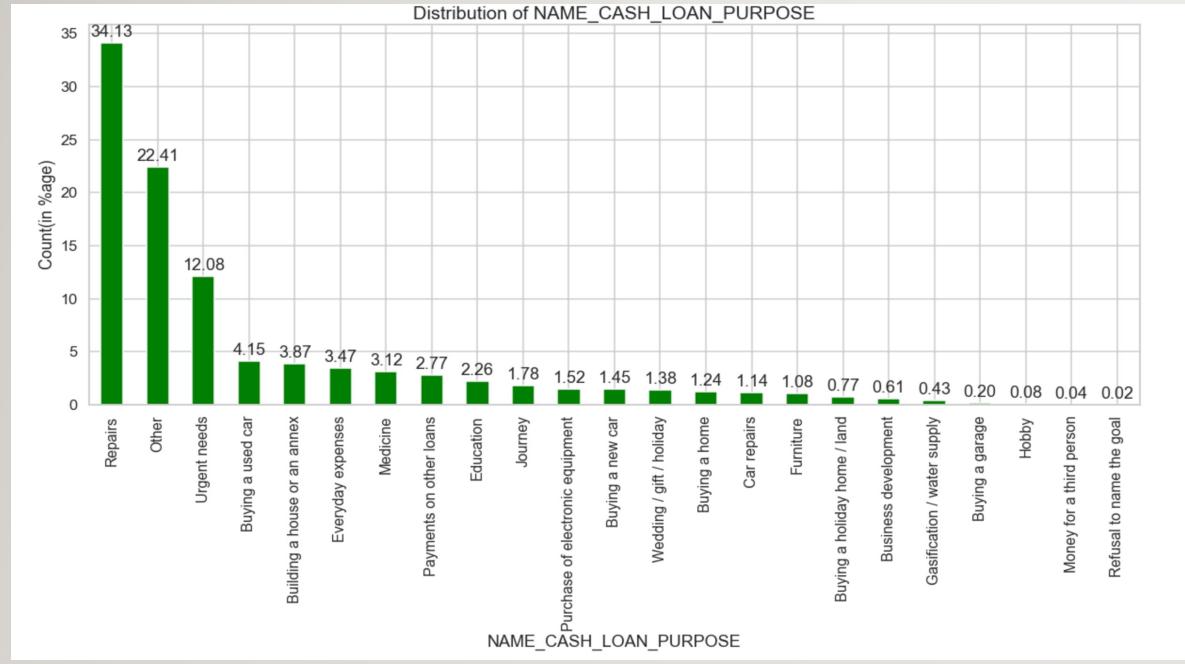
- Client with already paying rent can turn out to be defaulters.
- Client on rented apartment are more frequently interest in taking loan





Client type

- Repeaters are interested in the further loans and less likely to face loan payment difficulties
- New client are highly likely to be a defaulter



LOAN PURPOSE

- Clients are mostly taking loans for repairs
- Bank should not consider the loan request one which are not clear with the goal as they have highest possibility with Loan payment difficulties

Conclusion

- Males have high possibility to turn out to be a defaulter when compared to female
- One with Academic degree can easily repay the loan.
- Maternity Leave' distribution is least in 'NAME_INCOME_TYPE', and also high %age of payment difficulties- around 40%. Therefore, client with income type as 'Maternity leave' are the driving factors for Loan Defaulters.
- Low skilled Laborers occupation type has the least distribution in terms of number, but maximum chances to face difficulties in paying back to bank.
- Banks should try to focus more on contract type 'Student' , 'pensioner' and 'Businessman' for successful payments.
- For contract type 'cash loans' is having large number of credits than 'Revolving loans'. Revolving loans has least possibility for defaulters
- 35-60 and 60+ are less likely to turn out to be defaulter, bank can consider them after considering their source and income range
- With Family status of 'married' , 'civil marriage' and 'separated' of Academic degree education they entertain higher number of credits than others.
- Client with already paying rent can turn out to be defaulters. Client on rented apartment are more frequently interest in taking loan
- Repeaters are interested in the further loans and less likely to face loan payment difficulties. New client are highly likely to be a defaulter
- Bank should not consider the loan request one which are not clear with the goal as they have highest possibility with Loan payment difficulties

Suggestion

- Banks should try to focus more on contract type as 'Student' , 'pensioner' and 'Businessman' as they are less likely to face payment difficulties
- Bank should focus less on client with already paying rent, they have high chances to turn out to be defaulters.
- Bank can focus more on client with academic degree, as they have least possibility to face payment difficulties.
- <18 are mostly the Low-skilled laborers and they do have the high possibility of not repaying back to the bank
- Cash loan are preferred and have high %age with loan payment difficulties
- Bank can focus more on females as they are stepping ahead to take loans and have least probability to turn out to be defaulter