



Credit Risk Analysis Findings

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Introduction

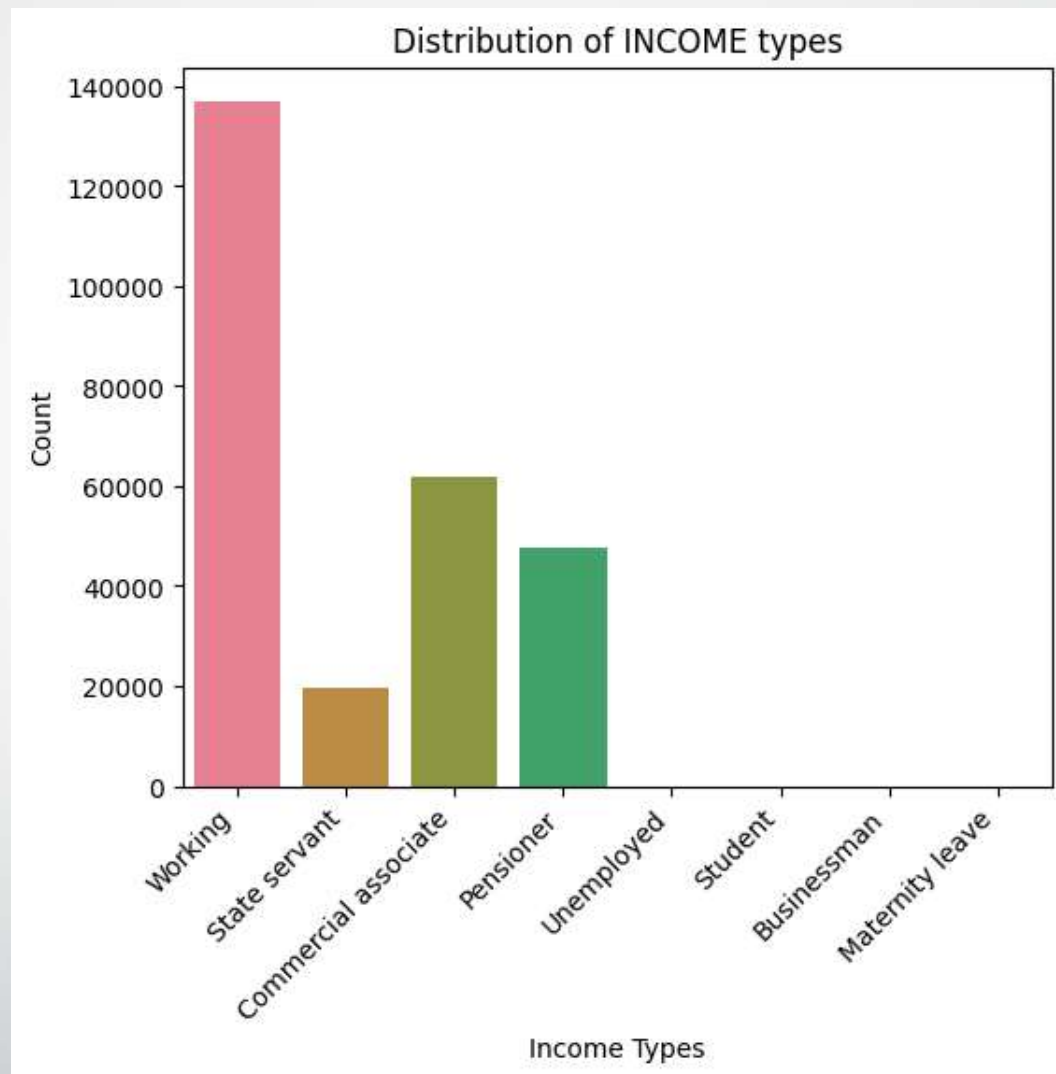
- Welcome to our presentation on "Credit Risk Analysis Findings."
- We'll explore insights from our analysis of credit risk data.
- Our goal is to understand the demographic profile of credit applicants.
- We'll identify key risk factors contributing to credit default.
- We aim to provide actionable recommendations to enhance credit risk management practices.
- Let's delve into our findings and discuss strategies to mitigate credit risk effectively.



Demographic Analysis

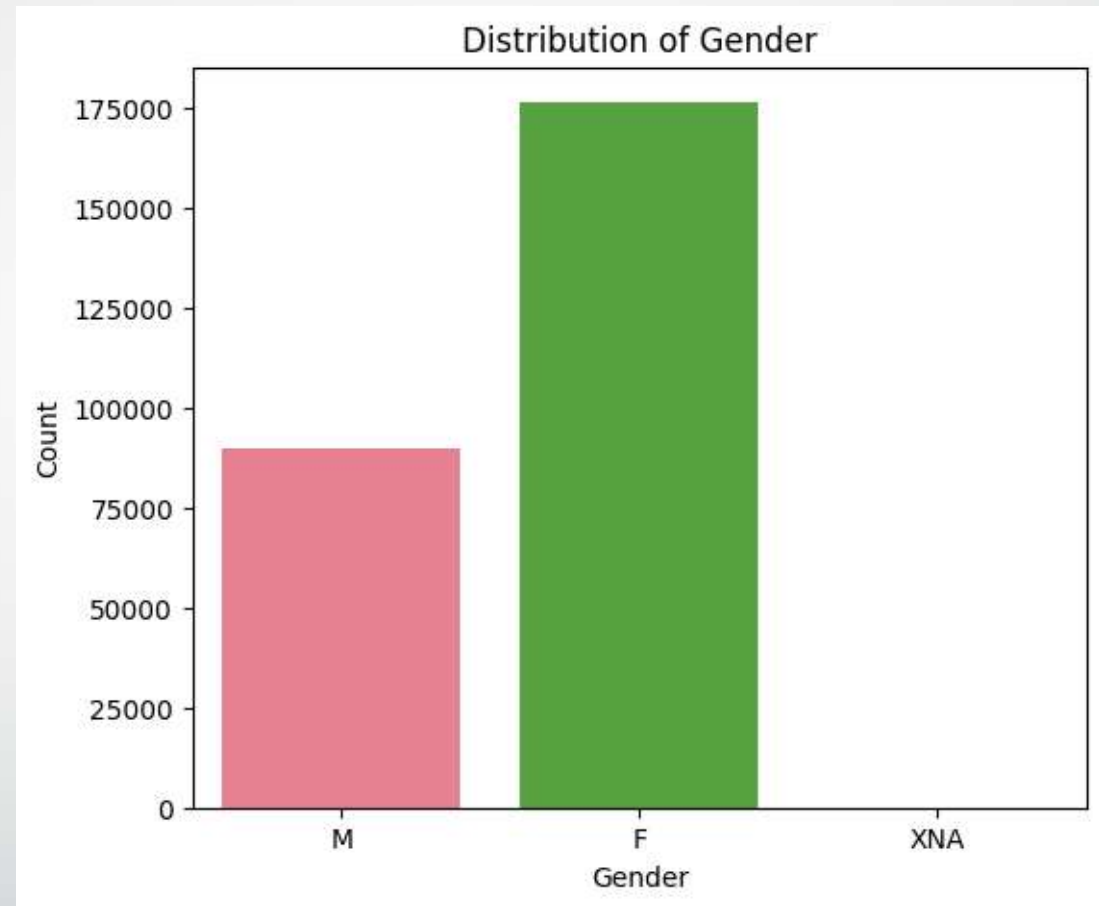
Distribution of INCOME types

*As we can see mostly the people who
applying for the credit are working
professional, state servant, commercial
associate, pensioner*



Breakdown by Gender

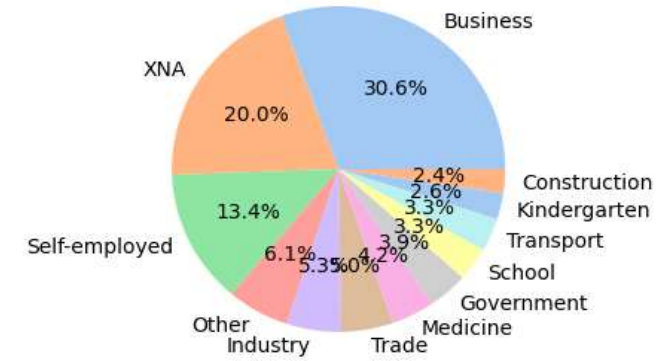
As we can see Women's are applying in very large number for credit



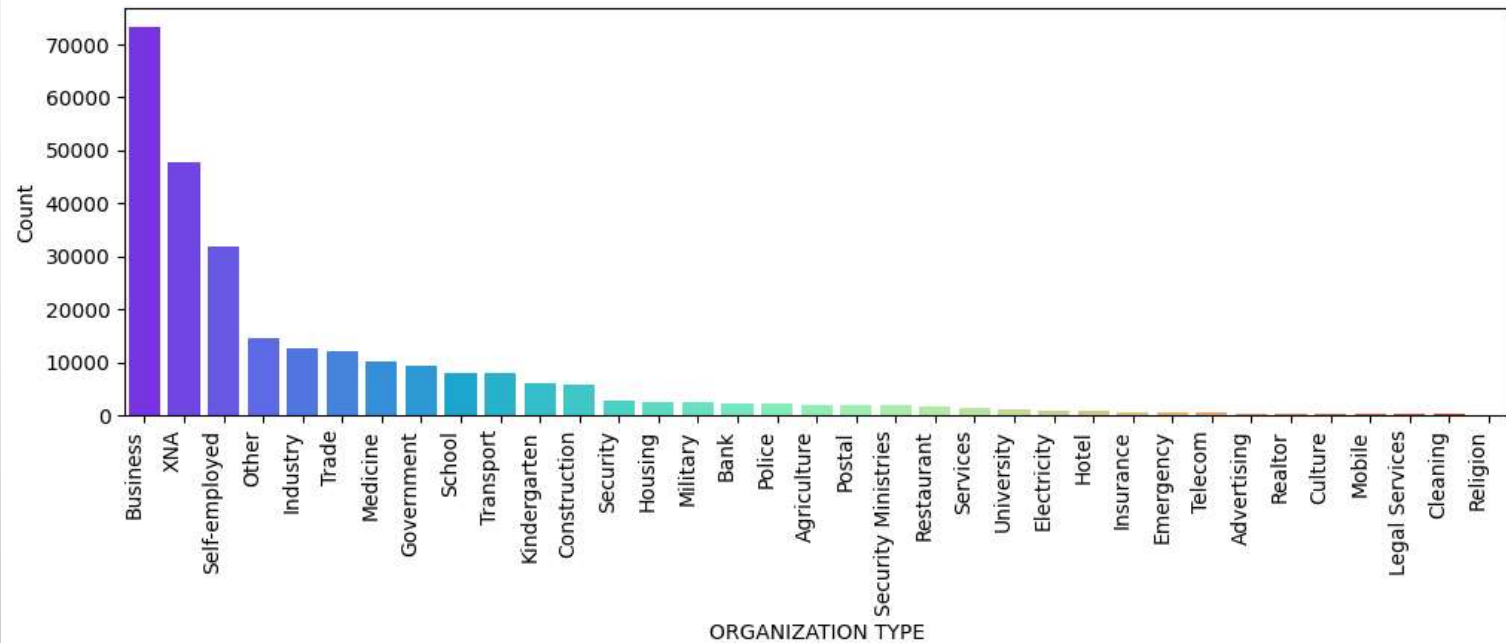
Organization Type of Applicants

One Conclusion we can draw here is that there are large number of working professionals who are applying for credit are working in private sector for some Business organization or group

Organization Type Distribution (> 2%)

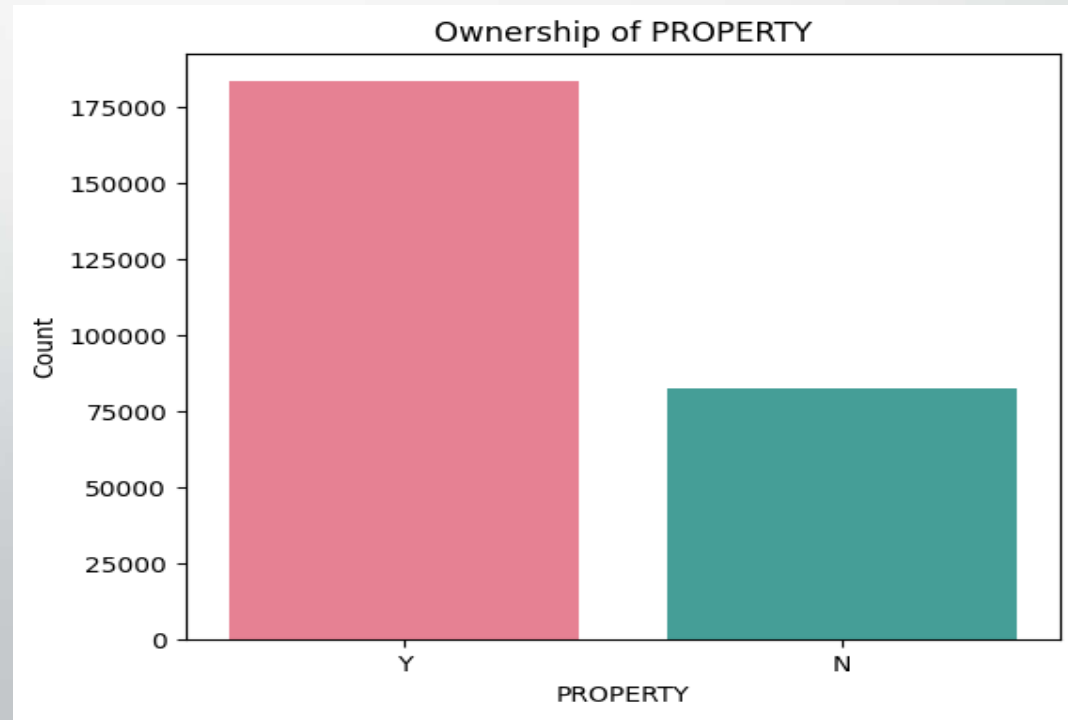
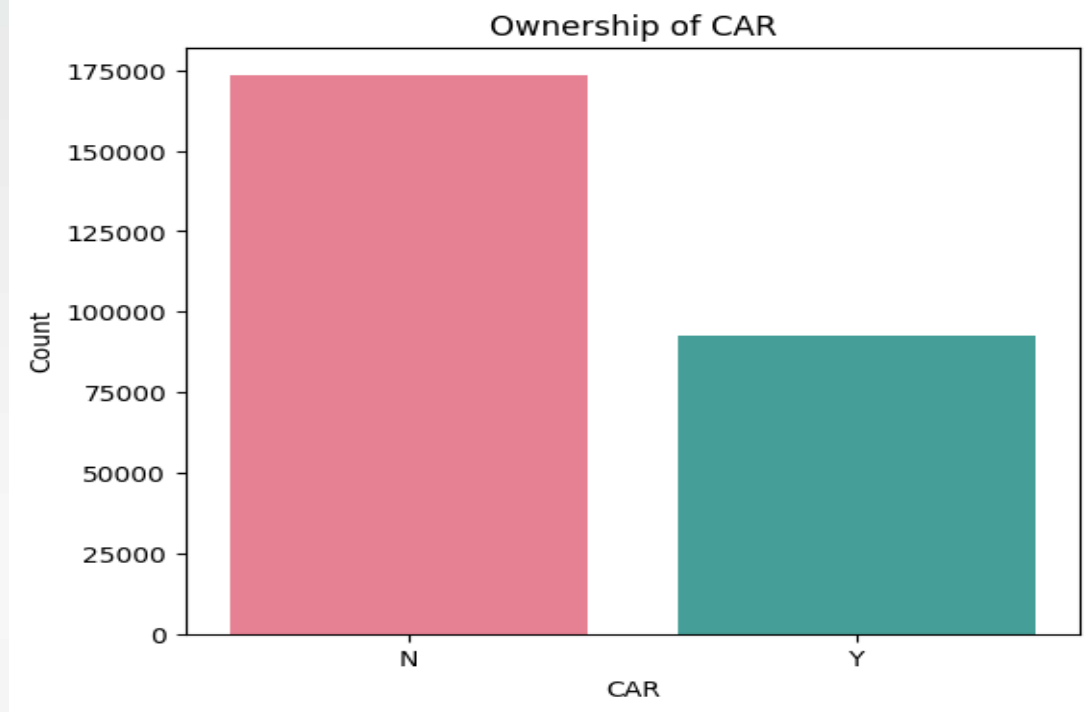


Distribution of ORGANIZATION TYPE



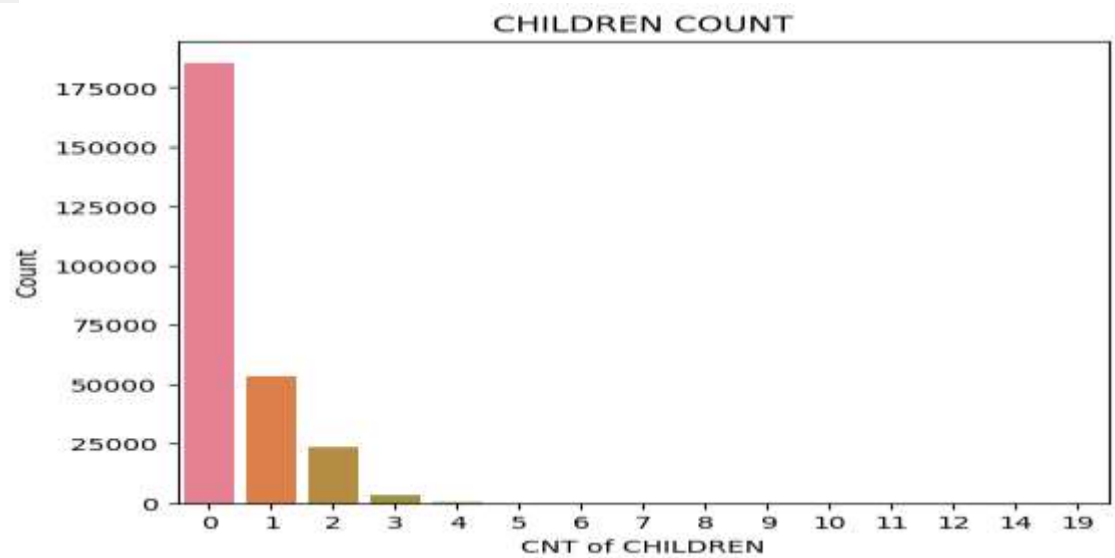
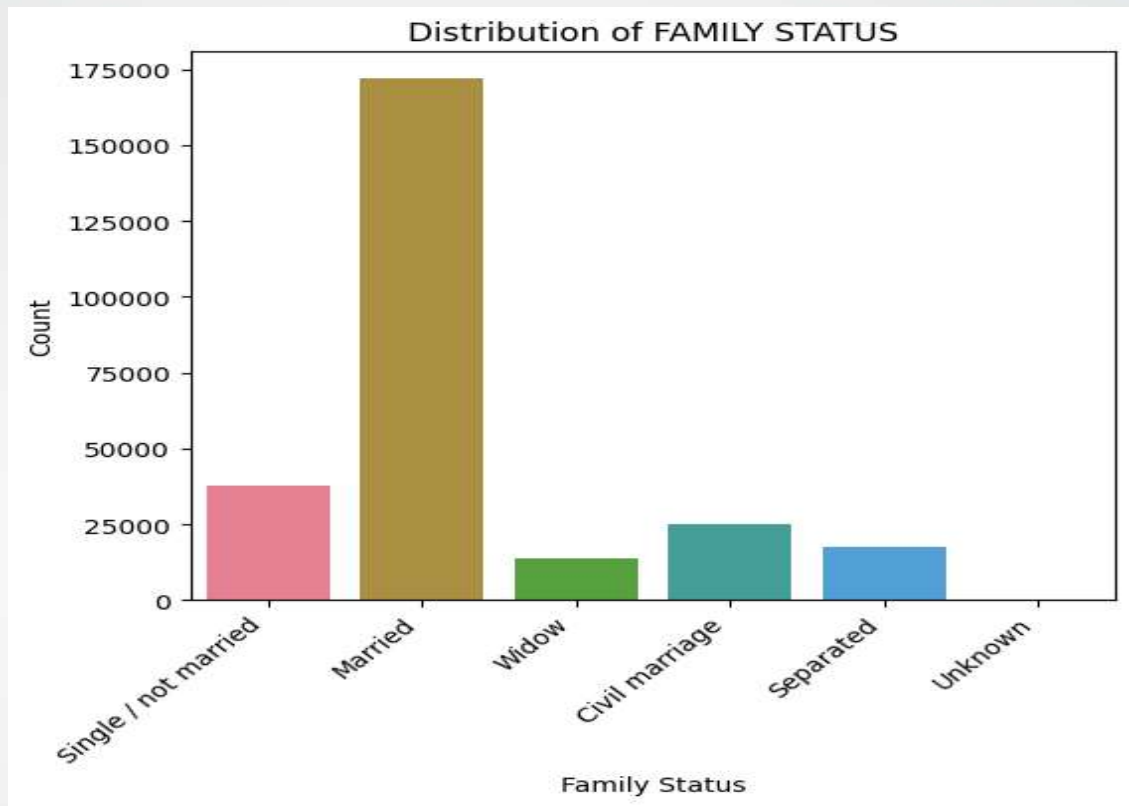
Ownership of Car and Property

- Most of the people who are applying for credit doesn't own a car
- *Most of the People who are applying for credit has their own house/flat*



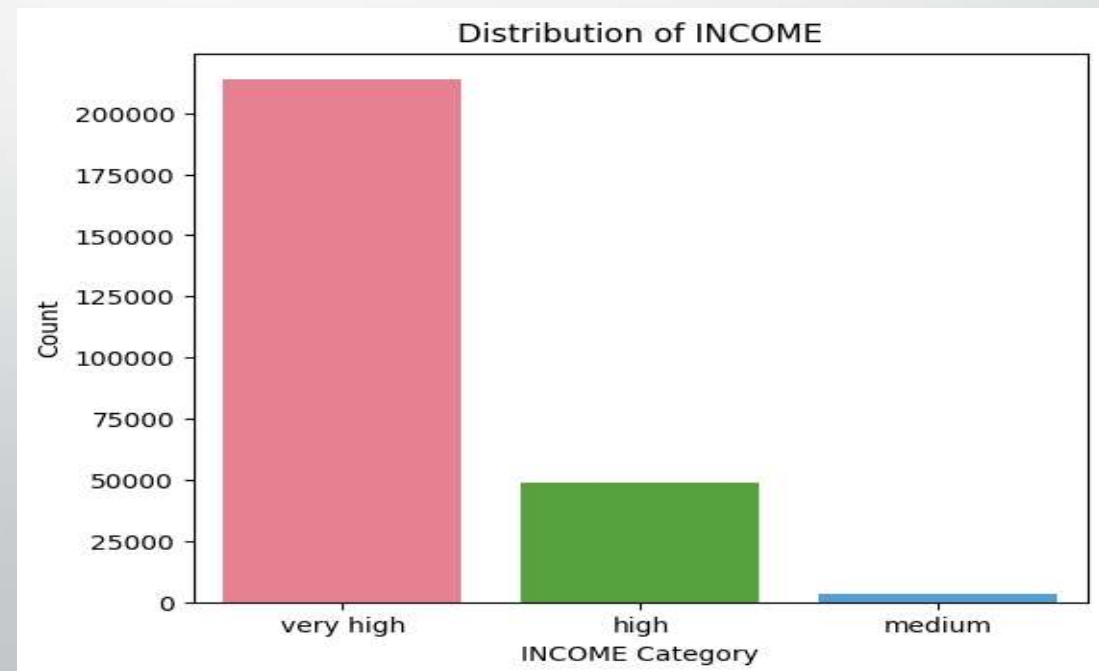
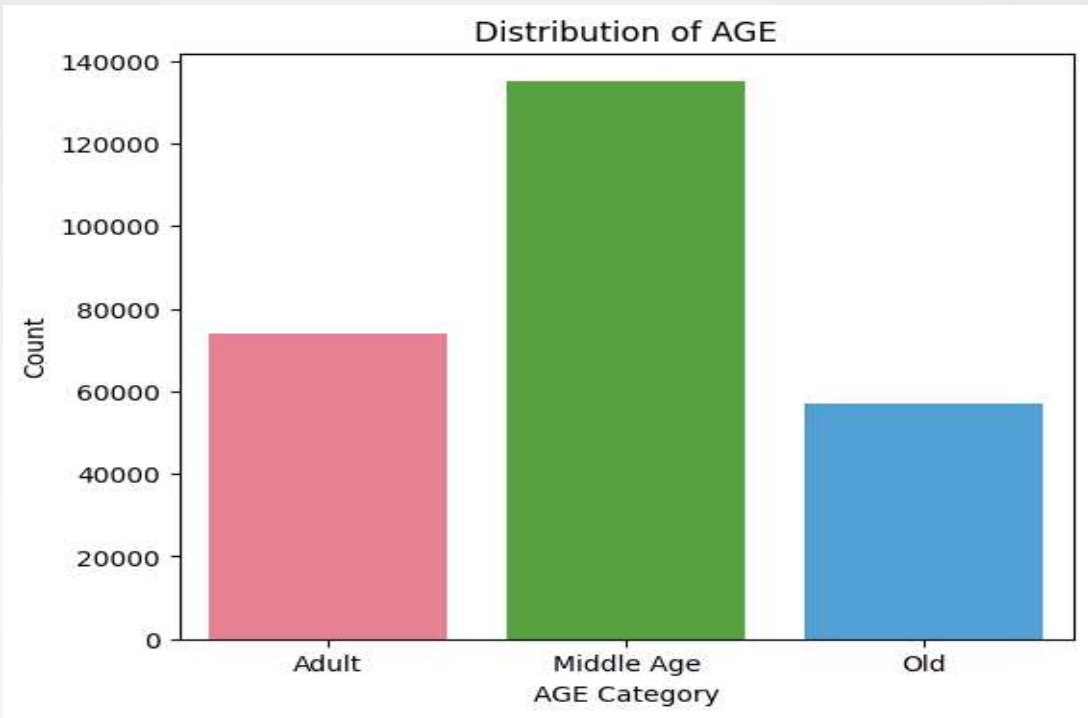
Family Status and Children

- Most of the people who applying for credit are married
- Most of the people who applying for credit has no children



Distribution of Income Levels And Age

- As we can see 80% of the people who are applying for the credit has very high income
- As we can see 50% of the people who applying for the credit are in middle age



Some Conclusion that can be made here :

- most of the people who applying for credit are female
- most of the people who applying for credit have very high income
- most of the people who applying for credit are in middle age
- most of the people who applying for credit don't have children
- most of the people who applying for credit are educated
- most of the people who applying for credit are married
- most of the people who applying for credit don't have a car but has their own flat/apartment
- most of the peoples organization type is business

On the bases of above conclusions we can say two or three things

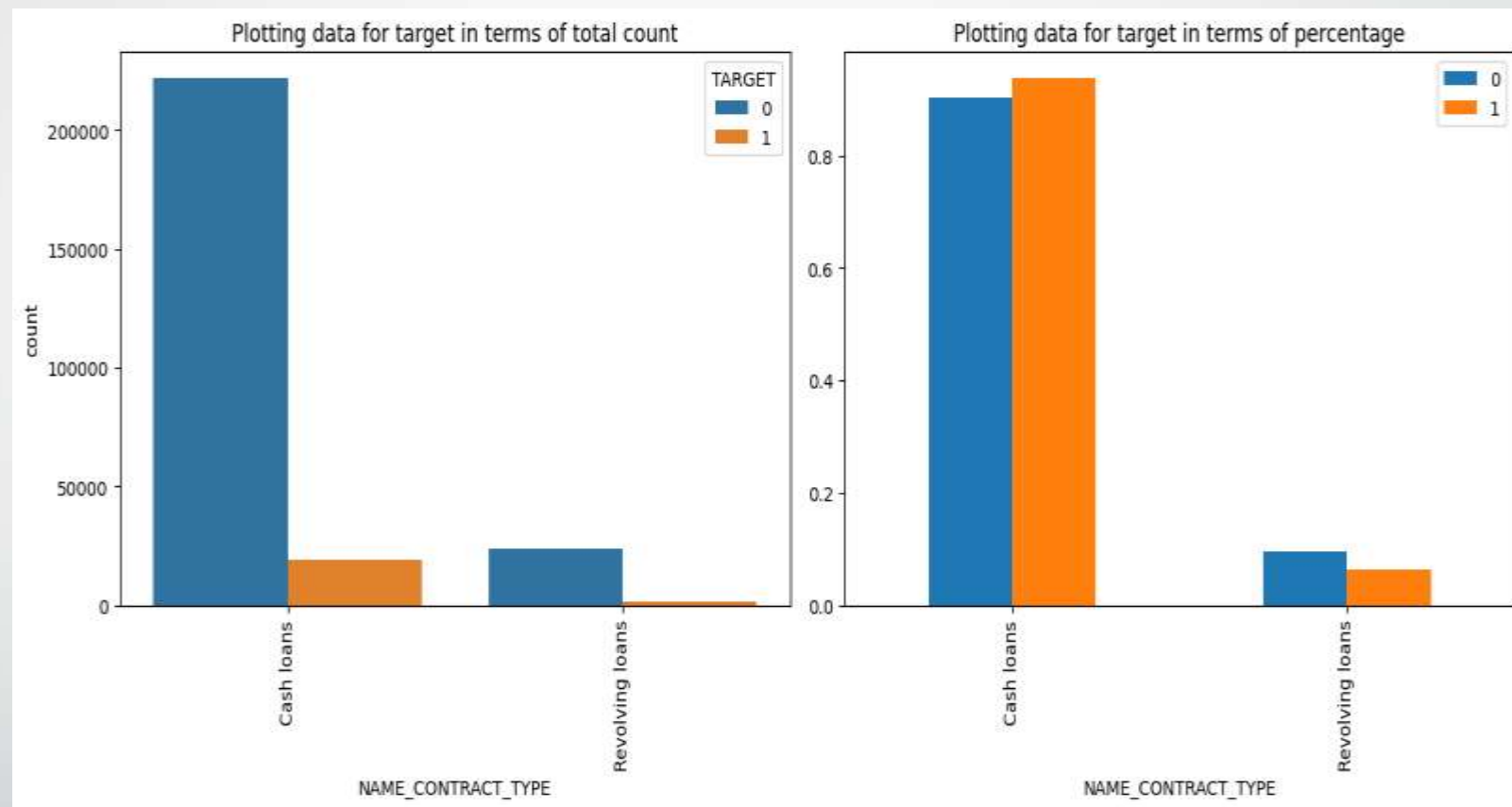
- The absence of car ownership among many credit applicants suggests that some may be seeking loans to afford luxury items such as a car or other high-end purchases.
- Alternatively, credit applicants may be seeking loans to either start their own businesses or expand existing ones, indicating a desire to invest in entrepreneurship and business growth.
- Cash loans are mostly personal loans so maybe people are applying for credit for any personal use or for any emergency



Risk Analysis

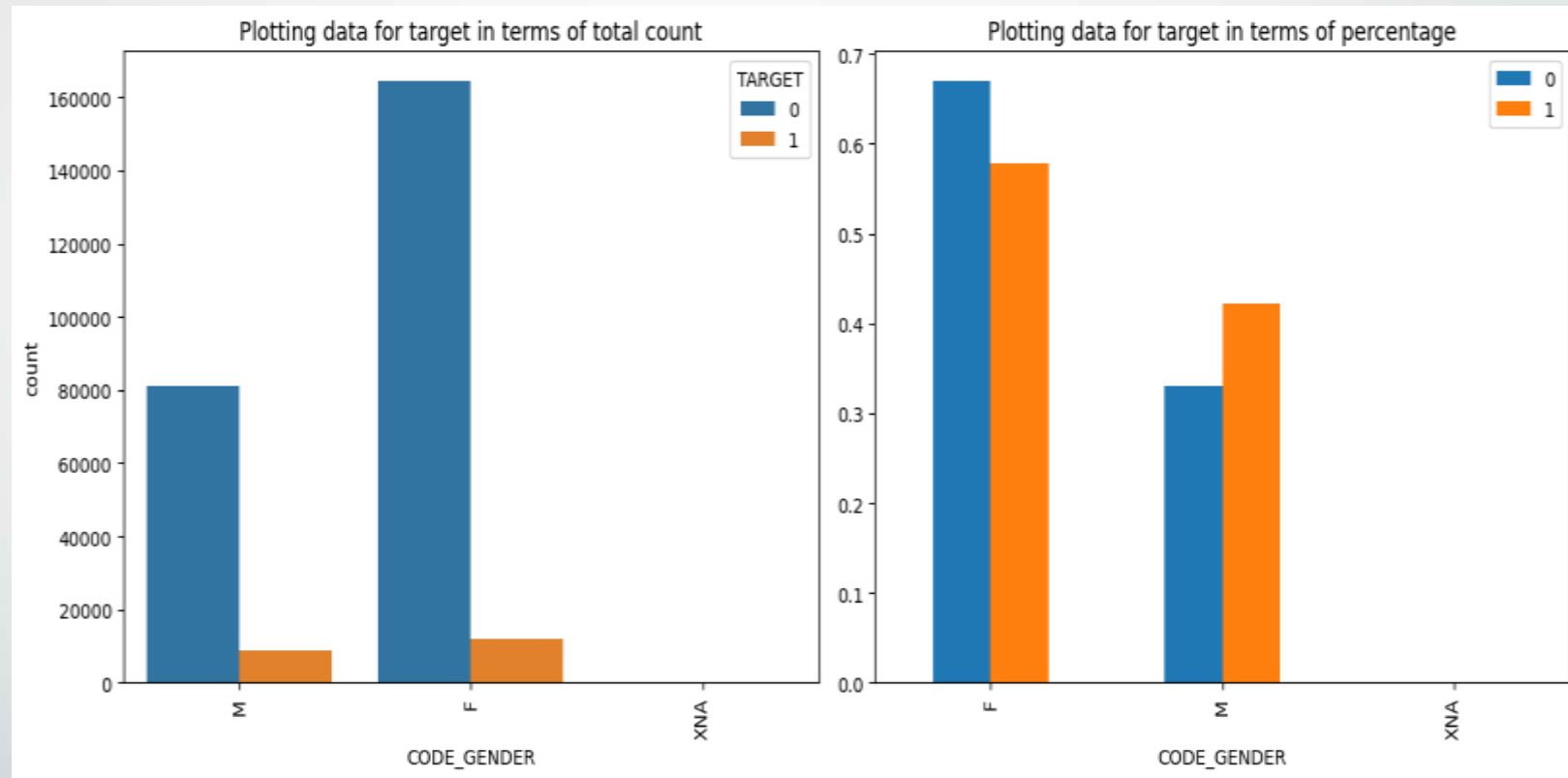
Loan Type Analysis - Default Rates and Count Plot

Loan Type: Cash loan types exhibit a higher default rate compared to revolving loan types.



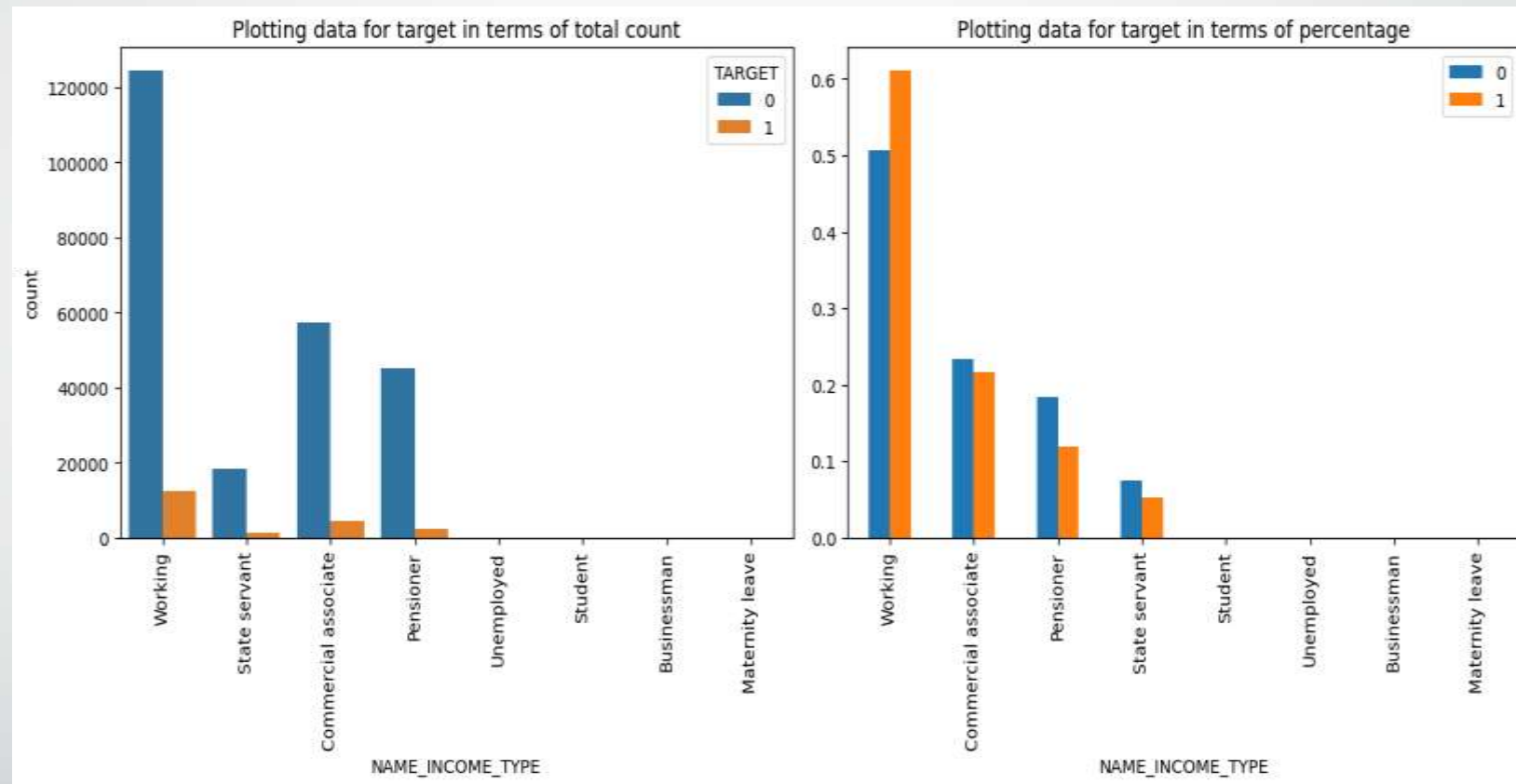
Gender Analysis - Default Rates

Gender: Males tend to have a higher default rate compared to females.



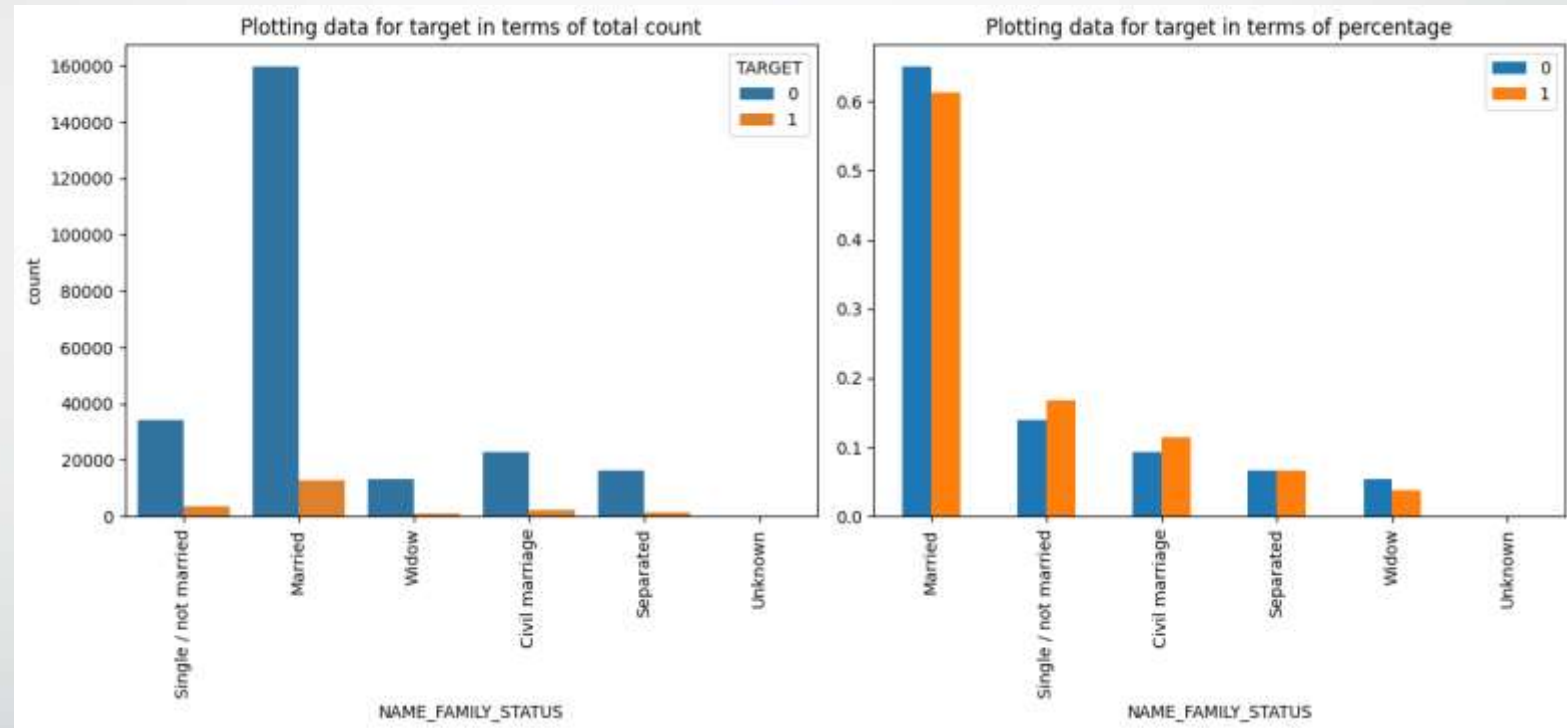
Income Type Analysis - Default Rates and Count Plot

Income Type: Among income types, working-class individuals experience a higher default rate than state servants, commercial associates, and pensioners.



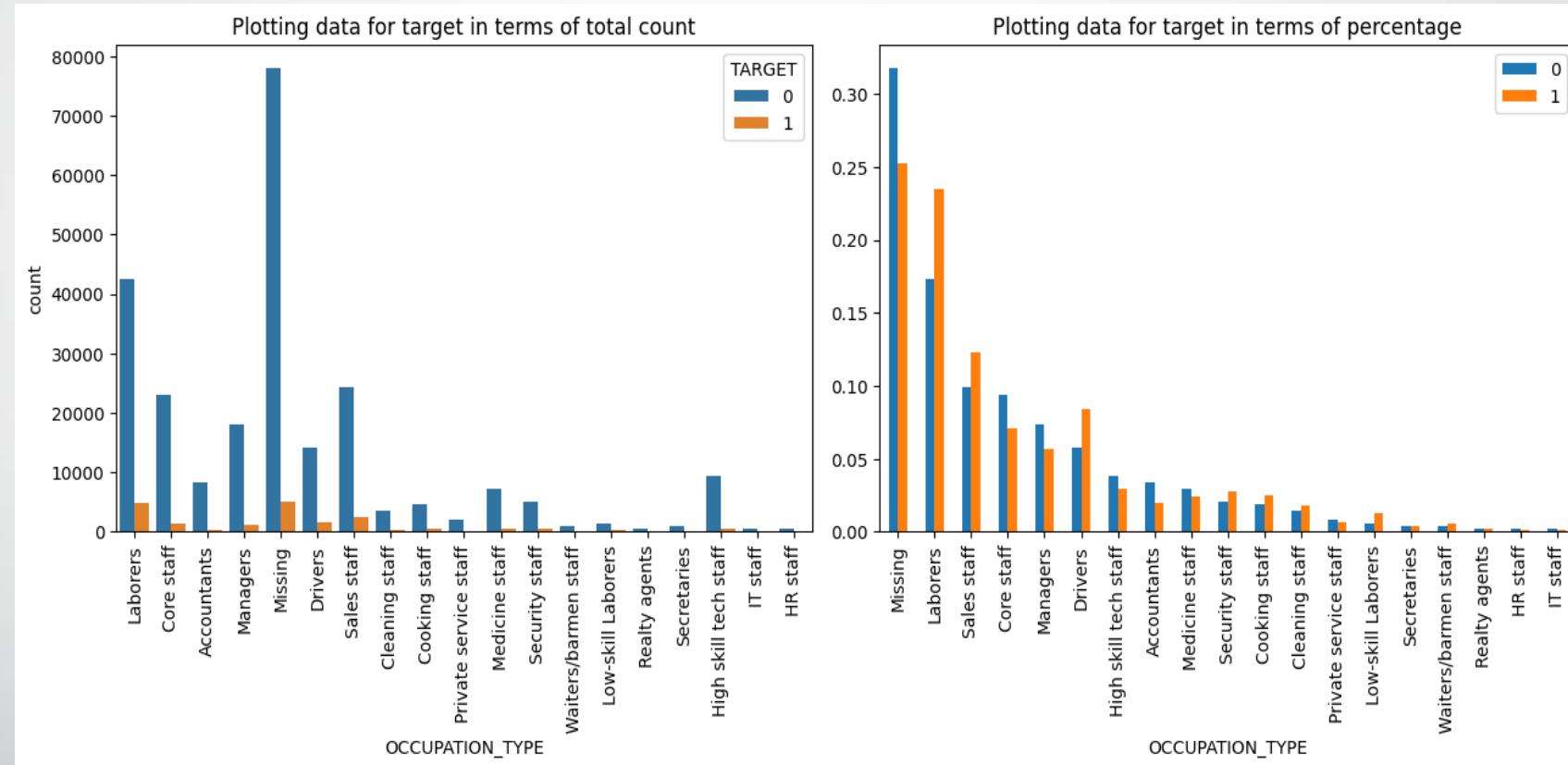
Family Status Analysis - Default Rates and Count Plot

Family Status: Individuals who are single or not married have a higher default rate compared to married individuals.



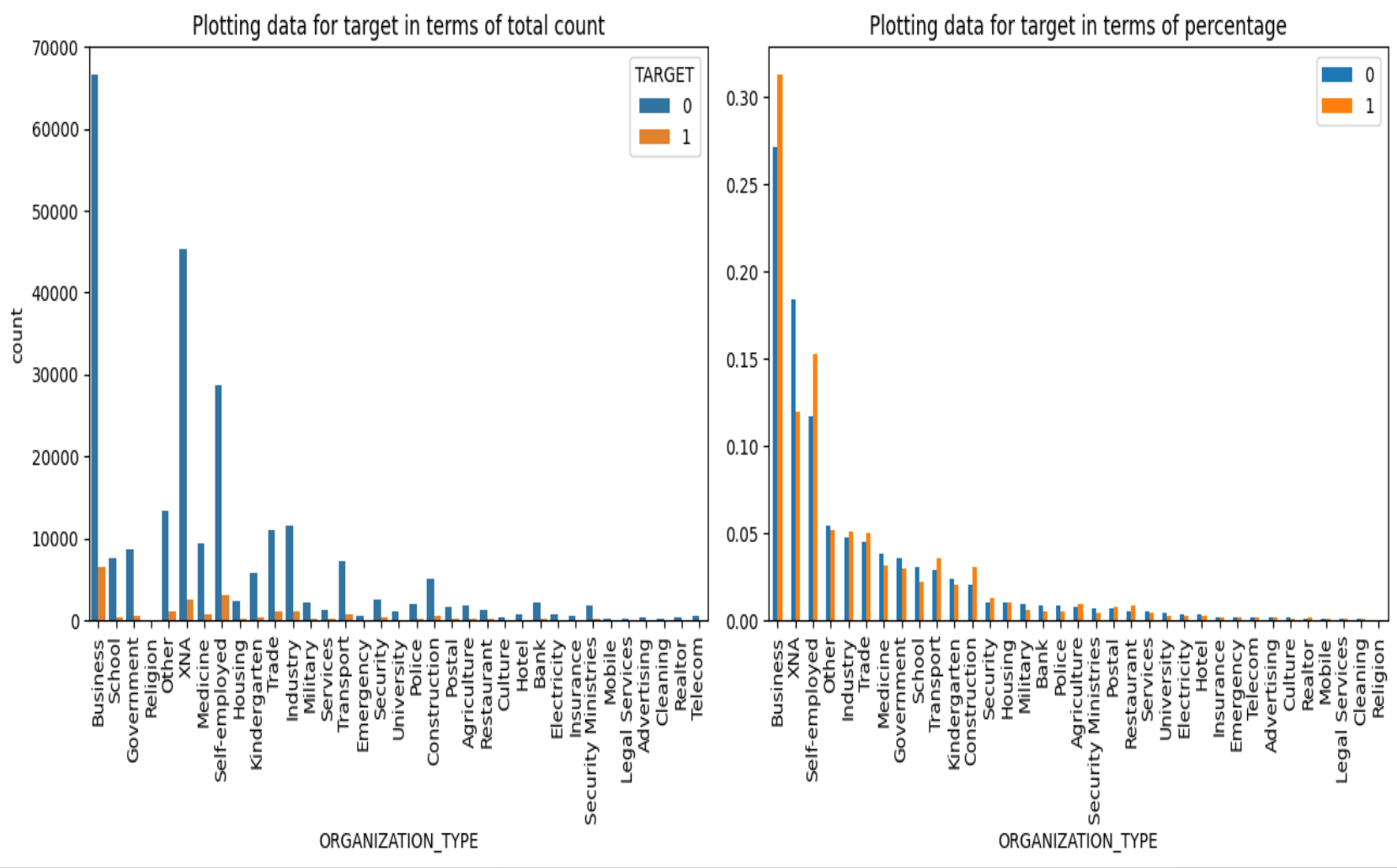
Occupation Type Analysis - Default Rates and Count Plot

- **Occupation Type:** Laborers, sales staff, and drivers exhibit a higher default rate compared to individuals in other occupations.



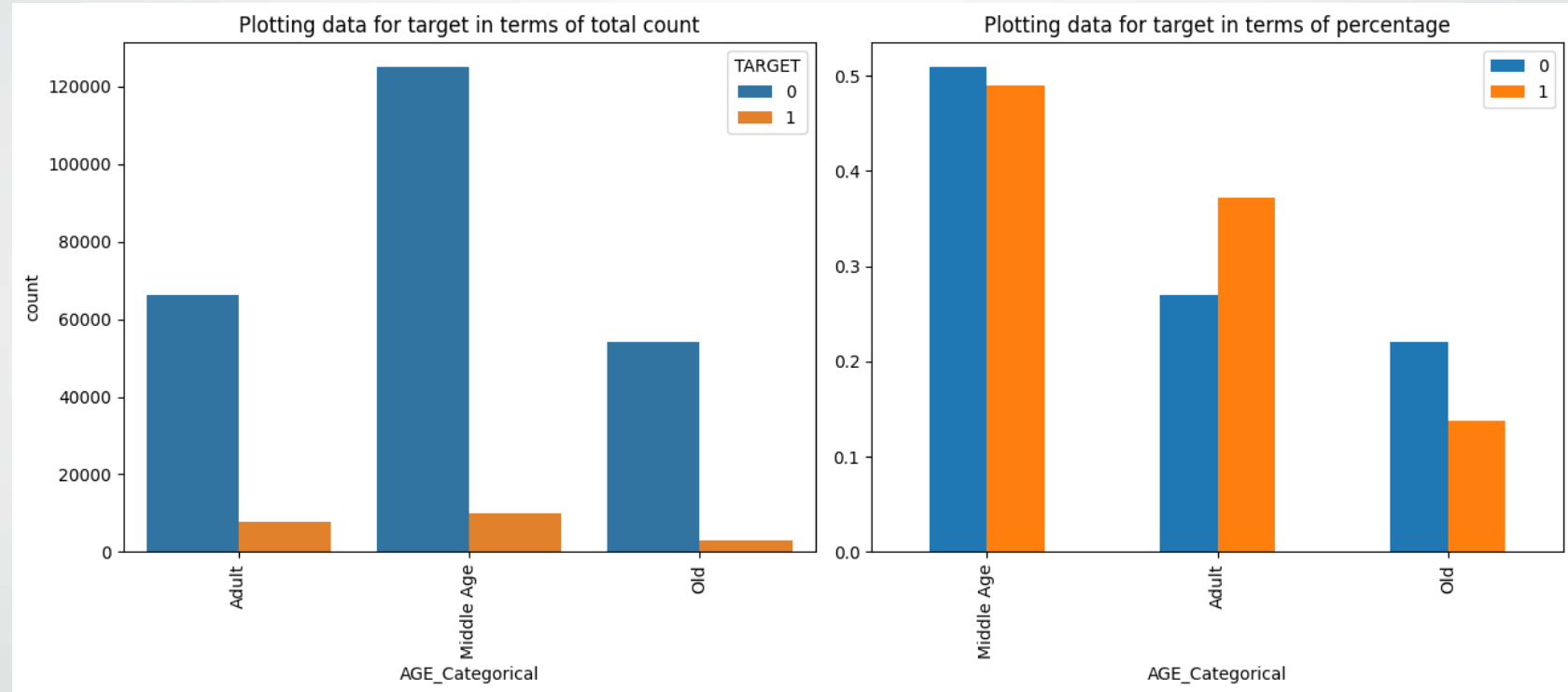
Organization Type Analysis - Default Rates and Count Plot

Organization Type: Businesses and self-employed individuals have a higher default rate compared to other organization types.



Age Category Analysis - Default Rates and Count Plot

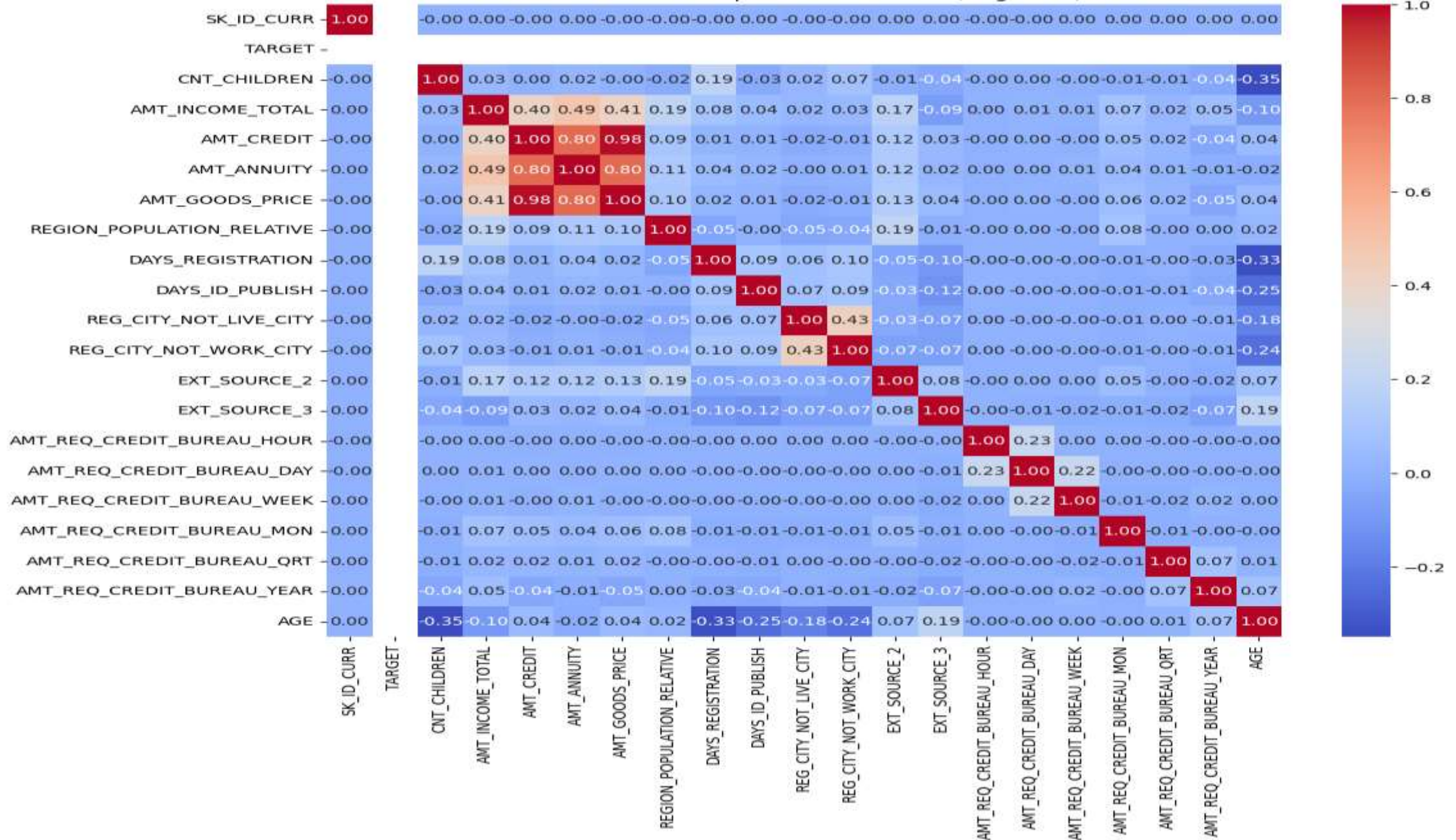
- **Age Category:** Adults have a higher default rate compared to individuals in the middle and old age categories.





Numeric Columns Heatmap for Target Value 0

Correlation Heatmap for Non-defaulters (Target = 0)



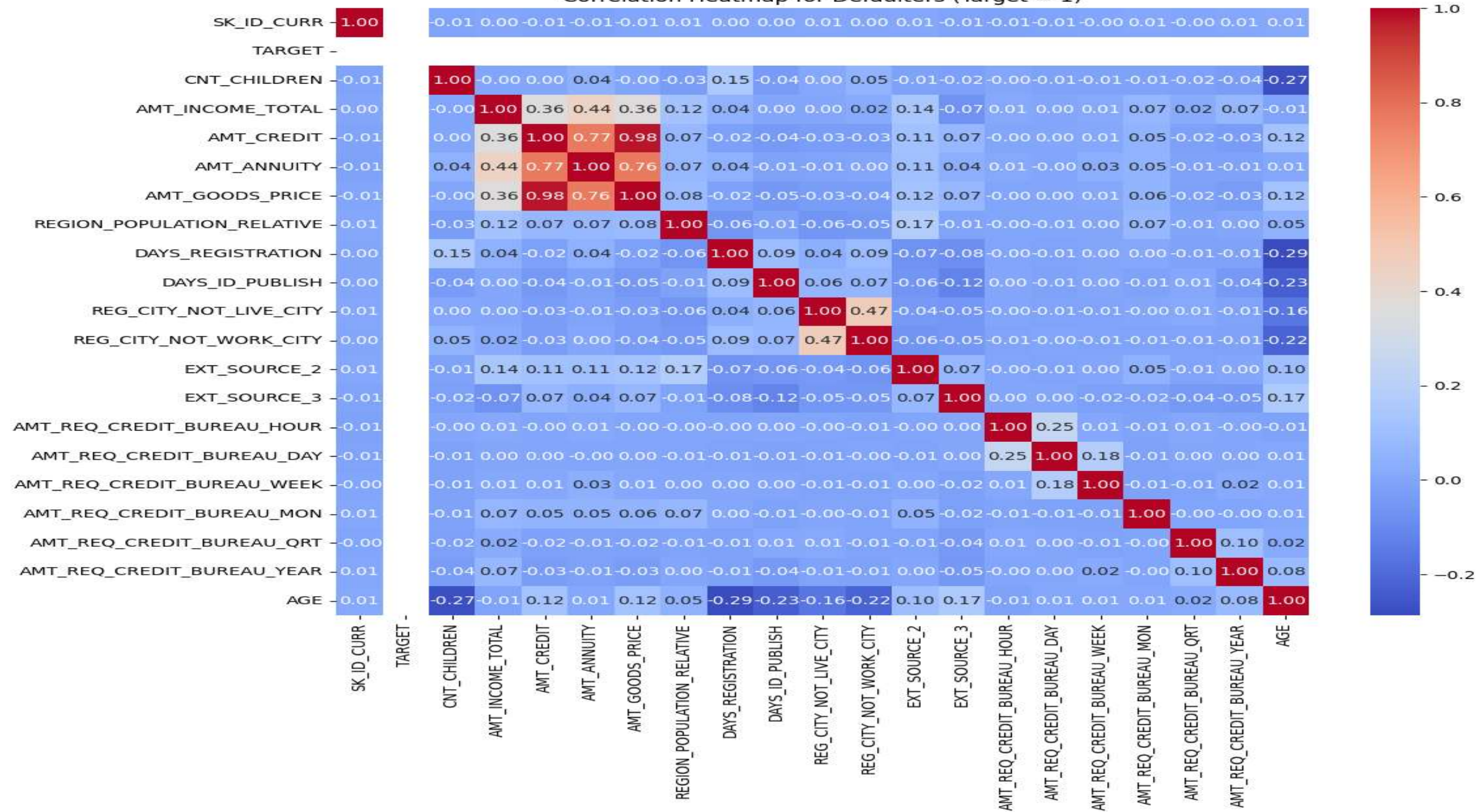
Some of the top correlation for Target value 0

- AMT_GOODS_PRICE and AMT_CREDIT 0.98
- AMT_ANNUITY and AMT_GOODS_PRICE 0.80
- AMT_ANNUITY and AMT_CREDIT 0.80
- AMT_ANNUITY and AMT_INCOME_TOTAL 0.49
- REG_CITY_NOT_WORK_CITY and
REG_CITY_NOT_LIVE_CITY 0.43



Correlation Heatmap: Defaulter (Target = 1)

Correlation Heatmap for Defaulters (Target = 1)



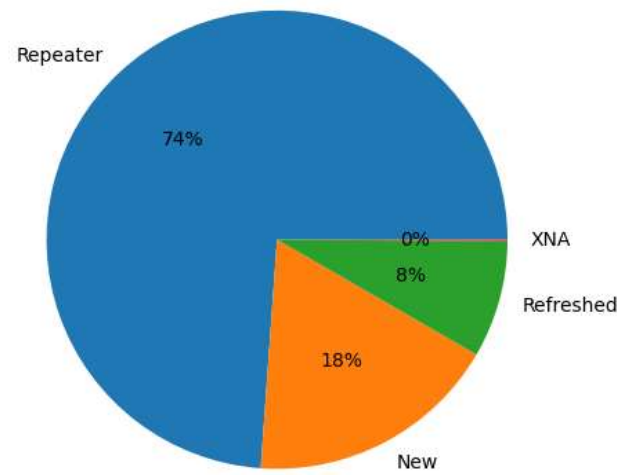
Some of the top correlation for Target value

1

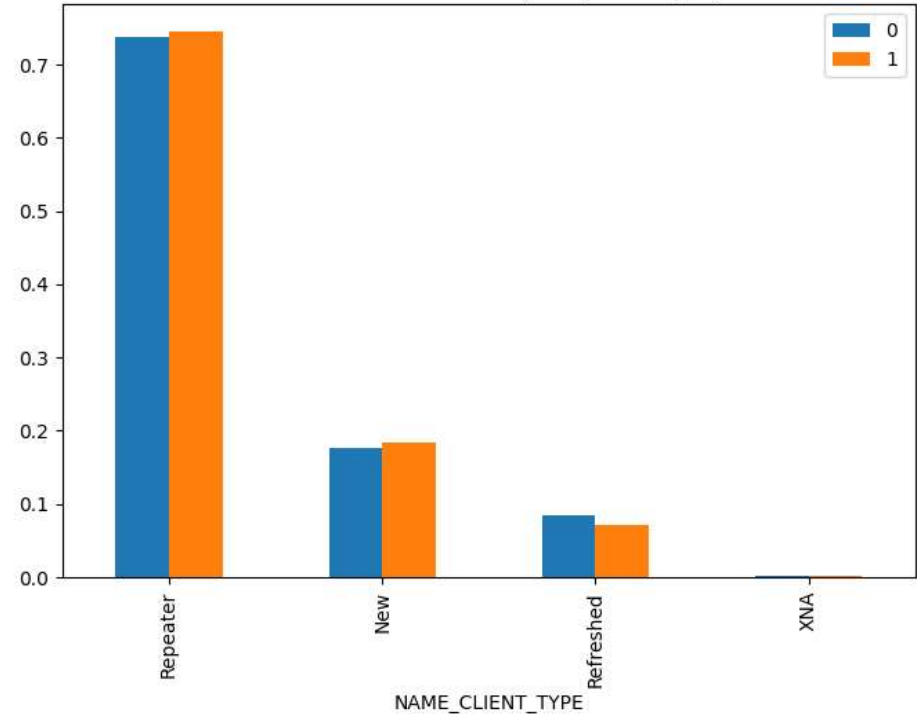
- AMT_GOODS_PRICE and AMT_CREDIT 0.98
- AMT_ANNUITY and AMT_GOODS_PRICE 0.76
- AMT_ANNUITY and AMT_CREDIT 0.77
- AMT_ANNUITY and AMT_INCOME_TOTAL 0.49
- REG_CITY_NOT_WORK_CITY and REG_CITY_NOT_LIVE_CITY 0.47

Comparison of Repeater and Refreshed Clients

Distribution of values for the column: NAME_CLIENT_TYPE

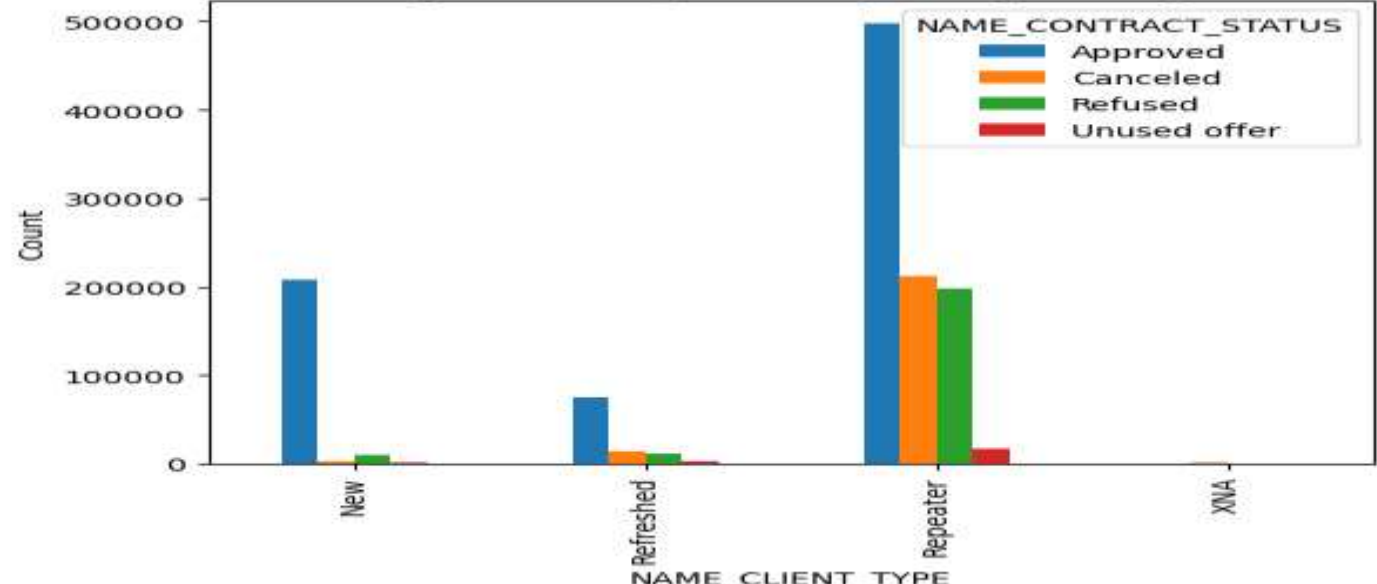


Distribution of values by target category



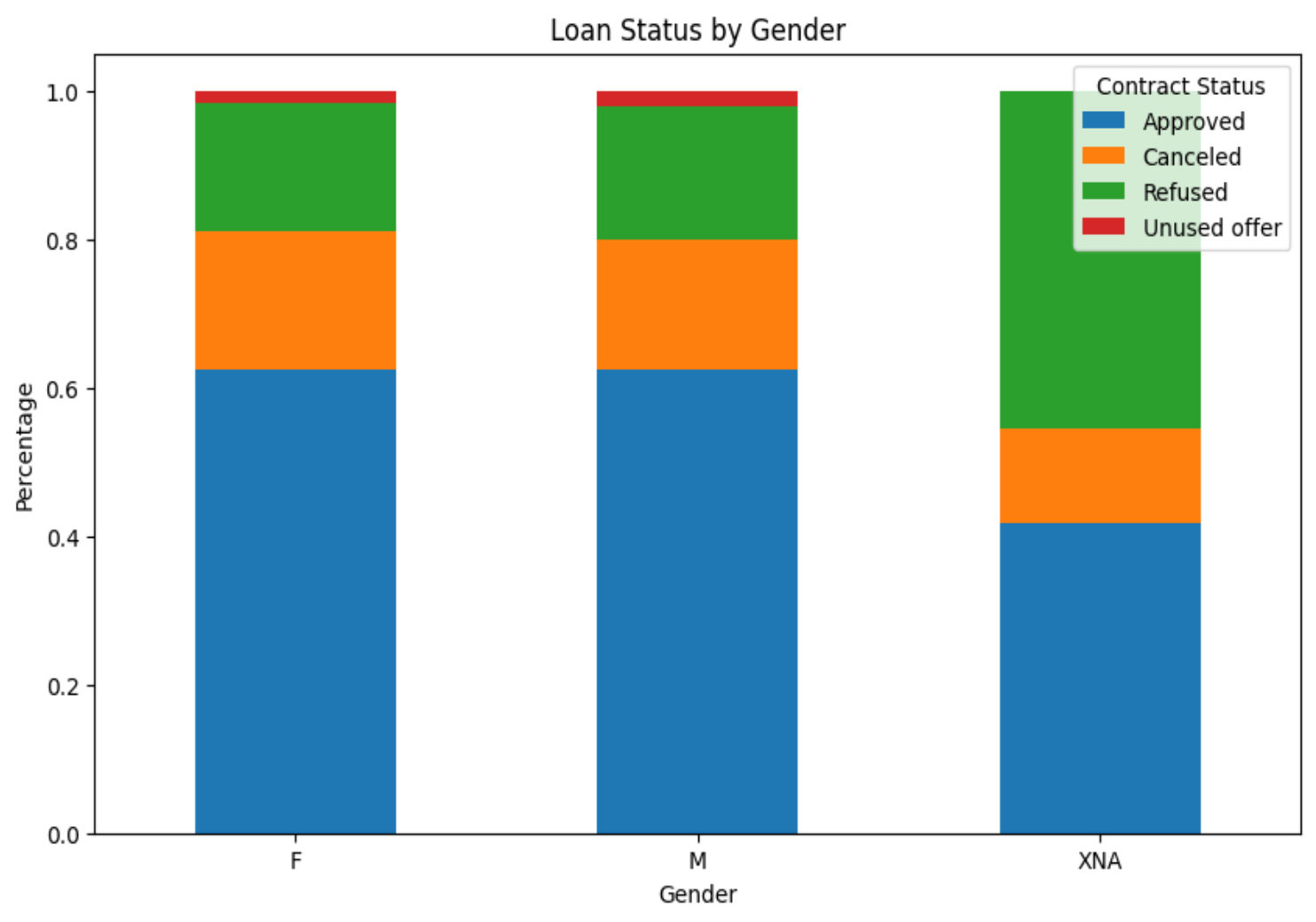
- Repeater client has large amount of loan application approved but has the high default rate as compare to the Refreshed client

NAME_CONTRACT_STATUS by NAME_CLIENT_TYPE



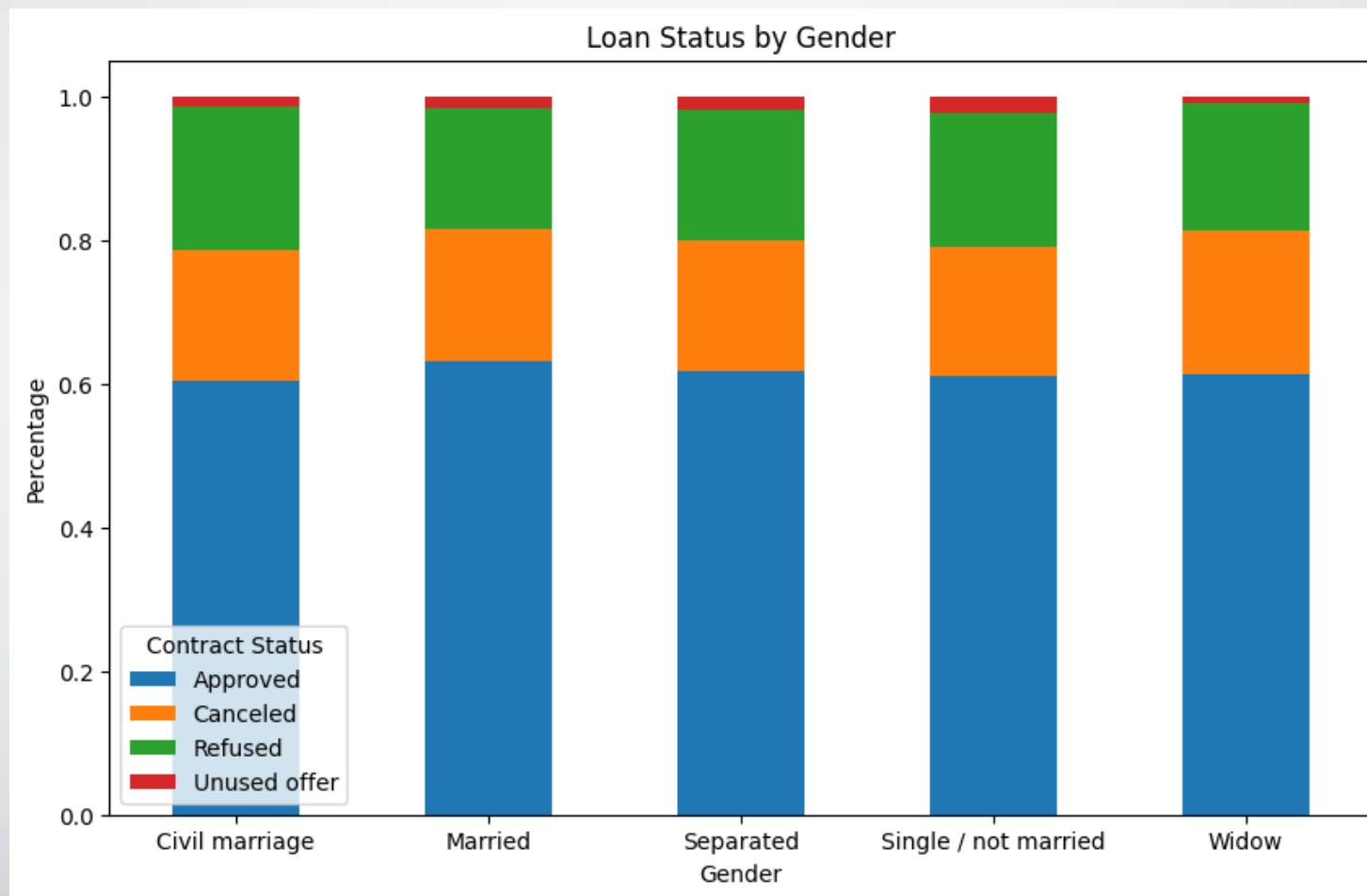
Gender Analysis - Approval Rates

- Female has almost equal approval rate as compare to male but male has high default rate as compare to female



Marital Status Analysis - Approval Rates

- married has almost equal approval rate as compare to single but single has high default rate as compare to married





Suggestions and Strategies

Targeted Marketing and Outreach

- Since most credit applicants are female, consider tailoring marketing strategies and outreach efforts to better reach and serve this demographic. This might include designing products or services that cater to the specific needs and preferences of female customers.

Income Verification and Assessment

- Although most applicants have high incomes, it's important to thoroughly verify and assess income levels to ensure they are stable and sufficient to support loan repayments. Implement rigorous income verification processes and consider debt-to-income ratio assessments to gauge affordability accurately.

Age-Specific Products and Services

- Given that most applicants are in middle age, develop financial products and services that cater to the financial goals and needs of this age group. This could include retirement planning solutions, education funds, or mortgage products tailored to middle-aged customers.

Risk Mitigation Strategies for Repeater Clients

- Develop risk mitigation strategies specifically targeted at repeater clients with a high default rate. This might involve implementing stricter eligibility criteria, conducting more thorough credit assessments, or offering financial counseling services to help them manage their debt effectively.

Gender-Specific Risk Analysis

- Since male applicants have a higher default rate compared to females, conduct gender-specific risk analysis to identify factors contributing to this discrepancy. Adjust underwriting criteria or risk assessment models accordingly to better account for gender-based risk factors.

Marital Status Considerations

- Given that single individuals have a higher default rate, consider factoring marital status into risk assessment models and loan approval processes. This might involve offering different terms or conditions based on marital status to better mitigate default risk.

Loan Type Diversification

- Recognizing that cash loan types have a higher default rate, consider diversifying your loan portfolio by offering a mix of cash loans and revolving loan types. This can help spread risk and mitigate the impact of default rates on overall portfolio performance.



Thank You