

DOMAIN-ORIENTED BFSI CASE STUDY BY AMOL KORE

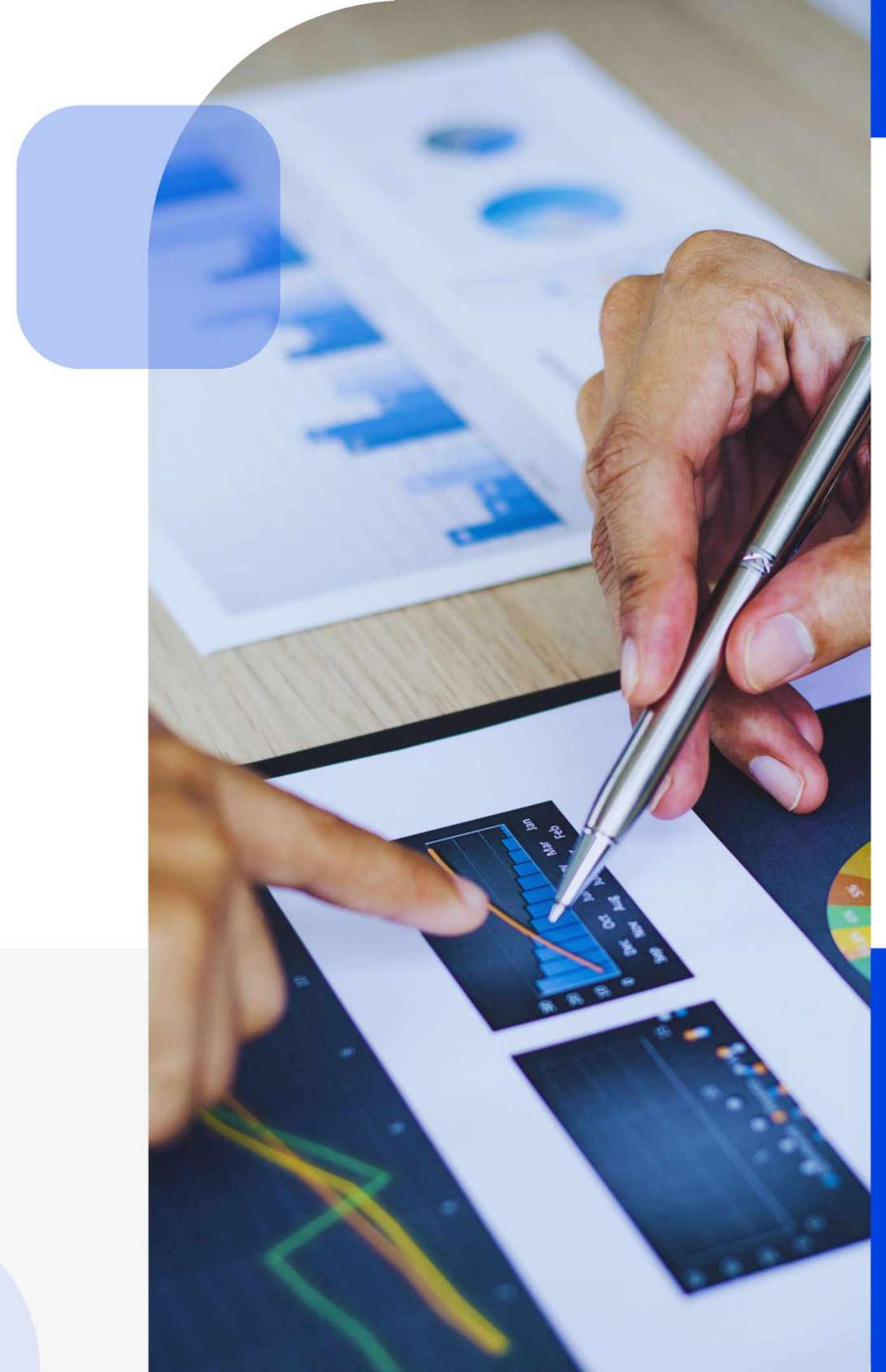
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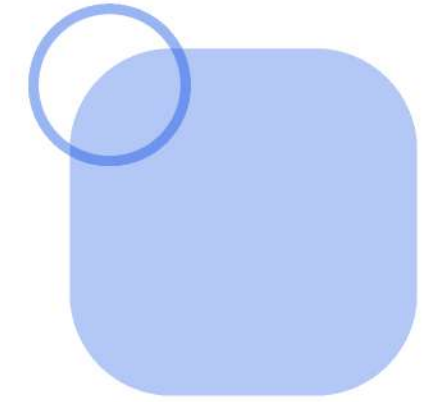
amolkore957@gmail.com



<https://github.com/amolkore22>



CONTENT



01

Problem Statement, Dataset Description

02

Current applications

03

Loan application status relations Current & Previous

04

SWOT Analysis

05

Final note





Problem Statement

1. Build a credit scoring model using loan application and bureau data.
2. Predict loan default likelihood based on application and bureau features.
3. Apply feature engineering to aggregate trade-level data into applicant-level features.
4. Develop a classification model to approve or reject loan applications.
5. Identify key factors influencing loan default and borrower behavior.
6. Translate model output into actionable business insights for loan decision-making.

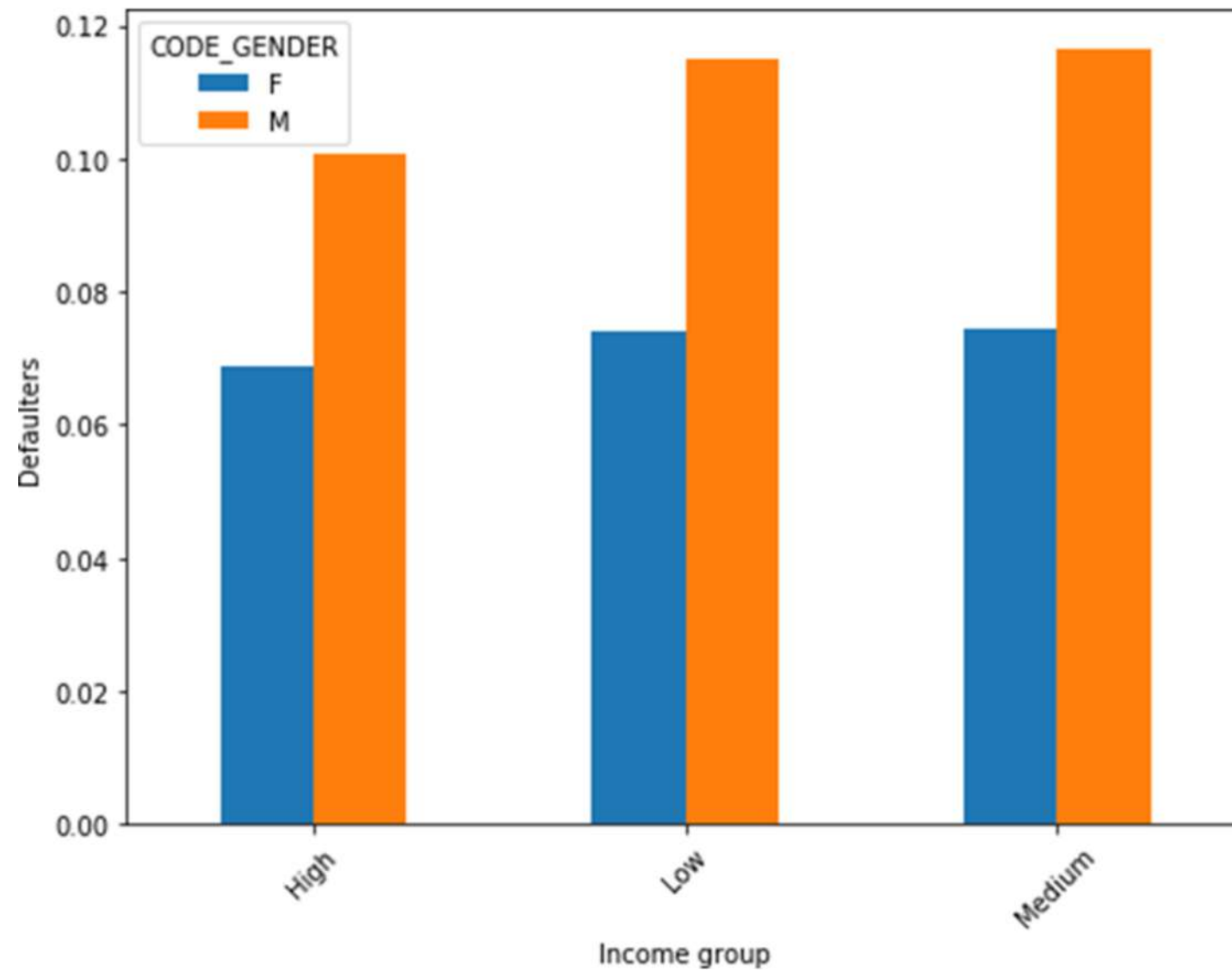


Dataset Description

1. Applications Table: 122 features, including `TARGET` (1 = default, 0 = non-default).
2. Bureau Table: 17 trade-level features on credit behavior and overdue information.
3. Key features include max overdue days, active vs. closed trades, and most frequent credit currency.
4. Data requires aggregation from trade level to applicant-level for model building.
5. Features from both tables must be merged to form a complete applicant profile.

CURRENT APPLICATIONS

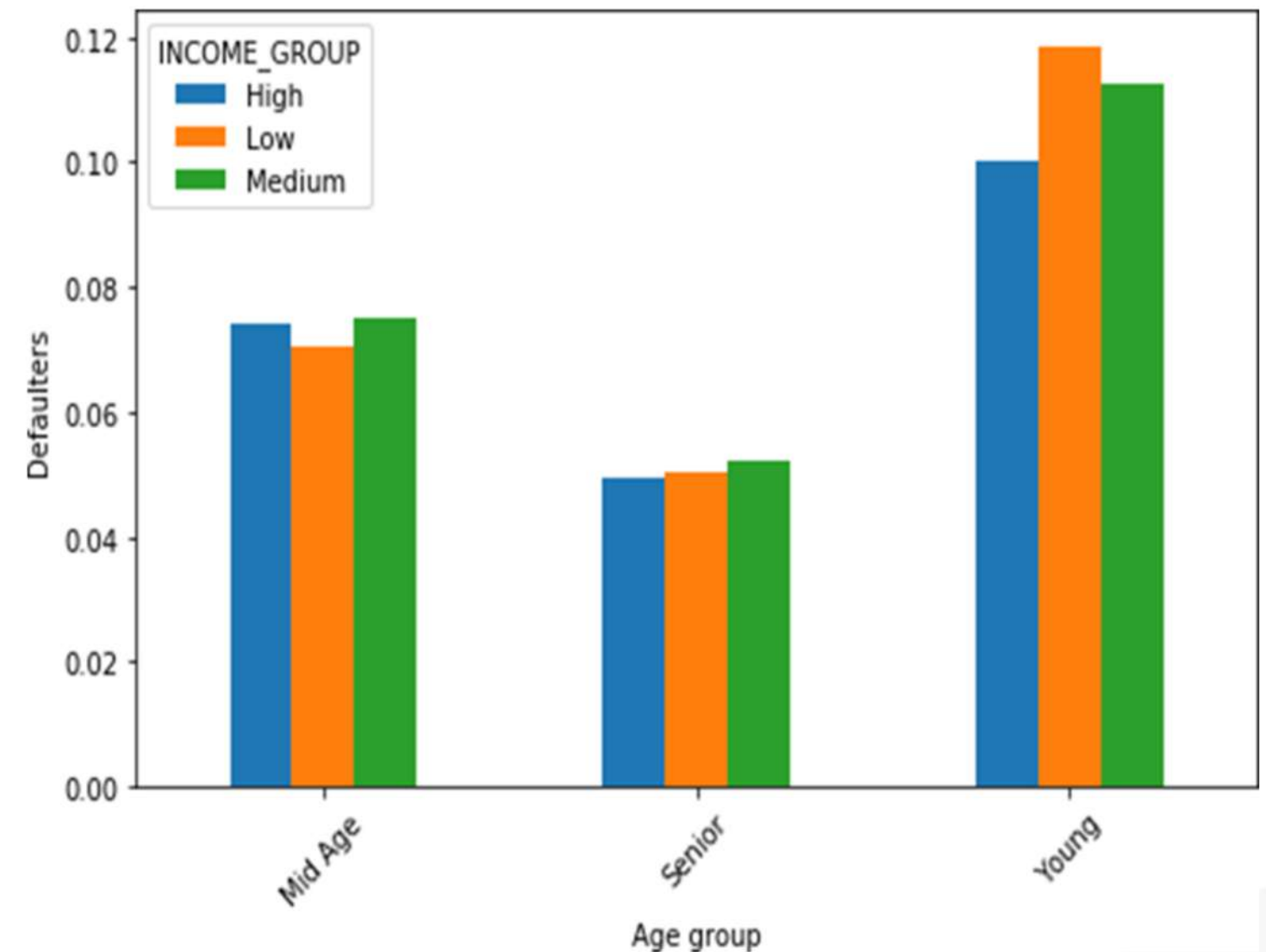
Income groups & gender



Observations:-

1. High income groups are less defaulter than comparatively lower income groups.
2. Mid age and senior people with all income groups are less defaulted.

Income groups & age groups

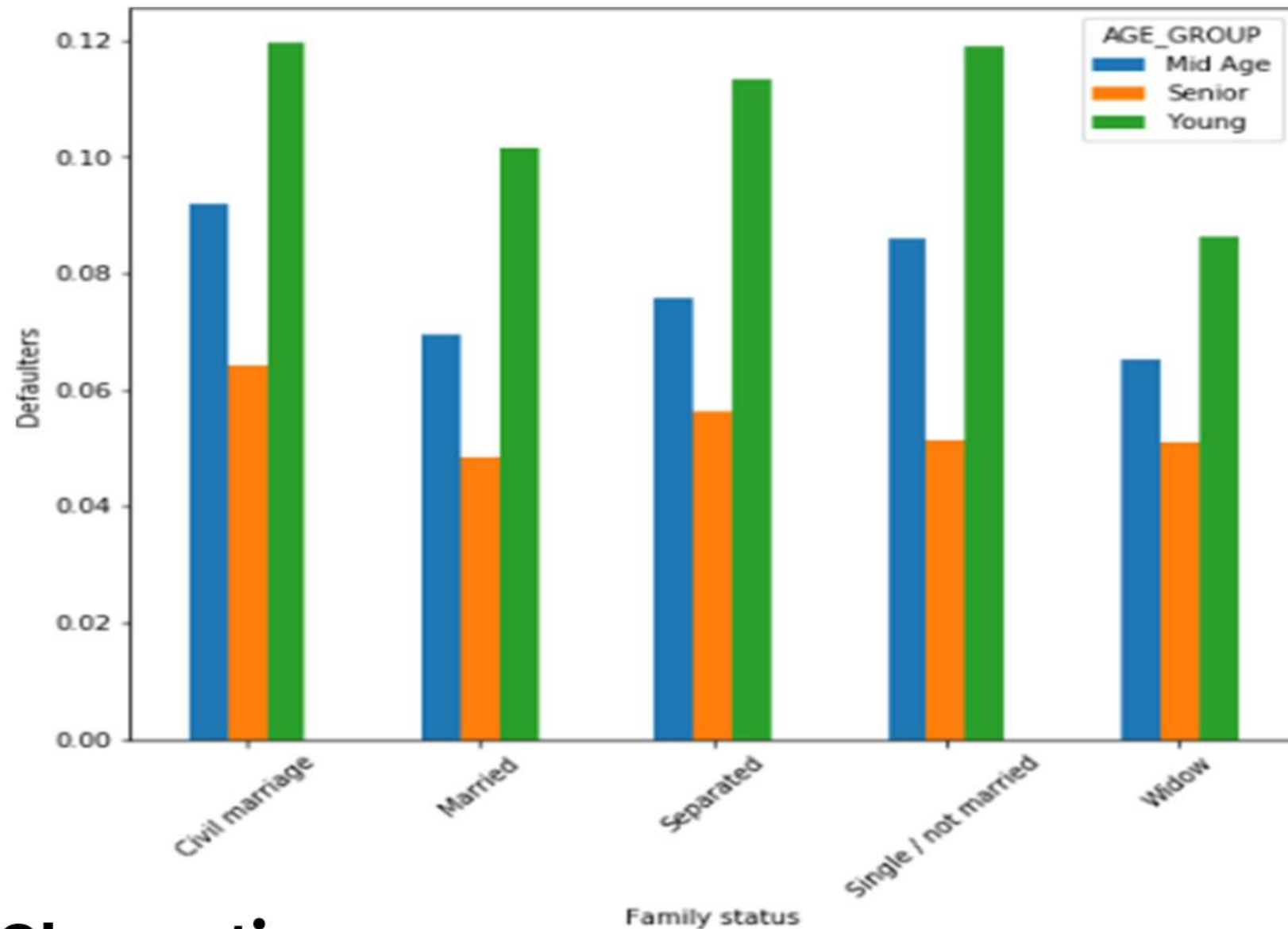


Recommendation:-

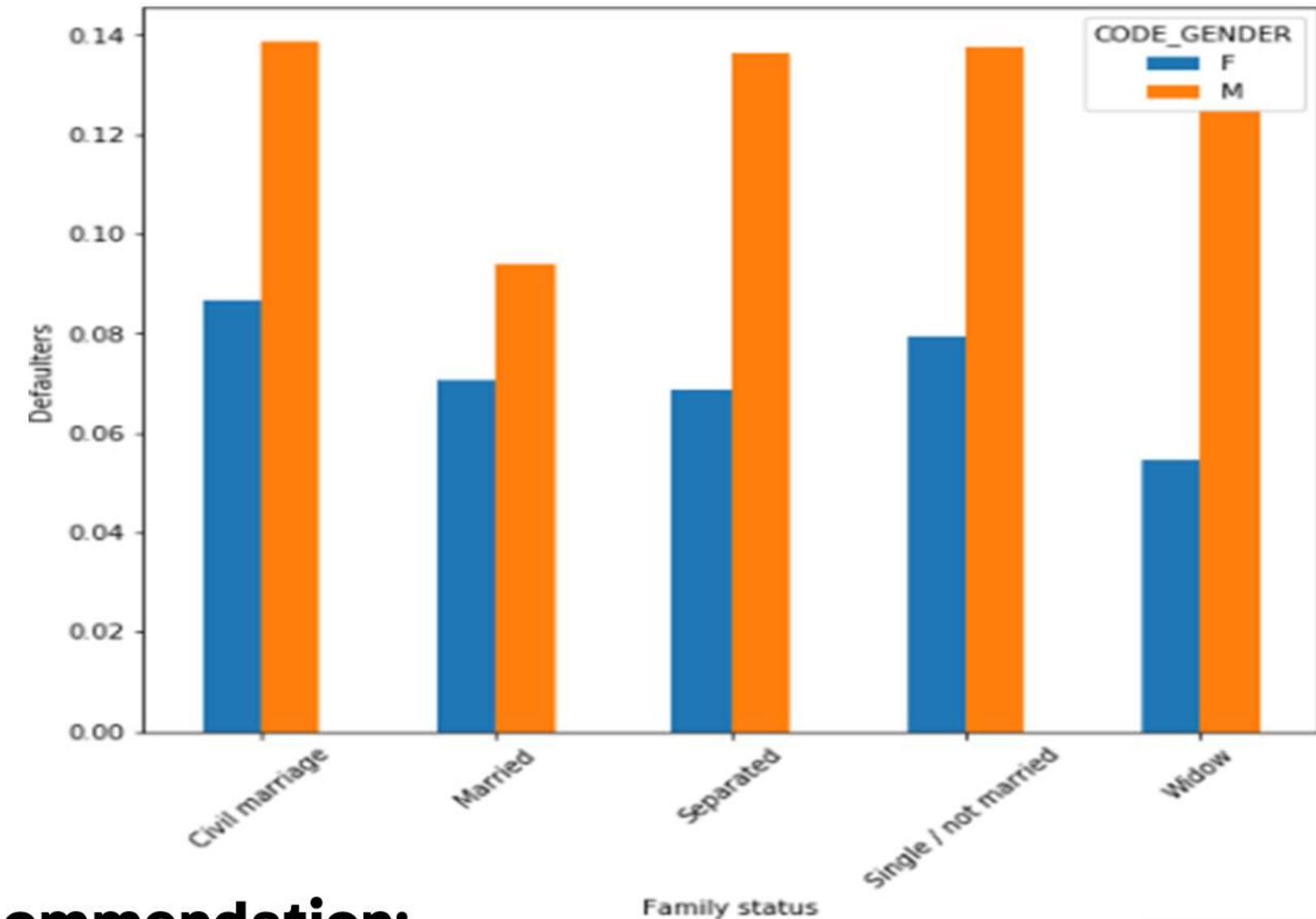
1. Safer to grant loan for mid age and senior citizen clients with higher income.
2. Risky to grant loans for young people with low income groups.

CURRENT APPLICATIONS

Family status & age group



Family status & gender



Observations:-

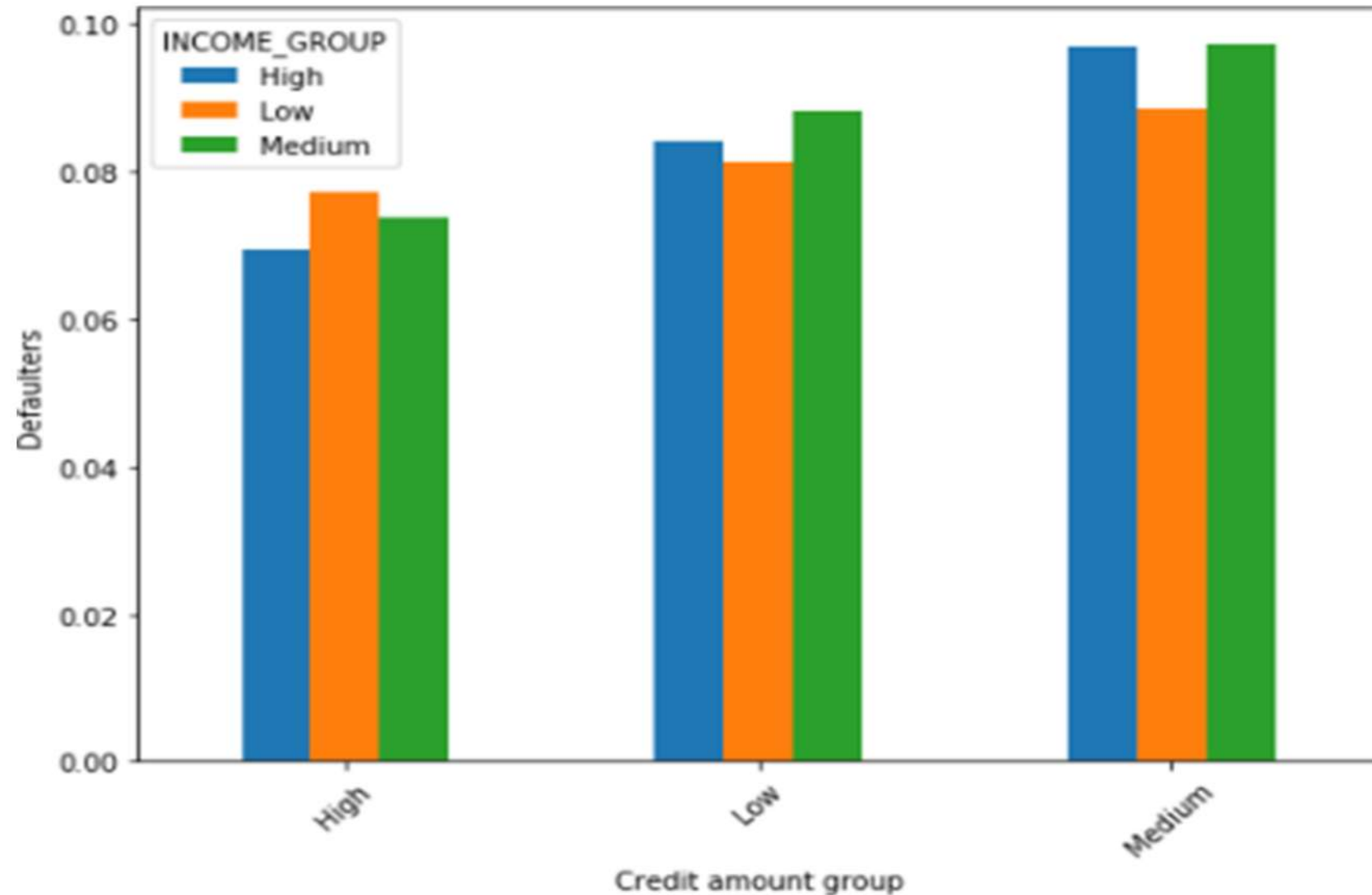
1. Senior people irrespective of family status are less likely to be defaulted.
2. Young people are more likely to be defaulted in all family status.
3. Males are more like to be defaulted than females.

Recommendation:-

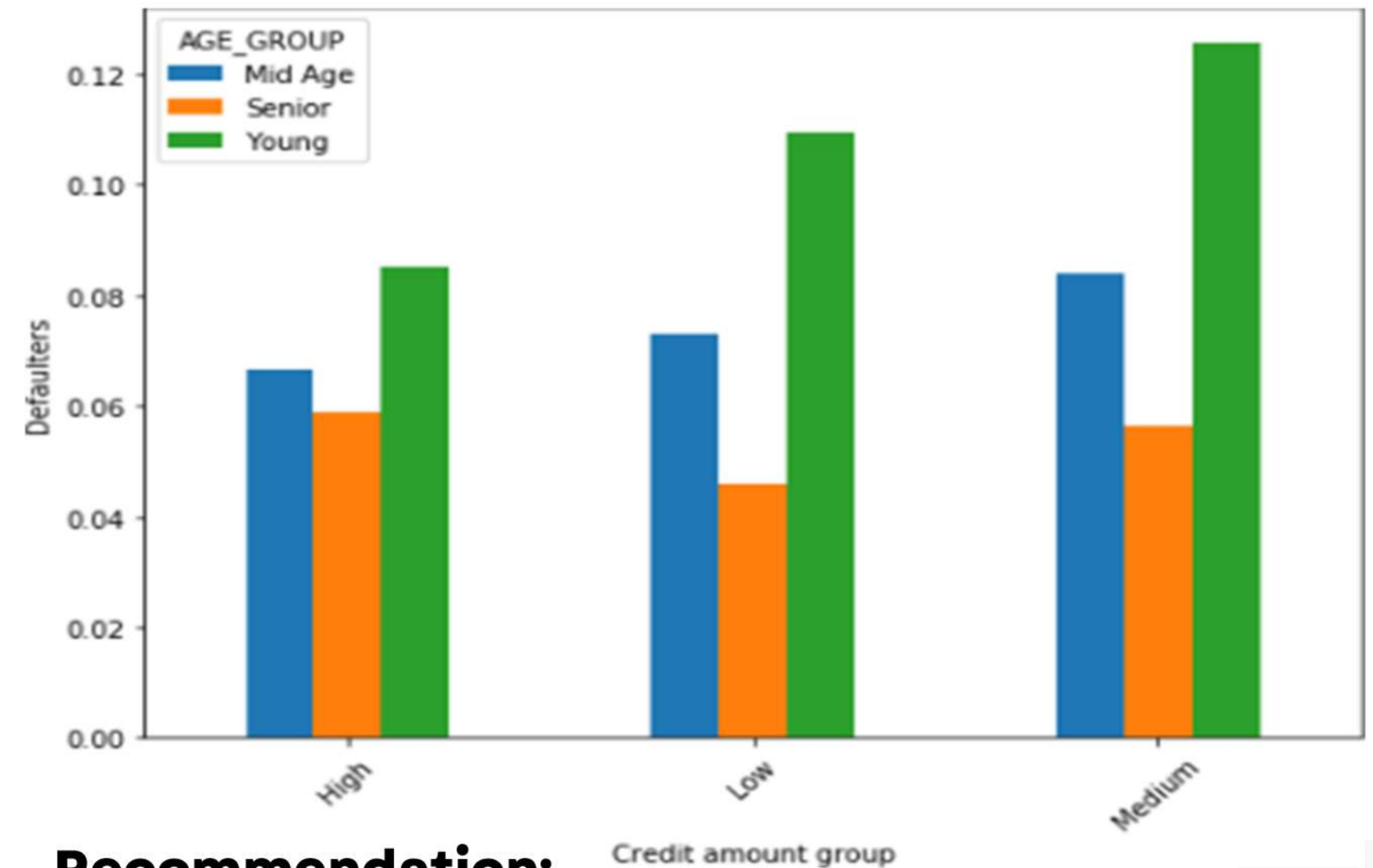
1. Better to grant loans for senior citizens of all family statuses.
- It is risky to grant loans for single, separated, and civil marriage young men

CURRENT APPLICATIONS

Credit amount group & income group



Credit amount group & age group



Observations:-

1. Across all income groups clients with medium amount credited is highly defaulted followed by low and high credit amount.
2. Young clients with medium and low amount credited are most likely defaulted.

Recommendation:-

1. Recommended to grant a slightly higher loan amount to all income groups.
2. It is very risky to grant medium and low amounts of loans to young clients.

LOAN APPLICATION STATUS RELATIONS CURRENT AND PREVIOUS

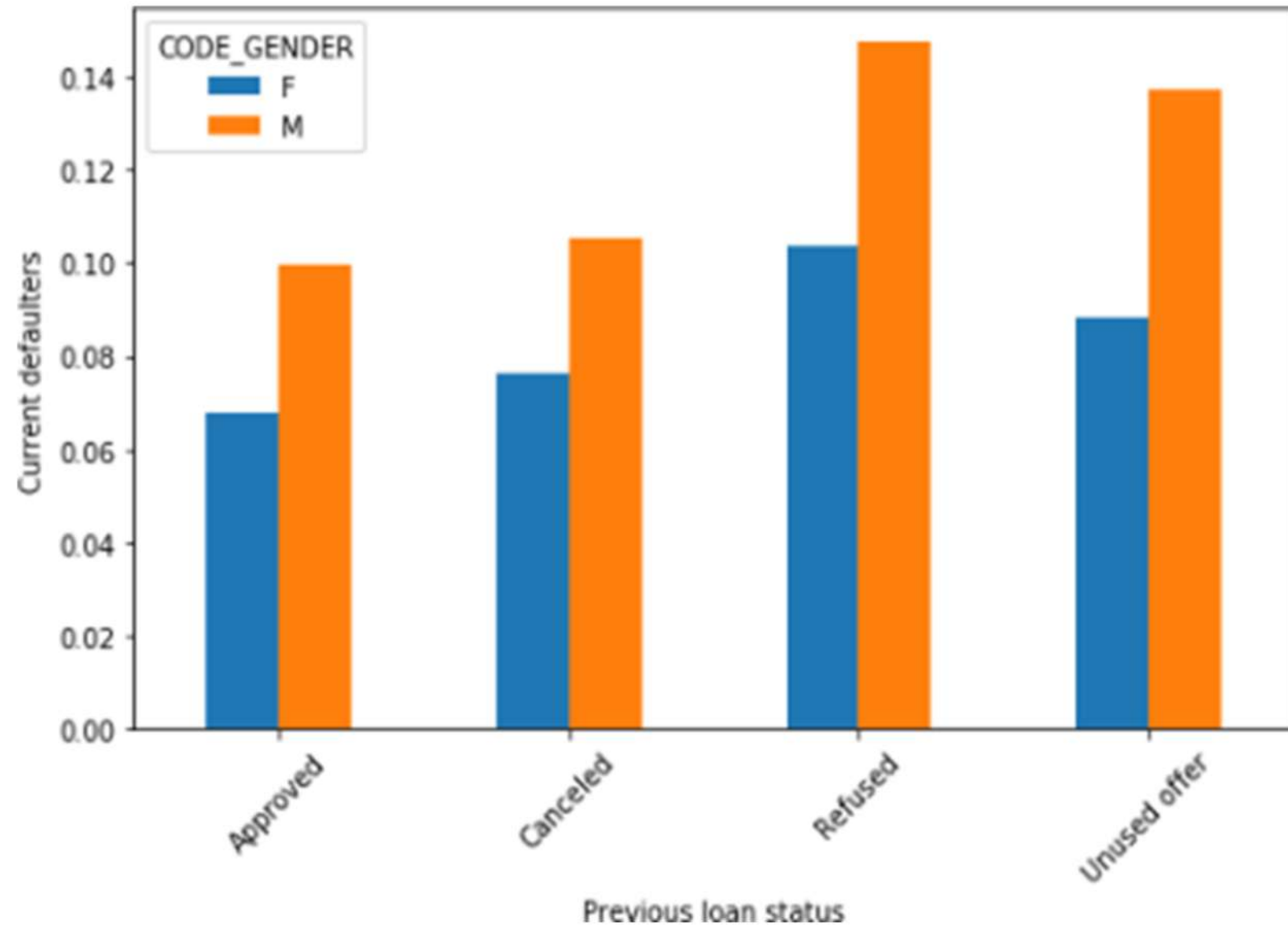
Current loan status reflects approval outcomes, while previous status shows applicant's history, helping assess risk and repayment behavior.



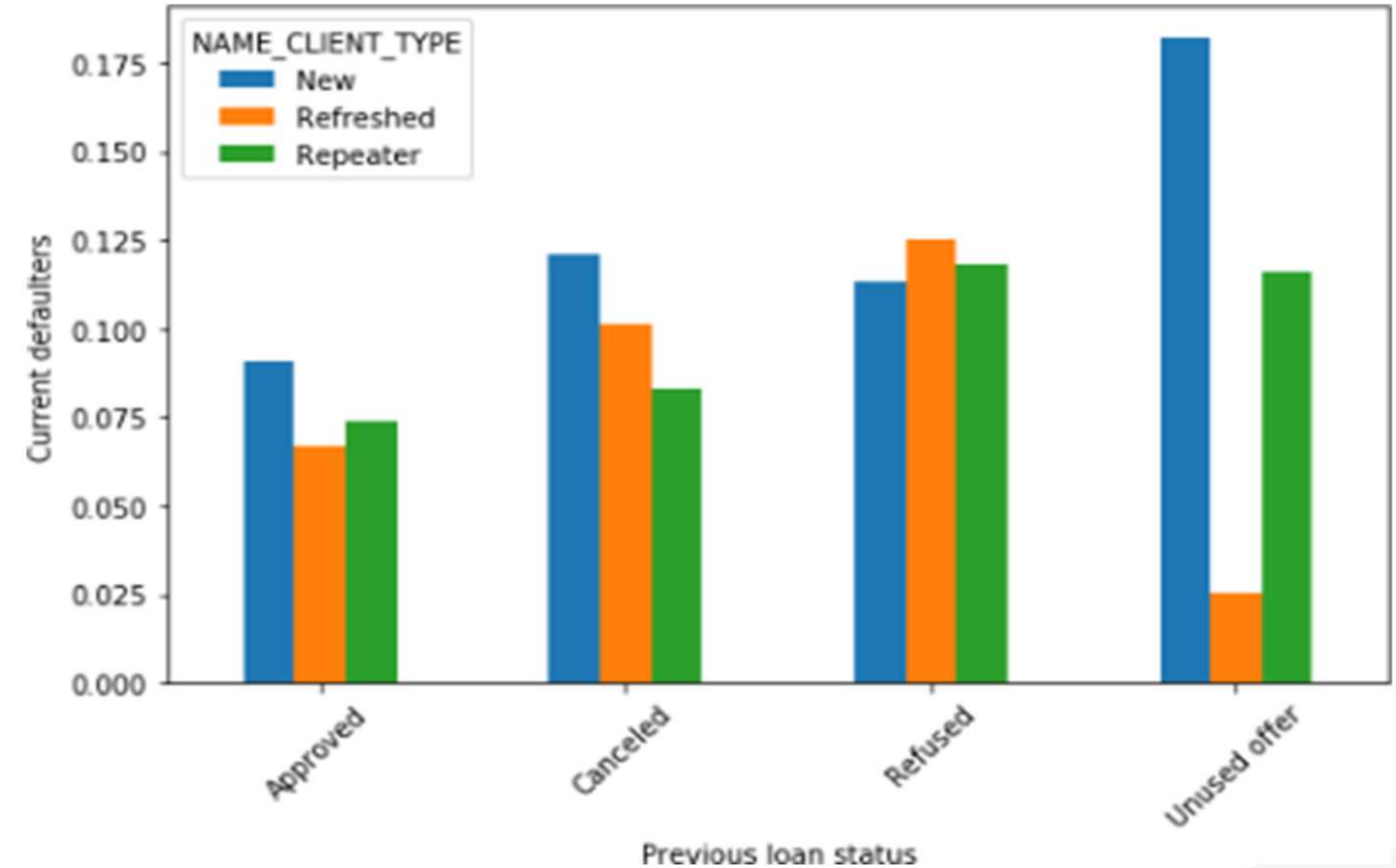
LOAN APPLICATION STATUS RELATIONS

CURRENT AND PREVIOUS

Previous loan status & gender



Previous loan status & client type



Observations:-

1. Previously refused and unused offer applications were more defaulted in males.
2. New clients with previously unused offers are more defaulted.

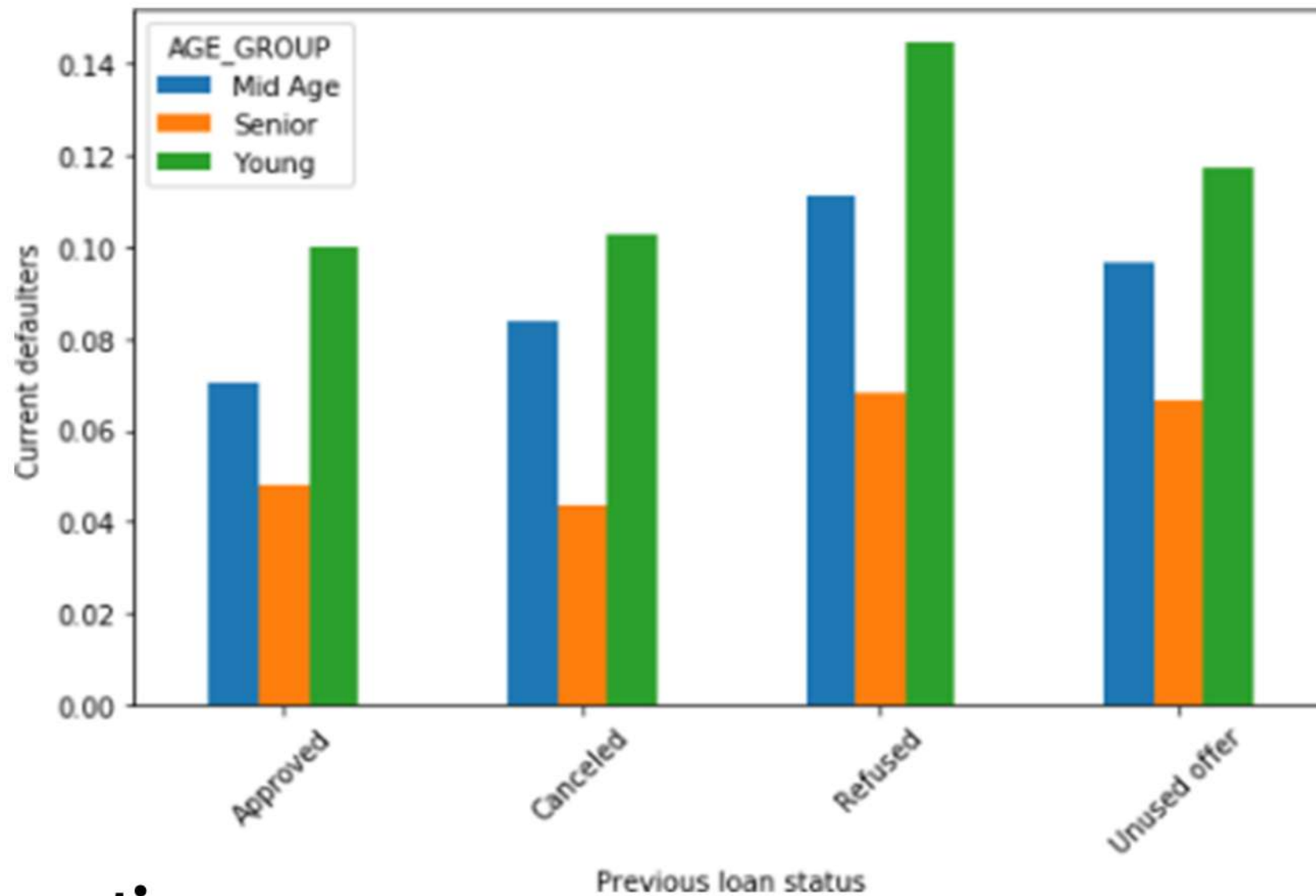
Recommendation:-

1. It is recommended to provide loans to previously approved females.
2. There is a risk in granting loans to clients, whose applications were refused or unused previously

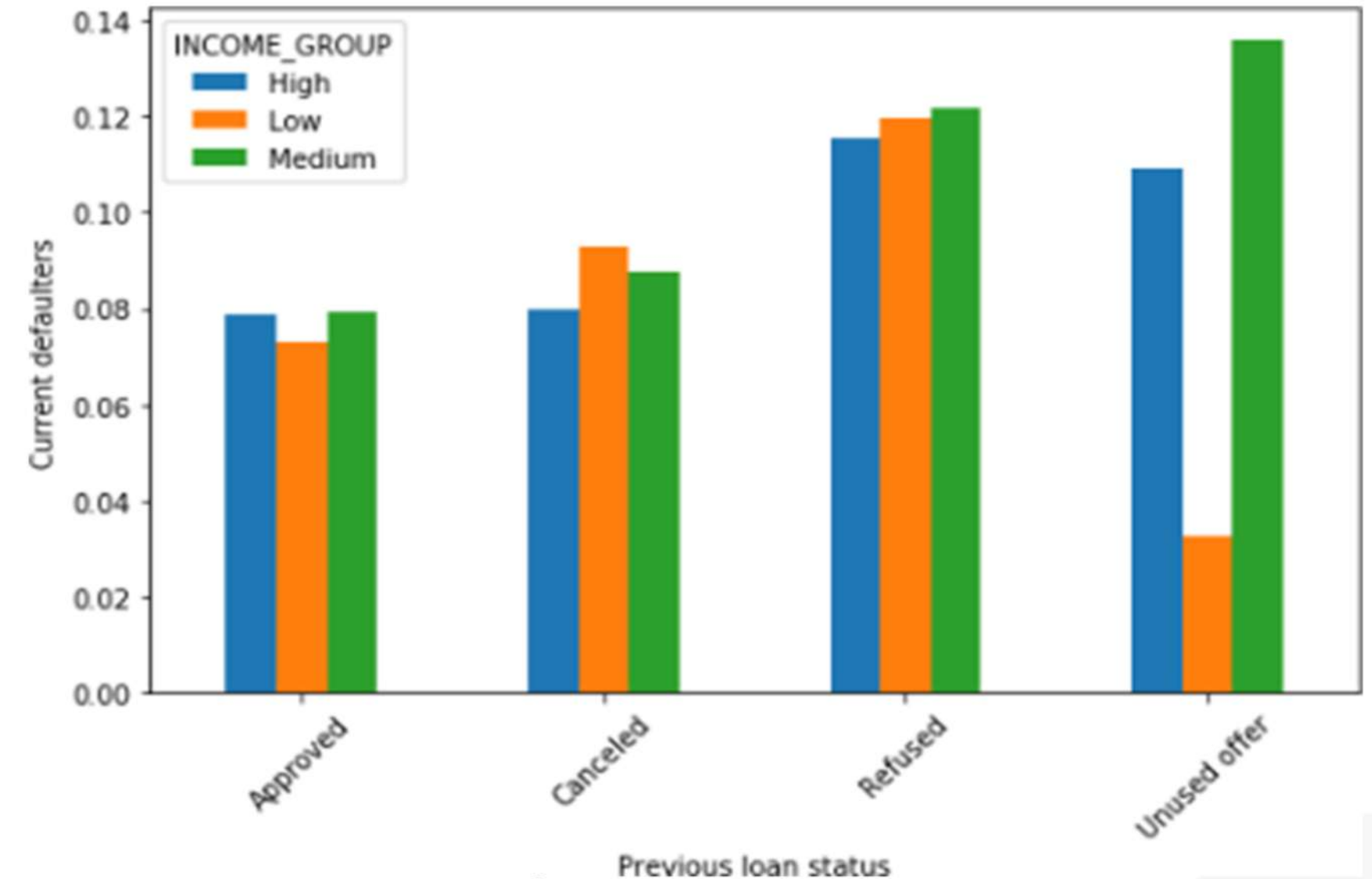
LOAN APPLICATION STATUS RELATIONS

CURRENT AND PREVIOUS

Age group & previous loan status



Income group & previous loan status



Observations:-

1. Young people, who were previously refused are mostly defaulted.
2. The senior citizens are less defaulted irrespective of their previous loan status.
3. In all income groups previously refused applicants are more defaulted.

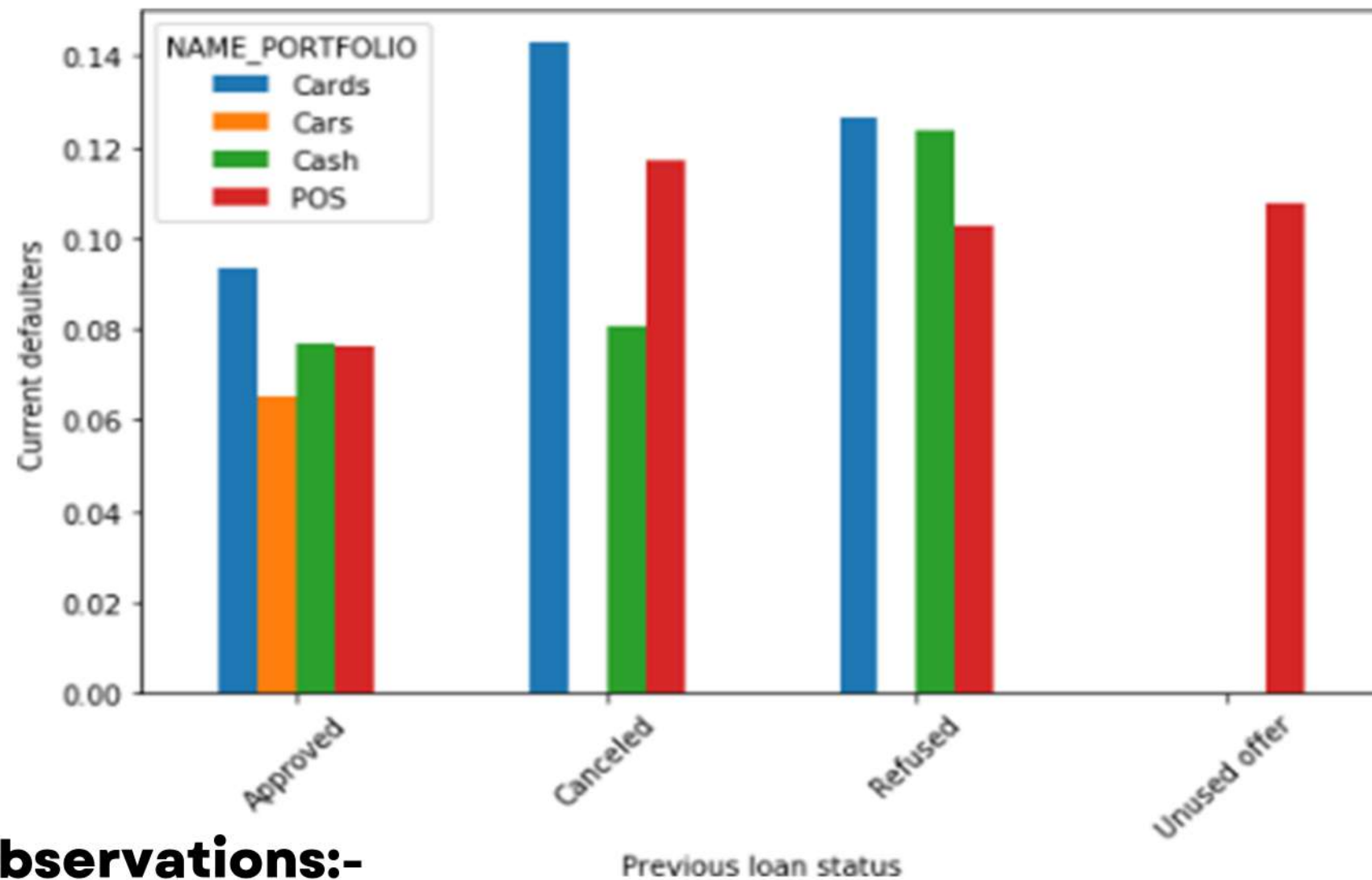
Recommendation:-

1. Safer to grant loans for senior citizens.
2. Lesser risk to granting loans for approved applicants to all income groups

LOAN APPLICATION STATUS RELATIONS

CURRENT AND PREVIOUS

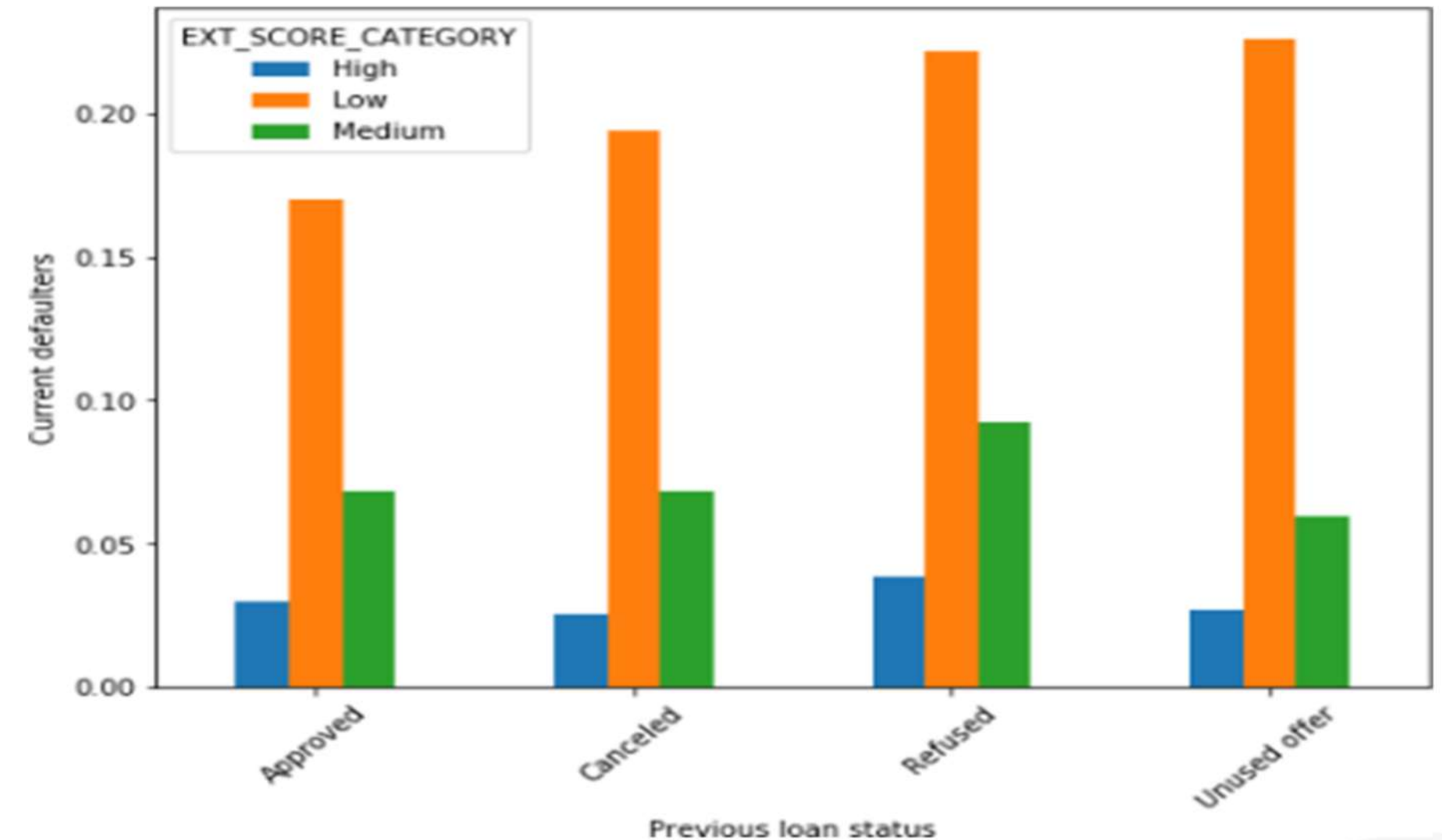
Portfolio & previous loan status



Observations:-

- 1.The previous applications for portfolio Cards and POS are mostly defaulted .
- 2.Previously refused applications for Cash are also defaulted in higher rate.
- 3.Low external source scorer are highly defaulted irrespective of their previous loan status.

External source score & previous loan status



Recommendation:-

- 1.It is safer to grant loans for any portfolio for previously approved applicants.
- 2.It is high risk to grant loans for applicants, who have poor external source score specially whose loan were previously refused, unused or cancel.

FINAL NOTE



Highly recommended groups:-

1. Approved clients in their previous applications.
2. Educated clients with higher income.
3. Clients with higher external source score.
4. Senior citizens in all categories.
5. Married clients compared to other family status.
6. Females are comparatively favourable than male.



High risk groups:-

1. Previously refused, cancelled or unused offer clients.
2. Low income groups with previously refused status.
3. Unemployed clients.
4. Poor external source scorer.
5. Young clients are comparatively riskier than mid age clients and senior citizens.
6. Lower secondary and secondary educated clients.



THANK YOU

FOR YOUR ATTENTION

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amolkore957@gmail.com



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