Credit Risk Analysis Presentation

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Overview

- Addressing the challenges faced by loan providers due to insufficient credit history or consumer defaults.
- Leveraging exploratory data analysis (EDA) to identify patterns and recommend actions for minimizing risks.

Problem Statement

Business Problem

- Loan defaults lead to financial losses for the company.
- Rejecting creditworthy applicants results in lost business opportunities.

Business Objectives

- Identify strong indicators of default using EDA.
- Ensure repayment-capable consumers are not rejected while mitigating default risks.

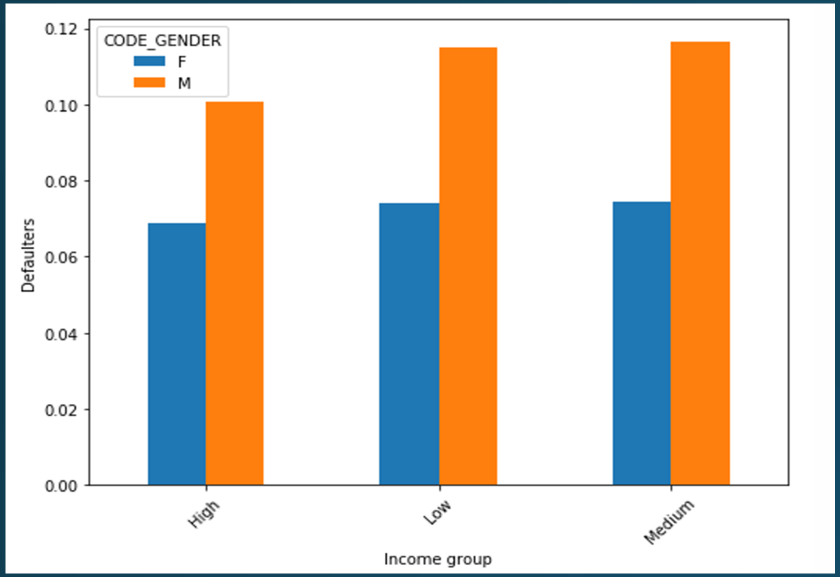
Approach

Steps in Analysis

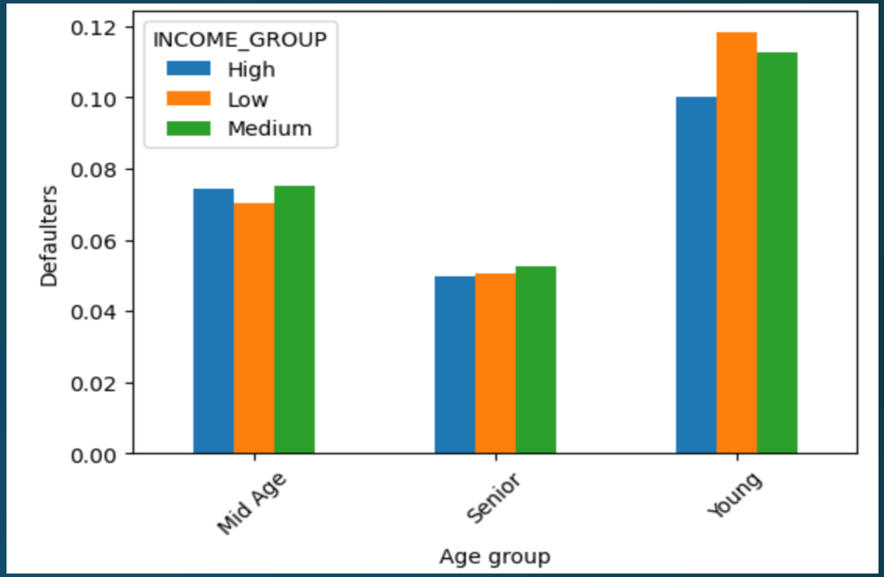
1. Data cleaning and handling missing values.
2. Identifying outliers and understanding their implications.
3. Addressing target variable imbalance.
4. Performing univariate and bivariate analyses for key variables.
5. Correlation analysis to discover influential factors.

Insights from Current application dataset

Income Groups & Gender



Income Groups & Age Groups



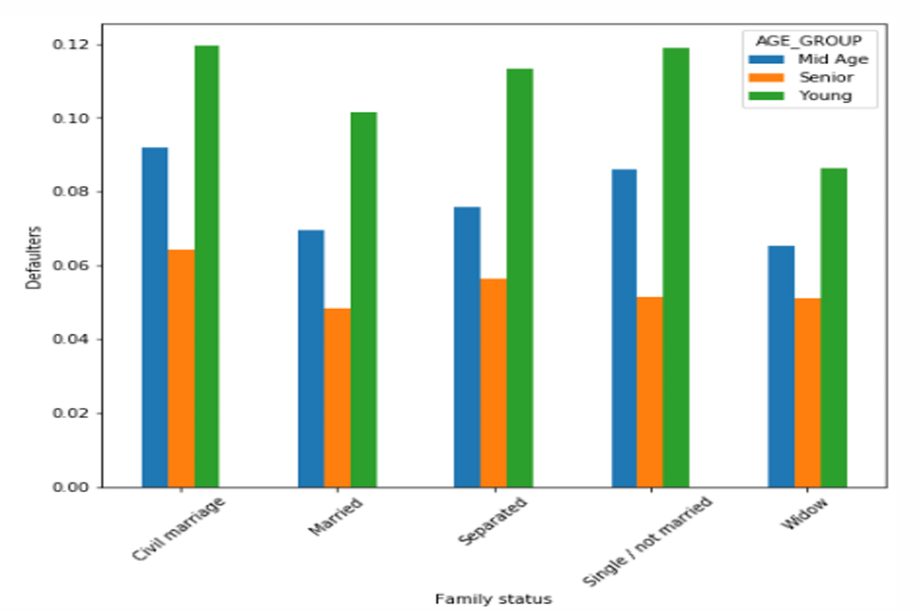
Observations:

- 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.

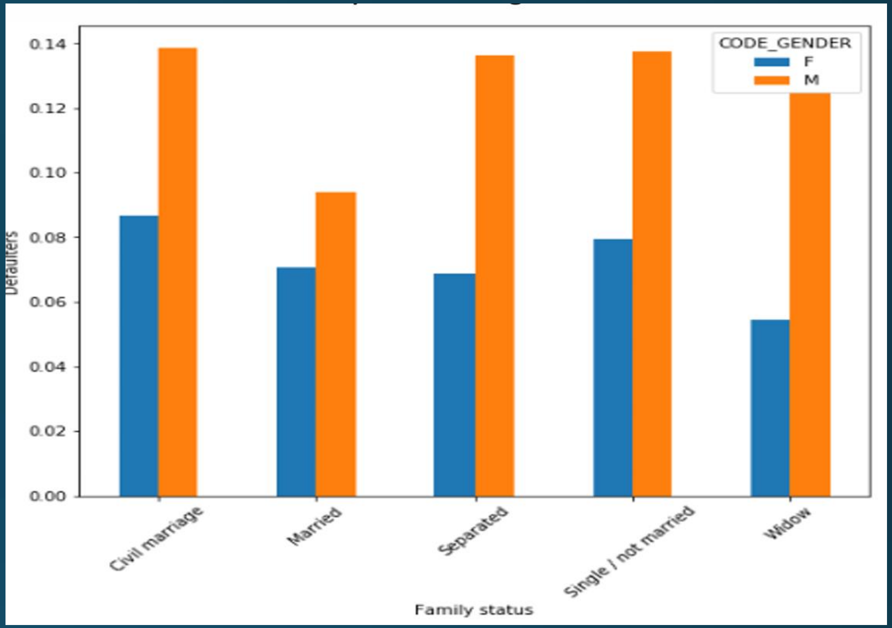
Recommendations:

- 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.

Family Status & Age Group



Family Status & Gender



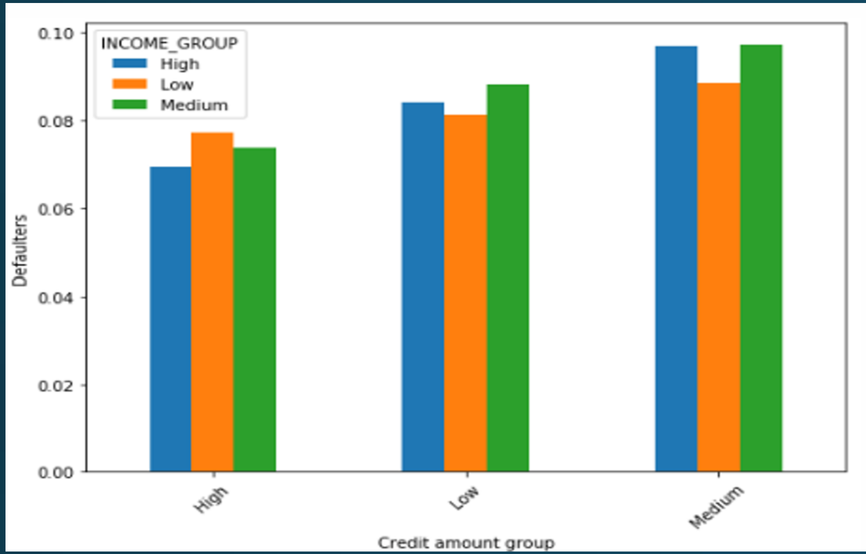
Observations:

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.

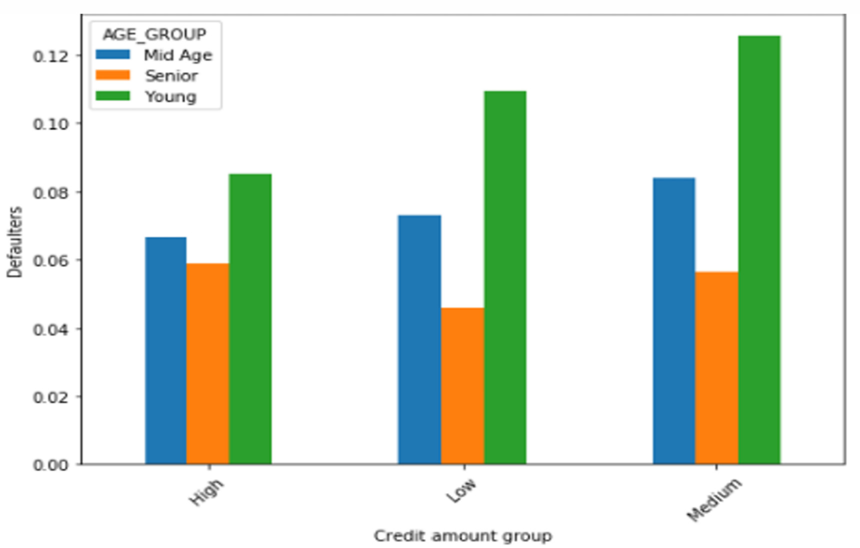
Recommendations:

1. Better to grant loan for senior citizen of all family status.
2. It is risky to grant loan for single, separated and civil marriage young men

Credit amount group & income group



Credit amount group & age group



Observations:

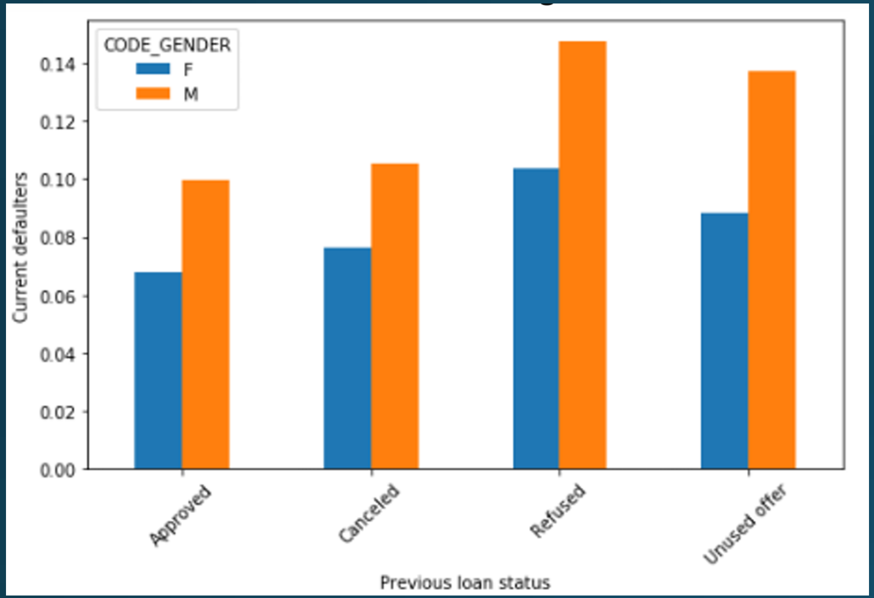
1. Across all income groups clients with medium amount credited is highly defaulted followed by low and high credit amount.
2. Young clients with medium and low amount credited are most likely defaulted.

Recommendations:

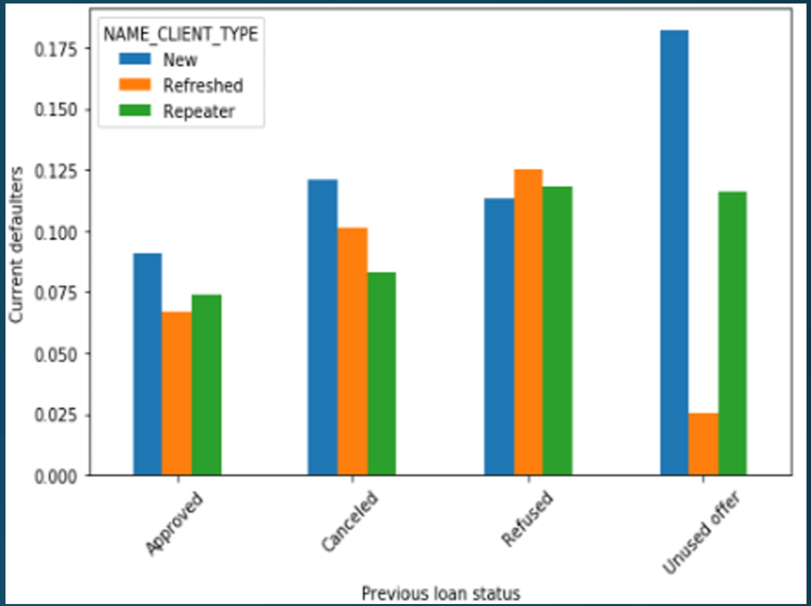
1. Recommended to grant slightly higher amount of loan to all income groups.
2. It is very risky to grant medium and low amount of loan to young clients.

Insights from Combined Current & Previous Applications Dataset

Previous loan status & gender



Previous loan status & client type



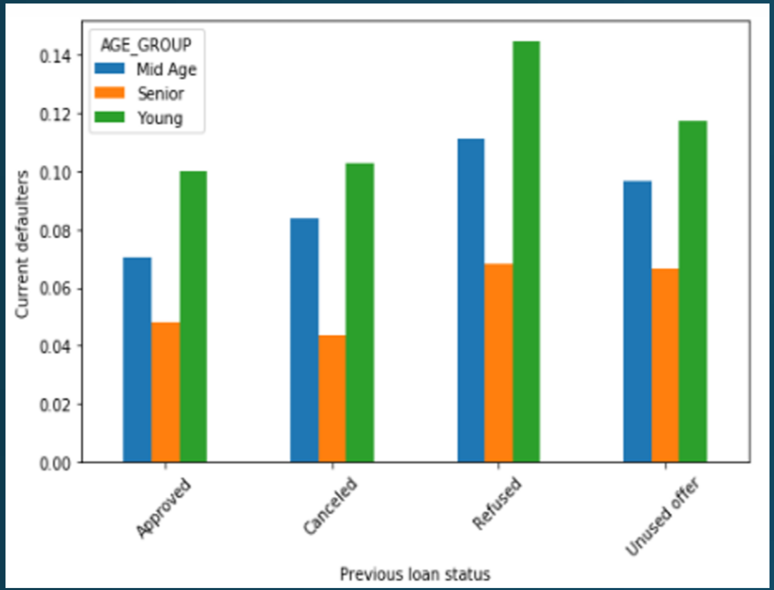
Observations:

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

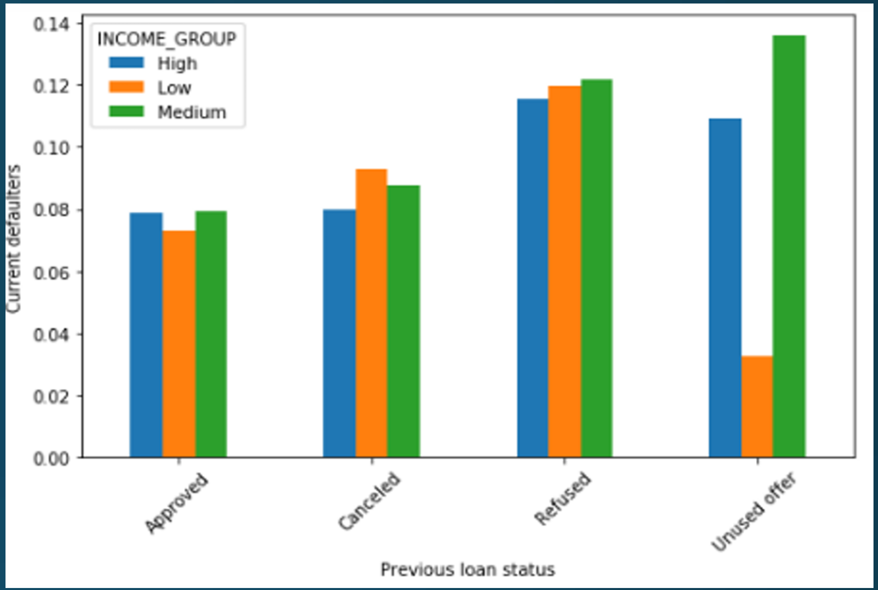
Recommendations:

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

Age group & previous loan status



Income group & previous loan status



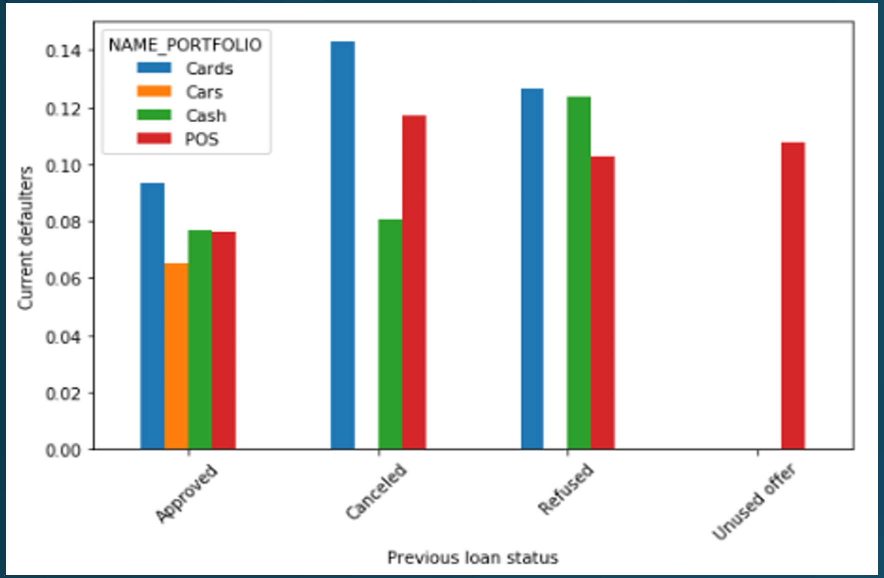
Observations:

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.

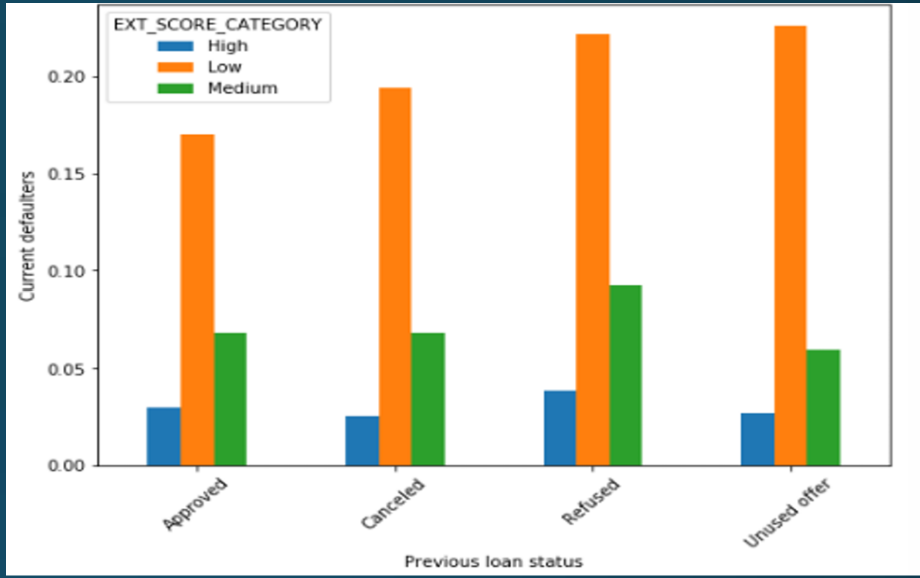
Recommendations:

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

Portfolio & previous loan status



External source score & 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.

Recommendations:

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.

Recommendations

1. Risk-Based Decision Rules

- Approve loans for high external scorers with less scrutiny.
- Impose stricter terms for low external scorers.

2. Portfolio-Based Pricing

- Adjust interest rates or repayment terms based on loan type (e.g., higher rates for “POS").

3. Targeted Interventions

- Prioritize credit counseling for medium-income groups.
- Enhance screening for POS-based portfolios.

Thank You