

Lending Club Case Study

Introduction

In this case study, we will use EDA to understand how **consumer attributes** and **loan attributes** influence the tendency of default.

Consider you work for a **consumer finance company** which specialises in lending various types of loans to urban customers. When the company receives a loan application, the company has to make a decision 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

BusinessObjective

This company is the largest online loan marketplace, facilitating personal loans, business loans, and financing of medical procedures. Borrowers can easily access lower interest rate loans through a fast online interface.

Like most other lending companies, lending loans to 'risky' applicants is the largest source of financial loss (called credit loss). Credit loss is the amount of money lost by the lender when the borrower refuses to pay or runs away with the money owed. In other words, borrowers who **default** cause the largest amount of loss to the lenders. In this case, the customers labelled as 'charged-off' are the 'defaulters'.

If one is able to identify these risky loan applicants, then such loans can be reduced thereby cutting down the amount of credit loss. Identification of such applicants using EDA is the aim of this case study.

In other words, the company wants to understand the **driving factors (or driver variables)** behind loan default, i.e. the variables which are strong indicators of default. The company can utilise this knowledge for its portfolio and risk assessment.

To develop your understanding of the domain, you are advised to independently research a little about risk analytics (understanding the types of variables and their significance should be enough).

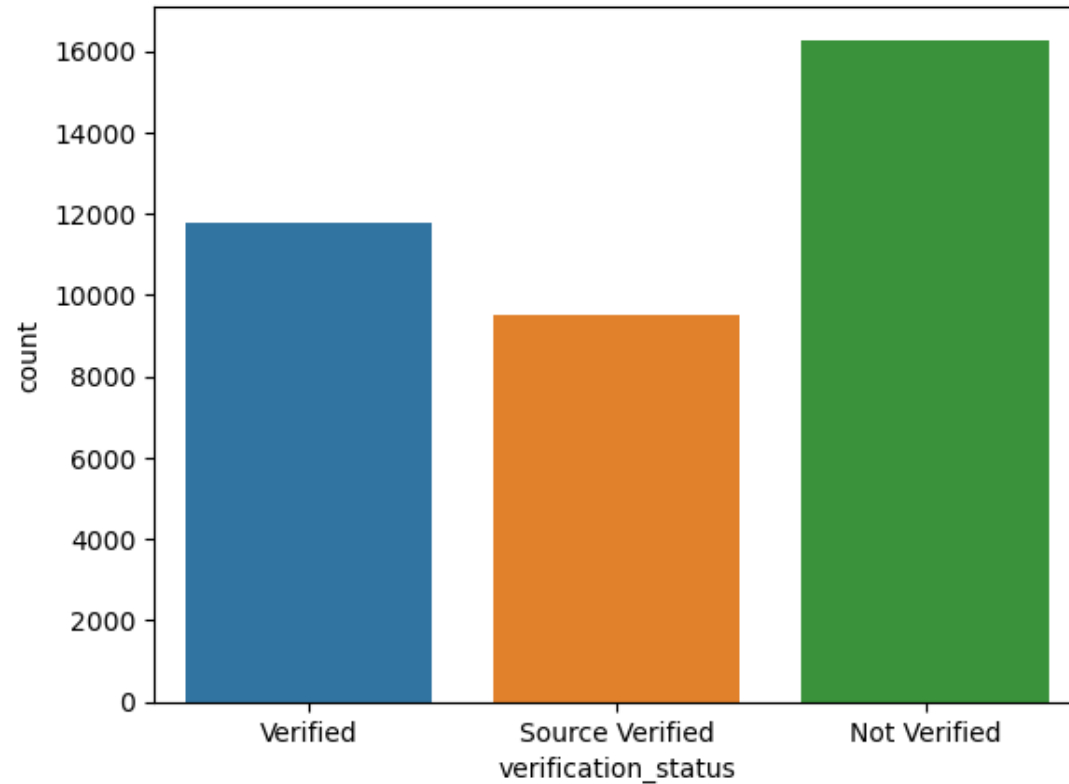
Analysis and Recommendations

Here we can observe, the more defaulter took loan in Medium to High interest rates (14% - 24 %)

	loan_status	int_rate	Count
0	Charged Off	High intrest	2505
1	Charged Off	Low intrest	390
2	Charged Off	Medium intrest	2504
3	Fully Paid	High intrest	8115
4	Fully Paid	Low intrest	7282
5	Fully Paid	Medium intrest	16748

Hence, it's highly recommended to conduct immense background verification who takes the loan in high interest rates.

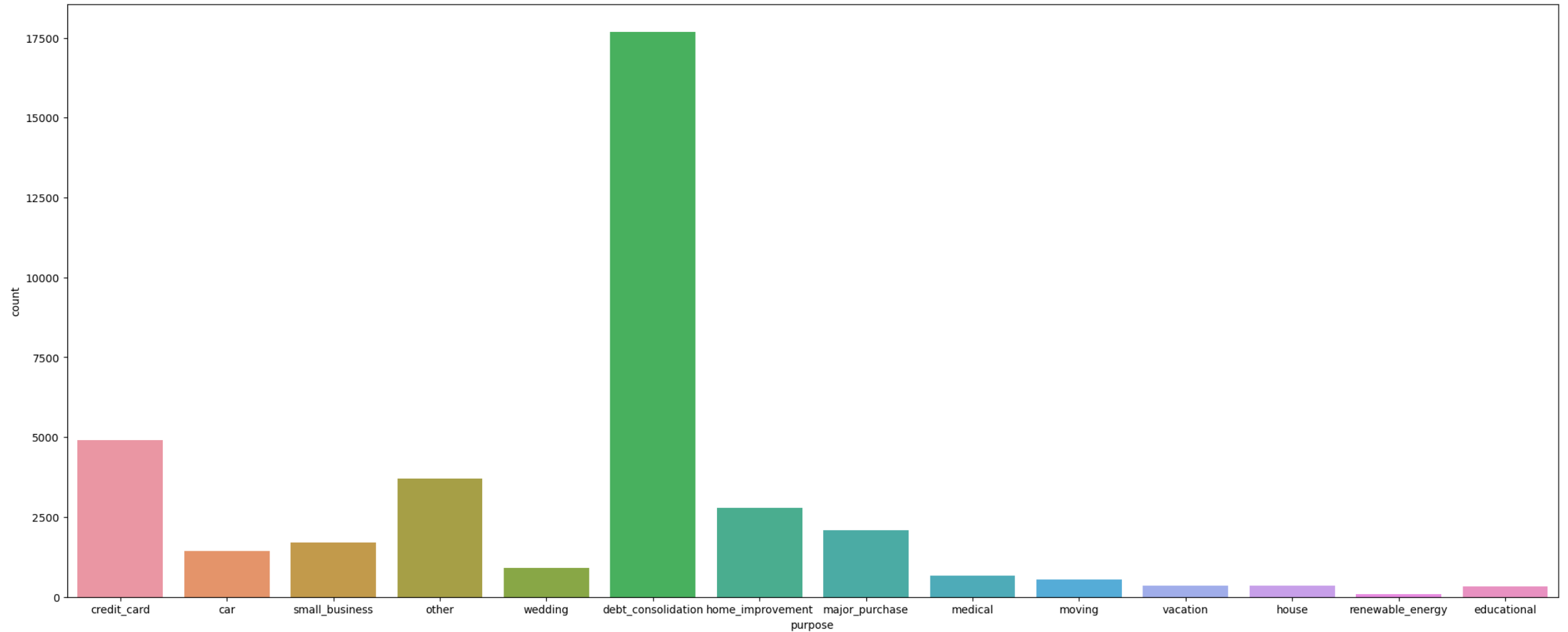
Here we can see that very high no verified applications got loan approval.



Hence, Proper verification of Applications and documents will reduce the occurrence of Defaulters.

It's highly recommended to consider the experience and annual income of the applicants those who are agree to pay loan in high interest rate.

Here we can see that most of the loan application purpose is Debt consolidation.



Hence, Most of the loan took for the debt_consolidation. So it is highly recommended to check the applicant's pending loan payments

Thank you
