

### Lending club case study – Business Problem

- 1. Largest online loan marketplace, facilitating various types of loans
- 2. Study the LC provided data repository
- 3. Identify the risky loan applicants
- 4. Understand the driving factors behind the default loans



### Lending club case study – why?

- 1. Identify the risky applicants in the early stage of the process
- 2. Minimize the credit loss to the company
- 3. Provide the method to identify the risky applicants



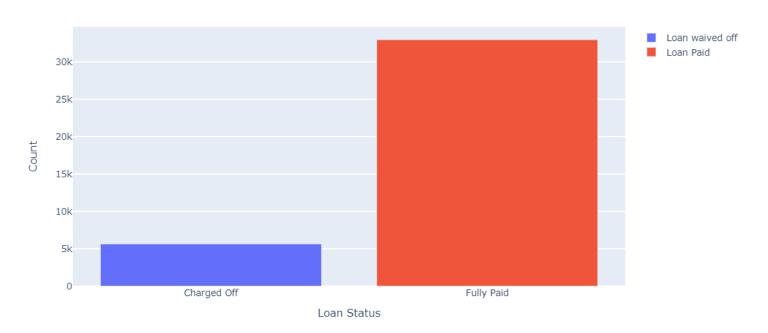
### Lending club case study –EDA to analyze the data set

- Cleaned the data removed not required and redundant columns
- Meaningful column names
- Analyzed the outliers
- Applied EDA to produce graphical output



# Lending club case study – Over all Loan status

Loan Status- Charged off Vs Fully Paid

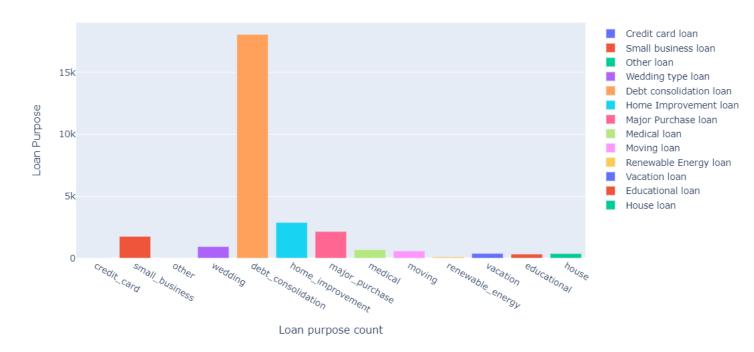


- Number of loans: 38578
- Number of Fully paid loans
- Number of Charged off loans



# Lending club case study – Barrowers Loan Purpose ranks

#### Loan purpose status

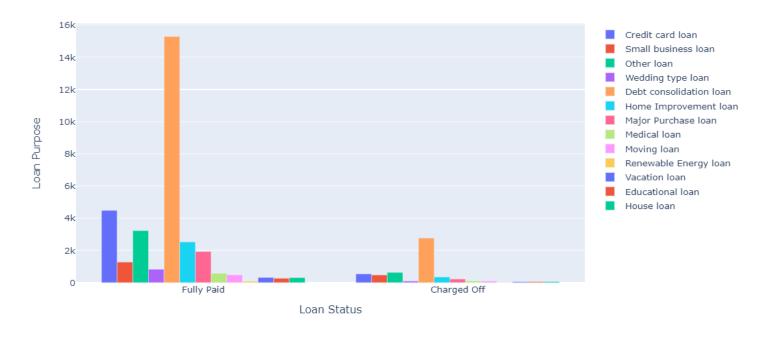


- Debt Consolidation 1<sup>st</sup> rank
- Home improvement 2<sup>nd</sup> rank
- Major purchase 3<sup>rd</sup> rank



## Lending club case study – Purpose and Status

#### Loan purpose vs Loan status



- Debt Consolidation loan 1<sup>st</sup> rank
- Other loan 2<sup>nd</sup> rank
- Credit card loan 3<sup>rd</sup> rank



### Lending club case study – Purpose and Status-Detail



### Charged off loans

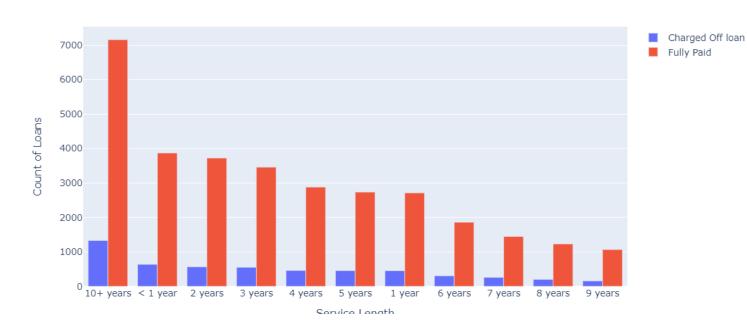
- Debt Consolidation loan 1<sup>st</sup> rank
- Other loan
- Credit card loan 3<sup>rd</sup> rank

– 2<sup>nd</sup> rank



## Lending club case study – Service Length and Status

#### Service Length Vs Loan Status

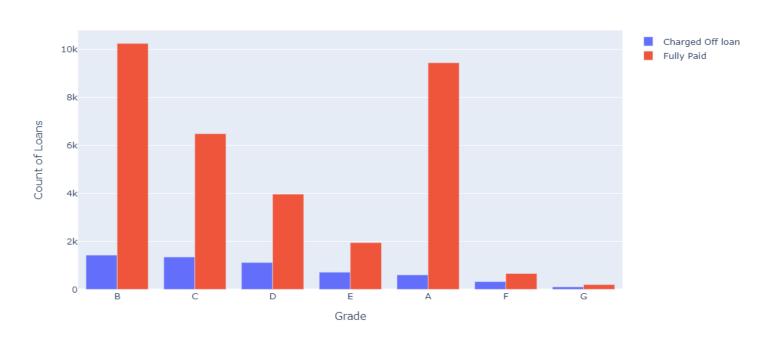


- Contribution from experience:> 10 years
- Early stage in the carrier: <5 years



## Lending club case study – Grade and Status

#### Barrowers Grade Vs Loan Status

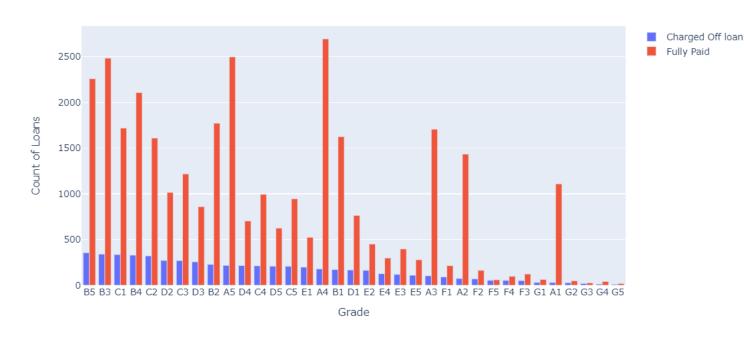


- Major contribution from Grade:
  - B
  - C
  - D



# Lending club case study – Sub grade and Status

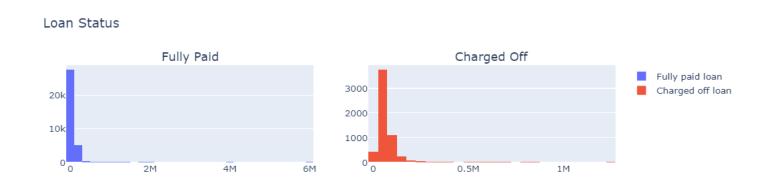
#### Sub grade Vs Loan status



- Major contribution from Grade:
  - B-B2,B3,B4,B5
  - C-C1,C2,C3,C4,C5
  - D-D2,D3,D4,D5



### Lending club case study – CTC and Status

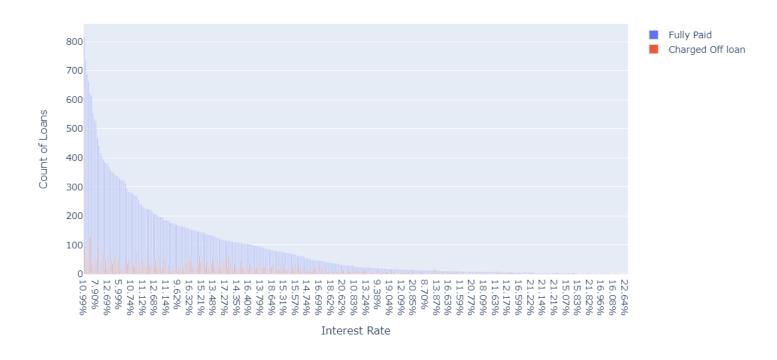


- Major contribution from Grade:
  - B-B2,B3,B4,B5
  - C-C1,C2,C3,C4,C5
  - D-D2,D3,D4,D5



### Lending club case study – Interest rate and Status

#### Interest rate Vs Loan status



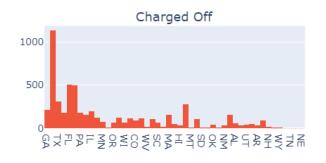
- Major contribution from Grade:
  - B-B2,B3,B4,B5
  - C-C1,C2,C3,C4,C5
  - D-D2,D3,D4,D5



## Lending club case study – State and Status

### Loan Status





#### Charged off loans-??

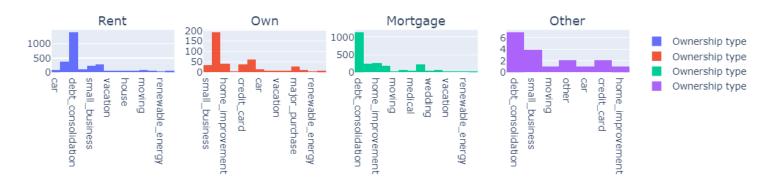
Fully paid loan

- Major contribution from State:
  - CA California
  - FL Florida
  - NY- Newyork



# Lending club case study – Ownership type and Status



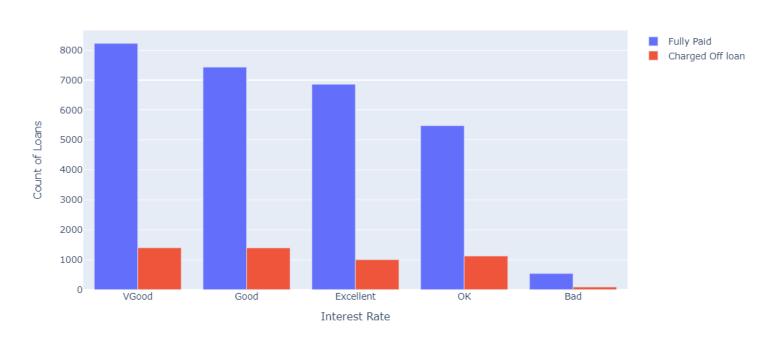


- Ownership type:
  - Rent
  - Mortgage
  - Own



# Lending club case study – Monthly payment debt ratio and Status

#### Interest rate Vs Loan status



- Debt ration:
  - VGood
  - Good
  - OK



# Lending club case study –Recommendation



# Lending club case study – Observations and recommendations

- Applicants in the good cities are more likely to default the loan
- Service range 0-5years and 10+years of experiences applicants are likely to default
- Applicant who seeks loan for Debt consolidations, small business, house improvements and for other reasons are likely to default
- Applicants who's monthly debt payment ration in 0-20 are likely default the loan
- Application with Grade: B,C and D are likely to default
- So above mentioned variables/points to be verified closely before sanction

