LendingClub Credit Risk Prediction

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11/23/2022

Overview

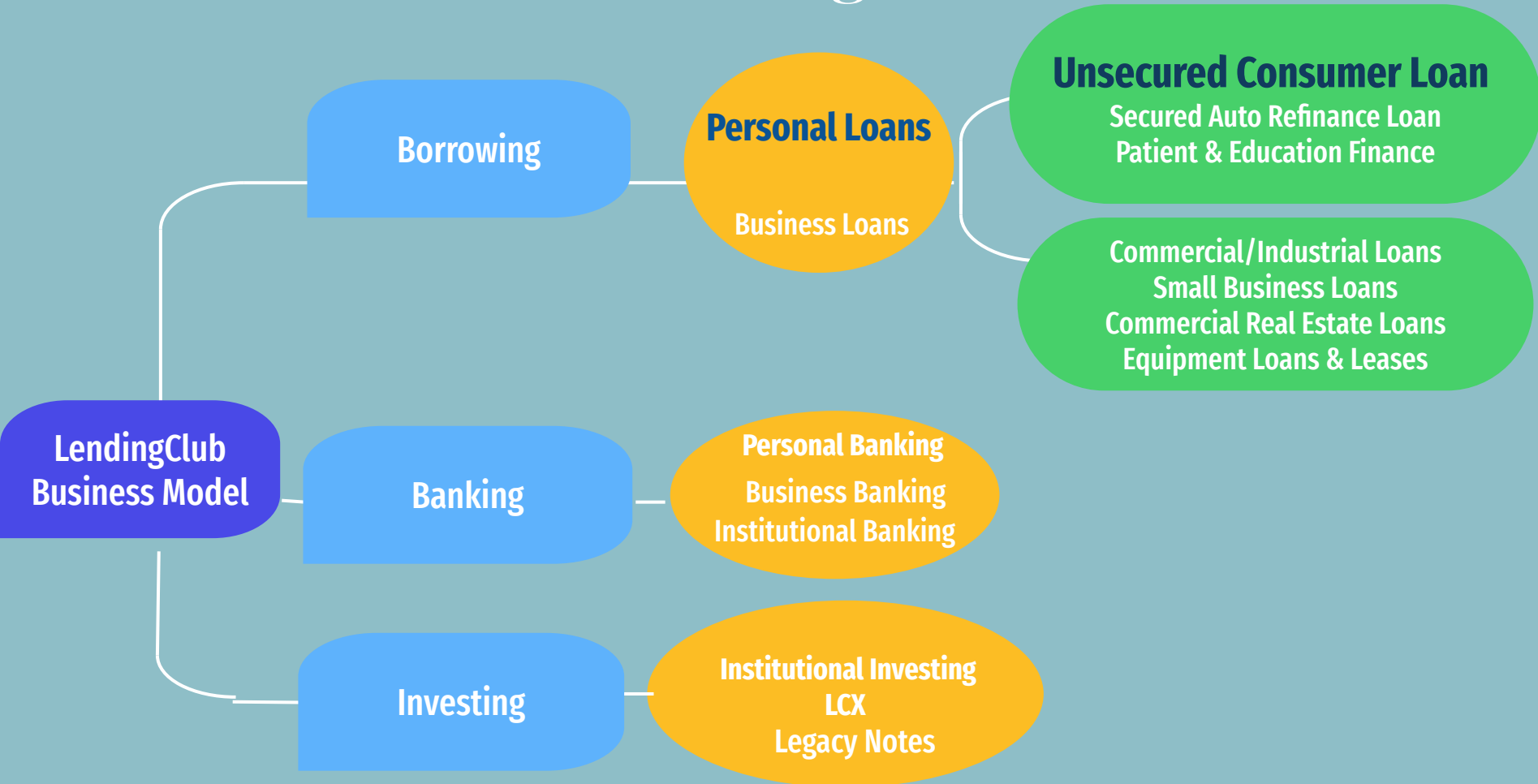Business Understanding

Data

Model

Recommendation

Furthermore

Business Understanding

LendingClub Business Model

- **Borrowing**
  - **Personal Loans**
    - **Unsecured Consumer Loan**
      Secured Auto Refinance Loan
      Patient & Education Finance
  - **Business Loans**
    - Commercial/Industrial Loans
      Small Business Loans
      Commercial Real Estate Loans
      Equipment Loans & Leases

- **Banking**
  - Personal Banking
  - Business Banking
  - Institutional Banking

- **Investing**
  - Institutional Investing
  - LCX
  - Legacy Notes

Business Understanding

Today's Performance & What We focused on

1 | **4+M Members**

LendingClub can do more to provide more affordable credit.

2 | **High Growth/High Yield Product**

- Unsecured consumer loan book increased at fast pace from **$991M** in 3Q21 to **$3,269M** by 3Q22
- Average yield in 3Q2022 is **13.52%**

3 | **Assess Credit Risk**

- **Business loss**-rejecting a borrower who is actually able to repay the loan
- **Capital loss**-approving a borrower who ends up not being able to repay the loan
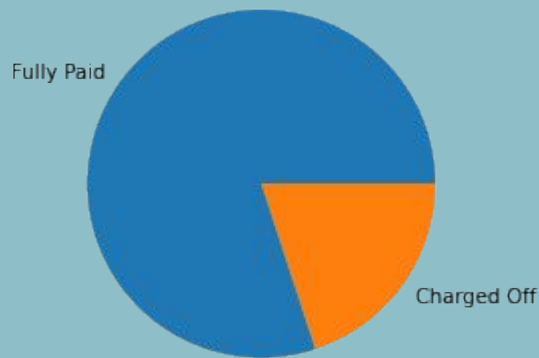
Data

1 | Data

2.3 M applications

151 features

2007-2018 timeline
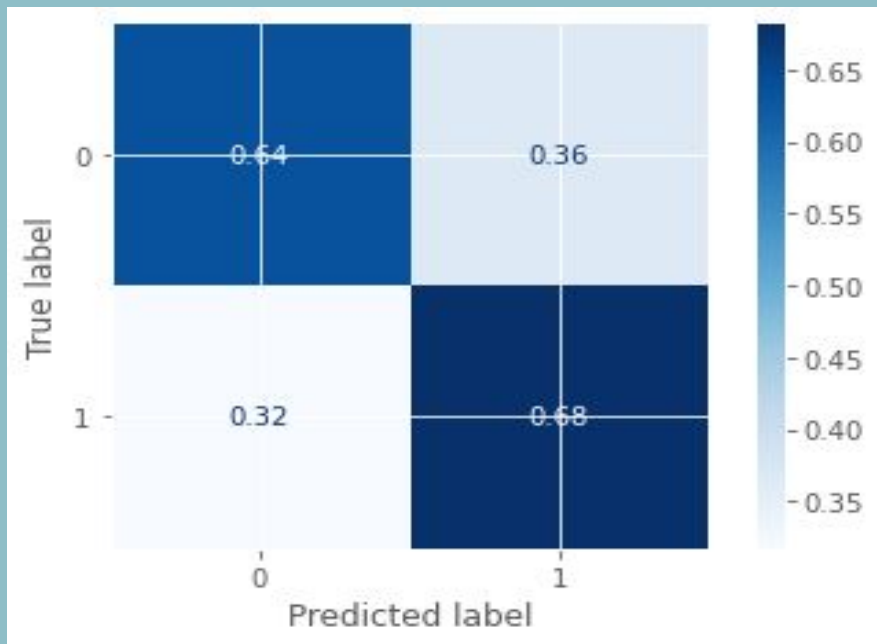
2 | Target Variable

Fully Paid

Charged Off

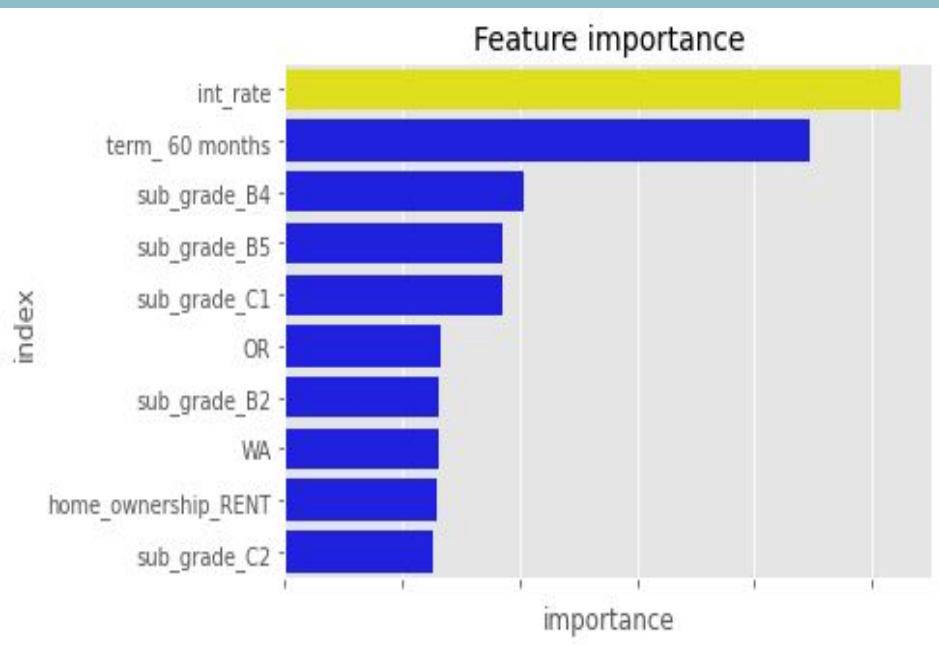Fully Paid: 0

Charged-off: 1

3 | Data Features

- **Loan Status**
- Interest Rate
- Home Ownership
- Grade
- Annual Income
- Mortgage Account

Model

Out of all the loans that actually did default, the model predicted this outcome correctly for **68%** of those loans. At the same time, out of all the loans that the model predicted would not default, **64 %** actually did not.

Feature Importance

Feature Importance

- Interest Rate
- Term
- Subgrade
- Home Ownership - Rent

Recommendation

1	Balance Transfers
Recommend borrower pay down existing credit card debt.	

2	Loan Consolidation
Consolidate the loans into a fixed-rate term loan.	

3	Joint Applications
Borrowers may receive a better rate when they jointly apply for a personal loan.	

Furthermore

- **Further analysis for higher annual income and higher FICO score customers-** help the bank to make specific products for this group of customers

- **Target to members' core needs** - utilize a scalable technology platform to lower the cost of their debt and/or improve the returns on their savings

- **Attract new members** - target to potential customers who search loan information by search engines or social media. Offer incentive to current customer by relationship referrals. Advertise through the website, targeted online advertising, online aggregation partners, or direct mail

- **Retain current members** -offer return members with better rate if they need another loan or deposit product which increases the lifetime value of members while helping them improve their financial health

Get In Touch

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