

Exploration of Prosper Loan

Investigation Overview

- The higher the income the higher the spending, also the income and spending throughout the states is random, so there is no clue that states that the richest people or the highest spending is in CA.
- Administrative Assistant has the highest income but don't spend a lot. Among the Occupations Executives are the most spenders, and among the income the (100,000+) spends the most.
- The state that has very rich people is FL & IL, the highest income is for selfEmployed and the other listed jobs.

Dataset Overview

- The data is for a loan and I will do some cleaning to answer my question and my question is insights about the satisfaction and customer journey.
- I will replaced the none values in the 'ClosedDate' with 'Un closed' because they are still current customers in the 'LoanStatus'.
- I removed the data that are based on income and loss, because it ha a lot of missed data cells and don't help me in my analysis.
- I removed the 'ListingKey' it is additional info for my analysis, also the 'Term' will be removed
- I removed the 'LoanStatus' also because the 'ClosedDate' also provide the same info with additional info of the closed date
- I changed the None Rows in Ratings to closed.
- I removed 'OnTimeProsperPayments', 'ProsperPrincipalBorrowed', 'ProsperPaymentsOneMonthPlusLate', and 'ProsperPrincipalOutstanding', since they have a lot of missing data and they are not making any problems through my analysis.
- I also removed 'Recommendations' since it has no need

Insights

- I found a 57% negative relation between 'LP_CustomerPrincipalPayments' & 'LP_ServiceFees', it is negative because the fees are in negative numbers. The insight is only that it looks people spend more through the least expensive services.

- The first pie chart is on 'ProsperRating (numeric)', I estimated that it is out of 10, and through the ratings it looks that the customers aren't happy, and to find the issue I think the company needs to conduct a market research.
- The second pie 'IncomeRange', and it looks that most of the customers has a high income, and it is their target customers they should focus, for the very high income customers have a less percentage, and that is due to many reasons, but I have two assumptions to that, one that when they want something they buy it, second is that is normal to have few very rich people it is impossible to have many very rich people in a country like more than 25% of the country.
- The third pie chart was on 'Occupation' and to see if the role has impact, and of course it has impact, but 44% percent of the top employments are un none, and that is due to the very specific roles they have, like doctors, marketing, engineering, have many majors and job titles with different names. But we can see that professionals are more customers than executives, and I think it could be important to find if there is a big relation.
- The fourth pie chart was on 'BorrowerState', and CA has a big percentage over the top states, and that is clear why, because CA has many of rich people, it is expensive, and has many tourists so it proves that this loan is for rich people. However later CA was not one of the highest spending states either the highest income individuals, so it proves that my previous insight about it was wrong.
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Relationships Observed

- There is a positive relationship between the income and the people who takes the loan, and it is clear it segments rich people.
- There is relation between the service cost and income, the higher the income the people would like to buy the cheap products and they may be essential products and that is why they buy it, not only because it is cheap.
- CA is a state for rich people, so it proves that the loan is for rich people.

Observe Interesting Relationships (not the main feature(s) of interest)?

- I observed that the Professionals tend to loan more than the other jobs even more than executives, and it is really interesting to know why through observation.