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Data Visualization in Tableau Project Writeup

June 24, 2018

Initial version: https://public.tableau.com/profile/eric.shell#!/vizhome/Prosper_Loans_v0_1/Story1

Final version: https://public.tableau.com/profile/eric.shell#!/vizhome/Prosper_Loans_v2/Story1

Summary

We make a story with some six dashboards showing charts visualizing loan data from the Prosper Marketplace company. The dashboards relate to the completion rate of loans, or the percent of loans which go on to be successfully completed and paid off, as opposed to going into default or charged off. We show some success factors related to successful completion, focusing in the end on how having multiple friends participating in the loan increases the chance of successful completion.

Design

We used U.S maps to show the participation and completion rates by state, in order to give the viewer something they could immediately relate to, assuming they have visited or lived in some state. This was a straightforward way to show differences in completion rate, because you can see the differences in shading along the states. In addition, we used bar charts to show differences in completion rate varying by levels of important predictors like income level and debt/income ratios. I debated using different colors among the levels, but ultimately decided against it based on suggestions on the Tableau to “keep it simple”.

To help the viewer get a better appreciation of the importance of having multiple friends invest in a loan, I made sure that the viewer could use a slider to manipulate this level and see how completion rate shoots up with higher levels of friends. I also wanted to use discreet instances of loans in this last slide to get away from always using (aggregated) bar charts. Finally, based on a request made by one person seeing an initial version of the project, I made sure to the viewer could interactively choose unemployment levels (in checkboxes) to see which states had good or bad rates based on employment level.

Feedback

The first person shown the initial version thought it was confusing that I had the title referring to the importance of number of friends, since this wasn’t really introduced until the fifth slide. So in the final version, the title of the story referred just to success factors and did not refer to number of friends as a success factor.

A second person giving feedback thought that it would be more interesting in general to feature unemployment levels across states, so that a viewer could see for themselves which states had good or bad success rates based on employment level (in other words, if you are unemployed, which states show better success rates?). I didn’t share the same curiosity for state-by-state unemployment, but since someone else did, I thought I might as well enable some interactivity in this area, and so I put in checkboxes for employment status filters on a the second map.

A third person viewing the initial version thought it was very unintuitive to show “number of records” in the first map as an indicator of participation. After all, what does it really mean if California had more records than Alaska, given that California has so many more people? This feedback was unexpected but immediately seemed to be a very valid criticism. In response, I found population figures and did a join to come up a per-capita participation rate, so we could see how state participation compares by records per million people in state population, and added this to the final version.

Resources

<https://s3.amazonaws.com/udacity-hosted-downloads/ud651/prosperLoanData.csv>

https://people.sc.fsu.edu/~jburkardt/datasets/census/census_2010.txt