

Analysis of Adult Income

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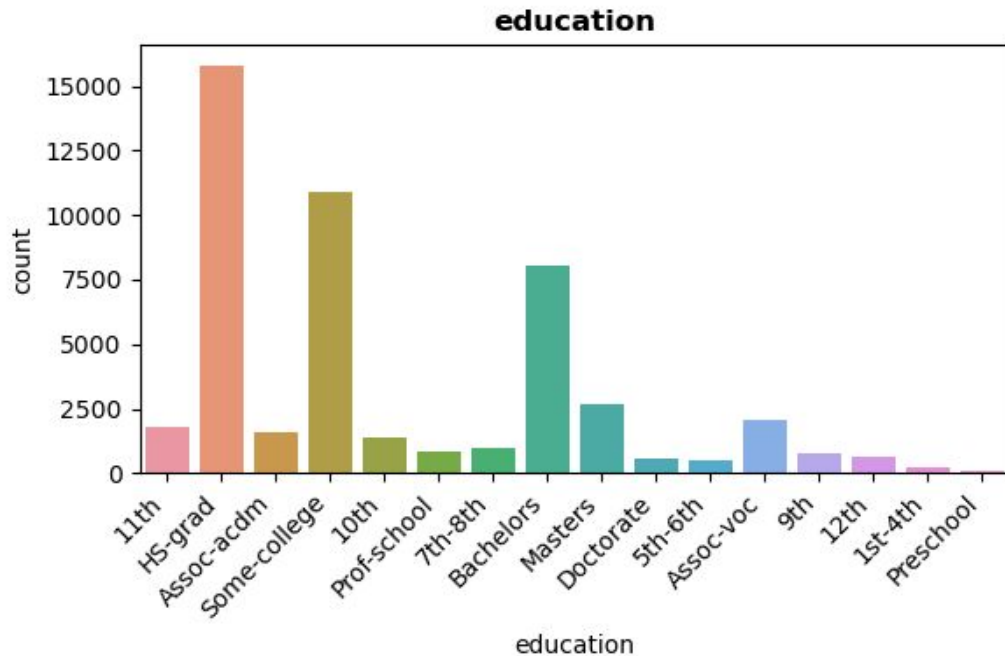
Why investigate adult income?

- Determine areas of the world that are doing well
- Identify positive and negative factors that influence income levels
- Use the information from predictions to identify areas that would best benefit from the organization's assistance.



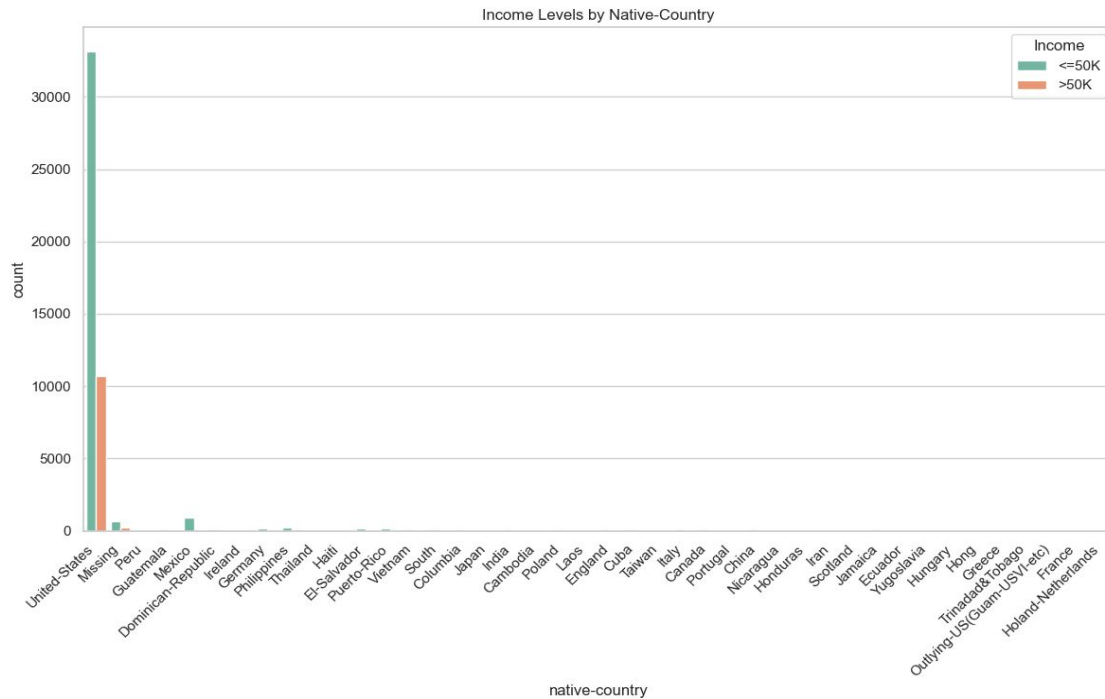
Education Distribution

- The most common levels of education are high school graduates, those with partial college backgrounds, and bachelor degrees.
 - Considering the amount of high school graduates and partial college people, an event that supports educational pathways at various stages would be beneficial.
- Empowering Future Graduates:
 - The abundance of high school graduates highlights an opportunity to create programs that assist young adults.
 - Events that provide resources for mentorship scholarships could be motivational.
- Enhancing Career Opportunities:
 - The pool of bachelor's degree holders shows that there is a pool of professionals seeking career growth.
 - Events aimed at this group could offer workshops, networking sessions, and skill-building activities



Income Levels by Country

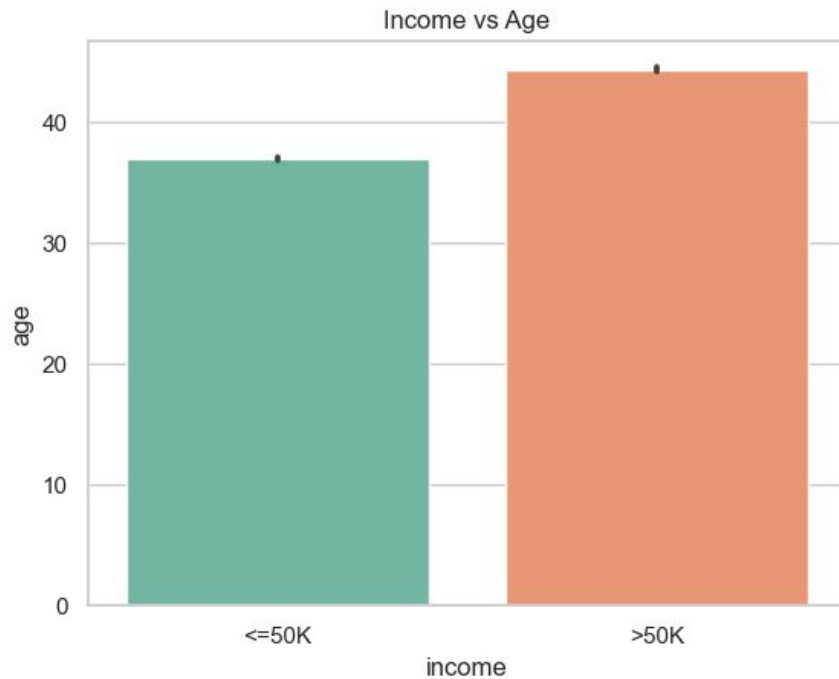
- Data shows that the polls clearly didn't reach every country equally
- In the few countries outside of the US, results were minimal.
- Consider different campaigns that are more specialized for each country



Income vs Age

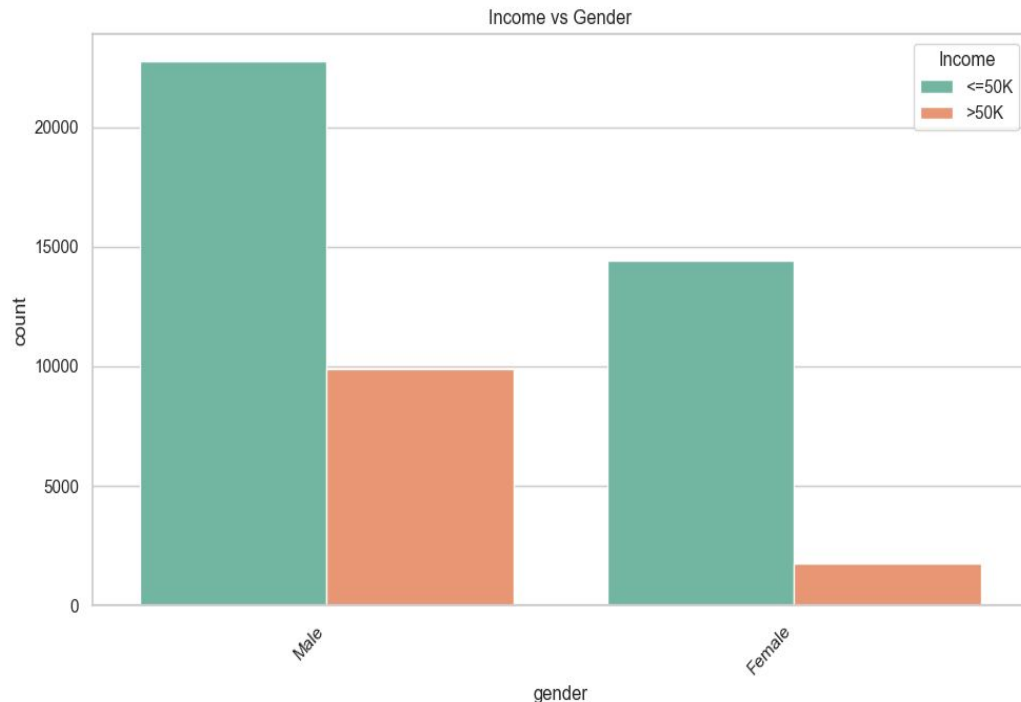
- Individuals 35 and under predominately earn below \$50k, while those older than 35 tend to make \$50k or more.
- There's a correlation with income, age and education.
 - Younger individuals, especially those under 35 are often in the process of completing their education or are just beginning their careers.
 - Likewise, those over the age of 35 are usually more established in their careers and have likely completed higher education.
 - This data suggests that post-high school education has an impact on an individual's income.
- The clear disparity between the two age groups underlines the importance of creating various initiatives to support young adults during the early stages of their careers.

A well-rounded event or initiative could provide support and resources to both younger individuals that are in the early stages of their careers and give established individuals a boost to reach the next stage of their careers.



Income vs. Gender

- Results show a noticeable income gap between men and women.
- This correlates with data found within the dataset, showing that individuals identifying as husbands typically earn compared to others, such as single, wives, etc.
- Advocate for transparent salary structures and equal pay regardless of gender.
- Encourage workplaces to be more flexible with scheduling, allowing spouses to balance home and work responsibilities.
- Collect more data on the types of fields that women work and as well as their preferred fields.



Model Used

After tuning and testing, the **Logistic Regression Classifier** model showed the best results with a **high accuracy of 86%**.

- This model serves well in its current state and **still has room for improvement**.
- As of now, unbalanced data has not yet been addressed. By making use of various techniques, the accuracy of the model can be even higher.
- Once newer data (such as data with more non-U.S. countries, common fields over the past 10 years, etc.) is obtained, the results will certainly be different, yet handled well at the same time.

The model currently has a low false positive rate and higher recall, a metric that identifies true positives.



Final Remarks

- Data from the samples as well as the previous slides show a fair amount of disparity in their results.
- Improvements in mailing campaigns could improve the quality of the data.
- Newer samples as well as yet to be implemented techniques **will improve the model over time**, making it a worthwhile investment for future analysis.

