

Team Name: UTD 1

Team Members: Haeun Kim, Haleema Imran, Nawal Mahmood, Neo Zhao, Vismaya Joseph

Primary Questions investigated: How can ABA best allocate their resources to help clients?

General Goal: “What are the top states & categories of answered/unanswered questions?”

Methods used: Python, R, Tableau, PowerBI

Description of findings:

We determined that attorneys spent most time on Family & Children and Housing & Homelessness when helping their clients answer questions and the least time on Education and Juvenile. ABA can allocate more attorneys that have experience in Family & Children cases as it takes the longest amount of time. This will allow attorneys to have more time to answer those that do not take as long to solve so that more questions get answered. They can also use this information to further recruit lawyers with special expertise in categories like Consumer Financial, Family and Children, and Housing and Homelessness.

Additionally, we explored how the days of the week and times of day affect when clients ask questions and when attorneys are answering them. Through our analysis, we discovered that most questions were asked by clients during the evening hours between 5pm-10pm and answered by attorneys during the evening as well. We also found that Monday through Friday had significantly more questions asked in comparison with Saturday and Sunday. On the other hand, Friday and Monday saw the highest number of questions answered by attorneys, with a noteworthy decrease during the middle of the week and weekends. These insights could be useful for the ABA to recruit and train attorneys and inform them of the general trends of expected timings worked for these pro-bono questions.

Next, we looked at the top ethnic identities asking questions. While Caucasians are asking the most questions - nearly 50%, many questions are also coming from Latino/Hispanic and African American communities. In addition, we also observed that the number of clients has been steadily increasing since 2012 but reached a significant peak right after 2020. This could very likely be due to the COVID-19 Pandemic where the world saw an increase in domestic, financial, corporate, and civil issues. Moreover, we found that overall, women overwhelmingly requested attorney assistance the most frequently. With most questions being asked in the Family & Children category, men also asked many questions there. ABA can make sure that enough attorneys with specialization in Family Law are being recruited.

Lastly, we inquired into the geographic dispersion of the questions. We wanted to identify which states had higher answered vs unanswered proportions of questions. We identified Idaho, Pennsylvania, Kansas, Georgia, and Virgin Islands having the lowest proportion of questions answered and Virginia, Tennessee, South Dakota, Florida, and New York having the highest proportion of questions answered. It is important that attorneys are targeting the country as a whole rather than a certain geographic area, so being aware of what states are not being assisted can be valuable to assisting a more diverse clientele. State partners in these 10 states should be contacted to be made aware of these statistics. We generated a heatmap of areas where clients were located based on questions asked and also identified that significantly more attorneys were located in Chicago, IL, the headquarters of the ABA, and Washington D.C - a major office of the ABA. These insights would be a useful resource for the ABA to stay updated with their data real-time and in an interactive manner to identify trends.

Appendix

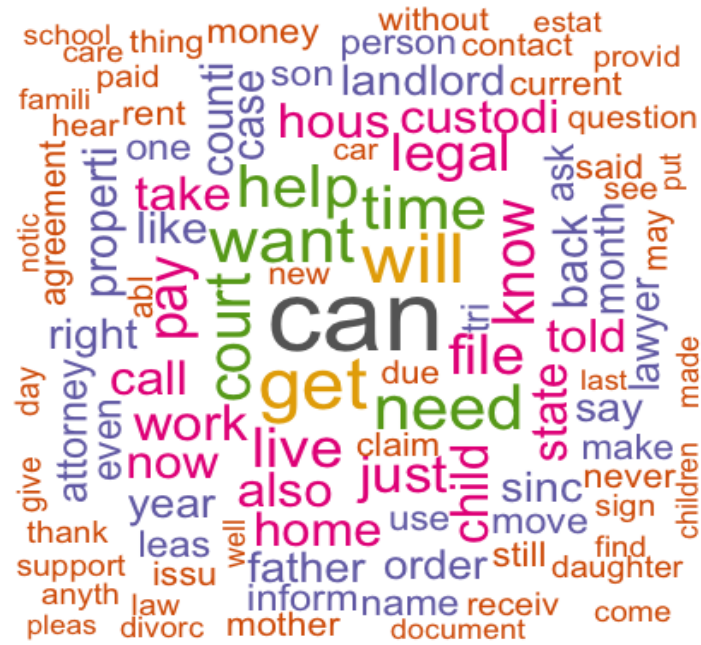


Figure 1: WordCloud of Most Common Words Used in Inquiries in Pennsylvania (neglected state)

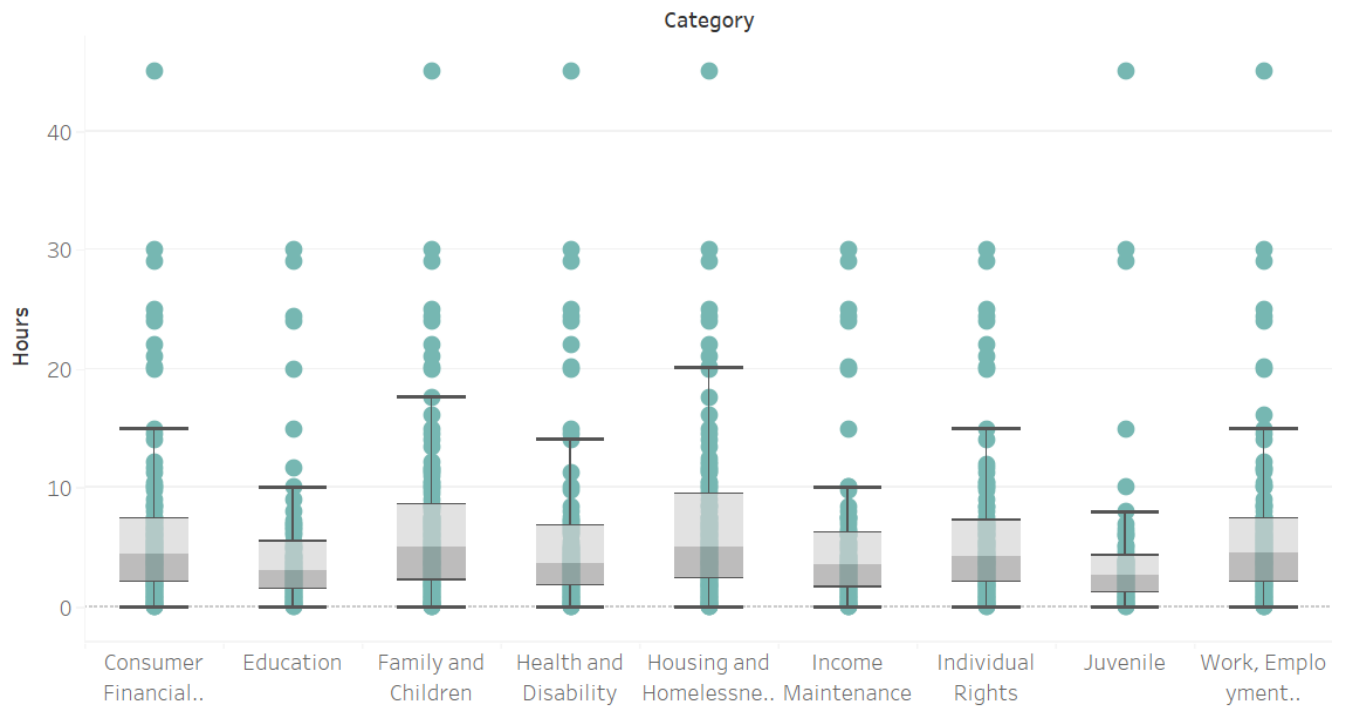


Figure 2: Hours Spent vs Categories

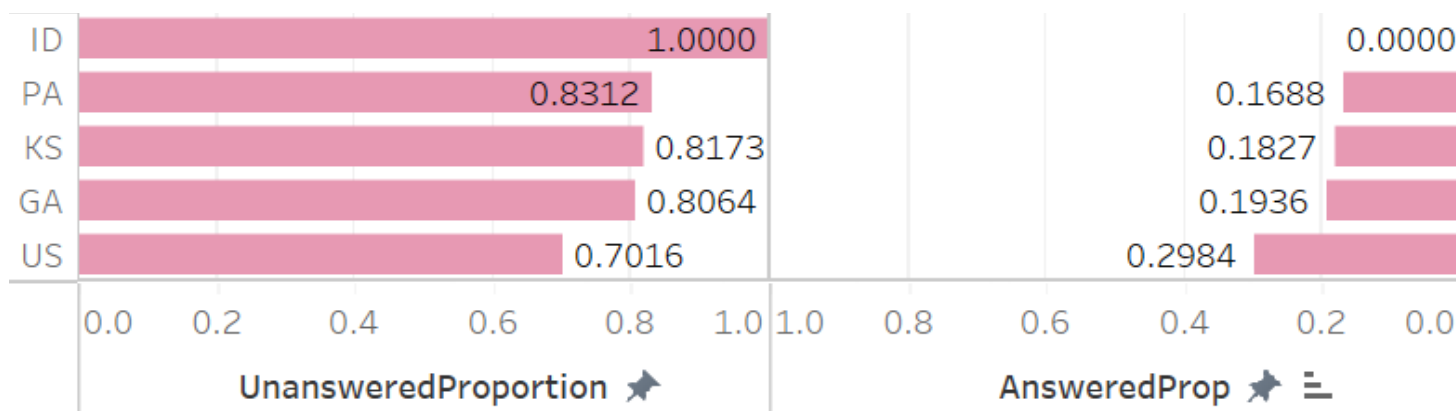


Figure 3: Top 5 Unanswered States vs Proportion of Answered and Unanswered Questions

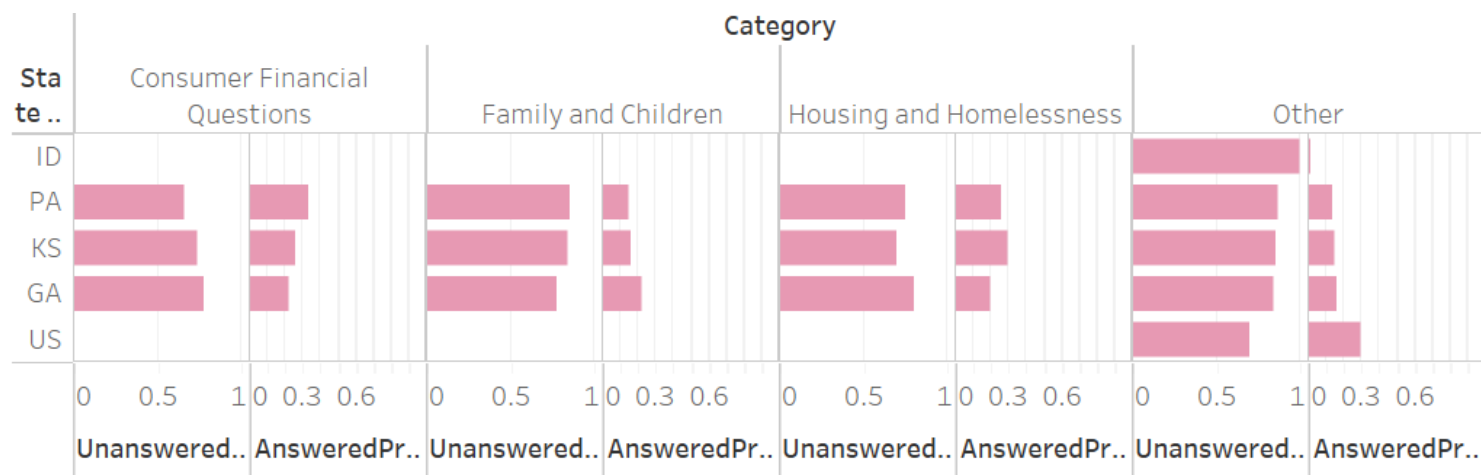


Figure 4: Top 5 Unanswered States vs Proportion of Answered and Unanswered Questions within top 4 Categories

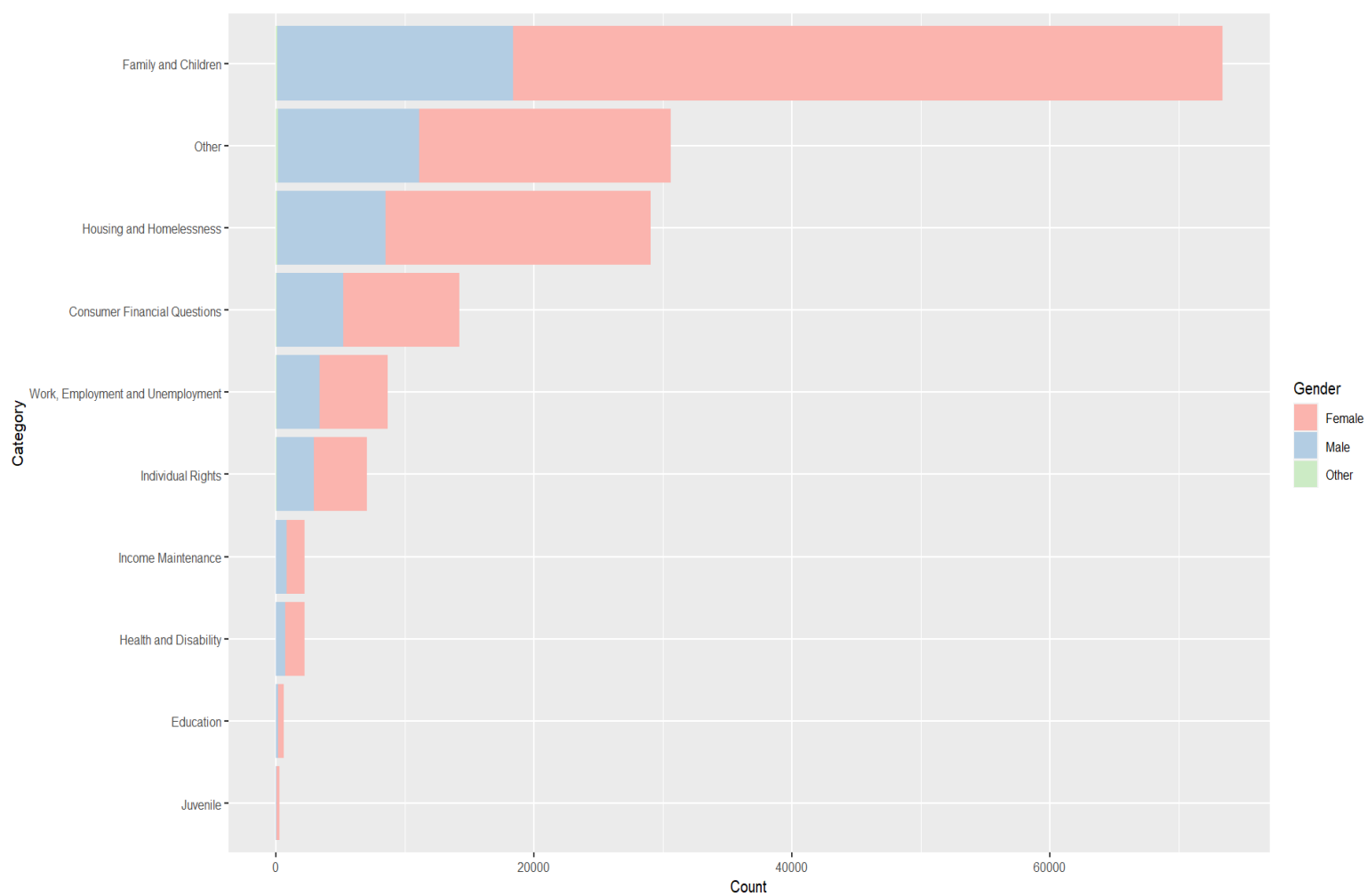


Figure 5: Category vs Gender

Count of # Questions Asked by Time of Day

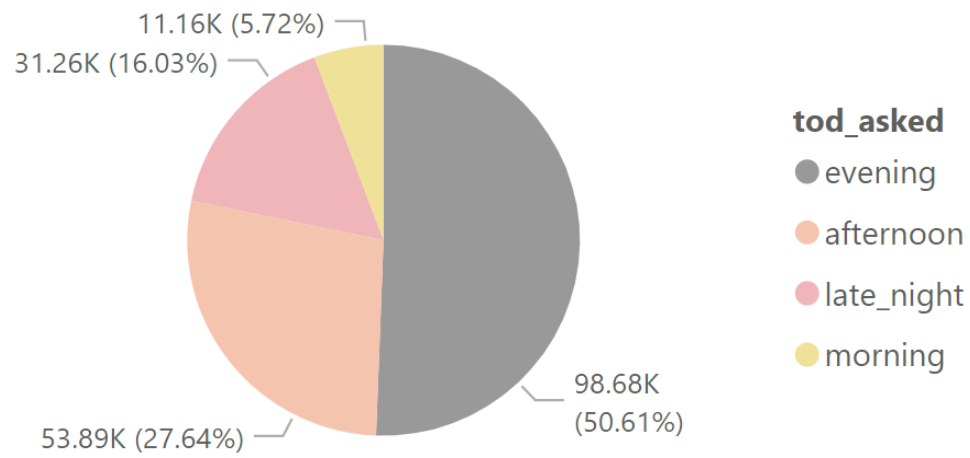


Figure 6: Questions Asked by Time of Day

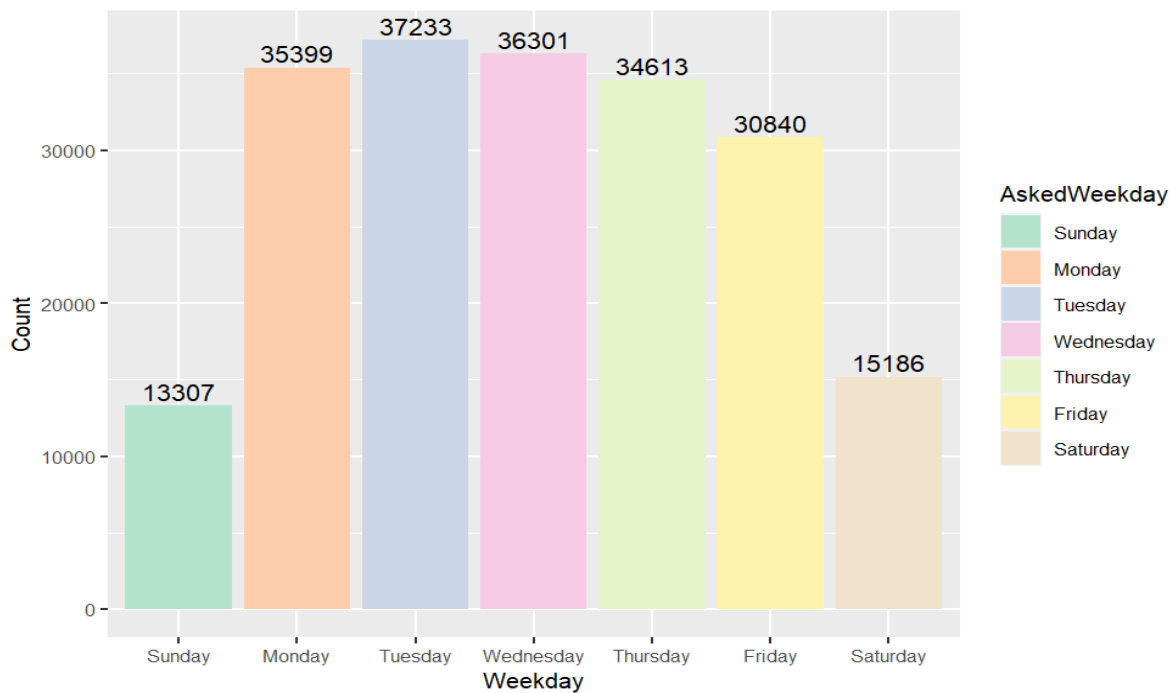


Figure 7: Count of Questions Asked by Day of the Week

Count of # Questions by Time of Day Answered

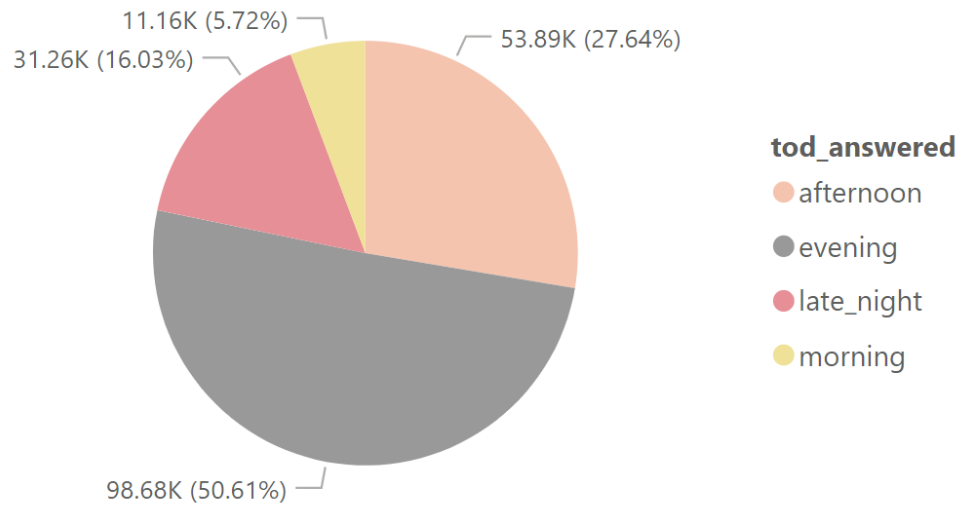


Figure 8: Questions Answered by Time of Day

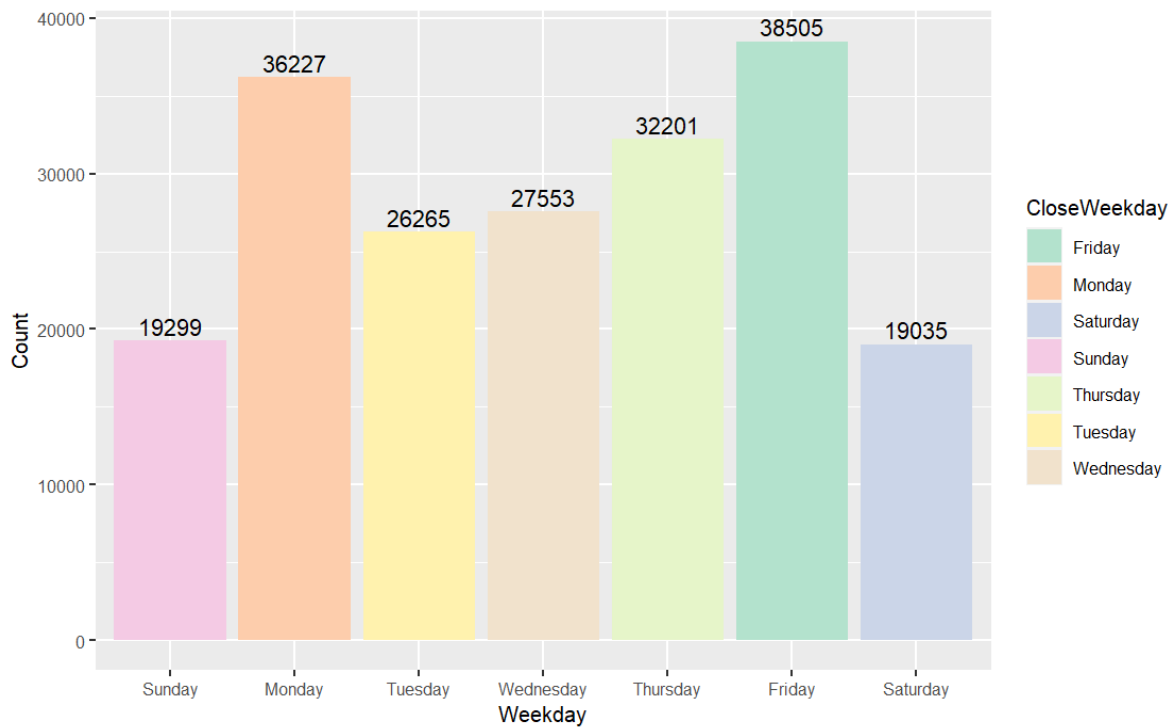


Figure 9: Count of Questions Closed by Day of the Week

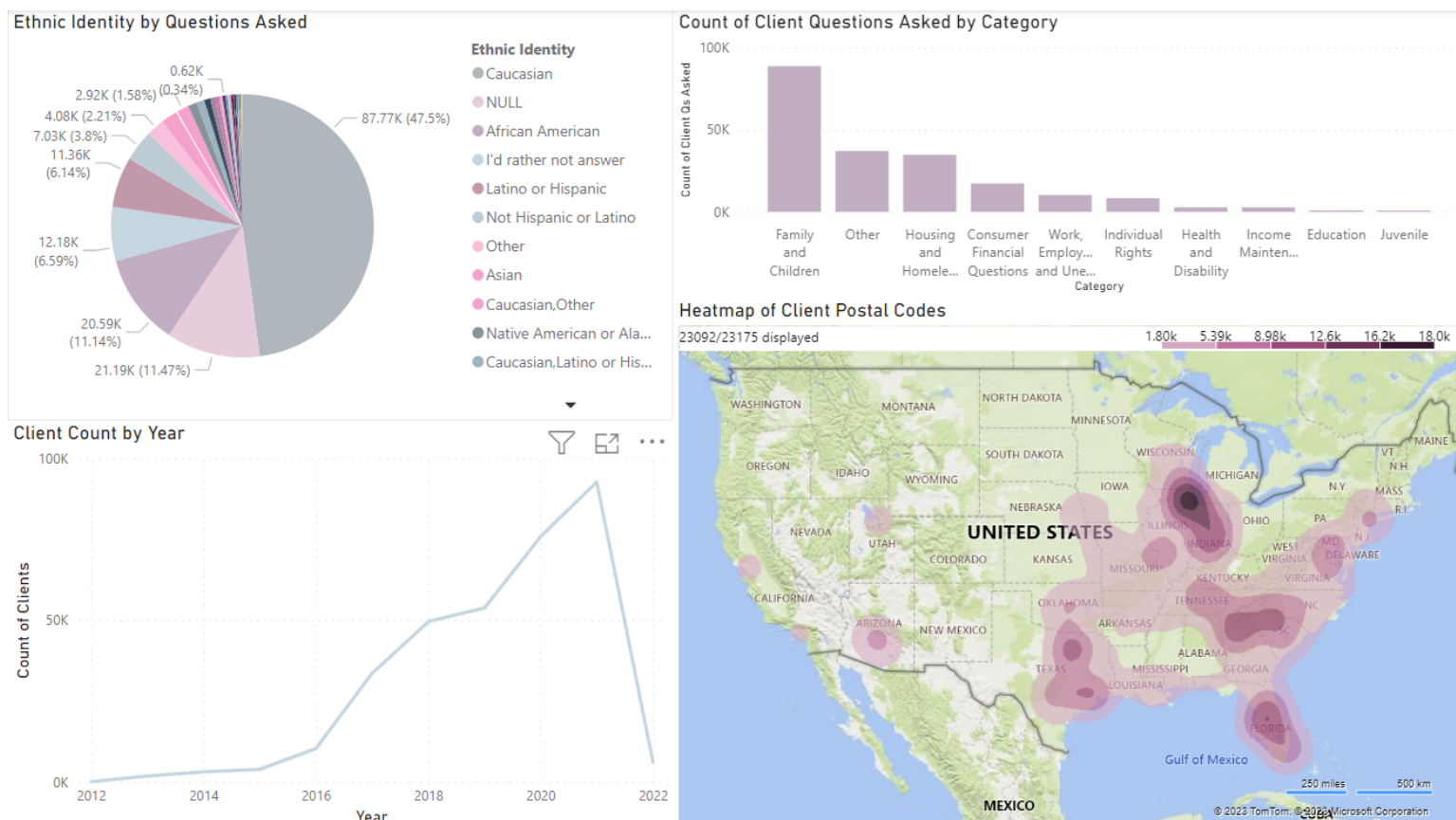


Figure 10: Dashboard

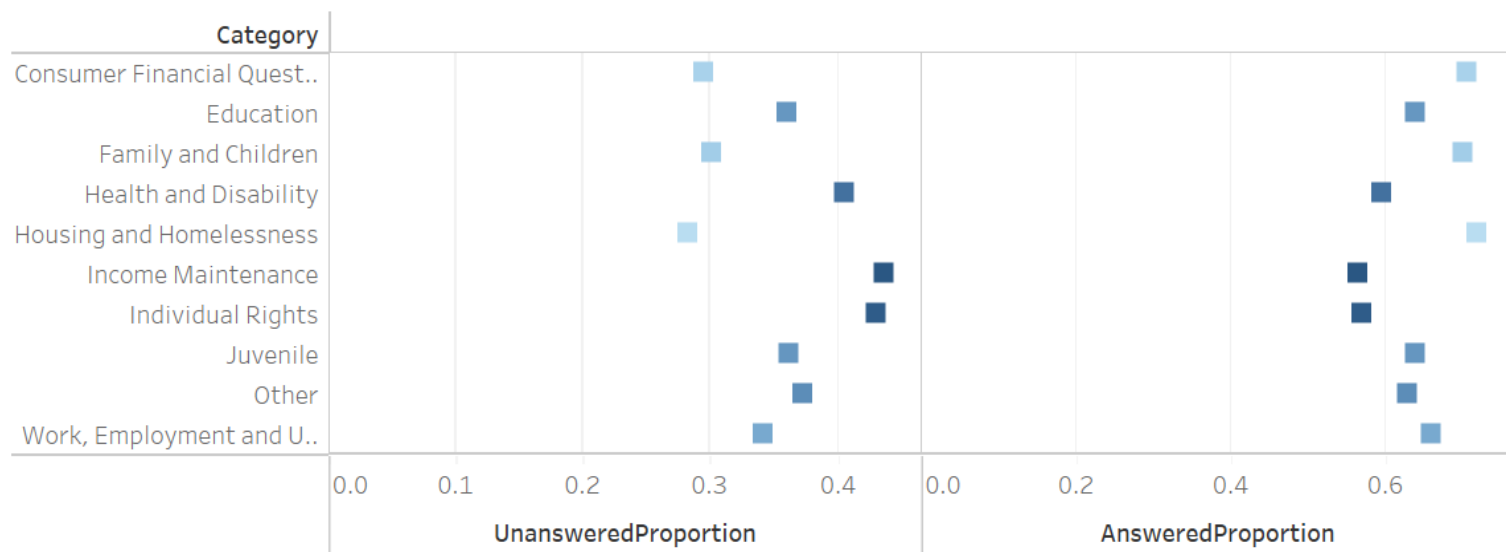


Figure 11: Categories vs Proportion of Answered and Unanswered Question