Presentation 1 - Celena Kim

Presentation Link:

- Power BI Dashboard
- No extra code files– DAX measures and new columns were created within Power BI:
    - Avg Duration = AVERAGE(all_calls[**Duration**])
    - Call_Column = 'all_calls'[**Direction**] & " | " & 'all_calls'[**Releasing party**] & " | " & 'all_calls'[**Call outcome**]

What did you do:

- To identify potential inefficiencies within Legal Aid's call process, I analyzed patterns in average call duration across various call combinations. Using the All Calls dataset, I created a DAX measure in Power BI to calculate the average durations for each unique combination of Direction (Terminating in Legal Aid or Originating), Releasing Party (Local, Remote, or Unknown), and Outcome (Refusal, Failure, or Success). I then visualized these results in a graph to display this distribution of durations. Finally, to make key patterns more visible, I applied conditional color formatting to highlight combinations with notably higher durations in red. Three distinct outliers emerged from this analysis, all with a common trait: having an "Unknown" releasing party.

How does it help the project?:

- This finding highlights a clear opportunity to optimize how the system manages calls with an "Unknown" releasing party. Since these calls tend to have significantly longer average durations, Legal Aid could improve their efficiency in various ways such as by automatically terminating unknown caller IDs, implementing a timeout mechanism for these unknown calls instead of letting them linger on the line, or further investigating why certain callers appear as unknown in order to allow these callers to still receive the help they deserve. These solutions would not only prevent wasted call times, but also allow for legitimate callers with these unknown caller IDs to still receive assistance.

Issues faced (if any):

- After displaying the counts of these 3 "Unknown" call combinations with the bar chart on the right side of the dashboard, I found that these instances are very few in number within the vast 1 million rows of calls in the dataset, with counts only ranging from 2-158. Therefore, while these outliers do highlight an interesting inefficiency, the overall impact

of this issue is minimal in scope. This limitation suggests that while the dashboard does flag a bottleneck within the call process, further analysis is necessary to identify an inefficiency that has a larger impact on overall performance.

Attempts to resolve issues/Next Steps

- While I am still interested in this pattern of lingering call durations, I plan to identify more widespread patterns that have a greater impact within the scope of this large dataset. For instance, I could attempt to analyze different call combinations with higher frequencies to uncover duration inefficiencies, or explore other areas for optimization besides such as agent response times. Overall, I aim to gain a more comprehensive understanding of where the system could be improved by highlighting prolonged interactions or delays that may be reducing call efficiency, while keeping in mind to identify business insights that have a meaningful effect at scale.