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Aim:
To effectively visualize and analyze large-scale datasets related to women empowerment and gender participation using Tableau, creating interactive and informative dashboards.

Objectives:
• Learn the fundamentals of Tableau and its application in data visualization.
• Create various chart types (basic and advanced) to represent different aspects of women empowerment data.
• Understand the significance of each chart type in conveying insights.
• Develop a comprehensive dashboard that integrates multiple visualizations for effective storytelling.

Expected Outcomes:
• A well-structured and visually appealing Tableau dashboard showcasing key trends and patterns in women empowerment data.
• Enhanced understanding of data visualization techniques and their application in real-world scenarios.
• Ability to interpret and communicate findings derived from the dashboard.

Dataset description:
1. title: The title of the movie.
2. year: The release year of the movie.
3. bt_score: A rating or score metric for the movie (the specific scale or criteria may need further clarification).
4. dubious: A binary indicator, possibly flagging if the movie's data has some questionable aspects (0 or 1).
5. imdbid: The movie's unique identifier on IMDb.
6. tmdbId: The movie's unique identifier on The Movie Database (TMDb).
7. genres: The genres associated with the movie, which could be a list if the movie fits multiple genres.

8. popularity: A metric indicating the movie's popularity (possibly calculated based on ratings, views, or interactions).
9. production_companies: A list of production companies involved in creating the movie.
10. production_countries: The countries where the movie was produced.
11. release_date: The release date of the movie.
12. revenue: The total revenue generated by the movie.
13. vote_average: The average rating given by viewers, likely from TMDb or IMDb.
14. vote_count: The number of votes or ratings received by the movie.
15. cast: A list of cast members, with detailed attributes (e.g., name, role, character played, gender).
16. crew: A list of crew members, including details about their role (e.g., Director, Producer, Story Writer).
17. budget: The budget allocated for the movie's production.
18. cast_gender: An array indicating the gender of cast members (numeric codes for gender).
19. crew_gender: An array indicating the gender of crew members (numeric codes for gender).
20. cast_female_representation: A percentage or metric indicating female representation in the cast.
21. crew_female_representation: A percentage or metric indicating female representation in the crew.

1. Line chart - Female cast representation over the years
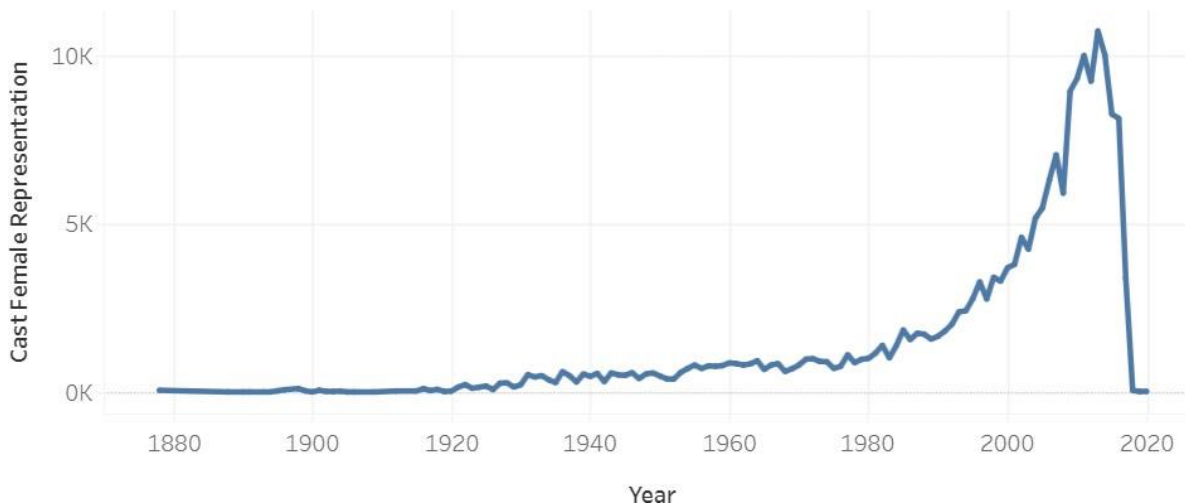
Observation-
- From the late 20th century (around 1980s onward), there was a noticeable increase, peaking sharply in the early 2000s.
- After reaching its peak, female representation in casts dropped significantly towards 2020 because of Covid 19

- This reflects growing opportunities for women in film as societal attitudes shifted and demand for diversity increased, leading to more roles for female actors and storytelling with prominent female characters.

2. Heatmap - Genre wise female cast representation
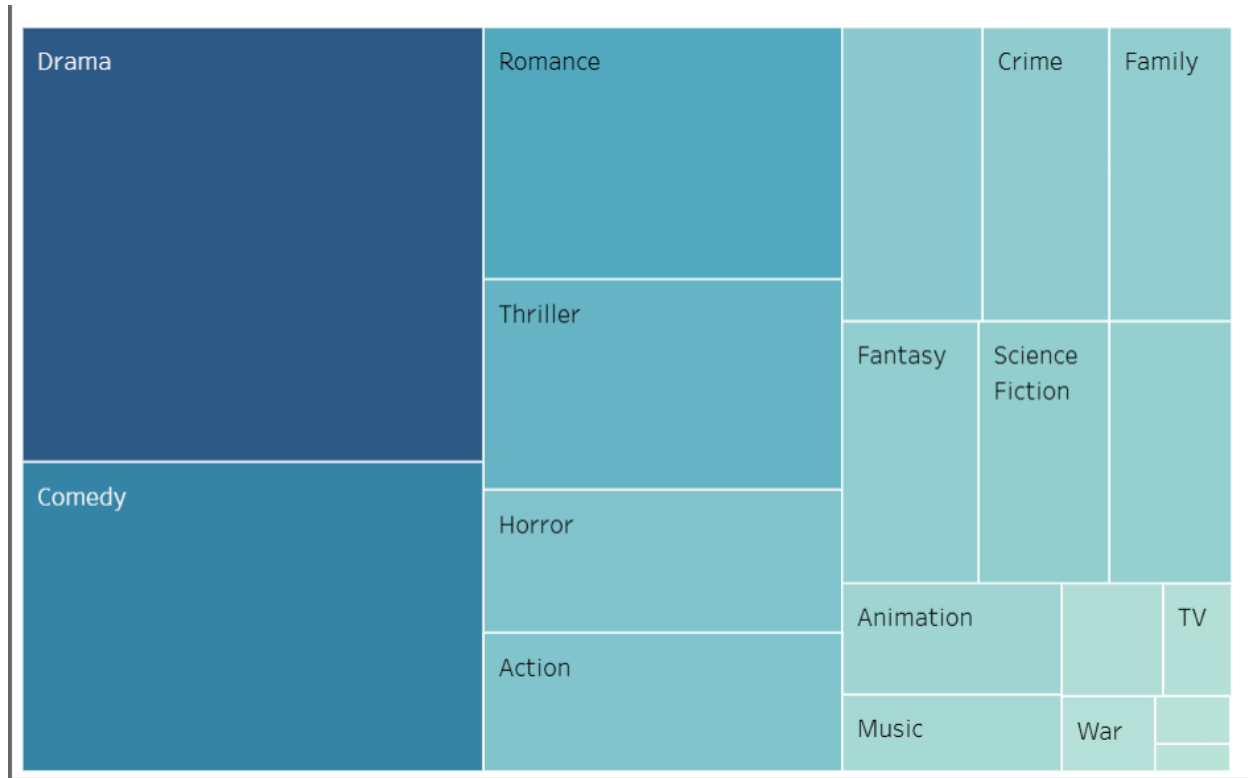
Observation-
- Drama and Comedy have the highest female cast presence, followed by genres like Romance and Thriller, indicating that women are more represented in these genres than in others, such as War and Music, which have lower representation.
- Drama and Comedy, the largest segments, indicate strong female cast representation, possibly due to these genres' focus on relationships and social narratives where diverse character dynamics are emphasized.

3. Area chart - Revenue generated by female led movies over the years
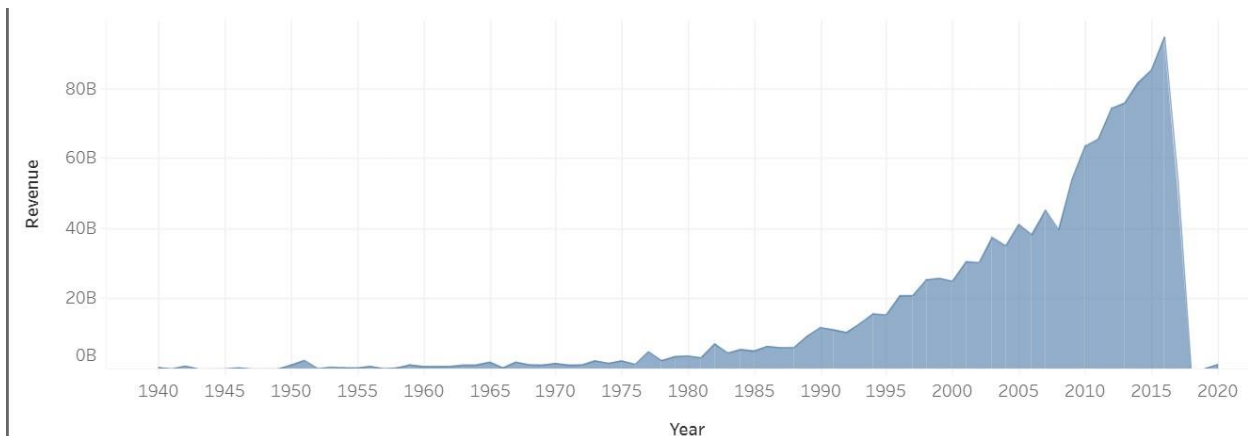
Observation-
- The steady, low revenue from 1940 to the 1980s suggests limited financial success or fewer releases of female-led films in earlier decades.
- However, starting in the 1990s, there is a noticeable upward trend, with revenue experiencing exponential growth into the 2000s and peaking around 2015. This pattern likely reflects a combination of factors, such as the growing audience demand for diverse storytelling, increased investment in female-led projects, and societal shifts toward gender inclusivity in media.
- The decline around 2020 could be attributed to temporary industry-wide challenges, such as the impact of the COVID-19 pandemic on cinema revenues.
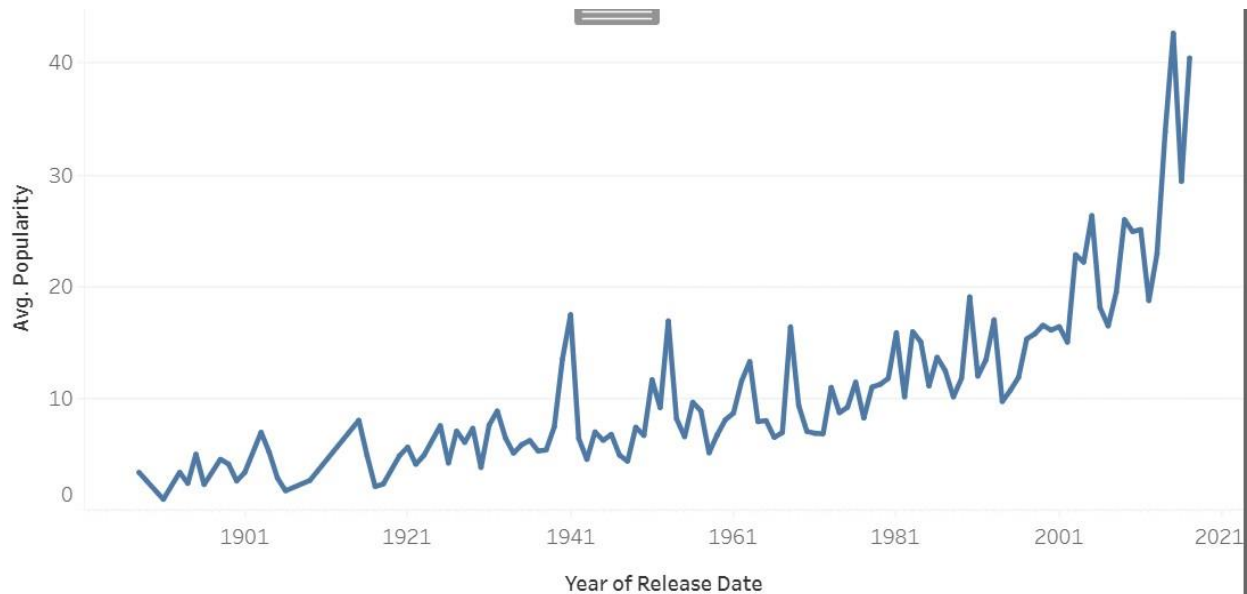
4. Gantt Chart -
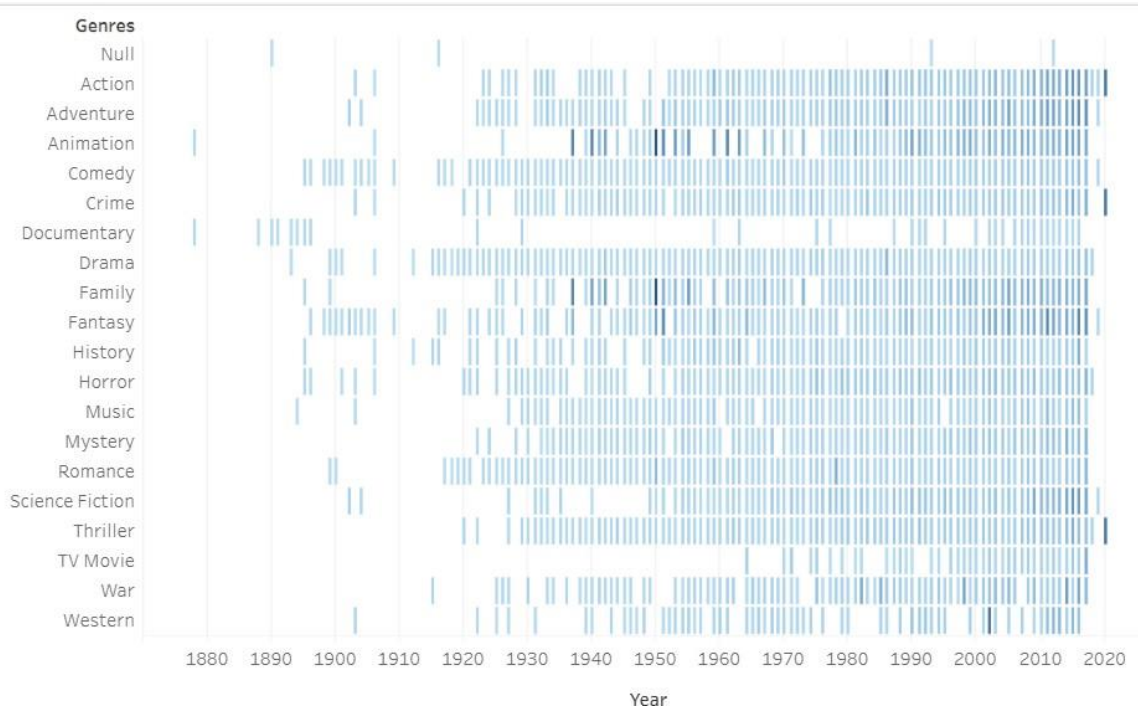
Observation-
- More genres and movies appear from the 1930s onward as the film industry expanded.
- Drama, Comedy, and Romance remain consistently popular across decades.
- Animation, Sci-Fi, and Fantasy gained traction post-1950s with technological advances.

5. Line chart -

Observation-
- This trend indicates growing audience interest and support for female-led films, likely driven by increased representation and evolving cultural attitudes towards gender in media. The sharp peak post-2020 may also reflect the impact of recent social movements and a greater emphasis on diverse storytelling in the film industry.

6. Bar chart -
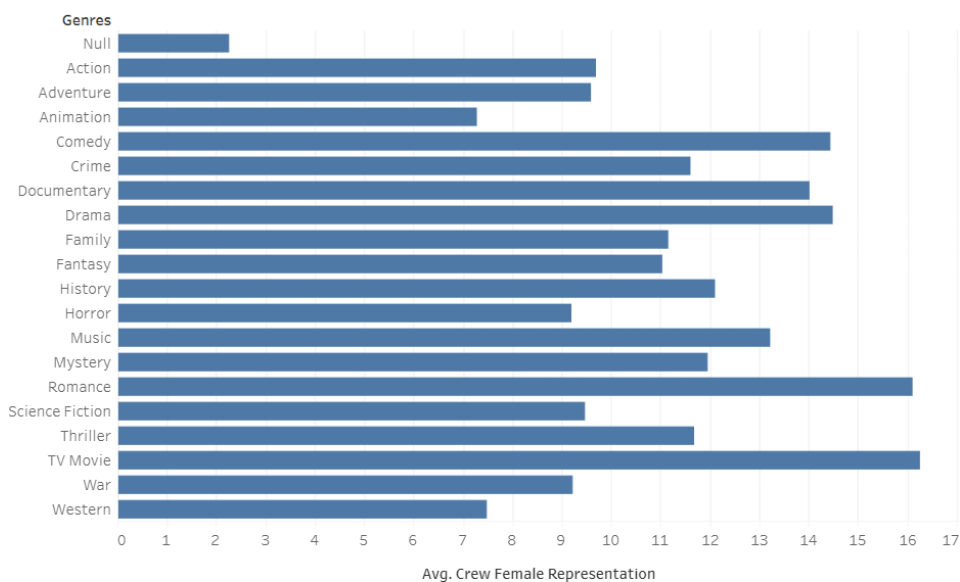
Observation-

- Genres like Romance, Documentary, Comedy, and Drama show relatively higher average female crew representation, possibly due to a stronger focus on narratives and storytelling that resonate with or involve female perspectives.
- Animation, War, and Western genres have lower average female crew representation, which may reflect traditional gender roles in film production and genre-specific stereotypes.