Question:

What historical trends and patterns emerge among Oscar Best Picture nominees and winners in the past century?

Data Source:
Oscar Best Picture Movies dataset - https://www.kaggle.com/datasets/martinmraz07/oscar-movies/data

We used this data because the dataset offers a wide range of variables useful in identifying and analyzing trends in past Oscar Best Picture nominations and wins. The dataset includes data from the past century, which can be used in a comparative analysis to identify patterns and shifts in the film industry over time according to the characteristics of Oscar-nominated films across different decades.

Main Variables:
Film (Title of Film), **Main Genre** (Primary Movie Genre), **Oscar Year** (Year of Award Show), **Content Rating** (G, PG, PG-13, R), **Production Company** (Producer/Studio), **Movie Time** (Film Duration), **Award** (Nominee, Winner)

Data Transformations:
● *Data Cleansing:* By requirement, we dropped many empty/null values in the dataset. Furthermore, there were few inconsistencies within the dataset such as redundant entries with misspelled fields.
● **Created *Main Genre* column:** In the original dataset, many of the films had multiple genres listed in the *Movie Genres* column (with the first one being the primary genre). We created a new column named *Main Genre* to highlight the main movie genres for Best Picture nominees and winners.
● **Created *IMDB Rating (100)* column:** In the original dataset, the field IMDB was on the scale 0-10. However, a 0-100 scale was needed and was computed by adding a column and multiplying the IMDB rating field by 100.
● *Difference between IMDB Ratings and Rotten Tomatometer Ratings:* A new column was added to the model by taking the absolute value of the difference of the IMDB Ratings and Rotten Tomatometer Ratings. This was important to see the relation between the difference in ratings and the chances of being nominated or winning an oscar in the past.

Visualizations:
*Note that an "Awarded" film can either be an Oscar nominee or winner. We've added a slicer to filter results based on nominees versus winners.

1. Most Common Genres Awarded
   We created a treemap to illustrate the most awarded movie genres by the number of awarded films.
2. Production Companies with the Most Awarded Films
   A clustered bar chart illustrates the top 5 (shows 6 due to a tie on 5th and 6th place) most successful production companies (by the measure of having most movies being nominated for the Oscars) categorized by Content Rating.
3. Comparison of IMDb and Tomatometer ratings on Awarded films
   We created a scatter plot to illustrate the number of movies nominated based on the difference between IMDb (fans) and Rotten Tomatoes' Tomatometer (critics) ratings.
4. Average Duration of Awarded Films Over the past century
   The line chart we created illustrates average movie time over a century, grouped by a bucket range of ten years.
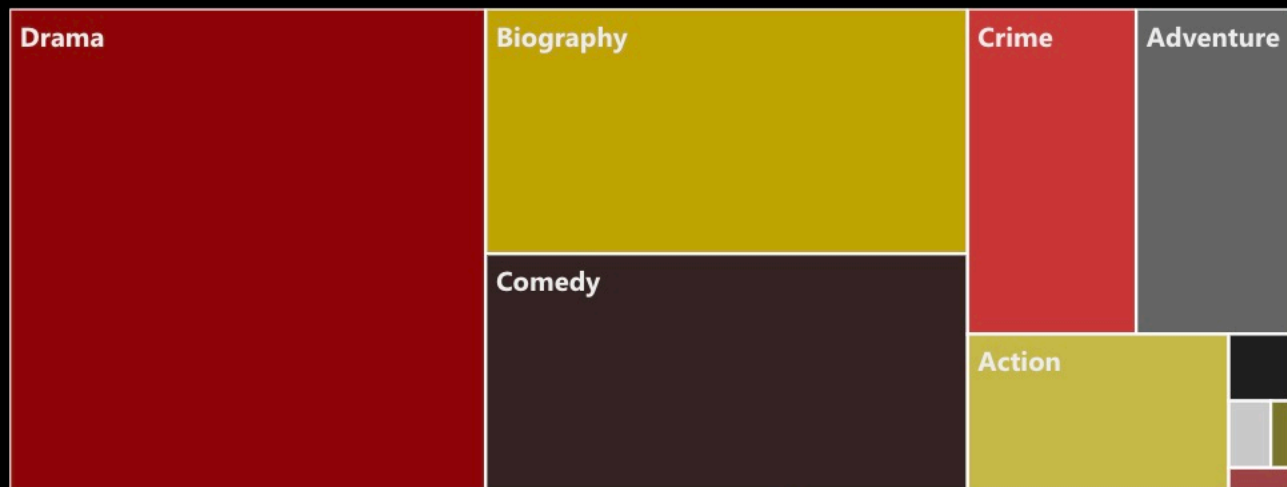**5. Number of Films Awarded based on Film Duration**
   The histogram we created to illustrate movie time and count of awarded films show the movies which are most likely to be an Oscar nominee or winner based on movie timing.
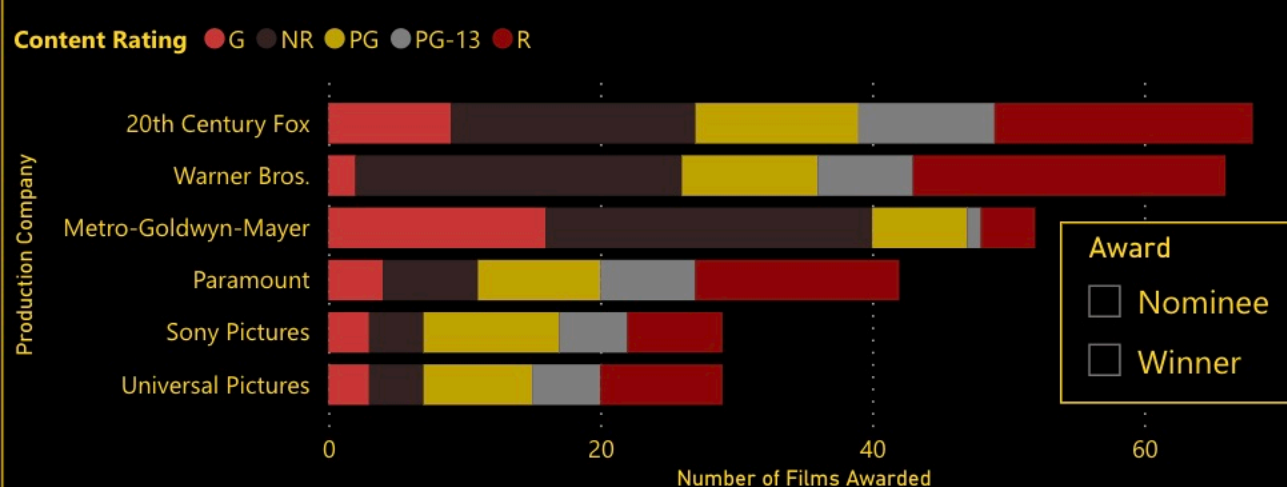**6. Content Rating Distribution**
   We created a doughnut diagram to illustrate the proportion of each content rating category that has even been nominated for the Oscars in the past century.

Conclusion: From our analysis of Oscar awarded films based on our main variables, we conclude that **Drama** films by the **Warner Bros.** production company, between a **120-140 minute** duration, with a content rating '**R**', along with an IMDb and Tomatometer **disparity between 10-20 points** are most likely to be an Oscar nominee or winner for Best Picture.
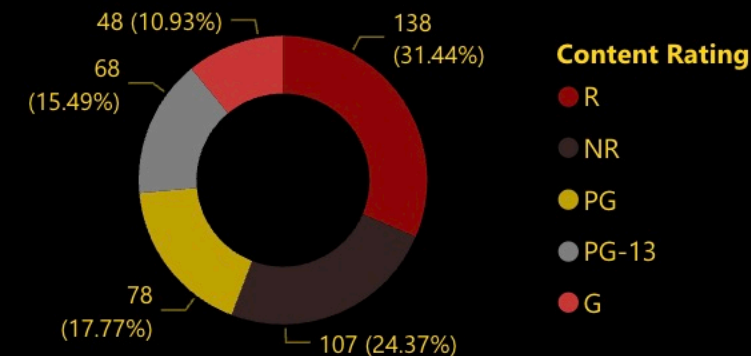
#1 MOST COMMON GENRES AWARDED

Drama

Biography

Comedy

Crime

Adventure

Action

#2 PRODUCTION COMPANIES WITH THE MOST AWARDED FILMS

Content Rating ● G ● NR ● PG ● PG-13 ● R

Production Company:
- 20th Century Fox
- Warner Bros.
- Metro-Goldwyn-Mayer
- Paramount
- Sony Pictures
- Universal Pictures

0   20   40   60

Number of Films Awarded

Award
☐ Nominee
☐ Winner

#6 CONTENT RATING DISTRIBUTION

48 (10.93%)

138 (31.44%)

68 (15.49%)

78 (17.77%)

107 (24.37%)

Content Rating
- ● R
- ● NR
- ● PG
- ● PG-13
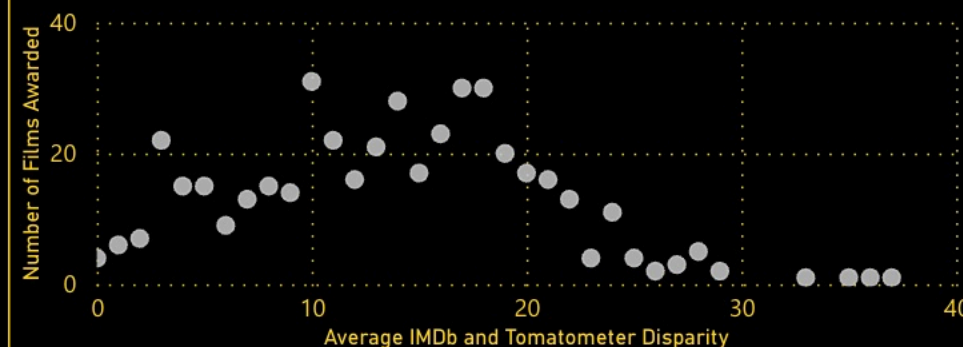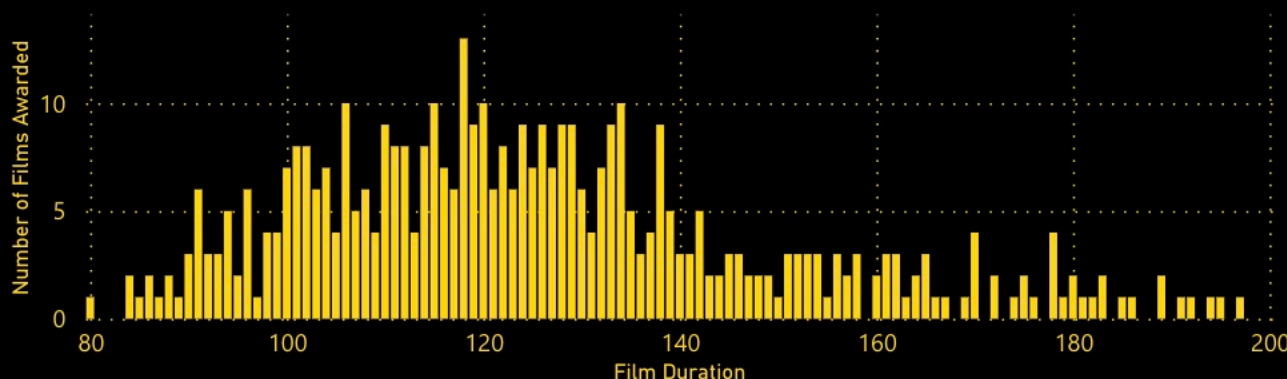- ● G

WHAT HISTORICAL TRENDS AND PATTERNS EMERGE AMONG OSCAR BEST PICTURE NOMINEES AND WINNERS IN THE PAST CENTURY?

#3 COMPARISON OF IMDb AND TOMATOMETER RATINGS ON AWARDED FILMS

40

20

0

Number of Films Awarded

0   10   20   30   40

Average IMDb and Tomatometer Disparity

#5 NUMBER OF FILMS AWARDED BASED ON FILM DURATION

10

5

Number of Films Awarded

80   100   120   140   160   180   200

Film Duration

#4 AVERAGE DURATION OF AWARDED FILMS OVER THE PAST CENTURY

Main Genre ● Adventure ● Biography ● Comedy ● Crime ● Drama

200

100

Average Film Duration

1940   1960   1980   2000   2020

Oscar Year