Analysis of Movie Gross and Genre

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Introduction

The modern film industry has been a major contributor to the economy. Other than film production, screenwriting, distribution, and film festivals, theatrical market constitutes a great part of the gross revenue of the motion picture industry.

Through this research, we wish to find out if there is any connection between movie genres and their gross. If so, can we make prediction based on our data?

Methods

The source of our data is boxofficemojo.com. All movies are arranged yearly according to their box office. We took the top 100 movies that were released in each year from 2005-2014, and loaded them into the programming software, R.

We removed 5 movies under the genre IMAX from our 1000 entries of data for regression analysis because we believed that they would skew our results. This was based on the fact that IMAX movies last unusually longer than other box office movies and did not have exact showing periods.

Other genres like Family, Western, Concert, Musical, and War were also eliminated from further calculation because they did not have a substantial amount of gross, and the number of these movies are insignificant out of our whole data set.

Results

To begin our analysis, we produced a bar graph to indicate how many movies there were under the top categories of genre to have a brief idea of the trend in the decade.

In order to fairly compare how much each genre made over the ten years, we took the gross from each genre in each year and divided it by the number of movies of that particular genre for that year. We then plotted each average for each genre so that every genre has one point per year on the graph.

From this graph, we could see what movies tend to gross higher than other movies of different genres. Sci-fi, for example, is not generally a high-grossing genre, unless there are some major fan-based films coming out in the theater that year, such as Avatar, and Star Wars. These raised the genre’s overall average and made the data a little harder to read.

Even though we can see from the previous chart that comedies constituted the most number of movies, they did not have the highest average gross per year. Movies with genres like Horror, Thriller, and Drama were less outstanding in terms of box office gross on average.

Conclusion

To begin our analysis, we took the plot lines of two particular genres, Action and Adventure, and made a regression line for each of them. The regression line for the Action genre seems to have a positive trend and when analyzed for significance, produced a T value just over 5%. Given the size of the data set, we decided that this T value was large enough to reject the null and prove that the trend is significant. The regression line for Adventure movies was not as conclusive: it produced a T value right around 23% which is too high to reject the null hypothesis making the trend insignificant. From this analysis, we would predict that the average gross of Action movies will continue to rise over the next few years while the gross of the other genres stays the same.

References

Box Office Mojo  Boxofficemojo.com