The impact of social media propaganda on the film market in North America

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Abstract—

The study is focus on the analytics of the relationship among movies box office results, professional ratings and social media propaganda effect. Trying to figure out whether social media propaganda is now taking the place of professional rating of a movie, as a key role, has a great impact on its box office.

Keywords— movie box office, professional ratings, customer's side, Facebook likes, social media propaganda, movie genres ranking

I. INTRODUCTION

Based on the history data caught from IMDB, the professional movie rating website, I am able to get the gross value of different genres of movies and get an idea of what genres are most popular and profitable. Then, the rating score, amount of reviews and review users of different types of movies give me a support in analyzing the relationship between the movie gross and its professional rating. After that, I do the social media factor analysis based on the Facebook likes movie-related data. In order to make the analysis more precisely, besides analyzing the Facebook likes factor individually, multi-factors' combination are taken into consideration as well. Through the analysis above, I eventually get the result of social media propaganda's influence on movie box office profit.

To sum up, my analysis is supposed to give film investors an idea of professional rating and social media propaganda's influence on movie box office and their impact on nowadays film market. In addition, to provide related professionals a clue of the most popular movie genre on the customers' side.

II. MOTIVATION

I am a movie enthusiasts and like to visit the professional movie rating website every time interested in going to a new released movie. Usually, a good rating score will inspire me to watch the movie.

From the time on, with more social media involved, I found that instead of referencing the professional movie rating website, I gradually got motivated to watch the popular movie by Facebook likes propaganda. And there might be million users experiencing the same thing as mine.

At the same time, I found that some movies do not own a great professioanl rating or even worse, but still have billion box office as winner. I think this can be contributed to the magic power of social media propaganda. Thus, my analysis is to check my hypothesis of social media propaganda does play an important role in the movie box office. On the other side, trying to figure out consumers' expectation in the film market as well as what kind of film genres are popular at present.

III. RELATED WORK

In this paper[5], three modules are introduced that are capable of crawling raw online records, generating key features to represent original samples in useful ways, and then running an association rule-mining algorithm on clouds for further content mining. Data crawler module: raw data records are firstly collected and distributed via an asynchronous scraping crawler; all collected records are then uploaded to the Hadoop platform and stored on the HDFS.

Feature generation module: this module is used to identify significant attributes from collected raw samples and producing high-level features; Content mining module: an improved association rule-mining algorithm is implemented in this module, allowing us to categorize and interpret UGC with multiple heterogeneous features.

IV. DESIGN

In order to reflect the real time analyze, I limited the movie release time to all years after 2006, and constrained the area in North America to make the dataset more effective. On the social media side, Facebook was chosen to provide the movie-related preference data, as the platform was launched in the year of 2004 and has surged users during the time period.
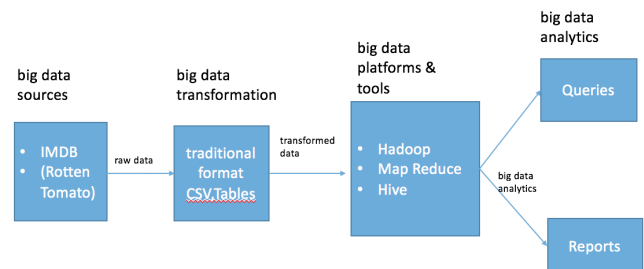
V. RESULTS

At the beginning, in order to obtain top 5 most profitable movie genres from the box office's side, I used gross value as reference and got the following rank:

Adventure, Action, Comedy, Sci-Fi and Fantasy

Based on the score from IMDB (Internet Movie Database), the world's most popular authoritative source for movies, I obtained another ranking. Because IMDB score is based on users and their votes, I adjusted IMDB score with some bias factors (number user for reviews and number voted users) to make it be more precise. According to adjusted IMDB scores, the top 5 highest rated movie genres are:

Drama, Documentary, Horror, Comedy and Thriller

At this point, the ranking is much different from the one in the beginning, only have Comedy (movie genre) in common. Thus, the most profitable movie genres are not dominated by professional point of view. This gives me a light on my hypothesis of the impact of social media propaganda, Facebook, on the film market: The movie's box office might be proportional to its social media propaganda.

I first took a look at Facebook likes on movie individually. The 5 most Facebook liked movie genres are:

Action, Adventure, Sci-Fi, Drama and Thriller

Then took Facebook likes of total casting members individually as reference, and received the following rank.

Drama, Adventure, Action, Comedy and Thriller

From Facebook likes on main starring actors individually, I got:

Drama, Adventure, Action, Comedy and Romance

From Facebook likes on movie director individually, I had:

Drama, Action, Thriller, Comedy and Romance

From the combination of Facebook likes on actors and directors, I got:

Drama, Adventure, Action, Comedy and Romance

From the combination of Facebook likes on movie and total casting members, I had:

Adventure, Action, Drama, Thriller and Sci-Fi

From the combination of total Facebook likes on movie, total casting members, director and actors, I got:

Adventure, Drama, Action, Sci-Fi and Thriller

With the result of Facebook likes related factor combinations showing above, the second combination (Facebook likes on movie and total casting members) mostly consistent with the gross driven rank. All perfectly match except Comedy, falls two positions behind. And these confident my hypothesis of social media's impact on film market.

VI. FUTURE WORK

I would definitely like to expand my dataset in the future work, having more professional movie-rating data, like Rotten Tomatoes and Douban. Furthermore, besides analyzing on Facebook users' data, more social media platform data will be added for precise result, like Instagram, Weibo, Zhihu and so on.

Here are two interesting spots I want to research deeper in my project:

1) Movie's releasing time. To see whether movie released during Christmas, summer holiday and winter holiday have greater box office even the rating is not well.

2) Audience Psychology. To see if rotten movies, on the contrary, trigger audience's interest in watching the movie.

VII. CONCLUSION

To sum up, from this project, I found that nowadays the social media propaganda plays a key role in the movie box office result and it has a close contact with the gross and profit result of the movie. Thus it does give film investors an insight of how powerful social media propaganda is. By learning its commercial importance and strategy, the film investors will be able to benefit a great many. In addition, for related professionals, like script writers, they can get a clue through the analysis about specific kinds of films people are inclined to currently in order to make their work meet the times and get a chance to hit the board.

REFERENCES

[1] T. White. Hadoop: The Definitive Guide. O'Reilly Media Inc., Sebastopol, CA, May 2012.

[2] A. Gates. Programming Pig. O'Reilly Media Inc.,Sebastopol, CA, October 2011.

[3] J. Dean and S. Ghemawat. MapReduce: Simplified data processing on large clusters. In proceedings of 6th Symposium on Operating Systems Design and Implemenation, 2004.

[4] S. Ghemawat, H. Gobioff, S. T. Leung. The Google File System. In Proceedings of the nineteenth ACM Symposium on Operating Systems Principles – SOSP '03, 2003.

[5] Mining Chinese social media UGC: a big-data framework for analyzing Douban movie reviews