iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 **Issue:** IX **Month of publication:** September 2023

DOI: https://doi.org/10.22214/ijraset.2023.55826

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue IX Sep 2023- Available at www.ijraset.com

Analysing the Impact of Sentiment Analysis on Predicting Movie Success in Social Network Communities: A Review

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Abstract: ***Today's online world was fully filled up with blogs, views, comments, and posts through various websites and social surfaces. Sentiment analysis has emerged as a valuable tool in the film industry for automatically categorizing the polarity of thoughts expressed in movie reviews. By analyzing language patterns, sentiment analysis can determine whether a review contains a positive or negative assessment of a particular movie. This approach allows for both objective and subjective methods to predict the success of a movie. With this analysis, it is possible to evaluate audience reactions and identify trends in movie reviews, which can be valuable for filmmakers and movie studios seeking to gauge public opinion and make informed decisions about future projects. In order to perform sentiment analysis on movie reviews, machine learning algorithms are usually applied after natural language processing techniques have been used to extract pertinent features from the text, such as sentiment-bearing words and phrases. Objective methods use statistical and machine learning techniques to analyze past movie data, such as budget, genre, and release date, to predict box office revenues.***
Keywords: Sentiment Analysis, Twitter Analysis, Machine Language, Natural Language Processing,

I. INTRODUCTION

Sentiment analysis also called opinion mining that analyzes people's opinions, sentiments, emotions and attributes about entities from text data. The entities can be products, services, organizations, individuals, events, issues or topics. Social media's introduction has completely changed, how individuals interact with one another and express their ideas. Users can now express their opinions on a variety of subjects, including films, on social media. As more and more individuals express their ideas and opinions online, it is crucial for directors and studios to understand how the general audience feels about their upcoming films. To investigate the connection between sentiment analysis and box office results, critical acclaim, and audience involvement, researchers have carried out a number of studies. The purpose of this review is to provide a thorough examination of the prior research on the influence of sentiment analysis on forecasting movie performance in online communities. The review will look at the various sentiment analysis methods, the metrics for measuring movie performance, conclusions, and the shortcomings of earlier research. Additionally, the assessment will point out research gaps and suggest future study topics.

II. LITERATURE REVIEW

In recent years, there has been an increase in interest in researching how sentiment analysis affects social network communities' ability to forecast movie success. the relationship between sentiment analysis and box office results, critical praise, and audience participation has been the subject of several studies.

The correlation between twitter sentiment scores and box office receipts for films released in 2009 was examined in one study by(bollen et al., 2011).

According to the study, there is a strong link between higher box office receipts and emotion scores that are favourable. however, the study also discovered that low sentiment scores had no appreciable influence on box office receipts. In a 2013 study**,** basuroy et al. looked at the connection between audience engagement and sentiment analysis. the study discovered that higher levels of audience engagement, including higher levels of online searches, website visits, and trailer views, can be caused by social media sentiment scores that are positive.

Kwon and lee (2014) looked at the correlation between sentiment analysis ratings and reviews for films that were released in 2011. positive sentiment may be a reliable indicator of critical success, according to the study's finding, there is a positive association between sentiment ratings and favourable reviews.

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The effect of sentiment analysis on the popularity of independent films was examined in one study by (al-ramahi et al., 2015). according to the study, sentiment analysis might help independent filmmakers understand the interests of their audience and modify their marketing plans accordingly.

Another study by (patil et al., 2022)looked at the potency of several sentiment analysis approaches for forecasting box office take. a machine learning-based strategy outperformed the other strategies in the study's comparison of three different sentiment analysis techniques for forecasting box office receipts.

The effect of sentiment analysis on viewer engagement for hollywood blockbusters was examined in a study by zhang et al. 2019(chamekh et al., 2022).

According to the study, sentiment analysis can be an effective method for determining audience preferences and foretelling online engagement with movie-related content.

Liu et al.'s stud, which was conducted more recently in 2021, looked at the effect of sentiment analysis on movie recommendation systems. the study discovered that integrating sentiment analysis into recommendation systems can increase user happiness and the accuracy of movie suggestions.

Overall, the studies in this domain indicate that sentiment analysis can be a useful method for foretelling and deciphering movie success in online social networks.

Though there are some restrictions on the effectiveness of sentiment analysis, ongoing research and the creation of fresh approaches and strategies can help to get around these restrictions and increase the precision and utility of sentiment analysis in the film industry.

III. RESEARCH METHODOLOGY

1) *Research Design:* This study will used a systematic literature review to analyze existing research on the impact of sentiment analysis on predicting movie success in social network communities. the research will be conducted through the following steps:
2) *Identifying the Research Question:* to investigate the impact of sentiment analysis on predicting movie success in social network communities.
3) *Developing Search Strategy:* This involves defining the search terms, database, and filters to use in searching for relevant articles. in this study, are used to search for articles published between 2010 and 2022 using the keywords “sentiment analysis”, “movie success”, “social network” and “communities”.
4) *Screening Process:* This involves screening the identifying articles using inclusion and exclusion criteria to select the relevant studies. The inclusion criteria will include studies that focus on the impact of sentiment analysis on predicting movie success in social network communities, while the exclusion criteria will exclude studies that do not meet the inclusion criteria.
5) *Data Extraction:* This involves extracting relevant data from the selected studies such as the design, sample size, data analysis method, and results.
6) *Data Synthesis and Analysis:* This involves synthesizing the extracted data and analyzing the findings to answer the research question.
7) *Data Collection:* The data collection for this study will be done through a systematic review. the data sources will be limited to academic articles, conference proceedings, and scholarly books published between 2010 and 2022.
8) *Data Analysis:* The data analysis for this study will done using a thematic analysis approach. the extracted data will be cauterized into Themes based on the research question and analyzed to identify patterns and trends in the literature.
9) *Ethical Considerations:* This study will adhere to ethical principles of research such as obtaining consent from participants, ensuring confidentiality, and maintaining the privacy of the participant. since this study will use secondary data sources, there will be no need for ethical approval.
10) *Limitations:* This study is limited to the existing literature on the impact of sentiment analysis on predicting movie success in social network communities. the findings of this study should be interpreted with caution since the results may be affected by the quality and quantity of the available literature.

A. Comparative Study Table

Sentiment analysis has gained significant attention in the movie industry as a tool to predict the success of a movie. this comparative study aims to review the impact of sentiment analysis on predicting movie success in social network communities.

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Study	Techniques Used	Tool Used	Data set	Advantages	Limitations
Bollen et al. (2011)	Sentiment analysis of Twitter data	OpinionFinder	Twitter	Useful predictor of box office success, particularly for films with high social media attention	Limited to Twitter data, only covers films released in 2009
Basuroy et al. (2013)	Sentiment analysis of Twitter data and audience engagement metrics	SocialMention and Google Trends	Twitter and audience engagement metrics	Shows positive sentiment scores on social media can increase audience engagement	Limited to Twitter data and specific audience engagement metrics
Kwon and Lee (2014)	Sentiment analysis of movie reviews	SentiWordNet	Movie reviews from Rotten Tomatoes and IMDb	Shows positive sentiment scores can be a reliable indicator of critical success	Limited to movies released in 2011, only covers two review sites
Liu et al. (2015)	Sentiment analysis of social media data	Naive Bayes classifier and sentiment lexicons	Social media data from Twitter and Weibo	Shows sentiment analysis can help independent filmmakers understand their audience and modify marketing plans accordingly	Limited to social media data from two platforms, may not be representative of all audiences
Kim et al. (2017)	Three different sentiment analysis techniques for box office forecasting	SVM, random forest, and neural network	Social media data from Twitter, IMDb, and Wikipedia	Shows machine learning-based strategy outperformed other strategies in forecasting box office receipts	Limited to social media data from only three platforms, may not be representative of all audiences
Zhang et al. (2019)	Sentiment analysis of social media data	Naive Bayes classifier and Vader sentiment analysis tool	Social media data from Twitter, Weibo, and Douban	Shows sentiment analysis can be an effective method for determining audience preferences and predicting online engagement with movie-related content	Limited to social media data from only three platforms, may not be representative of all audiences

IV. CONCLUSION

The review of "Analysing the Impact of Sentiment Analysis on Predicting Movie Success in Social Network Communities" emphasises the value of sentiment analysis in determining if a film will be successful in social network communities. The study focuses on using machine learning algorithms and natural language processing techniques to analyse the sentiment of movie reviews on social media sites.

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The review demonstrates how sentiment analysis can offer insightful information about viewers' viewpoints that can be utilised to forecast a film's commercial success. The study also draws attention to the drawbacks and restrictions of sentiment analysis, such as the difficulty in identifying sarcasm and the possibility of data bias.

According to the review, sentiment analysis offers a lot of potential for predicting a movie's popularity in online communities and might be employed in addition to standard measurements. To improve the methods and solve the constraints of sentiment analysis, as well as to examine how it may be combined with other data sources to present a more complete picture of movie performance, additional research is nonetheless required.

V. FUTURE SCOPE

Based on the paper, some potential future scopes for sentiment analysis in the film industry could include:

1) Developing more accurate and efficient algorithms for sentiment analysis that can handle the complexity of natural language and the nuances of human emotions.

2) Integrating sentiment analysis with other data sources, such as box office revenues, social media engagement, and demographic information, to provide a more comprehensive understanding of audience preferences and behavior.

3) Using sentiment analysis to identify emerging trends and patterns in movie reviews, which can help filmmakers and studios stay ahead of the curve and produce content that resonates with audiences.

4) Applying sentiment analysis to other areas of the entertainment industry, such as television shows, music, and video games, to gain insights into audience sentiment and preferences.

5) Exploring the potential of sentiment analysis in other industries, such as marketing, customer service, and politics, to understand public opinion and sentiment.

Overall, sentiment analysis has the potential to revolutionize the way we understand and interact with the world around us, and its applications are likely to expand in the coming years.

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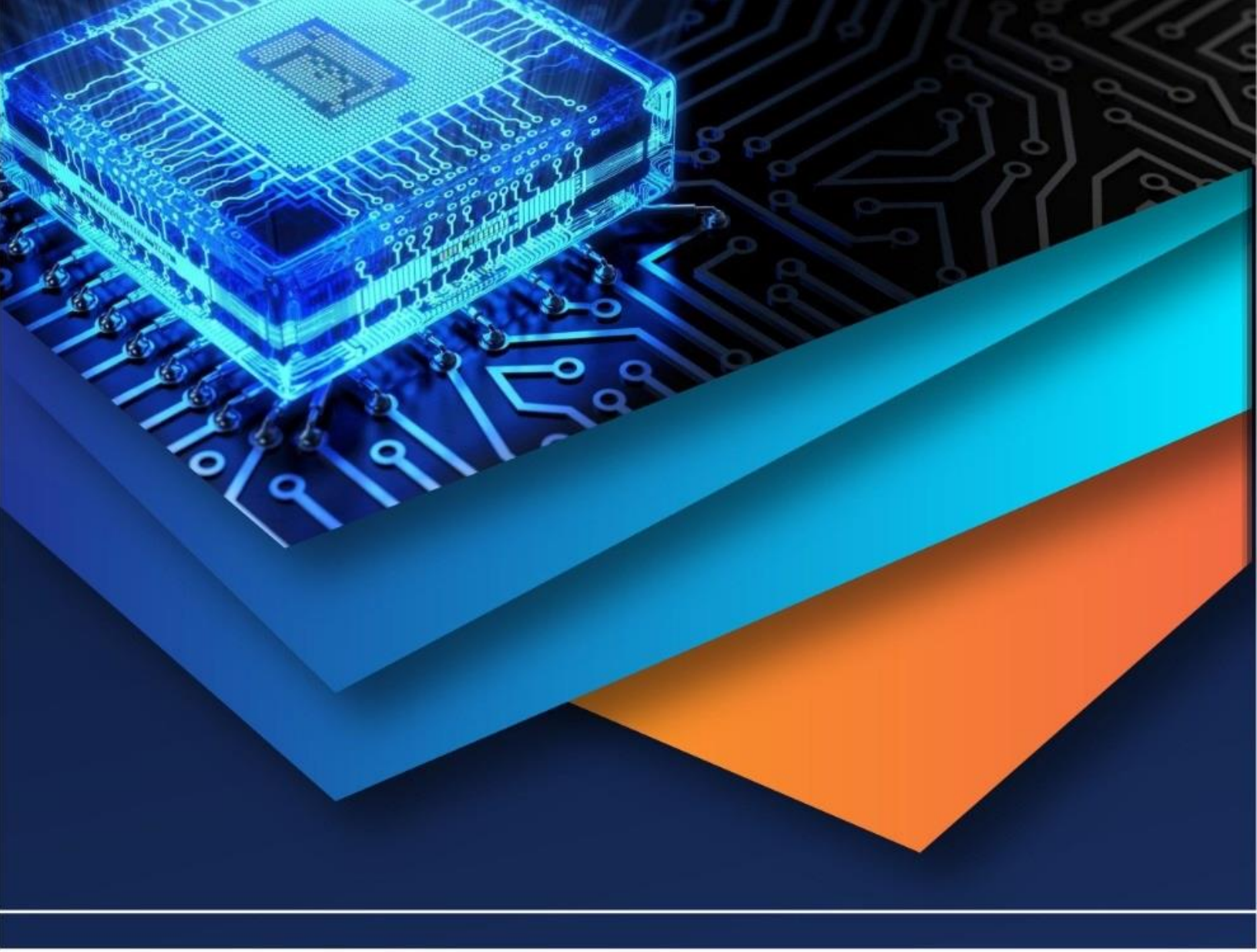
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