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Can Word-of-Mouth Translate into Box Office Revenue?—An Analysis of the Factors Influencing the Impact of Online Ratings on Movie Box Office Performance

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Abstract. Online ratings and word-of-mouth play an important role in the film market. This paper uses the literature analysis method to examine the relationship between online word-of-mouth and box office performance. It focuses on the effects of ratings, review sources, review formats, and emotional content on audience viewing decisions and film commercial performance. It also considers the effects of cultural, market, and platform differences. The results show that online word-of-mouth can influence audience perceptions, attract attention, and affect viewing decisions and box office performance to some extent. Online word-of-mouth is able to change how people see films and can make more audiences notice certain movies in the market. However, ratings and the number of reviews cannot explain commercial performance on their own. Their effects are also influenced by film characteristics, audience preferences, cultural background, market environment, and platform features. These different factors can work together and make the influence of online word-of-mouth become more complicated in various situations. This paper provides a reference for understanding the relationship between online word-of-mouth and film commercial performance.

Keywords: online ratings, online word-of-mouth, box office performance, audience decisions making, film market

1. Introduction

With the development of the internet and social media, online ratings and comments have already become a important component of the movie market. Audiences can easily check their ratings or comments on different platforms such as IMDb, Rotten Tomatoes, and Douban. These online reviews provide the information of a film, and may influence audiences' expectations of a movie and their decisions. As a result, online word-of-mouth has become an important factor that may affect a film's box office performance.

However, a movie with a high online rating doesn't mean it can also receive high box office revenue. Some films may have many positive reviews, but attract only a limited number of audiences, while other films may earn a lot of money even if they have a low score. This shows that the relationship between online word-of-mouth and box office performance is not "higher scores

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lead to greater revenue." Audience preference, the characteristics of online reviews, and the differences between markets and platforms can all affect this relationship. The research before is mostly focused on the relationship between the online word-of-mouth and audience's decision. Some of them talk about how the rating helps people to think about a movie's quality. Others studies discussed the number and content of the reviews. And also some research looked at movie characteristics, marketing, release time, and audience preferences. but, these studies are mostly focused on one or more factors, the discussion of how those factors can work together and then affect the process of online attention turn to box office performance is very few. It is very important to put review characteristics, audience preferences, film characteristics, and market and platform differences together and consider them.

So the purpose of this essay is to analyze whether can online word-of-mouth translate into box office success, and what factors will affect this translation. First, it talks about how online ratings how online rating give information and influence people's decision-making. Then, it will find different characteristics and sources of online word-of-mouth, and how those factors can affect the commercial value. Last, it discuss how different markets, platform, and cultures from which the ratings come from can influenced the relationship between online word-of-mouth and box office performance. The essay's duty is to help the reader better understand how online ratings work in the global film market.

2. The relationship between online ratings and box office performance

Nowadays, people can gain information from the Internet Movie Database (IMDb), Rotten Tomatoes, and Douban before they choose to watch a movie. A movie's word-of-mouth is no longer limited to offline communication, now it can influence audience's expectation of a movie's quality and their decision by online ratings, including long and short reviews. But the relationship between the rating and the box office is not direct or linear. This section will first discuss how online rating work as a information signal, and then it will examines how online word-of-mouth may affect box office performance.

2.1. Online ratings as a signal of film quality

Films are generally regarded as experience goods because audiences cannot accurately evaluate their quality before watching them. Unlike other goods whose quality can be assessed through product characteristics before purchase, a film's narrative and viewing experience can only be more fully understood after watching it. This creates information asymmetry between audiences and filmmakers. In this context, online ratings and electronic word-of-mouth (eWOM) have become important channels through which audiences obtain information about film quality. A survey conducted by Podium (2017) found that 93% of consumers believed that online reviews influenced their purchasing decisions [1], further demonstrating the importance of online reviews in consumer decision-making.

From the perspective of signaling theory, if the quality of a product cannot be seen directly by consumers, they need to rely on some available information to guess its potential quality. Online ratings are one form of this kind of signal. This signal effect is visible especially in the early stage of a film's release. Because potential audience have limited information, high rating score may be known as a positive signal, and while low rating score probably create doubt of a movie's quality. So this is the reason why online reviews can affect people's expectation of a movie, but the strength of the influenced is also depends on the number and the credibility of the film.

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The effectiveness of signals is also related to the quantity and credibility of information, as well as the stage of the market. The influence of online word-of-mouth may also change over the life cycle of a film [2]. Compare to the rating with small number of reviews, people will be more likely to believe those movies which have a large number of reviews.

Research also shows that online word-of-mouth is related with a film's commercial performance. The valence of online reviews did not directly affect box office performance, but higher review valence was associated with a greater volume of online reviews, which indirectly increased box office revenue [3]. This study shows that the information shared between audiences may affect the behavior of the potential audience, and then influenced the commercial performance of the movie. No matter the discussions is positive or negative, a large amount of discussions will increase the public attention to the film.

However, high ratings do not always means high box office revenue. The 2014 film *Transformers: Age of Extinction* illustrates that online ratings and commercial performance do not connect directly. The film grossed more than $1.1 billion worldwide, but its audience score on Rotten Tomatoes was only 18%. Even the film received a large number of negative reviews, the popularity of the film series, its action sequences, and its visual effects still attracted a large number of audience. This explains that a film's box office performance is also influenced by other factors [4].

All in all, online ratings can be seen as a important signal of film quality to help to reduce the information that audiences face before watching a film. Although online ratings are related with box office performance, high ratings do not always translate into high box office revenue. Factors like the number of reviews, information credibility, film characteristics, and audience judgments may all influence the relationship between online word-of-mouth and box office performance. That's why online ratings should be regarded as one factor that influences a film's commercial performance rather than the only factor of its box office results.

2.2. How online ratings influence audiences' decisions and box office revenue?

When online rating provide the information about a movie's quality to the audience, the rating can further influence audience's division making. Their decision is not only based on how other people think that movie is good or bad, it also depends on can the information online give them enough confidence to pay the time and money to watch it. High rating may give audience a good impression, and online reviews can also influence people's intention. Shieh and Lin [5] found that the source and content of online movie reviews can affect people's intention to watch a movie. So that's why it can influence the totally revenue of a movie through audience's expectation. And this process can be understand as a chain that online information will first affect people's perspective of a film, then influence their decision and behavior.

However, audiences do not always make decisions based on the number of the rating, different people have different preferences on a movie's genre, actor, story line, and type, so the same rating can also make different decisions. For instance, if a film is totally talk about love, but at that period of time, the most popular type of film is action, even if that love movie has good rating, it can still get low box office, on the other hand, a low rating movie can still attract people who are interested at the type or actor. Because of that, online rating can affect the audience's decision, but the degree of impact depends on how people interpret the information, and also their personal preference.

In addition, not only rating scores, the scale of online word-of-mouth is also worth noting. Rating data alone do not fully reflect the social impact of online word-of-mouth. If a movie get high rating, but there is only a low number of people give reviews, the reach of it's online information may be

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limited. When a film get a lot of reviews, even it include both positive and negative, the movie can still be popular and attract attention. Cheng and Yang [6] found that the number of ratings did not significantly affect the movie revenues, but additional textual reviews, include both positive and negative reviews, may increase movie revenues. So when analyzing the relationship between online word-of-mouth and movie consumption, it is very important to consider both content and the scale of the reviews. The contents that create strong emotion are more likely to be shared. This explains that the effectiveness of online information spread does not depend only on positive and negative reviews, the characteristics of the information may also influence audience discussion.

Therefore, there is no simple linear relationship between online rating and box office. Rating can influence audience's judgement of a film's quality and their expectation, but whether this affect can become actual box office revenue is depend on audience preference, the film's genre, the cast, marketing campaigns, and release time. Research in film economics also shows that movie performance is influenced by multiple factors, including distribution, marketing, and release decisions [7]. Even there maybe two film with almost the same online rating, their final box office receipts may still has big difference. Online rating is best to understand as important informational signals that influence audience's perceptions and decisions, rather than just a single factor that determines box office revenue.

3. Factors affecting the conversion of online word-of-mouth into box office success

Online ratings and word-of-mouth may influence audiences' viewing decisions, but positive reviews do not automatically lead to higher box office revenue. Therefore, the key issue is not only whether online word-of-mouth affects box office performance, but also under what conditions this effect becomes stronger or weaker. The conversion of online word-of-mouth into box office performance is influenced by factors such as film characteristics, market environment, and information platforms.

3.1. The characteristics of online word-of-mouth

Online word-of-mouth is not a single type of information because reviews may come from different sources. Ordinary audiences and professional critics may evaluate the same film from different perspectives [1]; as a result, their reviews may have different effects on a film's box office performance. Analysis of movie reviews from IMDb in the United States and Douban in China reveals that review length, timeliness, title sentiment, and emotional expressions all affect audiences' perceptions of review helpfulness, suggesting that cultural differences may alter the correlation between these variables [7]. This shows that cultural differences and review characteristics may influence how audiences understand online information. From the perspective of signaling theory, review sources and review characteristics can all affect the credibility and usefulness of online reviews as signals of film quality.

The form of reviews can also affect a film's commercial value. Ratings can quickly summarize audiences'overall feelings toward a film, while text reviews provide specific information about the plot, acting, and visual effects. Different review characteristics influence audiences'perceptions of the helpfulness of online movie reviews. Therefore, when judging a film's potential quality, people need to consider both ratings and the information provided by text reviews [8].

Furthermore, online word-of-mouth encompasses various forms of emotional expression. An analysis of 23,046 online reviews of approximately 80 Hollywood films shows that positive emotional content may be associated with higher movie sales, while the impact of negative emotional content weakens as the volume of online word-of-mouth rises. This indicates that the

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influence of online reviews depends not only on whether their emotion is positive or negative, but also on information characteristics and information volume [9].

So rely only on online ratings may not fully reflect the signaling role of online word-of-mouth. Review sources, information formats, and emotional content can all influence the relationship between online word-of-mouth and a film's commercial performance. Even if two films have the same rating score, they may still have different commercial performances because of differences in review characteristics and online discussions.

3.2. Market and platform differences

The transformation of online word-of-mouth may have difference across countries because audiences in different countries have different viewing habits and may evaluate the same movie in different ways. Kong and Lou [8] found in their cross-cultural study that cultural differences change the relationship between review characteristics and perceived review helpfulness. This shows that cultural background may influence audiences' understanding of movie's information, and then affect their judgments of online word-of-mouth as a signal of movie quality. So cultural difference should be considered when comparing online word-of-mouth and box office performance through countries. The same rating score may not means the same audience evaluation in different cultural environments and may also have different signaling meanings.

Differences in information platforms also affect audiences' views of a movie. Different platforms have different user groups and rating systems, which means that the same movie may get completely different results on different platforms. From the perspective of signaling theory, platforms are not only ways for the transmission of online word-of-mouth but also influenced the presentation of movie-related information.

In addition, can online word-of-mouth transformed into box office revenue also depends on if the information can truly reach potential audience. A study of movie trailers on YouTube found that views, likes, and comments may all affect movie box office revenue, indicating that online attention and information exposure may also be related to box office performance [10].

Therefore, even if a movie receives a large number of positive reviews on a certain platform, if the relevant information cannot reach potential audiences, these positive evaluations may be difficult to transform into actual ticket-purchasing behavior. Online ratings should not be regarded as the only standard for measuring a movie's market performance. The user reach and information dissemination methods of platforms also affect the relationship between online word-of-mouth and actual movie-going behavior.

4. Conclusion

This paper finds through analyzing the relationship between online word-of-mouth and box office performance that online word-of-mouth can provide audiences with information about films and influence the attention and commercial performance that films receive to some extent. Online rating can be a important reference when judging a film's quality, and the number and characteristics can affect the visibility and level of discussion of a movie. But the score or the number of reviews cannot totally explain the box office performance because the result is also affect by the factors such as the audience group, film types, or market environment. That's why the relationship of online word-of-mouth and box office performance is not simple or fixed.

Online word-of-mouth is not only numerical ratings, but also includes the source, content, form of expression, and emotions of reviews. Professional film critics and regular audience sometimes

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focus on different ways, and the written reviews and rating scores may also provide different information. Positive and negative emotions in reviews can also affect how audiences understand a film. So using only average rating number is not a good way to reflect the information that audience receive.

Culture background and characteristics of the platform is also impossible to affect how word-of-mouth work. Audiences in different environment probably have different film preference, they also have different way to understand the information. Different platform also has different user groups, rating systems, review formats, and information distribution, and all of these factors can affect the speed that a film spread and how audiences understand information. So even a movie can get a good revenue on one platform or in one country, it can still have a opposite result in different place.

All in all, online word-of-mouth should be understand as communication process that can contain different types of information, rather than a single rating sign. Review content is affected by audience preferences, film characteristics, cultural background, and platform environment, and may then be related to viewing decisions and box office performance. Therefore, film producers and distributors should not focus only on average ratings and the number of reviews, but also pay attention to the sources of reviews, discussion content, and platform distribution methods. For audiences, online ratings can serve as a reference for understanding a film, but they cannot fully represent film quality or commercial value.

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