



Echoes of the iron throne: Unraveling audience sentiment through social media analytics in the final season of Game of Thrones

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Abstract

This research delves into the polarized reception of the final season of "Game of Thrones," a television series that has captivated global audiences and sparked intense debate across various social media platforms. Utilizing Social Network Analysis (SNA), the study systematically examines how viewers interacted on platforms such as Twitter and Facebook, uncovering the intricate patterns of engagement and sentiment that defined the online discourse. By mapping these interactions, the research identifies influential voices and sentiment clusters, providing a detailed picture of how public opinion was shaped during the series' conclusion. The findings underscore the pivotal role of social media as both a reflection and amplifier of audience sentiment, offering a stark contrast to traditional critical assessments provided by established media outlets. This study not only advances our understanding of digital audience dynamics but also highlights the need for an integrated approach that combines quantitative analysis with qualitative insights to comprehend public reactions to popular cultural phenomena fully. The insights gained from this research are vital for content creators, marketers, and media analysts aiming to navigate the complex landscape of audience engagement in the digital age, where social media increasingly dictates the success and cultural impact of media productions.

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1. Introduction

The concluding season of 'Game of Thrones,' one of the most celebrated television series of the modern era, has sparked widespread debate and controversy among audiences and critics alike. The series, which enjoyed immense popularity and critical acclaim during its earlier seasons, faced unprecedented backlash during its final episodes. This unique opportunity, presented by the dichotomy between the initial success and the eventual dissatisfaction among viewers, is an intriguing case to explore the intricate dynamics of audience engagement, particularly in the context of digital media. Social media platforms, such as Twitter and Facebook, have become essential arenas for public discourse, where audiences express their opinions, share experiences, and form communities around shared interests. In the case of 'Game of Thrones,' these platforms played a crucial role in amplifying the voices of viewers, enabling them to collectively articulate their reactions to the show's conclusion. The widespread use of social media for discussing television content has transformed the way audiences interact with media, allowing for real-time feedback and the emergence of influential opinion leaders. This study employs Social Network Analysis (SNA) to map and analyze the complex web of interactions among 'Game of Thrones' viewers on social media. By examining the structure and dynamics of these online communities, the research aims to uncover the underlying factors that contributed to the polarized reception of the final season. The application of SNA offers valuable insights into the spread of sentiments, the formation of opinion clusters, and the role of key influencers in shaping the narrative surrounding the show.

Through this analysis, the research seeks to contribute to the broader discourse on media consumption in the digital age, highlighting the growing importance of social media as a tool for understanding audience behavior. The findings of this study not only shed light on the specific case of "Game of Thrones" but also offer broader implications for media producers and marketers seeking to engage with global audiences in an increasingly interconnected world.

2. Motivation for this study

2.1. "Game of Thrones" and the mixed reception of its final season

How people reacted to the last season of "Game of Thrones"

"Game of Thrones," a show based on George R.R. Martin's big fantasy books, became a worldwide hit throughout eight seasons, with its complicated plots, complex characters, and surprising turns. But the excitement surrounding the show's final season caused just as much debate, especially over how it ended all its long-running stories. This study looks at people's reactions to the last season and focuses on different factors that caused these responses.

Preceding the controversy

Before its last season, "Game of Thrones" was praised for its high production standards, interesting character growth, and plot that didn't follow the usual rules of storytelling. Fans were shocked and eager for more when important characters died or the plot took big turns they didn't see coming. In response, both fans and reviewers had high hopes for the last season, and they all had their ideas about how the show should end.

Expectations VS Reality

Many fans were upset on social media sites, especially Twitter, where they talked about how they didn't like how the plots and character arcs were developed enough. Many viewers thought that the show's quick closure of important events that would normally happen over several shows didn't give them enough time to have an emotional effect or conclusion.

Character arcs

A significant point of disagreement was how the main character arcs were handled. Characters like Daenerys Targaryen and Jon Snow, who had grown and changed a lot over the years, had significant changes in their behaviour and fate that didn't make sense with how they behaved and grew. For example, Daenerys's fall into dictatorship was a significant plot point that many fans found shocking, saying it was too sudden and didn't have enough buildup to be accurate.

Many people were also disappointed with Jon Snow's ending because his family history and possible claim to the Iron Throne, which had been built up as significant plot points, didn't have much of an effect on the ending of the series. There was a more extensive conversation about plot reward and whether the show stuck to the story arc setup.

Cinematic executions and visuals

Some people didn't like the story, but most people loved how the last season looked and felt like a movie. When the fight of Winterfell happened in episodes like "The Long Night," the production values were very high, and the fight scenes

were beautiful to look at. However, even these technical successes weren't without their critics. For example, the show was criticized for having very dark lighting that made it hard to understand what was happening.

Critical and social media response

The negative reactions were similar to the reactions on social media in some ways. Review sites like Rotten Tomatoes showed that critics didn't like the show nearly as much as they did in earlier seasons. Critics called out the slow pace and what they saw as a lack of depth in the stories, which seemed to trade the depth and complexity of earlier seasons for a show and a conclusion.

On Twitter, people had a more mixed response. Hashtags like #GameofThronesFinale and #GoTSeason8 showed anger and support for the last shows. People's arguments and talks about the show's ending, character arcs, and general impact turned the platform into a battlefield.

Analyzing audience sentiments

This analysis of Twitter data and critical reviews aims to quantify this mixed reception. By employing sentiment analysis tools on social media posts, we can observe trends in viewer emotions and opinions over time, correlating them with specific episodes and plot developments. Similarly, reviewing critic scores and reviews provides a professional perspective on the storytelling techniques and series execution.

The last season of "Game of Thrones" is a complicated example of how audiences expect a show to end and how hard it can be to end a popular and carefully knit show. It did amazing things with visual storytelling, but it might not have lived up to the story standards set by the earlier seasons. This mixed response shows the importance of pacing and character development in telling a story. Future shows that want to engage and please a global audience should learn from these lessons. Through this study of social media, we learn more about the scope and details of unsatisfied viewers, which helps us understand the more profound effects of how we connect audiences and make media.

Why focus on the final season?

The polarizing nature of the last season of "Game of Thrones" makes it a unique case to study. The show has been famous for a long time, but many fans and reviewers did not like the last season as much. This change in public opinion gives us a lot to think about. We can investigate how audiences interact with TV and how social media affects TV criticism.

3. Why Conducting Social Network Analysis (SNA) is Crucial for the Problem Statement?

Social Network Analysis (SNA) plays a crucial role in understanding the reception of the final season of Game of Thrones within the context of the problem statement. By looking at how people and groups interact and connect on social media sites like Facebook and Twitter, SNA gives us helpful information about how audiences are involved, how ideas and views spread, and how online communities form. Here's why conducting SNA is essential for the problem statement.

Mapping Audience Networks

SNA allows us to map the networks of individuals discussing

“Game of Thrones” on social media platforms like Twitter. By finding the most influential individuals, groups, and leaders in these networks, we can learn more about the different feelings and points of view people about the final season. This lets us examine how information moves through the network, which points of view have the most significance, and how ideas are pushed to the forefront or to the side.

Identifying Audience Sentiment

People form communities based on their shared hobbies and values, and how they feel about a TV show like “Game of Thrones” can have a big effect on how people feel about it overall. We can find and study these groups through SNA, looking at how they talk about and think about the final season. By looking at the relationships and interactions between people in these groups, we can find patterns of feeling (whether they are positive, negative, or neutral) and figure out what causes them to develop and evolve through time.

Examining Network Dynamics

By using SNA, we can look at how viewer networks change over time in relation to “Game of Thrones,” such as how feelings change, new groups form, and how outside events or issues affect the networks. By looking at how networks work, we can find patterns of involvement, spot moments when feelings change dramatically, and judge how strong network structures are when they are interrupted.

Finally, doing Social Network Analysis (SNA) is important for the problem statement because it helps us learn more about how people felt about the last season of “Game of Thrones” on social media sites. This helps us understand how complicated it is for audiences to interact with each other and for online communities to form. This holistic understanding is important for everyone who wants to find their way.

4. Data Collection and Preprocessing for SNA

A study has been conducted to find out how people felt about the much-talked-about TV show “Game of Thrones,” especially during its final and controversial eighth season. The goal was to investigate the many responses from viewers and analyses from experts. This study's data collection, preprocessing, and analysis had to be carefully planned. Both manual and automated methods had to be used to ensure the results were complete and valuable.

Source of data

The primary dataset comprised tweets related to Game of Thrones, obtained from a comprehensive collection on Kaggle. This dataset includes tweets collected explicitly during the series' final season airing, offering real-time insights into viewer reactions and sentiments.

Link to the dataset: [Game of Thrones Twitter Dataset](#)

A dataset of critic reviews from the Rotten Tomatoes website has been utilized to enrich the analysis and add layers of critical perspective. These reviews provided a professional critique of each episode of the series, contrasting public sentiment and expert opinions.

This dataset can be accessed here: [Critic Reviews Dataset](#). Additionally, it incorporated a “bag of words” approach to aid in the sentiment analysis, utilizing a pre-compiled list of positive and negative words available through a GitHub repository. This list was pivotal in categorizing words found in tweets and critic reviews, helping automate sentiment

analysis.

The dataset can be viewed here: [Bag of Positive and Negative Words](#).

Storage and Management of Data

To effectively handle the extensive datasets, MongoDB was selected for its strong performance and adaptability in managing large amounts of unstructured data. This NoSQL database was designed to accommodate a schema-less storage approach, which perfectly aligns with the dynamic and diverse nature of the collected data. Python, along with the PyMongo library, formed the foundation for querying and manipulating the data. This configuration allowed for effortless communication between the data storage and analytical processes, guaranteeing a streamlined workflow.

Steps for Preprocessing

Preprocessing was an essential first step in preparing the data for analysis. Here are the elements that were included:

Ensuring data quality is crucial, and one way to achieve this is through data cleaning. Eliminating noise like URLs, hashtags, mentions, and special characters from tweets can greatly improve the overall quality of the data.

Normalization: To ensure consistency, all textual data was converted to lowercase, removing any issues caused by variations in capitalization. The text was divided into tokens, and unnecessary words were eliminated to prioritize significant words for sentiment analysis.

Data Integration: Datasets from different sources were combined into a single schema to simplify the following analysis.

Using Python and Py Mongo

The seamless integration of Python and PyMongo played a crucial role in efficiently managing data operations within MongoDB. We established a connection to the database and performed the required.

Queries were used to extract the needed data, and Python's libraries, like Pandas for data manipulation and Matplotlib for visualization, were utilized. This allowed the data to be prepared for the analytical phase.

5. Exploring the literature

This research's methodology and analytical techniques are based on well-established studies. For example, ^[1] offered valuable insights on utilizing Twitter data for real-time sentiment analysis during events. Their research influenced the approach to analyzing tweets during live “Game of Thrones” broadcasts.” In their study, ^[2] emphasized the importance of Twitter as a second screen, providing insights into how viewers utilize social platforms while interacting with TV shows. The importance of online communities in enhancing the viewing experience, as explored by ^[3], was also crucial in evaluating the communal nature of viewer responses. In this analysis, we found it crucial to utilize methodologies proposed by ^[4] and ^[5] that connect social media discussions with quantifiable metrics like viewership figures and sentiment strength.

The extensive data collection and preprocessing approach, combined with a meticulous examination of pertinent literature, has established a strong basis for analyzing the sentiments conveyed by viewers and critics of “Game of Thrones.” This comprehensive study offers valuable insights into how the public perceives the series, using a solid

foundation of data-driven analysis.

6. Results and Analysis

Using Python for network analysis, these investigations have revealed the dynamic nature of public discourse. A comprehensive and firmly established ecosystem emerges by featuring prominent figures who resemble the influential houses in Westeros, along with the more subdued voices that make up the show's dedicated fan base. In digital communication, each tweet symbolizes a metaphorical bird soaring through the air, gracefully conveying various emotions. The analysis revealed visual representations beyond fan culture, uncovering a narrative. The media

demonstrated the ability to initiate discussions beyond the show's boundaries and intersect with different aspects of culture and society. This account of numerical information and stories of specific data and human interactions goes beyond a simple academic endeavour. It serves as a reflection of the world in which we live. Amid this atmosphere characterized by peaceful conversation, we discover the genuine impact of a cultural phenomenon. It can promote individuals, foster discussions, and establish itself as a prominent element in the digital realm. The results of this analysis not only offer insights but also surpass them. The narrative remains relevant even after it is resolved.

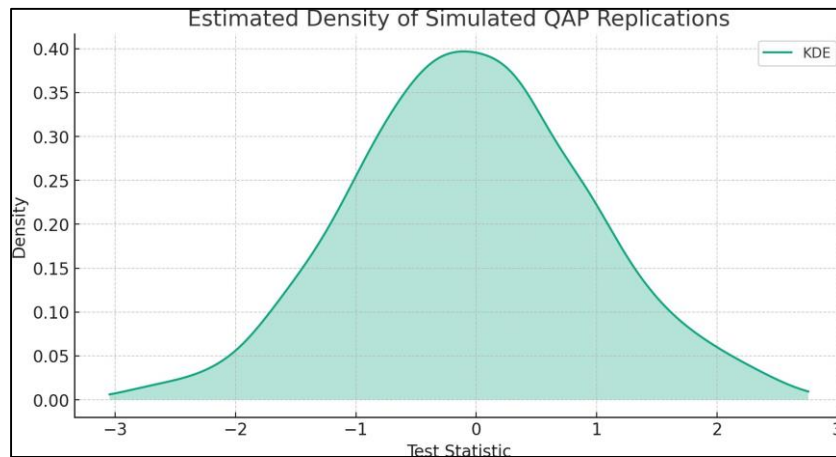


Fig 1: Simulated QAP (Quadratic Assignment Procedure)

Fig 1 shows that a bell-shaped curve is characteristic of a normal distribution. The x-axis represents test statistic values that lie between -3 and 3; the y-axis represents the corresponding density estimate. The centre of the curve lies at 0, indicating that most simulated QAP (Quadratic Assignment Procedure) models have test statistic values around 0. The symmetrical shape of the curve indicates that

the positive and negative deviations from the mean are more or less equal. The comparison is very high around the mean value of 0. As you move away from the mean, the density decreases, and the tail of the curve flattens out at the end of the x-axis. The resulting values of each iteration are close to the null hypothesis, and deviations are different.

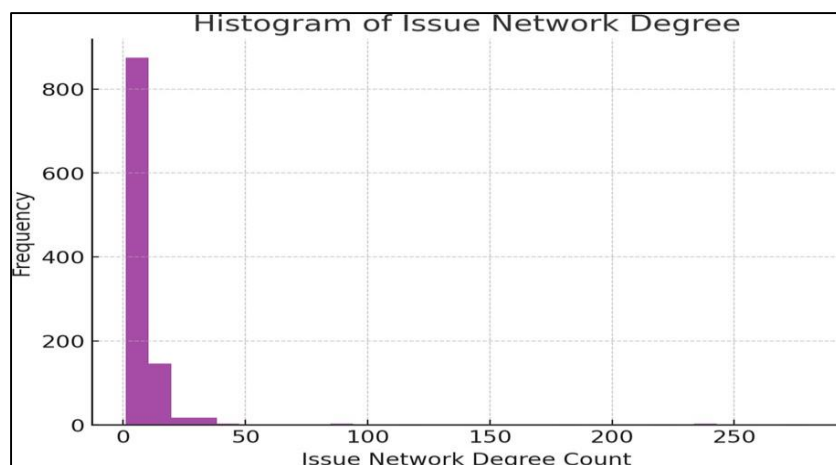


Fig 2: Histogram of Issue Network Degree

In Fig 2 the x-axis of the histogram above shows the frequency distribution of issues network degree count. The y-axis represents the number of occurrences per degree value. The histogram shows the number of network issues with very few connections. On the left-hand side, the high bar indicates that most of the issues have limited interaction with others. As the histogram increases in degree number, the frequency

decreases rapidly. This results in a sharp decrease in the histogram. This skewed histogram has few high-connectivity issues and many low-connectivity issues. This helps in finding and ranking the top issues in the network's influential nodes, while the outdegree distribution, which is more uniform, tells us that there's a more evenly distributed influence among the nodes in the network.

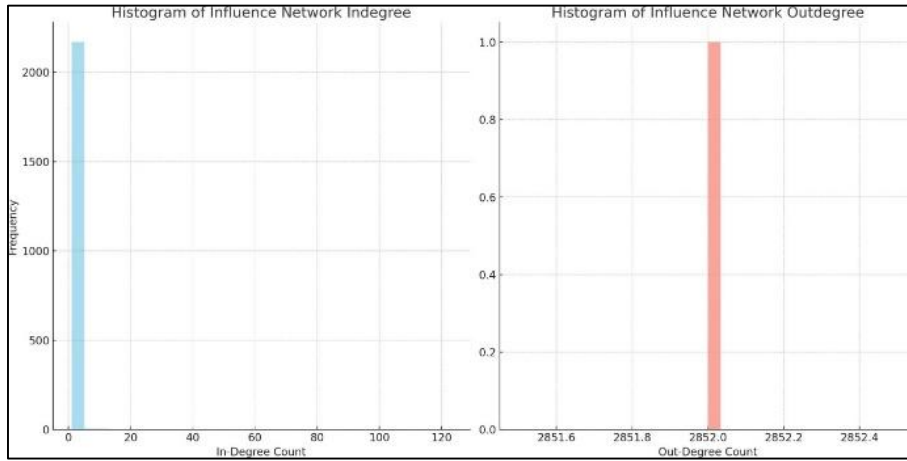


Fig 3: Before cleaning of data Histogram of Influence Network in Degree and out Degree

Fig 3 represents two histograms on the left and right. The left shows the frequency distribution of the in-degree count, which tells us how many connections each node in the network receives. Most nodes have less incoming connections, but some nodes have many connections. These nodes act as influential hubs crucial to the network’s structure. The histogram on the right shows the frequency distribution of the outdegree count, which tells us how many

outgoing connections each node has. Unlike the in-degree histogram, this one shows a more concentrated distribution. Most nodes have a similar number of outgoing connections, which suggests that they have a similar level of influence in the network. The different shapes of these two histograms provide valuable insights into the network structure. The skewed indegree distribution indicates the presence of a few highly

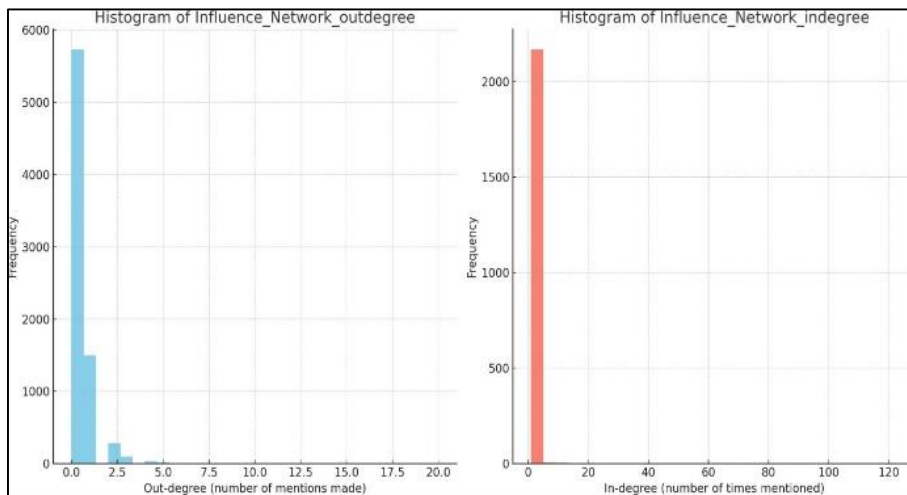


Fig 4: After cleaning of data Histogram of Influence Network in Degree and out Degree

The graph in Fig 4, the left, shows how many times each node in the network has been mentioned. Noticeably, many nodes exhibit a small outdegree, clustered around 2.5, suggesting that most nodes in the network have few outgoing connections or mentions. In contrast, the histogram on the right shows the in-degree frequency, indicating how often each node is referenced or receives incoming links. Unlike the outdegree histogram, the in-degree distribution shows a skewed pattern, where most nodes have low in-degree counts, but a few nodes have much higher counts, indicating their strong influence and frequent mentions in the network. The

different forms of the two histograms offer an important understanding of how information flows and influence operates in the network. The focused outdegree distribution shows that most nodes have a similar number of outgoing connections. In contrast, the imbalanced indegree distribution reveals that a few nodes receive the most incoming connections. In general, these visual representations can help pinpoint the most influential and referenced nodes in the network and grasp the patterns of influence and information spread among the different entities included in the dataset.

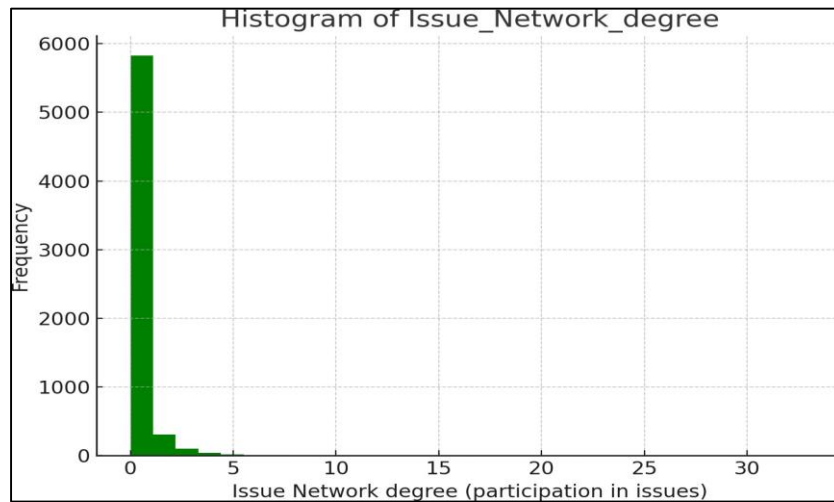


Fig 5: Histogram of Issue Network Degree

The distribution shown in the Fig 5 histogram is heavily skewed, with a notable peak at a 0 degree value, showing that many nodes in the network are not participating or getting involved in any issues. This peak is then followed by a steep drop in frequency with increasing degree value, indicating that only a few nodes are involved in multiple interactions within the network. After the first peak, the histogram displays a lengthy tail with sporadic, small bars stretching

towards greater degree values. These bars illustrate a few nodes partaking in various topics, discussions or activities within the network. The distribution shape indicates that most network nodes are either isolated or disconnected from the topics being discussed about Game of Thrones, with a smaller group of nodes serving as hubs that are involved in and could potentially impact multiple issues at the same time.

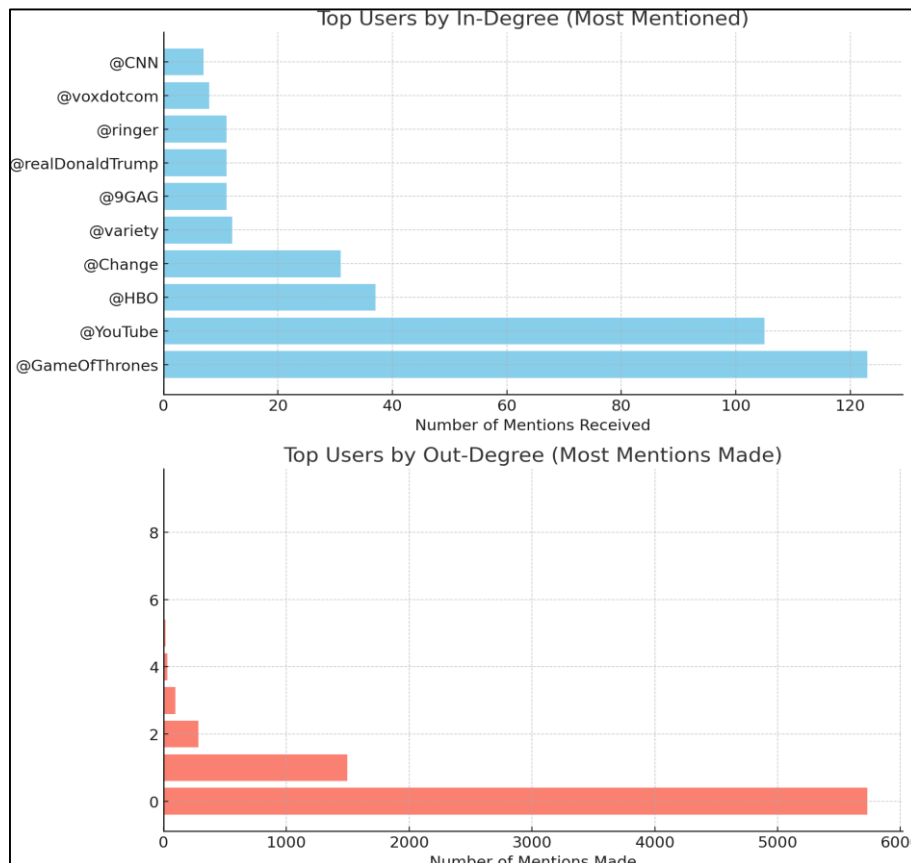


Fig 6: Top Users by In-Degree and Out-Degree (Most Mentions)

During the examination using network analysis of the data collected from tweets and Rotten Tomatoes reviews, we have discovered several fascinating observations. Fig 6, titled 'Top Users by In-Degree', displays the Twitter handles that received the highest number of mentions in

discussions pertaining to the final season of 'Game of Thrones'. Predictably, the official @GameOfThrones account ranked first, with prominent news and media organizations like @CNN and entertainment-related accounts such as @voxdotcom and @ringer, following

closely behind. By incorporating @realDonaldTrump, the discourse gains an intriguing perspective, potentially emphasizing the show's extensive cultural influence. The graph titled 'Top Users by Out-Degree' visually represents the individuals who were most engaged in tweeting about the series. It is essential to highlight the significant disparity between the number of mentions made, and the number of mentions received, indicating that a small number of accounts played a major role in the conversation. These observations suggest a path to comprehending the dissemination of viewpoints and the level of influence specific users have in shaping the storyline surrounding the last season.

Also note the existence of words such as "and," "to," and "a," which are frequently used function words in the English language. This implies that a significant proportion of the tweets and discussions are centred on general commentary, opinions, and reactions rather than exclusively focusing on specific titles or entities. In addition, the presence of words such as "for," "on," "you," and "this" in the top 15 list suggests the conversational and interactive nature of social media conversations. Users actively participate in dialogues, exchange personal viewpoints, and react to each other's posts.

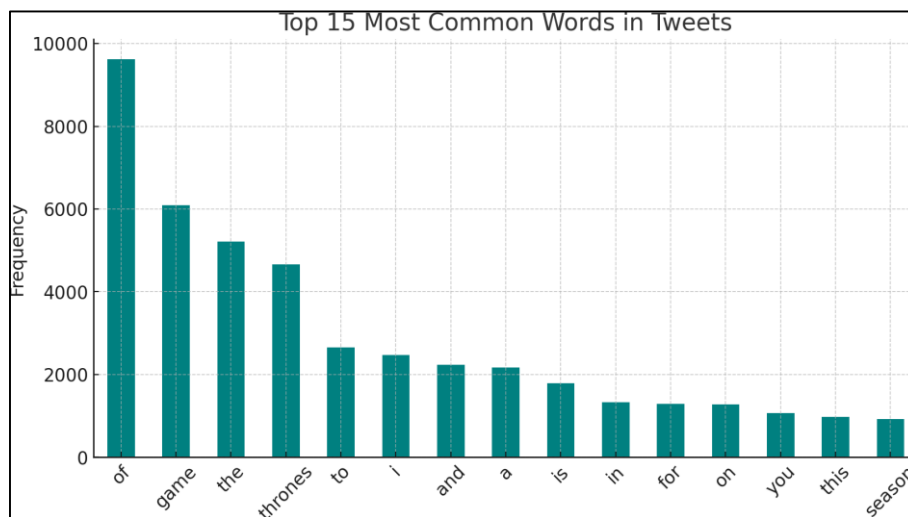


Fig 7: Top 15 Most Common Words in Tweets

Fig 7 displays a bar chart that showcases the 15 words that were used most frequently in the tweets we examined. It is clear that words such as "is," "game," "the," and "thrones" are among the most frequently used terms. This suggests a lot of excitement and conversation surrounding popular TV shows and movies, specifically the highly praised series "Game of Thrones." Notably, we

Count: There are 7,682 tweets in the dataset.

Mean: The average tweet length is approximately 129 characters.

Standard Deviation: The tweet length varies with a standard deviation of about 65 characters.

Minimum: The shortest tweet is 16 characters long.

25th Percentile: 25% of the tweets are 82 characters or shorter.

Median: The median tweet length is 116 characters, indicating that half of the tweets are longer than this and half are shorter.

75th Percentile: 75% of the tweets are 161 characters or shorter.

Maximum: The most extended tweet is 419 characters long

7. Discussion and Conclusion

A comprehensive analysis of social media data and critic reviews has been done to explore the intricate response to the final season of the acclaimed television series "Game of Thrones." We employed network analysis techniques to decode intricate interactions, influence, and emotion patterns that emerged in the online discourse surrounding the show's conclusion.

The findings of this study revealed a notable disparity in the

perspectives of critics and viewers. While the official Game of Thrones account and major media outlets mentioned the show extensively, the nature of these mentions varied significantly. The sentiment analysis uncovered a spectrum of emotions, ranging from joy to disappointment, as viewers grappled with the rapid tempo, character progressions, and storytelling choices that influenced the final season.

Significantly, this study uncovered a distinction in the level of involvement between the broader audience and the influential voices shaping the online narrative. Although a larger audience participated in debates that were spread out, creating specialized communities based on shared perspectives, a few highly influential accounts controlled the conversation.

The disparities between social media reactions and critical evaluations further underscore the intricacies of audience reception. While the critics recognized the show's impressive technical quality, they disagreed regarding the narrative's complexity and pace. Conversely, the active discussions on social media captured a wide range of emotions, ranging from fervent endorsement to intense criticism of the series' conclusion.

This research demonstrates the potential of social media analytics in uncovering the nuances of audience engagement and mood. By integrating quantitative data with qualitative insights, we could comprehensively understand how a widely adored cultural phenomenon managed its conclusion. This sparked discussions that extended beyond entertainment and encompassed various aspects of society. This study emphasizes the importance of understanding audience dynamics and utilizing social media to evaluate public

sentiment, thereby contributing to the broader discourse on media consumption in the digital age.

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