

An Online Brand Community in ‘Crisis’: A Sentiment Analysis of r/Blizzard in the Aftermath of the Ban of “Blitzchung”

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Abstract

This project examines the sentiment of the online brand community on Reddit called r/Blizzard in the wake of the banning of a popular Esports athlete nicknamed “Blitzchung.” The goal of this project to examine the relationship between supposed negative sentiment and the frequency of comments and frequency of upvotes. The purpose of this project is to determine if there was a bandwagon effect of users adding “fuel to the fire.” The results were not expected because the sentiment of r/Blizzard was moderately more positive than once thought, which might be due methodological issues measuring sentiment or other unmeasured factors such as the relationship between the sentiment of the poster of the submission and the sentiment of the users. Overall, this project provides new and important questions that might reveal the nature of online brand communities and the role of solidarity as a dimensioning factor in the developing of positive or negative sentiment.

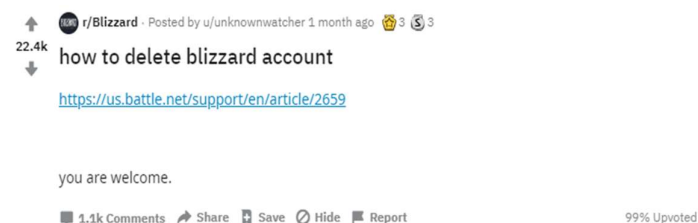
1 Introduction

On October 3rd, 2019, an Esports player named Ng “Blitzchung” Wai Chung was banned by Activision Blizzard. Activision Blizzard is a company that produces popular video games like *World of Warcraft*, *StarCraft*, and *Overwatch*. Blitzchung was vocal of the ongoing turbulent protests in Hong Kong, China during a winner’s interview of *Hearthstone* calling for democracy in Hong Kong. *Hearthstone* is a popular online card game owned by Activision Blizzard. Soon after, outraged submissions and comments emerged across gaming communities including Reddit forums like ‘r/gaming’, ‘r/Overwatch’, ‘r/Hearthstone’, and ‘r/Blizzard’ (Figure 1). Articles in the popular press were published describing the

events and ultimately framing Activision Blizzard in a negative light (Carpenter 2019; Webb 2019). Furthermore, r/Blizzard was set to private in the wake of the controversial banning of Blitzchung as noted by evidence from the Internet Archive, Wayback Machine.¹ Moderators of subreddit often set their communities to private when discussions become too toxic or boisterous for open discussion. The apparent anger and negative sentiment led to actual repercussions as noted by Min (2019) who wrote that Activision Blizzard’s stock dropped 4% following the controversy. From the anecdotal evidence, there appears to be a substantial amount of negativity in r/blizzard.

The intention of this research project is to examine the sentiment in the Reddit forum ‘r/Blizzard’ to determine the nature of the sentiment in the comments section of this online brand community in the aftermath of the controversial incident (arguably a crisis in communication) involving Blitzchung. From a brief search through the community, it is obvious that the focal point of discussions dealt with this particular topic. Most of the submissions in the past month and year are related to Hong Kong and Blitzchung. A possible reason for the upsurge in posts related to the incident may be emotional or related to negative sentiment. Leidig (2018) writes that Social users love a bandwagon...They’ll *all* gladly chime in, keeping your brand in an unwanted spotlight.”

Figure 1. An example of angry submission not long after the banning of Blitzchung.



¹ <http://web.archive.org/web/20191008154258/https://www.reddit.com/r/Blizzard/>

Albeit this incident deals with an online card game player, the controversy speaks more to the growth of Esports as popular form of entertainment and sport and the communities that support those in the Blizzard community despite the criticisms against the brand/company.

I have four primary areas of intrigue that will guide this research paper. One of the main interests in this research paper is to examine the breadth of anger in r/Blizzard. In other words, is the anger shared equally across the community? Is the anger as bad as popular press articles make it out to be? Secondly, is there a relationship between the frequency of upvotes on a submission and the negative sentiment? Upvoting (or downvoting) is mechanism on Reddit that allows users to have agency (somewhat) in the rising popularity of submissions in a subreddit.² If Leidig (2018) is correct, then the bandwagon effect should take place in r/Blizzard and one should see more angry sentiment driving upvotes in r/Blizzard. Thirdly, is there a relationship between the amount of comments and negative sentiment? Lastly, what type of words are users in r/Blizzard using to articulate their anger? To determine this, I will measure the most unique words used in the r/Blizzard community to provide insights about the source of anger. I would mainly like to know if it sentiment is directed at Activision Blizzard or if there is anger directed at the Chinese government itself in the ongoing violence towards protesters in China or the financial relationship between Tencent, a tech company that holds stock in the Activision Blizzard company (Messner 2019). The following section will present past research and provide more insight into the relationship between online brand communities, crisis communication, sentiment analysis and how it pertains to this research project.

2 Related Work

Brand communities are defined as “a specialized, non-geographically bound community, based on a structured set of social relationships among users of a brand (Muniz and O’Guinn, 2005). Similarly, online brand communities are “online forums dedicated to a specific brand, where consumers gather, exchange information and socialize” (Meek, Ogilvie, Lambert, and Ryan, 2019). Reddit is the focus of this study due

to the availability of data, familiarity from the researcher, more importantly, many Reddit forums reflect a ‘geek sensibility’ revolving around computing, science, and fandom interests (Maloney, Roberts, and Graham 2019). Given the subject of this project (a brand community associated directly with multiple video games) and the popularity of the subreddit (60,000 plus members), Reddit is the ideal place to measure sentiment of users who also are fans of the games that Blizzard produces and promotes.

Online brand communities are an ideal space to examine sentiment because of two reasons: a strong bond in the community based around the brand and relationships, and a sense of moral responsibility that can be exemplified by different ranges of emotions. Muñiz and O’Guinn (2001) explain that members feel a connection to a brand, but the connection to others in the community is stronger. In the context of gaming communities – a brand with several beloved games (*World of Warcraft*, *Diablo*, *Starcraft* etc.) is likely to have a strong community bonds that are tied closely to video games. Secondly, Muñiz and O’Guinn (2005) write that moral responsibility is a “sense of duty to the community as a whole, and to individual members of the community, and it is what produces collective action and contributes to group cohesion” (189). The combination of the shared connection to the brand in the community with a sense of moral responsibility can explain why the banning of a popular Esports figure surrounding elicits emotional reactions. To the community, Blitzchung is one of them.

Crisis communication research is a subfield in public relations that examines relationships with stakeholders/consumers in events that challenge the status of the organization. Crisis communication research converges with social media research because it can cover broad topics from analyzing tweets during natural disasters Neppalli, Caragea, Squicciarini, Tapia, and Stehle, 2017) and marketplace anger towards a brand (Gopaldas, 2014). Social media analytics techniques like sentiment analysis can allow for brand managers to access a situation and respond or not respond if needed (Leidig, 2018). Ultimately, understanding how consumers react during and after crisis situations is important for companies because it can affect their reputation and brand equity (profits). For instance, Collomb, Costea, Joyeux, Hasan, and

² Often known as vote manipulation, past companies/brands have paid to have submissions/content pushed farther up on the ‘Front Page of Reddit’.

Brunie (2014) write that when consumers make decisions, it is often through the reputation of the brand and word of mouth by peers. Another project could also examine the sentiment of popular press articles or gaming websites because these often have a sway on consumers and those who follow video games.

Sentiment analysis has a wide array of uses for researchers under different contexts such as analyzing health messages in online discussions (Park and Conway 2017) and examining consumer's views of e-cigarettes (Wang, Zhan, Li, Zeng, Leischow, Okmoto, 2015). Sentiment analysis is an important tool to determine and predict the mood and feelings of online brand communities. From the perspective of companies with an invested interest in their brand, sentiment analysis is a useful tool to monitor the opinion of consumers (Pang and Lee, 2008) because they provide companies with reliable marketing intelligence to gain a competitive advantage (Meek et al., 2019). In the context of crisis communication, public relations practitioners must be aware of the current situation with their brand and act accordingly, whether that be releasing a statement or remaining quiet. Especially in the context of social media, "users wield an enormous influence in shaping the opinions of other consumers and influence brand perception, brand loyalty and brand advocacy (Hi et al 2017).

Past research relating to sentiment and video games is often done through reviews, professional (magazines like *Game Informer*) or user generated reviews on websites like Metacritic (Strååt and Verhagen 2017). However, the framing of video games as brands seems to be limited.

3 Data

The data for the project was pulled with the Reddit API. 40 total posts and 12,404 comments were scraped using the Reddit API from the past year. All submissions focused on the Hong Protests, bashing Blizzard, using Mei as a resistance figure,³ or references to Blitzchung. The data includes submission titles, number of upvotes, and the comments themselves. To present a visual representation of the data, I visualized two areas related to the submissions: the frequency of upvotes (Figure 2) and the frequency of comments on each submission (Figure 3). The data does have some drawbacks because as opposed to other methods of scraping data, I do not have details when the

exact date of each submission was posted, but the submissions are within range of the controversy when as noted by Reddit's posting dates which reference how many months ago it was posted.

Figure 2. Bar chart of the most upvoted submissions in the past year.

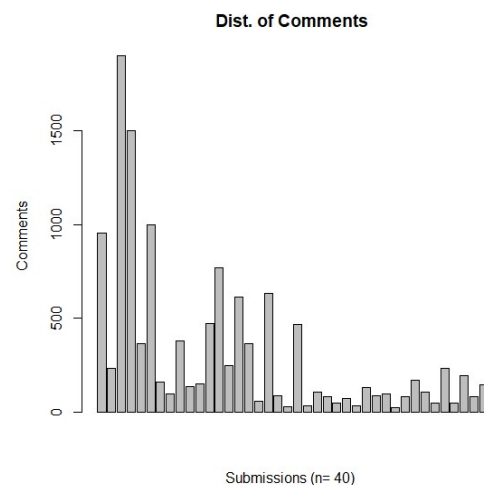
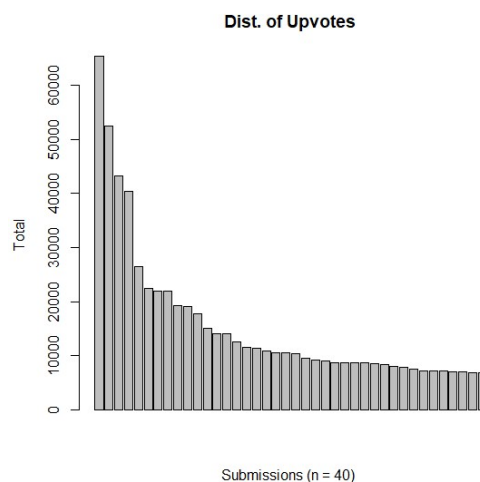


Figure 3. Bar chart of the most comments of each submission.



³ Mei is a popular Chinese character in another Blizzard owned video game, *Overwatch*.

The distribution of the upvotes per submission seems normal; however, the distribution of the comments to submission seems somewhat uneven. For instance, the second submission has moderately lower comments than the third submission. One would assume that the frequency of comments would decrease at the same rate as the frequency of upvotes. More summary statistics related to my first question are in the discussion section (Table 1). I feel that this is a suitable section to discuss the descriptive nature of the data.

4 Methods & Evaluation

The sentiment analysis procedures were conducted automatically using a Python library called TextBlob.⁴ TextBlob is “library for processing textual data. It provides a consistent API for diving into common natural language processing (NLP) tasks”. TextBlob determines the sentiment of text by analyzing two different aspects of text: the polarity and subjectivity. Polarity is the expressed emotions in text and subjectivity relates to the personal feelings or beliefs of the user. TextBlob analyzes both of these and combines them and returns a float (or a decimal) that is expressed as -1 to 1. Using this Python library, I can loop or go through each comment in a submission and conduct the analysis. A descriptive analysis of the sentiment will be evaluated using common descriptive statistics including the average sentiment, the standard deviation (the breadth), and the median sentiment in the community. The metric for negative sentiment will be represented as a proportion. The simple formula is below. The metric can be interpreted by referring to the proportion as the percentage/amount of negative sentiment from 0.0 being no negative comments to 1.0 being all negative comments. The purpose of the using proportion is to provide an easy way to make sense of the sentiment.

Total submission negative sentiment proportion = Negative Individuals Comments (‘neg’) / All Comments in Submissions.

The most notable downside to TextBlob is the fact that it is “an NLTK classifier trained on a movie reviews corpus,” however, through preliminary tests it appears to be accurate.

I will firstly begin with a descriptive analysis of the submissions, upvotes, and comments. I will

then proceed with two linear regression analyses regarding the proportion of negative comments and upvotes / comments. Lastly, I will measure the most unique words in r/blizzard since October 2019 using 12, 404 comments from users. This analysis is straightforward, but it is potentially telling about the nature of the community.

5 Discussion

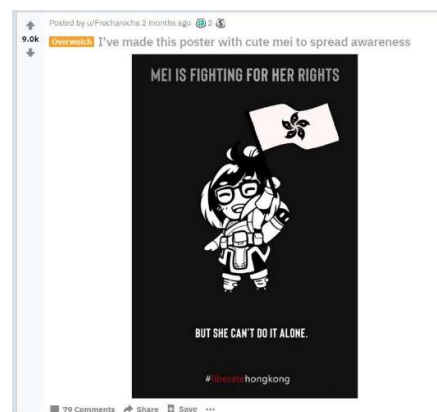
My first research question asked, is the anger shared equally across the community?

| | Mean | Mode | Median | SD |
|-----------------------|-------------|--------|--------|-------------|
| Negative Sentiment | 0.37 | 0.50 | 0.38 | 0.06 |
| Upvotes | 15,565 | 65,400 | 10450 | 13182 |
| Comments N= 12,404 | 310.10 | 1900 | 140 | 410.3 |

Table 1. The Descriptive Nature of the Data

Regarding the table above (Table 1), there are some notable findings from simply looking at the descriptive results of the negative sentiment. For instance, on average, 37% of the comments in the submissions overall were negative. I am somewhat surprised at this result because it would have expected the negative sentiment to be higher. However, this result can interpret in different light because when one measures sentiment in mass on Reddit, there is a potential that a researcher is also picking up the sentiment that occurs when users interact with one another. They could also be reacting to the post itself, which is not always negative. For instance, the negative sentiment can be understood in a different context when compared with the images posted in r/Blizzard.

Figure 4. Mei as a resistance figure.



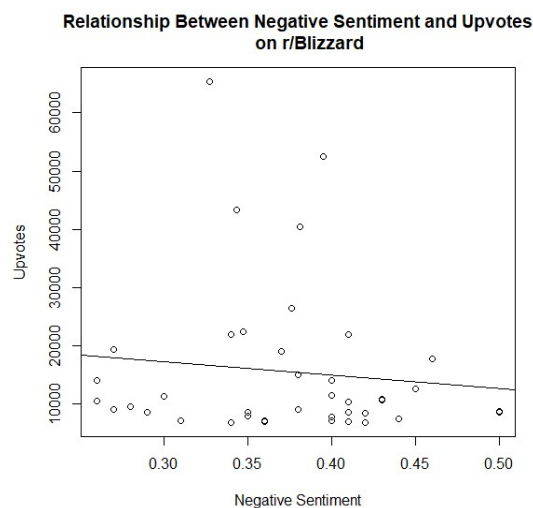
⁴ <https://textblob.readthedocs.io/en/dev/quick-start.html#sentiment-analysis>

As opposed to websites like IMDB messages boards or other review sites, the sentiment is not directly expressed at the post/review. There is far less discussion in reviews because there tends to be less threads of comments, instead they are generally individual comments expressing their evaluations. Furthermore, there might be something to address concerning the solidarity of r/Blizzard because while there are some angry submissions, some submissions like the one in Figure 4 seems more concerned about expressing solidarity with other users than outright hating Blizzard.

The next research questions were concerned with the relationship between negative sentiment and the frequency of upvotes and the frequency of comments.

Hypothesis 1: I expect the proportion of negative sentiment in comments to increase when the number of upvotes increase.

Figure 5. The Relationship Between Upvotes and Negative Sentiment.



Linear Regression: Negative Sentiment ~ Upvotes

Coefficients:

Intercept: 0.3812

Upvotes : -5.092e-07

R Squared: 0.01179

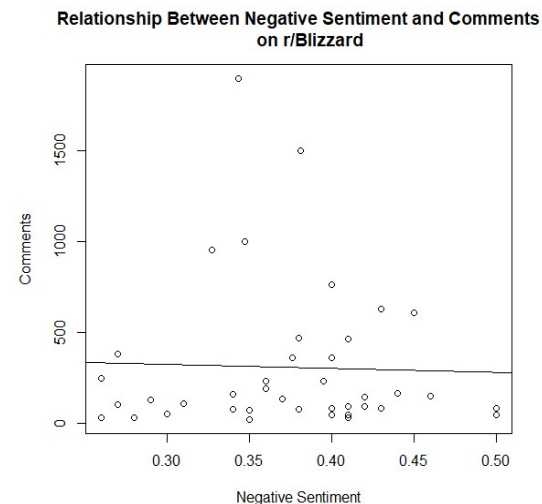
Pearson's Correlation Test: -0.11 (p-value 0.50)

In the first test, there appears to be a negative correlation, which means as the negative sentiment increases, the upvotes decreases. This result is also quite interesting because I would expect more upvotes that might drive negative sentiment. Albeit, when I ran a correlation test, the negative relationship is only moderate.

In the next test, I looked at the relationship between negative sentiment and frequency of comments.

Hypothesis 2: I expect the proportion of negative sentiment in comments to increase when the frequency of comments increase.

Figure 6. The Relationship Between Comments and Negative Sentiment



Coefficients:

Intercept 0.3747

comments -4.848e-06

R-squared: 0.001035

Pearson's Correlation Test: -0.03 (p-value 0.84)

This result is more in line of what I expected because the distribution of comments overall was not very even across the sample. It does seem as if most of the negative sentiment is around the mean (0.37).

My last research question asked, what are the most unique words in the comments in r/Blizzard? Using python, I ran some code to calculate the most unique words in the comments (minus stop words) as seen in Table 2.

Table 2. 25 most unique words in r/Blizzard since October 2019 (n = 12,404)

| | |
|---------------|----------------|
| 1. Blizzard | 16. Government |
| 2. People | 17. Delete |
| 3. China | 18. Nothing |
| 4. Think | 19. Play |
| 5. Money | 20. Rights |
| 6. Chinese | 21. Free |
| 7. Company | 22. Human |
| 8. Hong | 23. World |
| 9. Kong | 24. Freedom |
| 10. Time | 25. Care |
| 11. Right | |
| 12. Support | |
| 13. Us | |
| 14. Political | |
| 15. Shit | |

The results are the most interesting aspect I have encountered in this analysis thus far because it reveals the mood and feelings about this community regarding the solidarity of the users around idea such as freedom, support, and human rights. Judging from the unique words, there is not much negativity surrounding the words (except for “Shit”, of course), so it does add to the theory that the solidarity of the comments is lessening the negativity of sentiment. By collectively hating a brand, they might also be showing positive sentiment in their solidarity.

6 Limitations and Further Research

There are two main areas that I would deem limiting to this research project: the minimal amount of data and the TextBlob Python library. Due to time constraints, I was only able to gather 40 submissions and 12,404 comments. Ideally, I would have liked to scrape around 25 posts weekly, but I was not able to do that. More importantly, this research project’s results rest upon the measuring of sentiment. I am somewhat skeptical of my overall results because I assumed the negative sentiment would be much greater. There is a possibility that Textblob was also reading comments that gave it a null reading such as “[deleted]” or words that use Chinese characters.

An area of further research that must be examined is the relationship between the sentiment of the submission post and the sentiment of the users in the community. There could be a potential priming effect that is occurring that users might

feel the need to express a certain sentiment. Priming refers to when a stimulus might provoke a certain reaction, that in some cases the researchers are not aware of.

An area that might be worth examining is the behavior of consumers and those in the community after the event. Are users in the r/Blizzard still playing and buying Blizzard products and services?

Lastly, this project was strictly quantitative, but there could be potential is a more focused effort of r/Blizzard using qualitative methods. According to Ampofo, Collister, O’Loughlin, and Chadwick (2015) “text mining is at its most useful when it brings together quantitative and qualitative modes of enquiry.”

7 Conclusion

In closing, the results of this study were not expected, but the process of examining a subreddit during a time of crisis brought forth new questions that one could use for further research. This project reveals potential areas of research that can more accurately determine the nature of online brand communities and the role of solidarity in them. There is still more work to be done, but given the extensive coverage of this event by the popular press and the continuation of protests in Hong Kong and across the world, I could see more academic research focused on political events and brand communities.

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