Misinformation in Coronavirus Disease 2019 (COVID-19)

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Introduction

With the pandemic of COVID-19, it is the government's first priority to reduce the risks by the virus on citizens. According to data collected by the World Health Organization (WHO), till December 4th 6:09PM CET, there were 64,603,428 total cases reported among the world, and 1,500,614 people had died due to the rapid spread of COVID-19. With the death rate of 2.32% and fast propagation of COVID-19, the virus is having a significant negative impact on our health. We have to find a way to prevent the spread of COVID-19 is highly important, or at least slow down the speed of the spreading.

Therefore, it is crucial for the government to conduct correct policies to citizens. A correct recommendation or regulation can largely prohibit a large number of deaths caused by COVID-19. On the contrary, if there is misinformation propagated on social media platforms which citizens choose to believe then the result may turn out to be the opposite, making it easier for the virus to get spreading and more people will be infected.

Our research is about the misinformation effect that happened in the response to COVID-19, President Trump's claims in different press conferences and social media. He claimed that everything was under control while the truth was that the United States is keeping the highest growing cases among the world. In this paper, we are investigating how misinformation has influenced the response to COVID-19.

Background

The social media and news have been the primary sources for people to understand the terribleness of COVID-19 in this sociotechnical issue. The truth and fraud were both spreading through social media like Facebook, Twitter, Instagram and etc. These are the systems where the misinformation was produced and spread. The false information such as "This is a flu. This is like a flu", "This is going to go away without a vaccine", "The COVID-19 is under control" by President Trump was widespread through social media before the outbreak of this disease, some people were misled, and the misinformation was continued to be shared both online and offline. People ignored the guidance from the Center of Disease Control and Prevention (CDC), then the number of cases began to increase rapidly in the U.S. Even though the truth and correct guidance were posted by official organizations like the CDC, Johns Hopkins University and The Institute for Health Metrics and Evaluation (IHME).

Analysis with Theories/Concepts

In our class, we had learned the difference between misinformation and disinformation, while misinformation indicates any information that is inaccurate, disinformation means information that is made intentionally. In this circumstance, from a timeline of how President Trump reacted to COVID-19, we learned that he thought it was a simple flu and we can just ignore it. At first, he told citizens in social media that the COVID-19 is under control. However, he underestimated the seriousness of COVID-19. As a result, the number of cases had increased rapidly throughout the year. And he even suggested wearing face masks when necessary. However, according to CDC's guidelines, wearing face masks in public can largely prevent the spreading of the virus

since we cannot guarantee we are not exposed to the virus in public areas. Therefore, it should be categorized that President Trump was bringing some misinformation in the social media.

Another relevant concept from class would be that "Fake news goes viral than the true ones". In this sociotechnical issue, the misinformation of COVID-19 goes viral and the disease goes viral at the same time. The correction and retraction always come after the fake news meanwhile the fake news has been widespread and lots of people have been infected under the mislead of fake news. From the research by Vosoughi, Roy & Aral (2018), we also know that "False political news travelled deeper (Fig.3A) and more broadly (Fig.3C), reached more people (Fig.3B), and was more rival than any other category of false information (Fig.3D)." In this issue, the false news tweeted by President Trump could be categorized as political.
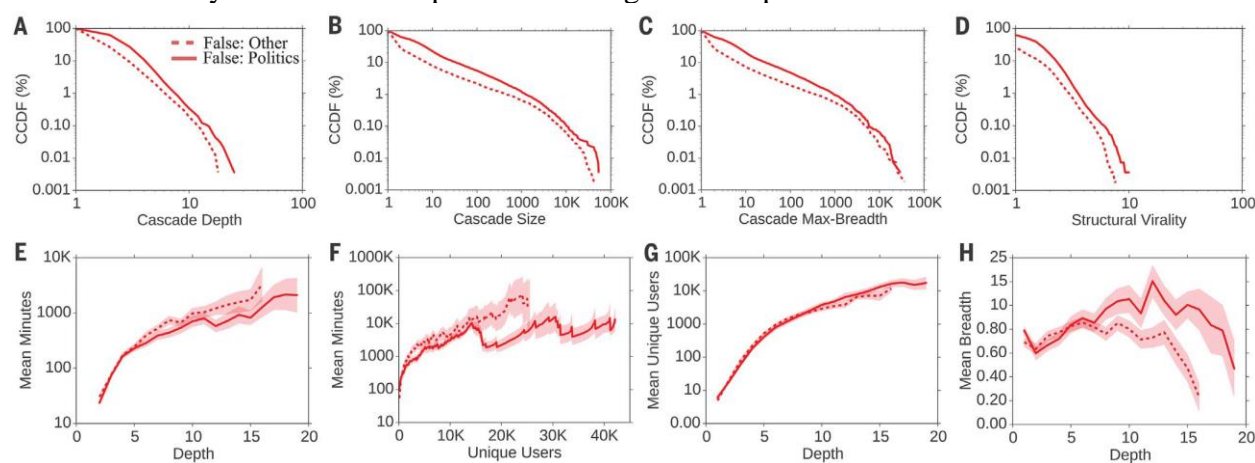

Figure 3. Rumor Cascades. From Vosoughi, Roy & Aral, 2018, p. 3.

The continued influence effect would be useful to analyze this sociotechnical issue. As the continued influence effect states, the corrections would fail to work as expected. For example, the correction on misinformation of face masks or coverings recommend everyone wearing face masks. The conflict between misinformation and correction would create a gap and make people more willing to trust the false information. The fraud that COVID-19 is just the flu has given people a belief that COVID-19 is not dangerous and treats it as the flu. When the correction by Johns Hopkins University (2020) tries to debunk and tells people that COVID-19 is more serious than the flu, this conflicts with their beliefs and might be considered as skepticism. Even worse, it would sometimes cause Backfire effects. The false belief would be strengthened in their mind. The misinformation has been planted into their mind and the study has stated that "Debunking is extremely complicated and cannot be eliminated completely." (Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012)

Proposed Solutions

For misinformation spreading on different social media platforms, it is indeed hard to remove its negative influence immediately due to that misinformation tends to go viral before the clarification of correct information. Therefore, to prevent the propagation of misinformation, we need to come up with ideas to slow down the spread of misinformation or prevent it before it is published on social media. For this specific topic of COVID-19, we proposed some possible solutions to deal with misinformation existing on the internet.

First, before the publishing of information, social media should remind the original poster that they should check the fact with professional organizations to make sure that their information is relatively correct and mark the source of the information when posting. And it will be better to prefer academic or authorized organizations or institutions. However, the limitation is that for some people they may think of it as a redundant process which costs them extra time and they tend not to spend their time doing the fact checking step before sending out their posts.

Second, if not everyone does fact checking, we should develop an artificial intelligence (AI) system which collects trending topics posted online and extracts key information from them. As AI can learn from academic sources, they can judge the correctness of the posts and report the results to the public relation department of the social media company so their officials can delete the posts or put a warning beside it to clarify it had not passed the fact checking procedure. But for this solution, the accuracy of AI will be limited due to the lack of academic sources and which is possible because sometimes academic articles cannot be up to date.

Moreover, all social media should enable content report functions which can be submitted by any individual so that once someone finds out the possibility of existence of misinformation, they can report it and have professionals do the fact checking for the information. However, this may bring a bunch of fraud reports for social media companies.

Fact-Checking

One key fact here is fact-checking. The fact-checking is one of the most important steps to prevent widespread misinformation. Relying on the current third-party fact-checking is not enough, the government needs to make some efforts to solve this issue. The government needs to establish certain regulations both on fact-checking and social media. It would be better to have an official fact-checking organization by the government and all other third-party fact-checking needs to be regulated under the inspection. The social media companies are required to fact-check with either official or third party approved by the government to regulate their platforms. When the users try to post or comment, the bots or artificial intelligence (AI) would go over the posts and comments then recognize the false information by fact-checking. All posts and comments with confirmed false information won't be posted and the users would receive the warning messages inferring truth. For the information has not been proven as false or fraud, the systems would mark the posts or comment as "uncertain information". The users will be notified if the posts or comments are confirmed as false information.

However, there are still some limitations for fact-checking. First one would be that Artificial intelligence would not be perfect and there will be mistakes. Second limitation is the lack of information. The database may not be able to cover all the true information needed for fact-checking and the artificial intelligence will not be able process the certain posts and comments. The third one would be the update of the information database. In the current information era, the information is updating all the time and the database needs to be updated all the time. The last one would be the cost for maintenance. Maintaining the database could be a big cost both on time and money.

Conclusions

Throughout this project, we have learned the importance of fact checking for posts on social media platforms. From the discussion above, maybe President Trump didn't realize his tweets about COVID-19 were conveying misinformation, though some of his followers will have blind confidence on how well they had prevented the COVID-19 and they may make incorrect judgments that they do not obey the quarantine order which will be a chain reaction and finally bring troubles against the prevention of COVID-19.

The most challenging part of this paper is finding out the corresponding sources from the website. Some of the sources were from Twitter by President Trump about what he had said. However, some of the tweets were posted in February or March so we need to scroll back to that period of time. Besides, it was hard to come up with detailed solutions to deal with. At first, we thought it was easy to give a potential solution against the spread of misinformation. However, after we dig into our proposed solutions, we found that they were too rough to carry out. Therefore, we spent more time to polish the solutions to make the details sound more reasonable and delicate.

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