

Communication Effects about Social Media News During 2019-nCOV Epidemics Outbreak in China

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Abstract

Whether the information could be disseminated by media effectively or not is an important topic of public administration. Public journalism is different from the conventional professionalism paradigm since the development of modern social media propelled by the internet technology. In this paper, we took social media news during 2019-nCOV epidemics outbreak in China as an example and used Lasswell's model to try to figure out the communicated effects between different speakers and different news content.

Keywords

Public journalism; Social media; Communicated effects.

1. Introduction

Social media networks are ubiquitous to modern society. However, there is still a lot of unprecedented phenomenon appearing on it. Kwak et al (2010) had studied Twitter and proved that social media is powerful in communicating. Due to its re-tweet function, formal information can be spread out at an amazing speed worldwide.[1] Weibo, which is widely used by Chinese internet users also has the same function. Acknowledge that the media news can have an impact on people's health-related behavior, the government needs to take measures on internet communication.[2] According to Ye (2007), monitoring public opinion is an important part of government work once an emergency occurs.[3] Shirky (2008) had illustrated that social media have started a revolution in journalism. The public produces news just as the journalists do. As a result, the journalism industry is not the privilege of media institutes now.[4] The concept of public journalism was first introduced by Rosen (1995).[5] Many scholars studied on the research program of media and public life and promoted the media should shift its function from original message provider to public servant. When Outing (2005) stratified public journalism into eleven layers, he offered a new angel towards social media news. He specified the development of news on the internet.[6] As social media showed up, the speaker was passed to the public. Moreover, the comments under every piece of news truly reflect audiences' attitudes.

During 2019-nCOV epidemics outbreak, the media effect becomes a significant factor in the prevention of infection. By using the classic Lasswell's model,[7] we mainly focus on the messages' source and the content. News from official media, from commercial media and public journalism, are the three sources. Then, we try to introduce the concept of soft news and hard news to illustrate the effects caused by the content. Glogger and Otto (2019) analyzed dozens

of journalism workers for concluding a criterion for soft and hard news. They gave us four aspects: “topic”, “relevance”, “framing” and “opinion”. [8] We developed three main hypotheses according to the above.

H1: As the deterioration of the contagion, the effect of official news will be worse.

H2: As the deterioration of the contagion, the effect of public journalism will be better.

H3: The effect of soft news will be better than hard news.

2. Method

2.1. Data Collection

News related to the 2019-nCoV epidemic mostly collected from Weibo, the dominant social network in China. Meanwhile, comments of a blog are also included. Weibo is like a Chinese version of Twitter.

Bloggers on Weibo are divided into three categories. The first is official news media, like People’s Daily. They are funded and operated by the government directly. The second is commercial media, like Caixin Media and The Beijing News. Though under the censorship of the government, they can operate independently. At the same time, as an enterprise, they are responsible for their own profit and loss, so business benefit influences the blog they posted. The last one is public journalism, which means blogs published by individuals. Usually, there is no political or business consideration in their blogs.

Samples are selected randomly on Weibo. Considering our limited time and data handling capacity, we decided to collect one blog of three types of blogger per day from Dec. 31th, which was the first time Wuhan Health Commission announced some information about the coronavirus, to Feb. 15th, on which we started our data collection, and five comments of one blog, which are the top five in the default order. In the end, 140 blogs and 699 comments are collected.

2.2. Data Preprocessing

By looking through the data collected, there are blogs considered to be invalid data, which are simply a link to other websites. They are not part of social media news, so recollection is done in days lacking valid data, and 5 new blogs with 25 comments are added to the data list.

In order to make the data meet the requirement of quantitative analysis, text data should be transformed into certain types by coding. There are two parts of code, the code of body of the blog and the code of the comments of the blog, representing “says what” and “with what effect” respectively. In “says what”, the body of blogs is divided into hard news and soft news. Hard news refers to news that is serious and rational, timely and the emphasis is on delivering the message. Such as situation broadcast, official announcement. Soft news means for news that is more emotional or knowledgeable, like scientific knowledge, tip-off information. As for “with what effect”, the comments of a blog are the measure of whether a piece of news achieves its communication effect. Thus, there are two types of comments in this code. One is comments that show the communication purpose of the news has reached the audience. In this case, it will be comments that show concerns of the audiences, the audiences agree with the blogger, discussion focusing on the content, audiences asking related questions, audiences giving solutions, etc. Another is comments that show the communication purpose of the news has not reached the audience. For example, comments show apathy of the audiences, audiences doubting the reliability of the news, comments of aggressive expressions, comments of irrelevant discussion, audiences being suspicious about the news, etc. Apart from that, some comments belong to neither of the two categories above, which are comments that are vague meanings. Like comments that only use emojis and comments saying some equivocal words,

which make sense on both sides. For this type of comment, they are labeled as type three, and they are ignored in the final analysis.

Through importing the outcome of the code into SPSS 21.0, the reliability can be calculated in the way of Spearman's correlation coefficient for ranked data. According to Table 1, as for the hard news and soft news code, four of the correlation coefficient between two coders are nearly 0.9 and two of them are above 0.9. As to the communication effect shown by the comments, two of them are more than 0.85 while the other four are more than 0.9. Hence, our code should be valid. Considering the results in the three tables equally, the combination follows the principle of subordination of the minority to the majority. This means if two of the coders think a blog is hard news while only one coder regards it as soft news, the blog will be a piece of hard news in the final code table. The method performs very well in the first case, for there is only a choice between hard news and soft news, which means a major choice always exists. But when it comes to evaluating the comments, another situation might show up. So along with the principle of subordination of the minority to the majority, there is one more rule needs to be followed, if three coders have got a completely different answer, this code will be considered as invalid.

After deleting all the invalid codes, there is 140 news, 77 of them are hard news and 63 are soft news. About the comments, 688 comments are valid, 506 of them are regarded as comments that show the communication purpose of the news have reached the audience and 182 are regarded as comments that show the communication purpose of the news have not reached the audience.

Table 1. Inter-coder reliability

Inter-coder reliability of news coding			
Spearman's correlation coefficient (n=140)	Coder1	Coder2	Coder3
Coder1	1.000***	0.901***	0.886***
Coder2	0.901***	1.000***	0.929***
Coder3	0.886***	0.929***	1.000***
Inter-coder reliability of comments coding			
Spearman's correlation coefficient(n=699)	Coder1	Coder2	Coder3
Coder1	1.000***	0.878***	0.897***
Coder2	0.878***	1.000***	0.908***
Coder3	0.897***	0.908***	1.000***
(*=p<0.05, **=p<0.01, ***=p<0.001)			

Lastly, to meet the requirement of comparing the communication effect of different days and different bloggers in mathematical ways, a communication efficiency was calculated for each blog, using the total amount of the comments divided by the comments that show the communication purpose has reached.

3. Results and Discussions

Taking the data every three days as a cycle, Figure 1 shows that the news communication effect of official media shows a declining trend, while the communication effect of public news shows an increasing trend. As shown in Figure 2, the communication effect of commercial media fluctuates all the time without a consistent trend. Corresponding to our hypothesis, we concluded that in the whole process of public opinion development of the epidemic, the trend

of information source is that the communication effect of official media declines, while the communication effect of public news increases. In terms of news content, the communication effect of soft news is better than that of hard news. However, the hypothesis that the news dissemination effect of commercial media is decreasing has not been proved.

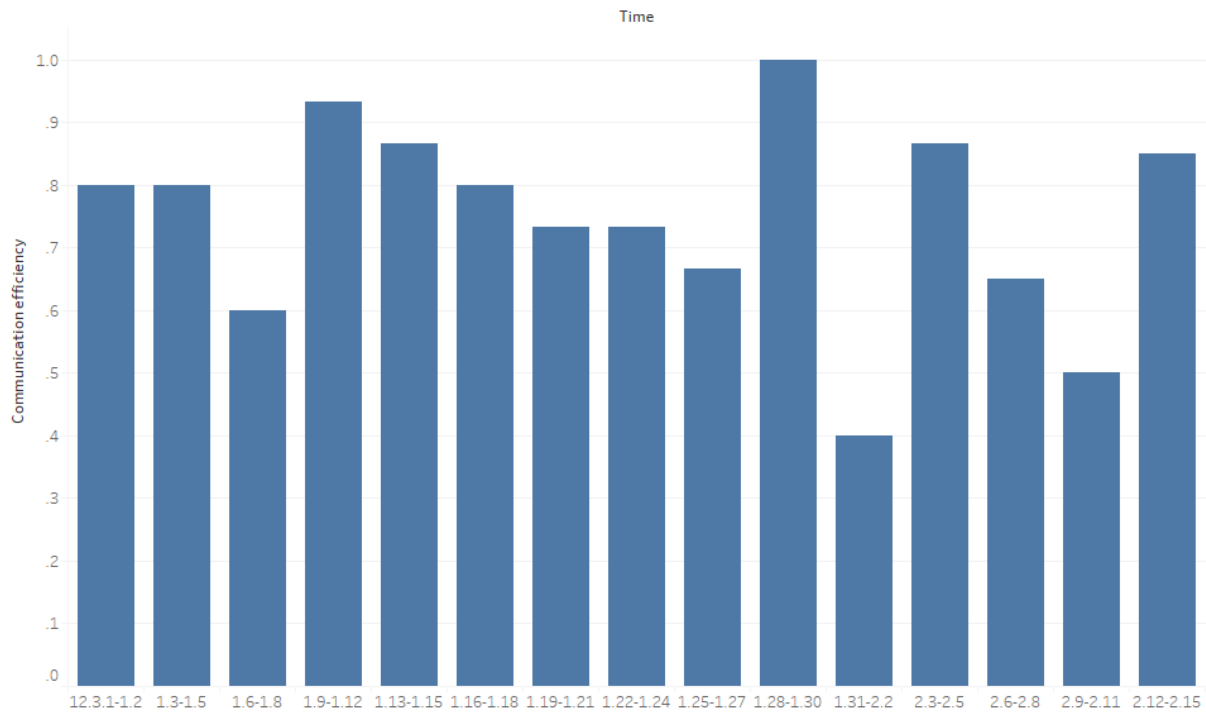


Figure 1. News effect trends of official media

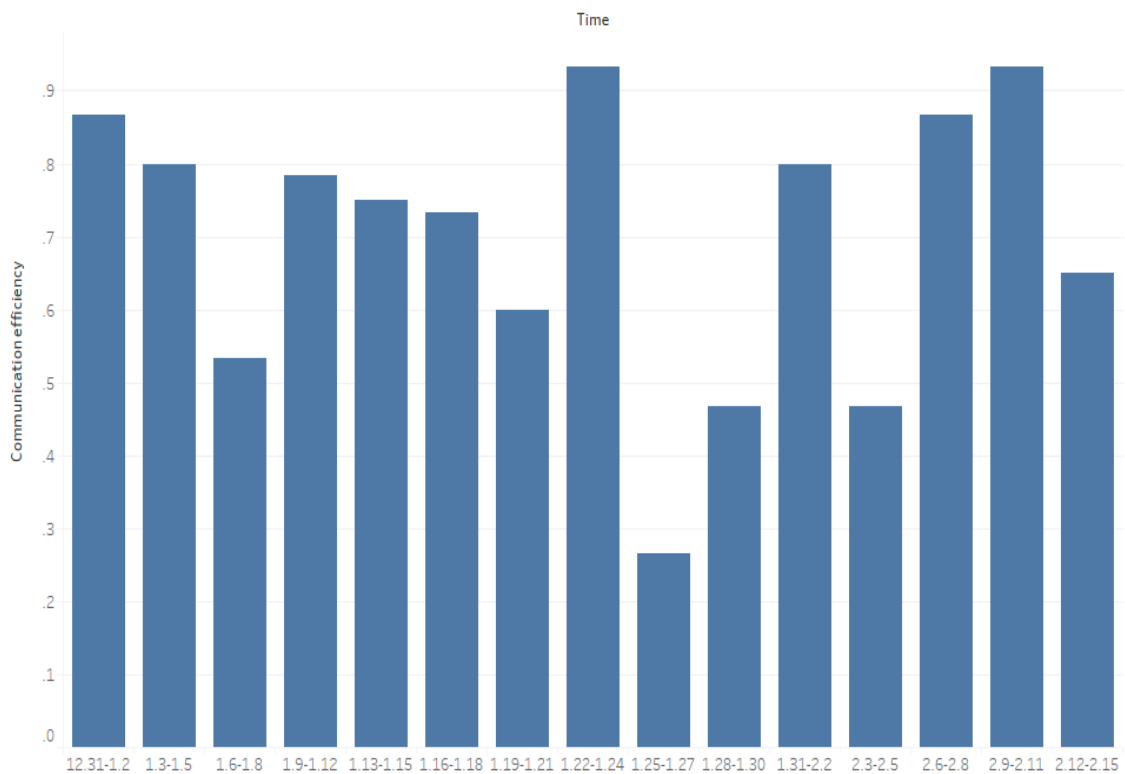


Figure 2. News effect trends of commercial media

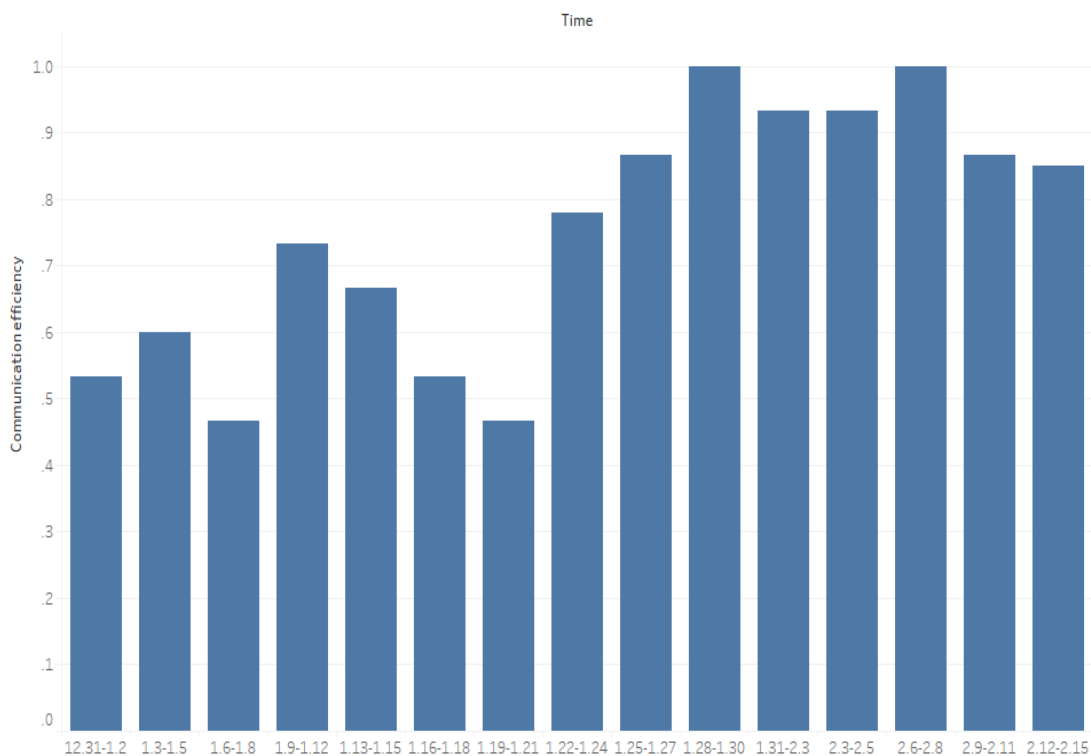


Figure 3. News effect trends of public journalism

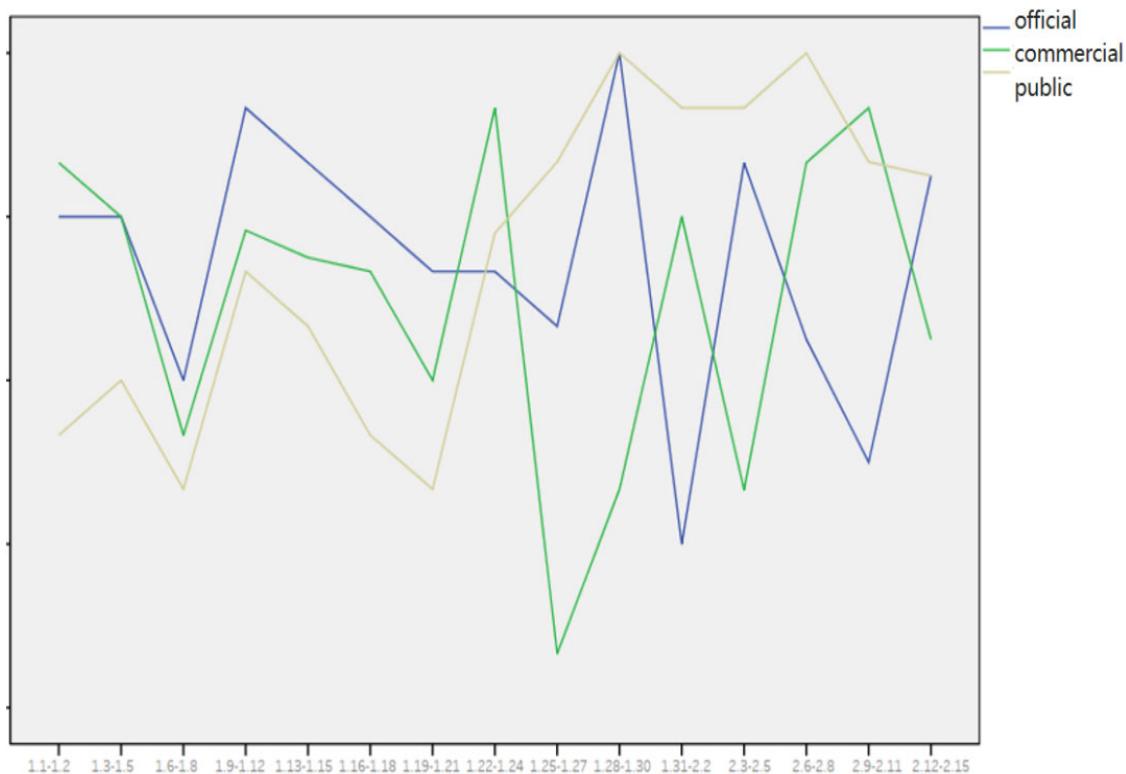


Figure 4. Mixed-up trends line graph

The data showed several limitations to this study. First, according to Lasswell's model, this work could not describe the differences and changes of audiences by content analysis. It is necessary for the user portrait of different media to point to the psychology of the audience,

especially its role in explaining the difference of information source and communication effect. Secondly, our indicators are relatively general. In the 5w model, each item is described as a single index. This means that the scope and degree of news transmission are not taken into consideration in the review research, which results in a small range of data and insignificant changes, and is not conducive to the changing trend of the communication effect. Similarly, the classification of hard and soft news also directly distinguishes the content dimension. The concept of hard and soft news is quite vague in the academic world and the difference of content in the reporting framework is difficult to be demonstrated by hard and soft news. For example, on January 26, commercial media and official media simultaneously reported the outbreak news conference of Wuhan government. The same kind of hard news is framed differently, with official media reporting the story succinctly, while commercial media showed the details, saying the Wuhan mayor was guilty. On the other hand, it is not enough for commercial media to condemn only guilt. In this study, the audience's questioning and condemning of news content are regarded as failing to achieve the communication effect. But if they want to prompt the audience to reflect in the debate, they achieve the communication effect instead.

The three types of media have their information highlands, and it will be more challenging for other media to make breakthroughs in other information highlands and their corresponding business areas. If not necessarily, should the media wade into such challenges from information superiority? Can we assume that there is a comfort zone for the media? For content, we need more data to verify this conjecture.

4. Conclusion

About trend, in addition to the overall validated trend, data showed that the curve of the three kinds of media has a definite turning point, before January 22nd, the curve of three kinds of media almost unanimously, and after the communication effect of public news continues to rise, official media and commercial media, fluctuated, and these fluctuations are opposite. When the official media rise, the commercial media decline. We quote the data news of "knowledge of small matters and views on small matters". During this period, there were hot spots such as the lockdown of Wuhan city and the announcements of emergency in many places, which were also the peak of public opinion during the whole epidemic period. Therefore, we try to explain the above problems, which may become the direction of further research.

Besides, from the overall communication effect, although the communication effect of official media news is decreasing, the communication effect of public news is increasing. However, the absolute level of the communication effect of the official media is still very high, with the average value of 0.75, which is not equal to the average value of public news, while the lowest level of the communication effect of the commercial media is about 0.7. In the process of data fetching, there is a more intuitive example. On January 8, the same news was released by People's Daily Online and The Paper respectively, however, they have the opposite effect. The content was that eight patients with newly diagnosed coronary pneumonia in Wuhan were discharged from the hospital.

In terms of types, soft news has a better overall dissemination effect, but this is concentrated on the majority of help messages in public news, while other types of news are not consistent in either high or low. Public news for help has a great positive influence on the dissemination effect of soft news and public news. What we need to explain is whether it can represent all the news. Outside of the Internet, help-seeking messages are often not seen as news in the traditional sense, but in the face of an epidemic, they satisfy people's need for information on the ground. The sheer volume of calls for help creates a flesh-and-blood picture behind the grim number of people diagnosed. Based on this DE facto function, the help information were used

as public news to capture incoming data, but during non-epidemic periods, the help information needs to be processed as news

Acknowledgements

The authors contributed equally.

References

- [1] Haewoon Kwak, Changyun Lee, Hosung Park, & Sue Moon. (2010). What Is Twitter, a Social Network or a News Media. Proceedings of the 19th international conference on World wide web.
- [2] Grilli, R., Ramsay, C., & Minozzi, S. (2002). Mass media interventions: effects on health services utilisation. The Cochrane Database of Systematic Reviews, 1, CD000389.
- [3] Ye, H. (2007). The government's direction of public opinion in emergency management. Modern Communication (Journal of Communication University of China), 000(004), 4-8.
- [4] Shirky, C. (2008). Here comes everybody. how change happens when people come together. Penguin Books.
- [5] Rosen, J. (1995). Public Journalism: A Case for Public Scholarship. Change, 27(3), 34-38. Retrieved February 19, 2020
- [6] Outing, S. (2005). The 11 Layers of Citizen Journalism. From: www.poynter.org/
- [7] Lasswell, H. (1942). The Relation of Ideological Intelligence to Public Policy. Ethics, 53(1), 25-34.
- [8] Glogger, I., & Otto, L. P. (2019). Journalistic Views on Hard and Soft News: Cross-Validating a Popular Concept in a Factorial Survey. Journalism & Mass Communication Quarterly, 96(3), 811-829.