

# Impact of Different Social Media Context on Attitude Polarization of Hot Topic Online

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*This article has set a framework of social media context analysis to compare the difference between Zhihu and Weibo in terms of media nature, audience structure, recommendation algorithm, degree of behavior constrain, and information filter. The result of regression analysis based on a survey (N=893) releases that, the difference of social media context between Zhihu and Weibo makes Weibo has more polarization effect on attitude towards Jiang-Ge case than Zhihu, while the legal knowledge can weaken the polarization effect of Weibo.*

**Keywords:** Social Media Context, Attitude Polarization, Attitude Extremity, Zhihu, Weibo.

## Introduction

Weibo, a Chinese popular microblog social media platform, with 431 million monthly active users (CIW Team, 2018). Initially, the main trends of Weibo are the media content consuming and social network connecting (Asur, Yu, & Huberman, 2011). Subsequently, because of the convenience of information sharing and the speed of information diffusion, Weibo has promoted the generation of online public opinion (Sullivan, 2014). Up to now, Weibo has already had the ability to push the public opinion and discussion of politically related topics (Stockmann, Luo, Stockmann, & Luo, 2017).

Zhihu, a knowledge sharing Q&A platform like Quora, having an audience of about 100 million registered users (Chernavina, 2017). Its purpose is to establish an integrated access to high-quality knowledge, and early users who entered Zhihu by inviting are all professionals in their filed. This feature has promoted many serious and constructive questions, answers, and discussions. Gradually, Zhihu can also set off a storm of public opinion and even promote the development of public events (“Posers for the party,” 2016).

To sum up, Weibo and Zhihu are more than just content producing, sharing, and consuming platform. They have already become a place of opinion exchange (Shi, Zhao, Guan, & Huang, 2017) and have been reshaping the structure of public sphere in China (Shao & Wang, 2017).

Jiang-Ge Case<sup>1</sup> (JGC), hotly discussed on both Zhihu and Weibo, is a typical public opinion event, which has caused a lot of discussion about the law, code of ethics, objectivity, and truth. We have noticed that the style of public discussion about JGC on Zhihu and Weibo are different. Main topic about JGC on Zhihu mainly concentrated in the aspect of rational discussion (e.g. the boundary between cyber violence and public opinion), knowledge sharing (e.g. sentencing difference between China and Japan), and help suggestion (e.g. suggestion to related case parties) (Lin, 2018), these are all relatively rational and neutral. While on Weibo, the discussion is emotional (e.g. speech attack and the insult to Liu Xin) and present a trend of a higher degree of attitude polarization (Chen, 2018).

At the same time, some researches have pointed out that, there are many differences between Zhihu and Weibo in terms of platform environment, user composition, and communication mechanism, and these are the primary reason for the different degree of attitude polarization.

(Zhao, 2018). But there is not any systematical analysis of the relationship between the platform characters and the attitude polarization. And there is still a lack of a framework to compare the platform character of two different social media.

This article tries to verify whether the difference of social media platform has a certain relationship with attitude polarization. Here we use Jiang-Ge Case as our case of analysis and social media context as our comparison dimension, and try to establish a comprehensive framework to conduct the social media context comparison.

## **Literature review**

### *Social media context*

The setting, situation, and context, these three concepts can all help media and communication research understand the impact of different established media backgrounds on people (Goffman, 1959; Meyrowitz, 1986; Scoble, Israel & Benioff, 2014). Social dramatic theory regards the behavior of people as drama performance, which is subjected to the setting, and certain performance can only be revealed in a certain setting (Goffman, 1959). Followed by Goffman, Meyrowitz (1986) proposes the concept of “situation” to explain the influence of media situation difference on people. For example, Television is more powerful than paper media to deconstruct the audiences' perception of the authority of those in power (Tan, 2015). Almost at the same time, Potsman (1986) understand the mediamorphosis from a perspective of "the medium is the metaphor". Situation focuses more on the differences between media forms themselves, meaning the differences of information flow and presentation pattern (Cai, 2017) rather than the media content (Xu, 2016).

With the rise of internet technology and social media, Scoble (2014) defines the mobile device, social media, big data, sensor, and position system as the five primary elements of context. Based on Scoble's study, the research of social media context has presented the feature of objectivization.

In China, two social media context research perspectives dominate the mainstream. On the one hand, some researchers study the context from a view of media technology evolution and the construction of the new relationship between communicator and audience (Q. Liu & Ou Yang, 2018; Yu & Liang, 2017). They see the media context as the characters of one certain media, which is brought by new technology, such as VR, big data, and algorithm recommendation, and the new technology can reconstruct the relationship between communicator and audience.

On the other hand, the context could be also seen as space and environment, social atmosphere (Peng, 2015), emotional resonance, and context community (Wang, 2016). From this point of view, the media context is a certain preset relationship between audience and content, and audience and audience. From the second perspective, the study of media context moves from media form to media properties, content attributes and the structure, composition, and behavior of audiences, especially in the field of social media context.

While, through the previous research of Chinese social media context, some problems should be pointed out. Firstly, the definition of social media context is still vague. There isn't a systematical dimension of social media context, making it difficult to compare the social media context of two different social media. Secondly, research about the psychological and behavioral impact of media form change on people is still dominant, which means there is a lack of research that pays attention to the media character, content feature, and audience targeting of a media. For instance, there are adequate researches comparing the media context of traditional media and social media, Television and video website, or paper reading and computer screen reading (Margolin, Driscoll, Toland, & Kegler, 2013) (different media, different media form). But few researchers compare the context difference of different media

in one media form, such as Zhihu and Weibo (different media, the same media form. Online social media).

Finally, though some researchers have concerned about the context difference between two social media in one form, most outcomes are from other disciplines, not media and communication. A representative research from the perspective of public administration and platform structure has compared Zhihu and Weibo comprehensively in terms of the nature of the platform, access rules, information supply mechanism, expression and communication rules, and backstage regulation principle (Deng, 2018).

Similar to the second research perspective of Chinese social media context, Liang and Cao (2015) define the social context as a set of features related to a variety of audiences such as social tie and group behaviors. According to the previous research, this article mainly focuses on the impact of social media context differences between the different social media which are in the same media form on audiences. This article combines the previous conclusion (Scoble, Israel & Benioff, 2014; Deng, 2018; Liang & Cao, 2015; Peng, 2015; Wang, 2016) and gives a framework for comparing context differences between different social media.

Thus, this article proposes five levels of social media context for this research. Media nature, audience structure, recommendation algorithm, degree of behavior constrain, and information filter.

### *Attitude polarization on social media*

For different perspective through different periods of time, attitude polarization may have multiple specific emphases, and there are two main parts. Studying the degree of attitude divergence of a set of audiences (DiMaggio, Evans, & Bethany, 1996) concerns whether the attitude distribution has been getting more and more bimodal or not (Fiorina & Abrams, 2008). From this perspective, researchers distinguish one extreme from another extreme, and this perspective is used mainly in the research of political polarization. While, from another perspective, attitude polarization refers to the degree of extremity, concerning how the attitude move (Lord, Ross, & Lepper, 1979). It is worth mentioning that, from this angle, strongly supporting an opinion and strongly opposing an opinion are both extremity phenomenon, which means it is unnecessary to distinguish one extreme from another one. In this article, the implication of polarization refers to the latter.

The current researches of attitude polarization on social media are mainly distributed in Western countries and some other Asian countries, with less focus on China. Political polarization influenced by social media (Guerra, Souza, Assunção, & Meira, 2017), and the perceived polarization (Yang et al., 2016) which could be exacerbated by the use of social media are main research fields. There are also some researches in other fields has explored long-term public topics, such as attitude polarization on climate warming (Hart, Feldman, Leiserowitz, & Maibach, 2015), but less research on online general public opinion events.

However, there is still a logical gap between social media context differences and the attitude polarization. It is a question to be answered that, which kind of social media context feature can polarize or moderate the attitude of audiences. To bridge this, it is necessary to understand the causes and the mechanism of forming attitude polarization.

Regarding the analysis of the reasons of attitude polarization on social media, previous research has concluded three different information reception model leading to the polarization, namely, the limited information exposure, the multiple similar sources information exposure, and the acceptance of polarized views.

Firstly, audiences exposed to limited information<sup>3</sup> are prone to attitude polarization. Audiences have an existing belief system (J. K. Lee, Choi, Kim, & Kim, 2014). Compared with paper media and TV, the information on social media is selective, and audiences are no longer passive to accept information but can select information with a specific purpose (Rubin, 2002)

when accepting information, the audience will select information according to their previous inherent attitude (Song, Hyunjin & Boomgaarden, 2017). Though the information online is adequate and comprehensive, the information received by audiences is limited, one-side, and fragmented. Studies have shown that disrupting this limited information exposure will reduce attitude polarization (Bail et al., 2018). Secondly, the extent to which people are exposed to different sources of information can also affect the polarization of attitudes. Specifically, if the audience is exposed to media with similar views for a long time, this will increase attitude polarization (Song, Hyunjin & Boomgaarden, 2017). Finally, research shows that the more the audience receives the polarized view, the more extreme the attitude of the audience will be (Bail et al., 2018). Chinese researcher has also concluded a set of mechanism, the spiral of silence, selective exposure, and carnival (Zhou, 2012). Next part, we will use the framework this article has established, the five dimensions, to see in which level the features of Zhihu or Weibo fits the mechanism of leading to attitude polarization.

### *Analysis framework*

*Media nature.* The platform targeting of Zhihu is knowledge sharing, which tend to offer users deeper and more complete information. In other words, Zhihu pursues the quality of information. The knowledge related to the discussion of JGC is multidisciplinary which involves law, privacy, media professionalism, etc. This is a form of complex thinking, which can weaken the attitude polarization (Sotirovic, 2001). For Weibo, getting news and media stories is the main use (Che & Ip, 2018), and it pursues the efficiency of information and wants to satisfy the entertainment needs of users. The information is diffused so fast that there is almost no chance to be verified. Though it has the information filter system, it usually delays.

*Audience structure.* The first group of users on Zhihu can only enter by being invited under the real-name system, and they are all experts in their areas and social elites with a higher degree of education than Weibo. Despite Zhihu open the register access to anyone who wants to use Zhih subsequently, later users will follow the path of knowledge sharing behavior of early users (Pi & Cai, 2017), and the structure and composition of later users present a similar feature with early users. For Weibo, everyone can register the account, the main composition of the audience structure is relatively in a feature of "general public" and "grassroots" (Che & Ip, 2018). The difference has two effects. Firstly, Zhihu users are more likely to be the hardcore of the spiral of silence in one public opinion event who can positively find the truth, while Weibo users are easier to be lead as the pluralistic ignorance (Neumann, 1974). Secondly, audience structure has a direct influence on the content of platforms, and the content can also influence the later user who read the content.

*Recommendation algorithm.* The recommendation algorithm can also play a significant role in two levels. On the one hand, as active discussion participants, Zhihu use the users-questions relationship recommendation mechanism. (X. Liu, Ye, Li, Luo, & Rao, 2015) (e.g. the topic of law about JGC would be recommended to some lawyers), while Weibo recommends topics based on the mode recommendation mechanism, meaning recommend topics searched the most by users. On this level, the topic on Zhihu will involve more opinion from professionals and elites. On the other hand, as passive audiences, the system of Zhihu can recommend the answer according to the vote and the authority of answerer (Jin, He, & Sun, 2017). When users use Zhihu to follow JGC, they are exposed to the selected information based on the criteria of information quality. For Weibo, every user has access to the same content, which gives users a high selective exposure environment.

*Degree of behavior constrain.* There is no character limitation on Zhihu, but a 140-character limitation on Weibo. Despite Weibo has expanded the limitation to 2000 characters later, the habit of under 140 characters has been maintained (Che & Ip, 2018). Postman (1986) has said that the completeness and preservability of paper media make the content logical and serious, while the content on TV is fragmented and transitory, which makes it amusing and less logical. The same idea could also be used to compare Zhihu and Weibo. Complete expression allows the discussion on Zhihu to follow the path of premises, arguments, and evidence. The fragmented expression may lead to emotional release.

*Information filter.* Zhihu is non-profitable, which can effectively stop the malicious marketing on public opinion events (Deng, 2018), and the useless content, low-quality information, and the excessive opinion would be deleted by the system which gives users a pure public opinion discussion space. For Weibo, almost only anti-government speech would be deleted, and there are many internet bots can maliciously leading public opinion. Audiences on Weibo are prone to access to the content under the operation of commercial capital.

Based on the comparison of differences of Zhihu and Weibo in terms of five levels of social media context, two hypotheses are proposed:

*H1.* Using Zhihu to follow JGC has negative effects on attitude polarization.

*H2.* Using Weibo to follow JGC has positive effects on attitude polarization.

If *H1* and *H2* are true, we can go head for a further discussion. According to the framework, the multiple sources of knowledge and complex thinking can weaken the polarization, especially for the legal knowledge in JGC. Though the social media context of Weibo makes it difficult to involve the legal knowledge, while we want to figure out that whether it makes sense if Weibo users understand some legal knowledge related to JGC before he or she uses Weibo to follow JGC.

As a part of the superstructure, the law has a complete system and strong explanatory power. Under the situation that the law in China and Japan is different, understanding the more legal knowledge is possible to help Weibo users support the opinion consistent with the law, so that the users may hold a neutral attitude and weaken the polarization effect of Weibo. Hence, we propose the third hypothesis:

*H3.* Understanding the legal knowledge has negative effects on the polarization effect of Weibo.

Finally, the impact of interpersonal discussions on the attitude polarization on social media has also been paid a certain extent of attention, which is regarded as an external factor (offline factor) besides the social media context. Previous conclusions could be divided into two opposing parts. One is that participation in the interpersonal discussion can regulate the selective exposure of information through intermediaries, thus mitigating attitude polarization (Song, Hyunjin & Boomgaarden, 2017). Another point of view is the opposite. People who often participate in the interpersonal discussion have a higher extent of network heterogeneity, and their attitude polarization is more obvious (J. K. Lee et al., 2014). Hence, a research question is stated as follows:

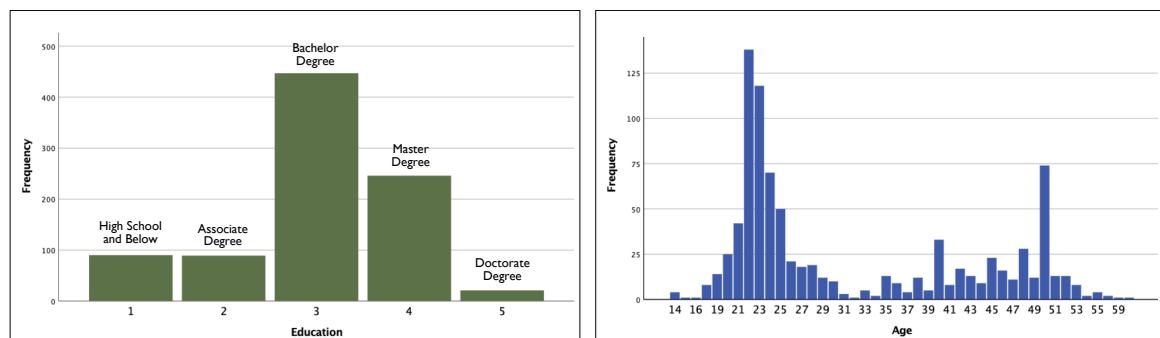
*Q.* Does the interpersonal discussion about JGC can weaken or strengthen the attitude polarization toward JGC?

## Method

### Sampling and data

It is impossible to determine a population that everyone in it knows JGC, and distributing questionnaire randomly to the users who have commented under the topic of JGC on Zhihu or Weibo is also unfeasible due to the low response rate. Thus, the snowball sampling method was used to expand the sample size as much as possible. Meanwhile, to enlarge the differences in demographic features and the social media use of respondents, the questionnaire was snowballed in respondents of multiple ages and degree of education.

After cleaning the data of respondents who totally don't know JGC, incomplete answer, and weird data, the final sample size is 893. There are 307 males and 586 females. And the distribution of age and degree of education as shown in figure 1.



**Figure 1.** Distribution of degree of education and age of respondents

The degree of education involves high school and below, associate degree, bachelor degree, master degree, and doctorate degree. The age of respondents varies from 14 to 60.

### Operationalization of key variables

For the dependent variable, the survey asked respondents seven questions to test the attitude polarization toward JGC. For instance, *“To which extent do you agree with that Jiang’s mother sues Liu Xin.”* Choices were recorded by the 5-point Likert scale with 1= strongly disagree to 5 = strongly agree. The answer of seven questions represents attitude toward JGC ( $M = 3.62$ ,  $SD = .62$ ). The attitude polarization was derived by folding the scale at its mid-point (F. L. F. Lee, 2016). Recoded data of seven questions was averaged (Cronbach’s  $\alpha = .757$ ) to form the degree of attitude polarization towards JGC ( $M = 2.02$ ,  $SD = .47$ ).

For independent variables. On the one hand, three independent questions are asked respectively in the form of *“To which extent do you use Zhihu / Weibo / Interpersonal communication channel to follow Jiang-Ge Case”* to measure the extent of using of a certain media channel. Choices were recorded by the 5-point Likert scale with 1= never to 5 = frequently. ( $M = 2.19$ ,  $SD = 1.05$ ;  $M = 2.94$ ,  $SD = 1.30$ ;  $M = 2.75$ ,  $SD = .97$ )

On the other hand, in this study, legal knowledge about JGC is another independent variable. To be specific, the respondents were asked, *“Before Jiang-Ge Case, to which extent do you know the Japanese / Chinese law about...?”*. Choices were recorded by the 5-point Likert scale with 1 = not at all to 5 = totally. Answers of three questions were summed as one single number since we test the amount of legal knowledge. ( $M = 6.79$ ,  $SD = 2.11$ ).

Other control variables include three demographics (Gender, age, and degree of education), other new media channel, and traditional media channel.

## Analysis and findings

The result of multiple regression analysis as shown below (see table 1). Though the coefficient of Zhihu is negative, it is not statistically significant, meaning the use of Zhihu has no relationship with attitude polarization towards JGC. As for the coefficient of Weibo, we find that the use of Weibo has a statistically significant positive relationship with the attitude polarization toward JGC, specifically very significant.

**Table 1.** Predicting the attitude polarization towards JGC

	Model 1	Model 2 With legal knowledge
Gender	.06	.07
Age	.15***	.15***
Education	.04	.04
Zhihu	-.04	-.05
Weibo	.11**	.10*
Other new media channel	.09*	.08*
Traditional media	-.01	-.01
Interpersonal discussion	.00	.01
Legal knowledge		.08*
Adjusted R <sup>2</sup>	.018**	.023***

Entries are standardized regression coefficients. Model 2 is the result of the second level of the hierarchical regression analysis with variable of legal knowledge.  $N = 893$ .

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

$H1$  is rejected, and  $H2$  is totally verified. Despite the coefficient of Zhihu is not significant, at least it proves that Zhihu won't polarize the attitude toward JGC, but Weibo will. To a certain extent,  $H1$  could also be seen as a reflection of the reality, that Weibo has more polarization effect on the attitude than Zhihu.

The result of hierarchical regression<sup>4</sup> shows that, when the variable of legal knowledge has been added into the model (Model 2), the coefficient of Weibo has declined from 0.11 to 0.10, and the degree of significant has become from very significant to significant. Though the change is so slight, it presents the weakening effect of legal knowledge on the polarization effect of Weibo. Thus,  $H3$  is true.

It is obvious that the interpersonal discussion has no relationship with the attitude polarization toward JGC. The research question is answered.

By summary,  $H2$  and  $H3$  are proved, and  $H1$  is rejected. And the interpersonal discussion has no influence on attitude polarization towards JGC.

## Discussion and conclusion

First, this article has reviewed past researches and concludes three terms which refer to the preset backgrounds and characters of the media, that setting, situation, and context. Among them, the context is closest to what we are studying. Second, this article has defined the meaning of social media context and set a framework of social media context analysis which is used to compare two different social media, Zhihu and Weibo, in the same media form. Thirdly, according to the comparison analysis, we assume that Zhihu can weaken the attitude polarization towards JGC, and Weibo can strengthen the attitude polarization. Finally, results of multiple regression analysis and hierarchical regression analysis help this study draw the conclusion. On the one hand, the social media context of Zhihu, that the media nature of

knowledge sharing platform, the audience structure of elites community, the recommendation algorithm based on quality of content and authority of answerer, the unlimited amount of characters which is proper to give evidence, and the strict information filter system make Zhihu has no polarization effect on the topic on it. On the other hand, the social media context of Weibo, that the media story consuming and news receiving of media nature, the audience structure of general public and "grassroots", the recommendation algorithm based on the most search, the 140-word limitation, and the loose regulation make Weibo can polarize the attitude of audiences toward the topic on it. And the legal knowledge could attenuate the polarization effect of Weibo.

It should be pointed out that there is a logical shift in this article. In the part of operationalization of key variables, we use the social media choice and the extent of use to link the social media context with the attitude polarization of audiences. The more they use a certain social media, the more they are exposed to the social media context of the social media, and they would be affected by the social media more.

This research has both theoretical implication and practical implication. Based on the reviewing of previous literature and original achievements, this study defines the meaning of social media context and proposes a framework of social media context analysis in terms of social media context, namely media nature, audience structure, recommendation algorithm, degree of behavior constrain, and information filter these five levels. By using the framework, this study roughly verifies the different social media context has different impacts on attitude polarization of hot topic on social media. As for the practical implication, findings in this study can help the management of social networks and the governance of cyberspace, especially in terms of content production, public opinion expression, and audience guidance. Social media supervisor should play the role of a good gatekeeper to promote quality and reliable content to guide the audience to form a rational attitude.

Although we try our utmost to ensure the scientific nature of research within limited conditions, this study still has some limitations should be acknowledged. First, this study defines attitude polarization simply as attitude extremity, without paying attention to the distribution of specific extreme attitudes. To a certain extent, it limits the research questions that could be concerned. Second, this study only gives a rough overview of the specific reasons for social media context strengthening or weakening the attitude polarization. There is no systematic analysis of its mechanism which can be discussed in more detail. Third, the extent of Zhihu use is mostly distributed in 1, 2, and 3 (never, rarely, and sometimes) for the whole sample, while the extent of Weibo use is mostly distributed in 3 and 4 (sometimes and often). This uneven distribution ratio may lead to research errors and make the results exaggerated.

As for future research, according to the proposed social media context analysis framework, longitudinal research on the attitude polarization caused by two social media can be carried out, which means we will survey and compare the trend of attitude polarization on different social media through different periods of time.

## Notes

- 1 Refer to [http://www.chinadaily.com.cn/china/2017-11/13/content\\_34484851.htm](http://www.chinadaily.com.cn/china/2017-11/13/content_34484851.htm)
- 2 Of course, this article proposes these five dimension based on Zhihu and Weibo, two user-generated content type of social media platform. So the framework can only be used to analyze cases of the same type, and even can only be used to analyze cases of Zhihu and Weibo. Further research is to be done to examine if this framework could be generalized.
- 3 Limited information exposure is essentially the same as selective exposure. Limited information is to explain the tendency to favor information which reinforces individual's



pre-existing views from the angle of information. While selective exposure is to explicate it from the angle of the audience.

- 4 It should be stated that this article doesn't care about whether the understanding of related legal knowledge has a negative relationship with attitude polarization, we only pay attention to whether the understanding of related legal knowledge can weaken the polarization effect of Weibo use. So we use hierarchical regression to test if the coefficient of Weibo will become smaller.

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