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Sentiment Diffusion of Social Inequality in Microblogs: A Case Study of “Migrant Worker” in Sina Weibo

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Abstract: Migrant workers constitute the main city workforce in China. However, they are the victims of social inequality. Sina Weibo is one of the most important channels for people to share information and public opinions. In order to study into the sentiment diffusion of social inequality over Sina Weibo, we collected a huge number of root microblogs and reposts based on the search query “Migrant Worker”. With applying the sentiment tendency analysis tool provided by Baidu AI, we were able to capture the sentiment flipping process. We found that most microblog users tended to follow the previous users’ sentiment polarity. But the intensity of the sentiment polarity would always get weaken.

Keywords: Sentiment Diffusion, Migrant Worker, Sina Weibo

1. INTRODUCTION

In recent years, social inequality about migrant worker in China has attracted researchers’ attention, for most migrant workers in China have been excluded from the benefit of social welfare systems [1]. Meanwhile, as we can see, topics related to migrant workers are rather concerned over microblogging platforms. And microblog user’s sentiment varies about such kind of topic and the sentiment tends to flip during the information diffusion process.

Our study would just focus on the sentiment flipping process of posts related to “migrant worker” through online social network. We used the reposting relation to build the online social network and modeled the information diffusion process since the reposting process brought about the rapidest and widest diffusion of hot topics over microblogging networks [2]. Then we did the sentiment analysis using sentiment tendency analysis tool provided by Baidu AI [3]. The research questions could be concluded as follows:

- 1) *To what extent does sentiment flip during microblog reposting?*
- 2) *What are the influential factors leading to such flips?*

Through the study on the sentiment flipping rules and influential factors, we could find the factors related to people's attitude towards migrant workers to some extent, which could provide some guidance for improving the social image of migrant workers, eliminating people's discrimination and solving the inequality faced by migrant workers.

2. DATA AND METHOD

We obtained 51,926 root microblogs and 31,384 reposting microblogs from Sina weibo with the search query “migrant worker”. For further study, comment and reply contents of those microblogs were also collected. Then social network could be built during the information diffusion process. Every root microblog was seen as a root node. And reposting behavior brought a directed edge from the original post to the reposting one. For microblog M , we got the overall content $M_{overall}$ and the reposting content M_{repost} which could be shown as Figure 1.

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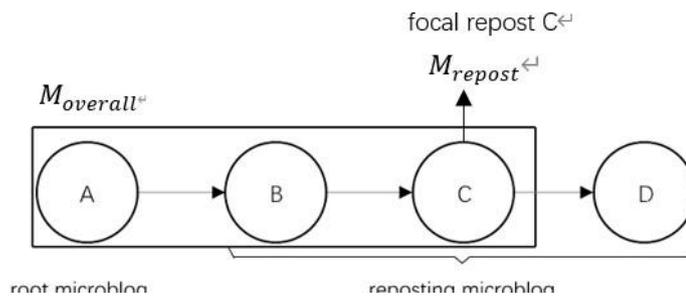


Figure 1. Overall content and reposting content

We randomly selected 100 posts from the 31384 reposting microblogs. After calculating the sentiment polarity of each reposting microblog and the overall content, we made a preliminary table as Table 1. Then we calculated the difference between the overall content and the reposting content shown as Table 2 to describe the sentiment flipping process.

Table 1. Sentiment distribution of overall content and reposting content

| | Positive reposting content | negative reposting content | Total |
|--------------------------|----------------------------|----------------------------|-------|
| Positive overall content | 50% | 4% | 54% |
| Negative overall content | 12% | 34% | 46% |
| Total | 62% | 38% | 100% |

Table 2. Sentiment change of reposting content

| | Reposting microblog getting positive | Reposting microblog getting negative | Total |
|--------------------------|--------------------------------------|--------------------------------------|-------|
| Positive overall content | 17% | 37% | 54% |
| Negative overall content | 35% | 11% | 46% |
| Total | 52% | 48% | 100% |

3. PRELIMINARY DISCUSSION

First, the sentiment inclination tended to be consistent during the reposting path. As shown in Table 1, most reposting microblogs had the same polarity as the overall content. That is, a positive root microblog about migrant worker would be likely to influence more users to hold positive sentiment through reposting. Second, according to Table 2, we can find that the intensity of sentiment in the reposts tended to get weakening along the reposting path.

To conclude, during the information diffusion process, sentiment following is commonplace, but the intensity tends to get weakening. The outcomes have implications to the design of the online social media.

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