

Study on the Difference Between the Role of SNS and Mass Media in Decision-Making - The Example of the House Price in Beijing

Wu Weifeng 47-166818

The Department of International Studies

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Supervisor: Professor Masahide Horita

Co-examiners: Professor Mikiyasu Nakayama, Professor Riki Honda

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Introduction

Through the huge communication network, mass media has penetrated into every aspect of national life and has significant impact on society. On the other hand, the new media represented by the Internet has been rapidly popularized and changed the entire communication ecology. Therefore, more and more people believe that the Internet will replace mass media in the future, and it is of great research value to compare the media roles of SNS and mass media.

Literature Review

The study on the roles of media was to transform the concept of media roles to functions, effects and powers. In general, from the perspective of the study of media roles, the 5W model proposed by Lasswell (1948) was the main line of thinking, and he proposed the three functions including surveillance of the environment, surveillance of the environment and cultural transmission.

In recent years, the research focused on the differences between the roles of mass media and SNS. Some researchers, such as Hashimoto (2011) pointed out that television was still the fastest means of knowing news and the Internet could not replace TV at present. But Peng's (2014) research showed that the mass media had a lack of public opinion supervision, and the Internet played a major role in social event. Although some issues remained controversial, it could be agreed that there were obvious differences in

media roles between mass media and SNS.

Methods

This study tried to collect a large amount of text data and analyze the change of attitude towards house price in mass media and SNS by machine learning based Python. Then the relationship between the changes of public opinion and House Price Index was analyzed and the reasons were discussed by combining with quantitative and qualitative methods.

There were four steps in the whole research, including data collection, sample labeling, preprocessing and classification by machine learning. Firstly, crawlers were made based on Python to collect posts from Weibo (known as the Twitter of China) and reports from People's Daily Online and Baidu News Search Engine, taking *Beijing House Price* and *Beijing House Market Policy* as keywords respectively. Secondly, after de-duplication, 10% of data was randomly selected as training set and was labeled manually. The contents that containing the house price would rise and easing policies were marked as 1, while the contents that the containing house price would not rise or would fall the and non-easing policies or restrictive policies were marked as 0. Thirdly, word segmentation was completed by a Chinese word segmentation library named Jiaba and stop words were deleted. Finally, by comparing different combination of vectorizer and machine learning models, the TfidfVectorizer + SVM.linear method with

highest accuracy was selected to classify the data into two categories. By calculating the proportion of texts classified as 1 in each month, the change of public opinion tendency in different periods was obtained.

Results and Conclusions

The crawler script collected 66,123 Weibo posts and 15,018 news reports with *Beijing House Price* as the keyword, and 18,303 posts and 14,835 reports with *Beijing House Market Policy* as the keyword. Then the comparisons between public opinion and House Price Index with different keyword were obtained as follow.

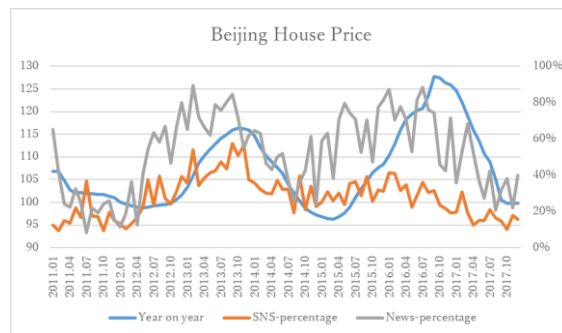


Figure 1 Comparison by taking *Beijing House* as the key word

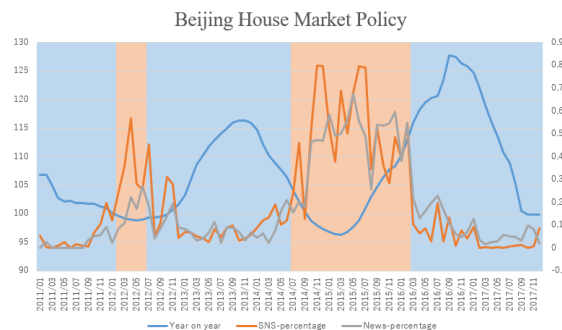


Figure 2 Comparison by taking *Beijing House Price Market Policy* as the keyword

As shown in figure 1, it can be found that the change of mass media is more similar to House Price Index and changes earlier than House Price Index. On the other hand, figure 2 shows that mass media and SNS are highly consistent, and both are similar to House

Price Index and have a certain degree of advancement. Because the similarity of the comparison with *Beijing House Market Policy* as the keyword was more obvious, the analysis was mainly based the result of that. By calculating Cross-Correlation and Pearson Correlation Coefficient, it was found that curves of public opinion and House Price Index were highly similar and the time interval was 15 months.

To analyze the reason for the high similarity between mass media and SNS, by keywords extraction at first, the topics of discussion were not much different. Both can timely communicate the changes of policies to the society. Therefore, although SNS played an obvious role in the surveillance of the environment, the surveillance of the environment function of mass media had not been weakened, and it could not be considered that SNS had replaced mass media.

To grasp the details, through text analysis, on the issue of house price, SNS did not show enough influence. Instead, mass media played a more important role in information transmission and rumor refuting. At the same time, SNS and mass media were not mutually exclusive, but more like a form of collaboration. SNS and mass media influenced each other's agenda setting and cooperated with each other, which jointly influenced the house policy and social attitudes.

Reference

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