

A Study on the Public Perception of Radiation After the De-nuclearization

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1. Introduction

In June 2017, the new government declared its policy of de-nuclearization. This declaration was made in accordance with the Presidential Commitment. After these results, the nuclear power sector in the field of nuclear power was significantly affected. This is because the public perception of nuclear power plants has been steadily deteriorating. However, the field of radiation had a considerable distance from the enucleation movement. Therefore, we need to study how the public's perception of radiation has changed since the government's declaration. On the other hand, the explosion of Internet users has increased the influence of cyberspace[1]. Modern people are using Cyberspace to present their opinions because of time and space constraints. In addition, many organizations, such as government and companies, are constantly confirming public opinion in cyberspace[2]. Therefore, this paper investigated the public perception and change of radiation in cyberspace after the declaration of the government.

2. Data and methodology

2.1 data

The data used in this study are news and comments about radiation from May 2017 to June 2018. In addition, 'nuclear' and 'renewable energy' data were collected together for radiological comparison. The word 'nuclear energy' and 'renewable energy' are social issues due to the government's policy of nuclear power.

2.2 methodology

This study performed time series analysis, association analysis and frequency analysis for data analysis. Through time series analysis, we can compare how much radiation, nuclear energy, and renewable energy are concerned in our society. Associative analysis provides information on what

words people think about 'radiation'. Finally, frequency analysis provides quantitative information on all words exposed with radiation.

3. Result

3.1. Time series analysis result

As shown in Figure 1, the news volume for nuclear power was the highest from May 2017 to June 2018. In particular, about 4500 nuclear news stories were generated in October 2017. This figure is 9 times more than the amount of news about radiation during the same period. News volume on renewable energy was 3-4 times more than news volume on radiation. The amount of news about radiation was steady at 500 cases per month without any major change. Meanwhile, the news about radiation was more than twice as high as usual in May 2018 due to the problem of radon bed.

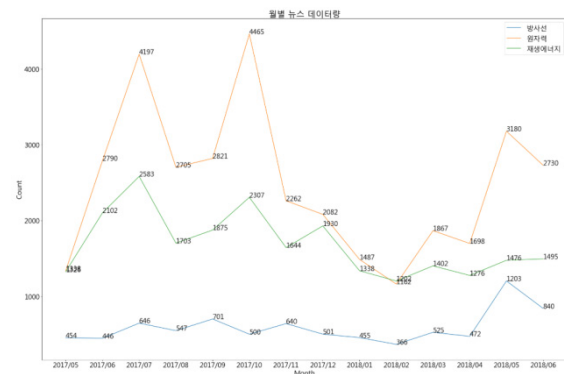


Fig. 1. comparison among Radiation, nuclear power, and renewable energy news volume.

News is information provided to the public in the media. The comments show the opinion of the public and the actual public opinion.

Figure 2 shows that public interest in nuclear energy is 16 to 4 times higher than radiation. Radiation has not been able to produce big issues and has received no public attention.

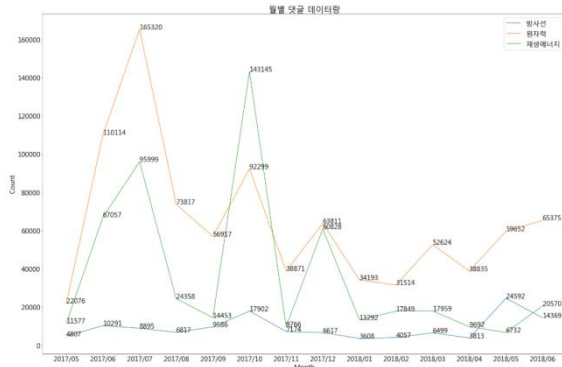


Fig. 2. Comparison among Radiation, Nuclear, Renewable Energy News reply.

3.2 Association analysis result

Associated analysis indicated that radiation was associated with radiation dose, radiation control method, and annual radiation dose[3]. When people think about radiation, they can think of these words as thinking at the same time.

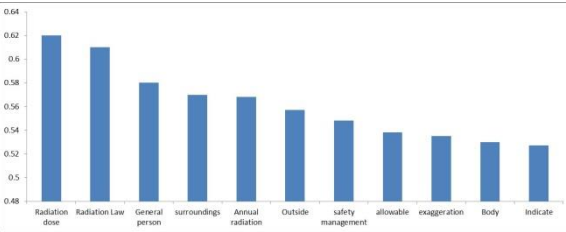


Fig. 3. Radiation-related analysis results.

3.3 Frequency analysis result

Radiation related frequency analysis revealed many words such as treatment, patient, hospital, examination, and surgery. This result can be interpreted as a result of the mass use of radiation for medical purposes.



Fig. 4. Wordcloud[4] results about radiation.

4. Conclusion

Radiation is a field of nuclear power. However, the public does not consider nuclear power the same field. The public thinks nuclear power is dangerous because of radiation, but does not pay much attention to actual radiation and is considered medical. In other words, the nuclear energy sector must actively respond to the nature of the risks in order to overcome the government's policy of de-nuclearization.

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