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Dissatisfaction and alternative information in the early stages of the Covid-19 pandemic: Comparing contents in Japanese newspapers with Twitter

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ABSTRACT

The purpose of this study is to examine the way mediated content about the novel coronavirus (COVID-19) outbreak fluctuated in the Japanese information environment from January – April 2020. This be made possible through collecting data and making comparisons of the topics that were prevalent in traditional media and social media before and after the pandemic declaration by the WHO. As ear February 2020, the WHO has been labelling this outbreak as a dangerous infodemic therefore this study aims at providing analysis results that will concisely present an accurate and objective view of t types of topics in traditional and social media. This study hopes to also present analysis results that can provide governments with new insight on resolving the discontent towards lack of information an suspicion among citizens.

1. INTRODUCTION

Accompanying the COVID-19 outbreak and lack of accurate information related to this virus, many sources of information providing various stories or topics in Japan. At the early stage of the outbreak people were aggressively seeking new inform because of the uncertainty about the virus. This was creating anxiety and building further suspicion and fear. With so many diff channels of information available in the current world, one is less likely to be dependent on a single source of information.

From previous studies ([Kaigo, 2012](); [Mishima, 2010]()), our assumptions were: topics that were relevant to governmental issues more often found in mass media, rather than social media and topics that were relevant to families and individuals were more found in social media, rather than mass media. Therefore, this study investigated how the topics of information regarding COVI in traditional and social media differed and how the topics in relation to COVID-19 of traditional and social media users cha before and after the WHO pandemic declaration in 2020 (@world health organization_novel_2020).

2. PURPOSE OF THE STUDY

This study examines how mediated content about the COVID-19 outbreak fluctuated in the Japanese information environment d January– April 2020. The study aims to illustrate how essential information about COVID-19 was scarce in the early stages o pandemic in both Japanese newspapers and Twitter through determining dominant topics. This study also examines how an towards COVID-19 rose among the public during a time of uncertainty.

RQ1: How do the topics of information regarding COVID-19 in newspapers and Twitter differ?

RQ2: How did the topics in relation to COVID-19 of newspapers and Twitter users change before and after the WHO pand declaration?

3. METHODOLOGY

Newspaper articles were collected from the Asahi, Yomiuri, and Mainichi Shimbun. For the analysis of the social media disc about the coronavirus, this study collected Twitter data from the Twitter Application Program Interface (API). This study extracte tweets with the hashtag "#koronauirusu (coronavirus)" at seven-day intervals from February 6, 2020, to April 10, 2020. The "coronavirus" is commonly used than "COVID-19" in Japan, so to avoid redundant data collection, this study employed collection using this hashtag to avoid overlapping duplication of data.

Table 1. *Total Data Collected for this study.* TABLE

Table 1 describes the number of newspaper articles and Twitter tweets collected for this study. For the analysis, this study us statistical analysis software.

For text mining, the quantitative analysis of textual data package (quanteda) was used for creating a corpus and this study empl topic modelling for automatic coding of content ([CATALINAC & WATANABE, 2019]()).

4. SUMMARY OF RESULTS

The research results found that the reporting policies requiring verifiable facts by mass media organizations, in result were hind[...] the timely provision of information that was most needed by the public during the initial stages of the COVID-19 pandemic in Jap[...]

Table 2. *Newspaper topics (topic models analysis results).*

Before pandemic declaration   After pandemic declaration 1.Industry 1.Economy 2.Japanese government reaction 2.Social in[...] 3.Economy 3.State of emergency 4.International situation 4.Tokyo Olympic Games 5.Social impact 5.International situation 6.T[...] Olympic Games 6.Entertainment 7.Suspend schools 7.Japanese government reaction 8.Diamond Princess cruise ship 8.Closu[...] stores 9.Situation in China   9.Situation in US & Europe

During the same time, information exchange on Twitter was procuring a complex array of information, with rumors and fake [...] accompanying verified facts in the early stages of the pandemic.

Table 3. *Twitter topics (topicmodels analysis results).*

Before pandemic declaration   After pandemic declaration 1.International situation 1.Prefectural governor requests 2.Cancellatio[...] events 2.Hopes of an end 3.Rumors (1) 3.Tokyo lockdown 4.Medical 4.Medical collapse 5.Rumors (2) 5.Medical supplies 6.T[...] positive 6.Media news 7.Criticism on government 7.Stimulus payment 8.Diamond Princess cruise ship 8.Entertainment 9.Me[...] activity of Defense Force 9.Celebrities

5. DISCUSSION

This study formulated two research questions. Regarding RQ1 (How do the topics of information regarding COVID-19 in newsp[...] and Twitter differ?) and RQ2 (How did the topics in relation to COVID-19 of newspapers and Twitter users change before and [...] the WHO pandemic declaration?); one can observe through Table 2, newspapers focused on international topics such as China, [...] and Europe and official topics that involved the government such as the suspension of primary and secondary schools, the econ[...] and the postponement of the Tokyo Olympic games and cancellation of other events. As one can observe in Table 3, Twitter t[...] focused more on topics that affect individual or household needs such as medical issues and financial well-being of individuals[...] families, along with rumors or misinformation due to uncertainty of the situation. Tweets expressing fear towards the inadequa[...] the Japanese medical system and fear of not being able to receive sufficient medical attention in Japan were prevalent.

![]
(https://lh6.googleusercontent.com/03wNib8bWlQSywq_cPHZWnXQgEbZITk3asHCyoV19Pafu98vNhb9yHlnrIAj52CqdcHad7kW[...] 3f8CPAUTe20oNfXBO99CmEf3fLGL56HbVS4DprjOIYcjIpOZ7IbL0w =344x137)

Figure 1. *Findings of the topic modelling of Japanese newspapers and Twitter (January-April 2020).*

Outside of the manifest objective of this study (examining the way mediated content about the COVID-19 outbreak fluctuated i[...] Japanese information environment), a more latent aim of this study is to provide a perspective for policymakers in the future, [...] another epidemic is on the rise so that they will be able to improve and alter the flow of information and topics that appe[...] traditional and social media so nations and citizens can be better prepared during the unfolding of another crisis. Policymaker[...] institutions can reanalyze the results from this study, and plan for a better action plan. This study shows the development o[...] variety of topics that were salient in traditional and social media during the months prior to the drastic change in human s[...] behavior that had a large economic and psychological effect on many nations and citizens around the globe.

One underlying phenomenon inherent in this study background is the social discontent towards the information being provided b[...] government, institutions, and mass media. The topics discovered on social media might provide new and useful insight int[...] information that was being sought by ordinary citizens.

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Bibliography

CATALINAC, A., & WATANABE, K. (2019). Quantitative Text Analysis in Japanese. *WIAS Research Bulletin, 11.* https://www.waseda.jp/inst/wias/assets/uploads/2019/03/RB011_143.pdf

Benoit, K., Watanabe, K., Wang, H., Nulty, P., Obeng, A., Müller, S., & Matsuo, A. (2018). quanteda: An R package for the quantitative analysis of textual data. *The Journal of Open Source Software, 3*(30). https://doi.org/10.21105/joss.00774

Kaigo, M. (2012). Social Media Usage During Disasters and Social Capital: Twitter and the Great East Japan Earthquake. *Keio Communication Review, 3*(34), 17. https://www.mediacom.keio.ac.jp/publication/pdf2012/KCR34_(

Mishima, K. (2010). Public Risk Cognition of Pandemic Flu and Direction for Risk Communication. *Japanese Journal of Risk Analysis, 20*(1), 59–68. https://doi.org/10.11447/sraj.20.59

World Health Organization. (2020). *Novel Coronavirus (2019-nCoV): situation report, 13* [Techreport]. World Health Organization. https://apps.who.int/iris/handle/10665/330778