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News on Fake News – Media Portrayals of Fake News by Japanese News Media

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[Working paper] ‘News on Fake News – Media Portrayals of Fake News by Japanese News Media¹’ for the 22nd Biennial Conference of the International Telecommunications Society, Seoul, Korea, 24th – 27th June, 2018

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Keywords: fake news, media portrayal, news media, content analysis, semantic network analysis

Abstract

This study quantitatively examines how the term ‘fake news’ is being portrayed by the Japanese news media using semantic network analysis. It uses newspapers as the representative as they are still one of the most influential news media in Japan. The data set consists of 624 newspaper articles that contain the word ‘fake news’ in Japanese and its equivalents extracted from the five national Japanese newspapers between 2015 and 2017.

The analysis results have revealed six main themes within the articles. They show that fake news is mainly portrayed as an American problem that it is mainly associated with ‘news about the US President,’ ‘the Trump-Russian inquiry,’ and the ‘media reportage of the US President.’ On top of that, fake news is also portrayed an ‘informational problem’ that affects society through ‘human-Internet interaction’ and it has some ‘implications for Japan’ as well.

Introduction

Fake news has become one of the most debated subjects in both the media and academia in recent years. The widespread of false information online during the 2016 Brexit referendum and 2016 US Presidential Election had led to countless commentaries across different media outlets. Many argue that fake news had more or less altered the outcomes of these events and we have entered the post-truth era (Ball, 2017; Corner, 2017; Levinson, 2017). Some even contend that fake news is a war on truth and traditional journalism (d’Ancona, 2017).

From media, social, political to computer and network sciences, researchers and scholars are trying to understand what fake news is such as its causes and spreading mechanisms (e.g., Vosoughi, Roy, & Aral, 2018); how it had affected the abovementioned events (e.g.,

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Darwish, Magdy, & Zanouada, 2017); its relations with the resurgence of nationalism and polarisation (e.g., Kellner, 2018); as well as its remedies (e.g., Lazer, et al., 2018).

Regardless of the field of study, it is almost a consensus that the widespread of fake news is a social hazard and that increasing the public's media literacy and awareness is one of the best countering solutions. That being said, a main challenge is that because fake news is a dynamic and complex phenomenon (Wardle, 2017), currently there is a lack of a commonly agreed definition that can be easily conveyed to the public.

With this background in mind, the aim of this study is to explore what is the current public discourses of fake news, especially how it is portrayed by the news media. This is because despite they are on a declining trend, traditional news media (e.g., TV, newspaper) still have a strong framing power to shape the public's perceived images of current affairs. Furthermore, they also have the social responsibility to contain the spreading of fake news (Ball, 2017).

This study focuses on the Japanese news media because currently almost all main discussions on fake news are US-centric and very few have examined it from an Asian perspective. Indeed, fake news is no long just 'an American problem' (Levinson, 2017). Although not as dramatic as in the US, fake news is also in the rise in Asia (Yee, 2017), including in Japan (Kikuchi, 2017; Tateiwa & Yanai, 2018). Thus, the main research question of this study is to explore how fake news is being portrayed by the news media in Japan.

Discourses of fake news

Today, the term 'fake news' is used by almost everyone from politicians to media commentators. Its context has expended much wider than just lies, rumours, and propaganda.

Fake news is mis- and dis- information

First of all, as Zimdars (2016) describes, fake news comprises of a wide spectrum of dis- and mis- information that deceives people by appearing as authentic news intentionally and unintentionally, respectively. They include partial, manipulated, or even outright fabricated information with different motives from parody, partisanship, profit making, propaganda, to just poor journalism.

Fake news is social media

That said, as Levinson (2017) points out, fake news exists since the beginning of the printing press. What makes today's fake news different is its rapid speed and vast scale of diffusion, which is enabled by information communication technologies, in particular the Internet and social media.

In fact, most public discourses of fake news are now associated with social media. This began with reports (e.g., Allcott & Gentzkow, 2017) showing that during the last few months of the 2016 US Presidential Election campaign, the number of Facebook

engagements⁴ of fake news had exceeded that of real news. It was then followed by stories of teenagers in Macedonia who earned small fortunes by creating and spreading fabricated news about the 2016 US Presidential Election candidates on social media (Ball, 2017). Furthermore, fuelled by the recent Facebook data-leak scandal (Ingram, 2018), social media have almost become an equivalent of fake news.

Fake news is real news

Another key feature of today's fake news is that it is closely tied with the politicians. Most noticeably by President Trump and his frequent utterance on Twitter calling the mainstream news media as fake news (Ball, 2017). This gives another meaning to fake news, which Levinson (2017) coined as the 'crying fake news.'

That is, the term fake news is now also used by politicians to deny news that is unfavourable to them, regardless whether it is true or not. In other words, for politicians and partisans, fake news is traditional news media. This presents a new challenge to the news media, which are already losing trust from the public in some countries including the US (Mitchell, Simmons, Matsa, & Silver, 2018). In fact, politicians denouncing the news media is not only limited to the US. For example, in Japan, Prime Minister Abe in several occasions had also claimed the news media as 'biased' and 'unfair' when the news was unfavourable to him (Nakano, 2017).

Overall, the term fake news is still very vague and it is being used by both real and fake news producers, and they both are responsible for this phenomenon (Rochlin, 2017; Ball, 2017).

Data

In this study we choose newspapers as the representative of the Japanese news media. This is because newspapers have historically been, and still are, one of the most influential news media in Japan (The Asahi Shimbun Company, 2015). Thus, content analysis of newspaper articles is widely used by researchers to study public discourses of current affairs in Japan (e.g., Shineha & Tanaka, 2017; Mukoyama & Fumiya, 2015).

Furthermore, despite the number is on a declining trend, Japan still has one of the world's largest daily newspaper circulations. For instance, according to Japan Audit Bureau of Circulations (2017), in the second half of 2017, the total daily circulation of all types of newspaper (including national, regional, sports, business, and tabloid etc.) was around 47 million copies, which was equivalent to 82% of the total number of households.

The targeted sample group of this study is the five national papers that are accounted for about 60% of the total number of circulation. This includes the more conservative Yomiuri Shimbun (daily circulation ~11 million⁵) and Sankei Shimbun (daily circulation

⁴ Facebook engagement - the total number of shares, reactions, and comments on Facebook.

⁵ The number of daily circulation include both morning and evening papers in the second half of 2017 (Japan Audit Bureau of Circulations, 2017). Same apply to Sankei Shimbun, Asahi Shimbun, Mainichi Shimbun, and Nikkei Shimbun.

~1.9 million), the more liberal Asahi Shimbun (daily circulation ~7.9 million) and Mainichi Shimbun (daily circulation ~3.6 million), as well as Nikkei (Nihon Keisai) Shimbun (daily circulation ~3.7 million) – the world’s largest-circulated business newspaper.

Method

This study adopts an inductive approach. The aim is to objectively explore frames used by the Japanese news media to portray fake news without applying any pre-determined ones. Specifically, we employ semantic network analysis – a quantitative method that is used to reveal meanings within unstructured text. This method treats a set of text as a network, words within as nodes, and relations between words as edges. By examining the occurrence and co-occurrence of words and relations between words using network analysis measures such as degrees of modularity, centrality, and betweenness, it can identify frames that are embedded in the text (Drieger, 2013).

Modularity measures the community structure of nodes in a network, i.e., clusters of words in this case. Centrality and betweenness, on the other hand, measure of the role of nodes in a network. While the degree of centrality indicates the importance of a node in a network, the degree of betweenness shows the degree of a node acting as a hub. Thus, in the case, they can identify the keywords in the clusters of words. Lastly, by interpreting the clusters of words and the keywords within, we can deduce the themes within the text and their meanings. In this study, we used KH Coder – an open-source program that is commonly used for semantic analysis for Japanese text (Higuchi, 2016).

Results

Sample data

The sample data were newspaper articles extracted from the online archives of the five national Japanese newspapers (Yomiuri, Asahi, Mainichi, Sankei, and Nikkei) between 1 Jan, 2015 and 31 Dec, 2017. The search-words that we used to extract the articles were ‘fake news’ and its equivalents in Japanese, which included the phonetic Katakana word (フェイクニュース) and the literally translated words (虚偽報道, 虚偽ニュース and 偽ニュース) that are commonly found in Japanese newspapers. In order to focus on fake news, words with similar meaning such as ‘lie,’ ‘rumour,’ and ‘propaganda’ were excluded.

In total 624 articles were extracted, among them Asahi had the highest number (189/30%), followed by Nikkei (147/24%), Mainichi (110/18%), Sankei (101/16%), and Yomiuri (77/12%). As shown in figure 1, articles about fake news were almost non-existent until December, 2016 after the US Presidential Election. This indicates that for Japanese newspapers, unlike the news media in the West, the term fake news was not directly associated with the US Presidential Election campaigns in 2016 nor the Brexit referendum in the UK that took place in June 2016. Rather, the term came into the picture after Donald Trump took the office of the President of the US.

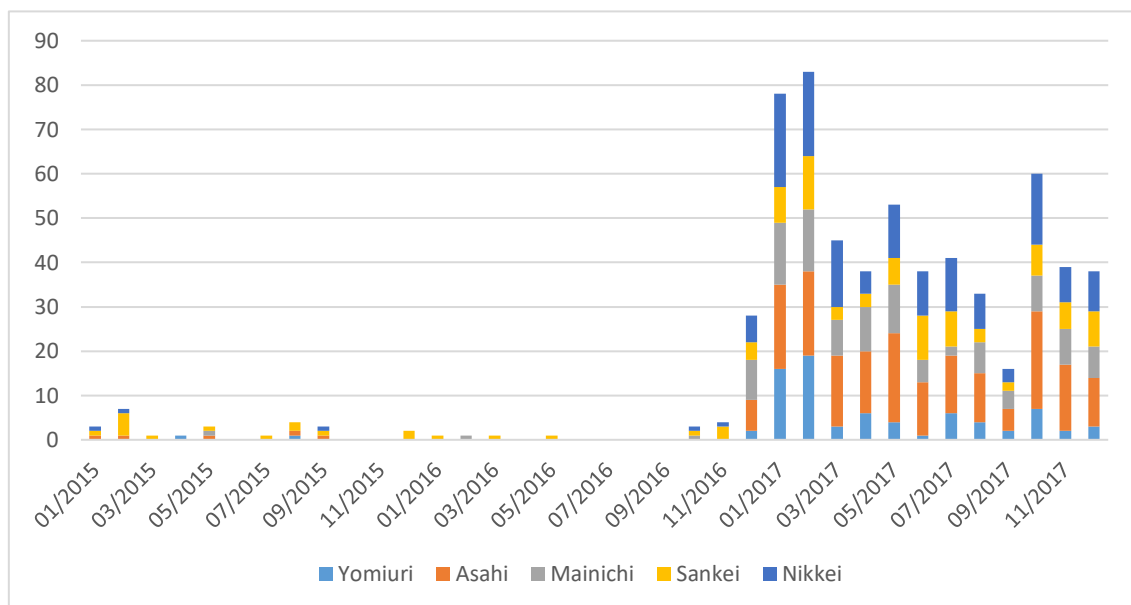


Figure 1 - Numbers of newspaper articles consist the term 'Fake News'

Table 1 shows the top 15 most frequently appeared words by the number of articles they appeared in. It can be seen that words that are related to the US President (e.g., the US, president, Trump), the media (news, media, report, reporter), content (information, fact) and tension (problem, criticism) were the most frequently appeared. This adds to our above observation that for Japanese newspapers, fake news appears to mainly associate with President Trump and the tension he had with the media after he took office.

Table 1 - 15 most frequently appeared words (by articles)

	Words	English Translation	Frequency (Articles)
1	ニュース	News	482
2	大統領	President	414
3	米	The US (short)	391
4	情報	Information	364
5	メディア	Media	360
6	トランプ	Trump	346
7	報道	Report	340
8	問題	Problem	296
9	批判	Criticism	288
10	米国	the US	254
11	ネット	Net (Internet)	233
12	記者	Reporter	229
13	日本	Japan	229
14	政権	Regime	224
15	事実	Fact	223

Semantic network analysis

In the semantic network analysis, first, we conducted a co-occurrence network analysis to reveal clusters of words based in their modularity. Next, we identified keywords in each clusters based on their appearance frequency, and degrees of centrality and betweenness. Last, we deduced the themes of the clusters by interpreting their keywords.

First, the resultant co-occurrence network of words⁶ (by modularity) and their English translations are shown in figure 2. The sizes of the circles represents the words' appearance frequencies, the lines between them are their levels of co-occurrence measured by Jaccard coefficients, and the different clusters of words are coded by different colours.

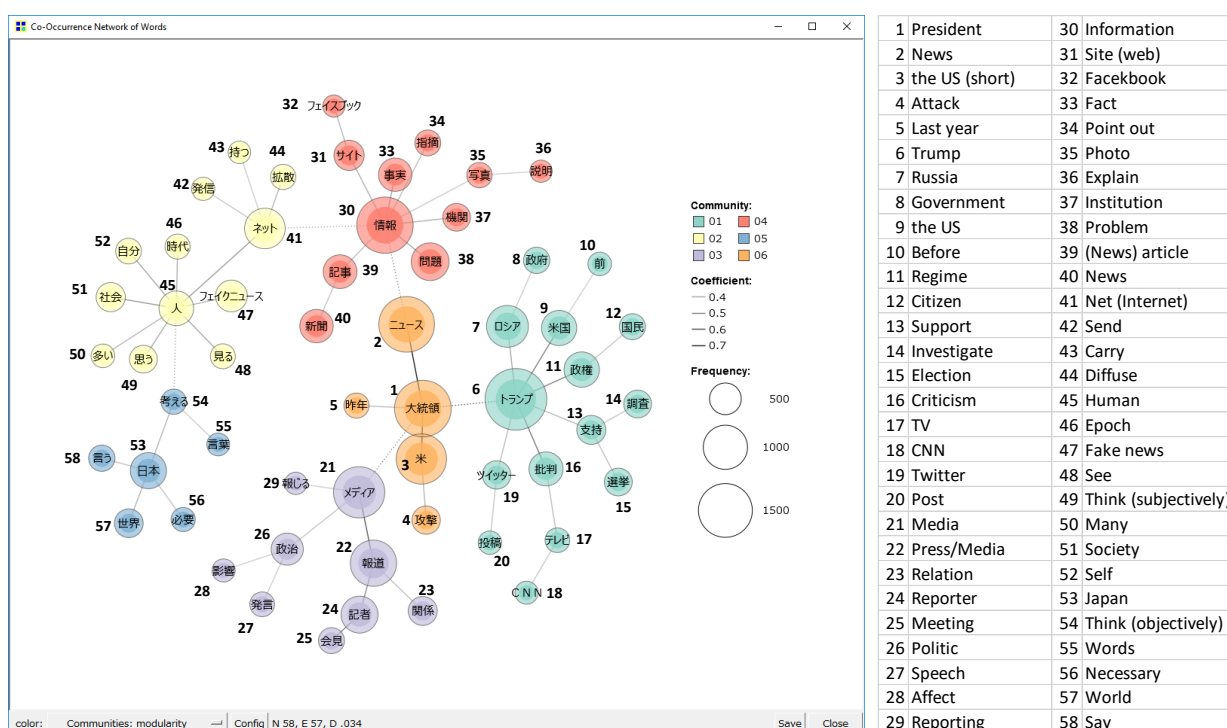


Figure 2 - Co-occurrence network of words

The modularity results show that there were six interconnected clusters of words. The English translations of the five most frequently appeared keywords in each cluster are listed in table 2, in which words that had the highest degrees of centrality and betweenness, i.e., the main keywords, in each cluster are underlined and bolded, respectively.

⁶ Minimum spanning tree; Minimum Term Frequency 220; Number of words analysed 73; Number of Nodes 59; Number of Edges 57; Density 0.034; Minimum Jaccard coefficient 0.309

Table 2 - Top 5 keywords of each clusters

Cluster (Communities: Modularity)					
1	2	3	4	5	6
News	Trump	Media	Information	Net (Internet)	Japan
President	Russia	Report	Problem	Human	Think (objectively)
The US (short)	The US	Reporter	Fact	Fake news	Say
Attack	Regime	Relations	Report	Society	World
Last year	Criticis m	Politics	Articles	Diffuse	Necessary

Next, we deduced the themes of the clusters by interpreting their keywords as follow.

Theme 1 – Fake news is about news of the US President

Cluster 1 was positioned at the centre of the clusters as it was the most connected one. It was directly connected to 3 other clusters (cluster 2, 3, 4) and indirectly to the remaining 2 (cluster 5, 6). In other words, it was the central theme of the discussions on fake news in the Japanese newspapers.

This cluster had two main keywords, ‘president,’ which had high degrees of centrality and betweenness, and ‘news,’ which had a high degree of betweenness. Other keywords in this cluster included words such as ‘the US,’ ‘attack’ and ‘last year.’ Thus, apparently the theme of this cluster is news of the US President and it is the central theme of the discourse of fake news in Japanese newspapers.

Theme 2 – Fake news is about the Trump-Russian inquiry

The keyword of this cluster was ‘Trump,’ it had the highest degrees of centrality and also betweenness. Based on the fact that it was directly connected with Cluster 1 and keywords such as ‘Russia,’ ‘regime,’ ‘critics,’ and ‘Twitter,’ we can assume that the second theme about fake news is that it is about the Trump-Russia inquiry that occurred in 2017.

Theme 3 – Fake news is about media reportage of the US President

The keyword in this cluster was ‘media,’ it was also directly connected with Cluster 1 and had the highest degrees of centrality and betweenness. Other keywords in this cluster included words such as ‘report,’ ‘reporters,’ ‘politic’ and ‘relation.’ Thus, we contend that the theme of this cluster is about the media, especially their reportage of the US President.

Theme 4 – Fake news is an informational problem

‘Information’ was the main keyword in this cluster, it had the highest degrees of both centrality and betweenness. Other keywords in this clusters included words such as ‘problem,’ ‘fact,’ ‘photo,’ ‘site (website),’ and ‘article.’ These words indicate that the theme of this cluster is about information and the content and problems associated with it.

Theme 5 – Fake news is about human-Internet relation

Cluster 5 had two main keywords, ‘net’ (the Internet) and ‘human,’ both had high degrees of centrality and betweenness. These two words were directly connected, but they had their own set of keywords. While ‘Net’ was connected to words such as ‘diffuse’ and ‘send,’ ‘human’ was connected to words such as ‘fake news,’ ‘society,’ and ‘self.’ Thus, we can deduce that the theme of this cluster is about the human-Internet relation, specifically the diffusion of information over the Internet and its affects in human society.

Theme 6 – Fake news’s implications for Japan

The last cluster also had two main keywords, ‘think’ (objectively) and ‘Japan.’ They both have the highest degrees of centrality and betweenness in the cluster. While ‘think’ connected to the word of ‘words,’ Japan connected to words such as ‘necessary,’ ‘world,’ and ‘say.’ Thus, we content that the theme of this cluster is that fake news also has some implications for Japan, and it is something that Japan should think about.

Discussion and conclusion

Using semantic network analysis, we have revealed six themes about the term ‘fake news’ presented in the five national Japanese newspapers. Based on these themes, we can further deduce the frames used by them on the discourse of fake news.

First, as represented by themes 1, 2, and 3, fake news is mainly related to President Trump, the Russian inquiry, and his relations with the media. In other words, the central frame of fake news used by Japanese newspapers is that this is an American political phenomenon, which seems to agree with the literature.

The second frame is represented by themes 5 and 6, which depict fake news is something about the diffusion of information over the Internet and its affects to human society and subsequently to Japan. In other words, we argue that this frame implies that the Internet is more or less responsible for the spreading of fake news from the political scene to human society including the Japanese society.

The third frame is represented by theme 4 – ‘informational problem’ that acts as the bridge between the above 2 frames. That is, fake news is an informational problem, which also appears to in-line with the literature.

In conclusion, these findings shed lights on the how fake news is portrayed by Japanese newspapers, and they form the foundation of our future research. Moving forward, our next step is to further examine the sentiments and values presented in these frames using methods such as sentiment analysis and close reading. In addition, we will also compare them with frames presented by other media including news media in other Asian countries as well as on social media.

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