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Research Report

The Political Slant of Web Portal News and the Implications Relating to the Fake News Phenomenon

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The Political Slant of Web Portal News and the Implications Relating to the Fake News Phenomenon

Dongook Choi, Fellow at KDI

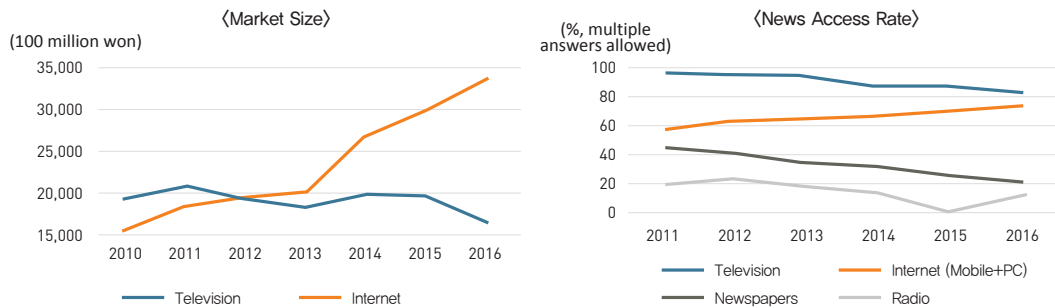
“The argument that the news selection of Korean web portals is politically biased lacks not only objective evidence but also discourse on what the causes are. If web portals provide a sufficient amount of variety in their news contents, it may be unnecessary to regulate the average bias. However, a cautious approach is needed when expanding algorithm-based news feed services as the selective consumption of personalized news will polarize public opinion, which in turn, will serve to further disseminate fake news.”

As news aggregators, web portals are gaining increasing ground in Korean media. As shown in <Figure 1>, the market size of internet advertisements, dominated by two major web portals, surpassed that of television commercials as of 2012. Today, far more people read news articles via web portals, which stands in stark contrast to the marked decline of traditional media. Subsequently, as the majority of daily news consumption now begins with web portals, their news and media selection has a massive impact on the internet news market. The contents are not directly produced but are selected and posted by editing teams. Interestingly, these reflect the political leanings of the respective portal. That is, web portals are exhibiting similar traits to news media outlets. It should be noted that this is the outcome of corporate strategy and hence, can be analyzed in an economic context.

Web portals have editing teams that select and assign news contents.

*Based on Choi, Dong Ook, *Internet Portal Competition and Economic Incentive to Tailor News Slant*, Policy Study 2017-01, Korea Development Institute, 2017 (in Korean).

[Figure 1] Advertisement Market Size and News Access Rate By Media Type



Source: (Left) Cheil Worldwide, *Total Advertising Expenditure (settlement)*, 2010~2016.
 (Right) Korea Press Foundation, "Media Audience Survey," 2011~2016.

In the past, bias was commonly measured in a subjective or arbitrary manner.

Accordingly, this study first introduces the process of measuring the political bias of Korean web portals through a systemic big data analysis; this method minimizes the possibility of intervention from the researcher. And based on the results, attempts will be made to empirically verify the incentive structure in which web portals aim to maximize advertising profits by luring more clicks from users. Thereafter, a discussion is presented on the role of web portals in the spread of fake news, and on the evaluation methods for their news posting practices.

I . Objective Measurement of Political Orientation

The partisanship was measured strictly based on statistics and not the researcher's arbitrary judgement.

Portal news has long been suspected of being politically biased. However, the methods to measure the degree of bias have mostly been subjective and arbitrary thus far. Based on such shortcomings, this study intends to introduce more objective methods and present the respective results. Choi (2017) conducted an unstructured data (big data) analysis to gauge political orientation in portal news. The subjects of analysis were articles posted in the news section of two major Korean portals in 2015 for a one-year period, and official statements by politicians, taken from the minutes of the National Assembly, were used to objectively measure political bias.^{1),2)} Politicians have a tendency to use certain expressions that are strategically differentiated from those used by their political rivals. These expressions help to discern political orientation while the frequency of use gauges the political leanings of portal news outlets.

1) Available for download on the National Assembly's Minutes website. Samples are minutes from the National Assembly's plenary sessions, standing committees—Legislative Judicial Committee, National Policy Committee, Strategy and Finance Committee, Foreign Affairs and Unification Committee, Foreign Affairs and Trade Committee, National Defense Committee, Health and Welfare Committee and the Environment and Labor Committee, Environment and Labor Committee—and special committees on pension reform and prime minister appointments (Wan-koo Lee, Kyo-ahn Hwang)—held during the analysis period.

2) For analysis convenience, as of 2015, politicians from the ruling party are classified as conservatives and those from opposition parties as progressives.

<Table 1> Political Expressions for the Standardization of History Textbooks

Conservative	Progressive
Proper textbooks National Institute of Korean History Proper historical awareness Proper history textbooks Proper history	State-authored textbooks Standardized history textbooks Authoring standardized textbooks Standardized textbooks Problems of standardized history textbooks

Note: Listed in the order of relative use frequency (high to low).

The expressions in <Table 1> are prime examples of political partisanship. In 2015, the then conservative ruling party strategically used the word ‘proper’ when referring to the relevant history textbooks while the progressive opposing parties opted for ‘state-authored’ or ‘standardized.’ The former was used to emphasize the propriety or legitimacy of the government policy regarding history textbooks and the latter to bring public attention to the anti-democratic or anti-market nature of the policy.

It is worth noting that partisanship was measured strictly based on statistics, not on the researcher’s arbitrary judgement. Specifically, it is the outcome of compiling data on cases in which politicians from one party used a certain expression more frequently, in terms of statistical significance, than their rivals. A total of 4,551 expressions were gathered and analyzed to gauge the political orientation of portal news outlets, applying the relative frequency of use and weighted value of the expressions.³⁾ <Figure 2> presents general estimations for political bias in 2015 and the average bias for major political incidents and the months in which they occurred.⁴⁾

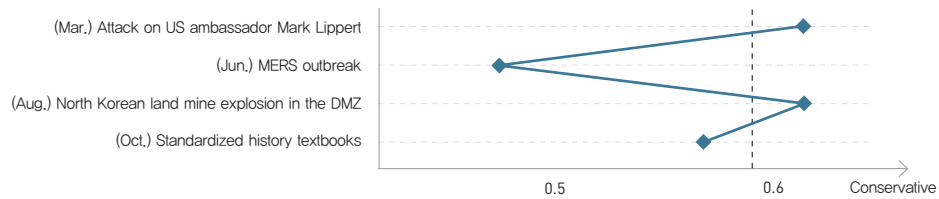
Compared to the MERS outbreak in June and the standardized history textbook issue in October, the majority of portal news outlets voiced more conservative opinions on the knife attack on US ambassador Mark Lippert in March and the detonation of a North Korean land mine in the DMZ in August. This implies that these outlets are not always biased in their selection of contents but rather, swayed by public opinion. In fact, although most political incidents entail conflicting partisan views, portals tend to lean towards a certain political position according to the incident. If this angle changes over time, it implies that portals most likely select their news contents based more on consumer preference than on a specific partisanship. This also explains the reaction of portals to the MERS outbreak and the standardized history textbook issue in which the contents were angled against the ruling party—the presence of government control is hard to prove in these cases. Next, this study empirically shows whether economic incentives remain effective under such circumstances.

The political leanings of web portals measured on a specific time line is the result of public opinion of a certain event.

3) See Choi (2017) for details on analysis methods and descriptive statistics of the results.

4) Bias at 0.5 does not mean a ‘center’ position. Data used in this study are not enough to discern the center.

[Figure 2] Major Political Incidents in 2015 and Political Bias of Portal News Outlets



II . Economic Incentives of News Slants

1. Internet News Market and the Practices of Portals

Web portals have an incentive to maximize their advertising profit by increasing the number of users' clicks.

In the internet news market, internet advertisements are the main profit source for web portals. As such, contents like the news are free of charge. Advertisers select portals based on the ad price and contents onto which the ads will be uploaded. A key determinant of the pricing is the number of visitors or website clicks. Advertisers use this information to consider the effects of the advertisement and select the web portal and ad volume. In posting their message, advertisers expect a rise in sales revenue in the commodities market. And under such an incentive structure, portals are more inclined to choose news contents that can maximize their advertising profit.

Then, do portals select news contents based on consumer preference in order to increase the number of clicks? The afore measured degree of bias in portal news helps to empirically verify the impact of the bias on the relationship between consumer and portal—shown in <Figure 3>. Accordingly, this study intends to verify two specific hypotheses on consumer preference and on portals' political leanings. The results are summarized in <Table 2>.

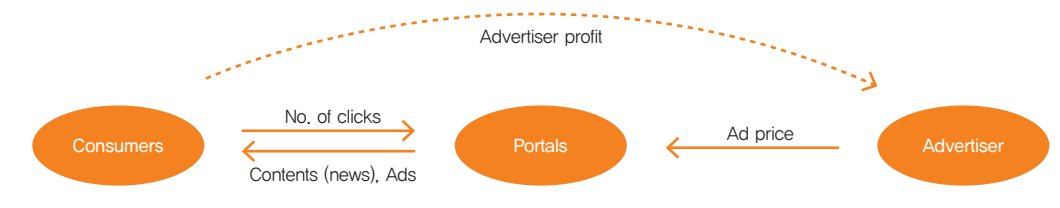
2. Hypothesis 1: Are Portal Users More Attracted to News Articles that are Closer to Their Political Positions?

Using the afore measured political bias of portals, the following explores what impact users' political positions have on the consumption of portal news. According to Gentzkow and Shapiro (2010), the newspaper consumption trend by region is linked to the political preference of the corresponding regions to a significant degree. As for the readers, they are more attracted to newspapers that have similar political standings.

Consumers tend to reduce additional news consumption in the news section when they agree less with the views of the posted article.

So, is this true of Korean consumers? To confirm, this study analyzed data on internet user behavior and level of portals' political bias from Nielsen Koreanclick. The former encompasses information on users who have accessed the two major Korean portals

[Figure 3] Portal News Market Model



<Table 2> Results of the Hypotheses on the Portal News Model

	Dependent variable	Independent variable	Parameter estimate
H 1	No. of clicks by consumers	Difference in preference between consumers and portal	-4.66(1.71)**
H 2	Portal preference	Consumer preference	0.09(0.03)***

Note: 1) () denote standard error.

2) ** mean $p < 0.05$ and *** mean $p < 0.01$.

in 2015, ranging from anonymized individual-level data such as panel ID, portal access duration and clicks to demographic information including gender, age and location. Since the analysis aims solely at behavioral patterns in terms of news consumption, only access records for the 'News and Media' sections were extracted and applied. And regarding political preference based on demographic characteristics, data from a public survey conducted in 2015 by Sogang Institute for Political Studies at Sogang University was used. The data substituted for information on portal users (news consumers) to estimate political positions. Thereafter, calculations were made for the separation between the political position of consumers and the level of portals' political bias and an analysis was conducted on how the separation affects consumer behavior.

The performance of web portals is generally measured by the number of clicks and thus, can be used as an indicator to gauge users' interest in each news content. A regression analysis was conducted to examine the impact of the separation between portals' and users' political standings on the number of clicks for news articles. According to the results, ordinary users click on the news section approximately 13 times a day. It was also found that as the separation increased, the number of clicks markedly decreased. As shown in <Table 2>, a 0.1p (1 standard deviation) increase in the separation causes the number of clicks to drop by approximately 0.47.⁵⁾ In other words, users tend to click on fewer additional articles in the news section if they are in less agreement with the views of the posted article.

5) According to the results, provided that news page's cost per mille (CPM) is 1 dollar, accessed by 1 million visitors per day and 100 ads are posted on the news section, portals can expect a loss of 47 thousand dollars per day in profit.

3. Hypothesis 2: Does Consumer Position Affect Portals' Political Orientation?

The political bias of portal news is related to the portal's profit structure.

From a portal's perspective, a drop in clicks could deal a direct blow to its advertising sales. Given this, it is in the best interest of portals to provide news contents that can satisfy their consumers' preferences. To corroborate, the relationship between the changes in consumers' political positions and the degree of portals' bias was analyzed using the compiled data.⁶⁾ The results of the regression analysis are summarized in <Table 2>, according to which, a 1p increase in consumers' political standing (daily average) causes a significant rise of approximately 0.093 in the degree of bias of the news content. In other words, the political orientation of a portal will angle more towards a conservative stance the more conservative its users are.⁷⁾

To summarize, it was found that the level of separation between the political positions of portals and consumers has a significant impact on the number of clicks, and the political standing of portals changes in line with their consumers' preferences. That is, portals tend to provide news contents that fit their consumers' political beliefs due to the incentive structure. Thus, the economic incentive structure must be taken into account when discussing the political bias of portals.

III. Policy Recommendation: Ensuring the Diversity of Portal News

Personalized news feed could take away the chance for consumers to experience the diversity of news contents.

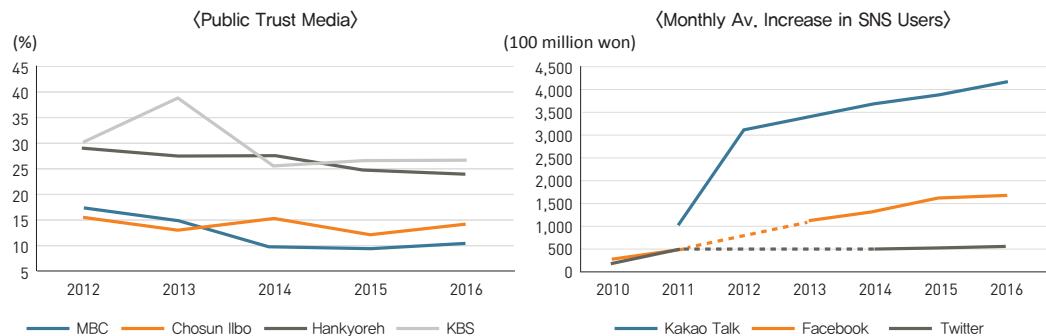
Local portals are gradually expanding their algorithm-based news feed services (Park *et al.*, 2017). On the one hand, providing consumers with personalized news is a countermeasure to the growing controversy over the political bias of news contents and on the other, it also serves as another lucrative profit model. Accordingly, the trend will probably become even stronger in the future. However, personalized news feeds can eliminate the opportunity for consumers to experience the diversity of news, meaning that a cautious approach is needed. An even more serious problem is that they may cause a polarization of news consumption.

Following customized news only via Facebook, Twitter and Google News means that users are less and less inclined to be exposed to contents that do not fit in with or contradict their preferences. Under the circumstances, users are more likely to share and disseminate contents within a homogeneous group, which in turn, only reaffirms their political beliefs.⁸⁾ This will give rise to the polarization of public opinion, and the biggest problem coming from this is the spread of 'fake news.'^{9),10)} According to DiFranzo and

6) The pure effect of consumers' average preference on portals' level of bias. This was calculated by applying the instrumental variable method using only exogenous characteristics such as consumers' gender, age and location.

7) This does not imply that portals are able to identify individual preferences. Among various factors that the portal takes into account when posting news articles are consumer behaviors like the real-time number of clicks. So, in this process, changes in consumers' preference may be naturally reflected in news posting decisions.

[Figure 4] Erosion of Public Trust in Mainstream Media, Increase in the Average Number of SNS Users per Month



Source: 1) Trust in media: Survey data from Sisa Press and Media Research, yearly.

2) Number of SNS users: Kakao Talk—Kakao Talk, *Quarterly IR Report*, 2010~2016; Facebook—Facebook, *Quarterly IR Report*, 2010~2016; Twitter—Nielson Korean Click.

Gloria-Garcia (2017), SNS serves to spread fake news by polarizing public opinion and this mechanism will only grow stronger with personalized news recommendation services.¹¹⁾

<Figure 4> shows that in Korea, public trust in major conventional media is on the decline while the use of SNS is on the rise. This means that Korea too is not immune to the problems regarding the polarization of public opinion and the spread of fake news. Hwang (2017) stated that when there is a lack of credible journalists and information sources, consumers tend to interpret and judge based on the identity of the group they belong to. Additionally, Allcott and Gentzkow (2017) found that republicans exhibited a much stronger mistrust in mainstream media and fake news was more prevalent among them.

In short, it is highly likely that personalized news that cater to only consumer preference will further divide public opinion. And given that public trust in mainstream media has already been eroded, the polarization of news channels will generate a flood of fake news. To prevent this, news contents containing diverse views must reach consumers. However, portals are extending their algorithm-based news feed services, which is a cause for concern.

A precondition to resolving the issue of polarized news consumption is providing consumers with contents that contain an assortment of perspectives. Unlike the US, where

The erosion of public trust in mainstream media and the increased use of SNS amplified the spread of fake news.

In Korea, web portal can serve as a checking mechanism that suppress the echo-chamber effect incurred by SNS.

8) Often referred to as the 'echo chamber effect,' or 'filter bubble effect.' (Allcott and Gentzkow, 2017; DiFranzo and Gloria-Garcia, 2017; Hwang, 2017).

9) According to Allcott and Gentzkow (2017) and Hwang (2017), the definition of fake news is news articles that are intentionally and verifiably false, and could mislead readers and information created in a form of media report with deceptive intent to mislead readers commercially or politically. What distinguishes fake news from real ones is that fake news contain falsehoods and the intent to mislead.

10) The results of the 2016 Brexit referendum in the UK and the presidential elections in the US brought global attention to fake news. In Korea, the spread of fake news via messenger platforms like Kakao Talk looms as a serious problem. Many political critics in the US even argued that if it had not been for fake news, President Donald Trump would not have been elected (Allcott and Gentzkow, 2017).

11) According to Bakshy et al. (2015), the automatic algorithm that creates the echo-chamber effect on Facebook is based on user history such as the number of clicks. They argue that the effect is the consequence of users' choice, rather than the algorithm itself. However, it is not possible to refute the fact that such a phenomenon incurs the polarization of news consumption.

<Table 3> Daily Average Number of News Media Outlets and Concentration of Media Bias of Korea's Two Major Portals in 2015

	Portal A	Portal B
No. of news media outlets (daily average)	10	28.4
Standard deviation of yearly-average level of bias	0.127	0.143
Herfindahl Index (HHI)	1,242.58	876.25

Note: News media here refers to web portals' news content partners, excluding those specialized in sports and entertainment.

Diversity indicators can be developed using the level of bias in portal news.

the proportion of news consumption directly from the newspapers' official websites is high, Koreans are more accustomed to visiting web portals, meaning that portals can play some role in exposing their users to the diversity of news opinions. <Table 3> lists indicators that can evaluate diversity.

On the first webpage of the news section in Korea's two major portals, 10 and 28.4 different news media outlets, respectively, posted their contents on a daily average basis in 2015 alone. The standard deviations for the yearly-average level of bias, calculated using the outlets' political standing and the number of news articles provided, are 0.127 and 0.143, respectively, presenting a clear difference. This expresses a range of fluctuation in the daily average political bias of news contents and offers partial insight into the content diversity. The HHI—measuring whether portals receive more news articles from a specific news provider than from others—also shows a certain difference, with Portal A (1242.58) overwhelming Portal B (876.25).¹²⁾ Indicators such as these can help to evaluate the behaviour of web portals in assigning articles with differing political perspectives. They could also be used to develop relevant policies.

News with diverse perspectives should be made available via web portals.

The argument regarding the political bias in portal news lacks not only objective evidence but also discourse on what the causes are. If web portals provide enough variety of news, it may be unnecessary to regulate the average bias itself. However, a cautious approach must be maintained when expanding algorithm-based news feed services because the variety offered to consumers will diminish.

Last but not least, the following recommendations are presented with regards to the evaluation of web portals' news uploading practices.¹³⁾ First, objective methods should be adopted in evaluating the political bias of news contents, avoiding subjective or arbitrary approaches. If not, unnecessary controversies could arise regarding the reliability of the methods. Second, the evaluations should be based on diversity indicators and not the level of bias. Changes in the average bias can be strongly driven by consumer demand in the

12) HHI is an indicator that shows concentration using the firm's market share. This study uses the share of news media on portals' news sections. The HHI was calculated by multiplying the weighted bias by the square of news media outlets share of news articles.

13) There are self-regulatory organizations such as the Korea Internet Self-governance Organization (KISO) and News Partnership Evaluation Committee, but they do not impose direct regulation on web portals' news posting practices; news articles are posted at the discretion of web portals.

news market, and hence, is not appropriate to use as a basis for evaluation. Given their high share in the internet news market, portals should prioritize variety above anything else as the diversity of news contents is the fundamental premise in countering the polarization of public opinion.

References

- Allcott, Hunt and Matthew Gentzkow, "Social Media and Fake News in the 2016 Election," *Journal of Economic Perspectives*, 31(2), 2017, pp.211~236.
- Bakshy, E., S. Messing, and L. Adamic, "Exposure to Ideologically Diverse News and Opinion on Facebook," *Science*, 348, 2015, pp.1130~1132.
- Cheil Worldwide, *Total Advertising Expenditure (settlement)*, 2010~2016.
- Choi, Dong Ook, *Internet Portal Competition and Economic Incentive to Tailor News Slant*, Policy Study 2017-01, Korea Development Institute, 2017 (in Korean).
- DiFranzo, Dominic and Kristine Gloria-Garcia, "Filter Bubbles and Fake News," *XRDS*, 23(3), 2017, pp.32~35.
- Facebook, *Quartely IR Report*, 2010~2016.
- Gentzkow, Matthew and Jesse M. Shapiro, "What Drives Media Slant? Evidence from U.S. Daily Newspapers," *Econometrica*, 78(1), 2010, pp.35~71.
- Hwang, Yong-Seok, "Fake News Phenomenon and Self-regulatory Measures on Internet Service Provider," 1st KISO Forum presentation, 2017 (in Korean).
- Kakao Talk, *Quartely IR Report*, 2010~2016.
- Korea Press Foundation, "Media Audience Survey," 2011~2016.
- Park, Seungtaek *et al.*, "News recommendation service using machine learning - focusing on Kakao's RUBICS," *Journal of Cybercommunication Academic Society*, Vol. 34, No 1, 2017 (in Korean).

<Websites>

National Assembly minutes, <http://likms.assembly.go.kr/record/index.jsp>, last access: Mar. 3 2016 (in Korean).

Sisa Press & Media Research, "Who Moves Korea," public survey, 2012-2016 (2016(<http://www.sisapress.com/journal/article/157632>, last accessed: Oct. 2016) (in Korean).

Sogang Institute for Political Studies, "Naeil Sinmun's Public Survey 2015," 2015, <http://www.ksdcdb.kr/research.do>, last accessed: Oct. 2016 (in Korean).

<Data>

Nielsen Korean Click, "Portal Site Panel's Access Data," released on Jun. 2016 (in Korean).