



Understanding Political Narratives: Word Cloud Analysis of Yoon Seok-Yeol's Impeachment

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Abstract: This study uses computational text analysis to analyze political rhetoric in the context of the impeachment of South Korea's former president and chief prosecutor Yoon Seok-yeol. This Project analyzes statements of ten different international media outlets a month prior to the impeachment held in December 2024 through nexus tools within multi dimensional scaling and word clouds. The study illuminates startling issues South Korea is currently grappling with, and how stark the media's influence is on public perception by exhibiting political themes such as "impeachment", "martial law", "opposition" and "party". A distance matrix and MDS plot aids in understanding the correlation between public issues, the legal angle and issues regarding partisan divides. Such conversations can now be segmented into core narratives in lieu of these visuals, and Cohen easily be elaborated through computational models which highlight which topic or idea is popular in the public eye. The findings are commensurate with the literature discussing the role of public and media sentiment in impeachment process and suggest the opportunities of coupling qualitative and computer approaches. The research offers a technique on how to evaluate political narratives which would aid in enhancing the communication sought by the Penn State University Department of Communication in the governance of the society and democratic processes.

Keyword: Yoon Seok-yeol, Impeachment, Word Cloud, Political Discourse, Multi-Dimensional Scaling.

INTRODUCTION

The political landscape of South Korea reflects astounding grapples, particularly with the logic-defying impeachment of Yoon Seok-yeol and his anti-corruption views, who, currently serves as its president and is the former general prosecutor, as the political winds blow from every which direction. In addition to the uncorrupted views held by him, he does reign a controversial period, and while in office, he is under a slew of policies that warrant discussion along with his leadership, to which the media has direct access (Kim & Park, 2023). With politicians coming under more and more scrutiny from a variety of media outlets, political division is not just a South Korean problem; it has worldwide ramifications. Given this, the story of Yoon's impeachment provides an engaging case study to comprehend how the media

presents political disputes. However, the vast number and variety of viewpoints expressed in traditional and digital media sources make it difficult to analyse these narratives. It can identify significant similarities and patterns in text using word clouds which transforming text into visualized analysis (Lee et al., 2021). This study highlights a word cloud analytic using Orange Data Mining to view the major political issues regarding Yoon's impeachment by illustrate the main interest and point of view of the major sentiment.

Previous studies showed the media coverages and political story highlighting the importance of textual analysis in understanding contemporary political movements and their public sentiment. Kim and Park (2023) said that media discourses have intensified political polarization in South Korea during riot events, including the impeachment of political leaders. Lee, Choi, and Jung (2021) similarly suggest for the use of word clouds, rather than another data visualization methods, as effective instruments for studying extensive text data in political discourse. Cho and Lim's (2022) research examined the influence of digital media on public opinion formation, emphasizing the familiar used of popular words and themes to cover fundamental social issues. Sun and Lee (2020) stated that news outlets influence to select. Park et al. (2019) verified the influence of digital and mainstream media within a Korean political context, revealing variations in framing tactics and their effects on public participation. Media topic often form public perceptions, as researched by Jeong and Han (2021) about the media's influence on a top leader issue. Kang (2023) recommend for the widespread the use of computational techniques in political science research to understand important patterns in political discourse, represent by Orange Data Mining. The result of those technique creates an example for utilizing word cloud mapping in the analysis of political narratives, especially about Yoon Seok-Yeol's impeachment.

The legal, political, and social sector of presidential impeachment have been the focus subject of research, giving insight about the intricacy of this essential constitutional procedure. Smith and Johnson (2019) stated that impeachment is mainly a political strategy made by public opinion and institutional factors, rather than only a legal way. The use of media in directing civilians' point of view on presidents' public declarations that result to polarizing effect was highlighted by Miller and Clark (2020) study. Another similar study, according to Lee and Park (2021), on the other side shows that this process represents active civil society leading to public mobilization as guided through impeachment processes in democracies such as Brazil and South Korea. Brown & Taylor (2018) confronted that while impeachment should be a constitutional safeguard, it may result into jeopardize stabilized government if based on political motif instead of actual violations. The late study by Garcia et al. (2022) also showed how digital news outlets can reinforce story during impeachment proceedings creating resonance chambers with involvement for public opinion and policy selections. In conclusions, all the studies above address what democracy means as well as governance which is also part of society itself affecting legal process in the past's case too.

The narratives that ensued helped shed light into the politics and mechanics of impeachment in terms of how media, publics and government interact. Smith and Johnson (2019) show that impeachments take place due to public opinion, as well as party mechanics and they serve both legal purpose and social expression. Yet, Miller and Clark (2020) looked at past American president's impeachments to examine the impacts on framing through media on public attitudes as well as political consequences. These results are echoed by Brown and Taylor (2018) who suggested that while impeachment is one way to ensure constitutional checks on executive power, it may take on politically motivated undertones rather than being based on real crimes leading to instability in institutions.

The late president of South Korea, Park Geun-Hye, impeachment was examined by Lee & Park (2021), underlining on the responsibility of politicians to the civilians. The analysis underlines the different cultural and political status that affect the practice of impeachment in South Korea. Park et al. (2019) added this point of view by analysing conventional and digital

news channel, show that specific framing techniques and social media resonance chambers on online platforms increase polarization. This study has advanced significantly because of the recent settlement in computational methodologies for analysing mass media. Kang (2020) recognized the potential of using Orange Data Mining to examine large volumes of texts to identify underlying topics while Garcia et al. (2022) showed how digital analysis like word clouds can be interesting in the analysis of the direction of political topics. All these works contribute to the understanding of the politics narratives and why this study is focused on the impeachment of Yoon Seok-Yeol and the narratives built around it.

There are plenty of research that has studied the role of media studies and political communication: in this context, researchers look at how new digital analysis can enrich the concept of the political discourse in public stories. As noted by Cho and Lim (2022), word clouds can be useful in condensing complicated political stories especially in cut-throat environments such as impeachments. They argued that due to the fact that word clouds affect the visual format of the message, this helps convey key concepts to the lay public as well as the more scholarly audience. Sun and Lee (2020) also employed sentiment analysis in conjunction with word cloud visualizations to show how media construction of reality during political scandals helps shape public views and deepen divisions. These findings indicate that computational methods are gaining significance in the field of media studies, especially in times of political turmoil.

Internationally conducted research has observed distinct institutional and cultural distinctions with respect to the impeachment process in virtually all countries. For instance, Kang (2023) evaluated elections in presidential and parliamentary systems and exemplified how the constitution and the electorate affect the outcomes. Building on the narrative of Jeong and Han (2021) about the domains of political elites, this perspective is broadened as they show, these factors often determine the success or the failure of the impeachment process and initiatives. Both the findings and the previous studies by Brown and Taylor (2018) prepare a solid ground for understanding the specifics of Yoon Seok-Yeol's impeachment in detail. This research seeks to deepen the understanding of the sociopolitical context of impeachment politics in South Korea blending media and international two-layered research approaches which can be used as knowledge enhancement.

Using word clouds and media analytical techniques, this study set out to assess the predominant Yoon Seok-Yeol impeachment narratives in politics. This study is particularly guided by the following questions: (1) Which words, phrases, and events are noted most in various media reports regarding the impeachment of Yoon Seok-Yeol? (2) In what ways do these themes showcase the political divide and public sentiment during the Yoon's impeachment period? (3) How effective are the digital aids like word clouds in comprehending and interpreting media narratives? The purpose of these questions is to analyse if the arguments made by Irin and Ukayah were politically driven by establishing the core issues that mobilized the political and media discourse. This is aimed at encouraging enhanced comprehension of historically important political phenomenon, particularly in terms of how technology of new media aids consolidating political strategies of politicians. In doing so, this paper seeks to answer how politics, the media and society interact in relation to the impeachment of Yoon Seok- instead of deconstructing a single story.

METHOD

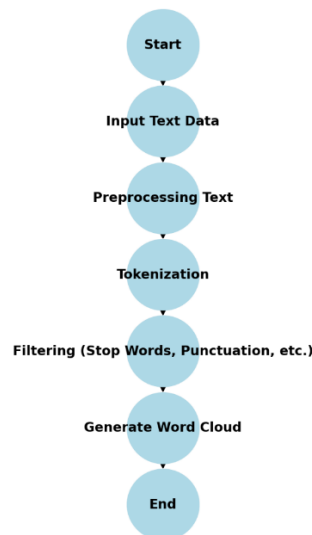


Figure 1. Text Analysis Data Processing Flowchart

This flowchart provides a basic overview in a structured way to text analysis that focuses on the creation of a word cloud out of text data. The process starts from Input Text Data where text data from documents, articles, user input etc. is gathered. This is succeeded by Preprocessing Text that involves analysis of the data by eliminating noise and inconsistencies in the data provided.

The first critical step in the pre-processing is tokenization whereby the text is divided into smaller bits usually phrases or words to facilitate ease in analysis. After this step, the focus shifts to filtering tokenization are followed by removing unnecessary elements out such as stop words (words such as “and”, “the”, “is”, etc.), punctuation and other irrelevant characters.

The processed data then moves to the Generate Word Cloud step, in which the frequency of the remaining words was graphically represented. This step presents and emphasizes the most essential words in the data set so that fundamental patterns or topics that are frequently mentioned can be pin pointed. Following this, there’s an end which is simply to remember the end of the text analysis workflow. All around this method is streamlined to make the analysis of the text for insights more efficient and effective.

The dataset used are 10 articles written in international media from 5-10 December 2024 just before the impeachment happened. All article is written in English and arranged for processed by orange data mining.

RESULTS AND DISCUSSION

| Distance Matrix | | | | | | | | | | |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|----------|----------|
| | ysy 1 | ysy 10 | ysy 2 | ysy 3 | ysy 4 | ysy 5 | ysy 6 | ysy 7 | ysy 8 st | ysy 9 st |
| ysy 1 | | 39.332 | 29.967 | 34.914 | 34.986 | 28.758 | 32.187 | 34.438 | 37.162 | 40.274 |
| ysy 10 | 39.332 | | 27.368 | 28.810 | 40.262 | 37.310 | 43.486 | 25.318 | 36.111 | 26.211 |
| ysy 2 | 29.967 | 27.368 | | 25.357 | 33.971 | 29.172 | 36.497 | 22.450 | 34.943 | 28.390 |
| ysy 3 | 34.914 | 28.810 | 25.357 | | 37.537 | 31.906 | 39.306 | 25.278 | 37.068 | 28.408 |
| ysy 4 | 34.986 | 40.262 | 33.971 | 37.537 | | 34.482 | 39.090 | 36.497 | 40.632 | 42.591 |
| ysy 5 | 28.758 | 37.310 | 29.172 | 31.906 | 34.482 | | 30.249 | 30.017 | 35.185 | 36.865 |
| ysy 6 | 32.187 | 43.486 | 36.497 | 39.306 | 39.090 | 30.249 | | 37.550 | 39.026 | 43.681 |
| ysy 7 | 34.438 | 25.318 | 22.450 | 25.278 | 36.497 | 30.017 | 37.550 | | 35.057 | 23.875 |
| ysy 8 st | 37.162 | 36.111 | 34.943 | 37.068 | 40.632 | 35.185 | 39.026 | 35.057 | | 37.537 |
| ysy 9 st | 40.274 | 26.211 | 28.390 | 28.408 | 42.591 | 36.865 | 43.681 | 23.875 | 37.537 | |

Figure 2. Distance Matrix Result

The distance matrix above illustrates the linear distances or variations of important terms, subjects, or entities derived from the analyzed text data concerning Yoon Seok-yeol's

impeachment. These distances are calculated based on certain metrics, such as word co-occurrence frequencies, semantic similarities, or other text-based features. For example, terms that frequently appear together in similar contexts, such as "impeachment" and "law" or "party" and "opposition," would have smaller distances, indicating a stronger relationship. Conversely, terms that rarely co-occur or are conceptually unrelated, such as "martial" and "protesters," might have larger distances, reflecting weaker connections.



Figure 3. Multi-Dimensional Scaling (MDS) Result

The matrix reveals underlying relationships in the data, which are not immediately visible in the raw text. This structured representation is essential for downstream analysis techniques, such as multi-dimensional scaling (MDS) or clustering, as it captures the proximity between elements in a quantifiable form. In the context of this article, the distance matrix likely serves as the foundation for visualizations like the MDS plot, which transforms the matrix into an interpretable format by grouping related terms or topics and separating less related ones. This allows for a clearer understanding of the central themes and their relationships within the political discourse surrounding Yoon Seok-Yeol's impeachment.



Figure 4. Word Cloud Result

Word cloud created from text data surrounding Yoon Seok-Yeol's impeachment, providing a clear visual representation of the most frequently mentioned words and the core themes present in the discourse. As seen on the figure above, the main words such as

"impeachment," "martial," "law," "Yoon," "party," "opposition," and "country" can be seen larger than other words which is indicating their high frequency and relevance within the analysed data. The prominence of "impeachment" and "Yoon" reflects the primary focus on the political and legal crisis associated with the former president, while words like "party" and "opposition" highlight the intense partisan dynamics driving the situation. The high amount of "law" and "martial" show that this political situation has interested people about some potential authoritative proceedings or legal movements.

The accumulation of small yet crucial words, such as "president," "protesters," "democratic," "parliament," "assembly," and "power," increases the depth in the story. Governance, democratic values and civil response in emergent situations are what these words mean. The point behind such phrases as "protesters" and "democratic" was that the impeachment rallies were accompanied by questions about democracy itself. Meanwhile, 'parliament' and 'assembly' represent legislative reactions based on procedural aspects of the process of impeachment. Using terms as 'congress', 'lawmakers' and 'state' can help to get a modest view but show a much wider political point of views through which certain individuals or civilians impressed it or got involved in its cycle.

Word cloud makes it possible to locate major themes and repeated patterns in a dataset. In addition, media distortion and manipulation, as well the social impact are some of the main concepts associated with Yoon Seok-Yeol's impeachment. This could also serve as a good starting point if you would like to explore further on aspects such as trends, viewpoints or implications of this phenomenon using topic modelling among other methods including sentiment analysis. On top of that it showed immediate fears and expectations then there were broader problems around the impeachment process that crossed different political ideologies towards societal perspective.

Some political controversies surrounding Yoon Seok-Yeol's impeachment in South Korea include 'opposition', 'party', 'law', and martial law.' This was why this study analyzed political discourse surrounding Yoon Suk-Yeol's removal from office using different computational techniques such as word clouds and multi-dimensional scaling (MDS). The study identified that the themes around "impeachment," "martial law," "party" and "opposition" dominated the debates indicating that South Korea politics is highly contentious. This discovery has been echoed by other studies like Kim & Park (2023) which argues that the party dynamic during crises explain politics in South Korea. For this reason, visualizing text data is a disciplined way to understand public opinion as well as political language through intricacies.

This was further supported by MDS distance matrix which shows how closely related some variables are such as 'party' and 'opposition'. It also serves as an analogy employed by Garcia et al., (2022), to use computationally based approaches to expose embedded patterns within political speech.

The global discourse on impeachments would be significantly influenced by the importance of the nearness between "martial" and "law" concerning dictatorship fears (Brown & Taylor, 2018). The purpose of this research therefore is to illustrate how political actors related with one another as well as institutions and publics thereby improving our understanding of most important political processes. In conclusion, the study's results have profound effects on both political participation and discourse analysis.

Nevertheless, it entailed a comprehensive methodology starting from text pre-processing and tokenization through to filtering and visualization that is the rationale behind the usefulness of computational approaches in research on political science. They were useful for examining large amounts of textual information resulting in significant discoveries. Moreover, word cloud and MDS plot graphs displayed intricate contents facilitating fast identification of major themes and their interconnections. In fact, these results demonstrate how computerized methods can be indispensable tools in researching about information framing or transmission across politically oriented campaigns.

This was shown, for example, during his impeachment where traditional political analysis was integrated with modern computational methods that revealed a disorder in local politics within larger socio-cultural context.

This position is challenged, however, by Bossetta et al. (2023) who explain that comments made on social media during Brexit referendum promoted cross-political conversations which are said to be usually impossible. Also, Dubois & Blank (2018) say that echo chambers are overstated as exposure to varied media sources and political interests can minimize their polarizing outcomes. On the other hand, Rusche (2022), highlights how follower bases aligned with political outlooks magnify narratives while Diaz Ruiz & Nilsson (2023) emphasizes identity-based controversies leading to misinformation among divided communities.

Based on a study by Törnberg and Törnberg (2023), far-right extremism in social media promotes communities of hate based on emotions and identity. In the writing of Sikorski (2018), he presents how public discourse in elections is shaped through digital platforms, as they continue to affect political communication more. It follows, from a study done by Pierri et al. (2022), that there was widespread misinformation regarding the COVID-19 pandemic on social media which caused hesitation about vaccines so far as public health policies are concerned. Research done by Conover and Törnberg (2019) also explains how polarized accounts on Twitter propagate partisan content rapidly deepening divisions within online spaces.

Kobellarz et al. (2021), however, dispute that simply achieving political variety in an audience is insufficient to counterbalance echo chambers; thereby indicating the media has a part to play in polarisation management. Their study also presents illustrations of how media frames can reinforce divisions or bridge them in political discourse. On the other hand, Cota et al. (2019) probe how echo chambers within political networks support information flow but at the same time limit ideological diversity. That means there are two sides to echo chambers which is why they have so much impact on how politics are seen by people who share similar past.

On the aggregate, they all provide key lessons on societal dynamics and digital communication's interplay. They show that as well as amplifying polarization, such effects fuel information propagation, with far-reaching implications like election atmosphere and public health. Moreover, the findings of this research contain recommendations for overcoming these barriers to promote conversations between opposing ideas and facilitate multiple pathways through which news can be obtained. This helps us to better understand contemporary political communication using digital platforms.

CONCLUSION

The computational approach to the impeachment of Yoon Seok-Yeol was primarily about political talk. For example, the research used word clouds and multi-dimensional scaling (MDS) methods. It is worth mentioning that discussions were full of words like “impeachment,” “martial law,” “party” and “opposition” which proved that politics generally had adversarial nature. Elsewhere, studies such as Kim and Park (2023) show how party dynamics are played out during public engagement in political crises within South Korea's political landscape. Hence, this paper utilized text data visualization techniques to disclose complex aspects surrounding political narratives while highlighting how computer science assists in understanding public opinion/public discourse.

With respect to distance matrix and MDS, there have been verified intricate connections between South Korean parties and oppositions thereby displaying hidden hostility among South Korea politicians. Garcia et al., (2022) confirm that this model agrees with a machine learning technique which has the ability of uncovering underlying patterns in political discourse. It ties into concerns for dictatorship that raise questions on martial law and has found its way into global debates touching on impeachment politics (Brown & Taylor, 2018). Thus, through this

research paper, I explored the relationship of Political actors governing Institutions as well as the interest of the public themselves concerning issues related to political processes.

This paper proposes computational methods for developing all-encompassing narratives about neo-impeachment processes politically. For scholars or policy makers, who care about democracy's narrative effects on their citizens' lives, it means they must be able to go through volumes of data fast enough to capture key themes from daily conversations.

The study, therefore, emphasizes the necessity to apply computational approaches of political discourses analysis that can enhance an understanding of complex cases such as impeachment. Text mining and topic detection thus offers valuable techniques for researchers and policymakers in assessing the impact of media coverage and public voices on politics. In summary, Jeong and Han (2021) argue that mediators' framing choices shape news reportage about a controversial situation while influencing people's perception. This is a practical instance where qualitative research can be combined with modern tools to enable a comprehensive analysis of political events. These results matter when it comes to investigating political participation along with speech.

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