Discourse Network Analysis on *detikcom* and *KOMPAS.com* on Nuclear Power Plants Construction in Indonesia

Analisis Jaringan Wacana pada *detikcom* dan *KOMPAS.com* terkait Pembangunan Pembangkit Listrik Tenaga Nuklir di Indonesia

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Masuk tanggal : 09-03-2024, revisi tanggal : 22-10-2024, diterima untuk diterbitkan tanggal : 06-11-2024

***Abstract**:*

This research aimed to determine the emerging discourse regarding the construction of nuclear power plants (PLTN) in Indonesia on detikcom and KOMPAS.com as online news media platforms from media conglomerates from 1 August 2022 to 31 August 2023, while also comparing and finding differences in the existing discourse by using the Discourse Network Analysis (DNA) method. The construction of nuclear power plants is in line with the target for nuclear needs in Indonesia to start in 2040 according to the government's energy roadmap through the Ministry of Energy and Mineral Resources, and the global urgency that nuclear power is an alternative clean energy to replace fossil energy in line with the energy transition to achieve the target of zero carbon emissions by 2060. This research showed that the emerging discourse from all news articles on detikcom and KOMPAS.com is supportive of the government to build nuclear power plants in Indonesia. Due to the government's perspective used in the research, the media actually controlled by media conglomerates and politicians have tended to support all programs promoted by the government. It has influenced the news in the owned media or which under the control of these media conglomerates.

***Keywords:** DNA, detikcom, KOMPAS.com, media conglomeration, nuclear power plants*

Abstrak

Penelitian ini bertujuan untuk mengetahui wacana yang muncul terkait pembangunan pembangkit listrik tenaga nuklir (PLTN) di Indonesia pada *detikcom* dan *KOMPAS.com* sebagai platform media berita daring dari konglomerasi media, yang merentang dari 1 Agustus 2022 hingga 31 Agustus 2023 sekaligus membandingkan dan mencari perbedaan wacana yang ada dengan menggunakan metode *Discourse Network Analysis* (DNA). Pembangunan PLTN terseler sejalan dengan target kebutuhan nuklir di Indonesia yang akan dimulai pada tahun 2040 sesuai peta jalan energi pemerintah melalui program Kementerian Energi dan Sumber Daya Mineral (ESDM), dan urgensi global bahwa tenaga nuklir merupakan energi alternatif ramah lingkungan pengganti energi fosil sejalan dengan

 ISSN 2085-1979, EISSN 2528-2727

transisi energi untuk mencapai target nol emisi karbon pada tahun 2060. Penelitian ini menunjukkan bahwa wacana yang muncul dari seluruh artikel berita pada *detikcom* dan *KOMPAS.com* mendukung pemerintah untuk membangun PLTN di Indonesia. Berdasarkan sudut pandang pemerintah yang digunakan dalam penelitian tersebut, media yang sebenarnya dikuasai oleh konglomerat media dan politisi cenderung mendukung semua program yang diusung pemerintah. Hal ini memengaruhi pemberitaan di media tersebut ataupun media yang berada di bawah kendali para konglomerat media tersebut.

Kata Kunci: *DNA, detikcom, KOMPAS.com, konglomerasi media, PLTN*

Introduction

Science topics are often raised through various media platforms. If we try to go back to mid-2006, the international community was shown to have problems with science, namely how the public doubted global warming. In line with that, currently there is a hot topic in the context of environmental science in Indonesia, namely environmentally friendly nuclear technology. Based on the application of environmentally friendly nuclear technology, we recognize two sectors, namely the energy sector (nuclear power plants or PLTN) and the non-energy sector (agriculture, livestock, health, industry, etc.). The energy sector, through the representation of nuclear power plants, is the focus of research on the issue of environmentally friendly nuclear technology. Nuclear power is controversial subject that raises a lot of debates that impact the public perception of the value of atom as energy source, and consequently a country's development policy (Sharonova & Sharma, 2016).

According to the energy roadmap that has been prepared by the government through the Indonesian Ministry of Energy and Mineral Resources (ESDM), it is known that the new nuclear demand target will begin in 2040. According to an energy economics observer at Gadjah Mada University, Fahmy Radhi, currently the government must be serious about building a nuclear power plant. Moreover, the government will form a Nuclear Energy Supervisory Agency under and directly responsible to the president, which also shows the government's serious commitment to developing nuclear power plants in Indonesia (Tempo.co, 2022). Globally, the development of nuclear power plants for Indonesia as the largest archipelagic country is very much in line with the energy transition in order to achieve the target of zero carbon emissions by 2060, because nuclear power is a clean energy as well as an alternative to fossil energy.

The important thing in developing nuclear power plants in Indonesia is to continue to prioritize security and safety for humans as a whole and also the environment. Indonesia is wisely to learn from developed countries that have already developed nuclear technology and built nuclear power plants such as Russia and Japan, as well as learning from several global nuclear disasters that have occurred such as the Chernobyl tragedy in 1986 and the Fukushima Daiichi tragedy in 2011. Many scientists have conducted research after the extraordinary tragedy in Fukushima.

In the context of nuclear power development in Russia as a nuclear power country, the objectives of developing reactor technology for the transition to two-component nuclear power with thermal and fast reactors, the problems arising in the analysis of development scenarios, and the uncertainty of the resource base and technical-economic performance must be comprehensively discussed. It can be seen that attempts to detail the structure of the nuclear power system in the second half of the 21st century did not produce clear results, thereby providing a strong rationale for taking strategic decisions. Therefore, future work on strategic development is focused on key decision-making periods regarding the application of new reactor technologies (Alekseev et al., 2019), (Bol'Shov & Linge, 2020).

There are at least three conditions that must be fulfilled by the government so that the development of nuclear power plants can run smoothly in Indonesia: (1) the President must have a strong commitment to realizing the nuclear power plant, at least this commitment is similar to President Jokowi's commitment to building toll roads; (2) The House of Representatives (DPR RI) and the National Energy Council (DEN) must realize Jokowi's commitment by changing the National Energy Policy (KEN), which has so far placed nuclear energy as the last alternative to become the top priority energy; (3) The government needs to carry out a public campaign to increase the level of public acceptance of the use of nuclear power plants. This third point is crucial in forming a mindset as well as educating the public to obtain accurate instead of misleading information regarding nuclear technology and nuclear power plants.

The media is basically a means of educating the public through balanced and accurate reporting. One of good practices in the education process by the media regarding nuclear safety and risk was carried out by three Japanese national newspapers, *The Asahi*; *The Yomiuri*; and *The Nihon Keizai*, which discussed Japan's nuclear safety after the nuclear disaster, as well as explaining the relationship between Japanese newspapers and Japan's nuclear policy before the major disaster allowing for editorial analysis. In doing so, the newspapers sought to improve nuclear safety, in spite of not going into the realm of critical discussion of all the possibilities related to phasing out nuclear power; allayed public concerns about nuclear risks; and promoted dialogue between concerned citizens and policy makers after the disaster (Abe, 2015).

However, there are times when the media conveys inaccurate news. In mid-2020, *Netflix* released a new documentary series entitled *History 101*, where each episode gave viewers a short history lesson on various hot topics, including nuclear power (Office of Nuclear Energy, 2020). Unfortunately, several points of inaccuracy occurred and were conveyed to the public, among others: having a nuclear power plant is the same as having nuclear weapons capability (even though the nuclear power plant is clearly not used to manufacture nuclear weapons); the existence of a nuclear power plant makes destruction imminent (even though nuclear damage is not an immediate threat); and exposure to any radiation can cause cancer in humans (whereas exposure to even small doses is unlikely to cause cancer). Hence, public perception about nuclear power is commonly wrong due to identifying it with bombs and always linking nuclear power plants with the dangers of radiation and nuclear accidents. Apart from that, there is a tendency for the

 ISSN 2085-1979, EISSN 2528-2727

community to agree and accept the government's plan to build a nuclear power plant provided that the government can guarantee security, and that the community will receive clear benefits and advantages as a result of the presence of a nuclear power plant in its area (Herawati & Sudagung, 2020).

With the various good practices and case studies above, it is very clear that one effective way to communicate nuclear science issues, especially regarding nuclear power plants to the public accurately and quickly is still through the media including online media. Like political debates which change over time, making it possible to follow developments (Muller, 2015), news in online media is also dynamic and can even be accessed in real time. Media discourse regarding nuclear power plants is not only found in news articles, even on television networks and in cartoons (Portelli, 2017). In line with technological developments, media discourse is no longer only found in conventional media but occurs in various new media. In the context of this research, online news related to plans of building nuclear power plants as a form of environmentally friendly nuclear technology used sources from *detikcom* (*PT Trans Digital Media* as the media owner) and *KOMPAS.com* (*KG Media* as the media owner) as a representation of online news media platforms of media conglomeration.

On the issue of building nuclear power plants in Indonesia, there have been various discourses on *detikcom* and *KOMPAS.com* from various actors. Therefore, this research was conducted to answer the following main question: what is the emerging discourse regarding the development of nuclear power plants in Indonesia on *detikcom* and *KOMPAS.com* as online news media platforms of media conglomeration? Based on this explanation, this research has aimed to determine the emerging discourse as stated on these two online media platforms, as well as comparing and looking for any differences on the topic of the development of nuclear power plants in Indonesia. Discourse becomes a form of construction, definition and production of objects of knowledge in a way that is accepted by reason while eliminating other forms of reasoning.

The significance of this research is as a science communication strategy to the public on the issue of environmentally friendly nuclear technology in Indonesia for various actors, both individuals (scientists, academics, environmental practitioners/activists, and politicians) and organizations (scientific research institutions such as the National Research and Innovation Agency or BRIN, universities, environmental nonprofit organizations or NGOs, and political parties). Apart from that, the results of this research can also support policy making strategies by the government and actors on the issue of nuclear power plant development in Indonesia. It should be noted that the issue of nuclear power plants is political and cross-institutional, which includes regulatory bodies (Commission VII of DPR RI, Nuclear Energy Supervisory Agency or BAPETEN, Indonesian Ministry of Energy and Mineral Resources and other related ministries), as well as operator bodies (BRIN which is currently a national hub for research and innovation, including in the context of nuclear technology).

Based on the results of a literature study, the previous research related to discourse analysis of nuclear power plant development in online media was only carried out in 2020 by mapping out the pros and cons of media forces on nuclear power plant development through a quantitative approach to look at how the discourse was framed by the media, and described the intervention of various actors and socio-cultural dimensions in producing the discourse with a critical paradigm (Sugiono, 2020). Therefore, this research has focused on efforts to update the previous study, namely mapping and comparing the discourse that has emerged regarding the development of nuclear power plants in Indonesia through specific online news media platforms with a constructivist paradigm. In this case, *detikcom* and *KOMPAS.com* are the media chosen out of the media conglomeration. This is unique and provides novelty. As previously stated, the nuclear power plant issue is very political and influences government policy. Moreover, media conglomerates can influence political parties or other politicians regarding the portion of reporting on the nuclear power plant issue in the media they own.

In this research a discourse coalition was also implemented to assist in observing the discourse on the development of nuclear power plants in Indonesia on *detikcom* and *KOMPAS.com*. Discourse coalitions in this case are considered capable of explaining how different actor coalitions are (Eriyanto, 2022). Specifically, this helps out responding to plans for nuclear power plant development in Indonesia, looking at the relationships between actors and the strength of each discourse coalition as well as the actors themselves.

Methods

As a literature review, understanding the concept of media ownership in media theory (Hesmondhalgh, 2010) with the concept of cultural political economy (Sum & Jessop, 2013) opens up the connection between actors (individuals, organizations and media) in influencing how nuclear technology issues (specifically on nuclear power plants in Indonesia) reported by the media, as well as how this issue is understood and criticized by actors. By taking Hesmondhalgh's perspective regarding media industry and production that recognizes the important role of media ownership in shaping views, ideology and understanding in society, as well as the concept of cultural political economy by Sum & Jessop, we can see how media ownership as a structure of political economic power can influence media production and distribution. This has led to media conglomerations, which play an important role in regulating public opinion. So, this research argued that conglomeration in the media can influence how information about environmentally friendly nuclear technology, specifically the construction of nuclear power plants in Indonesia is conveyed to the public, and the same media owners are able to influence the dominant narrative about this technology. On the other hand, nuclear scientists as science communication actors need to collaborate with the media to convey accurate and reliable information to the public.

 ISSN 2085-1979, EISSN 2528-2727

In fact, media conglomeration refers to the phenomenon where a large number of mass media such as television stations, newspapers, radio and news websites are owned or controlled by a small number of companies or large groups. It can have a significant impact on how information is conveyed, accessed, and processed by society as well as how scientists understand the role of media in society.

With the influence of conglomeration in the media and its relationship to the economic, political and cultural context, it is vulnerable to a concentration of power in the hands of a large number of media companies. This can affect the way news and information is delivered to the public, and limit the diversity of perspectives on media content choices. Especially if the owners of large media companies have significant political influence, due to they having a platform to influence the views of society and politicians. In turn, this phenomenon determines how large a portion of scientific information in nuclear science issues is in the media including online media, which also has an impact on the acceptability of nuclear science issues to society. Moreover, this is intertwined with the power relations that media conglomerates have with the government, because the government actually has the power to shape discourse (Susanto, 2017).

This research used the Discourse Network Analysis (DNA) method, which helps measure discourses from actors systematically and connects them with network analysis (Leifeld, 2017). This DNA method maps and explains the use of discourse or concepts by actors in policy making, helps to reveal networks or affiliations in decision making, for example linkages, similarities and discourse conflicts between actors in the political arena (Leifeld, 2020); (Fergie et al., 2019). There are several examples of public policy studies using DNA, such as the policy on determining minimum prices for alcoholic beverages in the UK (Fergie et al., 2019), the policy on the use of nuclear energy in Japan and Germany (Rinscheid, 2015), the policy regarding the Covid-19 issue in Indonesia (Eriyanto, 2020), and the policy of eliminating coal energy in Germany (Markard et al., 2021).

Since the basic concept of DNA is to see relationships between actors, concepts or discourses, and affiliations; then the data found can be processed using DNA to explore actor networks, discourse networks, affiliation networks, network similarities (congruence), and conflict networks between actors (Sumirat & Eriyanto, 2023). In this research, DNA was used to see the emerging actors, the dominant actors, and the actors initiating certain discourses. The mapping of the discourse and its affiliations was then carried out to see the network of the two. Next, the results of the three mappings were used to see similarities and conflicts in the discourse network. In line with that, this research also applied the DNA method to map the position of each discourse and actor present on the issue of nuclear power plant development in Indonesia.

This research applied DNA to look at discourse networks and actors related to the issue of nuclear power plant development in Indonesia. DNA was also used as a guide from the data collection process to discourse network analysis. The initial step taken was collecting news in the media *detikcom* and *KOMPAS.com* which contained the opinions of actors regarding the issue of building nuclear power plants in Indonesia. The two media, *detikcom* and *KOMPAS.com* have been chosen

as samples of online media platforms because they represent media conglomeration, which correlate with the political side of the media conglomerates including their influence on political parties and other politicians. This is related to the fact that the nuclear power plant issue has political value and related to government policy. Apart from that, *detikcom* is the most visited online media in Indonesia based on the data of Digital News Report 2023 from the Reuters Institute, this is also the case with *KOMPAS.com* (the online media version of KOMPAS) as the most trusted media in 2023 based on the same report (Reuters Institute & University of Oxford, 2023).

The news search process was determined by the keyword "PLTN in Indonesia" within a period of one year from 1 August 2022 to 31 August 2023. Restrictions through keywords were carried out in order to narrow down the findings focusing on news about the development of PLTN in Indonesia. The search time period was taken with the justification that one year is sufficient time to collect news related to the construction of nuclear power plants in Indonesia, despite the fact that nuclear content is considered less interesting and too scientific.

The softwares used in this research were Python and Octoparse, Discourse Network Analyzer, and Visone. The news search and retrieval process were carried out with Python and Octoparse. Both of these softwares search and retrieve news specifically and comprehensively based on the needs of their users (Lv, 2020); (Matta et al., 2022). The next process was to identify the actors and discourse contained in the news by utilizing Discourse Network Analyzer software. Furthermore, Visone was chosen as data visualization and statistics software in this research after having been exported from Discourse Network Analyzer.

Results and Discussion

As previously stated, the discourse and actors that emerged regarding the development of nuclear power plants in Indonesia through news on *detikcom* and *KOMPAS.com*, which contained the opinions of these actors became the objects of this research. Then, several stages were carried out to obtain results according to the research target. The process of automatically retrieving data (crawling) from selected media websites was carried out using Python as a search engine. From *detikcom* there have been 1640 news articles from the crawling process, while from *KOMPAS.com* there have been 1870 news articles. However, the results of this crawling required data extraction (scraping) for data processing using the Octoparse tool, resulting in files of spreadsheet form. This has produced 267 news articles on *detikcom* and 226 news articles on *KOMPAS.com*. Next, the researchers carried out manual screening to ensure that the news article data obtained was truly precise and accurate from the two media sources according to the keyword "PLTN in Indonesia". A total of 19 news articles have been produced from this screening process, namely: 12 from *detikcom* and 7 from *KOMPAS.com*.

Furthermore, in the coding process through identifying actors and discourse contained in the news of the two media using Discourse Network Analyzer software, the researchers were able to analyze and map the network of connections between actors and the discourse they carried including the organization of these

 ISSN 2085-1979, EISSN 2528-2727

actors. From this coding process, 34 statements have been obtained on the nuclear power plant issue in Indonesia from 23 actors in two media sources, namely: 20 statements on *detikcom* and 14 statements on *KOMPAS.com*. The distribution of actors that gave statements is shown in Figure 1.

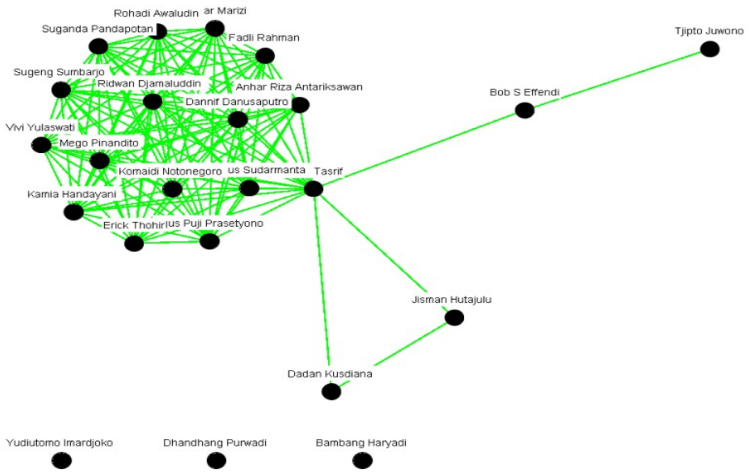

Figure 1: Actor (one mode) to determine the actor network through actor-concept variables (Source: Researcher Documentation)

All identified actors have been spread across 4 organizations namely government, expert, politician, and academics. The organizational distribution of the actors is shown in Figure 2.

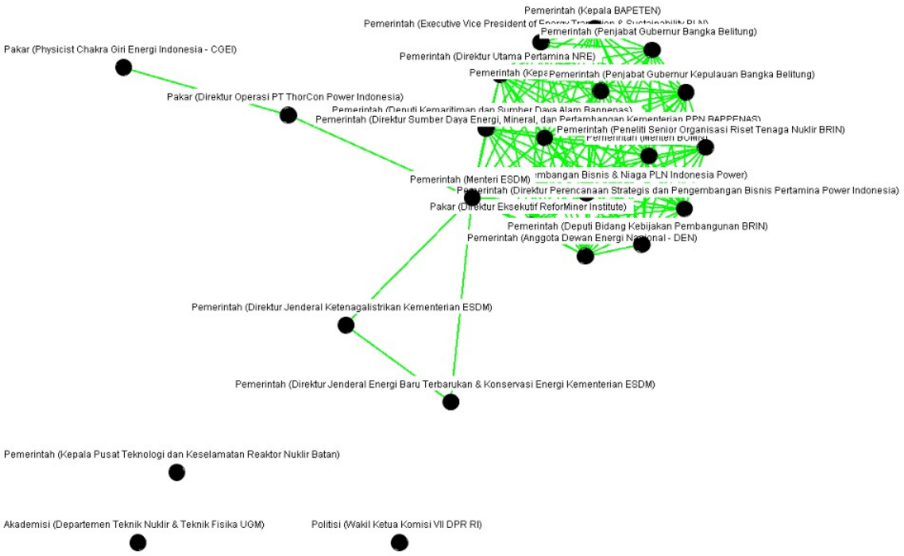

Figure 2: Organization (one mode) to determine the actor network through organizational-concept variables (Source: Researcher Documentation)

Next, all the collected statements were clustered into 6 discourses (concepts) shown in Figure 3 namely: getting government support, receiving support from the House (DPR), receiving private support, receiving academic support, PLTN cooperation with South Korea, and nuclear reactor accidents.

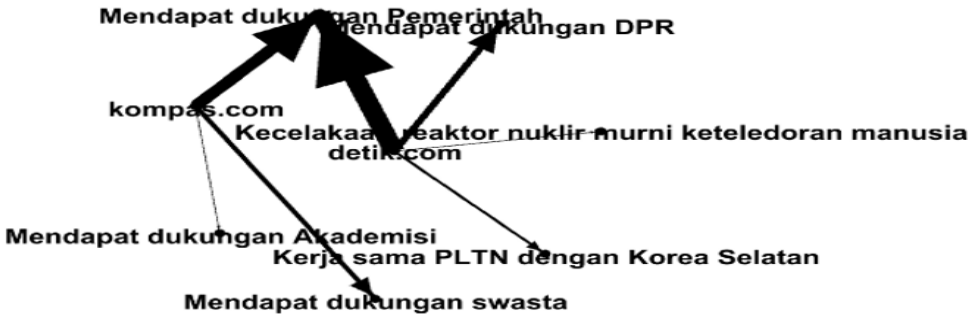

Figure 3: Media-discourse differences (two modes)
(Source: Researcher Documentation)

In the context of media and organizational coalitions, the organizational distribution of actors on *detikcom* and *KOMPAS.com* is shown in Figure 4.

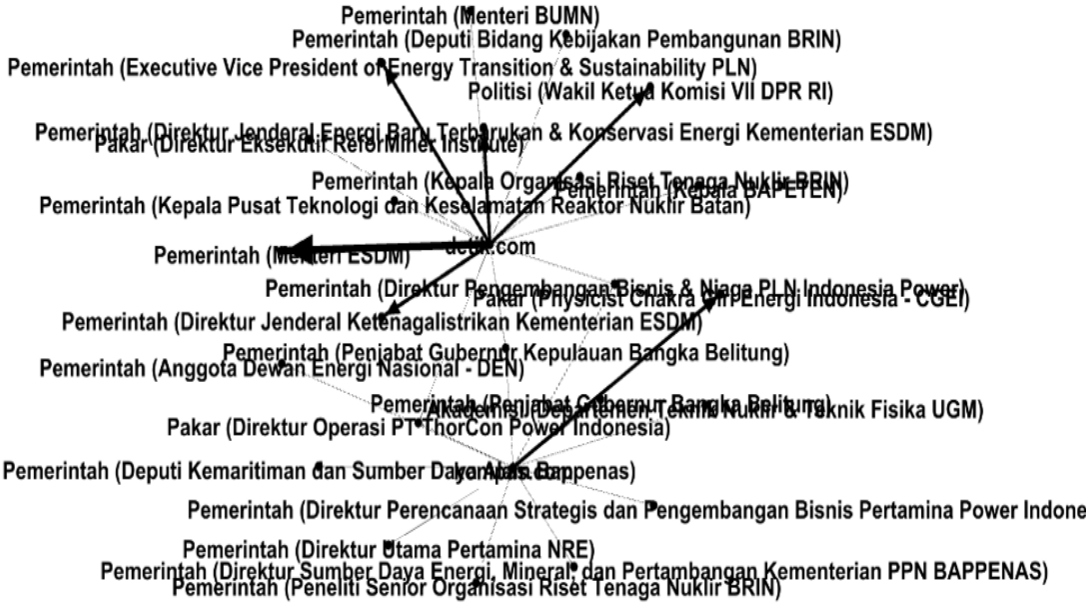

Figure 4: Media-organization differences (two modes) (Source: Researcher Documentation)

The following table 1 shows the coalition between concepts (discourse) and organizations on the issue of building nuclear power plants in Indonesia on *detikcom* and *KOMPAS.com*.

 ISSN 2085-1979, EISSN 2528-2727

Table 1. Description Of The Concept-Organization Coalition On The Issue Of Building Nuclear Power Plants In Indonesia

No	Name	Variable	Frequency	Degree (%)	Closeness (%)	Betweenness (%)
1	Akademisi (Departemen Teknik Nuklir & Teknik Fisika UGM)	organization	1	18.5	0.4	0.0
2	Kecelakaan reaktor nuklir murni keteledoran manusia	concept	1	18.5	0.4	0.0
3	Kerja sama PLTN dengan Korea Selatan	concept	2	37.0	39.1	10.9
4	Mendapat dukungan Akademisi	concept	1	18.5	0.4	0.0
5	Mendapat dukungan DPR	concept	5	5.5	3.7	38.1
6	Mendapat dukungan DPR	concept	2	18.5	0.4	0.0
7	Mendapat dukungan Pemerintah	concept	18	2.9	6.4	4.2
8	Mendapat dukungan Pemerintah	concept	1	18.5	30.7	0.0
9	Mendapat dukungan swasta	concept	3	37.0	2.4	39.9
10	Pakar (Direktur Eksekutif ReforMiner Institute)	organization	1	18.5	4.1	0.0
11	Pakar (Direktur Operasi PT ThorCon Power Indonesia)	organization	2	37.0	3.0	7.6
12	Pakar (Physicist Chakra Giri Energi Indonesia - CGEI)	organization	2	18.5	20.0	0.0
13	Pemerintah (Anggota Dewan Energi Nasional - DEN)	organization	1	18.5	4.1	0.0
14	Pemerintah (Deputi Bidang Kebijakan	organization	1	18.5	4.1	0.0

	Pembangunan BRIN)					
15	Pemerintah (Deputi Kemaritiman dan Sumber Daya Alam Bappenas)	organization	1	18.5	4.1	0.0
16	Pemerintah (Direktur Jenderal Energi Baru Terbarukan & Konservasi Energi Kementerian ESDM)	organization	2	18.5	28.3	0.0
17	Pemerintah (Direktur Jenderal Ketenagalistrikan Kementerian ESDM)	organization	2	18.5	28.3	0.0
18	Pemerintah (Direktur Pengembangan Bisnis & Niaga PLN Indonesia Power)	organization	2	37.0	4.2	39.9
19	Pemerintah (Direktur Perencanaan Strategis dan Pengembangan Bisnis Pertamina Power Indonesia)	organization	1	18.5	4.1	0.0
20	Pemerintah (Direktur Sumber Daya Energi, Mineral, dan Pertambangan Kementerian PPN BAPPENAS)	organization	1	18.5	4.1	0.0
21	Pemerintah (Direktur Utama Pertamina NRE)	organization	1	18.5	4.1	0.0
22	Pemerintah (Executive Vice President of Energy Transition & Sustainability PLN)	organization	2	18.5	4.1	0.0

 ISSN 2085-1979, EISSN 2528-2727

23	Pemerintah (Kepala BAPETEN)	organization	1	18.5	4.1	0.0
24	Pemerintah (Kepala Organisasi Riset Tenaga Nuklir BRIN)	organization	1	18.5	4.1	0.0
25	Pemerintah (Kepala Pusat Teknologi dan Keselamatan Reaktor Nuklir Batan)	organization	1	18.5	0.4	0.0
26	Pemerintah (Menteri BUMN)	organization	1	18.5	4.1	0.0
27	Pemerintah (Menteri ESDM)	organization	3	5.5	5.2	22.7
28	Pemerintah (Peneliti Senior Organisasi Riset Tenaga Nuklir BRIN)	organization	1	18.5	4.1	0.0
29	Pemerintah (Penjabat Gubernur Bangka Belitung)	organization	1	18.5	4.1	0.0
30	Pemerintah (Penjabat Gubernur Kepulauan Bangka Belitung)	organization	2	18.5	4.1	0.0
31	Politisi (Wakil Ketua Komisi VII DPR RI)	organization	2	18.5	0.4	0.0

(Source: Research Result, 2023)

Furthermore, table 2 shows the coalition between concepts (discourse) and actors on the issue of building nuclear power plants in Indonesia on *detikcom* and *KOMPAS.com*. This explains that we need to know the concept coalition (discourse) along with the actors and the organizations to which the actors are affiliated.

Table 2. Description Of The Concept-Actor Coalition On The Issue Of Nuclear Power Plant Development In Indonesia

No	Name	Variable	Frequency	Degree (%)	Closeness (%)	Betweenness (%)
1	Agus Puji Prasetyono	person	1	18.5	4.1	0.0
2	Anhar Riza Antariksawan	person	1	18.5	4.1	0.0

3	Arifin Tasrif	person	3	5.5	5.2	22.7
4	Bambang Haryadi	person	2	18.5	0.4	0.0
5	Bernadus Sudarmanta	person	2	37.0	4.2	39.9
6	Bob S Effendi	person	2	37.0	30.3	7.6
7	Dadan Kusdiana	person	2	18.5	2.8	0.0
8	Dannif Danusaputro	person	1	18.5	4.1	0.0
9	Dhandhang Purwadi	person	1	18.5	0.4	0.0
10	Erick Thohir	person	1	18.5	4.1	0.0
11	Fadli Rahman	person	1	18.5	4.1	0.0
12	Jisman Hutajulu	person	2	18.5	2.8	0.0
13	Kamia Handayani	person	2	18.5	4.1	0.0
14	Kecelakaan reaktor nuklir murni keteledoran manusia	concept	1	18.5	0.4	0.0
15	Kerja sama PLTN dengan Korea Selatan	concept	2	37.0	39.1	10.9
16	Komaidi Notonegoro	person	1	18.5	4.1	0.0
17	Mego Pinandito	person	1	18.5	4.1	0.0
18	Mendapat dukungan Akademisi	concept	1	18.5	0.4	0.0
19	Mendapat dukungan DPR	concept	5	5.5	3.7	7.8
20	Mendapat dukungan DPR	concept	2	18.5	0.4	0.0
21	Mendapat dukungan Pemerintah	concept	18	2.9	6.4	4.2
22	Mendapat dukungan Pemerintah	concept	1	18.5	3.0	0.0
23	Mendapat dukungan swasta	concept	3	37.0	24.3	39.9
24	Nizhar Marizi	person	1	18.5	4.1	0.0
25	Ridwan Djamaluddin	person	2	18.5	4.1	0.0
26	Rohadi Awaludin	person	1	18.5	4.1	0.0
27	Suganda Pandapotan	person	1	18.5	4.1	0.0
28	Sugeng Sumbarjo	person	1	18.5	4.1	0.0
29	Tjipto Juwono	person	2	18.5	20.0	0.0
30	Vivi Yulaswati	person	1	18.5	4.1	0.0
31	Yudiutomo Imardjoko	person	1	18.5	0.4	0.0

(Source: Research Result, 2023)

The following table 3 shows the coalition between sources (*detikcom* and *KOMPAS.com*) and concepts (discourse) related to the issue of nuclear power plant development in Indonesia. Through this table, the results of the clustering of statements regarding concepts (discourse) on *detikcom* and *KOMPAS.com* from a total of 6 existing concepts (discourse) are also clearly visible. Of the total 34 statements, 20 statements have been on *detikcom* and 14 statements on *KOMPAS.com*.

Table 3. Description Of The Source-Concept Coalition On The Issue Of Nuclear Power Plant Development In Indonesia

	Kecelakaan reaktor nuklir murni keteledoran manusia	Kerja sama PLTN dengan Korea Selatan	Mendapat dukungan Akademisi	Mendapat dukungan DPR	Mendapat dukungan Pemerintah	Mendapat dukungan swasta
detik.com	1	2	0	7	10	0
kompas.com	0	0	1	0	10	3

(Source: Research Result, 2023)

As the final table is a coalition between the sources (*detikcom* and *KOMPAS.com*) and the actors' organizations. This table also shows the grouping of occupational or structural and professional positions of actors into 4 organizations (experts, government, politicians and academics).

Table 4. Description Of The Source-Organization Coalition On The Issue Of Building Nuclear Power Plants In Indonesia

No	Name	detik.com	kompas.com
1	Akademisi (Departemen Teknik Nuklir & Teknik Fisika UGM)	0	1
2	Pakar (Direktur Eksekutif ReforMiner Institute)	1	0
3	Pakar (Direktur Operasi PT ThorCon Power Indonesia)	1	1
4	Pakar (Physicist Chakra Giri Energi Indonesia - CGEI)	0	2
5	Pemerintah (Anggota Dewan Energi Nasional - DEN)	0	1
6	Pemerintah (Deputi Bidang Kebijakan Pembangunan BRIN)	1	0
7	Pemerintah (Deputi Kemaritiman dan Sumber Daya Alam Bappenas)	0	1
8	Pemerintah (Direktur Jenderal Energi Baru Terbarukan & Konservasi Energi Kementerian ESDM)	2	0
9	Pemerintah (Direktur Jenderal Ketenagalistrikan Kementerian ESDM)	2	0
10	Pemerintah (Direktur Pengembangan Bisnis & Niaga PLN Indonesia Power)	1	1
11	Pemerintah (Direktur Perencanaan Strategis dan Pengembangan Bisnis Pertamina Power Indonesia)	0	1
12	Pemerintah (Direktur Sumber Daya Energi, Mineral, dan Pertambangan Kementerian PPN BAPPENAS)	0	1
13	Pemerintah (Direktur Utama Pertamina NRE)	0	1
14	Pemerintah (Executive Vice President of Energy Transition & Sustainability PLN)	2	0
15	Pemerintah (Kepala BAPETEN)	1	0
16	Pemerintah (Kepala Organisasi Riset Tenaga Nuklir BRIN)	1	0
17	Pemerintah (Kepala Pusat Teknologi dan Keselamatan Reaktor Nuklir Batan)	1	0
18	Pemerintah (Menteri BUMN)	1	0

19	Pemerintah (Menteri ESDM)	3	0
20	Pemerintah (Peneliti Senior Organisasi Riset Tenaga Nuklir BRIN)	0	1
21	Pemerintah (Penjabat Gubernur Bangka Belitung)	0	1
22	Pemerintah (Penjabat Gubernur Kepulauan Bangka Belitung)	1	1
23	Politisi (Wakil Ketua Komisi VII DPR RI)	2	0

(Source: Research Result, 2023)

This research compared the discourse in online media represented by *detikcom* and *KOMPAS.com* out of media conglomeration related to nuclear power plants in Indonesia. By limiting the keyword "PLTN in Indonesia" for the news search process and a time span of one year from 1 August 2022 to 31 August 2023, this research has been specific with its findings. In spite of the fact that any news related to nuclear seems too scientific, less interesting, and rarely reported in online media; the search time has been considered sufficient to collect news related to the construction of nuclear power plants in Indonesia. The data of Digital News Report 2023 from the Reuters Institute has made the researcher choose *detikcom*, the most visited online media in Indonesia and *KOMPAS.com*, the most trusted media to be the main news sources for the research.

Over the past year, the issue of building a nuclear power plant in Indonesia has become increasingly intense amid global geopolitical dynamics over the Russia-Ukraine conflict, which is considered to have the potential to become a nuclear war. Apart from that, various events occurred in mid-2022 correlated with the issue of nuclear power plants in Indonesia including President Jokowi's meetings with some world leaders (President Putin of Russia and President Zelensky of Ukraine), and some additional events (G7 Summit in Germany, the International Atom Expo XII exhibition in Russia, and the Joint Working Meeting with Commission VII of DPR RI).

The similarities and differences are very interesting to know. According to the clustering of statements on discourse or concepts, the discourse of "getting government support" turns out to have been found both on *detikcom* and *KOMPAS.com*. Meanwhile, the discourse on "receiving DPR support", the discourse on "PLTN cooperation with South Korea", and the discourse on "nuclear reactor accident" were only found on *detikcom*. Whereas, the discourse on "getting private support" and the discourse on "getting academic support" were only found on *KOMPAS.com*.

In addition, the actor clustering is also very diverse. Actors from the government sector are the same both on *detikcom* and *KOMPAS.com* including ministers in the energy sector (Minister of Energy and Mineral Resources and Minister of BUMN), officials in ministries or institutions and BUMN such as PLN and PLN Indonesia Power, regional officials or leaders especially in the Bangka Belitung Islands Province, researchers or scientists in government institutions such as BRIN, BAPETEN, as well as national institutions such as the National Energy Council or DEN. Meanwhile, the legislative sector specifically comes from Commission VII of DPR RI, which handles science and technology and energy

 ISSN 2085-1979, EISSN 2528-2727

issues as a partner of BRIN, BAPETEN and the Ministry of Energy and Mineral Resources.

It is also interesting for us to know about the actors that appeared on *KOMPAS.com*. In the private sector, emerging actors included scientists from non-governmental research institutions or independent research institutions such as the ReforMiner Institute, Chakra Giri Energi Indonesia (CGEI), and PT Thorcon Power Indonesia. Meanwhile, in the education sector or from academic circles, the actors that emerged in this case came from the Nuclear Engineering study program, Gadjah Mada University (UGM).

Nonetheless, another interesting thing from the results of this research is that the discourse that emerged from all news articles on *detikcom* and *KOMPAS.com* is for the plans of building nuclear power plants in Indonesia. This is because the used perspective has been somewhat the government's perspective. Hence, the media in the context of media conglomeration controlled by media conglomerates that are also politicians have tended to support all programs promoted by the government. This surely influences the news that appears in the media owned or under the control of the media conglomerates.

The findings presented in the figures and tables are very significant to this study with discourse coalitions to help observe the discourse, explain the differences in actor coalitions by looking at the relationship between actors. In addition, the findings are also in accordance with media theory that recognizes the important role of media ownership in shaping views, ideologies, and understandings in society. Moreover, it is also related to the structure of political economic power that can influence media production and distribution. The DNA constitutes a study of communication in media reporting, where the media cannot be separated from the actor network in the research results. In this case, the actors conveyed discourse through *detikcom* and *KOMPAS.com* as a communication channel.

Conclusion

In the context of environmental science in Indonesia, currently the issue of environmentally friendly nuclear technology has become a hot topic, which in the last year has been widely reported on online media in the country. The energy sector of environmentally friendly nuclear technology represented by Nuclear Power Plants or PLTN is the focus of this research. Of course, this justification is supported by the urgency of nuclear power plants which have actually become an important alternative to build in Indonesia. This is in accordance with the target for nuclear needs in the country to start in 2040 according to the government's energy roadmap through the Ministry of Energy and Mineral Resources, as well as the global urgency of nuclear power as an alternative clean energy to replace fossil energy. Hence, the development of nuclear power plants in Indonesia is considered crucial and in harmony with the energy transition in order to achieve the target of zero carbon emissions by 2060.

This research correlated the issue of nuclear power plant development in Indonesia with the influence of conglomeration in the media and its relationship to the economic, political and cultural context, in accordance with the concept of media ownership in media theory with the concept of cultural political economy. Therefore, this research made *detikcom* owned by PT Trans Digital Media and *KOMPAS.com* owned by KG Media as the representatives of online news media platforms from media conglomeration, which discussed the issue of nuclear power plant development in Indonesia through various actors and organizations from 1 August 2022 to 31 August 2023.

This research predominantly used a government perspective based on the overall results of statements and discourse in the news articles that appeared. Hence, this gave a positivistic impression. Nevertheless, the researchers recommend the need for a critical approach to be used as a balance in any similar studies, so that discussions on the plans of nuclear power plant development in Indonesia can be balanced with all possibilities and risks that may occur including Indonesia's readiness, as well as considerations from non-governmental organizations (environmental NGOs). The nuclear debate is actually interesting somehow, even though further studies must be more longitudinal or long-term. This is because the nuclear issue started in the mid-1970s, so it would be more comprehensive if we could compare the differences and changes from the 1970s to the present.

Acknowledgements

We would like to express our gratitude to the Postgraduate Program of Communication Science of the University of Indonesia for providing us with the Digital Research Methods course as the source of this research. Our deep gratitude also goes to the *Jurnal Komunikasi* of Tarumanagara University for the valuable opportunity to publish this article.

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