
DIGITAL MEDIA COMMUNICATION

Sentiment of Indovac Vaccine Launch News on Detik.com Using Discourse Network Analysis

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Abstract

This study aims to determine the sentiment of the news of the domestically produced IndoVac Vaccine launch. The pros and cons sentiments of Detik.com's coverage were analyzed using Discourse Network Analysis (DNA) and network visualization using Visone software. The study results are based on news related to the IndoVac vaccine from September 3 to November 30, 2022; there are 50 news stories with 193 statements from 33 Actors. Information, Policy, and Education categories were found, with 93% positive and 7% negative statements. The influence of the IndoVac Vaccine makes social media users more careful in digging up information to understand media coverage, especially regarding the IndoVac vaccine.

Keywords: Indovac Vaccine; News; Detik.com; Discourse; Network Analysis.

Introduction

Indonesia is a country with a large number of Covid-19 patients. Based on WHO data, as of May 2023, the number of confirmed cases in Indonesia reached 6.8 million. Still, with the same data, the highest number of daily cases was recorded on February 14, 2023, with 389,727 cases. Meanwhile, the highest death rate reached 12,444 people on July 26, 2021. With this number, Indonesia once had the highest number of daily Covid cases worldwide.

One of the efforts made by countries to overcome the Covid-19 outbreak is to accelerate vaccine production. By the end of 2020, several pharmaceutical companies in America, Europe, and China have completed clinical trials on the Covid-19 vaccine. In early 2021, several vaccine products began to be distributed to affected countries under WHO supervision.

In Indonesia itself, the administration of vaccines to the public began on January 13, 2021. Indonesian President Joko Widodo was the first to get a vaccine injection from Sinovac products. Based on data from WHO, as of January 16, 2023, more than 400 million vaccine doses have been distributed to people in Indonesia, some of which are booster doses. Of the many existing Covid-19 vaccine products, Indonesia is also trying to produce domestically.

IndoVac vaccine is a domestically produced vaccine developed by PT Bio Farma in collaboration with Baylor College of Medicine, USA. The government maintains the health sector and also strengthens the independence of the national health sector by introducing the IndoVac vaccine in

Indonesia so that dependence on foreign vaccines can be reduced. IndoVac vaccine is also the first domestically produced COVID-19 vaccine to receive Emergency Use Authorization (EUA) from the Food and Drug Administration (BPOM RI) on September 24, 2022. With the Indovac EUA vaccine issuance, BPOM obtained a Halal Fatwan from the Indonesian Ulema Council (MUI) and a Halal Certificate from the Halal Product Guarantee Organizer.

The production of the IndoVac Vaccine has become a public conversation in Indonesia. Google Trends recorded IndoVac Vaccine as the main public conversation in Indonesia on October 9 - 15, 2022, as shown in the following graph.

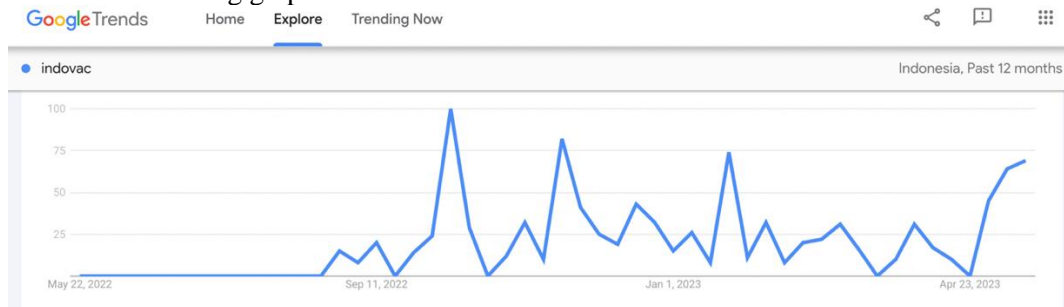


Figure.1 IndoVac Vaccine Topic Graph
Source : Googletrends.com

The topic of conversation that develops in society must be distinct from the news in the media and the internet. One of the characteristics of society in the modern developed world is inseparable from everything related to technology. Today's lives depend on technology for specific daily activities and very complex ones. Technological developments have created vast information and communication resources compared to what was already available to humans. The world moved from the era of industrialization to the era of information, giving rise to the information society.

According to Hammer (in Nurudin, 2007), information is identified as a commodity that can be sold, copied, created, misinterpreted, misappropriated, and even stolen. Simply put, many people already understand the nature and ownership of information and have concepts that still need to be understood. Besides material potential and energy, information is one of the three primary resources. Therefore, it is assumed that information, like matter and energy, has no practical use if it does not work and that information can only be operated through communication. Rogers explained that an information society is where most of the workforce is employed in the information sector, and information has become the most crucial element in life. Nowadays, mobile phones have changed their function as a communication tool and a tool for searching for information on the internet. In the era of information technology, the development of the internet is increasing every year.

Internet as a new media "New Media" offers so many possibilities. Flew (in Indrawan et al., 2020) defines new media as combining three components: computers and information technology, communication networks, media content, and digital information. At the same time, Power and Littlejohn describe new media as a new period in which interactive technologies and online communication, particularly the internet, are transforming society. The last equation on the concept of new media shows that the power of new media lies in the mastery of technology (especially the internet) that can cause societal changes (Indrawan et al., 2020). This statement was also said by Prihantoro et al. (2021) that new media is internet skills that combine the internet and computer devices in the digitization process to obtain efficient information.

The development of social media has now affected all fields, including journalism. The field of journalism has turned into online journalism. Online news portals are a product of the development of Internet technology in journalism. The emergence of this new media aligns with the fact that people seek information from the media more dynamically. The increasing number of online news portals in Indonesia has increased competition in the online news industry. According to the Press Council, 1,647 online news portals are registered throughout Indonesia. Of these, only 85 are controlled, and 169 are administratively controlled (Kencana et al., 2022). Media online saat ini menjadi garda terdepan penyebaran konten informasi dan komunikasi, hal ini sesuai dengan konstruksi pemberitaan yang dilakukan oleh media online bersangkutan (Yusriyah & Ohorella, 2022).

Online news portals are websites or web pages that report various types of news: political, economic, social, cultural, and even entertainment in the form of hard and soft news. News portals have strengths and weaknesses (Romli, 2014). Online news portals present news not only on websites and apps but also with the help of social media platforms.

Based on a report from SimilarWeb, one of the world's most well-known web analytics and comparison service providers, Detik.com is Indonesia's most popular local website, while Detik.com is ranked number one. Detikcom is Indonesia's most popular and largest digital neighborhood with a new concept, providing information on current events and lifestyles. Today, Detikcom is the gateway for all CT Corp. ecosystem services. On July 9, 1998, Detikcom was founded by Budiono Darsono (former editor of Tempo and Tabloid Detik), Abdul Rahman (former editor of SWA), and Didi Nugrahadi.

Given low literacy rates, government action is needed to ensure internet and social media penetration is high enough and growing enough to avoid spillover effects that are considered harmful and can be detrimental to society. DNA (Discourse networking analysis) is a methodological approach that combines discourse analysis and social network analysis to identify the discourse of various documents as a network (Leifeld, 2016). Discourse network analysis can be described as a new method in research. It differs from social network analysis, which has been used and developed in scientific research for a long time. Discourse or discourse network analysis is a methodically innovative network analysis method. Discourse analysis and social network analysis have the same goal: to try to form or describe a network related to a particular phenomenon.

Another explanation comes from Eriyanto (in Pratama & Ulfa, 2017), who says that a network is a set or group of actors (including people, organizations, institutions, and countries) that relate and connect with other actors in a certain way or according to a specific pattern. On the other hand, communication network research describes the relationship between actors (people, institutions, companies, countries, etc.) in a particular social structure (Pratama & Ulfa, 2017). The relationship itself is closely related to interaction. Relationships are formed through interactions between one person and another.

Theoretical Framework

New Media

The presence of new media mediates changes in social communication patterns. New media, one of which is the internet, has dramatically influenced how people communicate and behave. The internet currently fulfills people's needs to communicate and gather information. The internet serves as a global communication network from one place to another. The internet also works as part of delivering information that knows no boundaries. The use of the internet has now become routine for most citizens. From this, new media emerges through the interaction between humans and computers and, specifically, the internet. It includes websites, blogs, social networks, online forums, and others that use computers or smartphones as tools.

New media itself has many meanings, said John Vivian Surokim et al. (in Ahmad, 2012) said that new media, namely the internet, can do this far beyond the traditional media news distribution model. The nature of the internet can blur geographical boundaries and relationship skills, and most importantly, it can be done in real-time. The insights conveyed by John Vivian are consistent with what Fikri (in Ahmad, 2012) said that Modern communication technology has shortened the geographical distance between people and across space and time, between people and across space and time. Then communication technology makes it cheaper and more accessible for people who do it. When people use it, it will become one of the reliable driving forces when using communication technology in all daily activities and activities, such as searching for news, vacancies, and scholarship information. It will have access to all information on New Media websites.

In addition, Meyrowitz Surokim et al. (in Littlejohn & Foss, 2009) said the emergence of a new media environment in cyberspace brought a new way of thinking for media studies that were not only focused on messages but began to join the communication technology itself that personally transmitted information, their communication devices. Technology is a form or way of shaping the social environment.

Manovich in Surokim et al. (in Littlejohn & Foss, 2009) said there are two typologies of new media interactions, namely the "Open" and "Closed" types. Size with the "Open" type allows People to

access the needs they want through new media. Whereas the "closed" type, it is limited by new media. The audience consumes news of their choice or with the structure created.

According to an empirical study by Rahmawan et al. (2019), it states that the existence of new media has an impact on its positive and negative aspects if we look at the advantages of new media earlier. Today's society is spoiled in communication and searching for the information needed. However, the negative side is that its use becomes dependent. This dependence may be inseparable from a person's eyes on his smartphone, for example, browsing or busy chatting on social networks. Citizens of the world use new media to enable communication activities through social media communication. The exchange of values or rules, also beyond cultural values, cannot filter based on local values, practices, or culture—for example, outside values and customs, so local values and rules can fade.

Online News

News contains current or topical information, essential and exciting, available to the public, reflecting journalists' journalistic work (Suryawati, 2011). The development of the times has brought new media. Print and electronic media are now packaged in digital form or commonly known as online news portals. Online news sites are websites that provide current (daily) information about events or happenings that affect our daily lives, such as education, sports, technology, politics, and healthy living. Writing online news is the same as writing for print media. The only difference is that news updates are swift, easy to use, and integrated with media elements (Romli, 2014). All messages must be precise, objective, and balanced (reciprocal) so that the information conveyed to the public can truly be trusted and accounted for.

Discourse Networking Analysis

Discourse network analysis (DNA) is a technique for visualizing political and socio-cultural discourse as a network. Discourse network analysis combines category-based content and social network analysis (Leifeld, 2016). This approach systematically identifies discourse relationships in various text documents, such as newspaper articles or transcripts of debates in print or in parliament. Discourse network analysis combines social network analysis with computational qualitative content analysis to systematically analyze developments (Wallaschek et al., 2020). Discourse network analysis combines qualitative content analysis, i.e., discourse analysis, with social network analysis to discover actors' ideas relatively and systematically.

Jurafsky and Martin (in Wallaschek et al., 2020) say that "discourse is a coherent set of propositions." Discourse is a coherent group of sentences, namely the relationship between one sentence and another in one discourse. This argument is then complemented by Bakhtin, who extends the concept of discourse to the socio-cultural world and says that the core of discourse is not a sentence but a socially created expression. Discourse can be seen as a dialog relationship. Wodak in Leifeld (2016) also states: "The purpose of discourse analysis is to analyze the transparent and transparent structural relations of domination, discrimination, power and control as manifested in language." Wodak's opinion can be used to analyze discourse's structural relations of domination, power, and control.

This study uses Discourse Network Analyzer (DNA) software developed by Leifeld (2016). There are basic types of discourse networks generated from DNA software (Siagian, 2020), namely:

- a. Affiliation Networks, Affiliation Networks compile network maps of actors, organizations, and statements (categories).
- b. Actor Congruence Networks, Actor Congruence Networks to compile only actor network maps.
- c. Conflict Networks, Conflict Networks organize a conflict within a statement.
- d. Concept Congruence Networks Concept Congruence Networks construct a concept congruence of a network in Discourse Network Analysis (DNA).
- e. Dynamic Discourse Networks Dynamic Discourse Networks structure a discourse in the network.

Material and Methodology

The object of this research is the news about the Indovac vaccine that was widely reported on the online media Detik.com. In this study, the subjects were identified by selecting messages with the keyword Indovac vaccine collected from 9/3/2022 to 30/11/2022. The research approach or strategy

chosen by the researcher to present the research results is a qualitative approach. A qualitative approach is an approach that includes research propositions, processes, hypotheses, fieldwork, data analysis, content analysis, and narratives. The qualitative approach tries to explain reality through descriptive explanations in sentence form.

Qualitative research is a research method that basically uses an inductive-deductive approach. This approach departs from the theoretical framework, the thoughts of experts, and understanding based on the experience of researchers and their solutions, aiming to present justification (review) or assessment in the form of empirical supporting material in the field. This research describes several aspects of reality presented in the Detik.com online media. Researchers use qualitative methods to explain phenomena as comprehensively as possible through extensive data collection. In addition, qualitative methods do not prioritize the size of the sample population, although the sample population is minimal. Suppose the information collected is sufficient and complete and can explain the phenomenon under study. In that case, no further sampling is required because the focus is on the depth (quality) rather than on the quantity (quantity) of information (Kriyantono, 2012).

The data collection method of this research is done by analyzing and evaluating data as needed. Data collection is done by the author when he decides which problem to investigate.

- a. Selection of online news sites that consistently publish news about the Indovac Vaccine. Researchers see that Detik.com is relatively consistent in the news.
- b. In-depth review of news/articles focusing on the topic of the indovac vaccine in September - November on the online news site Detik.com.
- c. News/article searches were conducted using the keyword 'indovac vaccine.'

The analysis technique used in this research is the discourse network analysis method. The software used is Discourse Network Analysis (DNA) version 1.31, JAVA-based software developed by Philip Liefeld to identify parties who agree or disagree by defining the parties on the Detik news site whose news/article statements are analyzed using the Discourse Network Analysis (DNA) method developed by Liefeld (2016).

Discourse network analysis (DNA) is a technique for visualizing political and socio-cultural discourse as a network. Discourse network analysis is a combination of category-based content analysis and social network analysis (Wallaschek et al., 2020). Through the discourse network analysis method, it is possible to systematically identify the discourse structure of various text documents such as articles and textbooks, but also from discussions in parliament, and thus map and visualize discourses on politics, society, and culture with the help of discourse network analysis, Health, etc. Through websites (Siagian, 2020).

Five basic types of discussion networks are created by the DNA software: Affiliation networks, actor congruency networks, conflict networks, concept congruency networks, and dynamic discourse networks. In this research, the nature of the network is to create network maps of actors, organizations, and categories. The following illustrates how the affiliation network map is formed. Suppose there is a set of political figures or regional authority figures that we refer to as Actors $A = \{a_1, a_2, \dots, a_n\}$ and a set of concepts/statements $C = \{c_1, c_2, \dots, c_n\}$ where Actors can agree or disagree with a concept/statement. A binary relationship between actors and concepts can thus be formed, as shown in Figure 2. This figure explains that the affiliation networks between actors and concepts are represented with dashed lines. In contrast, the congruence networks of actors are represented with black lines on the left, and the congruence networks are represented with black lines on the right.

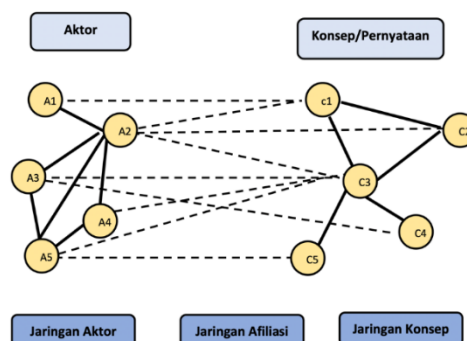


Figure 2. Illustration of Affiliate Network, Actor Network, and Concept Network
(Source: Siagian, 2020)

Result and Discussion

The Indovac vaccine launch in Indonesia has become one of the top searches, especially since President Joko Widodo received the second covid booster vaccine on Thursday, November 24, 2022. Indonesia has finally made a virus by the nation's children named Indovac and AWcornia. The Indovac vaccine can be used as a first and second booster covid vaccine. It could help boost public immunity, especially considering the re-increase of Covid cases in Indonesia.

One of Bio Farma's steps is strengthening the country's health infrastructure by collaborating with various universities in Indonesia in clinical trials with IndoVac. While conducting research and development of Indovac, Bio Farma collaborated with seven medical schools, namely, the University of Indonesia, Diponegoro University, Andalas University, and Hasanuddin University, to conduct primary dose clinical trials as well as Padjadjaran University and Udayana University for booster dose trials. Three medical faculties, namely, Gadjah Mada University, University of Indonesia, and Andalas University are the centers for clinical trials of the IndoVac vaccine for children aged 12-17 years.

Indovac vaccine doses 1 and 2 for adults (18+) received Emergency Use Authorization (EUA) from the Food and Drug Administration (BPOM) on September 28, 2022. Bio Farma has now started commercial production of drug substances (DS) and drug products (DP). In addition, SOE Holding is also registering an Emergency Use List (EUL) with the World Health Organization (WHO) so that it can be exported to various countries, especially lower-middle-class countries. In addition, SOE Pharmaceutical Holding has also completed clinical trials of the IndoVac vaccine for follow-up or booster vaccinations. Provisional results can increase antibody titers and neutralize Omicron, but it is still in the Emergency Use Authorization (EUA) trial stage.

Bio Farma further developed Indovac to be approved as a Covid-19 vaccine for children aged 12 to 17. Bio Farma received clinical trial approval (PPUK) from BPOM on September 30, 2022. Efficacy studies can only be submitted if interim reports from primary studies are available. Clinical trials for the age group will begin on October 6, 2022. The pharmaceutical holding company anticipates that VAE Indovac will vaccinate children (aged 12-17) with BPOM in early December 2022. Honesti Basyir emphasized that Indovac's portfolio is expanding to reach all levels of Indonesian society in obtaining vaccines for adult primaries, adult boosters, 12-17 years of age, and vaccinations for children under 12 years of age. Detik.com published the news of the launch of the Indovac vaccine consistently and periodically since Bio Farma President Director Honesti Basyir said that his party had registered Indovac with the World Health Organization (WHO) to obtain an Emergency Use Listing (EUL) starting from September 8, 2022, and the news about the Indovac vaccine is also a fact that information about the Indovac vaccine is up to date and accurate so that it meets the news value, namely factual.

The news delivered by Detik.com is in the form of statements from community actors who respond to information, namely the Indovac Vaccine. It is included in the news element, namely factual because it presents information based on facts and is important because a new policy will concern the interests of many people. The Indovac Vaccine news published by Detik.com is also included in the news value. After all, it is a new issue because it brings a vaccine launched domestically and will invite many people to read the news.

From the analysis of the news coverage of the Indovac Vaccine Launch on Detik.com, it can be concluded that the news on Detik.com has fulfilled news or journalistic values. As an online news portal, Detik.com is up to date in presenting news regularly with high consistency in presenting informative, factual, and exciting news for the people of Indonesia.

Based on the research period from September 3, 2022, to November 30, 2022, 50 news articles related to the Indovac Vaccine were found. Of the 50 news stories, there were 193 statements, 33 actors, and three categories based on the concept of statements that were widely reported namely Information, Policy, and Education. The existence of the Information, Policy, and Education categories was obtained from the actors' statements in the news of the Indovac Vaccine Launch on Detik.com.

Discourse Network Analysis of Information Categories of the Indovac Vaccine Launch Coverage on Detik.com

There are 136 statements in this aspect with a visualization of the network pattern between actors in the aspect of Indovac Vaccine launch information in Indonesia visualized using Visone, which can be seen in the following figure:

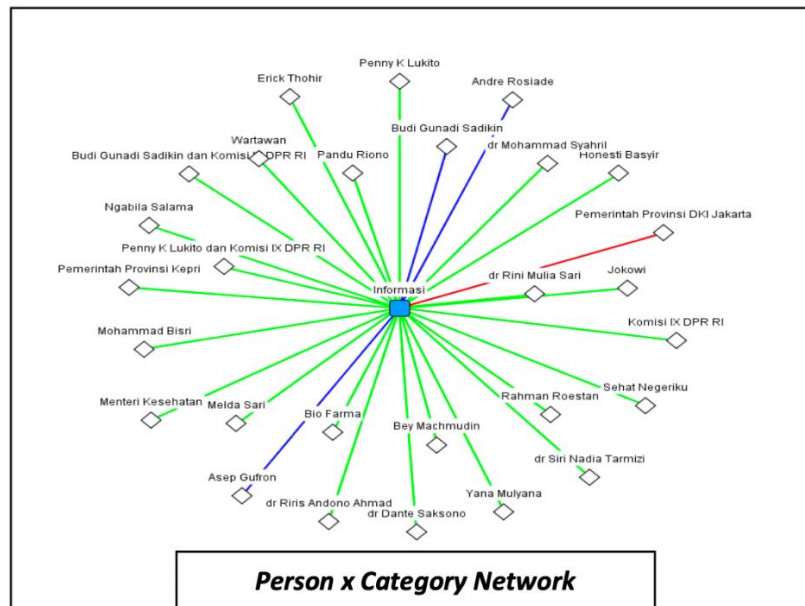


Figure 3. Category Network by Actor on IndoVac Vaccine launch Information Statement
Source: Author

It can be seen from Figure 3 that almost all connecting lines between white rhombus nodes that symbolize Actors have a green color, which means that all actors respond positively to the Indovac Vaccine. The blue color means there is the same statement, while the red line means negative. This negative statement came from Dr. Rini Mulia Sari from the DKI Jakarta Provincial Government. Twenty-eight actors gave statements on the Information aspect regarding the existence of the Indovac vaccine.

The visualization of the organizational network is denoted by a white circle which can be seen in the following figure:

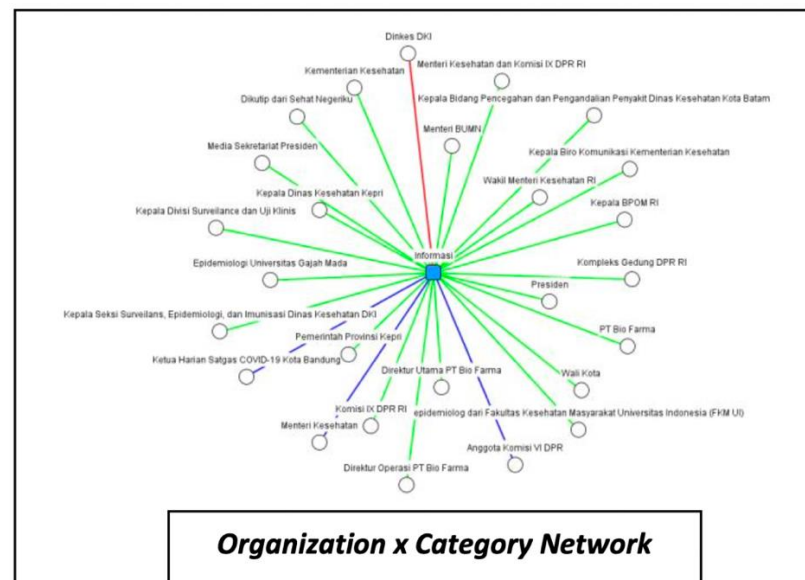


Figure 4. Categorical Network by Organization on IndoVac Vaccine Launch Information Statement
Source: Author

Figure 4 shows that the number of white circles representing organizations is 26 circles, which is almost the same as the number of actors. It can be seen that actors come from different organizations, which means that the launch of the Indovac Vaccine was responded to by many organizations, most of which came from the President Director of PT Bio Farma, Honesti Basyir. It can be understood because, in this aspect, the Director of PT Bio Farma tried to explain that 20 million Indovac vaccines will focus on being used for domestic needs. The only statement with negative sentiment came from the DKI Health Office.

The actor who gave the most statements in this category was the President Director of PT Bio Farma Honesti Basyir, namely 23 statements. The statements he conveyed in this category explained that from the results of phase 1 and 2 clinical trials, Indovac has good quality and safety, efficacy is also not inferior to other Covid-19 vaccines and explained that the IndoVac vaccine seed, in collaboration with Baylor College of Medicine (BCM) United States has been successfully developed. Then he also explained that Bio Farma's BUMN COVID-19 vaccine, which has a TKDN of nearly 80%, is a step towards the independence of the health sector. With such a large TKDN, it hopes to reduce dependence on imported vaccines. In the end, it will have a positive impact on saving foreign exchange.

Other actors who gave statements in this information category mainly conveyed the Indovac vaccine, which is being awaited by the public so that they can get the Indovac vaccine as a booster vaccine. Moreover, it is proven that Indovac can neutralize the Omicron virus neutralization equivalent to the Pfizer booster. The existence of this Indovac vaccine can meet the logistical needs of patients in Indonesia and accelerate the achievement or coverage of this booster will increase. Jokowi also explained the Indovac vaccine. Other actors who gave statements in this category mainly conveyed information that the Indovac vaccine had launched in Indonesia and also that Indonesia had injected 205 million doses of the first dose of Corona vaccine, 172 million second doses, 66 million doses of the first booster vaccine, and 730 thousand doses of the second booster vaccine. This statement was explained by Jokowi, who also had the second-highest frequency in this category.

In the Information aspect of the Indovac vaccine, it can be concluded that the actor gave a pro-Indovac vaccine statement intending to explain the process of how the Indovac vaccine was launched in Indonesia and how the final stage process detailed the third clinical trial report to apply for emergency use of authorization to BPOM RI. Honesti Basyir's statements regarding this aspect are primarily found in the Detik.com online news on September 8, 2022, with the headline 'Top! State-owned IndoVac COVID-19 Vaccine Has Been Registered with WHO' and the news on October 13, 2022, with the Headline 'Jokowi to Attend Indovac Vaccine Launch at Bio Farma Bandung.'

Discourse Network Analysis that has been used in the information category only has one aspect, namely information about the launch of the Indovac vaccine, with 136 statements. In this category, the 136 statements represent the pro side of the Indovac vaccine launch because the Indovac vaccine can be used as a booster. Indonesia is unlikely to be trapped and dependent on continued vaccine imports, especially with the Indovac vaccine. It can help achieve the target of the Covid-19 booster vaccine in Indonesia, especially for the elderly.

Discourse Network Analysis of Policy Categories of Indovac Vaccine Coverage on Detik.com

There are 44 statements in this aspect with a visualization of the network pattern between actors in the aspect of the IndoVac Vaccine launch policy in Indonesia visualized using Visone, which can be seen in the following figure:

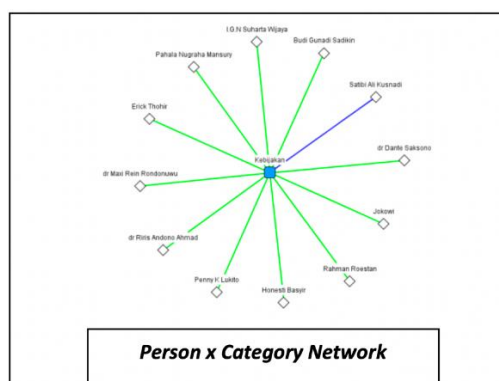


Figure 5. Category Network by Actor on Indovac Vaccine Rollout Policy Statement
Source: Author

It can be seen from Figure 5 that almost all connecting lines between white rhombus nodes that symbolize Actors have a green color, which means that all actors respond positively to the Indovac Vaccine. The blue color means there is the same statement, while the red line means negative. 12 Actors provide statements in this category.

The visualization of the organizational network is denoted by a white circle which can be seen in the following figure:

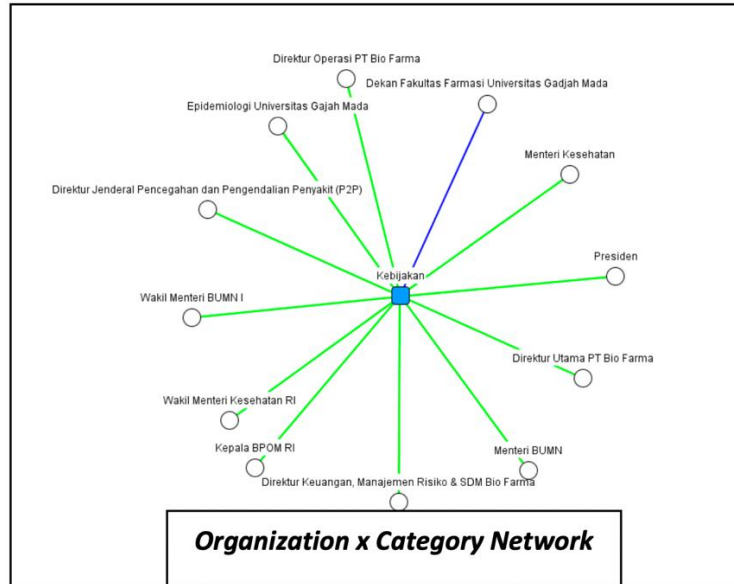


Figure 6. Category Network by Organization on IndoVac Vaccine Rollout Policy Statement
Source: Author

Figure 6 shows that the number of white circles representing organizations is 12, which is the same as the number of actors. It can be seen that actors come from different organizations, which means that the launch of the Indovac Vaccine was responded to by many organizations, most of which came from the Minister of BUMN. It can be understood because the Minister of SOEs wants to explain that the current Policy is to complete clinical trials for adult boosters and start clinical trials for children. The current capacity is 20 million doses by 2022 and will increase to 40 million doses in the coming year and increase up to 120 million doses as needed. With this capacity, Bio Farma is in the WHO EUL process to contribute to meeting the global needs of the COVID-19 vaccine.

The frequency of statements given by the actors can be seen in the following graph:

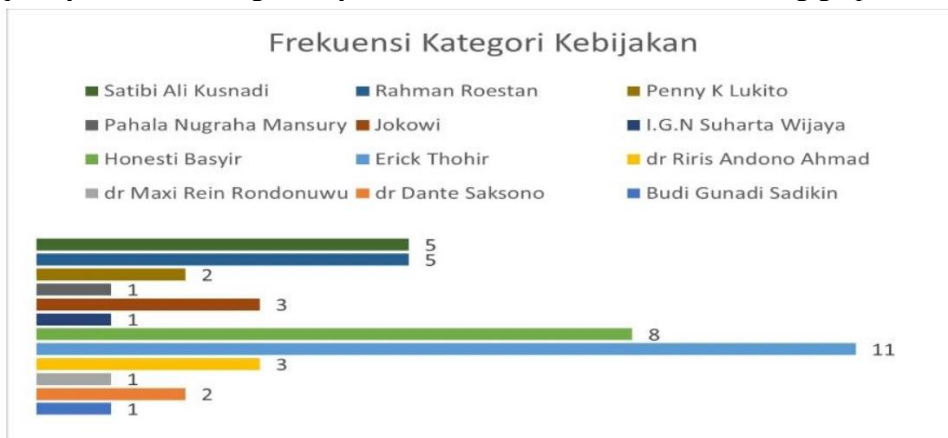


Figure 7. Frequency Chart of Person Type of Actor Statement
Source: Author

It can be seen that in Figure 7, the actor who gave the most statements in this category was BUMN Minister Erick Thohir, namely 11 statements. The statements conveyed by Erick Thohir were mostly about the purpose of the Indovac vaccine, which is that the seeds can cooperate with other countries. However, all production is from Indonesia, and further discoveries are also from Indonesia. The production target for government needs is prepared from 5 to 15 million. However, Bio Farma has a production capacity of 2 billion doses. It will even add new capacity to boost other vaccine needs.

Statements related to this category are primarily found in the news on online media Detik.com dated October 13, 2022, with the headline, 'IndoVac Vaccine Proof of Health Resilience in Indonesia' and dated November 24, 2022, with the Headline 'Press Imports, Erick Thohir Targets Production of 15 Million Doses of Indovac Vaccine 'Jokowi Will Attend the Launch of Indovac Vaccine at Bio Farma Bandung.' In the Policy aspect, it can be concluded that actors provide pro-policy statements on the existence of the Indovac vaccine and that the existence of this Policy is expected to help the public know the policies in anticipating pandemics or diseases that occur.

Discourse Network Analysis of Educational Category of Indovac Vaccine Coverage on Detik.com

There are seven statements in this aspect with a visualization of the network pattern between actors in the educational aspect of the Indovac vaccine launch visualized using Visone, which can be seen in the following figure:

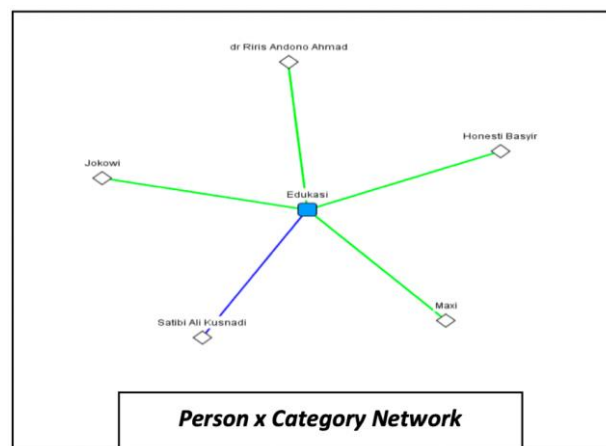


Figure 8. Category Network by Actor on Educational Statements about the Indovac Vaccine Launch
Source: Author

It can be seen from Figure 8 that almost all the connecting lines between white rhombus nodes that symbolize Actors have a green color which means that all actors respond positively to the Indovac Vaccine, and a blue color which means that there are the same statements. Five actors gave statements in this category. Visualization of the organizational network is denoted by a white circle which can be seen in the following figure:

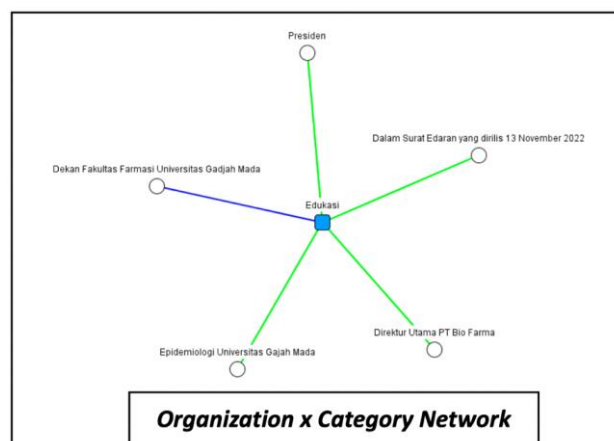


Figure 9. Category Network by Organization on Educational Statement on Indovac Vaccine Launch
Source: Author

Figure 9 shows that the number of white circles representing organizations is four circles, which is the same as the number of actors. It can be seen that the actors come from different organizations, which means that many organizations responded to education in the launch of the Indovac Vaccine. It explains that the production conditions of the Indovac vaccine are very strategic in controlling the spread of covid-19.

The frequency of statements given by the actors can be seen in the following graph:

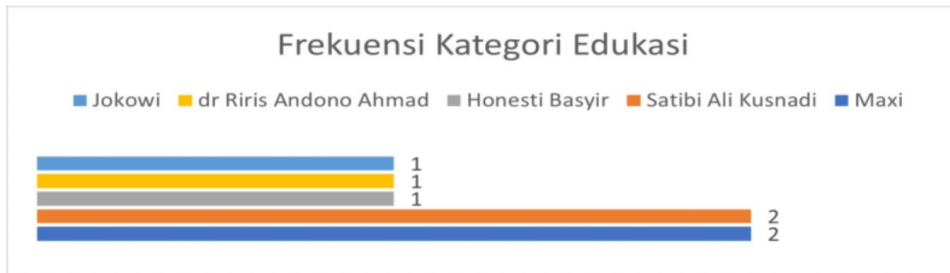


Figure 10. Frequency Chart of Person Type of Actor Statement
Source: Author

It can be seen that in Figure 10, the actors who gave the most statements in this category were the Dean of the Faculty of Pharmacy, Universitas Gadjah Mada, Satibi Ali Kusnadi, and Maxi (in a circular letter released on November 13, 2022), namely two statements. The statement delivered by Satibi Ali Kusnadi was mostly about Indonesia has remarkable biodiversity. So that it can produce herbal medicines is an opportunity to develop products derived from natural ingredients. Statements submitted by Maxi are mainly about the Indovac vaccine can be given at the age of 18 years and over in one vial with ten doses (5 ml) and as a primary dose given intramuscularly (in the muscle) as many as two doses, each 0.5 ml with an interval of 28 days, as a follow-up dose (booster) for the Sinovac primary vaccine given one dose with a total dose of 0.5 ml.

Statements related to this category are primarily found in the news on online media Detik.com dated October 17, 2022, with the headline, 'SOEs Produce Vaccines and Raw Materials, RI Can Be Self-Sufficient in Medicines?' and news on November 15, 2022, with the headline, 'Sinovac Users Dock! Now You Can Booster Using IndoVac COVID Vaccine'. Visone will create visualization and analysis of tissue structure in tissue data sets, such as those exported from DNA software. Visualization analysis using Visone is divided into three parts: Agreement, Disagreement, and Combined.

The first statement, network visualization, is Agreement or a statement with an agree on/positive tone from the Actors, which is as follows:

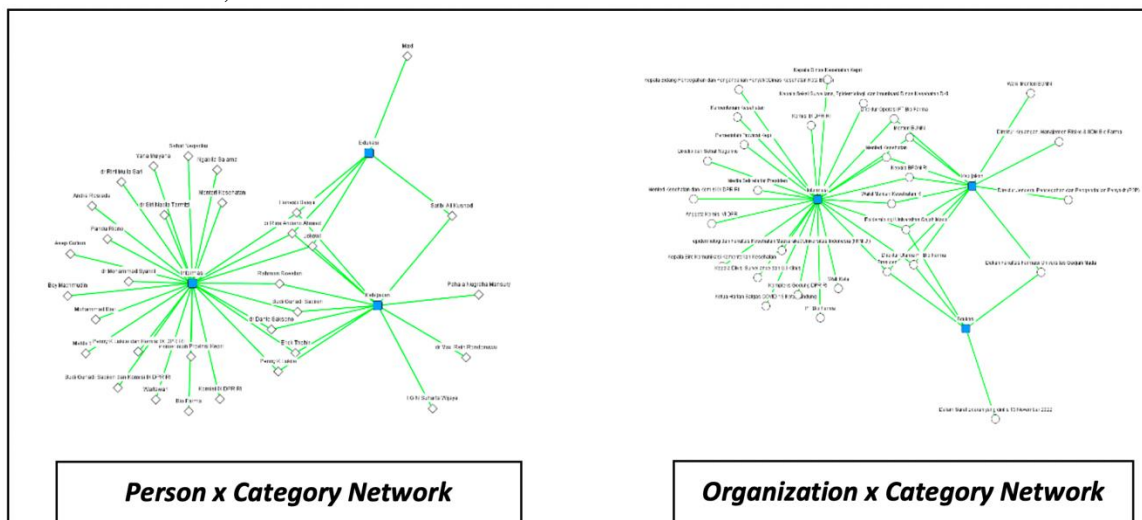


Figure 11. Network Category Statement by Organization (Agreement)
Source: Author

Figure 11 shows that the network of statements that agree or are pro with the IndoVac Vaccine Launch is symbolized by a green line. There are three light blue square nodes which means there are three categories of positive statements, namely: (1) Information about IndoVac is used for global market supply; (2) Policies produce a significant (income) and have independence in vaccine matters; (3) Education on giving COVID-19 vaccine boosters aims to increase antibodies against the COVID-19 virus again for people who have received a complete primary dose of COVID-19 vaccine;

The second statement, network visualization, is Disagreement or a statement with a disagreeing/negative tone from the Actors, which is as follows:

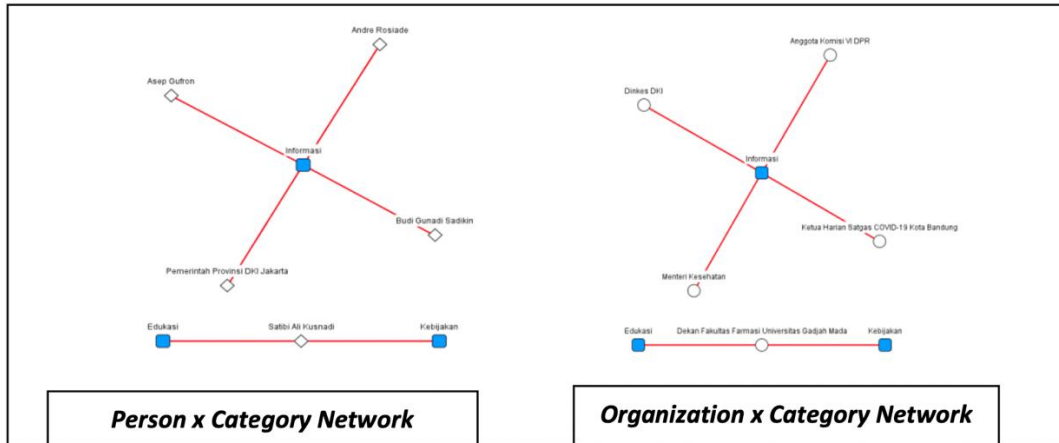


Figure 12. Network Category statement by Organization (Disagreement)
Source: Author

Figure 12 shows the network of statements that disagree or oppose the launch of the IndoVac vaccine, symbolized by a red line. There are three light blue square nodes, which means that there are also three categories of statements that disagree or are hostile towards the IndoVac Vaccine policy; the categories of statements are (1) Information on empty vaccine stocks, (2) Information regarding the unavailability of the IndoVac vaccine which is in great demand in several areas, (3) Information that cases in hospitals are on the rise because they have not been boosted;

Figure 12 shows five actors who gave Negative statements, namely: (1) Andre Rosiade, who gave five statements; (2) Asep Gufron, who gave four statements; (3) Budi Gunadi Sadikin, who gave two statements; (4) DKI Jakarta Provincial Government, who gave two statements; (5) Satibi Ali Kusnadi, who gave two statements; From the results found, it can be seen that Member of Commission VI DPR Andre Rosiade gave the most damaging statements regarding the IndoVac Vaccine, namely five statements.

The third network visualization is a combination of sentiments regarding the launch of the IndoVac Vaccine, where white rhombus nodes denote categories, and organizations are denoted by white circle nodes, as follows:

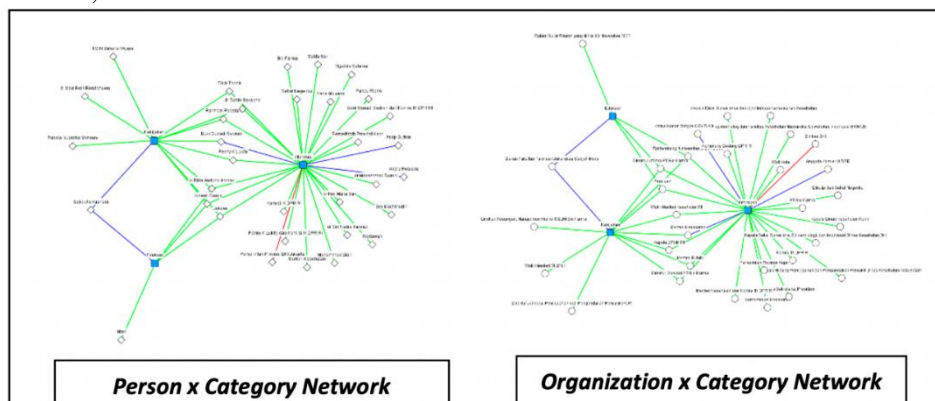


Figure 13. Statement Category Network by Actor and Statement Category Network by Organization (combined)

Source: Author

Figure 13 shows the category network pattern by an actor (person x category) and the category network by the organization (organization x category) have almost the same pattern. Green lines symbolize positive statements, while red lines symbolize negative statements. There are 33 actor nodes, the same number as organization nodes, and 3 Aspect statement nodes.

On the positive side, 33 actors provide statements with a total number of statements totaling 180 statements. On the negative side, five actors provide statements with a total number of statements totaling 13 statements. The comparison is visualized as follows:



Figure 14. Sentiment Comparison Frequency

Source: Author

It can be seen from Figure 4.19 that the blue side of the circle representing the Positive (Agreement) statement has a percentage of 93%. In comparison, the orange side of the circle representing the negative (Disagreement) statement has a percentage of 7%. This visualization shows that the number of Positive statements (Agreement) regarding the IndoVac Vaccine is more dominant than Negative statements (Disagreement).

All statements from actors about the IndoVac Vaccine on the Detik.com online news site can be classified into several actors, namely Andre Rosiade, Asep Gufron, Bey Machmudin, Bio Farma, Budi Gunadi Sadikin, Budi Gunadi Sadikin and Commission IX of the House of Representatives, Satibi Ali Kusnadi, Erick Thohir, Honesti Basyir, I.G. Suharta Wijaya, Jokowi, Commission IX of the House of Representatives. N Suharta Wijaya, Jokowi, Commission IX DPR RI, Melda Sari, Maxi, Minister of Health, Mohammad Bisri, Ngabila Salma, Pandu Riono, Pahala Nugraha Mansury, Provincial Government of DKI Jakarta, Provincial Government of Riau Islands, Penny K Lukito, Penny K Lukito and Commission IX of the House of Representatives, Rahman Roestan, Sehat Negeriku, Journalist, Yana Mulyana, Dr. Dante Saksono, Dr. Maxi Rein Rondonuwu, Dr. Mohammad Syahril, Dr. Rini Mulia Sari, Dr. Riris Andono Ahmad, and Dr. Siri Nadia Tarmizi.

From the overall visualization of the network pattern between the actors above, it can be concluded that the number of pro-IndoVac Vaccine launches is more at 33 actors. In comparison, the number of actors against the IndoVac Vaccine is five. The statement from the most actors was given by Andre Rosiade, who gave five counterstatements, and Asep Gufron represented the most statements, namely four counterstatements. It can be seen from the number of actor nodes and organizational nodes that the number is always the same, which means that every actor who gives a statement comes from a different organization. It means that information or issues regarding the IndoVac vaccine trigger many organizations to respond and have an opinion about the IndoVac vaccine.

Conclusions

Based on the research results from collecting news related to the IndoVac Vaccine policy from September 3 to November 30, 2022, there is 50 news with 193 statements from 33 Actors, using Discourse Network Analysis which can be one of the choices of methods to obtain results in the form

of a network by simultaneously loading text analysis, namely Detik.com is up to date in presenting news regularly with high consistency in presenting informative, factual, and exciting news for the people of Indonesia; Discourse Network Analysis (DNA) categorizes statements on IndoVac Vaccine news on Detik.com by finding the concept of Information, Policy, and Education categories, in the IndoVac Vaccine news. Network visualization using Visone found that the actors who gave the most statements were Director of PT Bio Farma Honesti Basyir (32 statements), President Jokowi (23 statements), Minister of BUMN Erick Thohir (20 statements), Minister of Health Budi Gunadi Sadikin (18 statements), Head of BPOM RI Penny K Lukito (15 statements). Argumentative Discourse Theory finds argumentative interactions between political actors as a critical moment of discourse formation where actors produce discursive positions (what is debated) in controversy by looking at the comparison of sentiments found with positive statements (Agreement) greater at 93%, a total of 180 statements and compared to negative statements (Disagreement) which are 7% with a total of 13 statements.

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