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Entity Sentiment Analysis with the Netray Monitoring Tool in Indonesian Online News Media on the Fuel Price Hike

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Abstract. *Introduction.* This study aims to find the sentiment in Indonesian online news media surrounding the government's decision to increase fuel prices on September 3rd, 2022. Additionally, this study investigates the discourses of situational crisis communication strategies (SCCT) around the critical entities in each positive and negative sentiment. *Method.* The researchers conduct entity sentiment analysis by collecting news data, identifying the primary entities, and analyzing the sentiment using the Netray monitoring tool. The researchers employ critical discourse analysis to find how the media portrays the SCCT strategies surrounding the key entities in positive and negative sentiment news. *Analysis.* The dominant strategies for positive sentiment are rebuild and bolstering strategies, whereas for negative sentiment, diminish strategies prevail. *Results.* At the outset, the discourses reflect the strategies positively encompassing the primary entity "price" as the representation of government policy. The subsequent discourses depict the strategies negatively, focusing on "Pertamina" as responsible for the policy's operational aspects. Positive discourses for "Pertamina" are consistently distributed, adeptly constructing a positive image in the news. The discourses highlight the "fishermen" as a prominent group to convey both positive and negative sentiments. *Conclusions.* The government and PT Pertamina should monitor the narrative surrounding primary entities as it can enhance or harm their reputation.

Keywords: entity sentiment analysis; fuel price hike; Netray; SCCT; media discourse

Subjektų nuotaikų, susijusių su kuro kainų padidėjimu, analizė Indonezijos internetinėje žiniasklaidoje, naudojant „Netray" stebėjimo įrankį

Santrauka. *Įvadas.* Šio tyrimo tikslas yra nustatyti nuotaikas Indonezijos internetinėje žiniasklaidoje, susijusias su 2022 m. rugsėjo 3 d. vyriausybės sprendimu padidinti kuro kainas. Be to, šis tyrimas nagrinėja situacinės krizių komunikacijos teorijos (SCCT) strategijų diskursus, susijusius su svarbiausiais subjektais, esant visoms teigiamoms ir neigiamoms nuotaikoms. *Metodas.* Tyrėjai atlieka subjektų nuotaikų analizę, rinkdami skelbiamus duomenis, nustatydami pagrindinius subjektus ir analizuodami nuotaikas, naudodamiesi „Netray" stebėjimo įrankiu. Jie naudoja kritinės diskurso analizės metodą, siekdami išsiaiškinti, kaip žiniasklaida vaizduoja su pagrindiniais subjektais susijusias SCCT strategijas, pasirodant teigiamas ir neigiamas nuotaikas keliančioms naujienoms. *Analizė.* Esant teigiamoms nuotaikoms, dominuoja atkūrimo ir stiprinimo strategijos, o pasirodžius neigiamas nuotaikas keliančioms naujienoms vyrauja mažinimo strategijos. *Rezultatai.* Iš pradžių diskursai

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teigiamai atspindi strategijas ir pristato pagrindinio subjekto „kainą“ kaip atspindinčią vyriausybės politiką. Tolesniuose diskursuose strategijos vaizduojamos neigiamai, o „Pertamina“ akcentuojama kaip organizacija, atsakinga už politikos operacinius aspektus. Nuosekliai platinami teigiami diskursai „Pertaminos“ atžvilgiu pasirodančiose naujienose sumaniai konstruoja jos teigiamą įvaizdį. Diskursuose išryškinta „žvejų“ grupė, kuri yra skirta ištransliuoti tiek teigiamoms, tiek neigiamoms nuotaikoms. *Išvados.* Vyriausybė ir PT. „Pertamina“ turėtų stebėti apie pagrindinius subjektus formuojamą naratyvą, nes tai gali padėti ar pakenkti jų reputacijai.

Pagrindiniai žodžiai: subjektų nuotaikų analizė; kuro kainų padidėjimas; „Netray“; SCCT; žiniasklaidos diskursas

Introduction

The Indonesian government raised fuel prices by about 30% starting on September 3rd, 2022, in response to the rise of global oil prices (Widianto & Suroyo, 2022). The government increased fuel prices to maintain economic stability and pressure the surging fuel subsidies (Widianto & Suroyo, 2022). However, rising fuel prices could lead to an energy crisis (Simshauser, 2023) and higher production costs for other business sectors (Al Fajrin et al., 2023). It also massively impacted Indonesia‘s macroeconomic conditions (Al Fajrin et al., 2023). Furthermore, according to a study by Xu et al. (2022), the public is sensitive to fuel prices and is more likely to act according to personal perceptions, such as striking or queuing at gas stations (Xu et al., 2022).

The news media has a significant role in driving public opinion and affecting public confidence towards crisis-handling strategies (Danner et al., 2022; Das et al., 2021). Therefore, crisis communication managers should utilize the right strategy to establish the appropriate frame in the media (Coombs, 2007). Several studies used situational crisis communication theory (SCCT), which was proposed by Coombs (2007), as a framework for crisis communication strategy analysis (Stieglitz et al., 2019). Moreover, a study by Mayer et al. (2021) used critical discourse analysis (CDA) and crisis communication theories to understand how media portrayed crisis development at certain levels. Sundberg et al. (2023) utilized CDA to discover how media reflected a failure of a strategy during a crisis.

Sentiment analysis of the media is one method to evaluate the effectiveness of crisis communication strategies (Stieglitz et al., 2019). A study from Nurbagja et al. (2023) used sentiment analysis to explore the public‘s opinion on social media after the fuel price hike in Indonesia. Precisely, they analyzed the sentiment of comments on a YouTube video from CNN Indonesia about President Joko Widodo’s announcement of the increase in fuel prices. Nurbagja et al. (2023) discovered that most comments were negative. However, Luo and Mu (2022) argue that entity sentiment analysis provides deeper insights into the sentiment context. Instead of just analyzing a single target entity with the traditional sentiment analysis method, they analyzed each entity in the document.

Previous studies on sentiment analysis used different approaches for data collection and analysis. Several studies built their own databases and machine learning techniques (Luo & Mu, 2022; Žitnik et al., 2022), while a study developed a user-friendly interface for practical usage (Sufi, 2022). Moreover, several researchers used ready-to-use analysis

tools for their studies (Amelia, 2023; Catalani et al., 2021; Caviggioli et al., 2020; Jung et al., 2022).

Therefore, this research aims to conduct entity sentiment analysis in Indonesian online news media surrounding the fuel price hike using the Netray monitoring tool. Netray is a tool to monitor, collect, and conduct sentiment analysis with an extensive database of Indonesian online news media (Netray, 2022). The researchers chose Netray because it has an Indonesian language database developed by native Indonesian speakers. This research also uses CDA to discover how the media discourses portrayed SCCT strategies conducted by the government and PT Pertamina as a state-owned oil company. This research seeks to answer the following research questions:

RQ 1: *How do the discourses in online news media reflect SCCT strategies?*

RQ 2: *How do the crucial positive and negative sentiment entities construct these strategies?*

This research contributes to the field by proposing a method to conduct entity sentiment analysis using the Netray monitoring tool. Additionally, this research demonstrates how to use CDA to find the SCCT strategies portrayed by the media in each positive and negative sentiment. The findings provide valuable insights into how the key entities construct the strategy, affecting the company's reputation.

Literature Review

Media Discourse and Crisis

O'Keeffe (2012) defines media discourse as interactions that occur on a broadcasting platform in the form of spoken or written communication, and the media directs the discourse toward an audience that is not physically present. Media discourse is not spontaneous and manufactured; therefore, it is crucial to investigate its constructions, especially at the ideological level, using methods such as critical discourse analysis (CDA) (O'Keeffe, 2012). Fairclough (2013) states that CDA has specific characteristics that differentiate it from other research: (1) it is a relational transdisciplinary analysis between discourse and other social elements, (2) it is a systematic text analysis, and (3) it is not just descriptive but also normative. Fairclough (2013) argues that CDA is a methodology to critically analyze strategies that emerge in response to the crisis and how they relate to other elements. CDA also reveals the dominant strategies and effects on crisis development and how they contribute to social transformations (Fairclough, 2013). Along with the normative characteristic, CDA also explores which strategies overcome the crisis and improve society (Fairclough, 2013).

Mayer et al. (2021) utilized CDA and pattern matching to identify media discourse patterns related to the crisis, analyze how the media incorporates the patterns into public debates, and address the media reporting responsibility. They also used media framing with crisis management theory to understand how crises develop at different levels (Mayer et al., 2021). Moreover, Sundberg et al. (2023) employed CDA to reveal how the media

presented a strategy as a failure. Sundberg et al. (2023) highlight the media discourse on how the strategy triggered other social, economic, and psychological crises. The discourse also emphasized how the strategy has brought inequality issues among the citizens (Sundberg et al., 2023).

Furthermore, Altheide (2013) affirms that media logic explains how communication and discourse evolve seamlessly in converging new communication technology and formats. He asserts the importance of media logic in analyzing mediated communication that integrates information technology, communication formats, and other processes within a particular context. Media logic comprises several elements, including each medium‘s unique features, format, media grammar, characteristics, and content presentation (Altheide, 2013). Moreover, according to Shoemaker and Reese (2013), the media routine significantly influences the news content. They state that media routine includes patterns and systematic ways media organizations and journalists manage their tasks. Mainly, it involves the standard procedures for identifying news values, gathering reliable sources, and determining the news framing. Furthermore, media routine also considers the economic value and time constraints, such as writing trending stories that attract many readers and advertisers (Shoemaker & Reese, 2013).

Situational Crisis Communication Theory (SCCT)

Coombs (2007) proposes Situational Crisis Communication Theory (SCCT) as a framework for crisis handling strategy. He argues that SCCT evaluates how a crisis potentially harms a company‘s reputation. Media framing is crucial, especially when most stakeholders know about the crisis from the News (Coombs, 2007). When the media has used specific frames for the crisis, the crisis communication managers should position their strategy to align with the frames (Coombs, 2007).

Furthermore, Coombs (2007) states that crisis communication managers should utilize crisis communication strategies to establish the frame in the media. Coombs (2010, 2017) formulated the SCCT crisis response strategy that accommodates the development of new media. Those strategies are denial, diminish, rebuild, and bolstering (Coombs, 2017). Denial describes how the company attacks the accuser, denies any responsibility, and blames other parties (Coombs, 2017). Diminish includes excuses and justifications, which minimize the responsibility and perception of the crisis‘s negative impact (Coombs, 2017). Rebuild is a way to compensate the victims and ask for an apology by taking responsibility for the crisis (Coombs, 2017). Meanwhile, bolstering is a strategy to create positive perceptions of the company during a crisis. Bolstering consists of reminding the public about the company‘s past achievements, ingratiating by appreciating the stakeholders‘ help and victimizing by indicating that the company is also a victim (Coombs, 2017).

However, Stieglitz et al. (2019) argue that despite the SCCT strategies applied during a crisis, the focus should be on maintaining the company‘s reputation and legitimacy towards its stakeholders. They discovered that sentiment analysis is one of the indicators to evaluate the effectiveness of crisis communication strategies in maintaining a company‘s positive image (Stieglitz et al., 2019).

Entity Sentiment Analysis

Sentiment analysis explores sentiments in the text, such as news and opinions in the media, while monitoring a brand‘s or company’s reputation (Feldman, 2013; Pang & Lee, 2008). Sentiment analysis involves natural language processing to detect the text‘s positive, negative, and neutral sentiments (Žitnik et al., 2022). Moreover, the sentiment can be identified for the whole document, a part of the content, or only for the specific entity (Žitnik et al., 2022). An entity in the document refers to a particular object, such as a person, an organization, a company, a brand, or a topic (Luo & Mu, 2022; Saif et al., 2016). Entity sentiment analysis is critical as an entity‘s sentiment may differ from the part or the whole content sentiment (Saif et al., 2016).

Sufi (2022) developed an entity sentiment analysis approach that allows non-data-scientists to gain insight into the policy-making process based on the negativity towards global news. Furthermore, general users can efficiently utilize the approach through a user-friendly interface. Sufi (2022) suggests that negative news significantly impacts various entities, and certain entities can contribute to the negativity of global news. Žitnik et al. (2022) propose a target-level sentiment analysis, arguing that the most critical entities’ sentiment correlates with document-level sentiment. Nurbagja et al. (2023) conducted a sentiment analysis study about comments on Indonesia’s fuel price hike video on YouTube, and they found that most comments were negative (Nurbagja et al., 2023).

Method

The researchers utilized The Netray monitoring tool‘s paid service at https://netray.id/ to conduct this research. Netray is a platform to explore online news and social media information based on big data analytics, deep learning, and sentiment analysis. It also uses artificial intelligence and natural language processing for sentiment analysis, information extraction, and text classification (Netray, 2022).

Furthermore, adjusting several approaches from previous studies, the researchers tailored the method to suit this research‘s objectives. Sufi (2022) developed an entity sentiment analysis method that consists of (1) news data aggregation, (2) sentiment analysis for news descriptions, (3) entity detection and categorization in the news descriptions, and (4) regression analysis to find the correlation between the negativity and critical entities in the news descriptions. Sufi (2022) conducted those steps automatically using an artificial intelligence-based machine learning algorithm deployed within the Microsoft Cloud environment.

Žitnik et al. (2022) propose a target-level sentiment analysis using SentiCoref 1.0 as a training model. They tested it with several approaches, including the traditional machine-learning models and the deep neural network with BERT embedding. The data preparation consists of several steps: (1) collect the dataset, (2) identify and annotate named entities such as persons, organizations, and locations, (3) establish coreference connection between different documents parts of the same entity, (4) annotate sentiment for each entity in the

document based on each mention's context, (5) order the entities based on the number of words used in a sentence or phrase to represent each entity's mentions, (6) select the entities with the most words as "most important" entities and with the least words as "least important" (Žitnik et al., 2022).

While developing machine-learning models and algorithms is a standard method for sentiment analysis studies, several studies use analytic tools with free to premium features (Amelia, 2023). Jung et al. (2022) used NetBase with its natural language processing engine to analyze the sentiment of online media attention. Caviggioli et al. (2020) used three different sentiment analysis tools, MeaningCloud, Semantria, and SentiStrength, to assign a sentiment score to each tweet collected in their research. Catalani et al. (2021) utilized Brand24 to collect mentions from news and social media based on keywords, categorize the mentions, find famous words, and analyze the sentiment.

A. Data Collection Process

Several studies in sentiment analysis collected data using keywords relevant to the research topics (Amelia, 2023; Catalani et al., 2021; Jung et al., 2022). The Indonesian term for fuel oil is „BBM" (Nurbagja et al., 2023). Thus, this research used „BBM" as the keyword to retrieve news data about the fuel price hike. This research utilized the Netray monitoring tool to collect news data from 708 Indonesian online news media listed in Netray's database. Several crisis sentiment analysis studies collected three-month data (Desai, 2021; Luo & Mu, 2022; Rahmanti et al., 2022). Therefore, the researchers decided to collect news data for at least three months surrounding the fuel price hike announcement on September 3rd, 2022. The researchers expanded the data collection period from August 28th to December 13th, 2022, to cover various crucial issues.

B. Document-Level sentiment analysis

Sufi (2022) proposed an entity sentiment analysis method by first collecting news data and analyzing the sentiment of the whole news description before detecting the entities in it. Adapting the method from Sufi (2022), the researchers also analyzed the document-level sentiment for each news article before finding the entities. Sufi (2022) developed an artificial intelligence-based machine learning algorithm deployed within the Microsoft Cloud environment to retrieve the data and analyze the sentiment. However, this research utilized the Netray monitoring tool to retrieve the news articles and analyze the document-level sentiment. Using Netray, the researchers categorized the sentiment into three categories: positive, negative, and neutral. The researchers focused specifically on positive and negative sentiment, as positive and negative news were more attractive than neutral news (Kaur, 2022).

C. Entity Sentiment Analysis

Influenced by the method from Sufi (2022), after analyzing the document-level sentiment, the researchers started to detect the entities in the news content. Žitnik et al. (2022)

ordered entities based on the number of words used in a sentence or phrase to represent each entity's mentions, and they selected those with the most words as "most important" entities. While Sufi (2022) used a machine learning algorithm and regression analysis to extract the entities and Žitnik et al. (2022) manually identified the most important entities, the researchers used Netray's popular word data to extract the key entities. The researchers identified them as the most important entities. Moreover, Žitnik et al. (2022) manually classified the entities based on types (person, organization, and location). Influenced by Žitnik et al.'s (2022) work, the researchers manually identified the type for each entity and classify the entities based on types.

In a previous study on tweet sentiment analysis, Saif et al. (2016) prepared one of their datasets by extracting entities with AlchemyAPI. Afterward, they manually selected the top two most frequently mentioned entities and the mid two most frequently mentioned entities for each concept (Saif et al., 2016). Adjusting the method based on Saif et al.'s (2016) work, the researchers manually identified the first, second, and third most essential entities based on Netray's popular word data.

Most Important Entity

The researchers use the following variables for the crucial entities:

- Entity ID: unique identifier for an entity.
- Most Important Entity: the word or phrase identified as a popular entity.
- Entity type: the type of the entity.
- Frequency: the number of days the entity became a popular entity.

Entity Set

The researchers filtered the news data with a daily timeframe and compiled the data into entity sets with the following variables:

- Entity set ID: a unique identifier for an entity set.
- The number of positive news: the number of news articles with positive document-level sentiment in a day.
- The number of negative news: the number of news articles with negative document-level sentiment in a day.
- The first important entity: the most popular entity of the day.
- The second important entity: the second popular entity of the day.
- The third important entity: the third popular entity of the day.

D. Critical Discourse Analysis (CDA)

While entity sentiment analysis was the primary method for this research, the researchers also employed CDA to analyze the discourses reflected by the crucial entities in each sentiment. Previous studies investigated the most frequent words to analyze media discourse (Hirt, 2024; Mayer et al., 2021; QMN-Nguyen, 2023; Sundberg et al., 2023). QMN-Nguyen (2023) employed a corpus-based CDA that used quantitative and qualitative data analysis to reveal text patterns, trends, and ideologies. The method consisted of

the following steps: (1) corpus collection and data pre-processing, (2) extract the relevant primary keywords in the corpus and identify the most frequently occurring keywords using Natural Language Toolkit (NLTK), (3) identify the top collocates – words that frequently appear with the primary keywords using NLTK, (4) analyze the patterns and relation between the top most frequent keywords and the top collocates (QMN-Nguyen, 2023).

Mayer et al. (2021) conducted the manual data coding and frequency categorization using the MAXQDA software. In addition, they also qualitatively analyzed the discourse with the help of the software (Mayer et al., 2021). Hirt (2024) used ATLAS.ti, a qualitative data software, to code the arguments and themes found in the documents. He also employed the software to classify the actors, analyze the themes, and organize the data. Hirt (2024) manually analyzed the frequency of the arguments and themes over different periods to gain insights into the discourse. Sundberg et al. (2023) collected the data from a media archive database for their CDA study. They used a combination of manual and automated processes to analyze the frequency and identify patterns and themes in the text (Sundberg et al., 2023).

Adjusting the approach from these previous studies to fit the context of this study, the researchers conducted the CDA by investigating the frequency, themes, patterns, and relationships between the primary entities. They examined articles that mentioned those key entities and qualitatively analyzed the discourse represented in the text. Particularly, the researchers used the primary entities collected in the top ten entity sets that resulted from the entity sentiment analysis in the previous step. Subsequently, the researchers analyzed the relationships between the first, second, and third crucial entities to understand how those entities constructed the discourses in positive and negative sentiment.

Furthermore, to do a transdisciplinary analysis of CDA (Fairclough, 2013), the researchers adopted Mayer et al. (2021) approach to incorporate crisis communication theory and analyze the discourses based on changes in sentiment and strategy over time. Specifically, the researchers focused on the SCCT framework for crisis handling strategy (Coombs, 2017). In addition, to understand how media represented the image of the crucial entities, the researchers qualitatively examined the media logic and routine that significantly influenced the narrative. The researchers focused on the content's format, language and tone, data sources credibility, and news value.

Results

The Netray monitoring tool retrieved 59,400 news articles containing the "BBM" keyword. Netray categorized the articles according to sentiment; there were 30,001 news articles with positive document-level sentiment and 11,180 news articles with negative document-level sentiment (Figure 1). The researchers collected the most important entities for each positive and negative document-level sentiment. This research focused on each sentiment's top 5 primary entities (Tables 1 and 2). Several phrases and sentences presented in the findings have been translated from Bahasa Indonesia to English for clarity and understanding.

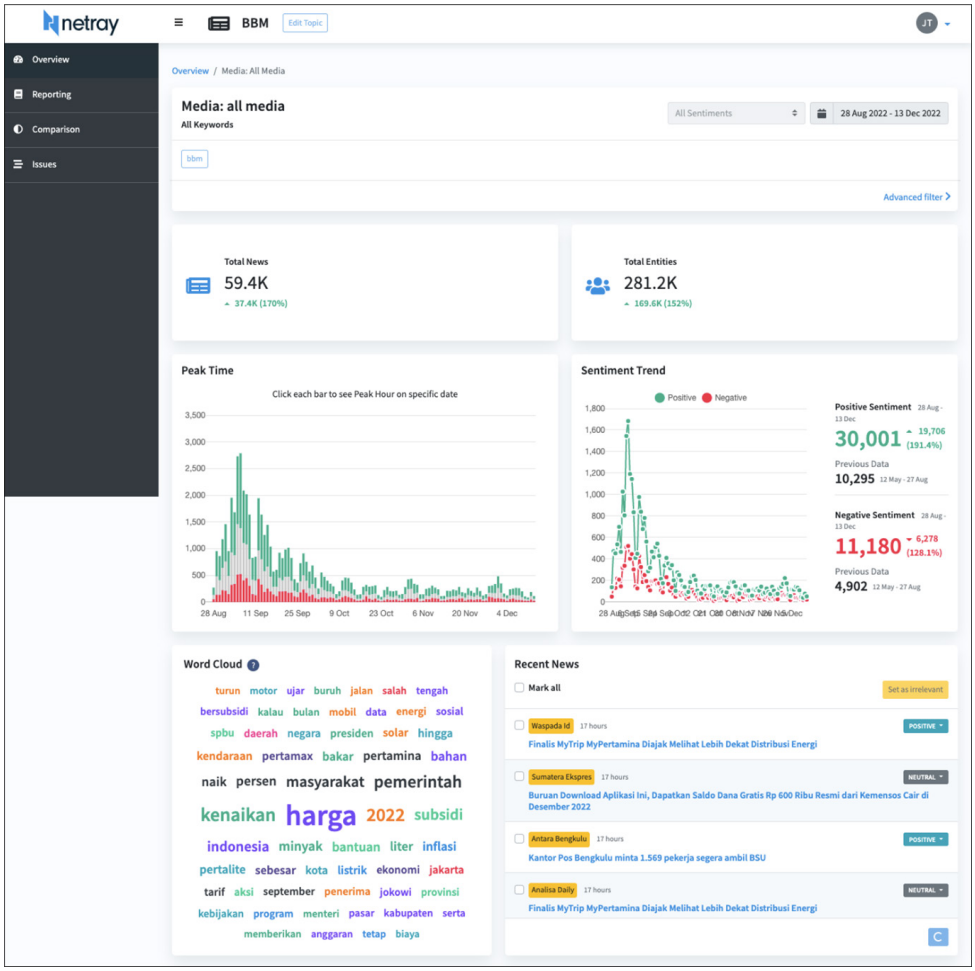

Figure 1. **The Netray Monitoring Tool**

Table 1. **Top 5 of The Most Important Entities for Positive Sentiment (Translated)**

Entity ID	Most Important Entity	Entity Type	Frequency (days)
E-Pos-1	price	policy	43
E-Pos-2	Pertamina	company	39
E-Pos-3	Pertamax	brand	4
E-Pos-4	fishermen	groups of people	3
E-Pos-5	Pertalite	brand	3

Table 2. **Top 5 of The Most Important Entities for Negative Sentiment (Translated)**

Entity ID	Most Important Entity	Entity Type	Frequency (days)
E-Neg-1	Pertamina	company	30
E-Neg-2	SPBU (gas station)	location	12
E-Neg-3	subsidy	policy	10
E-Neg-4	Pertalite	brand	7
E-Neg-5	Pertamax	brand	5

As detailed in Table 1, the most crucial positive sentiment entity was "price" (E-Pos-1). This finding was consistent with the fact that the main issue related to the "BBM" keyword was the fuel price hike. Moreover, the "price" entity did not appear in the top five primary entities for negative sentiment (Table 2). Thus, despite all the potentially negative impacts of fuel price rises, the "price" entity reflected positive sentiment in the news.

A. The "price" entity: the discourse of rebuild, bolstering, and diminish strategies in positive sentiment.

To analyze the discourses around the "price" entity and to find the relations between the "price" entity and other entities, the researchers selected entity sets for daily timeframe with "price" as the first essential entity. Next, the researchers sorted them based on the number of positive document-level sentiment news and collected the top ten entity sets (Table 3). The researchers analyzed the discourses by exploring the relationships between the entities.

Table 3. **Top 10 Entity Sets For The Most Important Entity "Price" in Positive Sentiment (Translated)**

Entity Set ID	Date (DD/MM, all dates in 2022)	Number of Positive News	Entity Set		
			1st Important Entity	2nd Important Entity	3rd Important Entity
ES-Pos-1	05/09	200	price	Pertamina	government
ES-Pos-2	03/09	188	price	Pertamina	Pertalite
ES-Pos-3	01/09	185	price	Pertamina	subsidy
ES-Pos-4	04/09	136	price	Pertalite	Pertamax
ES-Pos-5	08/09	120	price	Pertamina	subsidy
ES-Pos-6	07/09	116	price	Pertamina	government
ES-Pos-7	06/09	111	price	Pertamina	government
ES-Pos-8	02/09	100	price	Pertamina	subsidy
ES-Pos-9	09/09	85	price	Pertamina	subsidy
ES-Pos-10	01/10	74	price	Pertamax	Pertamina

The first discourse of diminish strategies surrounding ES-Pos-1, ES-Pos-6, and ES-Pos-7 focused on excuses and justifications, representing the positive impact of the fuel price hike on Pertamina's cash flow. This cash flow would support the oil refinery development plan and increase daily fuel production capacity. The narrative in the news employed a positive tone with a sense of authority, emphasizing the government's role in the energy policy. The text expressed optimism in sentences and phrases such as "the fuel price adjustment will boost Pertamina's refinery development" and "improve Pertamina's cash flow." Another discourse clarified Indonesia's high fuel price compared to other countries such as Malaysia. The clarification explained several factors, such as the total population, distribution cost in the archipelago country, and fuel production cost. The logic of the news was to address the price comparison issues and provide relevant arguments. The language was formal, and technical terms related to fuel prices were presented. In addition, there were supporting statements from experts to add credibility to the arguments. The subsequent discourse, which represented bolstering strategies, illustrated Pertamina's positive performance as the only Indonesian state-owned company listed on the Global Fortune 500 in 2022. The news used a positive tone with phrases such as "significantly better" and "successfully achieved cost savings." Moreover, the news delivered exciting value to the readers as Pertamina's performance was positive amid the fuel price hike issue.

Furthermore, discourses of rebuild strategies related to ES-Pos-3, ES-Pos-5, ES-Pos-8, and ES-Pos-9 depicted Pertamina's efforts to facilitate the registration process for people who need the fuel subsidy. The discourses also focused on Pertamina's strategy to subsidize Pertamax, a type of fuel not subsidized by the government, to keep it affordable for the middle to upper economic class. Thus, wealthy people will not opt for subsidized fuels as cheaper alternatives. The news utilized a positive tone with a formal and informative style to describe Pertamina's accomplishments. The headlines and content used an achievement-oriented tone with optimistic phrases, such as "surpassing 1 million registrants" and "cheaper than competitors."

Subsequent discourses of bolstering and rebuild strategies related to ES-Pos-2, ES-Pos-4, and ES-Pos-10 portrayed the government's maximum efforts to triple the fuel subsidies. Nevertheless, the government still had to make a hard decision to increase the fuel prices, affecting the price of Pertalite (subsidized) and Pertamax (nonsubsidized). However, the government ensured that the subsidized fuel was distributed to the right target, provided social assistance funds, and consistently reviewed the possibilities for decreasing fuel prices. The narrative in the news employed an official and serious tone, especially when reporting the statement from President Joko Widodo about the fuel price hike and the reasons behind the decision. In addition, there was an authoritative tone in specific phrases, such as "the price regulation" and "following the world oil prices," expressed in statements from Pertamina's CEO.

B. The "Pertamina" entity: the discourse of rebuild and bolstering strategies in positive sentiment.

Table 1 lists the other crucial entity for positive document-level sentiment – "Pertamina." Table 4 details the daily entity sets with "Pertamina" as the first essential entity in positive sentiment. The discourses of rebuild strategies surrounding the entity set with the most news article, ES-Pos-11, depicted Pertamina's strategy to provide more SPBUs (gas stations) that distributed subsidized solar (diesel fuel) for fishermen. The discourses related to the entity set ES-Pos-20 also represented how Pertamina successfully distributed the converted fuel packages to the fishermen. The narrative in the news used a neutral and positive tone, with formal and constructive language, to present detailed information about Pertamina's successful strategy.

Table 4. **Top 10 Entity Sets For The Most Important Entity "Pertamina" in Positive Sentiment (Translated)**

Entity Set ID	Date (DD/MM, all dates in 2022)	Number of Positive News	Entity Set		
			1st Important Entity	2nd Important Entity	3rd Important Entity
ES-Pos-11	12/09	72	Pertamina	price	fishermen
ES-Pos-12	29/08	57	Pertamina	subsidy	price
ES-Pos-13	03/11	46	Pertamina	price	government
ES-Pos-14	08/12	41	Pertamina	price	oil
ES-Pos-15	18/09	40	Pertamina	program	2022
ES-Pos-16	11/11	38	Pertamina	Niaga	Patra
ES-Pos-17	03/10	37	Pertamina	company	energy
ES-Pos-18	07/12	37	Pertamina	terminal	price
ES-Pos-19	06/12	30	Pertamina	price	relief
ES-Pos-20	22/11	26	Pertamina	fishermen	conversion

Moreover, discourses of rebuild strategies associated with ES-Pos-12, ES-Pos-13, ES-Pos-14, and ES-Pos-17 conveyed Pertamina's efforts to make the same fuel prices in every region, especially for rural and developing districts in Indonesia. In addition, Pertamina also ensured that there was enough fuel stock during high-demand seasons such as Christmas and New Year holidays. The articles utilized a positive tone to inform the readers of Pertamina's readiness to manage the fuel stock and distribution. In addition, there were statements from Pertamina's subholding company's CEO to give factual data about the stock availability and distribution infrastructure. Moreover, another discourse representing bolstering strategies portrayed Pertamina as a successful energy company

with soaring revenue, even during a crisis. The headlines and articles applied a positive tone with assertive phrases such as "skyrocketed revenue" and "positive financial growth."

ES-Pos-15 occurred in the news articles about Eco RunFest 2022 as one of Pertamina's corporate social responsibility (CSR) events. The news was promotional, reporting positively on Pertamina's self-sufficient energy village programs and how the event's participants can support the programs by giving indirect donations. Next, ES-Pos-19 appeared in news articles reporting how Pertamina helped the earthquake victims at Cianjur. The report used a positive and informative tone to describe Pertamina's role in the disaster relief efforts. Moreover, the news also emphasized the actions of Pertamina's Chief Executive Officer in visiting and handing over aid to the victims. The discourses emphasized bolstering strategies by reporting Pertamina as a company that successfully carried out social responsibilities during the crisis. Furthermore, ES-Pos-16 appeared in several news articles about how PT Pertamina Patra Niaga, the subholding commercial and trading company, trained their employees to prepare for emergencies. In addition, Pertamina also thanked all the employees who participated in the training, exemplifying bolstering strategies. The articles utilized an informative tone to present the report about Pertamina's positive initiatives for the company's employees.

C. The "Pertamina" entity: the discourse of diminish, rebuild, and bolstering strategies in negative sentiment.

On the other hand, despite being listed as one of the most important entities of positive sentiment, "Pertamina" was also the primary entity for negative sentiment (E-Neg-1). As listed in Table 5, entity sets ES-Neg-5 and ES-Neg-7 are related to news articles about the mistargeting of subsidized solar for fishermen. The news reported several drivers who bought subsidized fuel at gas stations and sold it to industries at higher prices. The discourses framed a narrative that Pertamina was not the only one responsible for the mistargeting, demonstrating diminish strategies. It was a shared responsibility of all related parties, such as the government, the police, and the gas station officers. However, representing rebuild strategies, Pertamina has penalized gas stations that deliberately sold subsidized fuel to the wrong parties. Pertamina also acknowledged the local police's support in catching individuals who misused the subsidized fuel, reflecting bolstering strategies. Despite the strong negative sentiment surrounding those events, the news consistently portrayed Pertamina as an active participant in addressing the issues. The news headlines, structures, and language used a neutral to positive tone, particularly when describing Pertamina's efforts to address the problems related to subsidized fuel mistargeting. To add credibility, the news also included statements from Pertamina's representatives, such as the managers of communication, relations, and CSR from the local areas.

Other entity sets, ES-Neg-6 and ES-Neg-9, associated with news articles reported the shortage of solar as a subsidized fuel for fishermen at Dumai and North Sulawesi. Moreover, North Sulawesi's local government was also overwhelmed by the solar shortage problems. The discourses depicted rebuild strategies as the local governments in

both areas had requested additional solar quota. The headlines utilized a negative tone as they conveyed the situation of the limited subsidized fuel and how the fishermen were frustrated and complaining about being unable to sail. One of the headlines also used a critical tone with phrases such as "raise white flag" and "powerless in dealing with solar shortages," depicting the desperate feelings of the local government. Nonetheless, the articles were neutral in reporting the details about hundreds of fishermen delivering their complaints to the SPBU and how the government had already requested a more subsidized fuel quota for Pertamina.

Table 5. **Top 10 Entity Sets For The Most Important Entity "Pertamina" in Negative Sentiment (Translated)**

Entity Set ID	Date (DD/MM, all dates in 2022)	Number of Negative News	Entity Set		
			1st Important Entity	2nd Important Entity	3rd Important Entity
ES-Neg-1	08/09	61	Pertamina	Balongan	tank
ES-Neg-2	07/09	27	Pertamina	subsidy	price
ES-Neg-3	19/11	24	Pertamina	fire	Jakarta
ES-Neg-4	27/09	23	Pertamina	SPBU (gas station)	solar (diesel fuel)
ES-Neg-5	22/09	16	Pertamina	subsidy	fishermen
ES-Neg-6	01/11	16	Pertamina	price	north
ES-Neg-7	07/11	15	Pertamina	misuse	solar (diesel fuel)
ES-Neg-8	12/09	13	Pertamina	Pertamax	government
ES-Neg-9	21/09	13	Pertamina	Pertalite	fishermen
ES-Neg-10	10/09	11	Pertamina	Pertamax	Pertalite

The discourses around ES-Neg-4 illustrated how farmers faced difficulties getting solar as one of the subsidized fuels in the local SPBU. Demonstrating rebuild strategies, the local government admitted that there were miscoordinations with the SPBU's officers as they had not received any complete information about the distribution procedures for farmers. The news applied a negative tone to express the farmers' desperation to get solar. For example, one of the headlines used negative phrases: "convoluted procedures" and "lack of coordination." There were more negative phrases in the article's body text, such as "the farmers complained about the solar shortage" and "the farmers felt it more difficult to get solar." Moreover, the news mentioned a statement from the local government about the distribution regulation but did not present any clarification from Pertamina regarding the SPBU's officers' miscoordination.

Furthermore, ES-Neg-10 was associated with narratives of a viral video about an SPBU officer who prohibited a driver from buying Pertalite for a second time in a day.

Showcasing rebuild strategies, Pertamina admitted the miscoordinations about the Pertalite's quota and reprimanded the officer. Also, Pertamina clarified that people could buy Pertalite multiple times a day if it did not exceed the daily quota for each type of vehicle. The news was focused on the conflict between the SPBU officer and the driver, which created a human-interest angle for the readers. The structure of the news started with a negative tone, conveying the driver's frustration and protest against the regulation. Nevertheless, the subsequent narrative employed a neutral tone, reporting clarifications from two credible Pertamina representatives, the Corporate Secretary of the Pertamina subholding company, and a regional Senior Supervisor of Communication and Relations.

Another entity set, ES-Neg-8, was associated with the discourses of misunderstanding about Pertamina's fuel subsidy for Pertamax (nonsubsidized by the government). Some people felt that the subsidy was mistargeted as wealthy individuals were the primary users of Pertamax. Reflecting diminish strategies, Pertamina cited that the government's price regulation forced Pertamina to subsidize Pertamax. The government made the policy to maintain Pertamax's affordability and prevent the rich from buying Pertalite as a more cost-effective fuel. Demonstrating rebuild strategies, Pertamina took responsibility for subsidizing the price difference as the government's standard price was below the economic value of Pertamax. The news articles employed negative language and a critical tone, particularly in the headlines, stating that affluent people enjoyed subsidized fuel. The phrases were provocative, such as "consumed by the rich" and "off-target." Nonetheless, as part of the media routine, the news utilized a neutral tone to report the government's statement about the Pertamax price regulation. The news also mentioned a clarification statement from the chief executive officer of Pertamina regarding the company's effort to maintain Pertamax's price affordable through subsidies.

ES-Neg-2 connected to the discourses of statements from Erick Thohir, Minister of State-Owned Enterprises. Demonstrating diminish strategies, Erick discussed the dependency of fuel prices policy on global crude oil prices. Furthermore, he reminded people about the government's efforts to triple fuel subsidies in 2022, exemplifying bolstering strategies. Erick also addressed people's concerns about the impact of the fuel price hike on essential commodities and people's hopes for salary increases. Representing diminish strategies, he mentioned shared responsibility with the companies to mitigate the negative impact by increasing salaries. Still, showcasing rebuild strategies, the government offered financing assistance programs for those affected by rising fuel prices. Regarding the language style, the news utilized a negative tone to emphasize the public's concerns about the economic situation caused by the fuel price hike. Nonetheless, the narrative was neutral when presenting Erick's responses to the issues. In addition, the primary headline of the news was on the Minister of State-Owned Enterprises press conference at one of Pertamina's buildings, which put Pertamina in the limelight.

Additionally, ES-Neg-1 and ES-Neg-3 were related to incidents after the fuel price hike, which were Pertamina tank fires in Balongan and Jakarta. Rebuild strategies in the discourses portrayed Pertamina's officers who were always ready for emergencies and directly acted to extinguish the fire. In addition, Pertamina investigated the causes of the

fire and ensured that the incidents would not affect the fuel supplies. The news headlines employed sensational phrases such as "allegedly struck by lightning" to add a dramatic touch. However, the narrative used a neutral tone to describe the detailed incidents and provide credible information from the local authorities.

Discussion

The researchers identified "price" as a "policy" entity type. Specifically, the rise in fuel prices was part of the Indonesian government's policy in response to the increase in global oil prices and the mistargeting of fuel subsidies (Al Fajrin et al., 2023). "Price" was the crucial entity for the positive sentiment but was not identified in the critical entities for negative sentiment. Hence, the researchers argue that Indonesian online news media supported the government's policy with positive discourses. The news utilized an optimistic and authoritative tone to construct a positive image of the government regarding the fuel price hike. The narrative emphasized the government's and Pertamina's perspectives by referencing official statements affirming the hard decision's positive grounds.

However, "Pertamina" as a "company" entity type was identified as a critical entity in both positive and negative sentiments. The dominant SCCT strategies around the positive sentiment for "Pertamina" were rebuild and bolstering. The discourses illustrated Pertamina's social projects and initiatives related to the crisis. The news employed a promotional and assertive tone with a sense of accomplishment to construct a positive image of Pertamina. These findings were consistent with previous research on CSR narrative messages in the news (Boukes & LaMarre, 2021; Yasir et al., 2022). Those studies discovered that CSR activities carried out by companies could improve their reputation and effectively attract journalists to write positive narratives in the news media.

Diminish strategy dominated negative sentiment discourses, portraying Pertamina's excuses and justifications for the incidents, miscoordinations and misunderstandings. According to Coombs (2017), using diminish strategies may not significantly improve a company's reputation, especially when the stakeholders perceive the company as having maximum responsibility for the crisis (Coombs, 2017). The researchers contend that the stakeholders perceived Pertamina should bear maximum responsibility for the crisis. Consequently, the media conveyed negative sentiment in the discourses of diminish strategies as it did not align with the initial expectations for Pertamina. The headlines and the opening paragraphs often used a negative tone with provocative and dramatic phrases in portraying the situation. Coombs (2017) states that rebuild and bolstering strategy can improve a company's reputation. However, the negative sentiment discourses also reflected these strategies. Thus, the researchers assert that the negativity from diminish strategies strongly influenced the whole discourse. On the other hand, the news narrative used a neutral to positive tone in the sentences, particularly when mentioning Pertamina's efforts to overcome the issues. Therefore, the researchers argue that the media subtly constructed a positive image of Pertamina amidst the negativity in the document-level sentiment.

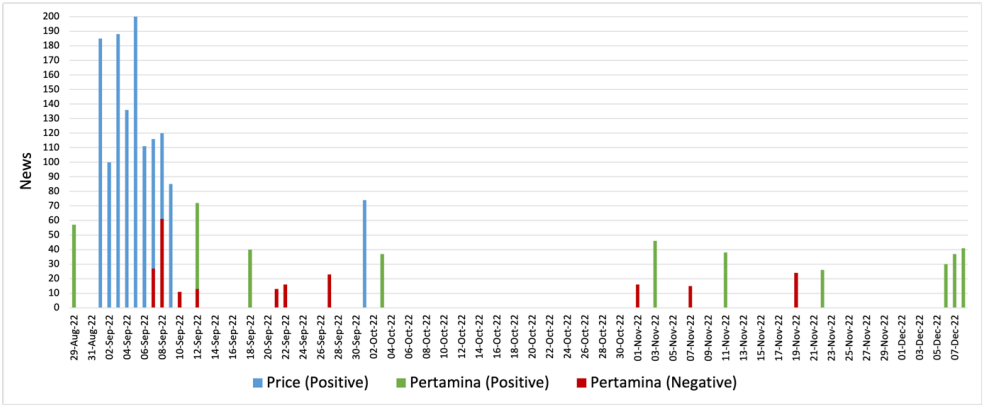

Figure 2. **Distribution of Crucial Entities Over Time**

On the contrary, the media conveyed the diminish strategy positively for the "price" entity in similar discourses. The discourses constructed the idea that the natural conditions of Indonesia's archipelagos and large populations caused high distribution costs and fuel prices compared with other countries. Hence, the researchers insist that these discourses framed the government's policy regarding fuel prices as the best decision for the country's unique conditions. However, the discourses primarily occurred in the first few days before and after the fuel price hike announcement, which highlighted the government's policy and its justification (Figure 2). The discourses in the subsequent weeks emphasized the negative impacts of the policy and shifted the focus from the entity "price" to "Pertamina." Instead of showing disagreement towards the policy, the discourses conveyed negative sentiment towards Pertamina as the company responsible for the policy's operational aspects, including the negative impacts. Nevertheless, positive discourses for 'Pertamina' were distributed evenly over time (Figure 2).

The entity "fishermen" emerged as a critical entity for positive sentiment. However, it frequently occurred in the negative sentiment's entity sets. The researchers argue that "fishermen" was a "group of people" entity type that obtained significant attention. Moreover, the news narrative used a positive tone to detail Pertamina's social initiatives for the fishermen in rebuild strategies. Conversely, diminish strategies regarding the misuse of the fishermen's subsidized fuel were narrated with a negative and provocative tone. These findings were consistent with Sundberg et al.'s (2023) study on how media highlighted certain groups to convey specific discourses, especially particular stakeholder groups with strong perceptions of the company's responsibility for the crisis (Coombs, 2017). Thus, the researchers suggest that the government and Pertamina should monitor the news coverage surrounding those particular groups, as it can improve or damage the company's positive image.

Conclusion

The researchers utilized Netray monitoring tool to analyze the sentiment and identified the crucial entities for each sentiment. Next, the researchers manually organized the entity sets for crucial entities in both positive and negative sentiments. The primary entities for the positive sentiment were "price" and "Pertamina," and the primary entity for the negative sentiment was "Pertamina." Next, using the top ten entity sets, the researchers discovered how crucial entities relate to each other to construct the discourses reflecting SCCT strategies. This study revealed that the "price" entity shaped positive sentiment around the discourses of rebuild, bolstering, and diminish strategies. The "Pertamina" entity constructed positive sentiment surrounding the discourses of rebuild and bolstering strategies. However, the "Pertamina" entity constructed negative sentiment around the discourses of diminish, rebuild, and bolstering strategies. The researchers argue that the diminish strategy substantially influences negative sentiments more than the other. Furthermore, the researchers argue that the diminish strategy was portrayed more negatively than others. Nevertheless, the researchers assert that the media adeptly constructed a positive image of Pertamina amidst the negativity observed in the document-level sentiment.

Moreover, the media framed the discourses positively for the "price" entity as the manifestation of government policy. However, it only happened during the first week of the announcement of the fuel price hike. In the subsequent weeks, the discourses shifted to "Pertamina" as the company responsible for the policy's negative impacts. The "Pertamina" entity was also portrayed positively in the discourses as the company that manages the policy's operational aspects. The positive discourses for 'Pertamina' were distributed evenly over time. This study also discovered that the media spotlighted the "fishermen" entity with positive and negative sentiments. Thus, the researchers suggest that the company should monitor the news coverage surrounding those prominent stakeholders as it can enhance or harm the company's positive reputation.

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