The potential bias for sustainability reporting of global upstream oil and gas companies: a systematic literature review of the evidence

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The potential bias for sustainability reporting of global upstream oil and gas companies: a systematic literature review of the evidence

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Abstract

Sustainability reporting is very important for upstream oil and gas companies. The characteristics of industrial operations require direct involvement in environmental management, which causes better policies. Therefore, it is important to explain that these companies are motivated by ecological awareness or a specific purpose. This research conducts critical discourse analysis with a systematic literature review (SLR) approach of the last eleven years related to the sustainability reporting of the oil and gas industry. Various factors influence companies when implementing sustainability reporting, such as increasing credibility, maintaining reputation, transparency, and avoiding legal sanctions. The results showed several global upstream oil and gas companies still have the potential bias for sustainability reporting because they have not implemented the triple bottom line concept. This potential bias is related to irregularities and fraud in Corporate Social Responsibility (CSR) practice. However, the organization as a ruling group can still carry out its mission of hegemony in the environment and the surrounding community. This research contributes academically and practically because it discusses various studies that used several methods, including surveys, case studies, experiments, and literature to form its conclusions.

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1 Introduction

Most public companies publish sustainability information, also known as corporate social responsibility reports. It contains uncommon details on the environment, human rights, labor practices, employability, product responsibility, and society, as well as quantitative and qualitative data (Paun 2018). Also, organizations voluntarily disclose information related to the impact of their activities on the economy, environment, and society through sustainability reporting (Girón et al. 2021).

Corporate sustainability reporting involves presenting information related to the social and environmental impacts of organizational activities to stakeholders. The stakeholders increasingly demand corporate social responsibility (CSR) for environmental and societal impacts, which is the companies' primary means of communication. Organizations respond to this demand by publishing a sustainability report that explains several actions related to the environment and society (Deren Van Het Hof and Hoştut 2021). Based on its original purpose, CSR is an activity to provide positive benefits for society and the environment due to the negative impact of a company's activities (Faza and Utami 2021). Therefore, this report enables investors to make more informed judgments regarding their investments in companies with a more positive impact.

The negative impact is a crisis condition because there is no management of the companies' activities, including financial and environmental effects that require sustainability (Aras and Crowther 2016). With these conditions, companies try to influence perceptions by creating a desired image to maximize rewards and minimize penalties (Rim and Ferguson 2020).

Oil and gas industries are highly required to improve their social performance due to public pressure on environmental protection and social welfare (Doni et al. 2021). They need to continuously reduce the significance of their harmful effects on the environment and humans (Elhuni and Ahma[3]2017).

Agudelo et al. (2020) found that most energy companies respond to different motivations according to their understanding of social responsibilities. The oil and gas companies are part of the energy sector with the same responsibilities and industrial activities that have environmental impacts. Another similar industry is mining, and previous studies found that CSR and sustainability reporting are not suitable for communities where the industry operates (Tuulentie 2019). This is caused by many violations in the upstream oil and gas industry. Also, the symbol of prosperity in this sector attracts individuals and companies. This causes people to insist on venturing into the sector and engaging in multiple acts of misconduct, such as corruption and bribery. Corruption in the upstream oil and gas industry thrives where external oversight of government operations is weak, such as in local or small districts. Although the income from rents and royalties have enriched local communities, they have been duped

into millions of dollars in elaborate schemes (Ruddell 2017). One of the activities that support sustainability reporting is awareness to anticipate corruption and public policies related to anti-competitive behaviour, such as anti-trust and monopoly. The more the companies are exposed to corruption, the less likely they will publicly disclose information about their involvement in anti-corruption activities. Therefore, these disclosures, apart from sustainability reporting are still doubtful (Barkemeyer et al. 2015).

The hope of people in developing countries with rich energy resources is larger economies and greater accessibility to livelihood. However, the people are faced with reality where they experience poverty and environmental pollution. For example, in Africa, oil producers have low and poor human development, instability, conflict, and failure to eradicate poverty (Gani 2021). This results from the practice of sustainability reporting that is not under the conditions of the community (Tuulentie 2019). In contrast, sustainability reporting provides many benefits, such as increasing brand recognition and company loyalty, transparency, accountability, and credibility (King 2015). This can raise doubts about whether the practice is an actual or just a strategy (Junior et al. 2017). The difference between the community's expectations and the reality of sustainability practices is a gap phenomenon that stems from biased practices in the implementation of CSR and sustainability reporting.

In addition to the sustainability discussion above, this research also obtains motivation from global issues related to the International Sustainability Standard. The meeting outcome of world leaders in Glasgow at the COP26 event agreed on the importance of addressing the critical and urgent problem of climate change. This meeting resulted in the establishment of the International Sustainability Standards Board (ISSB) under the governance structure of the International Financial Reporting Standards (IFRS) Foundation. This aims to develop a disclosure standard related to sustainability to meet the information needs of financial statements (IFRS 2021).

Also, the Climate-related Disclosures Prototype was developed by the Technical Readiness Working Group (TRWG) and led by the IFRS Foundation. One of the industries of particular concern in the prototype is the Oil & Gas Exploration field Production (IFRS 2021). The relationship is that climate change is the result of ignoring the triple bottom line aspect, which is a bias on the sustainability concept.

This research aims to analyze and identify the practice of CSR bias in the sustainability reporting of global upstream oil and gas companies. This is carried out through discourse analysis with a systematic review over the last eleven years and confirms the gap between the phenomenon and the use of fundamental theory. Many studies have become the basis for identifying and classifying bias factors in the sustainability reporting process. (Aras and Crowther 2016; Folkens and Schneider 2019; Tuulentie 2019). Therefore, the research question is "what are the factors that cause the sustainability reporting of upstream oil and gas companies to be biased?".

By presenting a systematic review method, the results will help academics and practitioners understand and identify the potential bias of corporate sustainability reporting. This method outlines the most relevant paths derived from various research.

2 Literature review

2.1 CSR and sustainability reporting

Corporate Social Responsibility (CSR) in the modern perception was first launched in the US and developed in the UK, with the publication of the social responsibility of the Businessman by H Bowen in 1953. This described the need to consider the problems that exist in the corporate environment (Woźniak and Jurczyk 2020). The term CSR became increasingly popular when the book Cannibals with Forks: The Triple Bottom Line in 21st Century Business by John Elkington was published.

Nowadays, CSR has become a crucial aspect of a company's function as a context for relating with local communities. It denotes taking responsibility for economic, environmental, and social impacts, as well as communicating with stakeholders. (Reid 2011). Current studies showed the primary motivation for business organizations to engage in CSR is an ongoing success. Those that have a profit motive in carrying out the activities are considered healthy and legitimate (Zueva and Fairbrass 2021).

CSR involves a company policy assessment, managing, as well as regulating corporate responsibility and its impact on society. It aims to improve social life, make the company more sustainable, and increase value. Also, it can be fully in line with the interests of shareholders (Christensen et al. 2021; Lins et al. 2017). The term 'Corporate' emphasizes the business CSR perspective, while 'social' and 'responsibility' emphasizes the social and ethical aspects (Frerichs and Teichert 2021).

CSR reduces the risk of corruption in developing countries when institutional quality is high, and citizens enjoy press freedom (Krishnamurti et al. 2018). Stakeholders have become more vocal and persistent about the need for transparency and accountability in corporate social responsibility (Waddock 2011) because one definition of sustainability is anything that guarantees societal and environmental welfare (Lew et al. 2016). This reporting and communication reduce social and environmental problems in the mining and energy industries (Badera 2014). The two terms "CSR" and "sustainability" have close meanings and are often used in similar ways (Christensen et al. 2021).

The development of sustainability has several similarities with the progress of sustainability reporting (Hałaczek and Wolniak 2016; Tsalis et al. 2020). The sustainability reporting first focused mainly on social responsibility issues caused by strong demands from various community groups. Subsequently, the SR focused primarily on environmental issues to protect natural resources for future generations to meet their needs. The triple-bottom-line approach emerged at the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992, which affected the areas of corporate strategy, management, accounting, and reporting.

The concept of sustainable development was enriched with 17 Sustainable Development Goals after the United Nations (UN SDGs) conference in New

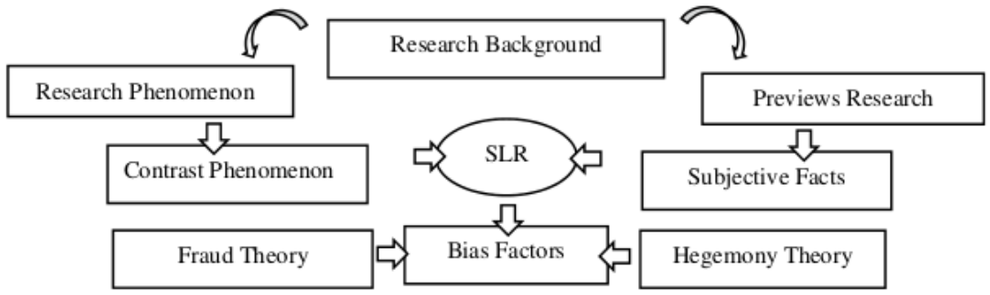

Fig. 1 Research Framework. *Source* Authors' illustration

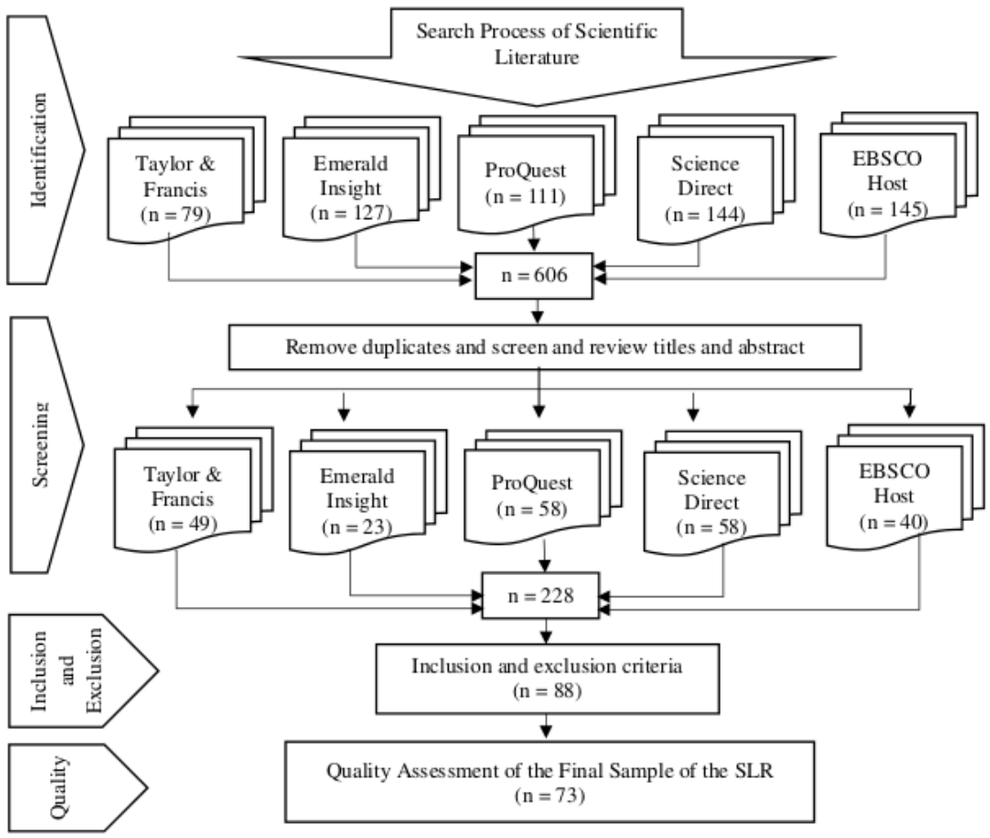

Fig. 2 Systematic literature review selection process. *Source* Authors' illustration

York in September 2015. Several international organizations have contributed to assisting companies to incorporate the UN SDGs into their strategic management and sustainability reporting. The Global Reporting Initiative (GRI), the UN Global Compact (UNGC), and the World Business Council for Sustainable Development (WBCSD) suggest that the SDGs can contribute to the strategic management, facilitate measuring sustainability performance, and introduce these objectives into corporate sustainability reporting (Figs. 1, 2).

The reporting guidelines for companies should determine the actions taken and assess several possibilities when deciding to include necessary items. Sustainability reporting helps companies measure, understand, and communicate their economic, environmental, and social performance to set goals and effectively manage change. Current sustainability reporting is also an instrument of dialogue that has become a public concern. In addition to annual reports that mostly contain only monetary figures, more companies are including ecological and social facts in their reporting obligations (Folkens and Schneider 2019).

The evolution of the sustainability concept has influenced sustainability reporting. Corporate sustainability starts with an emphasis on social issues following the evolution of the CSR concept, where companies sign contracts with community members (Tsalis et al. 2020).

The companies are encouraged to report non-financial information in their annual reports. This allows investors to assess the relationship between specific non-financials and the organization's overall strategy, performance, and prospects. This will provide a more holistic picture of the relationships between the factors that affect their ability to create value (CDSB 2021). Therefore, the purpose of financial disclosures related to sustainability is to provide information about the significant sustainability-related risks and opportunities facing the company (IFRS 2021).

Sustainability is the principle of action for using resources, where preserving essential characteristics, stability, and natural regeneration capacity is preferred (Folkens and Schneider 2019). Specifically related to fraud, the GRI pays special attention to corruption in the GRI 205.

2.2 Fraud theory

An individual is said to commit fraud when financial problems cannot be solved together. When the problem can be solved discreetly by using self-influence, then the individual mindset needs to change from the initial concept of being a person who only holds assets to being a trusted asset user. The individual realizes that the action is illegal but still tries to compromise (Cressey 1953). People's position or function within a company can give them the ability to create or exploit fraudulent opportunities that are not available to others (Ruankaew 2016).

There are criteria for classifying a person as a perpetrator of an embezzlement crime. Firstly, the individual needs to have a good position of trust. Secondly, the trust needs to be violated by committing a crime. These criteria are in the concept of the fraud triangle, which consists of three parts, namely pressure, opportunity, and rationalization of thinking to commit a crime (Cressey 1953). The upstream oil and gas industry has a significant risk of corruption and violations (Ibrahim and Robey 2020), including CSR practices. The pressure of being a fraud perpetrator usually arises when someone experiences stress due to unexpected financial problems and cannot discuss it with others. The inability to communicate these economic tensions motivates them to break the law to solve problems (Dellaportas 2014). Opportunity is also part of the fraud triangle to commit a crime.

The opportunities to commit fraud emerge when a person violates trust for financial distress reasons (Cressey 1953). Only those with opportunities are logically likely to commit white-collar crimes (Schuchter and Levi 2015). The next part of the fraud triangle theory is rationalization for committing a crime. It is the perpetrator's lack of feeling and indifference to justify the guilt that arises from the act (Dellaportas 2014). The subsequent development of the Triangle Theory is the Fraud Diamond theory proposed by Wolfe and Hermanson (2004) by adding capability as a fourth element that functions to improve fraud prevention and detection.

Apart from discussing pressure, opportunity, and rationalization, this theory considers aspects of individual abilities that significantly explain whether fraud can occur. According to the diamond theory, no fraud can occur without the ability to find weaknesses in the control system that hides the acts. The context of this research is that the fraudulent actions in the upstream oil and gas CSR is carried out by people with high knowledge and abilities.

2.3 Hegemony theory

Antonio Gramsci first proposed that the hegemony concept helps understand the domination relationship from the perspective of a dominant subjectivity (Furnaro 2019). Hegemony has the basic principle of relationship between one group and other social power. These groups gain approval from different classes and social forces by creating ideologies and maintaining alliances through political and ideological struggles (Gramsci 1971). In Gramsci's view, hegemony will result in an attitude that accepts the situation without critical questions. The social hegemony theory provides a philosophical and methodological framework to analyze and view CSR from a different ontological perspective. This is not only as a feature of corporate behavior, but also as a tool that constructs hegemonic discourses that legitimize the meaning of actors' positions, and forms of social relations in CSR practices (Laclau and Mouffe 2014).

Hegemony influences a sense with an ideology representing the ruling class's interests and combining contradictory and incomplete conceptions (Furnaro 2019; Loftus 2015). It occurs when a group, as the dominant regime exploits to maintain its supremacy without showing military physical strength. The running hegemonic power does not present external control because it has become the internal object. Therefore, a problem is not easy to create when it exists and has become something realized and is present as normal.

In the hegemony concept, the key to success is considering the interest of the people. It is a victory obtained through a consensus mechanism, and through the oppression of other social groups. In this case, there is no opportunity to challenge or dispute the decision of the controlling party. The hegemonic social theory politicizes the concepts of order and freedom by considering its constitutive function as an element of discourse that contradicts the denotation of certain social

phenomena (Laclau and Mouffe 2014; Zueva and Fairbrass 2021). The following is the framework for this research.

3 Research methods

3.1 Paradigm of research

This research paradigm is critical to determining the factors that cause potential bias in sustainability reporting reliability. It considers violations of rules and ethics underlying the implementation of CSR programs. The systematic literature review (SLR) approach was used for the discourse analysis method.

Based on the conceptual study discussed in the background, this research can lead to an ontological understanding that CSR practices and sustainability reporting do not follow the circumstances of the community where industrial processes are conducted (Cash 2012; Gardner et al. 2012; Tuulentie 2019). The CSR and sustainability reporting are not rooted in environmental awareness but because considerations are limited to sustainability reporting influenced by economic aspects (Fifka and Drabble 2012). The sustainability reporting presentation is an effort and achievement to meet the sustainability goals and targets (Te Liew et al. 2014). Therefore, ontological understanding is essential since detecting sustainability reporting bias is critical because of decision-making. Concerning epistemology, achieving this requires knowledge related to factors that have potential bias in the reporting process. However, regarding axiology, these factors are useful for increasing the reports' reliability.

3.2 Critical discourses analysis

This research used critical discourse analysis as a methodological approach. The analysis attempts to explain the context of a theme or issue created in the text. Furthermore, it aims to determine how a dominant group is more in control. This is in contrast to another group whose low position tends to continuously make the object poorly described (Van Leeuwen 2015).

The discourse analysis finds evidence in a text to answer the research question and involves various analyses and critical social theory (Van Leeuwen 2015). This research explains the potential CSR bias in texts and historical thoughts. The discourse that arise is the image campaigning to save the earth from damage by the production process and promote the achievement of sustainability reporting awards for upstream oil and gas companies. This analysis was conducted using a systematic literature review approach. It is hoped that the script analysis stage can correctly present the correct results.

3.3 Systematic literature review

This research followed the systematic review guidelines, which refer to general principles guided by research questions and a systematic approach (Chandler et al. 2019; Gough et al. 2017). This approach evaluates the literature content on a particular topic or research question (Burgers et al. 2019). The process gathers all empirical data that fit predefined eligibility criteria to answer a specific question (Chandler et al. 2019).

A systematic review was used because it has gained increased credibility in management research and offers a transparent, reproducible, repeatable review process using a comprehensive search and analysis framework. Combining cross-references between journals, conducting a broad search of research databases, and applying inclusion and exclusion criteria can provide theoretically sound methodology and offer practitioners and academics a reliable basis for formulating decisions and actions (Phillips et al. 2015).

A systematic review is critical because a new study designed without duplicating existing research is unnecessary (Chalmers et al. 2014). Conducting a high-quality review requires an in-depth understanding of the process, non-trivial skills, and experience in the respective fields (Fisch and Block 2018). Therefore, it is usually necessary before starting new primary research. The review identifies current and ongoing studies, as well as indicate specific gaps in knowledge or lack of evidence (Chandler et al. 2019). Finally, SLR in this research can objectively present the evidence and phenomena of deviations in CSR and sustainability reporting practices from various quality literature. This approach is effective in research methods due to limited access during the COVID-19 pandemic.

3.3.1 Search process

The first step in a systematic literature review is to determine the specific and clear research questions, followed by relevant comparisons to answer the provisional hypotheses. This starts with the search process with keywords related to the research problem, and the review begins with a description of general topics (Burgers et al. 2019).

3.3.2 Execution phase

The next phase of SLR method is implementing the review phase to form a literature synthesis and the final writing process. (Agudelo et al. 2020; Chandler et al. 2019; Okoli 2015). Finally, informational data from various studies are collected and reconciled with careful analysis. This process uses Microsoft Excel and Tableau software.

3.3.3 Descriptive analysis of the literature

This descriptive analysis aims to map the overall research data, which will benefit from integrating various concepts emerging from different fields to gain deeper insights from the literature. This high-quality screening process is a general standard in SLRs that helps the review process become more efficient and accurate by focusing on relevant articles (Agudelo et al. 2020; Fink 2019). The next step is to determine the inclusion criteria, the study types (Boland et al. 2017; Gough et al. 2017), the relevant articles, as well as include and rate each publication against the criteria (Boland et al. 2017).

3.3.4 Search process

The source analysis of this research data is a systematic literature review as an initial formula using several relevant articles to answer the questions and evaluate topics based on many criteria (Drysdale et al. 2013; Hwang et al. 2012).

The first step of this review is to determine the right keywords to identify the literature in answering the following questions: What factors cause the sustainability reporting to be biased? Each scientific database was searched by applying four strings to find the most relevant articles. The first string is CSR and upstream oil and gas, while the second is sustainability reporting and upstream oil and gas. The third-string is CSR bias and upstream oil and gas, and the fourth is sustainability bias and upstream oil and gas. This search includes all articles related to CSR bias, sustainability reporting, and upstream oil and gas. When an article discusses one of these criteria, it will be the initial set of searches. Five databases were searched, namely ScienceDirect, ProQuest, Taylor and Francis, EBSCO Host, and Emerald Insight.

The selection of these databases has specific criteria (see Table 1) and considered the following for initial selection: The database needs to contain peer-reviewed academic papers in English, they should provide access to the full text online, not just article sections such as abstracts or other certain parts. They need to contain original research, and the database should cover the topic of this review.

Table 1 Criteria for the initial selection of the scientific papers in this SLR. *Source* Authors' compilation

Issue	Selection criteria
Publication type	Scholarly journals
Publication year	2010–2021
Language	English
Availability	Full text
Research methodology	Qualitative and quantitative
Keywords search	CSR, sustainability reporting, upstream oil, and gas

Table 2 Number of publications for the selection process. *Source* Authors' compilation

	Science direct	ProQuest	Taylor & Francis	Emerald insight	EBSCO host	Total
Total	144	111	79	127	145	606
Percentage	24%	18%	13%	21%	24%	100%

Table 3 Scientific journal articles after the title and abstract screening process. *Source* Authors' compilation

Year	Science direct	ProQuest	Taylor & Francis	Emerald insight	EBSCO host	Total
2010		7	1	1	5	14
2011	2	2	2	2	1	9
2012	5	1	2	2	3	13
2013	3	4	3	2	2	14
2014	4	8	4	1	4	21
2015	4	8	3	3	5	23
2016	11	6	4	3	4	28
2017	3	4	5	1	2	15
2018	11	4	3	3	5	26
2019	6	2	16	2	2	28
2020	5	1	2		3	11
2021	4	11	4	3	4	26
	58	58	49	23	40	228

The first phase search of the Science Direct, ProQuest, EBSCO, Taylor & Francis, and Emerald databases resulted in 606 papers. In this phase, a qualification screening process was conducted for relevant documents by title and abstract, eliminating duplicates from different databases and including only those related to papers on sustainability reporting/CSR in the global upstream oil and gas industry. This process resulted in 228 articles out of the original 606.

The literature review starts by searching for CSR, sustainability reporting, and upstream oil and gas keywords in the ProQuest, EBSCO, Science Direct, and Emerald databases. This search aims to see how extensive the published literature is on the sustainability reporting process in oil and gas companies.

3.4 Data analysis

3.4.1 Database and years of publication

This review begins with a search based on the publication year criteria with CSR, sustainability reporting, upstream oil and gas keywords in 5 databases. The

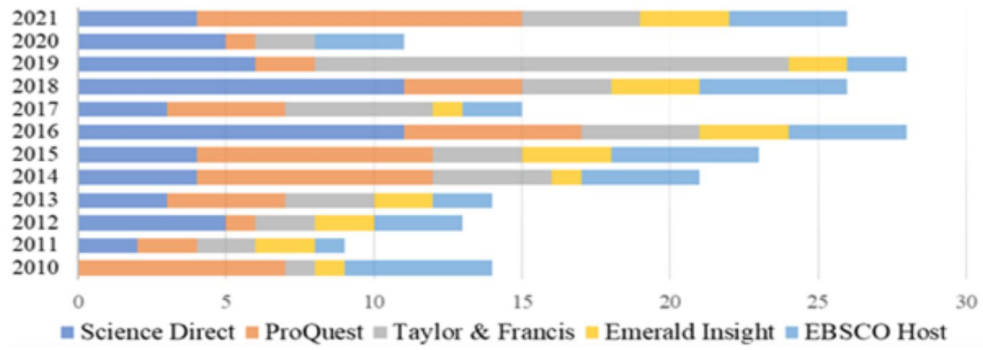

Fig. 3 Number of publications per year after the screening process. *Source* Authors' compilation

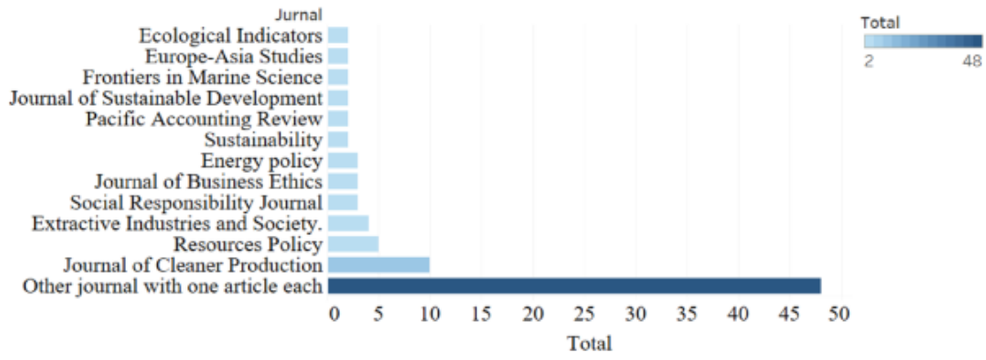

Fig. 4 Article distribution based on journal publisher. *Source* Authors' compilation

total number of papers collected was 606, with the following details based on the publication year.

The SLR method needs to follow a rigorous, systematic, explicit, comprehensive, and reproducible approach (Fink 2019). Table 2 above demonstrates that the EBSCO Host database has the most search results based on the keyword criteria, with 145 articles or 24%. This step also screened the titles and abstracts of the 606 papers. Several journals were dropped from the initial search using CSR, sustainability reporting, as well as upstream oil and gas. The articles used for the next phase after the dropping process are as follows.

Table 3 above and Figs. 3 , 4 below show the total number of selected articles is 228. Most papers from the database are 58 each from Science Direct and ProQuest. Also, the years with the most articles were 2016 and 2019, with 28 journals.

3.4.2 Inclusion and exclusion criteria

The next step is to sort the papers based on the inclusion and exclusion criteria to determine whether they are suitable. The inclusion and exclusion criteria are as follows:

1. The academic papers used are from 2010 to 2021.
2. The academic papers used are from the ProQuest, EBSCO, Science Direct, Taylor & Francis, and Emerald databases
3. The academic papers related to CSR and sustainability reporting in the upstream oil and gas industry. The inclusion criteria need to include papers on CSR, SR, and upstream oil and gas. Articles that only discussed CSR, sustainability reporting, or upstream oil and gas were excluded and disqualified in this phase.

The number of research papers analyzed in this phase was 88, with the following data:

The research papers came from 62 journals, which include ten published articles from the Cleaner Production Journal, five from Resources Policy, and four from Extractive Industries and Society. Three were from each Social Responsibility Journal, Journal of Business Ethics, and Energy Policy, two from each Sustainability, Pacific Accounting Review, Journal of Sustainable Development, Frontiers in Marine Science, Europe-Asia Studies, as well as Ecological Indicators. The 48 remainders of the journals included one published article each. Subsequently, the 88 papers were analyzed for quality based on the H index and Q category.

3.4.3 Quality assessment

The third phase is the evaluation to determine the quality of the research papers as follows:

1. The academic papers published from 2010 to 2021.
2. The academic papers with results related to sustainability report reliability issues.
3. The academic papers that discuss sustainability report reliability issues associated with the upstream oil and gas industry.

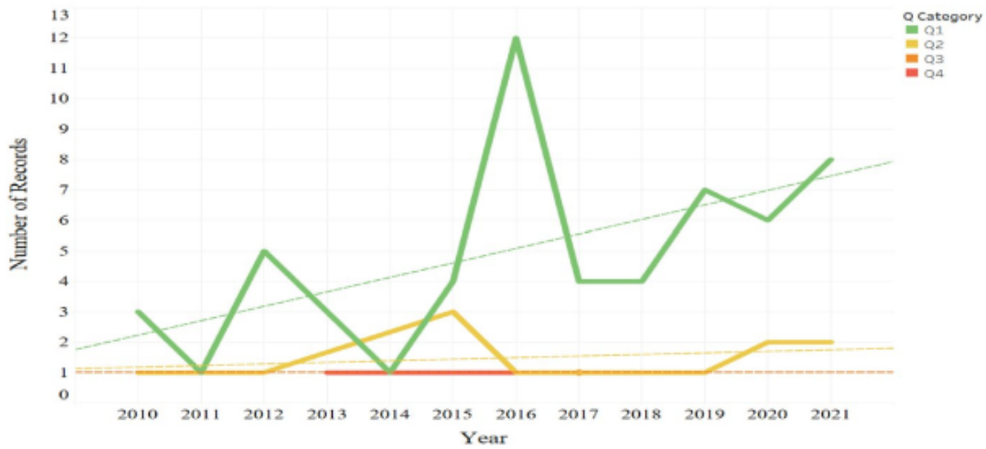

Fig. 5 Distribution of Paper Quality Assessment Q Categories. *Source* Authors' compilation

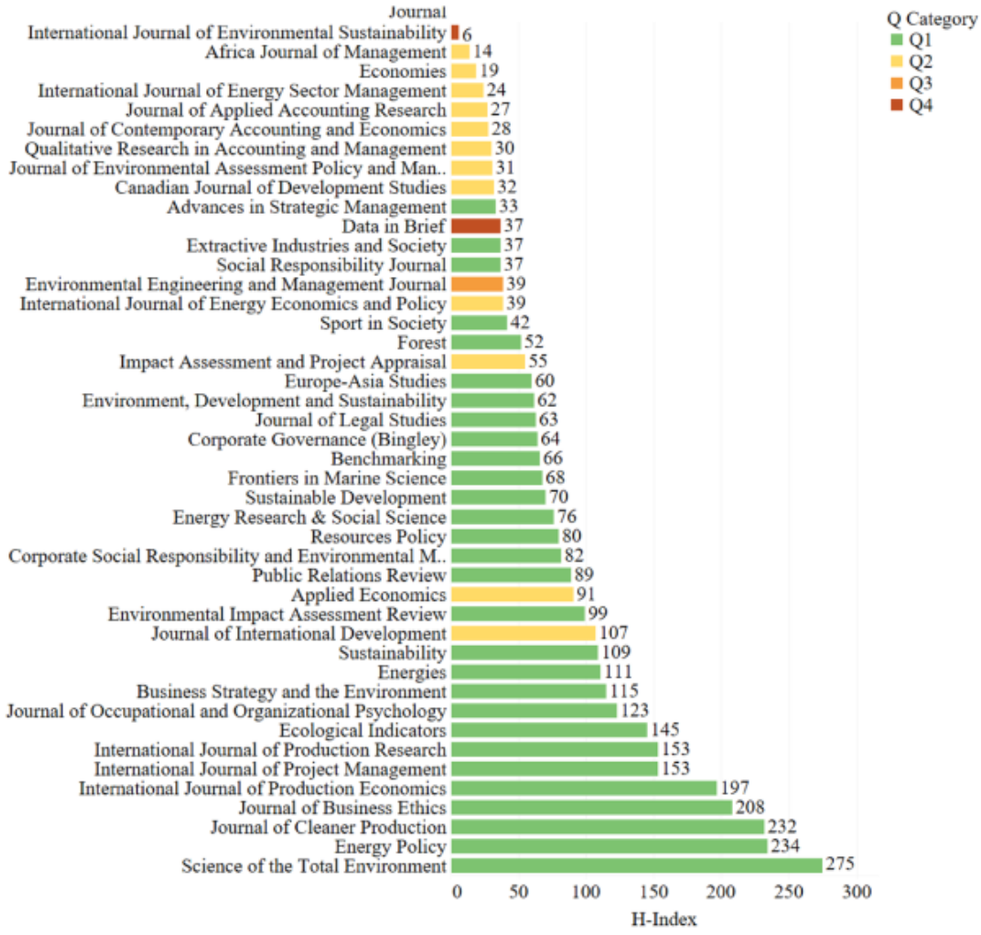

Fig. 6 Distribution of Paper Quality Assessment H index. *Source* Authors' compilation

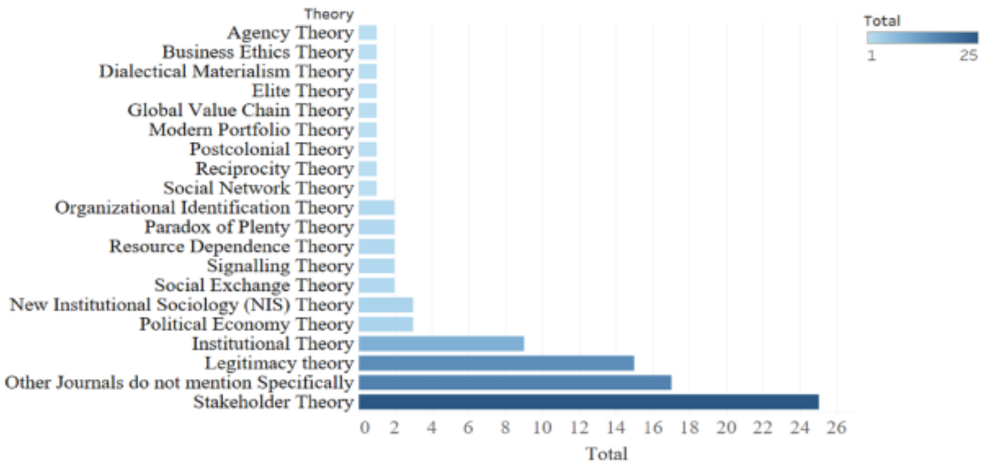

Fig. 7 Grounded theory approach. *Source* Authors' own compilation

4. The academic papers with Q category qualifications and H indexes provided all documents included in Q1, Q2, Q3, or Q4. The remaining papers in these Q categories and an H Index are 73.

Figure 5 shows how the remaining 73 papers fall into the quality assessment categories.

The 73 journals included above are categorized based on the quality of the published articles using the Q category (quartile). There are four levels, including Q1, the cluster with the highest or most significant quality, followed by Q2, Q3, and Q4. In this stage, most papers came from Q1 with 58 published articles, Q2 with 12, Q3 with 1, and Q4 with 2. Additionally, regarding the publication year, 2016 and 2019 have the most published articles for the Q1 category with 9 papers (Figs. 6, 7).

3.4.4 Grounded theory approach

The grounded theory approach used in several publications varies widely. It is an analysis of the tendency of research teams to use the basic theory. This analysis is necessary due to the need to assess the similarities in the usage of grounded theory in different publications. This is because it shows the similarity in the analysis of bias or CSR violations and sustainability reporting in the upstream oil and gas industry. This occurs since the findings of CSR and sustainability reporting in scientific manuscripts have the same practice. The results showed that from the 73 selected articles, 20 types of grounded theory were used. The stakeholder theory is the most widely used, with 25 papers. Also, 15 papers use legitimacy theory, and 9 papers use institutional. The political economy and new institutional sociology (NIS) theories both have 3 papers. Furthermore, the social exchange, signalling, resources dependent, paradox of plenty, and organizational identification theories, each have 2 papers. The social network, reciprocity, postcolonial, modern portfolio, global value chain, elite, dialectical materialism, business ethics, and agency theories have 1 paper each. Meanwhile, 17 papers did not specifically mention a theory.

The stakeholder concept is the most widely used in several publications frequently referenced for this literature review. It discusses how companies respond to stakeholders' wishes to implement CSR with their expectations (Fifka and Drabble 2012). This implementation can improve reputation (Hansen 2020) and allow companies to describe themselves as good corporate citizens (Millington et al. 2019). Company activities fulfilling stakeholder interests are closely related to the stakeholder theory. However, the legitimacy theory is better regarding norms in the company's operational environment (Doktoralina et al. 2018). This is the second most prevalent theory in this systematic literature review.

3.4.5 Company distribution of the analysis

Upstream oil and gas companies are organizations with activities that directly impacts the environment and the community. ExxonMobil is the company most disclosed in this literature review, being mentioned in 22 out of 73 published

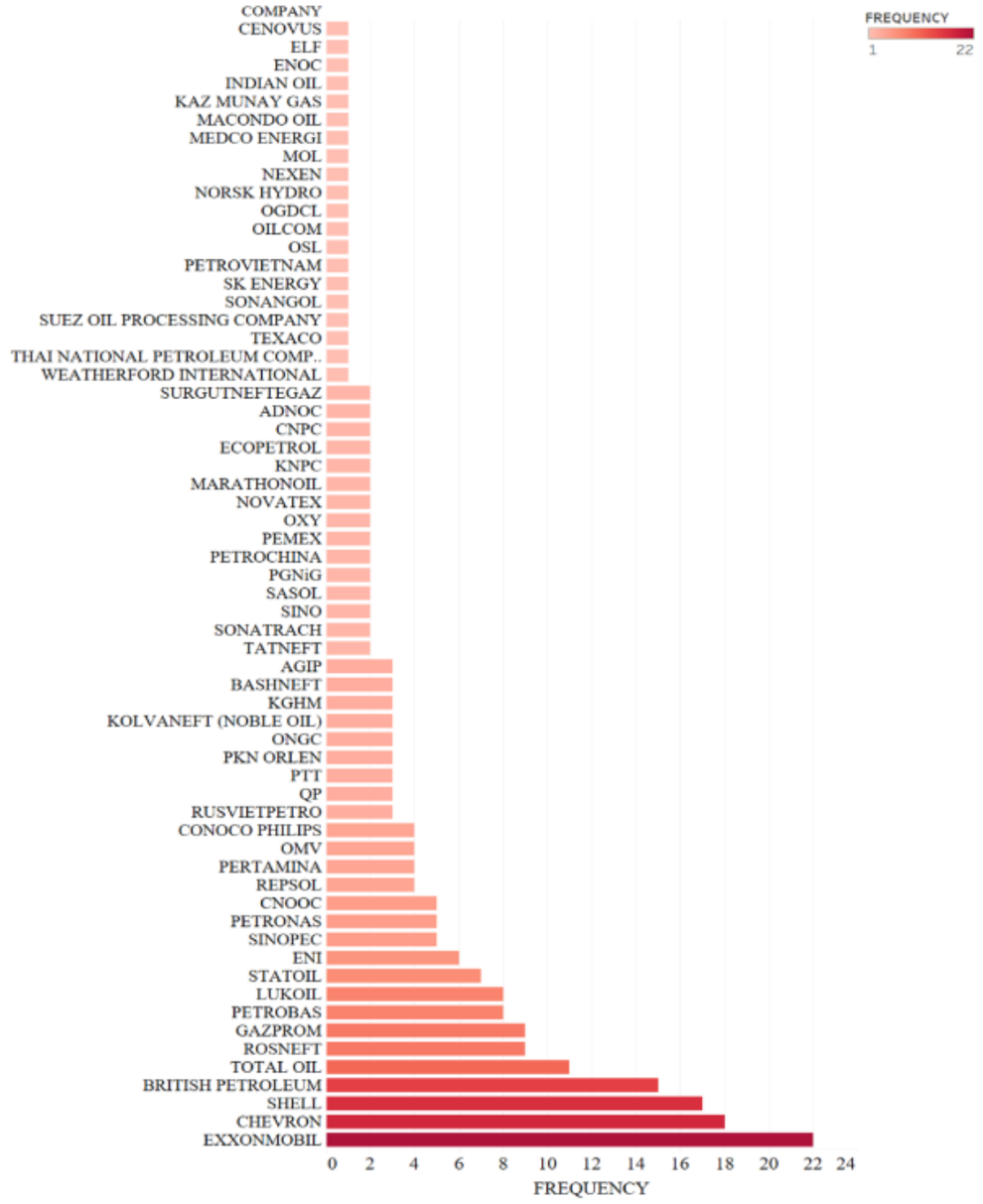

Fig. 8 Company distribution of the analysis. *Source* Authors' compilation

articles. Chevron was mentioned in 18 articles and Shell in 17. This is followed by BP with 15 articles each, Total Oil company with 11, Gazprom and Rosneft with 9 each, Petrobas with 8, Statoil with 7, ENI with 6, Petronas, Sinopec and CNOOC with 5 each. Furthermore, Repsol, ConocoPhillips, OMV, Pertamina, Bashneft with 4 articles each, Agip, Rusvietpetro, Kolvaneft, QP, ONGC, and Orlen with 3 each, Sonatrach, Ecopetrol, Petrochina, Sino, CNPC, OXY, KNPC, PEMEX, PGNiG, Marathonoil, Sasol, Adnoc, Tatneft, Surgutneftegaz, Novatek and KGHM with 2

articles each. Finally, the companies illustrated in Fig. 8 below are mentioned in only 1 article.

The results of critical discourse analysis showed several phenomena in the background follow a literature review of 73 articles that are the object of this research. Many issues in the introduction provide information on several cases, including the human rights violations of ExxonMobil company in Aceh, Indonesia. This result confirmed the previous phenomenon, as shown in Fig. 8 above. ExxonMobil ranks first among the number of mentions in the 73 papers on the potential bias in sustainability reporting. Another case happened to Chevron in 2019, where shareholders protested because about 61% supported the proposal of "Follow This" activists asking the company to reduce their carbon emissions (This 2021).

Many upstream oil and gas companies practice sustainability reporting. However, they are still contrary to GRI standards because they do not disclose negative information. Several companies report sustainability reporting and CSR practices that are incompatible with the conditions of the communities where the mining takes place (Tuulentie 2019).

3.4.6 Geographical approach analysis

The geographic distribution approach is an analysis that handles the phenomenon of location-specific and uneven distribution. In this analysis, 73 papers focused on several countries that have become objects in various studies. The following is a distribution description of several countries that are objects of discrepancies in the CSR practices and sustainability reporting based on the selected articles.

Based on the geographical location in Fig. 9 above, the results showed Nigeria is the country with the most focus as the object of research with 12 publication

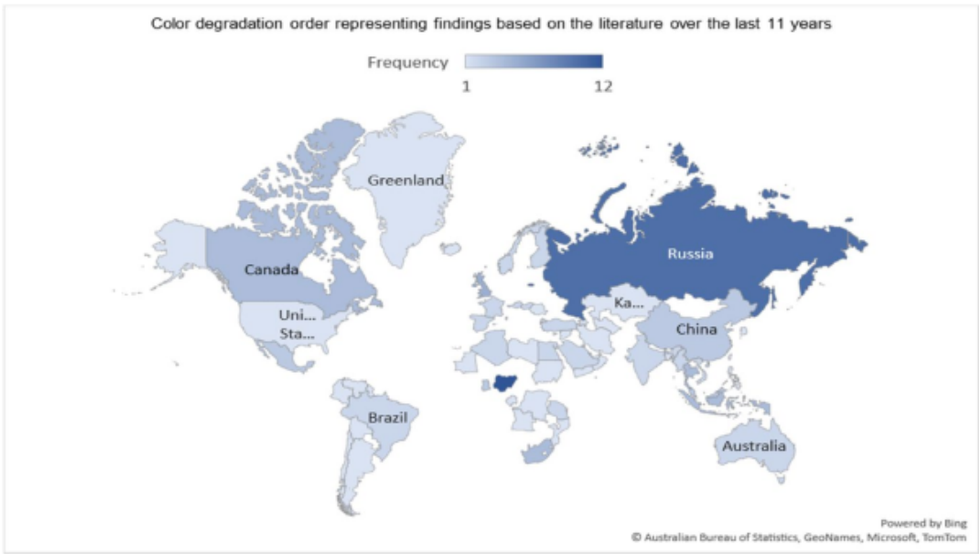

Fig. 9 Geographical approach analysis. *Source* Authors' own compilation

articles. This is followed by Russia with 9, Canada, South Africa, and the UK each with 4, Thailand, Mexico, and Indonesia each with 3, Myanmar, Qatar, Saudi Arabia, India, China, Brunei, Malaysia, Australia, Algeria, and Egypt each with 2. Finally, UAE, Argentina, Brazil, Chile, Colombia, Hungary, South Korea, Taiwan, Turkey, Libya, Yemen, Kuwait, Angola, Azerbaijan, Iran, Venezuela, Turkmenistan, Oman, Gabon, Sudan, Syria, Bahrain, Trinidad, Tobago, Kazakhstan and Romania with 1 publication each.

3.4.7 Potential bias analysis

A total of 73 articles were selected to be analyzed from various aspects using the discourses analysis method with a standard quality approach. This section explores the factors that cause bias in implementing CSR and sustainability reporting in the upstream oil and gas industry. The analyses at this stage was carried out by making several small notes in the discussion and results section, and grouping them into several categories. Furthermore, sentences on the similarity of the findings were marked as expressed by the authors, followed by creating a more extensive classification based on the theme or meaning. In the final stage, the themes were processed, and the narratives and graphics were presented by connecting each description to the relevant theory.

Most of these bias factors in Fig. 10 relate to sustainability violations and the legalization of CSR practices that the community has not entirely accepted. The Gramsci's theory of hegemony underlines the struggle for public acceptance in the social structure. However, the concept of hegemony is simple, which implies political leadership is based on the agreement of the followers (Bates 1975). In this case, the ruling groups that implement CSR will always try to control the people by accepting their values and desires. In Fig. 9, one of the environmental cases of oil spills during petroleum operations has caused water poisoning, vegetation, and agricultural land destruction for more than twenty-five years. The government and oil operators show no practical concern or efforts to solve the environmental problems (Rowell 1994).

Another example in Fig. 8 is the catastrophic spill in the Niger Delta. In May 2010, there was oil spill on an ExxonMobil offshore rig about 20–25 miles (32–40 km) from the coast with over one million gallons of crude to Delta. Because it occurred in Africa, the spillage received little coverage by the Western

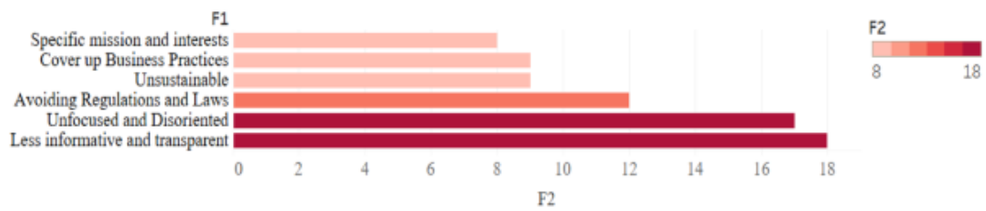

Fig. 10 Potential bias analysis. *Source* Authors' compilation

media, hence little is known to the European and North American public (Vidal 2010).

As Cressey (1953) defined, various deviations in fraud theory also support the findings of this analysis. Companies practice CSR based on dishonesty in implementing the triple bottom line concept. In the research, Cressey (1953) abandoned the embezzlement law concept and developed two criteria to classify a person as darker. Firstly, that person needs to accept a position of trust in good faith, and secondly, that trust needs to be violated by committing a crime. The fraud triangle consists of three elements, namely the pressure, the opportunity, and the rationalization to commit a crime, all of which need to be present to commit the offense. Companies practice this by hegemonizing the surrounding community because they influence ideologies representing the interests of the ruling class (Loftus 2015). This analysis never fully achieves hegemony, but constant disagreement incorporates contradictory conceptions. This is because the foundation of business lies in building relationships and creating value for all stakeholders (Dmytriyev et al. 2021).

4 Discussion

4.1 Bias factor analysis

Based on the analysis results in Fig. 10, the following explains each finding and its relevance to theory:

4.1.1 Less informative and transparent

Using the discourses analysis method on 73 journals, the first and most classification of bias factors found is less informative and transparent concept. This factor refers to the fraud theory, which states that a non-transparent process will lead to potential fraud (Cressey 1953). This result asserts that the sustainability reporting of upstream oil and gas companies often present information that do not follow applicable standards, such as the format, which is only declarative, narrative, and positive (Dong and Burritt 2010; Junior et al. 2017; Wan Ahmad et al. 2016). This indicates that the company practices hegemony in the surrounding community where CSR and sustainability reporting should be under the required standards and positively impact the community. Therefore, companies reporting sustainability are only obligated to comply with corporate reporting. Hegemony and passive revolution offer a new way to understand CSR application to the community that is not based on wider democratic participation (Kourula and Delalieux 2016).

These factors occur in global upstream oil and gas companies, which have weaknesses in understanding corporate social and environmental disclosures (Gery Djajadikerta and Trireksani 2012), and are unable to provide quality social and ecological information (Anifowose et al. 2016; Frank et al. 2016). The low-quality environmental impact analysis is in several oil and gas projects that are not disclosed

to the public (Aung et al. 2019). Hence, they tend to be non-transparent and not obey the sustainability standards (Dura 7 al. 2017; George et al. 2016), such as the issue of significant differences between oil and gas companies in terms of environmental responsibility and transparency (Shvarts et al. 2016). As one of the largest natural gas emitters in Nigeria, Shell claims only 50% burn gas through combustion, but this information is disputed by the World Bank, which reported in 2004 that Nigeria produces 75% of its gas (Kingston and Lilly-Tariah 2018).

4.1.2 Unfocused and disoriented

This analysis found that the second most common factor in this research was unfocused and disoriented. One of the possible causes for this factor is the intention or desire of a person to commit fraud. Cressey (1953) expressed this definition in the fraud theory, and companies make sustainability reporting only as a complement (Cash 2012). Therefore, the sustainability concept has encountered many challenges in practice (Gardas et al. 2019). This resulted to a mismatch between the objectives of governance practices and the triple bottom line concept (De Roeck and Delobbe 2012; Infante et al. 2013). Also, oil and gas companies reduce corporate social responsibility activities more than corporate governance (Phan et al. 2021). The company's CSR implementation agenda rarely addresses the failure of corporate governance (Frynas 2010). This causes companies to have a weak commitment to integrating social and environmental sustainability, which is part of the failure in terms of being unfocused and disoriented (Marnewick 2017; Yusuf et al. 2013).

The hegemony of CSR is visible in this section, where companies position the practices that are disorientated in cases where income from oil and gas rents and royalties have enriched local communities. Nevertheless, these communities have been duped into millions of dollars in elaborate royalty schemes (Ruddell 2017). The people in Delta state live in extreme poverty despite the vast material wealth found in the waters near their homes (Al Weswasi 2019).

4.1.3 Avoiding regulation and law

The third most common factor found from the discourse analysis is regulatory and legal avoidance. This is closely related to a person's intention to commit fraud, as Cressey (1953) suggested in the fraud theory. This point shows that most of the operating activities of oil and gas companies experience conflict with the surrounding community to avoid laws and regulations. (Hassan and Kouhy 2015; Henry et al. 2016). The land grabbing in the Cepu Block case involved local profit-seeking elites, including government officials, community elites, and social movement leaders (Bachriadi and Suryana 2016). Also, citizens protested due to the companies' failure to conduct public consultations and mediation legally required before carrying out well-drilling operations (Wilson and Istomin 2019). There are violations related to greenhouse emissions (Chaiyapa et al. 2016) which should be a concern for the company, and those related to human rights, bribery, and corrupt practices (Kirat 2015; Krishnamurti et al. 2018). Crude theft has become a significant

problem of the Niger Delta, which contributes to further environmental degradation. This incident is due to the weakness of Nigerian regulations enforcement, and the oil companies self-regulating their actions (Baird 2010). This is an evidence of violations that occurred and the weak regulation and legal framework in the industry (Graham and Ovadia 2019; Schneider et al. 2013). Hence, CSR implementation is only a neoliberal strategy to perpetuate capitalism's hegemony in society.

4.1.4 Cover-up actual business practice

Cover-up of Actual Business Practices is the fourth most common factor in this discourse analysis. The previous three findings have revealed the various oil and gas companies procedures in carrying out their operations. To cover this practice, the company conduct several social actions while promoting its reputation (Millington et al. 2019; Sandberg and Holmlund 2015). Also, there are clear indications regarding the business case arguments for CSR.

Hegemony ideology plays a critical role in this action. The companies that carry out CSR and sustainability reporting can protect their identity from negative impressions which affect operational activities. (Tang-Lee 2016). CSR impacts performance, and the company will standout among different competitors (Hansen 2020). Also, it helps to reduce various pressures related to sustainability violations, one of which comes from the media (Nazari et al. 2015). On their official website, Shell defines sustainability as providing vital energy for a growing population while respecting people, their safety, and the environment (Shell 2021). The ExxonMobil Affiliates in Nigeria have been voted the Company of the Year in Corporate Social Responsibility (CSR) 2015 by the Social Enterprises Report and Awards (SERA) (ExxonMobil 2016).

4.1.5 Unsustainable

The fifth finding in this literature review is the unsustainable concept, which is not a sustainability aspect. Based on empirical research evidence, the effect of CSR reporting is still limited. Only a few studies focus on reporting, and companies face the challenge of determining the impact of CSR reporting (Christensen et al. 2021). The company commits fraud and violations during CSR implementation, and the sustainability reporting process will impact unsustainable corporate social responsibility practices.

In some fraud research, opportunities are the most likely to be minimized (Cressey 1953; Goldstraw-White 2011; Wolfe and Hermanson 2004) through continuous implementation of processes, procedures, and controls. However, those that do not apply the concept of sustainability at certain times can lead to CSR performance being unable to run consistently (Tuulentie 2019). This creates opportunities for irregularities.

Many companies still think CSR practices and sustainability reporting are not part of the sustainability strategy that need to be implemented in the long term (Shad et al. 2019). Some believe that the practices are not part of the sustainability strategy they need to implement for a long time. (Abdulrahman et al. 2015)

Therefore, reducing trust between industry, government, and society (Wilson and Istomin 2019). There is a decrease in trust because environmental expenditure as an accounting dimension has no significant relationship with the profitability of oil and gas companies in terms of Net Profit in Nigeria. (Nkwoji 2021). However, the ideology of hegemony can perpetuate the company's power over the community in controlling the area of operations.

4.1.6 Specific mission and interest

Specific Mission and Interest aspects were the last most common factors in this review section. When the law has detected violation and fraud, the perpetrator usually gives a rational reason for self-defense (Cressey 1953). This rationalization occurs because error is a natural action taken as a form of mission and interest. Also, many activities and interventions have a limiting interest in implementing sustainability (Inkpen and Ramaswamy 2018; Lamorgese et al. 2015). This is seen in companies that often consider CSR as one of the inhibiting factors to achieving maximum profit (Ngai et al. 2018). They carry out CSR and sustainability reporting to get awards from sustainability assessment institutions and attract investors. The directors and shareholders perform most of these actions, which influence decision-making and they also influence the results on sustainability practices. (Agudelo et al. 2020; Mahmood and Orazalin 2017). These actions are due to pressure from stakeholders who carry out CSR as a symbol and the greenwashing policy (Velte 2021). This practice is contrary to the concept of sustainability. However, the company can still implement it without conflict with a hegemonic approach. This is because the critical strategy in the success of hegemony is an innocent way of thinking, where the people will accept what the rulers offer.

4.2 Data analysis result

The results of data analysis in this phase illustrates the relationship between the bias factors that occur, the most widely used grounded theory, the company that commits the most deviations, and the countries most affected by irregularities in

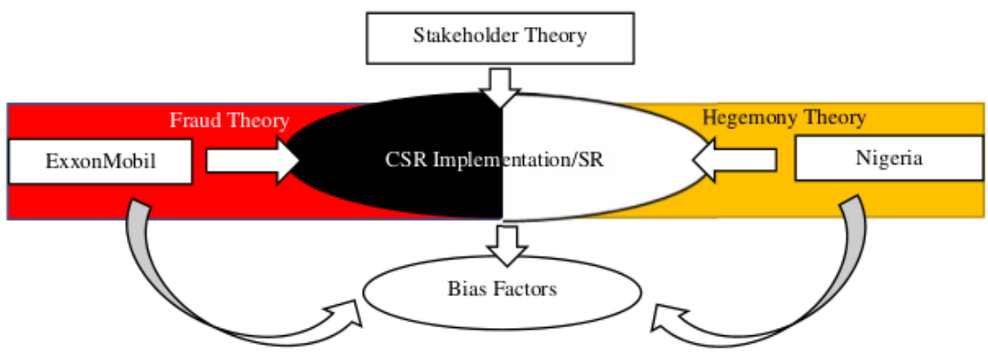

Fig. 11 Data analysis result relationship. *Source* Authors' illustration

CSR implementation. The graphic description below is the result of identification based on discourse analysis with a systematic approach.

Figure 11 above illustrates that most research referenced the stakeholder theory as presented in Fig. 7. The theory focuses on how companies respond to the desire of stakeholders to implement CSR under their expectations to improve reputation and describe themselves as a good corporate citizen (Hansen 2020; Millington et al. 2019).

This condition will allow companies to commit CSR and sustainability reporting irregularities as presented in Fig. 8 because an individual's function can create fraudulent opportunities unavailable to others (Ruankaew 2016), including managing CSR activities. Therefore, the consistency of stakeholders in CSR/sustainability reporting practices is still doubtful (Barkemeyer et al. 2015; Junior et al. 2017). ExxonMobil is the company with the most findings in this research.

People around the company are the ones who are heavily impacted, such as the problem of poverty and a decrease in economic quality, even though the country is rich in natural resources as shown in Fig. 9. Nigeria is one of the examples that became the object of findings. Also, hegemony influences common sense with an ideology representing the rulers' interests (Furnaro 2019; Loftus 2015). There is no chance to challenge or refute the decision of the controlling party (Zueva and Fairbrass 2021). These triggers will conclude on the factors that cause bias in CSR practices and sustainability reporting as presented in Fig. 10.

The potential bias factors in these findings come from the literature focusing on upstream oil and gas objects. In general, this bias above can also be a potential for other companies that are still less consistent in applying the sustainability concept or feel constrained in social responsibility. These companies include mining and manufacturing, with activities and business processes that have environmental impacts.

5 Opportunities for future research

Research in accounting for social and environmental topics and sustainable reporting has increased over the last few years as a distinct field (Folkens and Schneider 2019; Mata et al. 2018). This shows a significant number of publications in 2019 as shown in Fig. 3. Moreover, the current sustainability report is closely related to the issue of climate change which is of concern to the world through the COP26 event. The results showed that most of the academic publications to date revolve around less informative and transparent factors as presented in Table 3, which implies the oil and gas industry is prone to violations of CSR practices and sustainability reporting. These issues are still relevant for future research development.

This finding also revealed that many academic alignments can be further analyzed related to the implementation of CSR and sustainability reporting by oil and gas companies as illustrated in Figs. 8 and 9. Another specific part missing in this review is the lack of CSR understanding in detailed sustainability reporting for several oil and gas industry actors. Technological advances in the exploration

process sometimes still ignore environmental pollution and community aspects (Adonteng-Kissi et al. 2021). The advances need to include these aspects into the work standards of the industry. The review analysis stated that sustainability is a constraint and hinders the objectives of a project or as a potential risk with a negative connotation (Friedrich 2021).

Further research needs to discuss how these technological advances occur with the tendency of companies to practice sustainability reporting. This research showed CSR implementation in the upstream oil and gas industry has mainly been separately studied (Agudelo et al. 2020; Junior et al. 2017). Finally, a deeper analysis of the relationship between actions to meet social realities society, and the fulfilment of strategic business goals in the upstream oil and gas sector is another opportunity for future research in management accounting.

5.1 Limitation and conclusions

The limitations of this research include articles screening during the review. There was bias in data analysis and interpretation, which is influenced by the subjective judgment. Also, the search for peer-reviewed academic journals did not include some relevant research in books references or dissertations. Some of the global oil and gas companies in several countries are owned by the government. Hence, there is still limited access to journals related to state-owned companies. This limit can cause bias in data collection.

This research provides academic contributions based on the selected topics studied and proven by literature. These outcomes can identify, evaluate, and interpret all relevant research results. The systematic review provided different results and used a separate process from other methods. Also, this research refers to previous studies using various approaches such as surveys, experiments, or quantitative and qualitative methodologies to produce an accurate synthesis. The articles selection as the object of this research uses the qualification stage with a technique that can account for quality.

Another contribution is identifying the literature to verify the actual bias factors in the companies' CSR activities and sustainability reporting. Finally, verification of evidence related to the findings of potential bias in CSR and sustainability reporting on each manuscript is collected to conclude the potential sustainability reporting bias.

The practical implication of this research is that there are biased factors in sustainability reporting based on the activities of global upstream oil and gas companies. Also, there is an inconsistency problem with the existing triple bottom line concept, such as the UNGC, WBCSD, GRI standards, and others. This discourse analysis examines how texts in social and political contexts involve the abuse of power, domination, as well as the creation, production, and rejection of inequalities. This analysis uses a systematic review approach for 73 papers with various stages of qualification and testing.

Based on the Hegemony theory, there is always a battle for public acceptance in a social structure. In this case, the ruling group that carry out the CSR

programs always tries to make the communities accept the company's actions without resistance. Implementing CSR is still unacceptable to local communities around the operational areas. Also, there are still many conflicts between the companies and local society, violations, and fraud related to CSR practices. The results showed a discrepancy between the companies' sustainability reporting and findings of this research.

The Fraud Theory supports the results of this research related to the pressure to commit fraud. The results showed the stakeholder theory is the most widely used, which discusses how companies respond to the wishes of stakeholders in CSR and sustainability reporting implementation. This result is one form of pressure in the fraud triangle theory that companies accept to meet stakeholder expectations. However, some still carry out their activities with potentially biased factors. The aspect of opportunities for violating CSR practices is one of the determining factors to gain the trust to carry out stakeholders wishes. Apart from the rationalization findings, there is an assumption of justification to commit violations.

The results of the critical discourse analysis showed the company with the most potential bias in sustainability reporting is ExxonMobil. Meanwhile, the country with the most CSR violations is Nigeria. This research and phenomenon can synthesize new results and conclude that global upstream oil and gas companies are still carrying out practices that can cause at least six potential biases in their sustainability reporting. These factors are less informative and transparent, unfocused and disoriented, avoiding regulation and law, cover-up actual business practice, specific mission and interest, as well as unsustainable.

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Data availability Data supporting the findings of this study are available within the article and its supplementary information files.

Declarations

Conflict of interest The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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