Evaluating escalation in oil pollution and its framing: approaches used by the print media for coverage

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Abstract
Oil pollution incidents have become a reoccurring decimal in most countries during the last twenty decades. The controversy about who is responsible for the massive oil pollution experienced globally in certain oil-producing countries has amplified tensions between significant stakeholders in those countries. For example, oil pollution in Nigeria and Ghana has triggered ecosystem degradation, the devastation of local communities’ means of livelihood, and the death of aquatic organisms such as fish. This paper discusses the escalation in oil pollution and the print media’s coverage through a content analysis method. Our report evaluates news approaches developed by Semetko and Valkenburg (2000a, 2000b) and differences and similarities in the distribution of news frames among three Nigerian newspapers; The Daily Sun, The Guardian, and The Punch from 2014–2018. Our findings show that The Daily Sun used more of the frames of responsibility, economic consequences, and human interest in their oil pollution reports in the Niger-Delta region. This is probably because journalists at The Daily Sun often chose to be objective and on the people’s side by reporting the whole truth irrespective of the consequences to their job and news organization. This was in harmony with the quantitative content analysis results, where 57.7%, 63.3%, and 55.6% of oil pollution coverage were framed as responsibility, economic consequences, and human interest. In contrast, The Guardian and The Punch newspapers used less of these frames, perhaps due to the two papers’ laissez-faire attitude towards holding the oil companies accountable despite glaring evidence of the negative consequences of oil pollution on the livelihood of oil-bearing communities and the environment. However, our result also indicates that the morality frame was the least used among the three selected newspapers, as journalists find it challenging to give moral messages while maintaining journalistic neutrality.

1. Introduction

For several decades, accounts in literature have shown that the escalation of oil pollution has caused the degradation of the livelihood and natural environment of the oil-bearing communities by Multinational Oil Companies (MOCs) operating in the affected countries. Consequently, this situation’s accumulated effect has impoverished millions of global farmers who rely on rivers, seas, and oceans for subsistence (AmnestyInternationalReport 2016, UNEP 2017).

In Nigeria, for instance, the above findings provide a scenario of the numerous economic, social, and health impacts of oil pollution on the host communities of oil companies. However, influential players in the oil industry and certain government officials have struggled to prevent and clean-up the oil pollution.

Plessl (2017) defines oil pollution as the discharge of crude oil into the environment that threatens the local population’s overall socioeconomic and health. Environmentalists (Hoffman and Devereaux Jennings 2011) added that oil pollution is a ‘cultural anomaly’ that redefines communities’ livelihood and habitats in the polluted regions. Oil pollution is any environmental degradation that perpetuates food insecurity, death of fish, crops, depletion of farmlands, and viable rivers for other economic activities within a country (Elum et al 2016, FAO 2017).

Evaluating oil pollution escalation in Nigeria, for instance, is essential to ensuring that affected oil-producing communities and other relevant stakeholders receive reliable information through news framing and help maintain a safer environment for all (Adebayo and Dada 2008, Adekola et al 2017). News framing is the process
of culling a ‘few elements of perceived reality’ to increase their importance, ‘to promote a particular problem definition, causal interpretation,’ moral evaluation, or a recommendation’ (Entman 1993, p. 52). For Gitlin (2003) framing reveals the ‘persistent selection, emphasis, and exclusion’ of informative details. In the same vein, researchers such as Iyengar, Semetko, and Valkenburg focused on frame-setting and the individual process of framing, therefore identifying a series of generic news frames (Iyengar 1996, Semetko and Valkenburg 2000a).

Based on the preceding, it is evident that framing plays a vital role in the understanding, comprehension, and reaction of the members of the public to news items such as oil pollution. Studies on increases in oil pollution in Nigeria mainly focused on oil pollution as ‘war’ and ‘conflict’ instead of evaluating the news approaches used in the coverage of this environmental disaster (Amenaghawon 2016, Wennerbeck 2016). This situation necessitates more research integrating the kinds of news frames used in the country’s oil pollution coverage. None of the past studies includes reviewing the types of news frames used by the media in reporting oil pollution using the Semetko and Valkenburg (2000a, 2000b) five news frame analysis approach. It is against this backdrop that this paper aimed at determining the kinds of news frames used by the selected newspapers in the coverage of oil pollution in the country, the differences and similarities in the distribution of news frames among the sampled papers.

1.1. Approaches used in news framing by the print media

Media scholars use two main approaches to frame news using content analysis (Semetko and Valkenburg 2000a). The first approach is inductive, which involves evaluating a news story while attempting to uncover alternative frames. The merit of this method is the guarantee that no frame can go unnoticed. However, it is time-consuming, difficult to replicate, and often dependent on a limited study sample. The second approach is the deductive method, whereby frames are extracted theoretically from literature and coded in content analysis. This approach requires a clear idea of frames that should be used in the study. The advantages are; it is replicable, can manage large samples, and quickly detects differences in framing within media. It has a set of standard content analytic criteria to measure the five conventional frames often seen in news stories. These five traditional frames consist of a list of twenty (20) questions that can be answered using either ‘Yes’ representing one (1) or ‘NO’ representing zero (0) (Semetko and Valkenburg 2000a).

The five news frames are one (1) responsibility, which means issues are framed, so their duty is on organizations, individuals, or governments. The second is the economic consequences; covering an issue or event in terms of how it affects people’s lives, works, and livelihoods. Simultaneously, the third news frame is the conflict, which emphasizes disputes between parties or individuals and stresses divergent points between the opponents. The fourth (4) frame is the human interest, which offers a personal and emotional perspective in presenting issues or problems to draw both national and international attention. Finally, the fifth (5) is morality, which gives news stories as issues concerning God, religious beliefs, and moral perspectives. Based on the above premise, this study adopted the deductive approach developed by Semetko and Valkenburg (2000a, 2000b). Numerous researchers such as (Evers 2016, Gronemeyer and Porath 2017, Kung 2017, Thirumalaiah and Aram 2017) have applied the deductive approach in their study.

Newspapers in Europe and the USA, on the other hand, often used the deductive approach to cover oil pollution and other environmental problems in their countries. The New York Times newspaper, for example, framed the BP oil pollution in 2010 using the news approaches of responsibility, economic consequences, and human interests to depict BP as the perpetrators of the oil pollution in the region (Lou 2011).

2. Methodology

The content analysis method was used to carry out this study. The study is limited to three Nigerian newspapers: The Daily Sun, The Guardian, and The Punch. These three newspapers were chosen based on multiple reasons. First, they have a wider circulation. Secondly, they are readily available. Thirdly, they cover different kinds of national and international issues. Fourthly, their ownership is ethnic-based. For instance, the owner of The Daily Sun newspaper is from the South-East geopolitical region of Nigeria, and The Guardian publisher is from the South-South while The Punch newspaper owner is from the South-West (Aiyesimwo and Awoyniyi 2012). The significance of these regions is that they are the economic and industrial powerhouse of Nigeria. For instance, the South-East region is vastly known for its business and financial activities. The area owns over 60% of all the businesses in other parts of Nigeria (Chogozie and Emmanuel 2018). They also have oil wells, gas deposits, and other mineral resources in abundance and is part of Nigeria’s Niger-Delta region.

Similarly, the South-South region is Nigeria’s life wire. It is home to 80% of the oil exploration activities that sustain Nigeria’s economy. Ironically, this region is the poorest in infrastructural development, and other life necessities due to endemic corruption, nepotism, negligence from the government and political elites (Amenaghawon 2016, AmnestyInternationalReport 2016). Both the South-East and South-South region have common boundaries with Cameroon and the Atlantic Ocean. Furthermore, the South-West region, especially Lagos,
is often referred to as ‘the commercial nerve center’ and the most viable city in Africa with its vast array of industries and businesses. It is also home to seaports and has a common boundary with the Benin Republic and Ivory Coast. The region has Ondo State as part of Nigeria’s Niger-Delta. Generally, due to oil pollution, the Niger-Delta people are vulnerable to polluted outdoor air, drinking water, and ecosystem destruction (FME 2014, UNEP 2017).

Thus, one of the fundamental similarities between The Daily Sun, The Guardian, and The Punch newspapers is that the three selected newspapers' owners are billionaires. For example, Dr Orji Uzor Kalu, who owns The Daily Sun, has oil wells, airlines and studied in the United Kingdom. The paper mimicked the Daily Sun newspaper of the UK. Chief Clement Ibru, The Guardian newspaper owner, is a well-known business mogul within and outside of Nigeria. He also studied in the United Kingdom, from where he copied The Guardian newspaper of that country and replicated it in Nigeria. Both papers are the exact carbon-copy of the UK Daily Sun and Guardian newspapers, in terms of colour, size, formatting, and general outlook (The Guardian Newspaper 2008, The Sun Newspaper 2011).

On the other hand, The Punch owner is Mr Aboderin, from a royal and wealthy family. He returned from the United States of America with his childhood friend Sam Amuka and established The Punch newspapers in 1971. Besides, the three chosen newspapers have noticeable differences. Firstly, The Daily Sun newspaper has its target audience as adults between ages 18–45 and above, politically oriented, and sports-centered. The Daily Sun newspaper is known as the ‘voice of the nation.’ The Guardian has a national outlook, and its target audience is business, financial experts, and job seekers as the newspaper are known as ‘Nigeria’s most respected newspaper.’ While the audience for The Punch newspaper centers on working adults such as professionals in education, civil servants and women as homemakers as the paper is described as ‘Nigeria’s most widely read newspapers.’

The study’s scope was from January 01, 2014–December 31, 2018, which is a whole five years. The period of research under review was due to increases in oil pollution issues in the country. Another reason is the constant protest, and sometimes conflicts between youths in the oil-bearing communities and the MOCs, and government security agents due to oil pollution. Thus, the researchers hope that this evaluatory study would help ginger future scholars expand this study’s scope. The population size for the study period, as shown in figure 1, is 720 publications of the three papers sampled purposively. Purposive sampling was chosen because it fits into the aims of this study. After eliminating non-oil pollution stories, a total of 531 publications of the three newspapers were considered for analysis by the researchers because they contained oil pollution news stories only. Out of the 531 editions of the papers selected for review, The Daily Sun had 247 articles, The Guardian 103, and The Punch 181.

The unit of analysis was the individual news stories on oil pollution published by the newspapers. Environmental pollution stories from sources such as editorials, feature articles, and opinion stories were not part of the study because editorials are written by news editors to show the media organizations’ position on an issue. Features articles are a form of storytelling, and opinion stories are from individuals outside of the media.

To evaluate the escalation in oil pollution, Semetko and Valkenburg (2000a), five news frames approaches were adopted by the researchers for the study. Moreover, the researchers observed that each news story contained more than one news frame, with some having as many as three or four news frames. All the news frames were sorted out to identify which newspaper used the most news approach.

2.1. Reliability test
To address consistency, an agreement among individual(s) collecting data, an adequate procedure that evaluates the agreement among different data collectors is required. This agreement is referred to as ‘intercoder reliability.’ In this paper, we adopt the intercoder reliability test, where the agreement of two different coders is measured using the Cohen Kappa statistics (Cohen 1960).

The researchers carried out reliability tests on each frame for each newspaper as shown in table 1 below. The number of news frames cases N for each paper was 100 selected across five years frames using the 20 questions in the coding sheet that could only be answered by either ‘YES’ (1) or ‘NO’ (0). The reliability test scored a minimal Cohen’s Kappa score of 0.7 for all the variables.

2.2. Coding procedure
Coders paid particular attention to oil pollution news stories during the coding process. This was followed by an initial coding framework created to distinguish news stories based on study purpose, approach, and findings. The coders periodically reassessed the coding procedure as the analysis progresses. As indicated by the content analysis method for this study, the data obtained from each newspaper were regularly evaluated for reanalysis, as suggested by (Krippendorff 2011). The researchers recruited two trained coders to enhance the consistency, accuracy, and validity of the results of the study during the coding process, as indicated by (Creswell and Creswell 2017). The coding objective was to identify news frame types used by each of the sampled papers to cover oil pollution. All the coders agreed on the final result achieved.
2.3. Data analysis using Chi-square statistic

The statistical analysis used in this paper is the Chi-square statistic. A Chi-square test was used to test whether there is a meaningful association between newspapers and news frames in the bivariate data. This Test of independence was achieved using the crosstab feature in SPPS software. Before the Chi-square test, news frames (Responsibility, Economic consequences, Conflict, Human interest, and Morality) were encoded as 1, 2, 3, 4, and 5, respectively. Calculating the Chi-square statistic allowed us to measure the significant difference between the observed cell counts and the expected cell counts.

3. Results

To evaluate the escalation of oil pollution, it is essential to determine the news frames used by each of the sampled newspapers to cover oil pollution in Nigeria. This study’s first objective was to understand the kinds of news frames used in the coverage of oil pollution in Nigeria’s Niger-Delta region. The researchers found that the
three newspapers used the five news frames responsibility, economic consequences, conflict, human interest, and morality to cover oil pollution from 2014–2018. This is explained further in the oil pollution news coverage for each of the three sampled papers.

### 3.1. The Daily Sun

RQ1: What kinds of frames do *The Daily Sun*, *The Guardian*, and *The Punch* newspapers use to report oil pollution in Nigeria? Why?

Table 2 and figure 2 below shows the news frames used by Nigeria’s *Daily Sun* newspaper to cover oil pollution. From 2014–2018, the researchers reviewed and analyzed 247 publications in the paper. The results indicate that in 2014, *The Daily Sun* used 132 responsibility, 210 economic consequences, 125 conflict, 246 human interest, and one (1) morality approach in the country’s coverage of oil pollution. In 2015, *The Daily Sun* used 144 responsibilities, 180 economic consequences, 68 conflicts, 265 human interests, and one (1) frame within the period. Similarly, in 2016, the same newspaper used 175 responsibility, 222 economic consequences, 82 conflict, 202 human interest, and zero (0) morality frames. Also, *The Daily Sun* used 100 responsibility, 157 economic consequences, 121 conflict, 101 human interest, and zero (0) morality frames in 2017, while in 2018, the paper used 141 responsibility, 165 economic consequences, 109 conflict, 147 human interest, and zero (0) morality frames to report oil pollution.

In 2014 and 2015, *The Daily Sun* used more of the human interest and economic consequences approach. This may be partially attributed, for example, to the Federal Government’s partial cessation of the monthly amnesty payment to the Niger-Delta youths (*The Guardian Newspaper* 2014).

RQ2. What are the differences and similarities in distributing the news frames used in *The Daily Sun* and *The Guardian* Newspapers?

The study investigated whether differences and similarities exist in the distribution of frames among *The Daily Sun* and *The Guardian*, as shown in table 3 and figure 3 below, using SPSS and Chi-Square Test analysis. The findings indicate that the human interest approach dominates oil pollution news coverage in *The Daily Sun* with 961 (55.6%) than *The Guardian newspaper’s* 767 or 44.4%. The economic consequences approach was mostly used in *The Daily Sun* with 934 or 63.3%. In comparison, 542 or 36.7% were present in *The Guardian newspaper*. Similarly, the responsibility frame received the most intensity of approach in *The Daily Sun* coverage of oil pollution from 2014–2018 with 692 (57.7%) in comparison to *The Guardian’s* 508 or 42.3% within the
same period of study. The conflict approach was also used more in The Daily Sun’s coverage of oil pollution in the country within the five year study period with 505 or 50.2% compared to 501 or 49.8% for The Guardian.

The morality frame was present with two (2) or 66.7% in The Daily Sun newspaper. In comparison, The Guardian used one (1) or 33.3% of the morality news approach throughout the study period to cover oil pollution.

Furthermore, as shown in Table 4 above, the value of the chi-square is 44.402. The p-value, on the other hand, is 0.001, which means that the result is significant since the value is less than 0.05 (that is, alpha level).

The finding of the analysis described above in Figure 3 reflects the fact that across the newspapers seen in the bar-chart, journalists working in The Daily Sun used the Human interest, economic consequences, responsibility, and conflict frames more often than their counterparts in The Guardian within the same period of study. The interaction between The Daily Sun and The Guardian newspapers and oil pollution for human interest and economic consequences meant that the difference between news stories in The Daily Sun in the use of human interest was more extensive than in the other paper. Hence, journalists working in The Guardian newspaper are not sometimes ready to criticize the oil companies, government, and even the political elites for fear of losing their jobs. Take, for instance, the economic consequences (934 or 63.3%) frame used in The Daily Sun

Table 3. Showing the bar chart distribution of news frames in The Daily Sun and The Guardian newspaper from 2014–2018.

| Frames       | Responsibility | Economic Consequences | Conflict | Human Interest | Morality |
|--------------|----------------|-----------------------|----------|----------------|----------|
|              | Count          | % within Frames       | Count    | % within Frames | Count    |
|              | The Daily Sun  | within Newspaper      | The Guardian | within Newspaper | The Guardian |
| Responsibility | 692            | 57.7%                 | 508      | 42.3%          | 1200     |
| Economic Consequences | 934            | 22.4%                 | 342      | 21.9%          | 1476     |
| Conflict     | 505            | 63.3%                 | 501      | 49.8%          | 1006     |
| Human Interest | 961            | 66.7%                 | 767      | 44.4%          | 1728     |
| Morality     | 2              | 33.3%                 | 1        | 33.3%          | 0.1%     |
| Total        | 3094           | 57.2%                 | 2319     | 42.8%          | 5413     |

Figure 3. Showing the Bar chart distribution of the various news frames approaches among The Daily Sun and The Guardian newspapers from 2014–2018.
Table 4. Results of the P-Value for Chi-Square Tests for The Daily Sun and The Guardian Newspapers from 2014–2018.

| Test                           | Value   | df  | Asymptotic significance (2-sided) | Monte Carlo Sig. (2-sided) | Monte Carlo Sig. (1-sided) |
|--------------------------------|---------|-----|----------------------------------|---------------------------|---------------------------|
| Pearson Chi-Square             | 44.402  | 4   | .000                             | .000                      | .000                      |
| Likelihood Ratio               | 44.533  | 4   | .000                             | .000                      | .000                      |
| Fisher’s Exact Test            | 44.600  |     | .000                             | .000                      | .000                      |
| Linear-by-Linear Association   | 9.429   | 1   | .002                             | .003                      | .002                      |
| N of Valid Cases               | 5413    |     |                                  |                           |                           |

* two cells (20.0%) have an expected count of less than 5. The minimum expected count is 1.29.
* Based on 10 000 sampled tables with starting seed 2000 000.
* The standardized statistic is 3.071.
Sun newspaper throughout the five (5) year period of this study. It depicts the enormous financial cost of oil pollution as the means of survival of the oil-producing communities were greatly affected. (Islam 2018) argues that economic consequences are news reports representing the financial aspects of the crisis and forces victims to live below the poverty line. However, it had to be noted that our study found that the newspapers used less the morality frame in their coverage of oil pollution within the study period.

3.2. The guardian

RQ1: What kinds of frames do The Daily Sun, The Guardian, and The Punch newspapers use to report oil pollution in Nigeria? Why?

Table 5 and figure 4 below also reveals a dissection of the news approaches used by The Guardian newspaper in reporting oil pollution. After a thorough review, the study analyzed 103 publications of the paper from 2014–2018. The findings show that in 2014 The Guardian used 88 responsibility, 105 economic consequences, 80 conflicts, 225 human interest, and one (1) morality to report oil pollution. In 2015, The Guardian used 110 responsibility, 95 economic consequences, 75 conflicts, 285 human interest, and zero (0) morality frame within the period. Furthermore, in 2016, 118 responsibilities, 102 economic consequences, 210 conflicts, 90 human interests, and zero (0) morality approaches were in the reports of oil pollution by The Guardian newspaper. In 2017, The Guardian used 88 responsibility approach, 108 economic consequences, 66 conflict, 75 human interest, and zero (0) morality approach for the same purpose. Lastly, The Guardian used 104 responsibility, 132 economic consequences, 70 conflict, 92 human interest, and zero (0) morality approach in 2018. The use of a more human interest approach in the coverage of oil pollution in The Guardian newspaper by journalists in 2015, may partially be, for example, due to a spike in oil pollution incidents from MOCs oil terminals. This situation may have contributed to the emotional trauma and other human health impacts of the oil-producing communities. Besides, using more human interest approaches in the coverage of oil pollution in the country or countries in Africa shows the magnitude of sufferings individuals and groups are going through due to oil pollution. Similarly, more conflict in 2016 could suggest that journalists and news editors do their utmost best to highlight the insecurity and disagreements between the oil companies and the oil-producing communities. It could also

| Year | Responsibility | Economic Consequences | Conflict | Human Interest | Morality | Total |
|------|----------------|-----------------------|---------|----------------|----------|-------|
| 2014 | 88             | 105                   | 80      | 225            | 1        | 499   |
| 2015 | 110            | 95                    | 75      | 285            | 0        | 565   |
| 2016 | 118            | 102                   | 210     | 90             | 0        | 520   |
| 2017 | 88             | 108                   | 66      | 75             | 0        | 337   |
| 2018 | 104            | 132                   | 70      | 92             | 0        | 398   |
| Total| 508            | 542                   | 501     | 767            | 1        | 2319  |

Figure 4. Showing the Bar chart distribution of the various news frames approaches among The Guardian newspapers from 2014–2018.
indicate the need for peaceful resolution of the misunderstanding between all the relevant stakeholders in the country’s oil industry.

Using a more human interest approach in the coverage of oil pollution in the country or countries in Africa shows the magnitude of sufferings individuals and groups are going through due to oil pollution. Similarly, more conflict frames in 2016 could suggest that journalists and news editors are doing their utmost best to highlight the insecurity and disagreements between the oil companies and the oil-producing communities. It could also indicate the need for peaceful resolution of the misunderstanding between all the relevant stakeholders in the country’s oil industry.

RQ2 What are the differences and similarities in distributing the news frames among The Guardian and Punch newspapers?

Findings in Table 6 and Figure 5 below show differences and similarities in the frames’ distribution within the study period. The results indicate that the human interest approach received the most intensity of usage by journalists in oil pollution news coverage in The Guardian 767 (59.2%) compared to The Punch newspaper’s 529 (40.8%). The responsibility approach was mostly used in The Punch with 744 or 59.4%, while 508 or 40.6% was present in The Guardian. Similarly, the economic consequences frame received the most intensity in The Guardian coverage of oil pollution from 2014–2018 with 542 (57.1%) in comparison to The Punch’s 407 or 42.9% within the same period of study. The conflict frame was used most in The Punch’s coverage of oil

Table 6. Showing the bar chart distribution of news frames in The Guardian and The Punch newspapers from 2014–2018.

| Frames            | Responsibility | Count | % within Frames | % within Newspapers |
|-------------------|----------------|-------|-----------------|---------------------|
|                   | The Guardian   | 508   | 40.6%           | 21.9%               |
|                   | The Punch      | 744   | 59.4%           | 32.7%               |
| Economic Consequences | The Guardian | 542   | 57.1%           | 407                  |
|                   | The Punch      | 407   | 42.9%           | 407                  |
| Conflict          | The Guardian   | 501   | 23.4%           | 501                  |
|                   | The Punch      | 596   | 17.9%           | 596                  |
| Human Interest    | The Guardian   | 767   | 21.6%           | 767                  |
|                   | The Punch      | 529   | 26.2%           | 529                  |
| Morality          | The Guardian   | 1     | 50.0%           | 1                   |
|                   | The Punch      | 1     | 50.0%           | 1                   |
| Total             | The Guardian   | 2319  | 50.5%           | 2319                |
|                   | The Punch      | 2277  | 49.5%           | 2277                |

| Frames | Count | % within Frames | % within Newspapers |
|--------|-------|-----------------|---------------------|
| Total  | 4596  | 100.0%          | 100.0%              |
Table 7. Results of the P-Value for Chi-Square Tests for The Guardian and The Punch Newspapers from 2014–2018.

|                           | Monte Carlo Sig. (2-sided) | Monte Carlo Sig. (1-sided) |
|---------------------------|-----------------------------|-----------------------------|
|                           | Value df Asymptotic signif. | Significance Lower Bound Upper Bound | Significance Lower Bound Upper Bound |
| Pearson Chi-Square        | 115.250 4 .000              | .000                      | .000 .000   |
| Likelihood Ratio          | 115.832 4 .000              | .000                      | .000 .000   |
| Fisher's Exact Test       | 115.977                      | .000                      | .000 .000   |
| Linear-by-Linear Association | 56.553 1 .000              | .000                      | .000 .000   |
| N of Valid Cases          | 4596                         |                           |             |

* two cells (20.0%) have an expected count of less than 5. The minimum expected count is .99.
* Based on 10 000 sampled tables with starting seed 2000 000.
* The standardized statistic is $-7.520$. 

b Based on 10 000 sampled tables with starting seed 2000 000.
pollution in the country within the five year study period with 596 or 54.3% compared to 501 or 45.7% in The Guardian newspaper. However, morality frame received the least usage in both papers with 1 (50%) each within the five years.

In addition, table 7 below shows that the value of the chi-square is 115.250. The p-value, on the other hand, is 0.001, which means that the result is significant since the value is less than 0.05 (that is, alpha level).

The result of the analysis interpreted above could indicate that journalists who cover the environment beat in both newspapers do provide some remedies to the country’s oil pollution saga through their coverage. These solutions are frequently offered through news frames of responsibility, economic consequences, conflict, and human-interest in their reports on environmental problems facing the country, such as oil pollution. For instance, the human interest approach with 767 or 59.2% used in The Guardian newspaper from 2014–2018. It illustrates the substantial health hazards faced by the country’s oil-bearing communities because of the carelessness of the multinational oil companies and the local authorities’ care-free attitude. According to Human Rights and Environmental Activist, Okonta and Douglas (2003, p. 2), ‘the multinational companies are assassins in foreign lands.’ Their mission is to maximize profit, suck and rape their host’s natural resources with little or no regard for the environment.

### 3.3. The Punch

RQ1: What kinds of frames do The Daily Sun, The Guardian, and The Punch newspapers use to report oil pollution in Nigeria? Why?

A summary of the news frames used to cover oil pollution in The Punch from 2014–2018 is shown in table 8 and figure 6 below. The study thoroughly reviewed 181 publications of the paper within the study period. The results revealed that in 2014 the responsibility frame was used 188 times to cover oil pollution, economic consequences 70, conflict 137, human interest 120. The morality frame was used the least with zero (0) in the same year. In 2015, The Punch used 210 responsibility frames, economic consequences 85, conflict 128, human interest 108, and morality zero (0). In 2016, The Punch used responsibility 190 times, economic consequences 95, conflict 65, human interest 111, and morality zero (0). The responsibility approach was used 101 in The Punch, economic consequences 78, conflict 131, human interest 100, and morality one (1) in 2017. Moreover, in...
2018, the responsibility approach was 55, economic consequences 79, conflict 135, human interest 90, and morality zero (0).

Furthermore, the same table 8 indicates that The Punch used the responsibility frame more in 2015 and 2016; human interest and conflict frames had the most use in 2014. For the years 2015 and 2016, the responsibility frame was the most used by journalists may be due to the inability of Shell, the government of Nigeria and the United Nations to reach an agreement on the commencement date for the $30 billion Ogoniland oil pollution clean-up as the meeting ended in a deadlock. The human interest and conflict approaches were also highlighted more in The Punch in 2014 partly because of Multinational Oil Companies’ (MOCs) ‘failure to curtail the magnitude and frequency of oil pollution in the region. Also, the high rate of militancy, insecurity, increase in diseases such as skin rashes, diarrhea, high mortality rates, and other uncertainties faced by the people due to oil pollution may explain the most use of human interest conflict frames in 2014.

Table 9. Showing the bar chart distribution of news frames in The Daily Sun and The Punch newspapers from 2014–2018.

| Frames            | Responsibility | Economic Consequences | Conflict | Human Interest | Morality |
|-------------------|----------------|-----------------------|----------|----------------|----------|
|                   | Count          | % within Frames       | % within Newspaper | Count | % within Frames | % within Newspaper | Count | % within Frames | % within Newspaper |
| Responsibility    | 692            | 48.2%                 | 22.4%     | 934            | 69.6%    | 30.2%     | 505      | 45.9%           | 30.2%     |
| Economic Consequences | 744          | 51.8%                 | 32.7%     | 407            | 30.4%    | 17.9%     | 596      | 54.1%           | 17.9%     |
| Conflict          | 1436           | 100.0%                | 26.7%     | 1341           | 100.0%   | 25.0%     | 1101     | 100.0%          | 25.0%     |
| Human Interest    | 1341           | 100.0%                | 25.0%     | 1101           | 100.0%   | 25.0%     | 1101     | 100.0%          | 25.0%     |
| Morality          | 3              | 66.7%                 | 33.3%     | 3              | 100.0%   | 0.1%      | 1        | 0.1%            | 0.1%      |
| Total             | 5371           | 100.0%                | 25.0%     | 5371           | 100.0%   | 25.0%     | 5371     | 100.0%          | 25.0%     |
RQ2 What are the differences and similarities in distributing the news frames used among The Punch and The Daily Sun newspapers?

Table 9 and figure 7 below indicate significant differences and similarities in the distribution of news frames in The Punch and The Daily Sun from 2014–2018. The results reveal that most news frame used in the report of oil pollution is human interest in The Daily Sun 961 or 64.5% in contrast to 529 or 35.5% in The Punch. It follows the economic consequences approach in The Daily Sun with 934 or 69.6% compared to 407 or 30.4% used in The Punch. Similarly, The Punch used a more responsible approach with 744 or 51.8% compared to 692 or 48.2% used in The Daily Sun to cover oil pollution by journalists and news editors. The conflict approach was mostly used in The Punch with 596 or 54.1% compared to The Daily Sun’s 505 or 45.9%. The morality approach was used two (2) or 66.7% in The Daily Sun compared to one (1) or 33.3% in The Punch.

Also, the table below shows that the value of the chi-square is 222.977. The p-value, On the other hand, is 0.001, which means that the result is significant since the value is less than 0.05 (that is, alpha level).

Besides the findings from table 10 and figure 7 above, journalists are not doing enough to cover oil pollution in the country. It might also be viewed from the angle of the numerous security challenges they face due to constant conflicts between the oil-bearing communities and the MOCs. For instance, the conflict approach with 596 or 54.1% was used in The Punch from 2014–2018. It indicates a significant security threat faced by journalists and news editors, and even its social implication to the oil-bearing communities because of oil pollution from MOCs oil facilities. According to Idemudia and Ite (2006), social factors such as the proliferation of social deprivation, mass youth unemployment, and increased awareness that oil is a finite resource contribute to Nigeria’s oil-bearing communities’ conflicts.

Consequently, the differences among The Daily Sun, The Guardian, and The Punch newspapers in using the dominant frames suggest the differences in their audience, which determines the way issues such as oil pollution are framed and presented to the people. For instance, tables 2, 3, 5, 6, 8, and 9 above indicate that a high score on the scale of responsibility frame shows that the story suggested that some government, individuals, or groups are responsible for the oil pollution problems in the Niger-Delta region. Also, a high score on the scale of economic consequences frame reveals that the story mentioned oil pollution as financial losses, gains, and livelihood levels of the people affected by constant oil pollution in the region. Similarly, a high score on the conflict scale depicts disagreements or misunderstandings between parties, individuals, groups, countries, or more sides of a problem, such as the numerous oil pollution sites scattered all over Nigeria’s Niger-Delta. Simultaneously, a high score on the human interest scale means that the story emphasized emotional stress or added human face, angle, or personal details to the issue. Lastly, the morality scale’s lower score shows that the news report referred to God, religion, or contains moral messages is not crucial to the three selected three newspapers. Thus, the economic consequences, conflict, and human interest frames might reflect journalists’ inability to hold militants and other stakeholders in Niger’s Niger-Delta region accountable for their corrupt practices, sabotaging oil pipelines, and illegal bunkering of oil wells, inadequate and shady execution of development projects.

Buttressing this position, (Eghweree 2014, O Adetumbero 2018) argued that the fight for oil control in Nigeria resulted in significant internal opposition, militancy, splitting the various ethnic nationalities turning politicians against each other all due to corruption.

On the other hand, the differences among The Daily Sun, The Guardian, and The Punch newspapers in using the dominant frames suggest the perceptions of the oil-bearing communities of Nigeria’s Niger-Delta region about oil pollution and the agitation for better environmental management practices from the relevant stakeholders in the area. Thus, this reinforces the power of framing as a mechanism for changing the publics’ views about the need for multinational oil companies and the governments to take action to address the problems of oil pollution whenever the need arises (Busby et al 2018, MA Shapiro 2019). Similarly, the differences in the use of the dominant frames among the newspapers might demonstrate the unwillingness of journalists to hold the government and multinational oil companies accountable due to fear of molestation from the government, such as revoking of their operating license, arbitrary detention, and closure of their media organizations or because of corruption and political interests of their owners as some of them are politicians.

4. Discussions

The problems associated with oil pollution is not a new phenomenon. Our paper found that the sampled newspapers used the five news frames developed by Semetko and Valkenburg (2000a, 2000b) to cover oil pollution in Nigeria at varying intensities. This supports the views of (Semetko and Valkenburg 2000b, Entman 2004, Scheufele and Tewksbury 2006, Bowe et al 2014) that issues in the media are often framed as responsibility, conflict, economic consequences, and morality, and these often attract empathy and sympathy from readers.
Table 10. Results of the P-Value for Chi-Square Tests for The Punch and The Daily Sun Newspapers from 2014–2018.

| Test                      | Value     | df  | Asymptotic significance (2-sided) | Monte Carlo Sig. (2-sided) | 95% Confidence Interval | Monte Carlo Sig. (1-sided) | 95% Confidence Interval |
|---------------------------|-----------|-----|----------------------------------|---------------------------|-------------------------|---------------------------|--------------------------|
| Pearson Chi-Square        | 222.977   | 4   | .000                             | .000                      | .000                    | .000                      | .000                     |
| Likelihood Ratio          | 224.857   | 4   | .000                             | .000                      | .000                    | .000                      | .000                     |
| Fisher’s Exact Test       | 224.783   |     |                                  |                           |                         |                           |                          |
| Linear-by-Linear Association | 25.546    | 1   | .000                             | .000                      | .000                    | .000                      | .000                     |
| N of Valid Cases          | 5371      |     |                                  |                           |                         |                           |                          |

- 2 cells (20.0%) have an expected count less than 5. The minimum expected count is 1.27.
- Based on 10,000 sampled tables with starting seed 2000000.
- The standardized statistic is −5.054.
Detecting the news frames used in the reports of oil pollution is the first step to know which one is used more than the other. For instance, our study found that the five news frames used in news coverage on oil pollution differed significantly between the three selected newspapers. *The Daily Sun* newspaper, for instance, used more of all the five news frames of responsibility, economic consequences, conflict, human interest, and morality in the coverage of news on oil pollution than *The Guardian* and *The Punch* newspapers within the period of study. Individually, in 2014 three significant news approaches used in *The Daily Sun* newspaper were human interest, economic consequences, and conflict. While in 2015, the same paper used more of human interest, economic consequences, and responsibility. Here, conflict and responsibility approaches can be an arm of the stories of human interest and economic consequences drawn from the oil pollution stories. The pattern suggests that journalists and news editors did put some empathy and discuss the impact of oil pollution in their reporting. Thus, based on the above, the selected newspapers used sensational headlines to draw the attention of the oil-bearing communities’ attention to the dangers of oil pollution within their domain.

It is also important to note that the more serious and sober journalists were in the use of human interest, responsibility, economic consequences, and conflict frames in the coverage of oil pollution in the Niger-Delta region, the more the demand for infrastructural development in the region, compensation for victims of oil pollution and increase in militant activities in the area. For instance, sober and serious journalists work in the environment beat of the selected newspapers or other papers elsewhere. They are frequently controlled and guided in their news events’ coverage based on their news organizations’ editorial policies. Often they chose to be on the people’s side by reporting the whole truth irrespective of the consequences. On the other hand, they go above and beyond to investigate, uncover the truth, and bring such news events to the limelight irrespective of such reports not sanctioned by their news organizations. In other words, sober and serious journalists are not afraid to engage in objective reporting to the detriment of their job.

In addition, in 2014, two primary frames mostly used in *The Guardian* newspaper were human interest and economic consequences. In 2015, the approaches primarily used were human interest and responsibility. While in 2016, attribution of responsibility and conflict was mainly used. Thus, the human interest and responsibility frames may be regarded by the public as an offshoot of the economic consequences and conflict frames taken from the stories of oil pollution in the country. The trend indicates that journalists and news editors apportioned blame and emphasized emotional stress, human impacts, and people affected by oil pollution in their news reports. Hence, such news coverage from journalists went into the personal details of the affected members of the oil-bearing communities, the destruction of the livelihood of the people, insecurity in the region, and thus scored higher on the human interest, economic consequences, and conflict frames. Nigeria’s Niger-Delta region has been at the receiving end of environmental degradation since the discovery of oil in the early 1950s. With continued environmental pollution caused by oil exploration activities in the region, it is crucial to identify the news approaches used in the coverage and the perpetrators involved. The way oil pollution and other environmental anomalies are framed in the three chosen newspapers may have significant consequences for public understanding and evaluations of oil pollution, institutions, and political actors (Semetko and Valkenburg 2000a, Oriola and Adeakin 2018, Al Weswasi 2019, Amatulli et al 2019).

Besides, in 2014, two dominant frames used in *The Punch* newspaper were human interest and conflict. While in 2015 and 2016, responsibility was the most used approach. Hence, human interest and conflict may be seen by the people as part of the responsibility frames extracted from the oil pollution news stories in the country. This leaning shows that journalists and news editors undoubtedly reiterated the negative impacts and admonished the MOCs in their oil pollution reports in Nigeria.

Subsequently, it is vital to state that all the three sampled newspapers, *The Daily Sun*, *The Guardian*, and *The Punch* used the least on morality in their coverage of oil pollution in Nigeria within the period of this study. The morality frame means a high degree of putting the issues, problems, or events in the situation of moral persuasions (Semetko and Valkenburg 2000a). Thus, since the morality frame relates to stories referring to faith and God, it is not expected to be a significant news frame on oil pollution. This is because it is not easy for journalists to give a moral message while adhering to the principles of objectivity in news reporting. Moreover, the least use of the morality frame in this paper could be due to the journalists’ difficulties in giving moral messages while adhering to journalistic objectivities (De Vreese 1999).

The three selected papers used the five news frames to heighten and convey information about the adverse effects of oil pollution in Nigeria. They used words such as pollution of our only source of drinking water, destruction of our means livelihood, health problems caused by oil pollution, Shell has destroyed our environment, and asking for compensation to frame their stories. Also, they used words like ecosystem and mangroves pollution, we can no longer go fishing, and our people are dying because of oil pollution to draw the attention of the government to the plight of the oil-bearing communities.

The researchers also considered the differences and similarities of frame distribution between the three newspapers as well. Using more news frames in *The Daily Sun*, *The Guardian*, and *The Punch* to report oil pollution provided empirical evidence to support the fact that journalists and news editors also echo their voices
on Nigeria’s oil pollution issues. It also provides journalists with a forum to relay their views broadly than other forms of news media in the country. This notion is corroborated by De Vreese (1999) that news framing has become one of the most popular concepts in the field of communication, and recent overviews show the popularity and tremendous increase in the use of the idea in news coverage. In the circumstances of the current study, the responsibility frame shows a scenario where journalists cannot avoid holding multinational oil companies like Shell, Agip, Chevron, and Total to account for oil pollution in the country or elsewhere. The predominance of the responsibility frame in the selected three newspapers indicates the significance and possible impacts of opinion leaders and the circumstance of framing problems and issues in the news media. For instance, in Nigeria’s Niger-Delta region, where there is persistent oil pollution due to oil exploration activities, the government and the multinational oil companies must provide solutions to the problems associated with it. Besides, the responsibility frame might demonstrate the unwillingness of journalists to hold the government and multinational oil companies accountable due to fear of retribution from the government, such as revoking of their operating license, arbitrary detention, and closure of their media organizations or because of political interests of their owners as some of them are politicians. For instance, Dr Orji Uzor Kalu, the owner of The Daily Sun newspaper, is a former governor of Abia State of Nigeria. Currently, he is a senator at the National Assembly.

5. Conclusion

This study evaluated the escalation in oil pollution, it’s framing, and approaches used by the print media in its coverage. Our study highlighted and amplified the various news approaches used by the three sampled newspapers to cover Nigeria’s oil pollution. The researchers evaluated the news frames of responsibility, economic consequences, conflict, human interest and morality, and the intensity of their usage established by our study. Nevertheless, differences and similarities in the distribution of the various news frames exist among the newspapers sampled.

Furthermore, this study has proved that Nigerian newspapers use the five news frames developed by Semetko and Valkenburg (2000a, 2000b) to report oil pollution. Therefore, future scholars might include other oil-producing countries in Africa to balance and compare the study within the continent. The multifaceted nature of oil pollution and its adverse consequences on the immediate environment must be taken into account by future researchers. According to Nwilo and Badejo (2005) to reduce the rate of oil pollution incidents along the Nigerian Coast or elsewhere in Africa, journalists must make their utmost best by waging a media war against the perpetrators. Also, environmental journalists working in the three newspapers have more to do to overcome their weaknesses and the overbearing influence of media owners. As a result, the researchers add that environmental education at all levels of government and communities within the region will help a lot in the struggle for a better and sustainable environment in the country.

Data availability statement

All data that support the findings of this study are included within the article (and any supplementary files).

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