

# Operational dilemmas in safety-critical industries: the tension between organizational reputational concerns and the effective communication of risk

Ambituuni, A., Ejiogu, C., Ejiogu, A. & Omar, M.

Author post-print (accepted) deposited by Coventry University's Repository

## Original citation & hyperlink:

Ambituuni, A, Ejiogu, C, Ejiogu, A & Omar, M 2019, 'Operational dilemmas in safety-critical industries: the tension between organizational reputational concerns and the effective communication of risk', *Journal of Management & Organization*, vol. (In-press), pp. (In-press).

<https://dx.doi.org/10.1017/jmo.2019.27>

DOI 10.1017/jmo.2019.27

ISSN 1833-3672

ESSN 1839-3527

Publisher: Cambridge University Press

**Copyright © and Moral Rights are retained by the author(s) and/ or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This item cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder(s). The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holders.**

**This document is the author's post-print version, incorporating any revisions agreed during the peer-review process. Some differences between the published version and this version may remain and you are advised to consult the published version if you wish to cite from it.**

# **Operational dilemmas in safety-critical industries: the tension between organizational reputational concerns and the effective communication of risk**

**Ambituuni, A<sup>1\*</sup>, Ejiogu, C<sup>2</sup>., Ejiogu, A<sup>3</sup>., Omar, M<sup>1</sup>.**

<sup>1 and 4</sup> School of Strategy and Leadership, Faculty of Business and Law, Coventry University, CV1 5FB, UK

<sup>2</sup>Department of Politics, People and Place, Faculty of Business and Law, De Montfort University

<sup>3</sup>School of Business, Ken Edwards Building, Room 402, University of Leicester, University Road, Leicester, LE1 7RH, UK

\*Email: [ambi.ambituuni@coventry.ac.uk](mailto:ambi.ambituuni@coventry.ac.uk)

## **Abstract**

Organizations involved in safety-critical operations often deal with operational tensions especially when involved in safety-critical incidents that is likely to violate safety. In this paper, we set out to understand how the disclosures of safety-critical incidents take place in the face of reputational tension. Based on the case of the Nigerian National Petroleum Corporation (NNPC), we draw on image repair theory (IRT) and information manipulation theory (IMT) and adopt discourse analysis as a method of analysing safety-critical incident press releases and reports from the NNPC. We found NNPC deploying image repair as part of incident disclosures to deflect attention, evade blame and avoid issuing apologies. This is supported by the by violation of the conversational maxims. The paper provides a theoretical model for discursively assessing the practices of incident information disclosure by an organization in the face of reputational tension, and further assesses the risk communication implications of such practices.

**Keywords:** Organisational communication; safety critical incidents; image repair; reputational concern; risk and safety communication; NNPC

## **Please cite this paper as:**

Ambituuni, A., Ejiogu, C., Ejiogu, A., Omar, M. (2019) Operational dilemmas in safety-critical industries: the tension between organizational reputational concerns and the effective communication of risk. *Journal of Management & Organization*

## **1. Introduction**

Safety-critical operations such as in the petroleum industry consists of complex sociotechnical systems of “people in multiple roles and their artifacts [e.g., assets, technology and organizations]” (Lwears, 2012, pp.4561 ). These sociotechnical systems need to possess the highest levels of safety integrity as failures or malfunctions from the system(s) would lead to catastrophic incidents with the potential of violating public, environmental and asset safety (Ambituuni, Hopkins, Amezaga, Werner, & Wood, 2015). Because of this operational dynamic, there are a number of tensions and trade-offs within safety-critical industry organizations. These tensions are captured in literature and include the profit versus safety tension (Baron & Pate-Cornell, 1999; Kettunen, Reiman, & Wahlström, 2007; Perin, 2005; Reiman & Rollenhagen, 2012); the organization versus the regulator’s divergent views on safety regulation and documentation (A. Ambituuni, Amezaga, & Werner, 2015; Kettunen et al., 2007); and the safety versus performance tension (Amalberti, 2001). These trade-offs and tensions needs to be managed to maintain safe sociotechnical operations. But what further tension exist in the event that safety is violated by an incident involving such organizations, e.g., a failure of petroleum pipeline? Indeed, incidents involving such safety-critical petroleum operations are likely to have devastating consequences (A. Ambituuni et al., 2015) with image damaging implications to the operating organization.

Thus, when an organization is involved in an image damaging incident, such organization is likely to deploy certain image repair or restoration practices (McCoy, 2014) amidst reputational tension. The contemporary organization research on image repair brings to light the practices of image repair discourse (Arpan & Roskos-Ewoldsen, 2005; Benoit, 1994; Muralidharan, Dillistone, & Shin, 2011). Furthermore, the seminal work of Benoit (1994) on image repair provides a theoretical conception of how organizations attempt to correct negative public perception of themselves following a specific incident or series of incidents. Recent research

has opened up the domain of critically assessing the safety measures in organizations involved in safety-critical incidents, [e.g., BP and the 2010 Deepwater Horizon disaster (Amernic & Craig, 2017)] in light of the image repair strategy deployed by the organization (Harlow, Brantley, & Harlow, 2011). Research also shows that effective disclosure of incidents by an organization ensures that adequate safety and emergency management information is available and lessons learned (Crichton, Ramsay, & Kelly, 2009; Enander, 2018). Whilst the aforementioned research provides justification for incident disclosure, the reputation of the organization remains at tension with the principles of effective incident and risk communication (Smillie & Blissett, 2010) especially when there is the need to communicate and disclose such information with the accurate veracity, manner, quality and quantity.

In this paper, we set out to develop an understanding of how the effective communication of safety-critical incidents take place in the face of reputational tension. We focus on the disclosure of incidents by the Nigerian National Petroleum Company (NNPC) following incidents involving NNPC's safety-critical assets. We turn to image repair theory (IRT) (Benoit, 1994) and information manipulation theory (IMT) (McCornack, Levine, Solowczuk, Torres, & Campbell, 1992) as a twin theoretical lens through which we analysed the archival data from the NNPC using a case study approach. Our choice of the NNPC is purposive because of the historic records of safety-critical incidents that the organization has been involved in (see for example: A. Ambituuni et al., 2015, 2018; Anifowose et al., 2012). As a petroleum industry organization, the NNPC operates in the context of societal dynamics of risk management, hence, and knowledge of incidents involving its operational assets builds both a social construct (Haukelid, 2008; Silbey, 2009) and ontological realism (Aven & Renn, 2010) of its performance. Therefore, we ask, when involved in a safety-critical incident, *how does the NNPC communicate safety-critical incidents in the face of reputational tension? What image*

*or reputational repair practices are deployed and how is incident information disseminated from the perspectives of veracity, manner, quality and quantity.*

We found that during incident disclosure, and in the face of reputational tension, NNPC violates conversational maxims to deflect attention, evade blame and avoid issuing an apology whilst deploying image repair strategies. This approach has wider safety and risk communication implication. We found that prioritising the image of the organization through deflection during incident disclosure falsely influences reception and acceptance of risk information by potential risk-receptors which has further safety implication on emergency response especially where the seriousness and potential consequence of the incident is downplayed such that it further exposes people to greater danger. Our findings also contribute theoretically by providing a framework that will enable critical assessment of the veracity, manner, quality and quantity of information released by organizations whilst disclosing incidents.

## **2. Looking through a twin theoretical lens of IRT and IMT**

The knowledge that an organization has been involved in an incident with safety and environmental implications threatens the reputation of the organization. Indeed, for such an organization, the incident, or the asset involved in the incident will be seen as violating the safety of people, the environment and properties, hence putting them at risk. This is especially true when defining safety as a condition where nothing goes wrong or, more cautiously, as a condition where the number of things that went wrong is acceptably small (Hollnagel, 2016). Boholm & Corvellec (2011) conceptualised risk as stemming from situated cognition that ascertains a relationship of risk linking two objects, a risk object (e.g. explosion, fire, petroleum pipeline leaks) and an object at risk (e.g. humans or natural environment at risk). The causal

and contingent link is such that the risk object is considered, in some way and under certain circumstances, to threaten the valued object at risk.

The risk perspective of an object at risk can be constructed by the 'object' itself, e.g., when people raise concern about their own safety in the event of safety critical incidents, or on behalf of the object e.g. when people raise concern about the safety of the environment. This perspective is shaped by the ontology of risk to its epistemology, i.e., from the nature of risk to risk as a social construct (Hilgartner, 1992). The ontology of risk conceptualizes the extent to which risk exist independent of an assessor or communicator perspectives, whilst the epistemology of risk conceptualizes risk in the context of knowledge of risk and lack thereof, therefore, contributing to making issues of risk complications. Hence, when an organization is seen to have put an object at risk, such an organization engages discourse and communication as a way to socially construct its reputation and/or repair its image and shape the epistemology of risk (Coombs, Frandsen, Holladay, & Johansen, 2010; Coombs & Holladay, 2012). Indeed, the timing and the point at which an organization deploys image repair strategies following an incident is equally important (Coombs et al., 2010; Sturges, 1994). Image and reputation management communication should only happen after addressing public safety especially in safety critical situations. Risk receptors must know how to safeguard themselves based on factual incident information before the organization considers reputational concerns (Seeger, 2006; Ulmer, 2001).

Benoit (1994) asserted that image repair (also known as image restoration) is a discursive practice that provides persuasive message or group of messages in response or defence of negative threats to the image of an organization. Threats to image consists of two elements, i.e., the "blame" element which is linked to the beliefs of an audience, and the "offensiveness" which is associated to the value systems of the audience. Image repair discourse, therefore, rejects or reduces responsibilities, thereby distorting beliefs about blame, and/or reduces the

level of offensiveness, thus, altering value. Because an organization's image is directly linked to its reputation (Alvesson, 1998; Ashforth & Gibbs, 1990), reputation is seen as a resource (Barney, 2001) worthy of defending. What then are the image repair practices used to reject responsibilities or reduce offensiveness?

Dionisopolous & Vibbert (1988) argued that four image repair practices could be used, i.e. denial; bolstering; differentiation; and transcendence. An organization could deny performing the wrongful, or the occurrence of an incident (denial). Bolstering involves portraying a positive perception of the organization in light of a reputational damaging event such that the positive associations becomes the focal point. Differentiation uses favourable explanation of the incident to offset negative feelings with positive characteristics. Transcendence provides a more abstract interpretation of the character attack of an organization by appealing to values and loyalties. Harlow et al., (2011) drew on the work of Benoit (1994) and assessed the image repair practices used by the British Petroleum (BP) following the Gulf of Mexico Deepwater Horizon spill. They listed 10 additional image repair practices to the aforementioned including: shifting blame (someone else did it); provocation (we did it, but were provoked); defeasibility (lack of information or control), accident (the incident was an accident); good intentions (the error was the result of good intentions); minimization (it's not that bad); attack accuser; compensation; corrective action; and mortification (Harlow et al., 2011). These practices explain "what" communications and actions can be taken by an organization in an attempt to correct negative public perception of themselves after a specific incident or series of incidents (Smudde & Courtright, 2008).

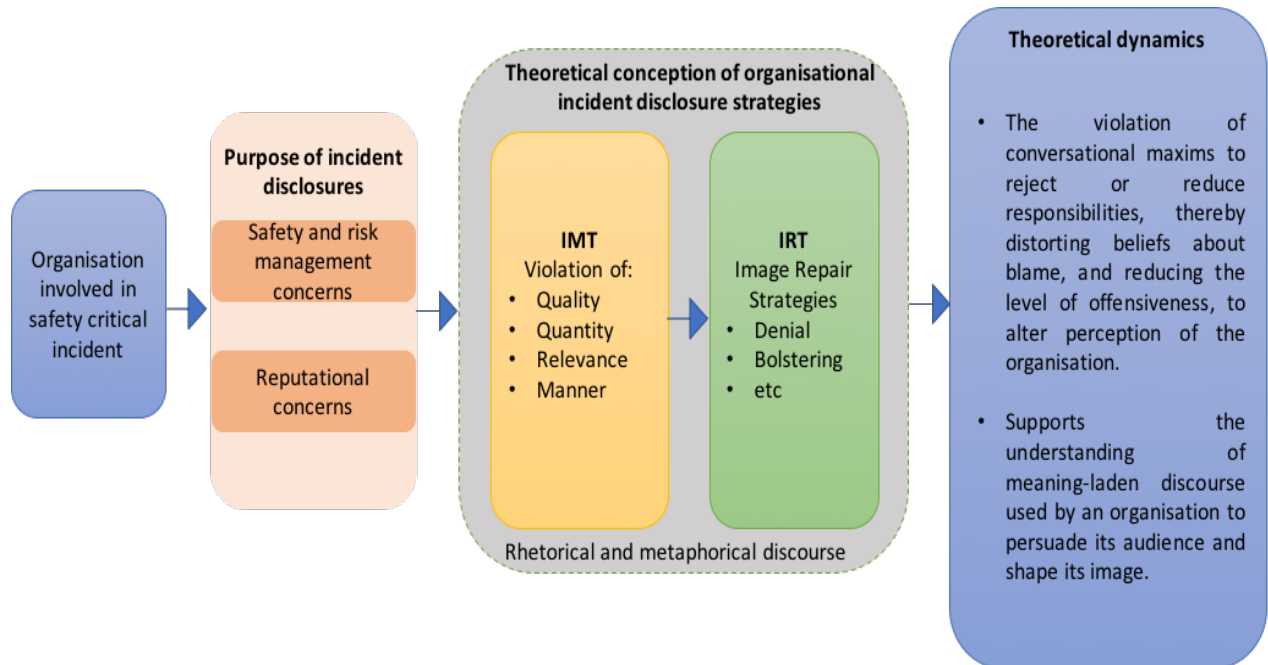
Image repair practices also mix ideas from rhetorical discourse with justificatory account giving. Benoit (1994 p5) defines image "as the perception of a person (or group, or organization) held by the audience, shaped by the words and actions of that person [or organization] ...." This gives "image" a sociocultural perspective. This perspective suggests

that image repair practice is heavily reliant on communication and information dissemination such that audiences receive words from the organization and based their judgement on such words. The communication could, therefore, go beyond the traditional communication to include subtle and often meaning-laden discourse which an organization can use to persuade its audience and shape their perceptions. To understand the dynamics of how persuasion could be achieved, we turn to IMT.

McCornack et al., (1992) asserted that in any given conversation there exists a set of basic, reasonable assumptions about how transmission of information occurs. This premise is based on the work of Paul Grice (Grice, 1989) on Cooperation Principle (CP) and its maxims which describes a variety of manipulated message forms. The theory views manipulation as emanating from covert violations of one or more of Grice's four maxims (quality, quantity, relevance, and manner). According to McCornack et al., (1992), the violation of *quantity* maxim relates to altering the amount of information that should be provided in a message. Violation of *quality* maxim relates to prevarication of the veracity (truthfulness) of information that is presented whilst manipulation by evasion relates to the covert violation of the *relevance* maxim and manipulation by equivocation results from the covert violation of *manner* maxim (Anolli et al., 2001; Yeung, Levine, & Nishiyama, 1999). As seen in literature IMT has been used to understanding the way information is manipulated in public consultation for project proposals (Hurlimann & Dolnicar, 2010); to assess whether managers manipulate the measurement information that is used to assess performance (Fisher & Downes, 2008); and in assessing the intentional use of ambiguity in strategic organizational communication (Dulek & Campbell, 2015). This opens an opportunity for using the theory in assessing the robustness of communication by an organization involved in safety critical incidents in light of reputational tension, particularly, if such communications have safety and risk implications with respect to



emergency response, regulatory sanctions and enacting social trust. Consequently, we present the paper's theoretical framing in Figure 1 below.



**Figure 1: Twin theoretical conception of IRT and IMT**

Through the twin theoretical conception of IRT and IMT, we were able to evaluate the meaning-laden discourse deployed by the organization in light of reputational concerns. This allowed us to assess, the image or reputational repair practices are deployed and how incident information is disseminated from the perspectives of veracity, manner, quality and quantity. In the next section, we discuss our theoretical conception of the reason an organization deploys rhetorical and metaphorical discourse in incident disclosure.

### **3. Incident disclosure, rhetoric and metaphor**

Prior research has already illustrated that self-disclosure of incidents can be beneficial to organizations (Arpan & Roskos-Ewoldsen, 2005). However, incident disclosure whether self-disclosed or disclosed by a third party will undoubtedly raise questions about the safety

performance of the affected organization. This is especially true for safety-critical operations as incidents emanating from such operations can be of devastating consequences to safety.

When an incident happens and the consequence of such incident affects human and environmental safety, the condition of safety is said to be violated. Hence both individual and societal risk perceptions are shaped by the knowledge of such events. Moreover, because maximum level of safety corresponds with zero risk and a low safety level guaranteed corresponds with a risk of almost 100 percent (Aven, 2009; Suddle, 2009), the psychological elements of safety is shaped by incident knowledge obtained from incident disclosures. Indeed, an organization's audience will judge its safety performance based on such knowledge. Similarly, knowledge of incidents caused by deficiencies in the organization's sociotechnical functionality may result in imposition of regulatory sanctions. This suggest the rationale behind the use of rhetorical and metaphoric discourse to achieve image repair during incident disclosures by such an organization. We define incident disclosure as the dissemination of incident related information by an organization to its audience for the purpose of safety management and risk governance including regulatory compliance, emergency communication and response, and liability management, and for ensuring social trust.

There is a recognised link between the conscious uses of certain metaphors with the conveyance of biases (Tinker, 1986) in order to build ideological attachments (N. Fairclough, 2014). Amernic & Craig (2017) discussed the use of metaphors in the camouflaging of ideology and its nuanced power during communication. Of similar application is the 'art of persuasion' called rhetoric (Larson, 2012). Rhetoric has been used as a means of cajoling audience to have similar viewpoints with a communicator, covertly. Whether the communicator's viewpoints are true and valid or not, the use of rhetoric creates an informed appetite for good (Booth, 2004). Hence, in order understand the application of metaphor and rhetoric during incident disclosure, we adopt a similar approach used by Amernic & Craig (2017) for analysing

discourse by focusing on individual instances of metaphor and rhetoric in incident disclosure text (i.e., press release and incident reports) and also focusing on an underlying rhetoric and metaphoric structure of the text. To achieve this, we turn to discourse analysis as an analytical tool to aid in the analysis of collected archival incident reports and press releases following incidents involving NNPC's operations. We describe this in our method in the succeeding section.

#### **4. Method: a case study approach**

We adopt Yin's (Yin, 2009, 2012) explanatory case study methodology as it is particularly suitable for answering "how" and "why" questions. For this research, we set out to develop an understanding of how NNPC discloses and communicate safety-critical incidents in the face of reputational tension. We purposively focus on the single case of NNPC because of the records of safety-critical incidents involving the organization (A. Ambituuni et al., 2015, 2018; Anifowose et al., 2012).

As a state-owned National petroleum company, the NNPC own and operates safety critical upstream petroleum assets, via its six joint ventures with Shell, Chevron, Mobil, Agip, Elf, and Texaco (NNPC, 2017). NNPC is also a major downstream player through ownership of all four (4) existing refineries in Nigeria, distribution pipelines, depots, oil import jetties and retail stations. It also controls over 23% of the retails market subsector in Nigeria (Ambituuni, Amezaga, & Emeseh, 2014). Over the years, the organization has been implicated in many safety-critical incidents that has had devastating impact on human and environmental safety. For instance, Ambituuni et al. (2015) calculated the failure frequency of the entire 5001KM pipeline network using 13 years' incident records (from 2000 to 2012) and found that in 2011 alone, for example, the NNPC reported a total of 2,787 pipeline failure. Such failures were attributed to operational deficiencies including poor practices and bureaucratic bottlenecks, and

interdiction or sabotage of safety-critical assets (see for example A. Ambituuni et al., 2015; Anifowose et al., 2012).

The safety and risk implication of such failures has been reported in Emeseh (2006), where, for instance, a pipeline explosion at Jesse community resulted in large scale environmental pollution and killed over 1,500 people including women and children. Omodanisi, Eludoyin, & Salami (2014) also reported 14 different incidents including the December 26, 2006 pipeline explosion in Ilado-Odo around Lagos Nigeria that killed over 250 people. Over the years, this trend of safety critical-incidents has consistently occurred involving NNPC's assets including the 2018 Aba pipeline incident that killed 30 people. NNPC is also known for its operational secrecy and practices that suggests the lack of transparency of information disclosed by the organization (Emeseh, 2006). The case of NNPC, therefore, offers a rich context to explore incident disclosure and communication versus reputation tension in light of these reported incident.

The use of case study approach provides a robust method particularly when a holistic, in-depth investigation is required (Simons, 1996). The choice of a case study allowed us to study "how" NNPC discloses and communicate these incidents in the face of reputational tension, identify the image or reputational repair practices deployed and explain the dynamic of incident information disseminated from the perspectives of veracity, manner, quality and quantity. Furthermore, the method allowed us to draw our theoretical conception of IRT and IMT in order to provide new generalizable perspectives of accessing the incident information release by organizations, particular those involved in safety critical operations. To achieve a robust case-study methodology, we applied Yin's five components of an effective case study research design. First, we established our aforementioned research questions by drawing of relevant literature. Second is the propositions or purpose of study which we've discussed in the introductory part of the paper. Based on this, our unit of analysis focuses on incident disclosures

by the case of the NNPC. Fourth, the logic that links data to propositions was achieved following the data collection phase, as themes emerge. We analysed the data whilst building explanations about incident disclosure practices that appear in the data and linking these practices to the theoretical conception of the paper, thereby, answering the research questions. Finally, interpretation of findings was achieved through carefully extraction of meanings and theoretical links from the analysis (Yin, 2012).

### ***Framework for data collection and analysis***

The unique data collection method in this study provides a more holistic context of incident disclosure and the image repair practices used by an organization as the study benefited from the communication of many incidents within a single case organization. Hence, although the study drew inspiration from the methods used in existing literature where the focus is on a single incident (e.g., Muralidharan et al. 2011, Harlow et al. 2011), our method was designed to overcome some of the observed limitations of focusing on a single incident. Consequently, we obtained historic incident disclosure and communication data from two key sources. First, 170 incident reports were collected from NNPC's Group Health, Safety and Environment (HSE) Department.

In collecting these reports, we first wrote and obtained approval from the Group's Chief Executive through the HSE Department. Notwithstanding, obtaining comprehensive data was especially challenging due to the secretive nature of the petroleum industry in Nigeria, and particularly the NNPC. For example, we experienced deliberate deletion of some details from the pipeline failure reports due to confidentiality claims. This, however, did not present analytical challenge in this study as the obtained reports contained the data we needed to address our research questions. Nevertheless, there is the need to presume that since the obtained reports was written by the HSE department of NNPC, such reports are vulnerable for

company management preferences, corporate culture and specific investigation methods and work instructions. The HSE Department presents what happened the company way. This could mean that even larger manipulation exists within the obtained reports. Ideally, the ‘absolute truth’ established by a third party would be the best reference basis.

Next, we carried-out a systematic internet search of the press releases and press statements by NNPC in light of the incidents reported. We reviewed 573 press releases/ statements on the NNPC website and further downloaded and reviewed 1114 online news articles using Nexis to identify statements issued by the NNPC in response to incidents involving their assets and operations. Through this review, 30 relevant press releases were identified as shown in Table 1.

**Table 1. Data collected over the period of 2007 to 2018**

	No. of incident reports	No. of press release
	170	30
<i>Relevance of data</i>	Provided disclosure context and a means of assessing how incident information is controlled to evade scrutiny	Provided perspectives on disclosure of incidents amidst reputation concerns in the public domain (both local and international)

As we have theoretically established earlier, image repair is achieved through discourse (Daly & Wiemann, 1994; Muralidharan et al., 2011). Hence, the paper adopted discourse analysis for analysing the obtained data. Discourse analysis sets out to answer questions about language, about writers and speakers, and about sociocultural processes that surrounds and gives rise to discourse (Gee, 2010). It involves paying close and systematic attention specifically to texts and their contexts. Indeed, we observe the different variation to discourse analysis, (N. Fairclough, 2014; N. L. Fairclough, 1985; van Dijk, 1996) with different analytical objectives. Hence, for this research attention was given to the use of discourse analysis in alignment to the research questions. Consequently, we adopted Gee’s definition of discourse i.e., ‘way of

combining and integrating language [including rhetoric, metaphors], action, interventions, ways of thinking, believing, valuing, and using various symbols, tools, and objects to enact a particular sort of socially recognised identity' (Gee 2010, pp. 21). This allowed us to consider three key elements of discourse during our analysis by paying attention to how NNPC is disclosing and communicating incident information, "who" NNPC is or trying to be and "what" NNPC is doing or trying to do in incident reports and press releases.

Discourse analysis involves 'a constant movement back and forth between theory and empirical data' (Wodak 2004, pp. 200). Similar approach was adopted. We analysed our research data and develop empirical findings whilst constantly refining our theoretical conception. This was achieved through the development of content categories (Robson, 2015). The content categories were then used to analyse NNPC's incident disclosure model in relation to the tension between reputational concerns and risk communication objectives. The first step we took in our discourse analysis was to outline our categories and themes based on our research questions and the theoretical underpinning that emanate from our review of literature. Using NVivo, we then went through the obtained reports and press releases to see if it contains any of these themes and categories. At this point, necessary adjustment was made to include new themes and irrelevant themes where excluded. Furthermore, broader themes were broken down into sub-themes. At the end of this process, a list of coded discourse strands themes was obtained and reviewed. In the second step, we began looking at the structural features of the texts. We identified the sections within the text that dealt with particular discourse strands and the different discourse strands that overlapped. We further identify how the NNPC structure their incident disclosures in light of our theoretical conception of the research question. This led us to obtain a good idea of the macro-features of the text in our data.

Finally, we zoomed in on the individual statements and discourse fragments by collecting all statements with a specific theme, and examining what the statements have to say on the respective discourse strand, vis-à-vis the context that informs the argument. This allowed us to analyse the function that intertextuality serves in light of the overall argument. Hence, we were able to identify and analyse the practices used by NNPC to achieve image repair vis-à-vis any violation of conversational maxims observed within the themes generated. Also, to achieve validity and reliability, Yin's tactics (construct validity, internal and external validity, and reliability) were carefully integrated. Construct validity was achieved by the use of multiple sources of evidence and the establishment of a chain of evidence. Internal and external validity were addressed mainly through explanation building and replication logic respectively. Reliability was achieved using case study protocols and database such that data collection procedure can be repeated (Yin, 2009)."

## **5. Result**

We set out to understand how NNPC discloses and communicate safety-critical incidents in the face of reputational tension, identify the image or reputational repair practices and explain the dynamic of incident information disseminated from the perspectives of veracity, manner, quality and quantity. We found that in the process of disclosing incidents to its audience, NNPC pays great attention to its reputation, hence using image repair as a means of reputational defence whilst ignoring the principles of effective incident and risk communication even when human and environmental safety are at risk.

### **5.1 Intertextual elaboration of organizational discourse**

The intertextual totality of the analysed incident reports and press release provides an insight into the approach used by NNPC to violate conversational maxims whilst disclosing incidents in the face of reputational tension. It further provides comprehension of NNPC's inclination



towards addressing reputational concerns against safety in its incident reports and press release. For instance, NNPC claims that “the safety of our people and the protection of our environment and assets are the main focus”. Paradoxically, we found the word ‘safety’ is used only 24 times in the entire 15272 words from the press releases and incident reports analysed. The text is dominated by statements concerning operational performance, reputational discourse and organizational efficiency. Indeed, the focus on performance, efficiency and reputation and the lack of use of the keyword ‘safety’ discursively indicates that safety is not a desired organizational state. Notably, also, is context in which the word ‘safety’ is used, and the missing emphasis on the risks associated with the incidents as well as the implications for objects at risk. Instead, the emphasis and the context in which the word safety was used centred on portraying that the organization as capable, effective, efficient, and therefore, focused on the image of the organization.

Table 2 represents the categories developed from the initial content analysis of the incident reports and press releases as a measure of reputational inclination. Throughout, there is an apparent privileging of reputational concerns over the safety of objects at risk and no acknowledgement of the sociotechnical deficiencies within the organization or disclosure of the complexity of safety culture as an ongoing organizational challenge.

**Table 2: The measure of reputational concerns in incident disclosures**

<b>Reputational measure</b>	<b>Reoccurrence</b>
There was a minor fire incident	2
Minor challenge	3
Inconsequential incident	2
The fire was promptly brought under control	2
The fire was successfully extinguished	2
The effectiveness of our equipment	1
The efficiency of our fire fighters	2
The gallantry of NNPC personnel	3

We reassure members of the general of sufficient stock	9
The incident was caused by vandals	4
HSE efficiency in the corporation	3
Efficiency of collaboration to foster security of operations	1
There was very little damage	2
We are going to solve the problem soon	4
We adhere strictly to good HSE practice	3
We maintain a high safety culture	4
NNPC places premium on safety of life	2
The incident was an accident	4
It was a normal technical fault	10
We sympathise with the victims	1

These emergent categories were further analysed into three organizational discourses: deflecting incident disclosure; the unavoidable incident syndrome and the unapologetic metaphor. These categories are discussed in the succeeding sections, focusing on how conversational maxims of quantity, quality, manner and relevance are violated to support the deployment of image repair strategies in alignment with the observed inclination toward reputational concerns.

## **5.2 Deflecting incident disclosure**

Disclosure of accurate incident information illustrates a way of accepting safety deficiencies within sociotechnical systems of an organization. It suggests that such an organization is transparent to safety, accepts responsibilities for its deficiency and is ready to learn from the incident. On the contrary, we found NNPC deflecting attention whilst disclosing incidents to its audience. This is mostly done by violating the relevance maxims of the information provided during such disclosure. NNPC issue statements that lacks focus on the deficiencies which led to the incident it is disclosing but also attempts to engage its audience by assuring of its aptitude to deliver what it deems a more relevant issue to them. An example is seen in NNPC's press release following the October, 2013 Warri refinery fire incident, cited below.

‘The Management of the Nigerian National Petroleum Corporation, NNPC on Tuesday confirmed that there was a minor fire incident in the Topping Unit of the Warri Refining and Petrochemical Company, WRPC... We wish to seize this opportunity to reassure members of the general public that the NNPC continues to hold sufficient stock of premium motor spirit [petrol] and other petroleum products and therefore there is no cause for panic buying....’ (Press release document 2)

We noted two traits of maxims violation from NNPC’s rhetoric above. First is an attempt to deflect attention from what may potentially be a dangerous occurrence to what NNPC termed a ‘minor fire incident’. We called this act of manipulation of information *deflection by trivialisation*. In doing so, NNPC deflected its audience attention from the potential catastrophe that may have occurred. The word “minor” is used in this context as a way of deflecting the seriousness of the incident. The focus on reputational concern appears to pressure the organization into reducing the veracity of the information communicated by trivialising the magnitude of the incident. Indeed, a fire incident in the Topping Unit of an oil refinery should be considered a very serious incident and a dangerous occurrence. We found similar use of terms like ‘minor challenge’ and ‘inconsequential incident’ used by NNPC to describe dangerous occurrences and serious incidents in 121 of the 170 incident reports. We also observed how NNPC trivialised incident communication in their press releases by excluding the causality information. For instance, even though 4 people died in the September, 2017 NNPC Apapa jetty fire, the press release by NNPC excluded this detail.

Second is the attempt to shape perception by deflecting the attention of its audience from the entire event to what NNPC considers a more relevant issue. Because of its complete dominance of the refining, supply and distribution of petroleum product in Nigeria, NNPC knows that failure in its system will almost certainly result in a nationwide fuel scarcity, with potential of crippling economic activities on a national scale. Hence, in this instance it uses this knowledge to deflect attention from the ‘minor incident’ to its aptitude in averting fuel scarcity. By

asserting this, NNPC showcases itself as a solution to ‘panic buying’ despite the ‘minor fire incident’. We consider this an act of *deflection by rationalisation*. The trait of rationalisation in this act of information manipulation is evident in the way NNPC attempts to deal with potential stressors, away from safety concerns, that may have emanated from the incident through the elaboration of reassuring explanations. We cite another example below.

‘The Nigerian National Petroleum Corporation, NNPC, on Friday explained that routine gas supply for power generation is not affected by the fresh fire incident which engulfed a segment of the Escravos-Lagos Pipeline System’ (Press release 21).

Another trait of deflection observed is in the way in which NNPC communicates its HSE strategies as an integral part of incident disclosures. As cited in the example below NNPC recognises the importance of a good safety culture, and positions itself as an organization with a good safety policy whilst citing external examples of organizations involved in disastrous incidents to portray the implication of bad safety culture. In doing so, NNPC appears to distance itself from being involved in incidents thereby providing a false sense of good safety performance, even though the disseminated message is linked to an incident involving the organization.

‘The deployment of a solid Health, Safety & Environment (HSE) policy in NNPC’s business and operations has been described as “critical” to the on-going transformation programme in the Corporation... According to the GMD (Group Managing Director), it is pertinent for Chief Executives in the oil and gas industry to be HSE-conscious so as to prevent incidents and minimize environmental impacts. He noted that recent happenings in the global oil and gas industry like the Gulf of Mexico BP Oil Spill and the Chevron’s Brazil Offshore incident further necessitated the desire to inculcate HSE among all staff of the Corporation.’ (Press release document 13).

Here, NNPC describes its HSE policy as ‘solid’ and ‘critical’ to its ongoing transformation. The ‘solid’ and ‘critical’ metaphor evokes a sense of effective HSE policy that is, indeed, very important. However, it is the context in which this press release was deployed that captured

our attention. We noted the way in which NNPC swiftly deflected attention from the incident being disclosed by citing incidents from other oil and gas operators at a global scene. We consider this an act of *deflection by distantiation*. Distantiation was achieved through the characterization of other operators as actors with bad safety performance. In doing so, the organization created characters that audiences can link bad safety performance to, thereby, deflecting such characteristics from itself and distancing itself from an object of scrutiny. Indeed, NNPC has been involved in some of the worse cases of incidents and disasters the global oil and gas industry has seen including the earlier stated pipeline explosion at Jesse community on 15 October, 1998 that killed over 1,500 people including women and children and the December 26, 2006 pipeline explosion in Ilado-Odo which killed more than 250 people.

Distantiation was also observed in incident disclosure practises that focused on demonstrating capabilities of the organization as a means of obscuring the seriousness of the incident. This practise is manifested in NNPC's strong defence of its safety systems and procedures despite failures that resulted in disastrous incidents. Typical examples are the use of phrases like: '*the gallantry of a team of engineers and technicians*', '*the effectiveness of the firefighting equipment*', '*the efficiency of our fire fighters*' and '*the gallantry of NNPC personnel*' whilst reporting on incidents that had occurred with serious levels of consequences. The rhetoric from these phrases attempts to deflect attention to the robustness of the safety systems and procedures within NNPC whilst ignoring the severity of the incident on the public.

### **5.3 The 'unavoidable incident' syndrome**

The 'unavoidable incident' syndrome associates incident occurrence to factors that on the surface, seem like they are unavoidable and are merely part of day to day safety critical operations. The aim of such communication maxims violation is to normalise incident occurrence and provide a metaphor that suggests that nothing can be done to avoid such

incidents, and that such incidents are associated to “normal mechanical or systems” fault. We illustrate how NNPC uses this information manipulation strategy from the citation below.

‘We are committed to doing all within our powers... in order to eliminate avoidable incidents’ (Press release document 14)

From the above citation, NNPC attempts to demonstrate to its audience that there is a limit to what the organization can do to ensure safety is optimised from its operations and to mitigate any associate risks. The word “powers” is used in this context as a means of demonstrating absolute commitment which, however, can be constraint by forces beyond that power. This means that some incidents are simply “unavoidable”. The term “avoidable incidents” is further used to reinforce the suggestion that some incidents are, indeed, mere accidents. The overall strategy of communication and incident disclosure here adopts a positive self-presentation using a metaphor that constructs an ideology of absolute commitment, and hinged on accidents which “simply just” occur.

The violation of conversational maxims by NNPC is mostly observed in the disclosure of incidents which NNPC claimed are associated with technical faults beyond their control. For instance, in the obtained incident reports, NNPC associated 4 incident causation factors to ‘pump overheating’, 1 to ‘failed mechanical seal’, 3 to ‘electrical fault’, and 2 to ‘auto ignition’. This narrow association of incidents to technical faults ignores the links between technical systems with human factors, organizational and regulatory deficiencies, procedure failures and dysfunctional work environment developed at various sociotechnical levels of the organization (Rasmussen, 1997). In doing so, NNPC covertly exonerate itself from such deficiencies as though the failed technical systems existed independent of its procedures, people, work environment and organization.

#### **5.4 The “unapologetic” metaphor**

We have seen many safety critical operating companies apologising following incidents and disasters involving their assets. A typical example is the unreserved apology by BP's CEO following the Gulf of Mexico disaster. An apology during incident disclosure accords an organization the opportunity to admit failures or errors within their sociotechnical systems and express remorse to its audience (Coombs et al., 2010). Sincere and unreserved apology makes use of terminologies that expresses regretful acknowledgement of one's failure, typically integrating the phrase 'I'm sorry'. We found NNPC using metaphor that provides an appearance of sympathy whilst camouflaging an unapologetic stance in its incident disclosure strategy. For instance, in a statement issued by the NNPC's Group Managing Director (GMD) following the Okogbe community tanker fire that killed 95 persons, the GMD avoided issuing an apology but provided metaphoric condolence that appears regretful by stating that his:

‘...heart and that of the entire NNPC family is with the government and people of Rivers State, especially those who lost loved ones, at this time of great sorrow and grief.’ (Press release document 15)

The ‘heart’ metaphor evokes emotion and emphasises the sympathy of the entire organization towards the victims and their loved ones. Furthermore, by issuing a personalised condolence, the GMD expresses his sympathy which only provides good will and neutral sentiments but failed to express remorse, guilt, and self-criticism, thereby, evading taking responsibility for the actions of NNPC. This may be an attempt to disenfranchise victims from taking legal actions as an apology is perceived as an admission of liability, or a conscious attempt to evade responsibility considering all NNPC trucks tankers are operated via franchise ownership. Notwithstanding, his lack of apology ignores the appropriate moral remedy offered by an act of apology even for blameless harms.

## 6. Implications: theoretical and managerial perspectives

We found that the sociocultural perspective of image and reputational concerns drives an organization to deploy discourse in such a manner that shapes public perception of its reputation when involved in incidents that violate public safety. In such instance, however, the priority should be on safety (Sturges, 1994; Coombs *et al.*, 2010) with risk communication focusing of public safety. Image repair communication should come afterwards. On the contrary, we found NNPC paying greater attention to image repair and ignoring the need for effective risk communication during incident disclosure. Table 3 below shows the discursive incident disclosure information assessment framework developed from the case organization as a model for understanding the interface between the deployment of image repair practices in the face of reputational tension and the way conversational maxims are violated.

**Table 3: Incident disclosure information assessment framework**

Practices	Violation of conversational maxims	Reputational repair outcomes	Safety and risk management implications
<b>Deflecting incident disclosure</b>	Reduction of information quality.	Deflection by trivialisation	Organisation misses out on accepting responsibility and the learning from such incident.
	Trivialising incident magnitude	Minimization (it's not that bad)	False sense of safety and risk management capabilities.
	Reduction of information relevance by elaboration of reassuring explanations	Deflection by rationalisation.	Very little information about the incidents and its safety implications
	Reduction of information relevance by focussing on the potential stressors of the object at risk.	Appealing the organisation's value and commitment.	Wider implications on emergency response communication
	Reduction of relevance by evasion and the creation of external bad characters.	Deflection by distantiation	Invokes social mistrust
	Dissemination of ambiguousness of information	Bolstering by portraying a positive perception of the organisation.	
	Reduction of veracity of information to	Distancing the organisation from scrutiny.	



	demonstrate robustness of the safety systems	Reduction of veracity of information to demonstrate robustness of the safety systems	
<b>The “unavoidable incident” syndrome</b>	Normalisation of incident occurrences  Positive self-presentation using a metaphor that constructs ideology of absolute commitment  Covert exoneration of the organisation from its risk management deficiencies	There is a limit to what we can do to avoid accidents.	Unable to link failures of technical systems to failures of sociotechnical functions of the organisation
<b>The “unapologetic” metaphor</b>	Expression of condolence, but evade apologies	Expression of neutral sentiments.  Avoid taking responsibility	Ignores the appropriate moral remedy from issuing apology  Weakens post-incident stakeholder relationships and trust

The evaluation of incident disclosures through the twin lens of IRT and IMT provides a micro-level assessment of image repair discourse that looked beyond what the practices are (e.g., Benoit, 1995; Dionisopolous and Vibbert, 1988; Harlow, Brantley and Harlow, 2011) to understanding how conversational maxims are violated in support of image repair. Consequently, we observed the predisposition and link between the violations of certain conversational maxims to deploy image repair practices as an outcome. For instance, trivialisation achieved by reducing the quality maxim of information provides rhetoric that the incident is not that bad, hence supporting minimisation image repair practice. Similarly, deflection by rationalisation supports transcendence, whilst deflection by distantiation achieved through the violation of relevance and manner maxims supports bolstering. Notably, also, the violation of certain maxims and the permutations of such violation can support or allow the deployment of a single or multiple image repair discourse.

Table 3 also illustrates the safety and risk management implication of such practices. For instance, deflection as it relates to organizational safety and risk governance can impact on the

organization's ability to accept responsibility for its poor safety performance and, therefore, unable to see faults in its safety systems and procedures. This practice continuously downplays severity of risk associated to incidents and obscures the safety implications which could, otherwise, be a pivot for scrutiny and enhancement of the sociotechnical operating systems. Hence, deflecting incident disclosure will avert criticism and scrutiny of the organization's audience. Furthermore, deflection may also lead to a false sense of safety and risk management capabilities. Similarly, the unavoidable incident syndrome limits the organization's ability to link failures of technical systems to failures in sociotechnical functions.

Indeed, prioritising the image of the organization through deflection during incident disclosure falsely influences reception and acceptance of risk information by potential risk receptors and objects at risk. This may have further safety implication on emergency response especially if the seriousness and potential consequence of the incident is downplayed such that it further exposes people to greater danger, hence diminishing social trust. A typical example is the pipeline explosion at Jesse community earlier reported where the NNPC adopted an aggressive image repair practice that downplayed the severity of the secondary risk associated with the incident and further threatened victims with prosecution. Consequently, many injured victims died whilst evading hospitals amidst the fear of being arrested. This reportedly contributed to the demise of over 1,500 people (Emeseh, 2006). This practice can be seen to be at conflict with Kasperson's (2014) call for enhancing social trust in safety and risk communication by organizations. Organizations disclosing safety critical-incidents need to be open to better deliberative fair information dissemination process in order to produce acceptable outcomes locally and internationally.

We did not find data pertaining to NNPC's communication to an international audience and offering possible explanations owing to the relative lack of international media coverage of safety incidents in Nigeria when compared to e.g., the BP Deep Water Horizon incident. This

could be due to the fact that NNPC is a NOC rather than an International Oil Company (IOC), hence, its operations are local and it is not really subject to much international scrutiny. Consequently, it focuses on its national stakeholders and local media. This, really, is partly a failing of the international oil industry and press/media as well as NNPC IOC partners who don't apply pressure on NNPC either because they are also complicit in such safety failings or don't want to “rock the boat”. Improving such communication will require a close attention to be paid to the values of the people (Wardman, 2008) achieved through adequate and reliable information dissemination and engagement process (Arvai & Rivers, 2014; Kasperson, 2014; Lidskog, 2008; McComas, 2014) locally and internationally. The social performance and trust of an organization has been conceptualized in terms of its demonstrative responsible behaviour toward community, environment, and employees (Ghosh, 2017). This should not be eroded by manipulation of incident information even in the face of reputational and regulatory tension.

## **7. Conclusion**

We set out to develop an understanding of how the effective communication of safety-critical incidents take place in the face of organizational reputational tension. Focused on the case of NNPC and found the use of image and reputational repair strategies whilst also violating conversational maxims during incident disclosures that threatens the reputation of the organization. We empirically identified four categories where the violation of conversational maxims was used to deflect attention, portray a sense of capability, evade blame and avoided issuing apologies. We also found incident disclosures by NNPC consistently focusing on reputational concerns against safety concerns.

We argue that the paper makes the following contributions. First, by identifying NNPC's inclination towards reputational concerns during incident disclosure, we provide an insight into the actual industry practices which shows that amidst the tension between reputational concerns

versus effective risk communication of safety critical incidents, organizations tend to focus on their reputation. However, this practice has wider safety and risk management implications which we discussed in our findings. Organizations can, therefore, draw on the wider implications identified as rationale for developing effective incident communication strategies that pays greater attention on the safety of risk receptors.

Second, our assessment of incident disclosures through the twin lens of IRT and IMT provides a micro-level analysis of image repair discourse that looked beyond what the practices to understanding how conversational maxims are violated to support the deployment of image repair practices. Consequently, we provided a theoretical point of integration between the two theories in our discursive incident disclosure information assessment framework. However, the limitation of the study should be observed. The framework presented, is context specific to the disclosure of incidents by the NNPC, which is, indeed, a very unique but important case. Notwithstanding, the framework provides a nuanced theoretical model which scholars can use to support the assessment of the veracity, manner, quality and quantity of information released by an organization whilst disclosing incidents. It also provides a means of understanding the safety and risk management implication of such practices to the organization.

## References

- Alvesson, M. (1998). The Business Concept as a Symbol. *International Studies of Management & Organization*, 28(3), 86–108. <https://doi.org/10.1080/00208825.1998.11656741>
- Amalberti, R. (2001). The paradoxes of almost totally safe transportation systems. *Safety Science*, 37(2), 109–126. [https://doi.org/10.1016/S0925-7535\(00\)00045-X](https://doi.org/10.1016/S0925-7535(00)00045-X)
- Ambituuni, A., Amezaga, J., & Emeseh, E. (2014). Analysis of safety and environmental regulations for downstream petroleum industry operations in Nigeria: Problems and prospects. *Environmental Development*, 9(Supplement C), 43–60. <https://doi.org/10.1016/j.envdev.2013.12.002>
- Ambituuni, A., Amezaga, J. M., & Werner, D. (2015). Risk assessment of petroleum product transportation by road: A framework for regulatory improvement. *Safety Science*, 79, 324–335. <https://doi.org/10.1016/j.ssci.2015.06.022>
- Ambituuni, A., Hopkins, P., Amezaga, J. M., Werner, D., & Wood, J. M. (2015). Risk assessment of a petroleum product pipeline in Nigeria: the realities of managing problems of theft/sabotage. *Safety and Security Engineering V*, 49–60. <https://doi.org/10.2495/SAFE150051>
- Ambituuni, A., Ochieng, E., & Amezaga, J. M. (2018). Optimizing the Integrity of Safety Critical Petroleum Assets: A Project Conceptualization Approach. *IEEE Transactions on Engineering Management*, 1–16. <https://doi.org/10.1109/TEM.2018.2839518>
- Amernic, J., & Craig, R. (2017). CEO speeches and safety culture: British Petroleum before the Deepwater Horizon disaster. *Critical Perspectives on Accounting*, 47(Supplement C), 61–80. <https://doi.org/10.1016/j.cpa.2016.11.004>
- Anifowose, B., Lawler, D. M., van der Horst, D., & Chapman, L. (2012). Attacks on oil transport pipelines in Nigeria: A quantitative exploration and possible explanation of observed patterns. *Applied Geography*, 32(2), 636–651. <https://doi.org/10.1016/j.apgeog.2011.07.012>
- Anolli, L., Ciceri, R., Riva (eds, G., Anolli, L., Balconi, M., & Ciceri, R. (2001). *Deceptive Miscommunication Theory (DeMiT): A New Model for the Analysis of Deceptive Communication*.

- Arpan, L. M., & Roskos-Ewoldsen, D. R. (2005). Stealing thunder: Analysis of the effects of proactive disclosure of crisis information. *Public Relations Review*, 31(3), 425–433. <https://doi.org/10.1016/j.pubrev.2005.05.003>
- Arvai, J., & Rivers, L. (Eds.). (2014). *Effective Risk Communication* (1 edition). London: Routledge.
- Ashforth, B. E., & Gibbs, B. W. (1990). The Double-Edge of Organizational Legitimation. *Organization Science*, 1(2), 177–194. <https://doi.org/10.1287/orsc.1.2.177>
- Aven, T. (2009). Safety is the antonym of risk for some perspectives of risk. *Safety Science*, 47(7), 925–930. <https://doi.org/10.1016/j.ssci.2008.10.001>
- Aven, T., & Renn, O. (2010). *Risk Management and Governance: Concepts, Guidelines and Applications*. Springer Science & Business Media.
- Barney, J., B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, 27(6), 643–650. <https://doi.org/10.1177/014920630102700602>
- Baron, M. M., & Pate-Cornell, E. B. (1999). Designing risk-management strategies for critical engineering systems. *IEEE Transactions on Engineering Management*, 46(1), 87–100. <https://doi.org/10.1109/17.740040>
- Benoit, W. L. (1994). *Accounts, Excuses, and Apologies: A Theory of Image Restoration Strategies*. Albany: State University of New York Press.
- Boholm, Å., & Corvellec, H. (2011). A relational theory of risk. *Journal of Risk Research*, 14(2), 175–190. <https://doi.org/10.1080/13669877.2010.515313>
- Booth, W. C. (2004). *The Rhetoric of RHETORIC: The Quest for Effective Communication* (1 edition). Malden, MA: Wiley-Blackwell.
- Coombs, W. T., Frandsen, F., Holladay, S. J., & Johansen, W. (2010). Why a concern for apologia and crisis communication? *Corporate Communications: An International Journal*, 15(4), 337–349. <https://doi.org/10.1108/13563281011085466>
- Coombs, W. T., & Holladay, S. J. (2012). *The Handbook of Crisis Communication*. John Wiley & Sons.

- Crichton, M. T., Ramsay, C. G., & Kelly, T. (2009). Enhancing Organizational Resilience Through Emergency Planning: Learnings from Cross-Sectoral Lessons. *Journal of Contingencies and Crisis Management*, 17(1), 24–37. <https://doi.org/10.1111/j.1468-5973.2009.00556.x>
- Daly, J. A., & Wiemann, J. M. (1994). *Strategic Interpersonal Communication*. Routledge.
- Dionisopolous, G. N., & Vibbert, S. L. (1988). CBS vs mobil oil: charges of creative bookkeeping. In *Ryan, H.R. (Ed.), Oratorical Encounters: Selected Studies and Sources of 20th Century Political Accusation and Apologies* (pp. 214-252.). Greenwood, Westport, CT.
- Dulek, R. E., & Campbell, K. S. (2015). On the Dark Side of Strategic Communication. *International Journal of Business Communication*, 52(1), 122–142. <https://doi.org/10.1177/2329488414560107>
- Emeseh, E. (2006). The limitations of law in promoting synergy between environment and development policies in developing countries. *Journal of Energy and Natural Resources Law*, 24(4), 574–606.
- Enander, A. (2018). Principles of Emergency Plans and Crisis Management. In *Handbook of Safety Principles*, ed. Niklas Moller Sven Ove Hansson Jan-Erik Holmberg Carl Rollenhagen (pp. 711–731). <https://doi.org/10.1002/9781119443070.ch30>
- Fairclough, N. (2014). *Language and Power* (3 edition). London ; New York: Routledge.
- Fairclough, N. L. (1985). Critical and descriptive goals in discourse analysis. *Journal of Pragmatics*, 9(6), 739–763. [https://doi.org/10.1016/0378-2166\(85\)90002-5](https://doi.org/10.1016/0378-2166(85)90002-5)
- Fisher, C., & Downes, B. (2008). Performance measurement and metric manipulation in the public sector. *Business Ethics: A European Review*, 17(3), 245–258. <https://doi.org/10.1111/j.1467-8608.2008.00534.x>
- Gee, J. P. (2010). *An Introduction to Discourse Analysis: Theory and Method* (3 edition). Milton Park, Abingdon ; New York: Routledge.
- Ghosh, K. (2017). Corporate reputation, social performance, and organizational variability in an emerging country perspective. *Journal of Management & Organization*, 23(4), 545–565. <https://doi.org/10.1017/jmo.2016.25>
- Grice, H. P. (1989). *Studies in the Way of Words*. Harvard University Press.

- Harlow, W. F., Brantley, B. C., & Harlow, R. M. (2011). BP initial image repair strategies after the Deepwater Horizon spill. *Public Relations Review*, 37(1), 80–83. <https://doi.org/10.1016/j.pubrev.2010.11.005>
- Haukelid, K. (2008). Theories of (safety) culture revisited—An anthropological approach. *Safety Science*, 46(3), 413–426. <https://doi.org/10.1016/j.ssci.2007.05.014>
- Hilgartner, S. (1992). The social construction of risk objects: Or, how to pry open networks of risk. In *Organizations, uncertainties, and risk*, ed. J.F. Short and L. Clarke. (pp. 39–53). Boulder, CO: Westview Press.
- Hollnagel, E. (2016). *Barriers and Accident Prevention* (1 edition). Place of publication not identified: Routledge.
- Hurlimann, A., & Dolnicar, S. (2010). When public opposition defeats alternative water projects – The case of Toowoomba Australia. *Water Research*, 44(1), 287–297. <https://doi.org/10.1016/j.watres.2009.09.020>
- Kasperson, R. (2014). Four questions for risk communication. *Journal of Risk Research*, 17(10), 1233–1239. <https://doi.org/10.1080/13669877.2014.900207>
- Kettunen, J., Reiman, T., & Wahlström, B. (2007). Safety management challenges and tensions in the European nuclear power industry. *Scandinavian Journal of Management*, 23(4), 424–444. <https://doi.org/10.1016/j.scaman.2007.04.001>
- Larson, C. U. (2012). *Persuasion: Reception and Responsibility* (13 edition). Boston, MA: Wadsworth Publishing.
- Lidskog, R. (2008). Scientised citizens and democratised science. Re-assessing the expert-lay divide. *Journal of Risk Research*, 11(1–2), 69–86. <https://doi.org/10.1080/13669870701521636>
- Lwears, R. (2012). Rethinking healthcare as a safety--critical industry. *Work (Reading, Mass.)*, 41 Suppl 1, 4560–4563. <https://doi.org/10.3233/WOR-2012-0037-4560>
- McComas, K. A. (2014). Perspective on ‘Four Questions for Risk Communication’. *Journal of Risk Research*, 17(10), 1273–1276. <https://doi.org/10.1080/13669877.2014.940600>
- McCornack, S. A., Levine, T. R., Solowczuk, K. A., Torres, H. I., & Campbell, D. M. (1992). When the alteration of information is viewed as deception: An empirical test of information



- manipulation theory. *Communication Monographs*, 59(1), 17–29.  
<https://doi.org/10.1080/03637759209376246>
- McCoy, M. (2014). Reputational Threat and Image Repair Strategies: Northern Ireland Water’s Crisis Communication in a Freeze/Thaw Incident. *Journal of Nonprofit & Public Sector Marketing*, 26(2), 99–126. <https://doi.org/10.1080/10495142.2013.872508>
- Muralidharan, S., Dillistone, K., & Shin, J.-H. (2011). The Gulf Coast oil spill: Extending the theory of image restoration discourse to the realm of social media and beyond petroleum. *Public Relations Review*, 37(3), 226–232. <https://doi.org/10.1016/j.pubrev.2011.04.006>
- Omodanisi, E. O., Eludoyin, A. O., & Salami, A. T. (2014). A multi-perspective view of the effects of a pipeline explosion in Nigeria. *International Journal of Disaster Risk Reduction*, 7(Supplement C), 68–77. <https://doi.org/10.1016/j.ijdr.2013.11.002>
- Perin, C. (2005). *Shouldering Risks: The Culture of Control in the Nuclear Power Industry*. Princeton University Press.
- Rasmussen, J. (1997). Risk management in a dynamic society: a modelling problem. *Safety Science*, 27(2), 183–213. [https://doi.org/10.1016/S0925-7535\(97\)00052-0](https://doi.org/10.1016/S0925-7535(97)00052-0)
- Reiman, T., & Rollenhagen, C. (2012). Competing values, tensions and trade-offs in management of nuclear power plants. *Work (Reading, Mass.)*, 41 Suppl 1, 722–729.  
<https://doi.org/10.3233/WOR-2012-0232-722>
- Robson, C. (2015). *Real World Research* (4rd edition). Chichester: John Wiley & Sons.
- Seeger, M. W. (2006). Best Practices in Crisis Communication: An Expert Panel Process. *Journal of Applied Communication Research*, 34(3), 232–244.  
<https://doi.org/10.1080/00909880600769944>
- Silbey, S. S. (2009). Taming Prometheus: Talk About Safety and Culture. *Annual Review of Sociology*, 35(1), 341–369. <https://doi.org/10.1146/annurev.soc.34.040507.134707>
- Simons, H. (1996). The Paradox of Case Study. *Cambridge Journal of Education*, 26(2), 225–240.  
<https://doi.org/10.1080/0305764960260206>
- Smillie, L., & Blissett, A. (2010). A model for developing risk communication strategy. *Journal of Risk Research*, 13(1), 115–134. <https://doi.org/10.1080/13669870903503655>

- Smudde, P. M., & Courtright, J. I. (2008). Time to get a job: Helping image repair theory begin a career in industry. *Public Relations Journal*, 2(2008), 1–20.
- Sturges, D., L. (1994). Communicating through Crisis: A Strategy for Organizational Survival. *Management Communication Quarterly*, 7(3), 297–316.  
<https://doi.org/10.1177/0893318994007003004>
- Suddle, S. (2009). The weighted risk analysis. *Safety Science*, 47(5), 668–679.  
<https://doi.org/10.1016/j.ssci.2008.09.005>
- Tinker, T. (1986). Metaphor or Reification: Are Radical Humanists Really Libertarian Anarchists? *Journal of Management Studies*, 23(4), 363–384. <https://doi.org/10.1111/j.1467-6486.1986.tb00423.x>
- Ulmer, R. R. (2001). Effective Crisis Management through Established Stakeholder Relationships: Malden Mills as a Case Study. *Management Communication Quarterly*, 14(4), 590–615.  
<https://doi.org/10.1177/0893318901144003>
- van Dijk, T., A. (1996). Discourse, Power and Access. In C.R. Caldas-Coulthard and M. Coulthard (eds) *Texts and Practices: Readings in Critical Discourse Analysis* (pp. 84–104). London: Routledge.
- Wardman, J. K. (2008). The Constitution of Risk Communication in Advanced Liberal Societies. *Risk Analysis*, 28(6), 1619–1637. <https://doi.org/10.1111/j.1539-6924.2008.01108.x>
- Wodak, R. (2004). Critical discourse analysis. In C. Seale, G. Gobo, J. F. Gubrium and D. Silverman (eds), *Qualitative research practice*. (pp. 197–213). London: Sage Publications, Inc.
- Yeung, L. N. T., Levine, T. R., & Nishiyama, K. (1999). Information manipulation theory and perceptions of deception in Hong Kong. *Communication Reports*, 12(1), 1–11.  
<https://doi.org/10.1080/08934219909367703>
- Yin, R. K. (2009). *Case Study Research: Design and Methods*. SAGE.
- Yin, R. K. (2012). *Applications of Case Study Research*. SAGE.



**Appendix: Details of relevant press releases from NNPC website**

<b>Doc. No.</b>	<b>Title of press release</b>	<b>Year of publication</b>
1	NNPC urges Reps to create laws to check pipeline vandalism....	2010
2	Press Release-Warri Refinery Fire Incident: NNPC Says No Cause for Alarm	2012
3	Press Statement: NNPC GMDs Forum	2016
4	PPMC Takes Sensitization Campaign to Grassroots	2011
5	Pipeline Vandalism Identified As Malaise In Petroleum Industry	2011
6	Chief of Army Staff Visits NNPC	2012
7	Nigerian Army to collaborate with NNPC in Niger-Delta ....	2010
8	Fuel Queues Will Vanish Soon, FG Assures	2012
9	Atlas Cove Attack: How Gallant NNPC Engineers Saved Nigeria from Fuel Calamity	2010
10	How Pipeline Vandals Cripple Fuel Supply - NNPC....Incurs over N174 billion in products losses, pipeline repairs	2013
11	You Can't Shut down Gas Plants, Barkindo Warns Shell - Says Excuse of Non-Evacuation of Condensate not Tenable	2013
12	Press Release – Mosimi Fire: Vandals responsible	2012
13	HSE Critical to NNPC Transformation	2011
14	NNPC Commits to Global Safety in Retail Outlets to Reduce Incidents...	2012
15	NNPC GMD Commiserates with Rivers Govt and People over Tanker Fire	2013.
16	Make IT, Safety, A Way of Life, GMD Charges NNPC Staff... As Corporation Unveils Innovative IT HSE Tools and Solutions	2012
17	Minna Depot Fire Incident a minor Challenge - NNPC	2013
18	Press Release - Atlas Cove: NNPC Assures of Viability of Depot	2010
19	Arepo Pipeline Incident: Yakubu Allays Fear of Fuel Scarcity	2011
20	NNPC says Suleja depot fire incident will not affect supply of petroleum products	2010
21	Update on Escravos pipeline fire: gas supply to power plants remains intact - NNPC	2018
22	NNPC says Apapa jetty fire incident will not affect supply of petroleum products	2017
23	Four feared dead as NNPC Apapa jetty catches fire	2017
24	Scores Feared Dead as Another Explosion Rocks NNPC Pipeline	2015
25	Update on Escravos Pipeline Fire: Gas Supply to Power Plants Remains Intact – NNPC	2018
26	NNPC Intensifies Efforts to Safeguard Pipelines	2017
27	NNPC Cautions Consumers against Panic Buying Sequel to Calabar Tank Farm Fire Incident	2017
28	NNPC Subsidiary, IDSL, Explains Pipeline Explosion	2017
29	Reforms: NNPC'll get it right this time around - Lukman	2009
30	Fresh Escravos Pipeline Explosion: Gas Supply Resumes Today	2018
<b>Note</b>		
The shaded items are the press releases which we cited directly in this article		