

# Strategies for legitimizing negative events: Mining dam collapse and disclosure

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## ABSTRACT

This research aimed to analyze the legitimation strategies used in environmental disclosure to neutralize negative events, such as environmental accidents, and to help identify and conceptualize the legitimation strategies related to negative events and environmental accidents used in sustainability reports. The article questions the reliability of sustainability reports produced by a benchmark company in a polluting and impact-generating sector, finding that they can be strategically manipulated to serve the interests of legitimizing and repairing the company's image rather than providing clear and objective information. The article examines the image repair mechanisms used by Samarco Mineração in its sustainability reports following the Mariana environmental disaster, with the aim of legitimizing one of the largest mining companies in the country at the time of the accident, the consequences of which are still being felt years after its occurrence. The research adopted the interpretivist paradigm, with a qualitative approach and textual content analysis of sustainability reports and reports from the relevant government agency, using the documentary research technique. It was found that the environmental disclosure published in sustainability reports is rhetorically manipulated with a massive amount of positive information, which overshadows and diverts the reader's attention from negative information and neutralizes it with defensive and mitigating arguments, thus showing that its content is not committed to the impartial disclosure of information.

**Keywords:** legitimation strategies, environmental disclosure, negative events.

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## **Estratégias de legitimação de eventos negativos: rompimento de barragem de mineração e disclosure**

### **RESUMO**

*Esta pesquisa teve como objetivo analisar as estratégias de legitimação utilizadas no disclosure ambiental que visa neutralizar eventos negativos, tal como acidentes ambientais, contribuindo para identificar e conceitualizar as estratégias de legitimação relativas a eventos negativos e acidentes ambientais utilizadas em relatórios de sustentabilidade. O artigo questiona a confiabilidade dos relatórios de sustentabilidade elaborados por uma empresa referência num setor que é poluidor e gerador de impactos, constatando que esses podem ser manipulados estrategicamente de modo a servir mais aos interesses de legitimação e reparação de imagem de companhias, do que à divulgação clara e objetiva de informações. O artigo explora os mecanismos de reparação de imagem utilizados pela Samarco Mineração nos relatórios de sustentabilidade após a ocorrência do desastre ambiental de Mariana, visando a legitimação de uma das maiores mineradoras do país à época do acidente, e cujas consequências ainda se estendem anos após a sua ocorrência. Na pesquisa, adotou-se o paradigma interpretativista, com abordagem qualitativa e análise de conteúdo textual dos relatórios de sustentabilidade e dos laudos de órgão governamental competente, mediante a técnica de pesquisa documental. Verificou-se que o disclosure ambiental publicado nos relatórios de sustentabilidade é manipulado retoricamente com quantidade massiva de informações positivas, que ofuscam e desviam a atenção do leitor de informações de natureza negativa e as neutralizam com argumentação defensiva e atenuante, evidenciando assim que seu conteúdo não está comprometido com a divulgação imparcial de informações.*

**Palavras-chave:** *estratégias de legitimação, evidência ambiental, eventos negativos.*

## **1. INTRODUCTION**

Environmental disclosure published in sustainability reports (SRs) is part of corporate legitimization strategies (Demers & Gond, 2019). It is the result of manager actions focused on the dominant interest and prefers narrative language over quantifiable language, as textual language can be intentionally shaped and biased to influence (De Groot et al., 2015) and control public impressions (Cho et al., 2010).

Voluntary environmental disclosure strategies allow organizations to design and conceive a type of message that shapes the way the relevant public perceives them (Neu et al., 1998), in order to legitimize themselves. They can be used opportunistically to produce information that is partially or selectively disclosed (Merkl-Davies & Brennan, 2017) in response to pressure received (Lee et al., 2017).

The control of public impressions occurs when companies, in an opportunistic manner and for their own interests (Ben-Amar & Belgacem, 2018), strategically select information to mitigate its impact on prominent audiences (Kuruppu et al., 2019). They do this by descriptively highlighting some actions in corporate documents to emphasize specific organizational attitudes of a positive nature, while ignoring others to distort readers' perceptions (Neu et al., 1998). Thus, organizations resort to defensive argumentation, deliberately avoiding the issue by using imprecise and mitigating terms (Beattie, 2014) when referring to accidents and the damage they cause.

The strategies used in the case of negative events are responses to crises resulting from environmental accidents with major repercussions. They aim to repair the company's legitimacy through argumentative tactics that counter the adverse consequences of the negative information disclosed (Merkl-Davies et al., 2011). Image repair is a form of discourse (De Jong & Van Der Meer, 2017) that corporations use strategically to persuade (Crilly et al., 2016) and maintain good relations with relevant audiences (Michelon et al., 2016) in order to influence them favorably. These crises affect opinion-forming audiences (Suchman, 1995), who may perceive a negative event as offensive and damaging to the company's reputation.

Several studies have found a relationship between environmental disclosure strategies and legitimization intentions in the context of negative events. Lupu and Sandu (2017) investigated this relationship in corporate narratives and media texts. The study analyzed the annual reports and relevant articles published in the media after the privatization of a Romanian company, and concluded that narratives are produced in the midst of social discourses and are constructed at the individual and organizational levels.

Asay et al. (2018) conducted an experiment with managers in order to provide evidence on how companies' results and performance influence the use of corporate language. The authors found that bad news disclosures are more difficult to read than positive news disclosures.

They also found that positive disclosure overshadowed poor performance, which was reported with more use of the passive voice and less use of personal pronouns.

Hahn and Lülfs (2014) used a qualitative content analysis of standard Global Reporting Initiative (GRI) SRs from companies listed on the Dow Jones and DAX stock exchanges. The study categorized the various legitimation strategies used to report negative ecological and social events caused by business activities.

The article by Arora and Lodhia (2016) explored the oil company British Petroleum's use of social and environmental disclosure to manage its reputation after the 2010 Gulf of Mexico accident, concluding that the company used self-referential reporting to divert attention from the damage caused by the massive oil spill.

The collapse of the Fundão and Santarém dams, owned by Samarco S.A., in the city of Mariana in 2015, is part of this context. It was a disaster of major proportions (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis [Ibama], 2015), considered the biggest socio-environmental accident in the history of Brazil (G1 ES, 2020; Lacaz et al., 2017; Saes & Muradian, 2021), leading to human and animal deaths, destroying ecosystems and villages, and affecting the livelihoods of populations (Medeiros et al., 2018; Demajorovic et al., 2019).

The occurrence of this disaster prompted researchers to investigate the topic, such as Theiss and Beuren (2019), who examined the use of instrumental rationality in the impression management of accounting narratives reported after the dam collapse. Zanchet, Gomes, Kremer and Pasquali (2017) analyzed the social legitimacy strategies in Samarco's SRs and found a change in the company's discourse after the environmental disaster. Theiss et al. (2021) analyzed the use of textual legitimacy strategies, pointing to the predominance of narratives more concerned with generating empathy and ensuring legitimacy after the disaster. In a study of a similar nature, Oliveira and Cintra (2019) concluded that disclosure is used for legitimation in the midst of negative events that have the potential to damage a company's reputation.

Samarco was a benchmark in its sector, with recognition and awards that placed it among the top ten mineral

exporters (Samarco, 2013). The consequences of the disaster created "[...] a multiplicity and overlapping of situations, risks and effects" (Freitas et al., 2019, p. 2) that continue to this day, with serious environmental, social and the economic impacts. The company had to cease production at its mines, resuming operations only five years after the accident and at only 26% of its capacity (G1 ES, 2020). It also had to pay billions in court-ordered compensation (Amorim & Souza, 2022), which contributed to its high indebtedness (Lucchesi, 2021). The disaster also led to a decline in industrial production and mineral extraction in important states of the federation (Castro & Almeida, 2019).

As we can see, the occurrence of such events exposes companies to public scrutiny and can damage brand reputation, leading them to adopt a defensive posture and make greater use of remedial disclosure. Therefore, the research question is: How did a prestigious mining company manipulate the environmental disclosure in its SRs in order to legitimize itself? The general objective of this research was to analyze the validation strategies used in environmental disclosure to neutralize negative events, such as major environmental accidents.

This study contributes to the literature by highlighting the problems of mistrust regarding the content of SRs (Wong & Millington, 2014), which are widely used by companies (Stubbs & Higgins, 2014), especially in Brazil, which is one of the countries with the most publications of this type in the GRI standard (GRI, 2016). This has led to an increase in the number of researchers working on this topic (Lozano & Huisinigh, 2011). As a result, this report is an important document in terms of organizational communication and provides the public with a vision of the company's operations (Albertini, 2014) and therefore deserves attention.

The methodology used in this study, which was qualitative and used the technique of documentary research of data in the texts of the SRs and the Ibama report, revealed the manipulation mechanisms used by organizations in order to legitimize themselves (Merkel-Davies & Brennan, 2017), with the aim of freeing themselves from responsibility and repairing their image in society.

## 2. THEORETICAL FRAMEWORK

The occurrence of negative events can make public perceptions more important than the reality itself, and in this case it is more important to know whether the company is seen as responsible than whether it is actually

responsible (Benoit, 1997). Thus, companies act to deal with problems that threaten their public image by taking reactive actions to repair legitimacy or proactive actions to preserve legitimacy. See Table 1.

**Table 1**  
Categorization of strategies for legitimizing negative events

Focus	Sub-focus	Strategies
Repairing legitimacy (reactive)	Repairing image	Deny the facts
		Avoid responsibility
	Benoit (1997)	Reduce offensiveness
		Corrective action
		Mortification
	Repairing legitimacy	Deny the problem
		Make excuses
Suchman (1995)	Justify	
	Explain	
Preserving legitimacy (proactive)	Communication tactics	Exemption
		Image enhancement
	Image management	Concealment (negative information)
		Attribution (positive information)
	Merkel-Davies and Brennan (2007)	Change perceptions
		Association with symbols
	Lindblom (2010)	Adaptation to expectations

**Source:** Adapted from Hahn & Lulfs (2014).

The categorization of legitimization strategies provides a comprehensive view of negative events in the corporate sphere. Their occurrence can lead managers to deny the problem in order to allay concerns (Benoit, 1997). However, subsequent revelations can deplete the organization's legitimacy reserves. Instead of denying the problem, the company may absolve itself by questioning its moral responsibility and blaming external authorities and individual employees (Suchman, 1995).

Denial of responsibility aims to reject and reduce the company's responsibility for the accident, absolving it of blame by claiming that it is something common in the industry (Benoit, 1997). The company redirects attention to the industry as a whole and legitimizes the negative

aspects through generalization (Hahn & Lulfs, 2014). In the midst of legitimacy crises, organizations will engage in efforts aimed at corrective action, with reports that disassociate their image from the incident (Arora & Lodhia, 2016), diverting public attention or enhancing their image, and associating themselves with positive social values and self-praising information (Cho, 2009).

The legitimization of negative events related to negative disclosure includes environmental disasters and accidents and the use of reparation strategies: authorization, apparent rationality, justification and evasion of responsibility, thematic manipulation, rhetorical manipulation, simplification of facts, corrective action, and mortification. See Table 2.

**Table 2**  
Strategies for repairing legitimacy with regard to negative disclosure: environmental accidents and disasters, adverse events

Strategies	Explanation	Authors
Authorization and association with symbols	When the company seeks to associate itself with symbols that have authority and high legitimizing power, such as prestigious organizations and institutions, researchers and experts, and government regulations.	Hahn & Lulfs (2014); Lupu & Sandu (2017)
Apparent rationalization	Attempting to explain and justify negative aspects with an apparent rationality, as if they could be understood as a normal, natural and inevitable fact.	Leeuwen (2007); Hahn & Lulfs (2014)
Justification and evasion of responsibility	Justifying the rupture by questioning the company's moral responsibility, redefining means and ends retrospectively. Claiming that the negative incidents occurred due to a lack of control over important factors or by accident in order to gain support.	Suchman (1995); Benoit (1997)
Thematic manipulation	Selective choice of topics in order to impress the reader with positive information, which is internally identified and emphasized through self-praise and repetition to override negative information.	Neu et al. (1998); Davison (2008); Cho et al. (2010); Merk-Davies et al. (2011); Rutherford (2013); Beattie (2014); Leung et al. (2015); Asay et al. (2018)

**Table 2**  
Cont.

Strategies	Explanation	Authors
Rhetorical manipulation	Defensive argumentation that attempts to evade by using evasive verbal tactics and the passive voice, and by deliberately using imprecise, more complex and mitigating terms. It aims to persuade and divert the reader's focus by obscuring negative information.	Neu et al. (1998); Cho et al. (2010); Rutherford (2013); Beattie (2014); Leung et al. (2015); Lupu & Sandu (2017); Tregidga (2017); Asay et al. (2018)
Simplification of facts	Mentioning the existence of a negative aspect as a fact that can be quantified, but without providing explanations or justifications, withholding information and leaving it up to the reader to judge the content of the report.	Cho (2009); Hahn & Lulfs (2014)
Corrective action	When the company commits itself to change by presenting ideas, intentions or measures to solve the problem, emphasizing specific corrective actions in a clear and concise manner.	Benoit (1997); Hahn & Lulfs (2014); Arora & Lodhia (2016)
Mortification	The organization attempts to restore its image by admitting its mistake, asking for forgiveness, and apologizing to all those affected by the accident.	Suchman, (1995); Benoit (1997); Arora & Lodhia (2016)

**Source:** Prepared by the authors.

The authorization strategy refers to authorities who enjoy recognition and respect and who have high legitimizing power (Hahn & Lülfs, 2014). Companies justify their actions by mentioning people who are recognized in regulatory bodies and prestigious institutions (Lupu & Sandu, 2017). Unlike when they marginalize an accident, companies do not pass judgment, but rather turn to entities and bodies that issue explanations that the offending company uses to justify itself.

On the other hand, companies accused of wrongdoing also resort to the apparent rationality strategy (Van Leeuwen, 2007) when they try to explain and justify negative aspects, which are described as inevitable and normal facts. Thus, certain practices are viewed on the basis of their supposed usefulness and considered as “facts of life” (Hahn & Lülfs, 2014, p. 411).

To avoid repercussions, companies can also try to justify and evade responsibility by redefining parameters and objectives retrospectively so that they appear to be in line with current values. With this strategy, the company tries to shift blame by arguing that another person or organization is actually responsible for what happened, and not the company itself. In this way, the organization can exonerate itself by claiming a lack of information about important elements that contributed to what happened (Benoit, 1997).

If managers are unable to devise a narrative that excludes moral responsibility, they can resort to explanations to gain the support of those around them (Suchman, 1995) by using thematic manipulation (Leung et al., 2015). In doing so, they reinforce the positive impression of the organization in order to neutralize (Fooks et al., 2013) the negative feelings generated by the accident. Thus, the

company will try to describe aspects that are favorable to it or positive actions it has taken.

The strategy of rhetorical manipulation (Leung et al., 2015) aims to obscure negative information (Asay et al., 2018), divert the reader's focus from the problem (Cho, 2009), and place the accident in a more favorable context. The accused company will attempt to dodge the issue by intentionally using imprecise, mitigating and more complex terms in order to persuade the public. Thus, the association between the company and a negative aspect becomes blurred as negative events are disclosed superficially (Arora & Lodhia, 2016) and with ambiguous explanations (Hahn & Lülfs, 2014).

In the simplification of facts strategy, the company simply mentions the occurrence of a negative event as a fact, without any explanation or justification. Thus, the company only quantifies a negative incident, but does not evaluate it, leaving it to the judgment of the readers of the SR. However, what could be seen as impartial reporting challenges the reader to evaluate the reported facts without having any parameters for doing so (Hahn & Lülfs, 2014).

The occurrence of environmental accidents can lead organizations to admit failures in limited aspects of their operations and act decisively to remedy them, with the replacement of executives and contradictory processes of restructuring the workforce (Suchman, 1995). Thus, the company will publicize corrective actions that correct or minimize the problem in the hope of restoring the operations and business it had before the accident, committing itself to preventing the recurrence of new accidents (Benoit, 1997).

In the final strategy, mortification, the company attempts to restore its image by admitting its mistake and asking for forgiveness. In doing so, it shows contrition and hopes to convince its peers that they can safely

resume doing business with it (Suchman, 1995). This is the morally correct thing to do, because trying to deny true allegations can ruin the company's credibility if the truth comes out (Benoit, 1997).

### 3. RESEARCH METHOD

The methodology adopted in this study is based on the interpretivist paradigm, which is guided by a basic set of ideas and major assumptions, as it is concerned with the meaning of things from an inherently meaningful perspective (Denzin & Lincoln, 2017).

A qualitative approach was used, which emphasizes deeper aspects and their meanings (Marconi & Lakatos, 2017). Data were collected using the documentary research technique, as textual data are the main content of SRs, which are qualitative in nature (Deegan et al., 2002).

The documents analyzed included Ibama's technical notes and report, as well as the SRs. The Federal Public Prosecutor's Office used the Ibama report in a public civil action to hold Samarco responsible for the environmental damage. This justifies its selection as the basis for technical information, in order to counter the company's reports with official information from the relevant government agency. The content of the SRs was collected from the GRI website (GRI, 2016), analyzing the pre-disaster period from 2012 to 2014, and the biennial report published by the company after the dam collapse for 2015 and 2016 (Samarco, 2017), covering a total of 548 pages.

The strategy used to analyze the SR data is based on content analysis, which Bardin (2016, p. 42) defines as "[...] the set of analysis techniques that aim to obtain, through systematic content description procedures, indicators that allow knowledge to be inferred." This technique has been recognized for its use in social and environmental reports (Hooks & van Staden, 2011) and environmental reports (Verbeeten et al., 2016). The content analysis was based on the theoretical categories identified in the literature review: authorization and association with symbols, apparent rationalization, justification and evasion of responsibility, thematic and rhetorical manipulation, simplification of facts, corrective action, and mortification.

The data collection included information and textual analysis of the documents with narrative examination, where the researchers carefully read the SR narrative related to the dam collapse. This ensured a better interpretation of the meaning of words and phrases (Abed et al., 2016), as we sought to identify the sections and any passages

mentioning the accident in relation to the theoretical categories. Ex post facto content analysis was used, a predominant technique in research that seeks to relate legitimizing intent to disclosure (O'Donovan, 2002), based on the analysis of the narrative and content of sentences, which is essential in designing research through content analysis (Hooks & van Staden, 2011). These sentences were analyzed and inferences were made (Bardin, 2016) about the reality underlying the messages in the SR text.

Before the categories were used as a basic structure for analysis, they were tested to ensure that their definitions were viable, which involved two independent coders examining the SRs independently. The results were then discussed and compared. After this stage, the category structure was slightly modified. This adjustment process ensured the reliability of the research instrument and the objectivity of the study (Milne & Adler, 1999; Bouten et al., 2011).

Researchers have used content analysis in a variety of ways (Deegan et al., 2002; Hooks & van Staden, 2011), with two main approaches: mechanistic and interpretive. The mechanistic approach focuses on providing information about the volume and/or frequency of disclosures, capturing data by counting words, pages, or specific references, and using grading scales that allow for the extraction of relationships between different variables. The interpretive approach, on the other hand, seeks to capture the underlying meanings in the narratives and is more concerned with the quality and quantity of the reported content and understanding what and how it is communicated (Beck et al., 2010).

Hooks and van Staden (2011) state that an essential element of research design in content analysis is the selection of the unit of analysis, which in most research specifies sentences, phrases, words, pages, and their proportions. In this way, and in line with the majority of environmental disclosure analyses, the sentence was used as the unit of analysis. However, sentences and their logical parts were also considered as the basis for coding, as they provide meaning in context (Bouten et al., 2011).

## 4. RESULTS: THE CHANGING PATTERN OF REPORTING, FROM EMPHASIZING POSITIVE REPUTATION TO DISASSOCIATING FROM NEGATIVE DISCLOSURE

The first section of the 2012 SR reports on the difficulties the company is facing with the fall in demand for iron ore and the reduction in the sales price of pellets. However, the CEO's report provides a counterpoint, optimistically celebrating the company's virtues by highlighting the excellence of its operations. This allowed Samarco to enjoy a special moment the following year, with the biggest expansion in its history, thanks to the increase in its production capacity. In its report, the company reaffirms its vision of "building a positive legacy" by assuring that it has evolved "towards sustainability" (Samarco, 2014, p. 4).

By the end of 2013, we were ready for the big challenge... our Vision 2022 goes far beyond growth: it also and above all concerns the reputation we have built by creating value responsibly. That is why I am convinced that we are on the right track, building trust and persevering to achieve our goals (Samarco, 2014, p. 5).

The company's strategic control over public impressions continues in the 2014 SR, when it mentions that the company is "among the most important" in the transoceanic iron ore pellet market, as well as being a "benchmark for the sector" (Samarco, 2015, p. 12). And as a direct result of its actions, the company points out that it has ensured growth in profits and investments, which are fundamental to making its "plants safer," as it has increased the level of control of the most dangerous activities (Samarco, 2015, p. 12). The risk is related to the scarcity of water resources and the fall in iron ore prices, aspects that are external to the organization (Samarco, 2015, p. 12).

Thus, the pre-disaster narratives present the company as the protagonist of successful actions. They are self-referential, praising the achievements and strength of the business, emphasizing the dissemination of positive and successful information associated with the company, and

proclaiming it with clear responsibility for internal factors. On the other hand, little adverse and negative information is highlighted and always attributed to external factors. This is evident in the narratives following the environmental disaster, in which the company relinquishes its leading role and dissociates itself from the negative disclosure, with defensive arguments and a significant increase in the use of the passive voice.

The dam's collapse led the company to make efforts to counteract the adverse consequences of the disaster, resorting to less forceful statements so as not to arouse the reader's sensitivity (Amorim & Souza, 2020). Thus, the moment is described as a tragedy that it "deeply regrets," claiming that the bonds of trust with society have been tested (Samarco, 2017).

The repetition of specially selected words throughout the SR also serves to soften the seriousness of the report on the environmental disaster. This can be seen in the repeated use of the word "impact" and its derivatives, but without mentioning any negative impact, as would be expected,

"[...] the company has focused its efforts on emergency assistance to the victims, their families and the *affected communities* [...] with the allocation of resources for emergency actions; the search to *minimize the impacts* caused by the tailings [...] we are mobilized to *repair what has been impacted* and organize the terms and costs to bear the *impacts generated* (Samarco, 2017, p. 6, emphasis added).

The 2015-2016 SR, in the section "About the Fundão Dam Failure" (Samarco, 2017), gives special attention to the dam failure and the emergency actions. Based on its contents and Ibama's technical report (Ibama, 2015), a comparison was made (see Table 3), in which the reports of the impacts and the repair actions carried out by the company were compared with the objective reality of the facts described in detail in each report.

**Table 3***Environmental disclosure of the disaster in Samarco's 2015-2016 RS and Ibama's Technical Report*

	<b>Disaster impacts Mitigating reporting of negative disclosure</b>	<b>Repair actions Objective reporting of positive reparative disclosure</b>	<b>Objective reality Reporting omission</b>
<b>Access to water</b>	<ul style="list-style-type: none"> <li>- "Eleven million m<sup>3</sup> of tailings" diluting along the river (Samarco, 2017, p. 62).</li> <li>- "The tailings plume only temporarily affected the intake" of water in the Doce River (Samarco, 2017, p. 62).</li> <li>- A critical point was the "temporary affectation of the water supply." (Samarco, 2017, p. 73)</li> <li>- The company "has begun to engage with indigenous peoples," with programs aimed at restoring and improving the quality of life of this population. (Samarco, 2017, p. 69)</li> </ul>	<ul style="list-style-type: none"> <li>- "In the months that followed, various measures were taken to guarantee access to water along the Doce River, such as the construction of water pipes and the drilling of wells. The supply is gradually being re-established." (Samarco, 2017, p. 73)</li> <li>- Supply of drinking water for human and animal consumption, "3,000 liters of mineral water daily," 140 water tanks, 100 drinking fountains, installation of a fence along the Doce River. (Samarco, 2017, p. 69)</li> </ul>	<ul style="list-style-type: none"> <li>- "Water samples from rivers affected by the disaster indicate changes in the following parameters [...] aluminum (Al); barium (Ba); calcium (Ca); lead (Pb); cobalt (Co); copper (Cu); chromium (Cr); tin (Sn); iron (Fe); magnesium (Mg); manganese (Mn); nickel (Ni); potassium (K)." (Ibama, 2015, p. 32)</li> <li>- "IBAMA teams in the field observed animals, both domestic and wild, that were unable to access the watercourse to feed due to the large amount of tailings deposited on the banks." (Ibama, 2015, p. 24)</li> </ul>
<b>Community</b>	<ul style="list-style-type: none"> <li>- "Samarco has mobilized" to provide assistance to the affected communities, resettle the displaced population, support the search for the missing, and provide clarifications to the authorities and the government. (Samarco, 2017, p. 68)</li> <li>- "The cleaning of the reservoir of the Risoleta Neves hydroelectric plant [...] is based on a legal agreement signed on February 6, 2016 between Samarco, the Minas Gerais Public Prosecutor's Office and the Minas Gerais government. The structure received around 10.5 million m<sup>3</sup> of tailings after the collapse of the Fundão dam and is currently being dredged." (Samarco, 2017, p. 71)</li> </ul>	<ul style="list-style-type: none"> <li>- "818 students from affected communities" completed the 2015 school year (Samarco, 2017, p. 68).</li> <li>- Distribution of "7,705 financial assistance cards" to more than 18,000 people. Reconstruction of seven damaged bridges. "835 hectares re-vegetated" and 2,000 architectural assets saved (Samarco, 2017, p. 68-72).</li> <li>- Samarco has cleaned and renovated schools, buildings [...] public areas and is dredging the tailings retained in the reservoir of the Risoleta Neves hydroelectric plant. (Samarco, 2017, p. 71)</li> </ul>	<ul style="list-style-type: none"> <li>- "Displacement of populations. Devastation of localities and the consequent breakdown of the social ties of communities. Destruction of public and private structures (buildings, bridges, roads, etc.). Destruction of agricultural land and pastures, with loss of economic revenue. Interruption of electricity generation by hydroelectric plants." (Ibama, 2015, pp. 4-5)</li> <li>- "Compromised medical care, public health and emergency medical care, rainwater drainage and sanitary sewage systems." (Ibama, 2015, p. 14)</li> </ul>
<b>Water bodies</b>	<ul style="list-style-type: none"> <li>- Tailings are "impacting around 680 km of water bodies." (Samarco, 2017, p. 62)</li> <li>- The company has hired a consultancy to understand the impact of the tailings plume on the ichthyofauna of the Doce River. Species recovery will support "scientific studies of native fish." (Samarco, 2017, p. 76)</li> <li>- Information on the mortality and health of potentially affected animals has been accumulated. "The removal, transportation, and final disposal of fish killed during the passage of the turbidity plume, completed in May 2016." No families of rare, exotic, or endangered fish larvae were recorded (Samarco, 2017, p. 77).</li> </ul>	<ul style="list-style-type: none"> <li>- 1,700 fish and crustaceans collected prior to the passage of the plume; 1,912 turtle nests previously rescued; 8,708 turtle hatchlings protected; 225 rescues of birds, mammals, reptiles, amphibians, arachnids; "15,831 independent faunal records." (Samarco, 2017, pp. 76-77)</li> <li>- The result of the expedition was 471 records of shoals along 670 km in the areas evaluated, whether or not they were affected by the turbidity plume (Samarco, 2017, p. 76).</li> <li>- Rescue, wildlife management, and fauna monitoring to investigate the relationship between dead animals (Samarco, 2017, p. 77).</li> </ul>	<ul style="list-style-type: none"> <li>- "Fragmentation and destruction of habitats;</li> <li>- Contamination of water with tailings sludge;</li> <li>- Siltation of riverbeds;</li> <li>- Burial of lagoons and springs adjacent to riverbeds. Destruction of riparian and aquatic vegetation;</li> <li>- Alteration of water flows. Impact on estuaries and mangroves at the mouth of the Doce River;</li> <li>- Destruction of fish breeding areas;</li> <li>- Destruction of nursery areas for replenishing ichthyofauna. Compromising of fish stocks." (Ibama, 2015, p. 14)</li> </ul>

**Source:** *Prepared by the authors*

A comparison of Ibama's report with the content of the impacts published in the 2015-2016 RS shows the divergence between the two reports. On the topic of preservation areas, the report mentions the devastation of riparian forests, burial, suppression and uprooting of trees, while the RS claims that all the impacts related to aquatic and terrestrial biodiversity and conservation units were identified, but without specifying the impacts.

Regarding the impacts on ichthyofauna, Ibama's report mentions the death and loss of species in rapids, wells, the burying of lagoons and springs, the destruction of aquatic vegetation, estuaries and mangroves. The impact is so serious that the report mentions the loss of fish stocks and the interruption of fishing for an indefinite period due to the destruction of fish breeding areas (Ibama, 2015). In contrast, the RS mentions the "abundance of



fish” and omits all the damage caused by the accident (Samarco, 2017, p. 77).

In the section on water quality, Ibama’s report states that there has been a profound and perverse impact caused by a disaster of major proportions. However, the RS minimizes the devastating effects by reporting that the tailings plume only temporarily affected the direct water intake of the Doce River. This strategy of omitting negative information contrasts with the company’s extensive and detailed remediation efforts, which reveal the extent of the destruction. These include the construction of a 2.5 km pipeline, the drilling of 12 wells, the provision of 100 drinking fountains, and the installation of 120 water monitoring points, including overflights to monitor beach bathing (Ibama, 2015; Samarco, 2017).

Ibama’s report states that small animal populations have probably been decimated and that it is impossible to estimate the return of fauna to the site, given the depth and cruelty of the impact. However, the RS limits itself to reporting that a great deal of information has been accumulated on the health and mortality of the animals potentially affected. Paradoxically, the report on repair actions is rich in figures and includes 225 rescue and rehabilitation actions for birds, amphibians, reptiles and mammals, assistance to 5,639 animals, distribution of supplies, actions to adopt rescued dogs and cats, as well as the rescue of turtle eggs with the protection of 87,018 hatchlings (Ibama, 2015; Samarco, 2017).

The socio-economic impacts caused by the collapse of the Fundão dam are listed in ten items in Ibama’s report.

They mention: the destruction of buildings, bridges, roads and urban equipment; damage to medical care, public health and emergency medical services; and the impairment of the rainwater and sanitary sewage systems, urban cleaning, garbage collection and disposal. However, the details of the destruction and negative impacts are omitted in the SR, while the actions carried out by the company are given ample prominence, mentioning the supply of medicines, medical equipment and professionals in the area, as well as cleaning actions, but without mentioning the real reason for these actions (Ibama, 2015; Samarco, 2017).

Similarly, the disruptions to telecommunications, transportation, fuel distribution and public security services that Ibama points out are omitted in the RS. Paradoxically, the company expands on the civil works it has carried out with the record construction of bridges (one every 15 days), public spaces, boulevards, squares and schools. Its report does not fail to mention that it rescued 2,000 architectural items from churches, but it omits the information that tourism in the region was interrupted due to the tailings mud that invaded churches in historic towns of recognized cultural value (Ibama, 2015; GRI, 2016).

In this way, the research highlighted the gap between the company’s report and the objective reality of the disaster. The SR narratives are used by the company as a response to the tragedy. They were categorized and identified as reparation strategies aimed at legitimization, as shown in Table 4.

**Table 4**  
*Strategies for repairing legitimacy in Samarco’s 2015-2016 SR*

Strategies	Narratives in the RS
Authorization and association with symbols	“[...] according to the last audit carried out in July 2015, to comply with federal law 12,334/2010, DNPM ordinance 416/2012 and COPAM state law DN 87/2005, the Fundão dam was stable [...] to identify the causes of the collapse, the US firm Cleary Gottlieb Steen & Hamilton LLP was hired [...] with the support of a committee made up of geotechnical experts. These geotechnical experts determined that a combination of various factors led to the collapse” (Samarco, 2017, p. 61).
Apparent rationalization	“The dams were built in accordance with the National Dam Safety Policy (Law 12,334/2010), with their own safety inspections and 24-hour maintenance and monitoring teams. Operating licenses were regularly issued by SUPRAM [...] reports were submitted to the competent authorities indicating safe operating conditions for the dams. Unfortunately, even with the risk management procedures associated with the dams, these measures were unable to prevent the collapse” (Samarco, 2017, p. 64).
Justification and evasion of responsibility	“[...] the company was involved in a tragedy [...] structural issues were detected in the secondary gallery located on the left shoulder, which led to the conclusion that no additional weight could be placed on that gallery and made it necessary to plug it in the same way as the main gallery [...] the presence of mud lenses was detected after the collapse. It was also concluded that during this period [...] the saturation of the structure increased [...] probably small seismic tremors associated with uncertainties led to the dam collapse” (Samarco, 2017, pp. 7-28).
Thematic manipulation	“[...] the construction of a new dam is characterized as one of the most important milestones in tailings containment [...] this is an important initiative to bring to the public’s attention, in a transparent and practical manner, the improved emergency procedures for affected areas in the event of a hypothetical dam failure. The actions [...] can serve to stimulate safer operating models for the sector...” (Samarco, 2017, pp. 65-67).

**Table 4**

Cont.

Strategies	Narratives in the RS
Rhetorical manipulation	"The developed plan constitutes a methodological framework that coordinates the diagnosis, restoration and monitoring actions, structured in such a way that the results of the diagnoses and monitoring obtained in one phase subsidize the details of the following actions. In this way, this plan is connected... by being based on an adaptive methodology in which the information from the monitoring and the guidance received from the different environmental institutions are incorporated as the actions are detailed and carried out" (Samarco, 2017, p. 73-74).
Simplification of facts	"A large amount of information on the health of potentially affected animals, as well as mortality data, has been accumulated. However, there is a scarcity of information in the scientific literature on the levels of toxic elements in wild species [...] Removal, transportation and final disposal of fish killed during the passage of the turbidity plume – completed in May 2016" (Samarco, 2017, p. 77).
Corrective action	"[...] Samarco has been mobilized since the collapse of the Fundão dam to provide assistance to the affected communities, to resettle the displaced population, to support the search for the missing, and to provide clarifications to the public authorities" (Samarco, 2015-2016, p. 68).
Mortification	"Samarco deeply regrets the deaths associated with the failure of the Fundão dam [...] The feelings and prayers of every Samarco employee have since been directed to the families and friends of the victims" (Samarco, 2017, p. 4).

Source: Prepared by the authors.

As shown above, the examined reports revealed the use of different legitimacy repair strategies to favorably manipulate disclosure, encompassing the eight theoretical categories identified in the literature review.

The theoretical categorization used in the analysis of the narratives allowed us to identify how environmental accidents interfere in the accounts. Thus, the company resorted to the strategy of authorization (Lupu & Sandu, 2017), relying on reports that supposedly absolved it of responsibility. Despite relying on strict compliance with legal procedures and using prestigious institutions and authorities, the mining company concludes that the dam collapse was the result of seismic tremors "associated with uncertainties" (Samarco, 2017, p. 28). With this claim, it also resorts to the strategy of apparent rationalization (van Leeuwen, 2007), as it describes the dam collapse as a fatality and claims to have been "involved in a tragedy" (Samarco, 2017, p. 7).

In this sense, the company also relies on the strategy of simplification of facts (Cho, 2009; Hahn & Lülfs, 2014), as it tries to justify the non-disclosure of toxicity levels in animals by claiming that there is not enough scientific information. Similarly, it refers to "investigating the percentage of dead animals," but does not disclose any figures and closes the question by stating that the inventory was "finalized in May 2016" (Samarco, 2017, p. 77). The company also claims to have taken care of a large number of animals as a result of the environmental destruction, but does not say what condition they were in.

With the strategy of justification and evasion of responsibility (Suchman, 1995; Benoit, 1997), the company counters the facts with long and complex explanations in order to shift the focus away from the problem. The environmental disaster is described as something the

company "experienced," a tragedy that "marked Samarco's history" and left its "reputation deeply shaken" (Samarco, 2017, p. 7). This victimization is echoed in the words of its CEO, who claims that the company was "involved in a tragedy," as if the dam collapse was something involuntary and over which the company had no control (Samarco, 2017, p. 7). In this way, the company tries to dissociate its image from the environmental disaster, absolving itself of responsibility and giving it little importance.

Placed in an abstract and vague way, the narratives make it difficult to associate the company with negative aspects. This is seen when the company states that the actions to rescue species after the disaster "aim to support a future scientific study on fish," when in fact these actions occurred due to the contamination of the river (Samarco, 2017, p. 76). When reporting on the causes of the dam collapse, the company shirks responsibility by resorting to passive voice constructions, avoiding the use of first person singular pronouns, and preferring defensive and ambiguous arguments without clearly identifying the author.

On the other hand, the company takes center stage with the strategy of thematic manipulation (Neu et al., 1998; Davison, 2008; Cho et al., 2010; Merkl-Davies et al., 2011; Rutherford, 2013; Beattie, 2014; Leung et al., 2015; Asay et al., 2018), in which it stands out and associates itself affirmatively and directly with successful initiatives, even positioning itself as a reference for society and the sector with the repair actions it has carried out. To this end, the mining company using self-praising information that exalts its achievements and reputation with the use of more direct and objective language. For example, in the report following the tragedy, the company promotes the emergency actions, pointing out that they are an

important initiative that should be brought to the public's attention (Samarco, 2017).

In its report, Samarco reminds us that repair actions can promote safer operating models for the sector (Samarco, 2017). This egocentric bias is a constant in the reports of positive information that are repeated and reinforced throughout the SRs, which is a powerful memorization tool that shapes the way relevant audiences perceive the corporation. In doing so, the company stands out for its positive actions, as opposed to the rhetorical manipulation strategy (Neu et al., 1998; Cho et al., 2010; Rutherford, 2013; Beattie, 2014; Leung et al., 2015), in which the company omits itself.

This narrative strategy is dissimulative because it relies on complex, less direct language and relativizes impacts, generalizing explanations and lacking transparency. This is what the company does when it claims that the tailings plume has only temporarily affected the water supply of the Doce River. With its careful and selective choice of words, the company calms tempers and reduces the perceived offensiveness of the incident by stating that the tailings have affected water bodies. It also fails the mention that it has polluted rivers and mangroves, or the reasons that led it to erect fences along the banks of the affected river. The mining company claims that there are potentially affected animals, and although it talks about investigating the list of dead animals, it does not disclose this list (Samarco, 2017).

Manipulating words, the company claims that 11.1 million m<sup>3</sup> of tailings are “diluting along the Doce River,” affecting the water bodies (Samarco, 2017, pp. 11-62). In this play on words, the mining company states that it has started to engage with indigenous peoples (Samarco, 2017), omitting the real reason that led it to take such an initiative. It highlights actions of a positive nature and ignores those that damage its image, with only partial and selective disclosed of information. The company also suppresses the presentation of quantitative data that could

shed light on the facts, unlike in other sections of the SR, which are full of positive information, usually presented in graphs, tables, historical series and occupying entire pages, with such information clearly identified as to its authorship.

The ostentatious and massive publicity of repair actions carried out by the company serves to demonstrate its ability to act, dissociating it from the disaster by overlapping with it. This strategy of corrective action (Benoit, 1997; Hahn & Lülfs, 2014; Arora & Lodhia, 2016) serves to neutralize the negative feelings generated by the environmental disaster. However, the scale and scope of these works give an idea of the destruction caused. In order to impress the reader, full-page headlines and large numbers are used to describe the repair work carried out by the company.

Finally, with the strategy of mortification (Suchman, 1995; Benoit, 1997; Arora and Lodhia, 2016), the organization admits its mistake, regrets the deaths, and declares with apparent resignation that it has reflected and learned its lesson and is ready to resume its activities. It expresses its sorrow for the deaths related to the dam collapse and its condolences and prayers for the families and friends of the victims. The mining company also regrets the layoff of 40% of its employees, a necessary adjustment to adapt to a new moment that would result from the broad reflection imposed by the tragedy. These adjustments would affect the then CEO, who was pressured to resign due to the police investigation, a fact that is discreetly communicated in a footnote in the RS (Samarco, 2017).

The company also aims to restore its image, with the idea of a “new Samarco,” capable of becoming a model for other companies in the sector, contributing to “safer mining,” as well as “working towards good practices” and “regaining society’s trust” (Samarco, 2017, pp. 6-7). These plans ideally fit into a “common purpose,” planned as an element of the future, but vague and imprecise (Samarco, 2017, p. 6-7).

## 6. CONCLUSION

The purpose of this study was to analyze the legitimation strategies used in environmental disclosure to neutralize negative events such as major environmental accidents. The analysis of the SR narratives showed that Samarco sought to mitigate the consequences of the disaster in favor of its reputation and image through impartial disclosure, since the publication of a massive amount of positive information overshadows and diverts the reader's attention from the negative disclosure. This was neutralized by

the use of defensive and mitigating arguments and the suppression of objective and quantitative data.

An analysis of the content of the SRs revealed the contradictions between the company's pre-disaster narratives and those published afterwards. Thus, the pre-disaster narratives are characterized by a protagonist who praises a positive reputation, reinforced by expressions of optimism and self-praise. To this end, organizations use the most direct and objective language, as it puts

them in the spotlight and clearly associates them with successful initiatives. This form of reporting differs from what is presented in the SR after the disaster, which, in order to comply with the strategy of omitting facts, uses defensive and inherently ambiguous argumentation, with generalizing and non-transparent explanations, relativizing the negative disclosure with long, vague and abstract explanations.

The manipulation of SR narratives is also useful to deny the objective reality, which is covered up by ostensible and strategically propagandized repair actions through which the company redeems itself for the environmental disaster it has caused. In these actions, the company presents itself as a benefactor and moral reference in the midst of a context of devastation and death that is concealed. However, the scale and visibility of these repair actions only reinforce the gravity of what has happened and denounce the company's responsibility.

This research makes an important theoretical contribution to the study of environmental disclosure in SRs by presenting the conceptualization of legitimization

strategies related to negative events and environmental accidents. It also makes a practical contribution by highlighting the role of SRs as tools for legitimizing companies in the midst of crises.

One of the limitations of this study is the subjectivity of the analysis method adopted, since the research is interpretive in nature and sought to relate the legitimizing intention to disclosure by analyzing the content of the SRs expressed in narratives, so it was not possible to evaluate the actual results of the actions implemented by the company. Thus, in order to broaden and deepen the knowledge presented, it is suggested that future research conduct an interpretive study of the images in the reports published by companies in potentially polluting sectors, such as the mining sector, which is in the spotlight due to the occurrence of major environmental accidents in Brazil. In this sense, it is also recommended that a comparative study be conducted with the Brumadinho dam disaster, which occurred around three years after the Fundão dam collapse and was also owned by Vale S.A. as a joint venture.

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