


LEGITIMACY ACTIONS AND ACCOUNTING DISCLOSURE: THE SAMARCO AND VALE CASES POST SOCIO-ENVIRONMENTAL TRAGEDIES

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ABSTRACT

Companies involved in socio-environmental tragedies have increasingly aroused the interest of society and regulatory bodies. In this sense, the cases of the companies Samarco S.A. and Vale S.A. stand out in the Brazilian context due to the socio-environmental impacts they caused in the regions where they operate. Thus, this research aimed to analyze the actions of social legitimacy according to Suchman's typology (1995) evidenced by the companies Samarco S.A. and Vale S.A., after the Mariana disasters in 2015 and Brumadinho in 2019. Therefore, it is classified as qualitative and the Content Analysis applied to the Management Report (RA) and Notes was used as a methodology to answer the research problem. Explanatory Notes (NE) of the Financial Statements (DF). The period of analysis of Samarco S.A. was from 2015 to 2020; the analysis of Vale S.A., on the other hand, covered the years 2019 and 2020. The main results infer that the analyzed companies intended to gain general legitimacy in the analyzed period. This legitimacy is used as an action or strategy when the company incurs an event with a negative connotation and needs to ensure the continuity of its operations. Furthermore, in the cases of Samarco and Vale, it is clear that the events related to the tragedies were reported superficially and without effective recognition of the guilt of those responsible.

Keywords: Legitimacy. Samarco. Tragedy. Vale.

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1 INTRODUCTION

The increase in tragedies caused by business action has required government, society and regulatory bodies to act on integrated risk and disaster management in an attempt to mitigate the impacts caused by the companies (Santos & Serafim, 2020). In Brazil, Samarco was responsible for the ruptured dam in Mariana (MG) in 2015, which dumped more than 43.7 million m³ of ore waste on the tributaries of the Rio Doce until reaching the sea in Espírito Santo, and left 41 affected cities and thousands of inhabitants without water, without work, in addition to 19 deaths and nine thousand homeless (Andreoni, 2019). In 2016, however, the mayor of Mariana stated, through an interview with the researchers from Unicamp, that he was favorable to the mining activity and pointed out that 89% of the municipal tax collection came from mining, emphasizing the economic importance of this activity for the region, despite the tragedy that occurred (Santos, 2018).

Another environmental accident of great repercussion in the country occurred in 2019 with the rupture of the Córrego do Feijão dam in Brumadinho (MG), which was also under the responsibility of Vale S.A. Again, there was the dumping of ore waste and approximately 12 m³ of mud on the region, resulting in 253 more deaths, tens of missing persons and environmental damage on the outskirts of the dam (Freitas, Barcellos, Asmus, Silva & Xavier, 2019).

Still in 2019, the charges for homicides were withdrawn from the case on the grounds that the deaths were caused by flooding (Freitas, 2020). The repetition of the tragedy showed that the mining group was at least negligent with its operations. The executives responsible for the companies gave interviews as if they were also victims of the tragedies (Câmpera, 2019). On 10/29/2020, the Federal Public Ministry, the Federal Public Prosecutor's Office, The Public Defender's Office of the State of Espírito Santo and Minas Gerais and the Public Prosecutor's Office of Minas Gerais issued a recommendation to the Renova Foundation - a non-profit organization created by the companies responsible for the reparation of tragedies (Federal Public Ministry, 2020).

In this document, the institutions consider that several advertising pieces published by the Foundation have misleading content, since they used data that totally or partially contradict the reports produced by specialists contracted to assist Federal Attorney General's Office's action in public civil action dealing with the cases. These advertising pieces totaled 17.4 million and focused on the disclosure of information directed to investors and the general public (Combating Environmental Racism, 2020). On 07/20/2021, the Newspaper Valor Econômico reported that the repair agreements signed by these companies and the competent public bodies could reach 100 billion (Bouças & Goes, 2021).

Cosenza, Ribeiro, Levy and Dios (2018) demonstrated that Samarco did not reveal any relevant information about the potential and real dangers of its activities and, after the tragedies, everything that it did, or does, derives from judicial decisions. The public prosecutor of Brumadinho stated that environmental crime did not occur in 2019, but since 2017 due to poor risk management and lack of information, therefore, Vale imposed on the company risks ignored with the support of the independent audit that signed reports pointing to the stability of these dams (Jucá, 2020).

Before this context and with the aim of understanding the behavior and actions of legitimacy adopted, the Legitimacy Theory aims to observe the legitimacy desired by these companies, which operate through a social contract in which rules and norms, implicit or explicit, are accepted and put into practice. When the actions practiced by them differ from social expectations, gaps arise that hinder the realization of legitimacy, given that companies violate the signed social contract and negative facts threaten the realization of legitimacy (Machado & Ott, 2015; Bujaki & Durocher, 2019).

Suchman (1995) emphasized that organizations focus on acquiring the right to exist and continue to operate socially and often evidence their operations seeking a form of legitimacy with a specific objective: to obtain, maintain or recover legitimacy. This legitimacy is divided into four

categories: general, pragmatic, moral and cognitive. Each of them demonstrates the type of strategy adopted. The form adopted by the companies in the legitimacy practice has been the evidence of information, which is allied in the process of transparency of the economic-financial management and the socio-environmental management of the entities (Machado & Ott, 2015).

It is quite essential to verify how these companies have disclosed information in their reports in the search for legitimacy, so that this research aims to answer the following question: According to the Suchman's typology (1995), what actions of social legitimacy related to the disasters of Mariana and Brumadinho are evidenced by Samarco S.A. and Vale S.A.? It is thus aimed to analyze the actions of social legitimacy according to Suchman's typology (1995) evidenced by the companies Samarco S.A. and Vale S.A., after the Mariana disasters in 2015 and Brumadinho in 2019. The society, therefore, increasingly demands positions based on the preservation and recovery of the resources used, as well as more ethical, transparent and sustainable attitudes, especially when facts occur in which there are socio-environmental impacts.

The research is justified in three perspectives: in theory, it aims to verify how the accounting evidence is performed by the companies Samarco S.A. and Vale S.A. in order to identify legitimacy according to the Theory; in the empirical, the aim is to analyze in what context the legitimacy is sought by these companies and how this is evidenced in a practical way in the reports analyzed and, finally, in the social sector, a more critical analysis is sought on the evidence of the business practices adopted in the context of tragedies, with a view to the social and financial influence of these companies on the environment in which they operate. Moreover, it is distinguished by verifying the actions of legitimacy, so that the social acceptance regarding the actions taken by the companies defines the level of legitimacy to be employed.

2 THEORETICAL REFERENCE

2.1 Theory of Accounting and Theory of legitimacy: Measurement and evidence of socio-environmental impacts

Having accounting solely as a provider of information to users is a simplistic view of what it can offer, therefore, Accounting Science needs to be seen beyond the horizons of the companies. The research by Correa, Gonçalves and Moraes (2015) showed that positive information is disclosed; however, negative information is evidenced superficially. In the same sense, Oliveira and Cintra (2019) pointed out that the evidence of negative events with reputational shocks is performed only in order to legitimize business continuity, however, the management of negative reputation is done through the evidence of information, however, legitimacy is acquired only in the long term.

The work of Prado, Ribeiro and Morais (2019) mentioned that companies suffer in different ways the institutional pressures of a regulatory and cultural nature that influence the reporting practices regarding the strategies adopted by the companies, damaging the quality of the information evidenced on the environmental impacts.

The organizations therefore seek to align their activities to satisfy social desires, since by remaining operating in the environment in which they operate, they must act within the limits of what is considered a socially acceptable conduct (O'Donovan, 2002). In the view of Campos et al., (2017), when carrying out certain social, and/or environmental actions, in accordance with the Theory of legitimacy, companies would not necessarily be thinking about the well-being of the community; but, rather seeking to adapt to the rules imposed by the institutional environment in which they are inserted, in order to avoid future sanctions such as fines, specific regulations, social pressures, damages, reparations, damages, among others.

Legitimacy in the organizational context is the process whose objective is to justify the right of the company to exist before society (Maurer, 1971). In the same sense, Suchman (1995) argued that the Theory of legitimacy, under the corporate perspective, defines the ways in which

organizations manipulate and implement actions or strategies in order to raise social support and, therefore, signals a conformity with the implicit and explicit social values in organizational activities.

According to O'Donovan (2002), previous studies indicated that Legitimacy is a theory capable of explaining likely increases in environmental information disclosure from 1980. Moreover, he argued that this theory is based on the idea that for business continuity to succeed, companies should act within socially acceptable limits. His conclusions emphasized that the matrix of responses obtained in research may indicate changes in actions or strategies adopted by companies over time in order to legitimize themselves.

For Lindblom (2010), the companies are constantly seeking some kind of legitimacy with the intention of being in line with social values of the environment in which they operate and, to this end, they are using all kinds of legitimacy at some time. Corporate legitimacy is also present in the social disclosure of performance, since the company - in highlighting negative events that impact its image - verifies the best form or action for the negative impact to be minimized, they can use means that distract their public attention.

The Theory of Legitimacy has provided an explanation regarding the motivation of the administration to disclose information about the environment in its reports. The main argument of this theory is that external factors influence the company management in an attempt to legitimize it (Wilmshurst & Frost, 2000). In this sense, Cormier and Magnan (2013) argue that the factors that determine, validate, affect or impair the level of environmental disclosure may be related to the levels of impacts generated by the company in the environment in which they operate.

The Theory of Legitimacy originated in the Theory of Contracts, because there is an implicit contract between society and the company with the intention that the operations are accepted and legitimate according to the social aspirations. Proponents of this theory claim that the strategies and evidence used and disclosed occur to obtain, maintain, or recover legitimacy (Machado & Ott, 2015; Bujaki & Durocher, 2019). To verify which strategies companies use to legitimize themselves, Suchman (1995) divided legitimacy into four categories: general, pragmatic, moral, and cognitive. O'Donovan (2002), on the other hand, has three important challenges for the legitimacy management, which may vary according to the interests of each company, namely: gain, maintenance, or the reparation of legitimacy.

2.2 Suchman's typology

Legitimacy is socially constructed, as it reflects a congruence between the behaviors of the legitimate organization and the shared beliefs of the social group to which it belongs, so much so that legitimacy depends on a collective public, but regardless of specific observers (Suchman, 1995; Fank & Beuren, 2010). According to Beuren, Gubiani and Soares (2013), from the perspective of directing, interpreting or explaining organizational phenomena, Suchman (1995) defined strategies to gain, maintain or recover organizational legitimacy and established four types of legitimacy: general, pragmatic, moral and cognitive, as shown in Table 1.

Table 1
Typology of Legitimacy

	Legitimacy General	Pragmatic Legitimacy	Legitimacy Moral	Cognitive Legitimacy
Summary	It serves as a basis for the institution and application of the other strategies and describes how they will be used by the organization in relation to the environment in which it operates.	The one in which the organization is concerned about the perception of its actions and postures by its immediate target audience. The interest of the organization is to understand the answers given by this public, which involve economic, political and social questions of the organization.	Organizations aim to do what is socially acceptable. Thus, ethical issues are constantly evaluated, which reflects beliefs that organizational activity promotes social well-being, as defined by the system of social values.	The continuity of organizations may be impacted by the cultural environment in which they operate and may involve both the support and mere acceptance of the organization based on some cultural concepts. It is obtained through social understanding.
Objective	To assist in the implementation of the other strategies.	To analyze the effects on the exchange of the influence of the entity acts.	To reflect a pro-social logic based on self-interest.	To submit an evaluation standard based on cultural concepts.
Basis	Public self-interest.	Public self-interest.	Cultural rules.	Cultural rules.

Source: Elaborated by the authors based on Suchman (1995); Fank and Beuren (2010).

The study of O'Donovan (2002) has positioned itself by stating that the legitimacy strategies followed by a company change according to its objective, that is, if it seeks to gain, maintain or repair legitimacy. In this logic, Suchman (1995) had already established that business strategies are used to gain legitimacy in the environment in which the organization is inserted. Thus, the challenge of gaining legitimacy can be perceived in a situation in which by inserting a new activity into the market, in which there is practically no precedent, the organization faces the difficult task of acceptance in its social context (Machado & Ott, 2015).

Machado and Ott (2015) mentioned three problematic aspects to maintain organizational legitimacy: audiences are often heterogeneous, stability often implies rigidity, and institutionalization generates their own opposition. This shows that companies need to position themselves to protect and sustain the legitimacy they have already gained. Whereas the legitimacy repair is present as a type of reactive response to an unexpected or negative event, so that the task of recovering legitimacy is similar to the task of gaining it, because the same strategies used for the gain can be used for its repair, since the company still enjoys some social credibility (Suchman, 1995; Machado & Ott, 2015).

The research by Fank and Beuren (2010) aimed to identify legitimacy strategies in Petrobrás' management reports from 2000 to 2009 using legitimacy categories elaborated by Suchman (1995). They concluded that Petrobrás presented a high evidence degree of cognitive strategy, followed respectively by pragmatic, moral and general strategy. They also noted Petrobrás' concern about the construction of the image and the maintenance of legitimacy. In addition, they pointed out that the company incurred high political costs, so it needed to emphasize its social character.

Later, Beuren et al. (2013) aimed to identify the Suchman's legitimacy (1995) evidenced in the Reports of the Administration of public-traded state companies of the Electric Energy sector established in Brazil. The results were the presence of the four categories of legitimacy suggested by Suchman (1995): general, pragmatic, moral and cognitive legitimacy, emphasizing that the strategy of pragmatic legitimacy was the most mentioned in the reports, followed, respectively, by

cognitive, general and moral.

Whereas the study by Machado and Ott (2015) sought to analyze how publicly-traded Brazilian companies use environmental evidence as an instrument of social legitimacy, and verified whether the purpose of evidence is to gain, maintain or recover legitimacy; as well as in pragmatic, moral or cognitive modality. The results showed that the companies in the sample evidenced their environmental information with the aim, preferably, of gaining legitimacy through balanced employment in the pragmatic, moral and cognitive way in its evidence, which reported actions aimed at popularizing their actions.

3 RESEARCH METHODOLOGY

3.1 Scientific Characterization and Definition of the Companies Comprising the Sample

This is a qualitative research with the use of content analysis applied in the Management Report (RA) and Explanatory Notes (NE) of the Financial Statements (DF) as a method to respond to the research problem. According to Bardin (1977), this method uses systematic and objective procedures in the description of the documents content analyzed, extracts information and records it in categories for the purpose of making inferences about the reported content, provided it is based on theoretical assumptions.

The choice for Samarco S.A. and Vale S.A. occurred because they were two of the largest responsible for environmental disasters in the country, as shown in the studies by Freitas et al. (2019) and Rezende and Cordeiro (2019). Samarco Mining S.A. is a private company, founded in 1977, operating in the mining segment and is controlled by a joint venture between Vale S.A and BHP Billiton. Vale do Rio Doce, on the other hand, is a private public-traded company, with headquarters in Brazil, present in about 30 countries, founded on June 01st, 1942 with the incorporation of Companhia Brasileira de Mineração, Siderúrgicas S.A. e Itabira de Mineração S.A.

The analysis period of Samarco S.A. was from 2015 to 2020 and the analysis of Vale S.A. was from 2019 to 2020. The choice of the period after the tragedies occurred in order to verify how the information on the disasters was evidenced. Table 2 lists the years, document types, page numbers, and document access links. It should be noted that, for the years 2015 to 2018, no management reports were identified on the *Samarco S.A. website*, which was published in the years 2019 and 2020, together with the financial statements and explanatory notes. Whereas in Vale S.A., the management report was released separately from the financial statements and explanatory notes in the years analyzed.

Table 2
Documents analyzed in the research

Company	Year	Type of Document	Number of pages	Links to Access
Samarco	2015	RA and NE of the DF	88	https://www.samarco.com/relatorios/
	2016	RA and NE of the DF	96	
	2017	RA and NE of the DF	84	

	2018	RA and NE of the DF	97	
	2019	RA and NE of the DF	103	
	2020	RA and NE of the DF	101	
Vale	2019	RA	41	http://www.vale.com/PT/investors/information-market/quarterly-results/ResultadosTrimestrais/RELATORIO%20DA%20ADMINISTRACAO%202019_p_vf.pdf
	2019	NE of the DF	100	http://www.vale.com/PT/investors/information-market/financial-statements/FinancialStatementsDocs/BRGAAP%204T19_Final.pdf
	2020	RA	56	http://www.vale.com/PT/investors/information-market/quarterly-results/ResultadosTrimestrais/RELATORIO%20DA%20ADMINISTRACAO%202020_p_vf.pdf
	2020	NE of the DF	96	http://www.vale.com/PT/investors/information-market/financial-statements/FinancialStatementsDocs/BRGAAP%204T20_Final_p.pdf
Total of Pages Analyzed			862	

Source: Elaborated by the authors.

The Administration Report (RA) is a report that managers use to comply with the determination of Law 6.404/76, regarding the disclosure of relevant business information and administrative facts that occurred during the course of the operation of their activities. It is constructed in a less technical form, in a narrative manner, with the objective of reaching a greater number of users. The Explanatory Notes, on the other hand, are additional information to the financial statements that provide more clarity as to the composition of the accounts balances, which are also required by the aforementioned law (Silva & Rodrigues, 2010).

3.2 Research Operationalization

The research was subdivided into three phases: (I) Pre-analysis (organizational phase); (ii) Analytical Description (Coding) and (iii) Interpretation (Analytical Generalization).

(I) Pre-Analysis (phase of organization): after prior verification, it was identified that the most appropriate reports to achieve the proposed objective were NE present in DF and RA, since the information needed to establish the types of legitimacy which were present in their contents.

(II) Analytical Description (Coding): as the reading took place, the words that represented the most what was intended to be obtained were chosen: disclosure of tragedies.

Although the entire text of the documents was read and interpreted, the focus was on the paragraphs containing the words described in Table 3, however, not all of them were framed in some context, because some were in a context different from that intended, such as the word “life”, that referred to life insurance or asset life, and the word “dam”, which often referred to information about other dams and so on.

Table 3

Words Discrimination

Words	Samarco Mineração S.A.						Vale S.A.			
	RA and NE 2015	RA and NE 2016	RA and NE 2017	RA and NE 2018	RA and NE 2019	RA and NE 2020	RA 2019	NE 2019	RA 2020	NE 2020
Accidents	1	1	1	1	2	1	0	0	0	2
Bodies of water	15	4	5	6	28	5	20	5	17	4
Animals	1	1	1	1	1	1	2	1	1	0
Dam	66	93	94	83	76	70	28	25	13	38
Brumadinho	-	-	-	-	-	-	19	41	44	30
Contingencies	2	2	2	6	4	3	0	0	0	8
Missing	0	1	0	1	1	0	2	0	0	0
Fauna	0	1	1	1	1	1	2	2	1	0
Flora	0	0	1	0	0	0	1	1	2	0
Impacts	23	18	23	23	30	26	20	37	20	21
Incidents	5	0	6	7	8	6	0	0	0	3
Mariana	8	13	15	13	12	4	2	2	3	0
Casualties	4	5	4	4	4	4	0	0	0	2
Tailings	24	33	40	38	37	41	15	7	24	18
Rio Doce	0	4	4	4	4	3	0	0	1	2
Risks	34	23	29	27	23	58	24	17	47	100
Tragedy	0	0	0	0	0	0	3	1	0	0
Lives	34	32	32	5	15	14	4	4	6	16
TOTAL	217	231	258	220	246	237	142	143	179	244

Source: Elaborated by the authors.

These words were analyzed by a semantic and syntactic perspective within the paragraph to which they belonged to, and thus the unit of registry was defined. This part was performed in proportion to the reading of phrases and paragraphs in the body of documents that reported any information related to the tragedies. The units of registry were categorized and broken down in Table 4 with words in italics, and subsequently classified what had already been defined previously (unit of registry) in a sub context: to gain, maintain or repair some kind of legitimacy, which is a part identified with underlined words.

(III) Interpretation (analytical generalization): finally, what was defined in the sub context was classified according to the type of legitimacy to which the company was based: general, pragmatic, social and cognitive (Suchman, 1995; Fank & Beuren, 2010).

These classifications were called by Bardin (1977, page 36) categorization and are identified in the table with bold words.

Table 4
Actions for Organizational Legitimation

Actions for Organizational Legitimation			
	<u>Gain</u>	<u>Maintenance</u>	<u>Repair</u>
LEGITIMACY GENERAL	<i>Aims at environmental compliance</i>	<i>Realizes and implements environmental and operational changes</i>	<i>Aims at tragedies reparation</i>
	<i>Selects the environment</i>	<i>Monitors the changes</i>	<i>Shows attitude to repair the damage</i>

Actions for Organizational Legitimation			
	<u>Gain</u>	<u>Maintenance</u>	<u>Repair</u>
	<i>Handles the environment</i>		
LEGITIMACY PRAGMATIC	<i>Aims at being in conformity with the demands of its public</i>	<i>Monitors interests in its operations</i>	<i>Rejects or does not recognize responsibility for tragedies</i>
	<i>Meets the needs of its audience</i>	<i>Consults opinion from industry leaders and professionals</i>	<i>Creates ways to monitor its legitimacy</i>
	<i>Implements and discloses actions to capture public interest</i>	<i>Favors communication</i>	
	<i>Looks for friendly public operations</i>	<i>Transmits reliability</i>	
	<i>Discloses or defends its image</i>	<i>Communicates skillfully</i>	
LEGITIMACY MORAL	<i>Demonstrates compliance with its audience's ideals</i>	<i>Monitors ethics</i>	<i>Apologizes or Justifies itself by tragedies</i>
	<i>Produces results that are ideally suited to the ideal</i>	<i>Consults the professional categories</i>	<i>Redefines goals and strategies</i>
	<i>Fits what the institutions require</i>	<i>Favors good conduct</i>	
	<i>Offers symbolic demonstrations of what its audience expects</i>	<i>Monitors responsibility</i>	
	<i>Sets goals and objectives</i>	<i>Communicates officially</i>	
	<i>Shows persuasion</i>		
LEGITIMACY COGNITIVE	<i>Complies with the cultural models of organization</i>	<i>Monitors the environment perspectives by consulting other sources</i>	<i>Explains the reasons for its attitudes</i>
	<i>Influences other organizations with its attitudes;</i>		
	<i>Has interest and seeks various certifications</i>		
	<i>Institutionalizes standards</i>		
	<i>Popularizes and standardizes new models or attitudes;</i>		

Source: Elaborated by the authors based on Suchman (1995); Fank and Beuren (2010).

4 DATA ANALYSIS

4.1 Samarco S.A.

Table 5 summarizes the data and demonstrates the number of times that information has been categorized into gaining, maintaining, or repairing legitimacy, as well as in which type of actions of legitimacy the company Samarco S.A. fits: general, pragmatic, moral or cognitive, in each year of analysis.

Table 5
Summary of data and analysis of information

Legitimacy Actions	Samarco S.A.						
	2015	2016	2017	2018	2019	2020	Total

General	Gain	12	19	16	18	22	21	87
	Keep	0	4	3	3	2	3	12
	Repair	5	3	4	4	3	2	19
Pragmatic	Gain	3	2	6	5	4	5	20
	Keep	3	0	2	1	6	4	12
	Repair	2	1	3	3	1	2	10
Moral	Gain	3	3	2	4	2	1	14
	Keep	1	2	1	1	2	3	7
	Repair	1	3	4	3	3	4	14
Cognitive	Gain	1	2	1	1	1	2	6
	Keep	0	0	0	0	0	0	0
	Repair	1	0	2	1	2	1	6
Total		32	39	44	44	48	48	207

Source: Research data

After Mariana tragedy, as of November 2015, Samarco's activities were suspended by judicial order. In August 2016, the company suspended payments due to creditors of financial debts. This downtime, for almost 5 years, of activities and suspension of payments are alleged by the company as the main reasons for the negative impacts on its cash flow, which led Samarco to request Financial Restructuring on April 09th, 2021, which was granted judicially, on April 12th of the same year.

Table 5 shows that there was a search for general legitimacy during the period, which demonstrates compliance with the environment in which it acts and observes the opportunities that arise when it identifies and applies the best strategies to achieve the objectives. It occurs that, in 2015, an item was mistakenly classified as relevant, which may lead distinct users to perform biased analyzes based on this classification. The following excerpt, extracted from DF (2015), highlights the misunderstanding, since what was classified as cost should have been classified as loss or expense:

After the rupture of the Fundão dam, the Mariana complex operations were suspended, as described in Note 1. As a result, the Ubu operations, ES unit were also affected. Thus, the fixed costs of both Samarco units, incurred after the rupture of Fundão dam until December 31st, 2015, were directly allocated to the cost under the heading “idle capacity” (Samarco – DF, 2015, page 68).

However, the expenses are related to the business activities themselves and reduce the shareholders' assets, because the costs are values that will become expenses in the future, but are included by consumers in the acquisition of the products that the company sells. In addition, item 13 of CPC 16 (R1): inventories specifies that “[...] the value of the fixed cost allocated to each unit produced cannot be increased because of a low production volume or idle [...]”.

Another relevant point perceived is that the words “death” and “life”, in most of the years, appeared only related to the context of business life insurance, or when referring to assets useful life. The 19 deaths and 9 thousand homeless people were not mentioned in any particular context. The only time the word “death” appears in the context of the tragedy is transcribed below:

The Company has been cited in civil, environmental and labor judicial administrative processes, resulting from the collapse of Fundão dam. These processes filed by individuals, private companies, non-governmental organizations and public and governmental entities seek reparation, remediation and compensation for environmental, social impacts, material and loss of life and compensation to the impacted municipalities (Samarco – DF, 2015, page 37).

In this respect, the company's neglect is noticed as to what happened, which corroborates what was stated by Freitas (2020) by mentioning the generic issues in the reports of an informative nature regarding the implementation of measures that speed up the socio-environmental recovery and the broad support of the affected population. In addition, information related to the Renova Foundation, which is responsible for programs and resources for the damages, is even more general and vague. It should be noted that there are, in several parts of the reports and for several years, general information content related to the tragedy, but the explicit assumption of guilt by the events and the risks imposed on the population is not clear, as follows:

After the rupture of Fundão dam on November 05th, 2015, Samarco's operations were paralyzed. Since then, the company has been working to alleviate the impacts on the affected communities and to remedy the environmental damage caused to the Rio Doce Basin and nearby areas (Samarco – RA, 2020, page 46).

Although the company points out that “has been working to alleviate the impacts on the affected communities,” information demonstrating the potential and real risks of its mining activities has not been observed in the reports, which ratifies the notes of the study by Cosenza et al. (2018) in addition, everything that has been done or does arises from legal charges, which raises the following question: How is risk management related to other dams in the Vale group? This doubt is in line with the statement made by the public prosecutor of the municipality of Brumadinho. According to him, since 2017, environmental crime had occurred due to poor risk management and lack of information (Jucá, 2020).

From 2019 onwards, it was identified that the discourse became more incisive in order to justify the interruption of mining activities due to the dam rupture, but there is no mention of the real facts that led to the rupture. Samarco reinforced that its actions are focused on repairing the tragedy and, at this point, the attempt to gain general legitimacy is realized, after all, at this moment of disclosure - 2019 - intended to return to the mining activities:

[...] on November 5th, 2015, suspended its operations due to the rupture of Fundão dam, in Mariana / MG. This fact impacted the lives of thousands of people and the environment along the Rio Doce basin in the states of Minas Gerais (MG) and Espírito Santo (ES), marked the company's trajectory and will not be forgotten. Since then, Samarco has focused its actions on the commitment to repairing impacts and, above all, on learning and experiences acquired. The mining company plans the gradual resumption of its operations with a focus on a new model of operations, with new technologies that increase safety and seek the business sustainability. (Samarco – RA, 2019, page 3).

In many paragraphs it is mentioned that the downtime of operational activities is attributed to the dam rupture, however, there is no reason why the dam has ruptured. In this line of thought, Oliveira and Cintra (2019) pointed out that the evidence of negative events, in which the corporate image is shaken, is performed only with the aim of legitimizing the operations continuity, however, the management of reputation in negative image situations, it is done through the evidence of superficial information, however, legitimacy is only acquired in the long term. Simultaneously, the research by Correa et al. (2015) has shown that positive information is evidenced and emphasized, contrary to those of a negative nature, which is superficial.

The tone of the corporate speech reinforces the new business cycle with the gradual resumption of activities, starting in December 2020, with the presence of the granting of Financial Restructuring. This return is reaffirmed on the grounds that it has all necessary environmental

licenses. What is being questioned is whether or not there was greater rigor in the analyzes for the release of these licenses because before the tragedy the company also had licenses and even so the dam rupture happened:

Since the approval of the Corrective Operation License (LOC) in October 2019, we have all the environmental licenses necessary for the return of the activities. However, we chose to wait for the deployment of the tailings filtering system. (Samarco – RA, 2020, page 4).

Another important point to reflect is observed in the DF of 2020: To suspend long-term contracts with suppliers, Samarco used the following force majeure clause:

After the Fundão tailings dam rupture on November 05th, 2015, the Company accused the force majeure clause of long-term contracts with suppliers and service providers for the suspension of contractual obligations, with the exception of the electrical energy contract (Samarco – DF, 2020, page 2).

It should be noted, however, that the force majeure is defined in Article 393 of the Brazilian Civil Code (2002) as:

Article 393. The debtor does not respond to the damage resulting from a fortuitous case or force majeure, if not expressly held responsible for them.
Single paragraph. The fortuitous or force majeure case occurs in the necessary fact, the effects of which could not be avoided or prevented.

In this sense, if such contracts are suspended on the basis of this claim (force majeure), it may be that they will open gaps for other contracts to be held in the same way or that Samarco will no longer be held liable in other civil or criminal disputes.

4.2 Vale S.A.

In table 6 the data and the number of times were shown that the information has been categorized into gaining, maintaining, or repairing legitimacy, as well as in which type of legitimacy actions the company Vale S.A. Fits in each year analyzed.

Table 6
Summary of data and analysis of information

Legitimacy Actions		Vale S.A.		
		2019	2020	Total
General	Gain	16	19	35
	Keep	3	3	6
	Repair	5	3	8
Pragmatic	Gain	3	2	5
	Keep	1	1	2
	Repair	0	0	0
Moral	Gain	4	2	6
	Keep	1	1	2
	Repair	3	2	5
Cognitive	Gain	2	2	4
	Keep	0	0	0

	Repair	2	1	3
Total		40	36	76

Source: Research Data.

The activities of Vale S.A., in Brumadinho, were suspended on January 25th, 2019 with the rupture of the dam at Córrego do Feijão Mine. In view of this, still in January, the company informed the market and the competent authorities on the decision to speed up the plan for the decharacterization of all its tailings dams installed by the upstream allocation method.

In the information presented in Table 6, which are based on the strategies of Suchman (1995) and obtained in the Management Reports (RA) and the Explanatory Notes (NE), Vale showed a higher predominance of the category of general legitimacy gain during the years analyzed. This can be explained by the attempt by the company to be in harmony with the environment in which it operates, above all, by the possibility that the tragedy does not further harm the development of its activities, due to the fact that it aims at, in a more effective way, the legitimacy to justify the return of Samarco's operational activities. Until 2020, Vale S.A. and BHP Billiton Brasil Ltda. made financial resources in Samarco due to their downtime, as shown below:

Vale's initiatives are being designed to provide structured assistance to long-term results in education, health and well-being, employment and income generation, ultimately enabling sustainable development in the region (Vale – RA, 2019, page 7)

For the year ended on December 31st, 2020, Vale and BHP Billiton Brasil contributed R\$ 5,809,102, divided between contributions to Renova Foundation and short-term loans to Samarco (Samarco – DF, 2020, page 20)

Also, regarding the gain of general legitimacy, Vale's Board of Directors demonstrated immediate action and suspended the shareholders' compensation policy, company executives and stock repurchase, in addition to having established independent advisory committees in the verification of the fact that occurred: "The Board of Directors continues to work close to the executives, shareholders, authorities and society, with open dialog and transparency, aiming at the integral repair of Brumadinho and the improvement of the safety culture in Vale" (Vale – RA, 2019, page 2).

In this sense, it is clear that the Council has interacted with stakeholders and has a desire for the company to be seen again as one of the safest in the world. In relation to what the company wants about its image - from the perspective of being seen as one of the safest in the world - and, That the "Board of Directors works with open and transparent dialog in search of the integral repair of Brumadinho...", Beuren et al. (2013) point out that companies create myths about themselves, which are reported in mandatory and non-mandatory reports in order to acquire and sustain legitimacy.

Another aspect to be considered is the transparency reported in the Company's Management Report and not perceived in the transparency information content related to the risk of other dams and activities developed by the company. Regarding the repair of general legitimacy, it is noted that the company made "financial contributions" to families who lost loved ones and friends, as well as material goods. In addition, it disbursed resources to the municipality of Brumadinho and the Government of Minas Gerais in an attempt to alleviate the damage caused by the dam disruption:

Vale has made donations to help families of people who have died or disappeared with financial expenses at such a critical time, regardless of any future compensation. In this sense, donations were also made to those who lived or practiced commercial activities in

the Self-Rescue Zone (Vale – RA, 2019, p. 6).

These notes are reinforced by the study of Machado and Ott (2015), which demonstrated that the legitimacy repair is seen as a response to an unexpected event and that it needs social credibility to be developed. In view of the pragmatic legitimacy gain, Vale claims that, in the light of the agreements it entered into for the damages repair, it suffered loss in the financial year 2019 and, a reduced share of the value corresponds to the expenses and provisions of Brumadinho dam rupture:

Vale registered a loss of US\$ 1.683 billion in 2019, compared to a net profit of US\$ 6.860 billion in 2018. The reduction of US\$ 8.543 billion was mainly due to: (a) provisions and expenses incurred in connection with the rupture of Brumadinho dam, including the decharacterization of dams and repair agreements (US\$ 7.402 billion) (Vale – NE, 2019, page 7).

Another item worthy of emphasis is the gain of moral legitimacy, since the company evidences that it is firm in the purpose of repairing Brumadinho and sought, through symbolic demonstrations, to reinforce the actions that have been carried out, as explained: “In November 2019, Vale agreed to extend the payment of emergency aid to those affected by the rupture of the Dam I in Brumadinho for another 10 months. Thus, in order to deal with the extended commitment, Vale provisioned US\$ 227 million” (Vale – NE, 2019, page 16).

However, it is verified, that the repair actions carried out by the company are the result of agreements with the Public Prosecutor’s Office and the Federal Government. From this perspective, it is observed that the company made payments resulting from the imposition of justice and that the alleged “good action practiced in favor of the community” is actually due to legal imposition with intervention by the Public Prosecutor and not due to the entrepreneurial benevolence:

On February 20th, 2019, Vale signed a preliminary agreement with the State of Minas Gerais, the Federal Government, and representatives of the Federal Public Prosecutor’s Office and the Public Prosecutor’s Office of the State of Minas Gerais, the Federal Public Defender's Office and the State of Minas Gerais, under the terms of which the Company has assumed the obligation to make emergency compensation payments to the residents of Brumadinho and the communities that are located up to one kilometer from the Paraopeba River bed, from Brumadinho to the city of Pompéu (Vale – NE, 2019, page 23).

Vale also highlights in its Management Report that it is fully engaged with projects to recover the affected areas and to aim to meet the community demands:

We have advanced with environmental recovery actions, such as the Marco Zero project, which is recovering the Paraopeba River and the Iron Coal Stream, and the conclusion of two water treatment plants. In addition, our repair program includes actions aimed at recovering local socioeconomic capacity, considering the views and demands of communities, local organizations and governments (Vale - RA, 2019, page 4).

It is observed, however, that many actions carried out by it result from legally imposed obligations, since the company sought judicial agreements with the aim of suspending the various existing cases, as set out in the 2019 Management Report (page 11), in which it is demonstrated that “Vale has allocated R\$ 2 billion to environmental initiatives, being 61% mandatory and 39% voluntary”. This corroborates the study carried out by Campos et al. (2017), which has shown that

companies do not take certain actions necessarily thinking about the well-being of the community, but by following regulatory and legal rules in order to avoid sanctions.

In relation to the year 2020, it is observed that the category of gain of general legitimacy was the most widely used by the company, as well as in the year 2019, demonstrating that the company seeks to reinforce what actions are being practiced in accordance with the environment in which it operates, as it can be seen in the following sentence: “With safety and open dialog with impacted people and communities, we continue with our commitment to repair the damage done quickly and fairly” (Vale – RA, 2020, page 8). These results are in line with the study carried out by Machado and Ott (2015), which demonstrated that the companies studied in the research evidenced their environmental information with the aim, preferably, of gaining legitimacy.

It is worth pointing out that the repair works of Brumadinho continued in 2020 and remain a priority for the company:

The advancement of Brumadinho's repair is Vale's priority. By February 2020, we aimed more than R\$ 13 billion to the payment of damages to the people affected by the rupture of Dam I, of Córrego do Feijão mine, to the construction of infrastructure works, and to the actions of environmental repair and socio-economic reparation (Vale – RA, 2020, page 8).

However, it is observed that Vale has concluded a Global Agreement with the aim of decisively closing public civil actions on the socio-environmental damage caused by the rupture of Córrego do Feijão Dam I and socioeconomic repairs:

Vale, the State of Minas Gerais, the Public Defensory of the State of Minas Gerais and the Federal and Minas Gerais State Ministries signed on February 4th, 2021 the Global Agreement for the Full Repair of Brumadinho (“Global Agreement”). With an economic value of approximately R\$ 37.7 billion, it contemplates socio-economic and socio-environmental repair projects (Vale – RA, 2020, page 9).

Regarding lost lives, the company reported that not all victims have been located and that it remains committed to solving the case, together with the rescue team involved, as explained: “In August 2020, after five months of suspension of the operation, due to the risks associated with the Covid-19 pandemic, the Minas Gerais Fire Department resumed searches for the 11 victims not located yet” (Vale – RA, 2020, page 10).

5 FINAL CONSIDERATIONS

This work verified the actions or strategies of social legitimacy used by Samarco S.A. and Vale S.A. after the tragedies in Mariana in 2015 and Brumadinho in 2019 to justify their operational activities in the environment in which they operate. The types of legitimacy strategies were based on Suchman's research (1995). The data were collected and categorized by documentary analysis in the Management Reports and Explanatory Notes contained in the Financial Statements of both companies.

In summary, Samarco S.A. and Vale S. A. intended to gain general legitimacy in the period analyzed as an action or strategy to ensure the continuity of operations, readapting to the environment so that they did not lose presence in the market. These results differ from the findings of the research carried out by Fank and Beuren (2010), because they found cognitive legitimacy. The authors pointed out that the company analyzed – Petrobrás – incurred high political costs, so it needed to emphasize its social nature. Although Vale and Samarco are incurring these costs, they need to emphasize their social character as a wealth and income generator in order to obtain

social support and be able to continue operating.

What is perceived by comparing the results of legitimacy identified in the cases Vale and Samarco is that they are different from other studies, such as that of Beuren et al. (2013). The research of these authors identified the Suchman's legitimacy (1995) evidenced in the Reports of the Administration of public-traded state companies of the Electric Energy sector established in Brazil. The authors' results showed the presence of the four categories of legitimacy suggested by Suchman (1995): general, pragmatic, moral and cognitive, and the strategy of pragmatic legitimacy was the most perceived in the reports.

Furthermore, the findings regarding the reporting and business performance verified in the analysis of the reports of these companies are consistent with that advocated by Lindblom (2010). For this author, companies are constantly seeking some kind of legitimacy to comply with the environment social values, and to do so, they use various strategies of legitimacy at some point in time. Legitimation occurs in the social disclosure of performance, since the company, in highlighting negative events that impact on its image, tends to verify the best form or action for the negative impact to be minimized. Thus, these tragedies were reported in a superficial manner and without effective recognition of the culpability of those responsible,

In this research, although the four categories of legitimacy were identified, the most prevalent was the general legitimacy. It is inferred that this category of legitimacy adopted by the analyzed companies demonstrates their strategies with the intention of justifying their operations before the society. However, the compensations to the damage caused are necessary and fair on the assumption that companies need to operate and use the various resources more responsibly and consciously. In view of the analytical generalizations and conclusive inferences, the main limitation of this research is the subjectivity inherent in the content analysis, which involves interpretations and conclusions that even before the researchers' attempt to use objective findings, there is still a certain amount of subjectivity.

Thus, the scores mentioned in the conclusion of the Fank and Beuren research (2010) are confirmed that it is not possible to affirm that the negative actions pointed out in this research on the companies analyzed have intentional content because only words and statements were categorized within the context of tragedies in which the companies have been involved. The absence of disclosure of the management reports of Samarco S.A. in the years 2015 to 2018 is also noteworthy as a limitation. It is recommended in future studies, that the method of discourse analysis be used in the reports of these companies, because this methodology assumes that in every speech there is a hidden sense that can be captured, which can capture less obvious understandings with greater depth and deconstruct literary questions about the true intention of the reporting practices.

In addition to this recommendation, it is suggested that these tragedies caused by Samarco and Vale should also be analyzed from the perspective of the Institutional Theory. This theory aims to explain the need for organizations to position themselves against the social and environmental issues evident in society. In addition, it is pointed out that accounting is based on institutional theory regarding the structure of information, since it highlights the companies' financial, patrimonial and economic position. These positions generate conflicts in organizations, and thus the Institutional Theory acts with an alternative in the search for an understanding of the strategies and corporate actions adopted.

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