

Responding to a Corruption Crisis Through Disclosure and Remedial Action: The Case of Petrobras

Abstract

This case study adopts a positivist perspective to examine how Petróleo Brasileiro S.A (“Petrobras”), a high-profile company in its native Brazil with multiple listings including in Brazil and the US, responded to a major corruption scandal arising in 2014. We consider Petrobras’s response both in terms of its visible activities – i.e. in relation to anti-corruption and compliance (“ACC”) disclosures in its annual report (AR) and sustainability report (SR), as well as actioned remedial policies that constitute the crisis plan – and how the company went about interacting with stakeholders during and after the immediate crisis period. We conducted a content analysis of ACC disclosures and assessed Petrobras’s remedial activities in the eight-year period 2010 – 2017 as disclosed in its ARs, SRs and press releases. We find firstly that, consistent with legitimacy theory, Petrobras responded by voluntarily and substantially increasing its relevant disclosures so as to regain legitimacy, a finding which mirrors those found elsewhere following corruption and environmental crises. Secondly, the unique corporate governance situation at Petrobras combined with the fact that leadership was allegedly implicated in the scandal, led the post-crisis management team to undertake a series of remedial actions that prioritised the need to take and maintain executive control and independence from the government, whilst at the same time carefully managing the relationship with this influential stakeholder: - actions which argue strongly in favour of stakeholder-agency theory and multiple agency theory interpretations of the nature of stakeholder interactions that transpired during the crisis period of disequilibrium, and which precluded the type of stakeholder dialogue seen in some previous environmental crisis situations. Finally, we show that Petrobras’s crisis management response actions align well with models of trust repair and legitimacy management, and suggest the company considered it had successfully regained legitimacy by 2017.

Keywords: anti-corruption, compliance, legitimacy, multiple agency theory, stakeholder-agency theory, trust repair, voluntary disclosure.

1. Introduction

Crises are an unfortunate fact of corporate life. As Coombs (2006) points out, crisis management has emerged in recent years as a growing area of scholarly interest which has focused on what organisations say and do following a crisis, and how management implements a crisis response strategy so as to repair organisational legitimacy and restore trust (Wang, 2010; Gillespie and Dietz, 2009). Most work has looked at environmental disaster as the form of crisis, and focused on communication and disclosure responses (Blanc, Cho, Sopt and Branco, 2019). The main purpose of this study is to consider a corruption scandal as the crisis driver, and to assess management's crisis response both in terms of its visible activities – i.e. in relation to anti-corruption and compliance (“ACC”) disclosure, as well as actioned remedial policies that constitute the crisis plan – and how the company went about interacting with stakeholders during and after the immediate crisis period.

We consider it important to study major corruption crises for three primary reasons. First, a major corruption case is akin to a crisis (or shock) situation which can constitute an existential threat to the organisation, and thereby presents a substantial test of a firm's controls and corporate governance procedures, allowing us to assess the robustness of several conceptual models underpinning the contemporary theory of the firm. Second, the cost of corporate corruption and wrongdoing is high and shows no sign of abating, equating globally to around 5% of corporate turnover each year (ACFE, 2016), and a better understanding of how and why it occurs will help business to reduce this cost and improve trust in financial markets (Kalbers, 2009). Third, how a company in practice chooses to deal with a corruption crisis through disclosure and remedial actions, and the way it liaises with stakeholders during such a critical and potentially existential event, together have an enormous bearing on how and when a company restores control and regains legitimacy, with a corresponding impact on financial and legal outcomes affecting various stakeholders both inside and external to the firm. There have been few scholarly studies of major corporate corruption events to date, yet they present a unique laboratory to test theory and enhance management practice. This paper seeks to address this gap.

Most prior research on corporate crisis situations have considered management responses to environmental disasters in relation to disclosed information on the crisis and response, such as those at Exxon Valdez (Patten, 1992), BHP (Deegan, 2002) and BP Horizon (Arora and Lodhia, 2017). The limited prior academic research undertaken in a situation where a corruption scandal has been the crisis trigger has typically involved either (i) analysis of corporate disclosures in relation to ACC (Blanc et al., 2019; Dissanayake, Islam and Dellaportas, 2011; Islam, Haque, Dissanayake, Leung and Handley, 2015); or (ii) theoretical work looking at trust repair or legitimacy management models as a way of dealing with crisis management (Pfarrer, Decelles, Smith and Taylor, 2008; Bachmann, Gillespie and Priem, 2015; Gillespie and Dietz, 2009). We could find no prior studies that have considered corruption events from the perspective of stakeholder interaction, although recent environmental incidents have shown the influence that corporate websites (e.g. at BP Horizon in 2010, Arora and Lodhia, 2017) and dialogue via web forums (e.g. at Shell in 1995, Unerman and Bennett, 2004) can have on stakeholder engagement.

The extent of ACC disclosure is a good proxy for an entity's commitment to combat corruption and the quality of ACC policies, procedures and controls (Transparency International, 2009). In recent years, as well as publishing the annual report (AR), which is typically a legal obligation primarily directed at shareholders, many large public organisations have also elected to publish a less financially based report for the wider body of stakeholders which is typically called a 'sustainability report' (SR), or some variant thereof. Although there are some general guidelines on best practice regarding the extent of disclosure of ACC policies and procedures in the AR and SR, these are not mandatory and so the choice of what and how much to disclose is essentially down to management and amounts to "voluntary" ACC disclosure.

Petroleo Brasileiro S.A ("Petrobras") is a Brazilian oil and gas company and a key player in the Brazilian economy, with listings in Brazil and globally. In 2014 Petrobras became embroiled in a major corruption scandal termed "Lava Jato" (car wash). In order to understand how the company responded to this threat, we have examined Petrobras's ARs and SRs covering the eight-year period 2010 – 2017 to investigate: - (i) how the company disclosed information related to its ACC policies and practices; and (ii) the nature and effectiveness of management's reported responsive actions. We

have interpreted our findings primarily through the theoretical lens of legitimacy theory, whilst also drawing on models from stakeholder theory (i.e. specifically stakeholder-agency theory and multiple agency theory), and from the crisis management literature.

The main contribution of this study relates to it being the first to apply models from stakeholder-agency theory and multiple agency theory to a corruption crisis. Our findings extend our understanding of how to effectively take advantage of the temporary disequilibrium and power differentials caused by a crisis to implement a crisis management plan and restore legitimacy, whilst navigating the complication of a highly influential stakeholder (i.e. the Brazilian government). We are able to demonstrate how this was achieved in line with theory, through a process of seizing and entrenching control, sequential crisis management steps, and a process of engaging in substantially one-way interactions with the body of stakeholders primarily through formal disclosure of anti-corruption related policies and procedures. We present four primary findings.

First, we find that the company responded to the crisis by dramatically increasing the level of ACC disclosure in what we term the crisis period (i.e. the year of discovery 2014 and the subsequent year 2015), and into the post-crisis period (2016 -2017), with the disclosure level falling back substantially in 2017, albeit to a level well above that in the pre-crisis period. In this case, the Lava Jato scandal constituted a major challenge to Petrobras's legitimacy involving intense and sustained interest from regulators, the public and the media, and we find that Petrobras responded by voluntarily increasing its disclosure in relation to ACC so as to "regain" legitimacy (Deegan and Rankin, 1996). The increased level of disclosure around the crisis trigger event mirrors findings seen in other corruption situations (e.g Siemens (Blanc et al., 2019)) and environmental disasters (e.g. Exxon Valdez (Patten, 1992)).

Second, the somewhat unique corporate governance situation persisting at Petrobras at the time of the crisis – in which the company held multiple listings as a public company yet the Brazilian government held most shares and effectively controlled the board – and the fact that leadership was implicated in the scandal, led the post-crisis management team, in line with crisis management models (e.g. Bachmann et al.,

(2015); Gillespie and Dietz (2009)), to undertake a series of remedial crisis actions that prioritised the need to take executive control and maintain independence from the government, whilst at the same time carefully managing the relationship with this influential stakeholder. As a result, Petrobras effectively interacted with the rest of the body of stakeholders in a unidirectional way primarily through formal disclosures, and thus forsook the type of stakeholder dialogue favoured by some entities facing a crisis – e.g., Shell during its environmental incident in 1995 (Unerman and Bennett, 2004).

Third, we find that across the period of review the AR became the primary communication channel to help repair legitimacy at Petrobras: - this document contains more detail but less breadth than does the SR, the latter being a document which serves a wider, less demanding audience. This finding is in line with some previous studies of corruption crises (e.g. Blanc et al., 2019). Moreover, we found that the peak coverage in the AR occurred in the year *following* peak press interest (2016), a finding that is at odds with a media agenda setting theory interpretation of the firm's overall disclosure response and previous findings in corruption cases, which we interpret as revealing that by 2016 management did not consider legitimacy had been sufficiently restored. We also note that although previous environmental disasters have seen increased coverage in the AR, typically this has been somewhat perfunctory and contained limited detail (Patten, 1992), or alternatively the narrative has been channelled through other platforms such as the corporate website with an apparent focus on short-term image management rather than longer-term legitimacy restoration (Arora and Lodhia, 2017).

Fourth, the evidence suggests that by 2017 Petrobras considered that its crisis management response had been successful in substantially restoring legitimacy. The significant drop-off in ACC extensiveness in both the AR and SR in 2017, i.e. around 3 years after the scandal had first reached the public domain, mirrors that seen elsewhere (e.g. Cho, 2009). We find that the crisis response can be categorised into four components (investigate the crisis; restructure governance; dissociate from illegitimate operations and personnel; and start to change the culture), and comprises actions which align well with extant trust repair and legitimacy models. That said, we caution that given Petrobras's position and the recent history of systemic corruption in Brazil, the company must remain vigilant to environmental risks that could yet stall or reverse

progress made so far in restoring legitimacy and strengthening anti-corruption and compliance procedures.

The rest of this paper is set out as follows. First, we outline the theoretical framework underlying this study and introduce the main theories we will draw upon for our analysis. Second, we provide a summary of the background to the case study and the crisis that enveloped Petrobras. Third, we describe the research methodology applied. Fourth, we present our results and analysis, and discuss findings, and the paper rounds off with a section on contributions and areas for further research.

2. Theoretical Background

There is a vast literature covering the theoretical underpinnings of the nature of relationships between and amongst corporate stakeholders, be they internal or external to the organisation (Freeman, 1984; Jensen and Meckling, 1976; Akerlof, 1970). Another relevant domain of research deals with crisis management, and how affected companies deal with major disruptions that threaten their viability, primarily by stressing strategies focussed on regaining legitimacy and restoring trust (Bachmann et al., (2015); Gillespie and Dietz (2009); Suchman (1995)). We briefly set out below the relevant aspects of each domain where there is overlap and complementarity, which provides the theoretical lens through which we will analyse the crisis facing Petrobras.

2.1 Regaining Legitimacy in a Crisis

Legitimacy theory is based on the central tenet that organisations are players in a wider environment or system that licenses their participation in that system through a social contract conditioned on the organisation's legitimacy. If an organisation fails to meet legitimacy expectations, the licence can be revoked with dire consequences (Deegan, 2002; Deegan and Rankin, 1996). A loss of legitimacy oftentimes constitutes some form of crisis and can arise in several ways, with threats coming both from outside the organisation (such as a change in a society's demands or values (O'Donovan, 2002), or from a specific external event (Patten, 1992)), or from inside the organisation (in the form of an internal incident (Cho, 2009)). Deegan and Rankin (1996) demonstrate the type of damage that can befall an organisation suffering a legitimacy loss which can

seriously damage its reputation and/or financial standing, and even threaten its viability through: - (i) the loss of consumer, employee and capital support, or (ii) the targeted actions of lobby groups, government, or regulatory bodies. We suggest that a major corruption scandal - such as Lava Jato at Petrobras – is the type of internal incident envisioned by Cho (2009) which seriously threatens an affected organisation with the loss of legitimacy. Whatever the cause of the threat, a crisis-hit company will seek to limit, or ideally eliminate, any legitimacy threat once identified through a crisis management response plan. Scholars have looked at how an entity can deal with a legitimacy threat through two primary means: - initially by looking at substantive management actions taken in response to a crisis, and more recently by studying an affected company’s disclosures and press releases. We briefly consider each in turn.

First, management can take decisive steps to both develop legitimacy and to regain (or repair) legitimacy when it is lost or damaged. Means of developing legitimacy range from *symbolic* actions, such as merely identifying with respected institutions and displaying ceremonial conformity to best practice norms (and which thereby comprise actions which involve no real change or effort); to *substantive* actions, which involve initiating robust and transformative strategic and organisational changes (Dowling and Pfeffer, 1975; Savage, Nix, Whitehead and Blair, 2000). According to Suchman (1995) there are two primary ways in which a company can regain legitimacy, i.e. by: - (i) normalizing its accounts; or (ii) initialising a restructuring process. Account normalization is suitable when the situation involves piecemeal disclosure of, and incomplete transparency around, the scandal. In this case, robust communication is key (Wang, 2010). In situations where there has been public revelation of the scandal, the better alternative is to adopt a crisis management approach comprising a meaningful organisational restructuring across several sequential stages (Suchman (1995); Gillespie and Dietz (2009)). Wang (2010) goes even further and argues that restructuring should not be restricted to *organisational structure* restructuring per se - particularly where a business operation is clearly culpable- in which case it should go much further to include *operational* restructuring.

Second, management can address a legitimacy threat through disclosure. Initial studies of disclosure responses were focused on environmental disasters and disclosure in annual reports. Patten (1992) looked at the impact on corporate environmental practices

and reporting following the Exxon Valdez oil spill in Alaska in 1989, and found that Exxon significantly increased its environmental disclosure post-accident, consistent with legitimacy theory. In addition, and more importantly, the Patten study found that post-accident the oil industry *as a whole* significantly increased environmental disclosure in annual reports. This finding supports legitimacy theory in that corporate perceptions (and reactions) related not just to Exxon, or to the oil spill itself, but rather to the general impact of the spill on public attitudes towards all firms in the petroleum industry (O'Donovan, 2002). More recently, disclosure of ACC policies and procedures have been studied as a response to a possible legitimacy threat (Barkemeyer, Preuss and Lee, 2015; Joseph et al., 2016; Healy and Serafeim 2016). Moreover, three recent studies have considered the impact on ACC disclosure resulting from specific corruption crises affecting an entity: - Blanc et al., (2019) looked at Siemens before and after its 2006 scandal; Dissanayake et al. (2011) also looked at Siemens, in addition to Alcatel-Lucent following its 2004 scandal; and Islam et al., (2015) considered the disclosure impact on two Chinese firms (China Mobile and ZTE), following corruption scandals. In each case, studies were made of disclosures in the ARs and SRs with enhanced levels of disclosure broadly supportive of legitimacy concern motivations.

2.2 Dealing with Stakeholders in a Crisis

As we have argued, the need for legitimacy restoration is a clearly defined and widely accepted goal in a crisis situation (Patten, 1992), but there is debate on the theoretical basis of how this is best achieved in a complex corporate setting involving multiple stakeholders (internal and external to the organisation), and many competing interests. Most crisis management researchers stress the importance of taking a stakeholder perspective (Savage et al., 1991; Waddock and Graves, 1997). We suggest that stakeholder-agency theory (SAT) (Hill and Jones, 1992) presents a particularly compelling model of the underlying reality of how things play out in a crisis situation. SAT modifies agency theory to reflect differentials in power between managers and stakeholders than can arise based on resource dependency, and is particularly applicable where an efficient market situation faces some form of disruption, such as a major crisis. The disruption leads to a short-run disequilibrium which gives rise to temporary

power differentials between managers and stakeholders, which can be exploited and entrenched by managers to effect changes they would otherwise struggle to make. SAT also suggests that managers can achieve long-run gains by introducing new incentive structures and institutional mechanisms for monitoring stakeholders (Hill and Jones, 1992). More recently two theoretical developments augment and complement the SAT model as applied to a crisis in a situation such as that faced at Petrobras: - stakeholder dialogue (Unerman and Bennett, 2004) and multiple agency theory (Calvo and Calvo, 2018). Stakeholder dialogue is increasingly seen as the foundation of corporate governance and accountability mechanisms (e.g. Adams, 2001). This is because it is only through such consultation that managers can understand and then meet stakeholder expectations, notwithstanding the inherent challenges of reaching stakeholders and determining a consensus even with the benefit of modern social media platforms (Unerman and Bennett, 2004). Calvo and Calvo (2018) draw on multiple agency theory to point out the additional complications that can arise when one of the stakeholders is also a key agent such as a government, as is the case at Petrobras. Although the Calvo study dealt with issues of corporate social responsibility regarding an environmental (rather than a corruption) related issue, and involved only a small number of stakeholders, we believe that the risks highlighted in that case (which prevented a suitable solution being reached amongst stakeholders involving the presence of government), are entirely applicable in a more complex situation involving corruption such as that pertaining at Petrobras, involving multiple stakeholders, a government used to directing corporate strategy, and necessary but disruptive regulatory and public interest.

In sum, theory suggests that it is possible to navigate through a major crisis and achieve the primary goal of restoring legitimacy, providing management takes advantage of the power differential advantages afforded to them caused by the ensuing disruption, albeit this highly complex scenario requires careful stakeholder dialogue to identify and understand stakeholder expectations, most critically in relation to government when this is a major player.

3. Case Background

Petrobras is no ordinary company in Brazil. It is a state-owned entity that occupies a place in the national psyche as a “national champion”: - it is the largest company and employer in Brazil (and within Latin America), with a base in Rio de Janeiro and operations throughout the country and across the globe, and is generally revered as a bastion of excellence (Almeida and Zagaris, 2015). The company operates in the oil and gas sector, an industry that is particularly prone to corruption (McPherson and MacSearraigh, 2007). Petrobras is a mixed-capital company – the Brazilian government is the controlling shareholder but shares are also listed on the Brazilian bourse (B3), with cross listings on a number of external exchanges including the NYSE¹.

Corporate governance at Petrobras has some notable peculiarities. The Brazilian government holds most voting rights, and consequently at the time the crisis broke in 2014, it had the right to elect the majority of directors to the Board of Directors (BOD), which body appointed the Executive Board (EB). According to Brecci and de Oliveira (2016), it was common practice for members of the BOD to be serving government ministers and for appointments to be made to the BOD and EB with no regard for technical competence. However, despite these apparent corporate governance and control risks, prior to 2014, other than a tax related scandal in 2009 (Barros, 2014), Petrobras was not associated with corruption and enjoyed a good corporate reputation.

The crisis that hit Petrobras in April 2014 has its genesis as far back as 2009. A timeline of key events and media sources is tabulated at Appendix 1. In 2009, the Brazilian federal police commenced an investigation which it termed “Lava Jato” – a Portuguese phrase meaning “car wash”, a name that originates from the early police focus on small car wash operations which were suspected of laundering money initially unconnected with Petrobras. In March 2014 the first association between Lava Jato and Petrobras appeared in the press after the arrest of a former senior executive, following which there was a spate of media attention culminating on 14 April 2014 in President Rouseff commenting publicly about “malicious rumours” linking Petrobras to Lava Jato. Rouseff had previously held the CEO position at Petrobras. Thereafter media attention

¹ Petrobras Annual Statement, 2017

increased steadily as the crisis erupted. We therefore consider that as regards Petrobras, the Lava Jato scandal can be said to have “commenced” in April 2014.

The Lava Jato investigation is on-going (as at December 2021) and has become the largest corruption scandal in the history of Latin America, spreading to at least 11 other countries. There have been scores of arrests of well-known business leaders and politicians, and several national and international businesses have been adversely linked to the scandal. For Petrobras, Lava Jato has had a significantly negative impact both on the company’s reputation, and its financial standing. The company has faced both a US class action and an investigation by the SEC. Petrobras was forced to delay the release of its third and fourth quarter 2014 financial statements. The highly anticipated full year audited financial results for 2014 (released in April 2015) demonstrated the scale of the financial burden on this hitherto profitable company: - i.e. a trading loss of \$2bn plus an impairment charge linked to the corruption scheme of R\$44bn (approx. \$13bn). President Rousseff was forced from office in August 2016 in respect of matters unconnected with Lava Jato. In July 2017 Rousseff’s predecessor President Lula was sentenced to 9 ½ years in jail (later increased to 12 years), for his part in the corruption scheme, although he would serve just over a year and a half of this term and his conviction would eventually be quashed in 2021.

The above summary gives some sense of the impact the scandal has had in Brazil. The corruption scheme itself was relatively simple, and amounts to procurement fraud against the company by senior executives at Petrobras who colluded with a small group of suppliers to bypass controls and overcharge on contracts, with the bulk of excess payments used by the suppliers to make political payments to the ruling parties. Overall, 27 supplier companies were involved in a scheme which lasted from 2004 to April 2012.

4. Research Methodology

4.1 Periods of Analysis Relating to the Crisis

This study adopts a positivist epistemological perspective to assess Petrobras’s disclosure activity, media attention and management restructuring activities covering

the 8-year period enveloping the Lava Jato corruption crisis which, as we outlined above, commenced in April 2014. Our primary source of data is Petrobras’s published financial statements (Annual Reports (ARs), Petrobras (2010a) – (2017a); and Sustainability Reports (SRs), Petrobras (2010b) – (2017b)) which cover full calendar years and which are typically issued during April of the subsequent year. The four-year period 2010 to 2013 represents the “pre-crisis” period, prior to which there was no association in the public domain between Petrobras and the Lavo Jato scandal. As we will show, the approximate 2-year period following the April 2014 public announcement of the Lavo Jato scandal and its connection to Petrobras - i.e., financial years 2014 and 2015 - involved intense media scrutiny of Petrobras, during which a series of critical actions were taken and disclosures made by the company as a crisis management response. We refer to this period as the “crisis” period. Similarly, the data will demonstrate that in the subsequent two-year period – i.e. financial years 2016 and 2017 - media attention remained relatively high but dropped significantly from the crisis period as management engaged in various actions and disclosures to stabilize the situation. We refer to this period as the “post-crisis” period. The three time periods we have delineated to focus our data analysis in this study are summarised below in Table 1

Insert Table 1

4.2 Data Collection and Methodology

We applied three forms of data analysis across the three periods spanning 2010 to 2017. First, following Blanc et al., (2019), we used content analysis to review Petrobras’s disclosures in its (i) published ARs and SRs; and (ii) press releases. All ARs, SRs and press releases were obtained from Petrobras’s website. Second, we undertook media attention analysis (using external data obtained from media searches) and reviewed all press releases issued by Petrobras during the period obtained from its corporate website. Third, we critically assessed the various actions taken by management as specified in the ARs and SRs comprising the company’s crisis response strategy.

5. Results and Discussion

In this section we first present our results and analysis for each period of the corruption crisis relating to the two forms of managerial response under review, i.e. (i) published disclosures in the ARs and SRs, and press releases (with corresponding media attention results); and (ii) substantive crisis management actions taken. This is followed by a detailed discussion of our findings.

5.1 Results and Analysis

(i) Published Disclosures and Press Releases

The ACC extensiveness results are shown in Figure 1. The raw data is presented at Table 2 together with a detailed commentary. Figure 2 and Table 3 present our findings for ACC breadth for Petrobras's ARs and SRs over the period of review based on our constructed ACC Breadth Index (Appendices 2-1, 2-2, and 2-3) which comprises 97 components within 14 policy categories. The ACC Breadth Index data is summarised in Table 4 for the AR, and in Table 5 for the SR.

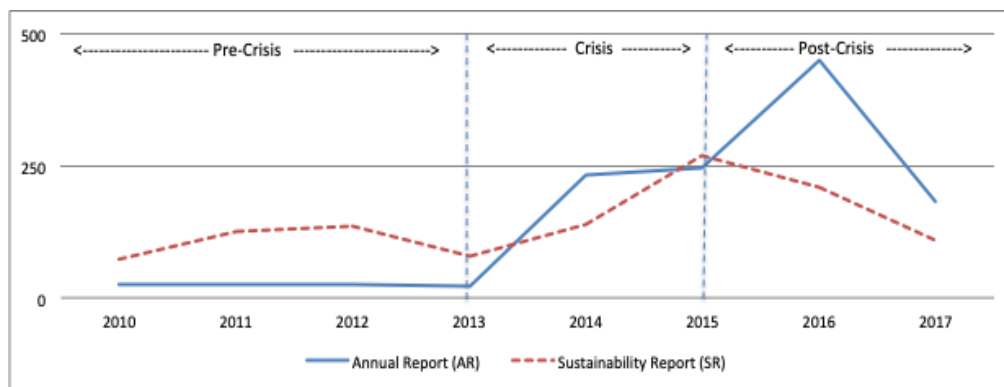


Figure 1 ACC extensiveness results

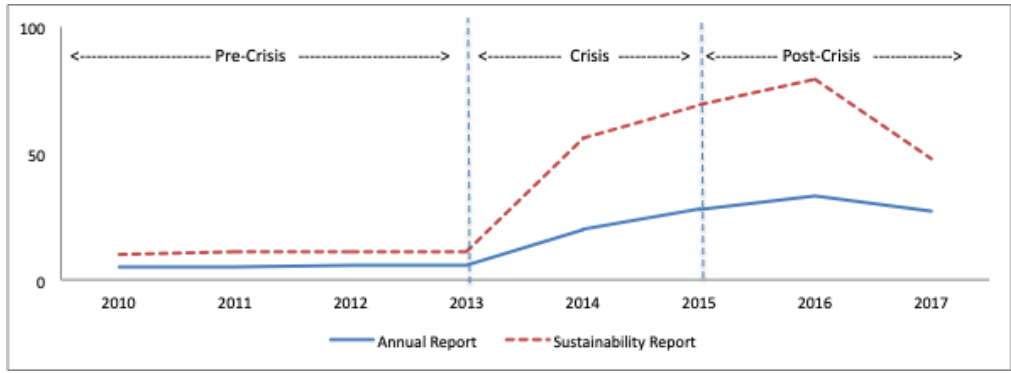


Figure 2 ACC breadth results

Figure 3 shows the number of Petrobras press releases (both general and specifically related to the scandal) and includes as comparatives the AR and SR ACC extensiveness results presented earlier. The results of our Factiva search of press article statistics (i.e. number of articles) in the Brazilian and global media are presented in Figure 4 below.

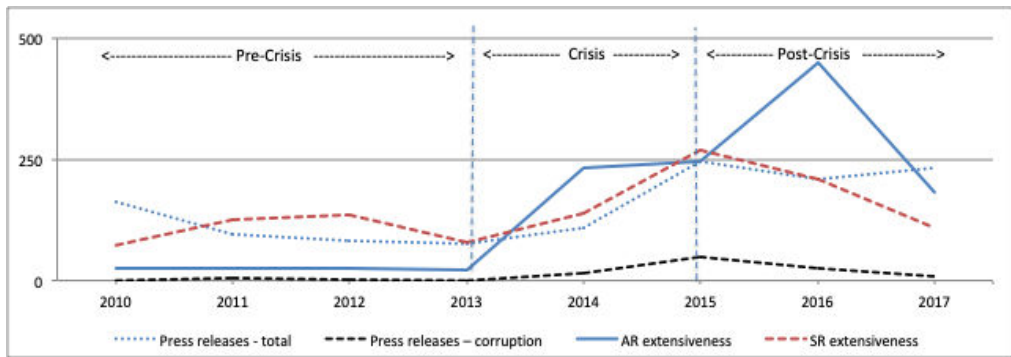


Figure 3 Petrobras press release totals per year compared to the AR/SR extensiveness results

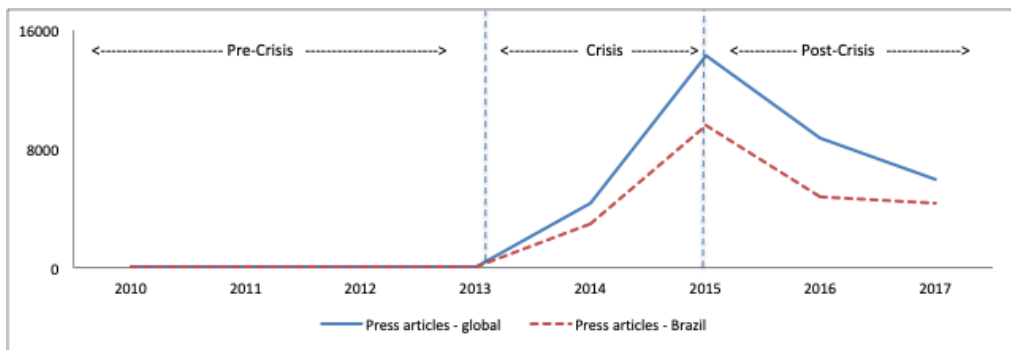


Figure 4 Media attention - number of articles per year

The above graphical results and detailed features highlighted in Tables 2 to 6 suggest that Petrobras responded to the crisis by significantly increasing both the extensiveness and breadth of its coverage of anti-corruption related matters in both its annually published documents the AR and SR. Petrobras also drastically increased the frequency of its press releases over the same period. By 2017 all three forms of publication had fallen back significantly in the respective measures, but remained above pre-crisis levels. This policy of increased levels of ACC disclosure argues strongly for a legitimacy theory explanation of management's motivation to restore legitimacy at Petrobras during and post the crisis. The significant drop-off in extensiveness in both the AR and SR in 2017, i.e. around 3 years after the scandal had first reached the public domain, mirrors that seen elsewhere (e.g. Cho, 2009), and may suggest that in management's view legitimacy had been sufficiently regained by 2017.

Some crisis researchers have drawn on media agenda setting theory to explain publication activity in times of crisis. The results above show that in the crisis period Petrobras's ACC disclosure in both the AR and SR mirrors the evolution in press attention (i.e. our proxy for public attention), suggesting that increased media attention may have a causal link to increased disclosure. Moreover, we note that peak disclosure in the SR coincides with peak press attention in 2015, a phenomenon which was also seen at Siemens (Blanc et al., 2013). However in contrast with the findings for Siemens, peak disclosure in Petrobras's AR occurred in 2016, a year after peak media attention was reached, which we posit reflects management's view that despite the drop in public interest, legitimacy had still to be regained by 2016 in the eyes of key financial and internal stakeholders, and argues for the primacy of the explanatory power of legitimacy theory in this situation.

We also note that Petrobras chose to use the two annual publications AR and SR differently during and after the crisis. Pre-crisis, the SR had more extensive coverage of ACC matters. During the crisis and beyond, the AR became the dominant publication for extensive coverage of the Lava Jato scandal, as well as for more general ACC related matters. This may be because the AR is seen as the most appropriate document given the nature of the legitimacy threat which primarily affected the AR target stakeholder audience comprising shareholders, financiers, and regulators. The SR shows a rapid rise in ACC breadth during and through the crisis which maintains at a

high level by 2017 relative to pre-crisis levels, but this seems to be at the expense of extensiveness which was similar to pre-crisis levels by that point in time – this could suggest that the SR, which targets stakeholders more broadly, was used little more than as a “box ticking” document by that stage, possibly because legitimacy was seen to have been sufficiently restored by then as indicated above.

(ii) Substantive Actions Undertaken in the Crisis Management Response

We have compiled a summary of what we consider to be the critical actions that had reportedly been implemented (or which were pending implementation) in response to the Lava Jato scandal. The results are presented in Table 7.

Insert Table 7

As would be expected, the bulk of activities relating to crisis management and corruption prevention and transparency occurred during the crisis and post-crisis periods. We have grouped the activities into five policy categories, which as we will illustrate, broadly occur sequentially primarily across three stages within the four-year period 2014 to 2017 as shown in Table 8. The five policy categories are: - investigation; restructuring and governance; monitoring and control; dealing with the problem unit; and culture, training and recognition. The three sequential stages comprise: - immediate post-crisis; early-stage post-crisis; and mid-term post-crisis.

Insert Table 8

Despite the media frenzy that rapidly ensued and the spike in media attention in Brazil and globally as detailed above, Petrobras was slow to make any public disclosure

concerning the police investigation. As indicated in the timeline of events (Appendix 1), it did so for the first time almost six months later on 5 September 2014 in a short press release, which simply confirmed that the company was aware of the media stories. By contrast, it is clear from a review of the 2014 AR (which was published in April 2015), management had undertaken a number of significant internal crisis management response measures by this stage. We briefly describe the main aspects for each of the three response stages.

Stage 1 response

The 2014 AR makes clear that Petrobras's primary regulators - CVM in Brazil and SEC in the US - were in touch with the company early in the process once the scandal was in the public domain, as is standard practice for listed companies facing this kind of allegation linked to corruption and bribery (Petrobras (2014a), p.14 & p.36).

Consequently Petrobras and its legal advisors would have been well aware of their duty to be seen to respond in a sufficiently robust and appropriate way. Petrobras's immediate response, apart from co-operating with the police, was to commence an internal investigation and remediation process. It would appear that this was undertaken in a highly professional way through the appointment of a Special Committee of independent directors to oversee the investigation, and the hiring of an international law firm and a respected Brazilian law firm to conduct the investigation. Petrobras signalled its intent in the choice of individuals it was now associated with, i.e.:

“The Special Committee is composed of Ellen Grace Northfleet, retired Chief Justice of the Brazilian Supreme Court.... and Andreas Pohlmann, Chief Compliance Officer at Siemens AG from 2007 to 2010...” (Petrobras (2014a), p.36).

Such a move to associate with highly experienced and respected individuals is a common tactic in crisis management which, pursuant to legitimacy theory, equates to building a “fire-wall” against the contaminated part of the business (Suchman, 1995).

Other key measures included the establishment of a board committee to look at what could be done to sanction culpable suppliers, and a second committee to handle any other internal investigations that might arise. We term these initial activities as the firm's *stage 1 response*, which we consider constitutes a substantive, decisive and timely action to repair legitimacy (Ashforth and Gibbs, 1990), and which we conjecture would have had a suitably persuasive effect on key stakeholders targeted in the AR.

Stage 2 response

In this next stage of response, management engaged in a range of activities early in the crisis period which we group into three policy categories: (i) restructuring and governance; (ii) monitoring and control; (iii) dealing with the problematic unit.

- *Restructuring and governance*

We see from Wang (2010) that organisational restructuring is a common response to repair legitimacy. The challenge in this response is that it is oftentimes neither quick nor easy to make the kinds of changes in leadership that are needed, more so in a company like Petrobras which is a mixed capital company with a close relationship with its primary shareholder, the government of Brazil. We suggest that it is for this reason that most of the organisational restructuring took place in the year after the scandal had reached the public domain i.e. in 2015, rather than in the scandal year 2014. Nonetheless, in our view the extent of restructuring Petrobras has reported is impressive, and represents further substantive changes in pursuit of the legitimacy repairment goal. In 2015 Petrobras was able to appoint a new Chairman and substantially change the composition of the BOD. This followed a change in CEO in 2014 to Aldemir Bendine (which was effective from February 2015) – although this change must be seen as symbolic as it simply represented the exit of the previous governmental nominee in favour of the appointee of the newly installed regime. Management did undertake a substantive restructuring action in 2014 however, with the creation of a new executive role of Governance, Risk and Control (GRC) officer. The 2014 AR stipulates that

“the [GRC] Officer participates in the decisions of the Executive Board, and any matter submitted to the Executive Board for approval must previously be approved by this Officer as they relate to governance, risk and compliance”. (Petrobras (2014a), p.36).

In our view this part of the restructuring process represents a significant clawing back of power and control from the Executive Board. The EB is the senior executive body within the firm and thereby bears primary responsibility for the corporate governance failures that led to Lava Jato. The relevance of the appointment of the GRC cannot be overemphasized in respect of its power over the decision-making process at board level - the effect was that subsequently all key decisions had to obtain the prior consent of the GRC Officer who would therefore oversee all prospective substantive decisions and had veto power.

Other important restructuring initiatives were also implemented early in the post-crisis period, and particularly in 2016, affecting the CEO, BOD and the Audit Committee (Petrobras (2016a)). The CEO position was taken up by Pedro Parente, who for the first time in the company’s history, was a person who was both (i) widely respected in the business community; and (ii) seen as independent of government. It is not clear how this appointment came about, but we conjecture that it must have been the result of high-level lobbying and discussions involving some influential stakeholders including regulators and financiers. Also in 2016, in a move that further lessened the influence of government, the board of directors resolved to remove all government representation from the board. Lastly, towards the end of 2016 Petrobras appointed a new Audit Committee chairman and resolved to elevate the status of the Audit Committee to that of a statutory committee – in effect significantly enhancing the executive powers of this body and adding an additional influential and independent player to the corporate governance mosaic at Petrobras.

- *Monitoring and control*

During this second stage of the crisis response, Petrobras succeeded in introducing a raft of monitoring and control measures which had the effect of increasing the span of control of the new leadership. Most of this activity was implemented in the second year of the crisis period in 2015. The first activity within this policy category was actually

introduced in the pre-crisis period in 2013, in the form of the “Petrobras Corruption Prevention Program” (PCPP), an initiative which was not mentioned at all in the AR, but which the SR described briefly thus:

“Petrobras introduced its Corruption Prevention Program in order to prevent, detect and correct fraud and corruption.... benefits include reduced exposure to legal, image and reputational risk, strengthened corporate governance, centralized efforts for the shared aim of combating fraud and corruption...” Petrobras (2013b), p.16).

In January 2014 Brazil had belatedly introduced new corporate transparency legislation through the enactment of the Brazil Clean Company Act (BCCA). This legislation is focused on reducing corruption through the strengthening of internal controls and compliance procedures, and requires firms to have in place an “integrity programme” (Tobolowsky, 2016). We conjecture that the PCPP initiative represents the company’s response to the impending arrival of the BCCA, albeit there is no reference to this legislation in the SR narrative. Given the subsequent ACC initiatives that Petrobras took, in our view the announcement of the PCPP represents a relatively underpowered response to the challenge and constitutes a symbolic attempt to gain legitimacy pre-crisis.

Two other monitoring and control related initiatives were also introduced in 2014 following the onset of the crisis period: - (i) the rules around related party transactions were clarified; and (ii) the firm’s code of conduct was revised. We consider that both initiatives also represent symbolic actions to regain legitimacy following the onset of the crisis.

More tangible were the control changes applied from 2015 to the office of General Ombudsman and to the supplier group: - both of which played a role in the control breaches and weaknesses that led to Lava Jato.

The General Ombudsman is Petrobras’s version of a confidential reporting channel, but in view of the allegations around Lava Jato and absence of prior tip-offs from whistle blowers, it appears to have been highly ineffective in meeting the objectives of the role. In 2015 Petrobras completely restructured and simplified the facility, appointed a new leader, and outsourced the whistle blower function.

At its core the Lava Jato scandal constitutes procurement fraud in a conspiracy involving a small group of suppliers. Any serious attempt to repair legitimacy therefore had to deal with the supplier risks. In 2015 Petrobras introduced its new compliance policy which mandated all future suppliers to undergo a compulsory “integrity due diligence” review, in addition to a general risk matrix assessment.

In our view the initiatives to restructure the office of General Ombudsman and revamp supplier due diligence represent highly visible and meaningful steps that we categorise as substantive legitimacy repairing actions as envisaged by Suchman (1995).

- *Dealing with the problematic unit.*

As indicated above, within Petrobras the business function that was most culpable in terms of internal control weaknesses that allowed Lava Jato to happen was procurement. In many large organisations this function is fully centralised. At Petrobras numerous internal functions were indeed centralised: - however procurement was mostly decentralised, with different units operating independently using non-standardised procedures and controls. As a result, we conjecture that it was not difficult to by-pass extant procurement rules and controls for illicit purposes. As Wang (2010) points out, one form of restructuring that can be effective in a crisis management situation is to dissociate from an illegitimate business operation (as opposed to a dissociative organisational restructuring). In our view this strategy was used to gain control of the procurement operation as detailed in Petrobras’s 2015 and 2016 SRs. In effect, the former devolved procurement operation was dismantled and a new more centralised operation was created under the control of the GRC Officer. The new procurement function was reported to have simplified and standardised rules, and introduced basic common sense controls which, for the first time :

“ segregates duties of employees who demand goods or services from those employees who conduct the hiring process and from the process approvers” (Petrobras (2015b), p.20).

We posit that the fact such a statement was deemed necessary for inclusion in the 2015 SR narrative demonstrates the firm's appreciation of the size of its task to restore trust and repair legitimacy amongst the supplier stakeholder group in particular. Moreover, we consider that the strategy of "dealing" with the problematic operation of procurement in the way Petrobras did, through operational dissociation and creating a new centralised dedicated function, represents another example of a substantive policy undertaken by management to repair legitimacy.

Stage 3 response

From Tables 7 it is clear that Petrobras took a number of varied actions starting primarily in the post-crisis period, all of which are forward looking and deal in some way with the culture and way of doing business at the company. We have grouped these activities under the policy category of "culture, training and recognition" which comprises five broad components.

First, in 2017 Petrobras formally announced its "Culture Management Project" which, according to the AR:

"aims at adapting our organizational culture, based on the leadership, in order to align workforce behaviour with the new strategic challenges"

"the first phase named A Culture for the Turning Point, involved our senior management with the objective of obtaining feedback from the leadership on the individual and collective performance focusing on meritocracy, elimination of privileges, and the symbolic recognition of individual and collective results of employees..." (Petrobras (2017a), p.24).

As at the end of 2017, Petrobras was looking to implement the second and third stages of the Cultural Management Project which it termed "Culture for Prosperity" and "Culture for Permanence" respectively.

Second, in 2016, Petrobras unveiled in the AR a new management system called "Evolution Project" to inject more transparency and accountability into its operations. The AR narrative claims that this:

“...ensures the appropriate disclosure of the information and any course corrections, with the structured involvement of the entire corporation” (Petrobras (2017a), p.108).

We interpret the Culture Management Project and Evolution Project strategies as legitimacy maintaining policies geared to enable personnel to “perceive change” as envisaged by Suchman (1995).

The third component relates to training. Petrobras committed early to a raft of new training initiatives for all staff starting in 2015, which extended to the Executive Board in 2016. These initiatives focused on compliance and controls, and staff were required for the first time from 2015 to formally declare their awareness of the firm’s Code of Ethics. We regard these training initiatives as a means to gain legitimacy, as training followed the codification of what were previously informal compliance and control procedures (Suchman, 1995).

The fourth component of Petrobras’s training, culture and recognition policy category comprises various awards and means of recognition. Table 7 shows that the firm reported receiving awards in the pre-crisis period for three consecutive years 2010 – 2012. However, in the subsequent four years which envelope the crisis, all ARs and SRs are silent regarding awards. It was not until 2017 when awards were again referred to in the published documents, when four awards were mentioned in the AR and SR relating to transparency, corporate governance (two awards) and training. We interpret the disclosure of such information regarding reward and recognition as being illustrative of the firm’s desire to seek certification and demonstrate success, both of which are indicative of a desire to gain legitimacy (Wang, 2010)

Finally, we note that from 2017 Petrobras adopted an integrated reporting format for its AR and SR publications, in conjunction with guidelines issued by the International Integrated Reporting Council (IIRC). In our view this action represents a clear case of the company seeking to be seen to conform to ideals as regards reporting and to be associated with a trusted and respected body (i.e. the IIRC), which is a standard tactic to gain legitimacy (Suchman, 1995).

5.2 Findings and Discussion

Two primary objectives underpin this study of the massive corruption crisis at Petrobras which surfaced in 2014:- firstly to determine *how the company responded* through its disclosures and the actioned remedial steps it took within its crisis management response, and secondly to assess *how these actions can be interpreted theoretically* in terms of legitimacy restoration, crisis management and stakeholder interaction models.

In respect of our first objective, based on prior crises predominantly of an environmental nature such as those at Shell (Unerman and Benett, 2004) and Exxon Valdez (Patten, 1992), but also on prior corruption scandals such as those at Siemens in 2006 (Blanc et al., 2019) and Alcatel-Lucent in 2004 (Dissanayake et al., 2011), we had expected that, in line with legitimacy theory, Petrobras would deal with the legitimacy crisis caused by the corruption scandal broadly in two ways: - firstly by implementing an evolving sequence of actions to regain control and restructure the organisation pursuant to trust repair models, and secondly by increasing disclosure related to ACC pursuant to legitimacy theory. Our findings on management's remedial actions and disclosures provide evidence in support of both strategies. However, in relation to our second objective, we found that how Petrobras management went about this process illustrates important differences between (i) a corruption situation and an environmental disaster, and (ii) the Petrobras situation and other corruption cases which have been studied. As we detail below, these distinctions are noteworthy as they provide us with additional insights which both inform management practice and allow us to test applicable theoretical models.

In the next two sections we summarise the practical and theoretical insights gleaned from the results presented above, firstly in relation to the practical remedial and restructuring measures (i.e. the non-disclosure related activities) undertaken by Petrobras management, and secondly relating to the disclosure policies adopted in response to the corruption crisis at Petrobras.

(i) Management's Substantive Remedial Actions

As indicated above, in order to devise an effective remedial plan of action to deal with a major corruption crisis, it is important for key stakeholders to be cognisant of the inherent risks posed by this type of crisis as compared with, for example, an environmental-related crisis (such as an oil spill), which has hitherto been the focus of most prior academic studies. Moreover, any remedial action plan must be workable within the specific legal, administrative and political constraints that underpin the operational reality of the afflicted entity, which in the case of a company such as Petrobras, requires great skill and managerial dexterity.

The key difference between an environmental-related crisis and a corruption scandal primarily relates to the overall impact the two different types of crisis typically entail. An environmental disaster such as that at Exxon Valdez in 1989 (Patten, 1992), and at BP Horizon in 2010 (Arora and Lodhia, 2017) represents an accidental (as opposed to a deliberate) act, although it may entail negligence by management or staff. Indeed an environmental disaster is an aspect of business than is typically planned for with appropriate insurance in place and procedures devised for a rapid response, including a media management plan. Consequently, this type of crisis usually involves unfavourable press coverage and negative public attention, but rarely rises to being an existential threat or an event that compromises the fundamental governance and controls underpinning stewardship of the entity. In contrast, as we have seen at Petrobras, a corruption scandal involving material financial sums arises from deliberate actions to override or by-pass procedures and controls which oftentimes involves senior executives, management and other external stakeholders, and thus invariably represents a systemic problem which can make an entity vulnerable to substantial financial penalties and sanctions from regulatory bodies, as well as litigation and/or criminal investigation. Once an entity's controls and stewardship have been questioned, it is often difficult to obtain financing or supplier credit which can further threaten an entity's financial position, and in the extreme its viability as a going concern. There are numerous examples of entities that have collapsed following a corruption scandal, and numerous other cases where collapse has been averted only because the affected company agreed to a process of drastic restructuring within narrow legal and regulatory parameters. Consequently, unlike a typical environmental disaster that may befall a

company, a major corruption scandal can be seen as a form of financial and administrative shock which can represent an existential threat to the organisation because it involves systemic problems in how it operates and does business, and thus constitutes a far more pervasive crisis that affects all stakeholders. As a result, a corruption crisis usually requires a suitably forceful response encompassing careful crisis management, restructuring of the control environment, and change at the key executive levels, all of which we have shown occurred at Petrobras. Moreover, as we argue below, the unique corporate governance situation at Petrobras allows us to glean additional insights into the theory and practice of dealing with a corruption crisis, as compared with other case studies of corporate scandals affecting private entities such as Siemens and Alcatel-Lucent. In the case of Petrobras we find that stakeholder-agency and multiple agency models are particularly persuasive in this type of setting, models that have not previously been applied in a corruption study.

We have identified three trust repair models in the literature which deal with a crisis management situation (Pfarrer et al., 2008; Bachmann et al., 2015; and Gillespie and Dietz, 2009). There are a number of similarities across these models, each of which sets out a broad plan of action and sequential activities that will permit a firm to respond appropriately to a crisis, with the goal of repairing trust amongst key stakeholders as soon as possible. The Pfarrer et al. (2008) model comprises four stages (discovery; explanation; penance; and rehabilitation), as does the Gillespie and Dietz (2009) model (immediate response; diagnosis; reforming interventions; and evaluation). The Bachmann et al., (2015) model describes six stages (sense-making; relational; regulation and formal control; ethical culture and informal control; transparency and accountability; and trust transference). In Table 9 below, we map the various stages of each of the three trust repair models outlined above onto our assessment of Petrobras's crisis response comprising the 3-stages and 5-policy themes detailed in Table 9. Following Suchman (1995), in Table 9 we also map the corresponding legitimacy management focus (i.e. to repair, maintain, or gain legitimacy), and the broad type of legitimacy or behavioural dynamic targeted (i.e. pragmatic, moral, or cognitive legitimacy). It is evident that Petrobras undertook actions which align well with all four models across which there is substantial, albeit not complete, overlap and common features.

Insert Table 9

It is instructive to consider the three stakeholder-related theories outlined earlier, in assessing Petrobras management's approach to the crisis, and their ability to implement the activities undertaken. We suggest that at the outset of the Lava Jato scandal becoming public in April 2014, its size and nature, underpinned by the associated legal and regulatory ramifications involving the likes of the SEC and its Brazilian equivalent the CVM, provided the type of short term disequilibrium conditions envisaged in stakeholder-agency theory (SAT) (Hill and Jones 1992), and moreover gave rise to the necessary 'temporary power differentials' between managers and stakeholders needed to allow effective remedial action to be taken. It is important to be cognisant of the somewhat unusual corporate governance situation that persisted at Petrobras at the time of the scandal in 2014 as summarised earlier in this paper, notwithstanding the fact that it was a multi-listed entity. Most markedly, the Brazilian government had the right to appoint the majority of the board of directors (BOD), which itself appointed the executive board (ED) (Brecci and de Oliveira). Consequently, Petrobras was not independent of government at the time Lava Jato became public, a major constraint given the alleged political underpinnings of the scandal as widely reported in the press at that time. Consequently, we consider that Petrobras's stage 1 response comprising the appointment of a Special Committee of independent directors, and the commencement an internal investigation and remediation process involving external counsel from an international law firm, comprised a fundamental change in the power structure at the company, with power shifting from the main shareholder (government) to newly appointment management who were independent of government. Pursuant to SAT (Hill and Jones 1992), such a shift in power could only occur in the event of a seismic disequilibrium, in this case caused by the Lava Jato corruption scandal. In our view this was the single most important decision taken by Petrobras as a response to the crisis, as it created a "firewall" with past actions and leadership (Suchman, 1995),

and set a precedence for a new period of corporate governance through organizational restructuring and enhanced controls. This action also aligns with theories of trust repair (Pfarrer et al., 2008; Bachmann et al., 2015; and Gillespie and Dietz, 2009), all of which incorporate some form of initial discovery and explanation process that is swiftly enacted. Stage 2 activity followed in short order and in parallel, which we group into three policy categories: - restructuring and governance; monitoring and control; and dealing with the problem unit. Organisational restructuring is a common strategy to repair legitimacy (Wang, 2010). Petrobras acted quickly to appoint a GRC Officer as part of the EB who effectively had the power of veto on any relevant matter. We believe this represents the second critical change that Petrobras introduced as it immediately placed controls on key decisions and implemented change – for example in 2015 the EB changed policies and procedures relating to the firm’s code of conduct and related party transactions, and introduced supplier integrity due diligence and an externally managed whistle-blower hotline. However, other important changes of a governance nature only took place the subsequent year in 2016: - firstly when the first truly independent CEO was appointed, secondly when government lost all remaining board representation, and thirdly when Petrobras centralised and professionalised the “problem” function (procurement) which had primary culpability for control lapses which led to the Lava Jato scandal. We posit that the latter action was akin to dissociating from an illegitimate business operation, a common form of organisational restructuring (Wang, 2010). Stage 3 activities were initiated mostly in the post-crisis period, comprising a raft of actions related in some way to future aspirations and progression, involving culture change, training and recognition, and signalling a shift from legitimacy repair to legitimacy maintenance and gain. We find that the stage 2 and stage 3 activities correspond reasonably well with the mid and late stage actions proposed in trust repair models.

We consider that Petrobras’s careful management of government was a key component of its crisis response strategy which aligns with a multiple agency theory (MAT) interpretation (Calvo and Calvo, 2018). Pursuant to MAT, a complex stakeholder dialogue process can be made considerably more complicated, and indeed could be compromised, by the involvement of a shareholder (such as a government) who holds some form of significant power or influence. Clearly the Brazilian government was

positioned to inhibit the crisis response had it so chosen. The fact that adequate progress was made with stakeholders to regain legitimacy at Petrobras suggests that the company skilfully and nimbly navigated the attendant risks associated with government interactions as incorporated within MAT.

This leads us to question the extent to which Petrobras applied a process of ‘stakeholder dialogue’ (Unerman and Bennett, 2004) as the company devised and implemented its crisis management response. The Unerman case study deals with an environmental problem and negative publicity at Royal Dutch Shell in 1995, following which the company publicly committed to (i) engage in a widespread stakeholder dialogue process, and (ii) adopt more transparent and accountable forms of reporting, ostensibly because of its belief in ‘social justice’ (Unerman and Bennett, 2004). Shell manifested this commitment primarily through an interactive web forum which encouraged debate and provided feedback, and which achieved a reasonably high level of participation (i.e. more than 1,000 relevant postings in 1999/2000). It is important to note that the issues faced by Shell at that time were burdensome, but were far short of constituting a crisis or existential level threat as was the case at Petrobras. Petrobras took a different approach to stakeholder dialogue, by adopting a twin tactic using (i) focus groups and interviews to ‘identify issues amongst the target audiences’ (Petrobras, 2010b), and (ii) its website (which provided an electronic form) to obtain ‘suggestions, criticisms and denunciations’ (Petrobras, 2014b). From 2014 onwards Petrobras also maintained a Twitter account, although the company has not published any data on the number of users and extent of activity on the account (Petrobras 2014b – 2017b). Given that we have not conducted a historic content analysis of the Petrobras Twitter account in this study, and in the absence of any published data, we cannot be definitive regarding the extent to which Petrobras engaged in meaningful stakeholder dialogue through this channel, however we suggest that this is unlikely because of (i) the lack of any reference to such engagement (and credit taken) in the firm’s published reports, and (ii) the associated risks and burdensome level of resource required to do so effectively. Rather we speculate that more likely the Twitter account was used for informational rather than dialogue purposes. We cannot know for sure why Petrobras chose not to engage stakeholders in a Shell-type discussion forum, but suggest that the systemic problems and highly legalistic nature of the Petrobras crisis involving multiple investigations by

the police and various regulative bodies made public discourse overly risky in the Petrobras situation.

In sum, it would appear that Petrobras chose to engage with stakeholders primarily via its published reports and press releases, albeit these provide no practical means of consultation whereby management can understand (and then meet) stakeholder expectations as envisioned within a healthy stakeholder dialogue process (Unerman and Bennett, 2004). Rather, Petrobras achieved success in its crisis response by adopting a more muscular and one-directional engagement policy that drove change based on necessity and control, albeit skilfully executed. In line with SAT, this situation was made possible by the power differentials created between management and stakeholders at Petrobras arising from the temporary disequilibrium caused by Lava Jato. Moreover, an important aspect of management's implementation of its crisis plan involved careful management of government as envisaged by MAT, given government's unique stakeholder position and influence at the company.

(ii) Corporate Disclosure Policies

Turning to our findings on Petrobras's disclosure practices, content analysis of ARs and SRs shows clear support for legitimacy theory explanations in how Petrobras changed its disclosure policy following the 2014 crisis. The data shows consistent patterns for both measures used to assess the level of ACC disclosure (i.e. ACC extensiveness and ACC breadth), with a significant rise in the level of disclosure consistent with prior studies of corporate corruption (e.g. Blanc et al., 2019; Dissanayake et al., 2011; Islam et al., 2015). In 2017, the level of ACC disclosure dropped significantly in both the AR and SR, consistent with previous findings in the post-crisis period (Cho, 2009; Blanc et al., 2019). By 2017 the AR had clearly emerged as Petrobras's key publication for expressing its ACC narrative, comprising more detail but less breadth than did the SR. This is as expected given the wider target audience of stakeholders for the SR (Islam et al., 2015), and the needs of the primary AR audience for facts concerning the corruption incident that threatened the legitimacy and financial status of the company (Blanc et al., 2019). Beyond this, we conjecture that the emergence of the AR as the primary tool for disclosing ACC matters in detail, and the

extended period in which ACC extensiveness in this document peaked (i.e. into the post-crisis period), reflects the extent of management's view of the seriousness, depth, and on-going nature of the legitimacy threat it was facing to convince the AR target audience (comprising shareholders, financiers, regulators, leadership and staff), that the firm had in fact turned the corner and could now be trusted. It seems that management believed this goal was achieved from 2017 when ACC disclosure levels dropped sharply. However, short of conducting a suitable survey, there is no empirical way of determining whether Petrobras had successfully repaired its legitimacy by 2017. Possible proxies, albeit imperfect, could be the share price and the firm's credit rating. As at the date of the release of the 2017 AR and SR (April 2018), Petrobras's share price was around 25% up as compared to when the Lava Jato story first reached the public domain in April 2014. Moreover, in April 2018 Moody's increased its credit rating for Petrobras to "Ba2 – stable", which is the same level it was at when the scandal was announced. We tentatively suggest that these financial metrics may corroborate the view that by the time the 2017 financial statements were released (April 2018) Petrobras had substantially recovered in terms of legitimacy, and that the crisis management and trust repair measures taken to respond to the legitimacy threat had been successful. However, we caution that continued vigilance is required. Achieving sustained change in any organisation to combat systemic corruption is difficult and given Petrobras's situation in Brazil, we believe it will remain vulnerable to political influence.

6. Contributions and Implications for Future Research

This study makes several contributions to the extant literature. Our primary contribution derives from this paper being the first to apply models from stakeholder-agency theory and multiple agency theory to a corruption crisis, and moreover to consider such a crisis at an entity like Petrobras – which is both listed internationally yet retains some level of control by government - thereby presenting a number of complexities which may be relevant to other companies in developing countries should they face corruption charges. Our findings extend our understanding of how to effectively take advantage of the temporary disequilibrium and power differentials caused by a crisis to implement a

crisis management plan and restore legitimacy, whilst navigating the complication of a highly influential stakeholder (government). We are able to demonstrate how this was achieved in line with theory by management seizing and entrenching control, implementing a sequence of substantive remedial and forward-looking change management activities, and engaging in unidirectional interactions with the body of stakeholders primarily through formal disclosure of anti-corruption related policies and procedures. Second, very little is known about the way companies use ACC disclosure via the AR and SR to communicate with stakeholders so as to best manage their respective legitimacy concerns and retain support going forward - indeed only four other companies have been studied from this perspective (Siemens, Alcatel-Lucent, ZTE and China Mobile (Blanc et al., 2019; Dissanayake et al., 2011; Islam et al., 2015)). This is the first time a study has been undertaken on a national champion, mixed capital company such as Petrobras, a type of entity that is not uncommon and which has the ability to influence ACC disclosure and ACC policies and practices widely amongst other organisations in its country of origin. We add to this nascent area of study by considering how the culpable stakeholder groups at Petrobras (i.e. leadership, employees and suppliers) were targeted in ACC disclosures and remedial actions taken. Finally, this study helps clarify some of the inconsistencies seen in prior studies linking crisis management responses actually implemented to legitimacy management and trust repair models, and identifies similarities and differences in how companies deal with two distinct types of crisis (i.e., a corruption scandal and an environmental disaster).

As for any study, this research is subject to a number of limitations. First, this is a case study, and as such the research is based on a unique situation (Lava Jato) which befell a unique company (Petrobras). Major corruption incidents are highly unusual. Consequently it raises credible doubts as to the generalizability of our findings. Second, we have relied almost entirely on the data published by the entity under study, i.e. Petrobras, through its corporate disclosures, which provides no meaningful opportunity of data verification through triangulation from other sources. Third, it might be argued that as the corruption event became public relatively recently (April 2014) in relation to the final year of analysis (2017), insufficient time has passed to enable us to make some conclusions regarding, for example, the success of management efforts to regain and restore legitimacy.

The study suggests several issues that warrant further research. First, given that Petrobras shares several features with listed, national champions in other countries which are at risk of political capture and corruption, we posit that some of these have probably experienced one or more well-publicised corruption incidents in recent years. We believe it would be useful to examine such incidents to determine whether our findings are transferrable. Second, as we are still relatively close in time to the date when the Petrobras scandal first erupted in the public domain, we suggest that Petrobras should continue to be monitored so as to determine whether there are any signs of rollback or persistence regarding ACC policies and disclosure practices. Third, as an extension of this case study, we believe that it would be instructive to conduct some form of cost/benefit analysis regarding the process that Petrobras has gone through. Petrobras committed substantial cash and people resources in its crisis management response. Siemens did something similar. Not all companies are so diligent, yet most survive a corruption or fraud scandal. Although data will necessarily be case-specific, it would add to our contextual understanding to have some sense of the relative costs involved, including those imposed by regulators, and to compare these across cases, accepting that obtaining a counterfactual in terms of overall financial outcome would not be attainable. Lastly, given that companies (including Petrobras) devote time and effort to engage differently with different stakeholders using the AR and SR, we believe it would be useful to use survey methodology to gauge the effectiveness of such differentiated communication policies (in the case of Petrobras and elsewhere), in restoring trust and legitimacy in the eyes of key stakeholders following a major corruption scandal.

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TABLES

Table 1 Time periods

| Period | Financial Years | Period in Relation to the Crisis |
|---------------|------------------------|---|
| Period 1 | 2010 to 2013 | Pre-Crisis |
| Period 2 | 2014 & 2015 | Crisis |
| Period 3 | 2016 & 2017 | Post-Crisis |

Table 2 ACC extensiveness

| Document / Year | Period 1 | | | | Period 2 | | Period 3 | |
|----------------------------|------------|------|------|------|----------|------|-------------|------|
| | Pre-crisis | | | | Crisis | | Post-crisis | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Annual Report (AR) | 25 | 26 | 26 | 21 | 231 | 245 | 451 | 181 |
| Sustainability Report (SR) | 73 | 126 | 137 | 78 | 138 | 269 | 210 | 109 |

Pre-crisis period 2010 - 2013

- In this 4-year period Petrobras’s ARs and SRs both exhibit the lowest level of ACC disclosure extensiveness across the entire 8-year period of review.
- The consistently higher level of ACC extensiveness in the SR compared to the AR is as expected, and is consistent with previous studies (e.g., Blanc et al., 2019; Islam et al., 2015), reflecting the differing functions of the documents and their primary target audiences (AR – financial information for shareholders; SR – value creation for the wider stakeholder group).
- The low level of ACC volume prior to the crisis erupting, and particularly in 2010, is in line with expectations and may demonstrate the relatively low importance Petrobras attached to ACC disclosure during this period. The growth in SR volume from 2010 – 2012 might be explained by the vibrant public discourse throughout this period attached to the impending introduction of the Brazil Clean Company Act (BCCA), which became law in 2014 after some delay, and so could be evidence of efforts by Petrobras to enhance its legitimacy as regards the impending legislation.
- The subsequent volume drop in 2013 is surprising but we posit this might be explained by Petrobras considering that by then it had “done enough” in terms of legitimacy maintenance to cover the BCCA threat, and so it subsequently reverted to its prior stance of a relatively low level of disclosure in its 2013 publications.

Crisis period 2014 - 2015

- There is a dramatic change in Petrobras’s disclosure pattern with a significant increase in the volume of ACC disclosures in both the AR and SR. This suggests that Petrobras sought to repair its threatened legitimacy through these enhanced disclosures, in line with legitimacy theory and as seen in other companies struck by a corruption scandal (e.g., at Siemens, Blanc et al., (2019)).
- The AR took on a more important role for ACC disclosure in respect of both the immediacy and extent of disclosure. The same tactic of focusing on the AR as a primary tool of disclosure in the crisis period was seen at Siemens (Blanc et al., 2019). We suggest that during this crisis period Petrobras deemed it necessary to act swiftly and with authority to include such details in the AR given the nature of the legitimacy threat facing the AR target audience. During this period, there was still considerable uncertainty regarding the financial risks affecting the company, primarily as regards potential claims from a US class action lawsuit. Moreover, the company was carrying a significant debt burden and its relationships with many of its closest suppliers were tarnished. In addition, there were continuing doubts about leadership at the company. In our view it follows that the AR is the appropriate document to deal with such issues so as to reach the primary target audience of shareholders, financiers and employees.

Post-crisis period 2016 - 2017

- The significant drop-off in extensiveness in both the AR and SR in 2017 - i.e., around 3 years after the scandal had first reached the public domain - mirrors that seen elsewhere (e.g., Cho, 2009). This could signify that by 2017 Petrobras’s strategy had shifted from one of legitimacy repair mode to legitimacy maintenance (De Villiers and van Staden, 2006).

Table 3 ACC breadth

| Document / Year | Period 1 | | | | Period 2 | | Period 3 | |
|----------------------------|------------|------|------|------|----------|------|-------------|------|
| | Pre-crisis | | | | Crisis | | Post-crisis | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Annual Report (AR) | 5 | 5 | 6 | 6 | 20 | 28 | 33 | 27 |
| Sustainability Report (SR) | 10 | 11 | 11 | 11 | 56 | 69 | 79 | 48 |

Pre-crisis period 2010 - 2013

- A similar pattern for ACC breadth is seen as for ACC extensiveness (Table 2) between the AR and SR – i.e., a very low and consistent baseline in both documents, with the SR attaining a Breadth Index (BI) of 11 by 2013, a score that is almost double that of the AR (BI = 6 in 2013).
- In the AR, we see from Table 4 that ACC breadth is limited solely to the commitment/policy theme – i.e. there is no coverage of either the implementation or monitoring themes. Within the commitment/policy theme, two of the four policy components are covered, i.e. ethics and governance.
- By contrast, in the SR we see from Table 5 that this document has some coverage throughout the period of both (i) the commitment/policy theme (i.e. ethics and governance); and (ii) the implementation theme (i.e. executives, employees and other procedures). In respect of the third theme (monitoring), the SR has some limited and inconsistent coverage in the period.

Crisis period 2014 - 2015

- There is a dramatic increase in the breadth of disclosure in both the AR and SR, a rise which is maintained across both years, during which the gap in ACC breadth between the SR and AR increases from a ratio of around 2 to nearly 2.5.
- The AR shows a BI score increase from 6 to 20 between 2013 and 2014, and a further rise to a BI score of 28 in 2015. This is achieved through: - (i) increased coverage of the commitment/policy theme (i.e. in 2015 all 4 policy categories are covered for the first time:- ethics, governance, procedures, and risk assessment); and (ii) some policy categories within the implementation and monitoring themes are included for the first time, most notably in 2015.
- The SR BI score rise in this period is even more marked than for the AR, with a fivefold increase from a score of 11 in 2013 to 56 in 2014, and increasing further to 69 in 2015. We can see from Table 5 that this shift comes about as a result of a major revision in the coverage of the SR to encapsulate: - (i) expansion of coverage pre-crisis to encapsulate for the first time all 14 policy categories of the ACC Breadth Index across all three themes (commitments/policy, implementation, monitoring); and (ii) wider coverage in 2015 of policy categories previously referenced in 2014.

Post-crisis period 2016 - 2017

- BI scores reached a peak for both the AR and SR in 2016, with BI scores falling in 2017. The 2017 drop in ACC breadth affects the AR and SR differently: - for the AR the BI score remains relatively high in 2017, whereas for the SR it falls below the crisis period level.
- The AR shows broadly increased coverage in 2016 across most of the 14 policy categories within the ACC Breadth Index as compared to 2015, with the BI score increasing from 28 to 33. In 2017 the BI score drops back to 27, due primarily to reduced coverage of the procedures and governance categories within the commitment/policy theme.
- The SR shows a similar trend in 2016, with incremental coverage spread evenly across the 14 policy categories and the BI score increasing from 69 to a peak of 79. In 2017, SR ACC breadth reduced dramatically to a BI score of 48, the lowest since 2013. The main breadth reductions relate to investigation and remediation policy categories (within the monitoring theme), and in respect of the governance and procedures categories (within the commitment/policy theme).

Table 4 ACC breadth for annual report by category

| Theme | Policy Category | Max | Period 1 Pre-crisis | | | | Period 2 Crisis | | Period 3 Post-crisis | |
|------------------------|---------------------------------|-----|------------------------|------|------|------|--------------------|------|-------------------------|------|
| | | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Commitment & Policy | Ethics, values, Integrity | 6 | 2 | 2 | 3 | 3 | 6 | 6 | 5 | 6 |
| | Governance | 7 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 3 |
| | Procedures, autonomy, resources | 14 | 0 | 0 | 0 | 0 | 4 | 6 | 8 | 5 |
| | Risk assessment and management | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 |
| Implementation | Governance | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | Executives and Management | 7 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 2 |
| | Employees | 6 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 |
| | Business Partners | 12 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| | Other implementation procedures | 5 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 |
| Monitoring | Reporting incidents | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| | Investigation | 6 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 1 |
| | Remediation and discipline | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Continuous improvement | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Findings, Results, and KPIs | 15 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 3 |

Table 5 ACC breadth for sustainability report by category

| Theme | Policy Category | Max | Period 1 Pre-crisis | | | | Period 2 Crisis | | Period 3 Post-crisis | |
|------------------------|---------------------------------|-----|------------------------|------|------|------|--------------------|------|-------------------------|------|
| | | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Commitment & Policy | Ethics, values, Integrity | 6 | 3 | 3 | 3 | 3 | 6 | 6 | 6 | 5 |
| | Governance | 7 | 4 | 4 | 3 | 4 | 6 | 9 | 7 | 2 |
| | Procedures, autonomy, resources | 14 | 0 | 0 | 0 | 0 | 9 | 12 | 12 | 5 |
| | Risk assessment and management | 3 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 2 |
| Implementation | Governance | 4 | 0 | 0 | 0 | 0 | 2 | 2 | 4 | 1 |
| | Executives and Management | 7 | 1 | 1 | 1 | 1 | 3 | 4 | 6 | 6 |
| | Employees | 6 | 1 | 2 | 1 | 1 | 3 | 3 | 5 | 4 |
| | Business Partners | 12 | 0 | 0 | 0 | 0 | 6 | 8 | 7 | 6 |
| | Other implementation procedures | 5 | 1 | 1 | 1 | 1 | 4 | 3 | 4 | 2 |
| Monitoring | Reporting incidents | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 2 | 1 |
| | Investigation | 6 | 0 | 0 | 0 | 1 | 3 | 3 | 4 | 0 |
| | Remediation and discipline | 5 | 0 | 0 | 0 | 0 | 4 | 5 | 4 | 0 |
| | Continuous improvement | 5 | 0 | 0 | 0 | 0 | 2 | 4 | 3 | 2 |
| | Findings, Results, and KPIs | 15 | 0 | 0 | 1 | 0 | 5 | 9 | 12 | 12 |

Table 6 Press releases and media attention

| | Period 1 | | | | Period 2 | | Period 3 | |
|-------------------------|-----------------|-------------|-------------|-------------|-----------------|-------------|-----------------|-------------|
| | Pre-crisis | | | | Crisis | | Post-crisis | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Press releases - total | 164 | 96 | 81 | 76 | 110 | 245 | 208 | 234 |
| Press releases - ACC | 0 | 4 | 2 | 0 | 16 | 49 | 26 | 8 |
| Press articles - global | 31 | 44 | 33 | 65 | 4,381 | 14,278 | 8,692 | 5,988 |
| Press articles - Brazil | 18 | 35 | 22 | 40 | 2,956 | 9,574 | 4,818 | 4,369 |
| AR extensiveness | 25 | 26 | 26 | 21 | 231 | 245 | 451 | 181 |
| SR extensiveness | 73 | 126 | 137 | 78 | 138 | 269 | 210 | 109 |

Press releases

- It is evident that Petrobras's press release strategy mirrors its policy as regards AR and SR ACC disclosure. The volume of press releases rose by more than 40% between 2013 and 2014 to 110 releases, of which 16 specifically related either to: - the scandal; its impact on compliance or governance actions; or corruption generally (which compares to a prior year count of zero).
- Press release activity more than doubled the following year 2015, reaching a peak of 245 releases, i.e. the same year that press attention peaked, during which the number and fraction of Lava Jato related press releases grew substantially to a peak of 49 releases, i.e. around 20% of the total for the year.
- In 2016 and 2017 Petrobras continued to maintain a high level of press releases not much below the 2015 peak, but the number of Lava Jato-related releases dropped substantially to a figure of just 8 by 2017, mirroring the trend identified in the substantial reduction in ACC extensiveness seen in the AR and SR in the same year 2017.

Media attention

- In the pre-crisis period, press attention linking Petrobras to bribery or related illegal conduct was very low, with Brazilian press interest comprising more than half of all global coverage.
- The situation changed dramatically once Lava Jato reached the public domain. In 2014 global press reports rose from a prior year total of 65 to more than 4,300, of which almost 3,000 appeared in the Brazilian press. The following year 2015 saw an even larger increase in media attention, as the global press coverage exceeded 14,000 articles, of which in excess of 9,500 appeared in Brazil. This level of press attention in Brazil, and globally, dwarfs that seen in other recent corruption-related scandals at Siemens, Alcatel-Lucent, ZTE and China Mobile (Blanc et al., 2013; Dissanayake et al., 2011; Islam et al., 2015), and we suggest this reflects the unique position that Petrobras plays in the Brazilian business and cultural environment, and societal concern with corruption following years of scandals in Brazil (Almeida and Zagaris, 2015).
- In line with expectations, press attention decreased steadily in the post-crisis period: - albeit by 2017 global press attention of almost 6,000 articles was still higher than the 2014 figure, with Brazilian press interest tailing off at an even slower rate.

Table 7 Petrobras's ACC responsive actions pre-, during and post- crisis

| | Period 1 | | | | Period 2 | | Period 3 | |
|--|-----------------|------|------|------|-----------------|------|-----------------|------|
| | Pre-Crisis | | | | Crisis | | Post-Crisis | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| 1. Investigation | | | | | | | | |
| Independent Internal Investigation Committee | | | | | x | | | |
| Settlement of class action in US – paid \$2.9bn | | | | | | | | x |
| Crisis management guide | | | | | | | | x |
| Committee to sanction suppliers established | | | | | x | | | |
| Special Committee | | | | | x | | | |
| 2. Governance – organisational restructuring | | | | | | | | |
| CEO | | | | | | | | |
| New CEO appointed - Silva | | | x | | | | | |
| New CEO appointed - Bendine | | | | | x | | | |
| New CEO appointed - Parente | | | | | | | x | |
| Chairman | | | | | | | | |
| New Chairman appointed - Ferreira then Carvalho | | | | | | x | | |
| BOD | | | | | | | | |
| BOD composition | | | | | | x | | |
| BOD – reduced exec membership to one, i.e. CEO | | | | | | x | | |
| BOD – no-one from Government | | | | | | | x | |
| BOD, EB - external evaluation | | | | | | | x | |
| New Advisory Committees | | | | | | x | | |
| Executive Role – Governance, Risk & Compliance (GRC) | | | | | | | | |
| GRC created | | | | | x | | | |
| GRC operational | | | | | | x | | |
| Audit Committee | | | | | | | | |
| Audit Committee – more people/ more frequent meetings | | | | | | x | | |
| Audit Committee – becomes statutory | | | | | | | x | |
| Audit Committee published annual report | | | | | | | x | |
| Audit Committee – new Chairman appointed | | | | | | | x | |
| Other governance related actions | | | | | | | | |
| Publication – annual letter of policies & governance | | | | | | | | x |
| Review of Governance Model | | | | | | x | | |
| 3. Monitoring and control measures | | | | | | | | |
| General Ombudsman | | | | | | | | |
| Restructured | | | | | | x | | |
| New leader | | | | | | x | | |
| Single channel for complaints | | | | | | x | | |
| Outside company to run whistle-blower hotline | | | | | | x | | |
| Compliance | | | | | | | | |
| Integrity due diligence started on business partners (BPs) | | | | | | x | | |
| Correction Committee implemented | | | | | | x | | |
| Code of Best Practice updated | | | | | | | x | |
| Code of Conduct – new rules | | | | | x | | | |
| Related party transactions – new rules | | | | | x | | | |
| Decision making | | | | | | | | |
| Collective vs. individual – 2 managers must act jointly | | | | | | x | | |
| Prevention | | | | | | | | |
| Corruption Prevention Program | | | | x | | | | |
| Risk Assessment | | | | | | | | |
| Risk matrix on suppliers – includes compliance | | | | | | x | | |
| Risk management roles between BOD /EB clarified | | | | | | | x | |
| 4. Dealing with problem area -Procurement | | | | | | | | |
| Seg duties between demanding of goods, hirer, approver | | | | | | x | | |
| Program for improving the management of the database of suppliers of goods and services (PGBF) | | | | | | x | | |
| Partial centralisation of procurement function | | | | | | | x | |
| 5. Culture, training & recognition | | | | | | | | |
| Management Processes | | | | | | | | |
| Evolution Project – new management system | | | | | | | x | |
| “Simplify Petrobras” Program | | | | | | | | x |
| Culture change | | | | | | | | |
| Cultural Management Project | | | | | | | | x |
| Training | | | | | | | | |
| Petrobras in Compliance | | | | | | x | | |
| Compliance Agents | | | | | | x | | |
| Staff to declare formal awareness of Code Ethics | | | | | | x | | |
| Qualification Programme in corporate governance | | | | | | | | |
| Directors/ EB specific training, periodically | | | | | | | x | |
| Awards / recognition | | | | | | | | |
| Transparency award | x | x | x | | | | | x |
| BOD award for corporate governance | | | | | | | | x |
| Training | | | | | | | | x |
| Governance Indicator – 10/10 | | | | | | | | x |
| Reporting changes | | | | | | | | |
| Integrated reporting for AR | | | | | | | | x |

Table 8 Stages of Petrobras’s crisis management response activities

| Stage | Policy category | Timing (initiation) | Status |
|-------|---|---|------------------------|
| 1 | Investigation | Immediate - crisis period | On-going - advanced |
| 2 | Restructuring & governance Monitoring & control Dealing with problematic unit | Crisis period, and early post-crisis period | On-going - advanced |
| 3 | Culture, training & recognition | Mid post-crisis period | On-going – early stage |

Table 9 Mapping Petrobras's crisis response to trust repair and legitimacy models

| Stage | Petrobras Policy | Mapping to trust repair models | | | Mapping to legitimacy theory model (Suchman, 1995) | |
|-------|---------------------------------|--------------------------------|------------------------------------|-------------------------------------|--|---|
| | | <i>Pfarrer et al, (2008)</i> | <i>Bachmann et al, (2015)</i> | <i>Gillespie & Dietz (2009)</i> | Focus | Strategy |
| 1 | Investigation | Discovery | Sense-making | Immediate | Repair | Pragmatic (create monitors) |
| | | Explanation | Relational Trust transference | Diagnosis Reforming | | Deny |
| 2 | Restructuring & governance | Explanation | Regulation & formal control | Diagnosis | Repair | Moral (dissociation) General (restructure) |
| | | Penance | | Reforming | | Maintain |
| | Monitoring & control | Explanation | Regulation & formal control | Diagnosis | Repair | Moral (dissociation) General (restructure) |
| | | Penance | | Reforming | | Maintain |
| | Dealing with problematic unit | Rehabilitation | Regulation & formal control | Reforming | Repair | Moral (dissociation) General (restructure) |
| | | | | | | |
| 3 | Culture, training & recognition | Rehabilitation | Ethical culture & informal control | Evaluation | Maintain | Pragmatic (communicate honestly) |
| | | | Transparency | | | Gain |

Appendices

Appendix 1 Timeline of key events in the Petrobras corruption crisis

| Year(s) | Day, Month | Event | Source |
|-------------|------------|---|--|
| 2003 - 2010 | n/a | Dilma Rousseff serves as Petrobras Chairman prior to election President of Brazil. | Financial Times (FT), 4 Feb 2015 |
| 2010 | Sep | Petrobras raises \$70bn in world's largest share offering. | FT 4 Feb 2015 |
| 2011 | Jan | Rouseff inaugurated as President of Brazil. | FT 4 Feb 2015 |
| 2012 | Jan | Maria das Gracas Foster appointed as Petrobras CEO. | FT, 4 Feb 2015 |
| 2012 | Aug | Petrobras posts its first quarterly loss in 13 years, partly as a result of government's refusal to allow it to raise fuel prices aligned to global markets. | FT4 Feb 2015 |
| 2013 | Sep | Petrobras reports gross debts of \$135bn, becoming the most indebted oil producer in the world and one of the highest indebted companies in the world. | FT 4 Feb 2015 |
| 2014 | 20-Mar | Paulo Roberto Costa, former head of Petrobras refining and supply department, arrested by Federal Police in connection with an investigation into alleged corruption that took place from 2004 to 2012. | Reuters, 22 Feb 2016; FT 4 Feb 2015 |
| 2014 | 14-Apr | President Rouseff says that Petrobras has become a target of a malicious political campaign. | FT 4 Feb 2015 |
| 2014 | 22-Aug | Costa signs a plea bargain deal, agreeing to explain the corruption scheme and name names. | Reuters, 22 Feb 2016 |
| 2014 | 05-Sep | Petrobras issues press release and announces for the first time that it is aware of media stories linking the company with Lava Jato. | Petrobras corporate website, 5 Sep 2014 |
| 2014 | 27-Oct | Petrobras announces the launch of an internal investigation of the allegations and rumours linking the company to Lava Jato. This will be led by an independent committee assisted by two large independent law firms from the US and Brazil. | Petrobras corporate website, 27 Oct 2014; Annual Report 2014 |
| 2014 | 14-Nov | Police arrest 18 people, including Renato Duque, former Petrobras director of engineering, in what was the first broad raid in the investigation. | Reuters, 22 Feb 2016 |
| 2014 | 24-Nov | SEC subpoenas Petrobras relating to an SEC investigation into the company. | FT 24 Nov 2014 |
| 2014 | 11-Dec | Prosecutors in Curitiba formally charge 36 people, 22 of them from seven large Brazilian engineering firms. | Reuters, 22 Feb 2016 |
| 2014 | 29-Dec | Petrobras bans 23 suppliers cited in the investigation from bidding on tenders. A total of 27 supplies are ultimately deemed to have been involved in the corruption scheme. | Reuters, 22 Feb 2016; Economist, 11 Apr 2019 |
| 2015 | 28-Jan | Petrobras finally releases 3 rd quarter 2014 results which are unaudited. | Petrobras website |
| 2015 | 06-Feb | Aldemir Bendine appointed CEO of Petrobras after abrupt resignation of Maria das Gracas Foster (plus several other senior executives). | Reuters, 22 Feb 2016 |
| 2015 | 06-Mar | Brazil's Supreme Court says it will investigate the speakers of both Houses of Congress in addition to 32 other sitting politicians relating to the Petrobras scandal. | Reuters, 22 Feb 2016 |
| 2015 | 15- Apr | Police arrest Joa Vaccari, treasurer of the ruling party (Worker's Party), thereby moving the investigation closer to President Rouseff. | Reuters, 22 Feb 2016 |
| 2015 | 22-Apr | Petrobras releases 2014 audited result which show losses of \$2bn and an impairment charge of R\$44.6bn (US\$13bn). | FT, 22 Feb 2015 |
| 2017 | 12-Jul | Former president Lula sentenced to 9 ½ years in jail on corruption and money laundering charges. (The sentence is later increased to 12 years) | Guardian, 12 Jul 2017 |
| 2018 | 27-Sep | Petrobras settles bribery case with SEC for US\$853m. | FT, 27 Sep 2018 |
| 2019 | 08-Nov | After more than a year and a half in prison, former president Lula is released. | Guardian, 8 Nov 2019 |
| 2021 | 08-Mar | Convictions against former president Lula are quashed. | Guardian, 8 Mar 2021 |

Appendix 2-1 ACC Breadth Index - Theme 1 Commitment & Policy

| Component # (1-97) | Reference ² | Policy component |
|-----------------------|------------------------|--|
| | | Ethics, values, integrity |
| 1 | D1 | Publicly stated formal policy of zero tolerance |
| 2 | G4-56 | Values, principles, norms, Code of Conduct, Code of Ethics, applies to all |
| 3 | CP | Shared commitment made clear |
| 4 | CP | Conduct / tone at the top |
| 5 | D2 | Support for international and regional legal frameworks |
| 6 | CP | Oversight by Governance body |
| | | Governance |
| 7 | GRI-205-2 2.1.1.1 | Governance bodies that exist - BOD, Management Committee etc. |
| 8 | G4-34 | Governance structure |
| 9 | G4-35 | Process for delegating authority from main Governance body to Executive |
| 10 | G4-36 | Executive reports directly to main Governance body |
| 11 | G4-42 | Governance and Executive involvement in creating values |
| 12 | G4-45 | Governance role in identifying and managing risk and due diligence |
| 13 | G4-46 | Governance role in assessing effectiveness of risk management |
| | | Procedures, autonomy, resources |
| 14 | GRI-205 1.1, GRI-103 | Management approach to anti-corruption - how it identifies / manages conflicts etc. |
| 15 | H | Code of conduct, compliance polices and guides, readily available |
| 16 | G4-57 | Internal and external mechanisms for seeking advice on unethical/ unlawful concerns |
| 17 | G4-58 | Internal and external mechanisms for reporting ethical / unlawful concerns |
| 18 | CP | Compliance role and function explained |
| 19 | CP | Stature of compliance, importance to the organisation |
| 20 | CP | Experience and qualifications of the key compliance personnel |
| 21 | CP | Autonomy of compliance function |
| 22 | CP | Funding and resources of compliance function |
| 23 | CP | Designing compliance policies and procedures - process |
| 24 | CP | Gatekeepers and responsibilities made clear |
| 25 | CP | Responsibilities for integration made clear |
| 26 | CP | Approval and certification process in place |
| 27 | D4 | Detailed compliance policies in place for higher risk areas |
| | | Risk assessment and management |
| 28 | D3 | Risk assessments undertaken in higher risk areas |
| 29 | CP | Risk management process and methodology to identify, analyse and address risks faced |
| 30 | CP | Manifested risks included |

² D= Reporting Guidance on the 10th Principle Against Corruption (UNGC & TI, 2009); H = Hallmarks of Effective Compliance Programs (US DOJ, 2012); CP = Evaluation of Corporate Compliance Program (US DOJ, 2019); G4= GRI G4 Sustainability Reporting Guidelines (GRI, 2015); GRI-205 = GRI Anti-corruption Standard (GRI, 2016).

Appendix 2-2 ACC Breadth Index - Theme 2 Implementation

| Component # (1-97) | Reference | Policy component |
|-----------------------|---------------|--|
| | | Governance |
| 31 | CP | Risk based training provided |
| 32 | CP | Form, content, effectiveness of training detailed |
| 33 | GRI-205 1.2.4 | How training is tailored is detailed |
| 34 | GRI-205 1.2.5 | Stage reached of ACC training is explained |
| | | Executives and Management |
| 35 | D7 | Management responsibility and accountability for implementation of compliance policy made explicit |
| 36 | CP | Form, content, effectiveness of training detailed |
| 37 | CP | Risk based training provided |
| 38 | GRI-205 1.2.4 | How training is tailored is detailed |
| 39 | GRI-205 1.2.5 | Stage reached of ACC training is explained |
| 40 | CP | Incentive system in place |
| 41 | D9 | Communication channel / whistleblowing process in place for reporting concerns |
| 42 | | Employees |
| 43 | CP | Risk based training provided |
| 44 | CP | Form, content, effectiveness of training detailed |
| 45 | GRI-205 1.2.4 | How training is tailored is detailed |
| 46 | GRI-205 1.2.5 | Stage reached of ACC training is explained |
| 47 | CP | Incentive system in place |
| 48 | D9 | Communication channel / whistleblowing process in place for reporting concerns |
| | | Business Partners (BPs) |
| 49 | D5; CP | Risk-based and integrated processes in place across procurement cycle |
| 50 | CP | Procedures explained for management of relationships |
| 51 | CP | Appropriate controls in place |
| 52 | n/a | Process of integrity due diligence in place |
| 53 | CP | Approval/ certification process detailed |
| 54 | H; CP | Payment processes and controls outlined |
| 55 | CP | Risk based training provided |
| 56 | CP | Form, content, effectiveness of training detailed |
| 57 | GRI-205 1.2.4 | How training is tailored is detailed |
| 58 | GRI-205 1.2.5 | Stage reached of ACC training is explained |
| 59 | D6 | Actions taken to encourage BPs to implement ACC policies |
| 60 | D9 | Communication channel / whistleblowing process in place for reporting concerns |
| | | Other implementation procedures |
| 61 | D8 | HR procedures in place supporting ACC policies |
| 62 | CP | Availability of guidance on compliance policies |
| 63 | D10 | Internal accounting and auditing procedures relating to anti-corruption and compliance mentioned |
| 64 | D11 | Participation in voluntary anti-corruption initiatives demonstrated |

Appendix 2-3 ACC Breadth Index - Theme 3 Monitoring

| Component # (1 -97) | Reference | Policy component |
|------------------------|--------------------|---|
| | | Reporting incidents |
| 65 | CP | Effectiveness of the reporting mechanism outlined |
| 66 | D14 | Public legal cases referenced |
| | | Investigation |
| 67 | D13 | Dealing with incidents - process explained |
| 68 | CP | Properly schooled investigation undertaken by qualified personnel |
| 69 | CP | Root cause analysis detailed |
| 70 | CP | Prior indications referenced |
| 71 | n/a | Consistent application of investigation process made salient |
| 72 | CP | Response to investigation explained |
| | | Remediation and discipline |
| 73 | CP | Remediation process explained |
| 74 | CP | Consistent application - staff |
| 75 | CP | Consistent application - business partners |
| 76 | CP | Real actions and consequences - employees |
| 77 | CP | Real actions and consequences - business partners |
| | | Continuous improvement |
| 78 | D15 | Use of independent external assurance on ACC programmes |
| 79 | CP | Effective use of internal audit |
| 80 | CP | Control testing of procedures outlined |
| 81 | CP | Evolving updates prepared & circulated to management and Governance |
| 82 | D12 | Leadership review of monitoring and improvement results |
| | | Findings, Results, and KPIs |
| | | <i>1. Communication of policies</i> |
| 83 | GRI-205 2a; G4-S04 | Communicated to who in Governance, how many, how |
| 84 | GRI-205 2b; G4-S04 | Communicated to which employees, how many, how |
| 85 | GRI-205 2c; G4-S04 | Communicated to which Business Partners, how many, how |
| | | <i>2. Training provided</i> |
| 86 | GRI-205 2d | Training provided to who in Governance, how many, how |
| 87 | GRI-205 2e | Training provided to which employees, how many, how |
| 88 | n/a | Training provided to which Business Partners, how many, how |
| | | <i>3. Corruption identified</i> |
| 89 | GRI-205 3a; G4-S05 | Number of confirmed cases |
| 90 | GRI-205 3b; G4-S05 | Employees involved |
| 91 | GRI-205 3c; G4-S05 | BPs terminated |
| 92 | GRI-205 3d; G4-S05 | Public cases commenced in the period |
| | | <i>4. Risk management</i> |
| 93 | GRI-205 1a; G4-S03 | Number of operations assessed for risk |
| 94 | GRI-205 1b; G4-S03 | Significant risks identified |
| | | <i>5. Gifts, political contributions, cases</i> |
| 95 | G4-S06 | Value of contributions, how the value was estimated |
| 96 | G4-S07 | Number of actions re anti-competitive, anti-trust, monopoly actions |
| 97 | G4-S08 | Value of fines for non-compliance with legislation |

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