Corporate sustainability transitions: Are there differences between what companies say and do and what ESG ratings say companies do?

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ABSTRACT

The existing literature agrees that companies' sustainability concerns are related to stakeholders' sustainability awareness. However, these studies disagree on how this relationship occurs. Some suggest that companies strategically decide to be more sustainable, expecting that stakeholders' recognition of their efforts will generate competitive advantage (inside-out perspective). However, others suggest that companies' sustainability awareness (and actions) increases only in response to stakeholder requests (outside-in perspective). Each perspective offers different views on how much stakeholders should trust the available information sources about companies' sustainability performance—what companies say (e.g., sustainability reports) and what ESG ratings companies present—because obtaining direct information about what companies do may be difficult for external stakeholders. In exploring how these theories support each other, we suggest strong structuration theory as a helpful tool for integrating inside-out and outside-in perspectives. We argue that these perspectives are complementaries instead of opposites, propose a framework to approach empirical settings, and apply the said framework to analyze the Cerrado Manifesto case, a zero-deforestation initiative led by private organizations, mainly European, on the Brazilian Cerrado biome. Using different information sources, we apply SmartPLS 4.0.9.2 to test the relationship between what companies say, do, and what ESG ratings say they do, additionally investigating the influence of social pressure, institutional environment, and controversies around companies. The results show no direct relationship between what ESG ratings say companies do and *manifesto-signing* (what companies do), but show an indirect effect through *reporting* (what companies say). A positive relationship was found between ESG rating and reporting, and between reporting and manifesto-signing. Significant relationships were found between the *pressure received* construct and both manifesto-signing and reporting. The proposed framework, integrating inside-out and outside-in perspectives, explains a company's manifesto-signing.

1. Introduction

The literature on corporate sustainability performance (CSP) identifies at least three interrelated information sources available to stakeholders to evaluate how sustainable companies are: (i) what companies say (e.g., sustainability report and website); (ii) what third-party organizations say about the companies' sustainability performance (e.g., environmental, social, and governance [ESG] scores or rankings); and (iii) what companies (actually) do (Calabrese et al., 2022; Crifo et al., 2019; Journeault et al., 2021; Papoutsi and Sodhi, 2020). Regardless of the sustainability concept adopted, stakeholders' knowledge of

companies' sustainability performance is critical to the sustainability transition process (Crifo et al., 2019; Kumar et al., 2021). Sustainability transitions occur through the coevolution between socio-technical elements (e.g., actors, institutions, resources, and practices) in adopting (or countering) more sustainable practices or technologies (Geels, 2004, 2020). These processes involve moves and countermoves between actors in their daily routines. In corporate sustainability research, different literature strands attribute diverse explanations to how this occurs concerning the companies' behavior drivers, mainly if they are internal or external (e.g., strategic action vs. response to pressure) (Hsiao et al., 2022; Johnstone, 2018).

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Scholars generally agree that stakeholders increasingly demand that companies be more sustainable and account for their social and environmental impacts (Turzo et al., 2022). Furthermore, they agree that companies have increased their sustainability-related efforts (Schreck and Raithel, 2018), perhaps in response to perceived stakeholder pressure (Singh et al., 2022). These efforts include publicizing their sustainability work, without which the stakeholders would not know about them (Cuadrado-Ballesteros et al., 2017; Papoutsi and Sodhi, 2020; Schreck and Raithel, 2018). Many studies have investigated the relationship between sustainability disclosure and performance, with mixed results (Hsiao et al., 2022; Turzo et al., 2022). Some investigations have found a positive relationship between these two variables, while others have found a negative one. The former group argues that companies with better sustainability performance communicate it to society and expect benefits in return, while the latter group argues that companies with weaker sustainability performance disclose more information, attempting to hide their actual performance (Papoutsi and Sodhi, 2020). Notwithstanding these contradictory findings, two issues compromise these investigative efforts.

First, these opposing perspectives only partially address the relationship between companies and society concerning sustainability issues. The latter group embraces the external influence of society on the companies, while the former group relies on the companies' internal strategies to increase support from society. Drawing on Johnstone (2018) and Schreck and Raithel (2018), we argue that these competing assertions map the inside-out and outside-in perspectives concerning the drivers of sustainability-related decision-making. However, instead of being contradictory, these two perspectives might be two sides of the same coin (Hummel and Schlick, 2016; Johnstone, 2018).

The second issue—related to the first—regards how companies' sustainability performance can be accessed or measured from outside because it is not readily available to external stakeholders (Cuadrado-Ballesteros et al., 2017; Papoutsi and Sodhi, 2020). Researchers and practitioners, in general, have considered sustainability reporting and third-party ESG ratings as *proxies* for companies' sustainability performance (Crifo et al., 2019). The diverse reporting guidelines and available ESG ratings measure sustainability performance and guide companies in achieving sustainability (Crifo et al., 2019). Nevertheless, at least three problems have been raised here: (i) sustainability is a complex and ambiguous concept (Journeault et al., 2021); (ii) companies can use sustainability disclosure as a smokescreen to hide improper practices (Jadiyappa et al., 2021); and (iii) ESG ratings have low validity, with different raters attributing different rates for the same company (Chatterji et al., 2016).

We aim to shed some light on both issues. First, we theoretically address the debate between inside-out and outside-in perspectives, heeding the call to integrate both perspectives via structuration theory (Johnstone, 2018) and provide a framework to approach empirical settings. Specifically, we use strong structuration theory (SST) (Stones, 2005), a more advanced version of structuration theory that addresses the original version's controversies and limitations (Johnstone, 2018; Kennedy et al., 2021). Second, using this framework, we pursue to empirically examine: i) the nature and strength of the relationships among ESG ratings, what companies say, and what they do; ii) the function of social pressure in explaining what the companies say and do; and iii) the role of key moderator measures (ESG controversy and headquarter country's SDG performance) to provide additional light about the nature of the relationships.

For these analyses, the case of the Cerrado Manifesto (FAIRR Initiative, 2018) will be used. It is a zero-deforestation initiative in the Cerrado biome, the second-largest Brazilian biome. We shall use different sources of information about companies' sustainability practices—what companies say, what they do, and what ESG ratings say they do.

The remainder of this paper is structured as follows. First, we discuss the perspectives mentioned, suggest an integrative view through the SST, and establish the hypotheses. Then we present the methodology adopted, followed by the results. Finally, we present our discussion, implications, limitations, and future research suggestions.

2. Literature review

2.1. Corporate sustainability drivers

The research on corporate sustainability drivers can arguably be divided into two perspectives, outside-in and inside-out, with few exceptions that appear in both areas, e.g., Singh et al. (2022).

2.1.1. The outside-in perspective

The outside-in perspective considers that the origin of sustainable corporate behavior is outside the company, which means they act sustainably in response to pressures from outside (Singh et al., 2022), such as from stakeholders, including shareholders, clients, and employees. This perspective is based on legitimacy theory, which considers the existence of a social contract between companies and society, in which society sends signals about its expectations of companies (Danisch, 2021; Hsiao et al., 2022), and companies act according to their understanding of these signals (Calabrese et al., 2022). The literature recognizes that some research attributes more power to society than it possesses in reality, as the decision to act belongs to the organization. This perspective is also based on stakeholder theory, which represents an evolution from the legitimacy perspective, as it better addresses the social element, indicating and differentiating types of stakeholders (Johnstone, 2018). Research in this strand also employs institutional theory to explain companies' responses to external pressure (Papoutsi and Sodhi, 2020). Institutions are socially constructed norms that become normalized as a behavior to be followed (Calabrese et al., 2022; Johnstone, 2018). Some practices or norms are institutionalized through a "constraining process that forces one unit in a population to resemble other units exposed to the same conditions" (Danisch, 2021, p. 14).

Nevertheless, part of the literature on CSP applies the outside-in perspective to claim that companies' behavior is more focused on demonstrating sustainability than actually being sustainable (Calabrese et al., 2022; Danisch, 2021; Journeault et al., 2021; Papoutsi and Sodhi, 2020). Therefore, research has questioned whether companies' voluntary sustainability disclosures are merely greenwashing or window-dressing efforts (Diouf and Boiral, 2017; Mahmood and Uddin, 2021), "leaving aspects of organizational sustainability performance in the shadows" (Journeault et al., 2021, p. 1). We call this voluntary disclosure "what companies say," which includes all information companies make available (e.g., reports, websites, publicity). This criticism notwithstanding, some studies indicate that stakeholder (or social and institutional) pressure is essential for improving companies' sustainability strategies (García-Sánchez et al., 2013, 2020; Turzo et al., 2022).

2.1.2. The inside-out perspectives

In contrast, the inside-out perspective holds that companies' sustainable behavior starts inside the company, resulting from decision-making processes (Johnstone, 2018). This perspective adopts the signaling theory, which focuses on how companies deal with information asymmetry regarding sustainability issues (Papoutsi and Sodhi, 2020). According to this theory, companies send signals to stakeholders to demonstrate their superior performance; the signals "correspond to the actual quality of the company" (Danisch, 2021, p. 3). Voluntary disclosure theory (VDT) is associated with signaling theory, which posits that companies with superior performance are more likely to disclose more and/or better information about their performance (Danisch, 2021; Hummel and Schlick, 2016). Therefore, researchers argue that a positive relationship exists between what companies say and (actually) do (Danisch, 2021; Papoutsi and Sodhi, 2020; Turzo et al., 2022). Table 1 summarizes research works, grouping them by the discussed perspectives.

Table 1
Research examples grouped into the outside-in and inside-out perspectives.

Perspective	Research	Theories	Respondents' related information	Main finding
Outside-in	Calabrese et al. (2022)	Legitimacy theory Institutional theory	Companies with sustainability reports available in the GRI database (in English and third-party verified).	Companies' contributions to SDG goals are generally still symbolic.
	Mahmood and Uddin (2021)	Institutional theory (logics perspective)	Companies that report sustainability in Pakistan	Institutional heterogeneity drives the diversity in sustainability reporting practices.
	Danisch (2021)	Legitimacy theory	Listed firms in Germany	No relationship between social performance and social report extent.
Inside-out	Papoutsi and Sodhi (2020)	Signaling theory	Companies with reports in the GRI Sustainability Disclosure Database	A significant positive link was found between the information disclosed and third-party rating.
	Danisch (2021)	Voluntary disclosure theory	Listed firms in Germany	Companies signal their better environmental performance by increasing the extent of their environmental reporting.
	Singh et al. (2022)	Resource-based view	Small and medium-sized enterprises in an emerging market.	Dynamic capability mediates the influence of stakeholder pressure.

2.2. Sources of stakeholders' knowledge about CSP

Based on these opposite perspectives (outside-in and inside-out) on sustainability drivers, the literature has focused on the sources of stakeholders' knowledge of CSP. First, much research has examined whether what companies say is helpful to stakeholders in acquiring CSP knowledge (Mahoney et al., 2013; Turzo et al., 2022); that is, whether what they say could reflect what they do, as the former is related to information disclosure by companies to update stakeholders on their ESG behavior. This disclosure can be made through websites or reports that follow (or do not follow) guidelines such as those proposed by the Global Reporting Initiative (GRI) (Aladwey et al., 2022; García-Sánchez et al., 2020).

Thus, considering external stakeholders who cannot obtain direct knowledge about CSP, this research strand mainly compares companies' discursive practices with ESG ratings (Connelly et al., 2011; Cuadrado-Ballesteros et al., 2017; Papoutsi and Sodhi, 2020). In other words, ESG ratings are considered *proxies* for companies' actual sustainability-related behavior. ESG ratings refer to information about CSP provided by third-party institutions to inform stakeholders' decisions regarding whether to support companies (Chatterji et al., 2016). The ESG raters collect information through private (e.g., surveys and interviews with companies) and public sources (Papoutsi and Sodhi,

2020).

However, adopting what ESG ratings say companies do as a *proxy* for what companies do for sustainability issues has been criticized. Some authors, for example, point to the fact that these diverse ESG ratings present inconsistencies; if some companies are considered sustainable by some raters but not by others, it creates doubts about their usefulness (Chatterji et al., 2016; Hummel and Schlick, 2016).

Furthermore, research has, albeit less frequently, compared what companies say with what they do. For example, Clarkson et al. (2008), comparing environmental disclosure extension and actual emissions, verified that companies with fewer emissions were likely to report more extensively on environmental issues. Nevertheless, even extensive reporting on environmental issues could shadow some unsustainable behavior. Journeault et al. (2021) find that reports do not ensure a complete picture of an organization's sustainability performance, even when they follow GRI guidelines.

2.3. Research gaps and framework to approach them

The research into both debates, (i) drivers of corporate sustainability practices and (ii) sources of stakeholders' knowledge about CSP, has generated mixed results (Hsiao et al., 2022; Turzo et al., 2022), suggesting that there is a tension between the outside-in or inside-out perspectives (Danisch, 2021; Papoutsi and Sodhi, 2020), which may not resolve easily. Some authors have claimed that these perspectives are not necessarily incompatible. For instance, Hummel and Schlick (2016) created and compared sustainability disclosure quality and performance measures. Their results showed that "superior sustainability performers prefer high-quality sustainability disclosure because it is more transparent, dependable, and comparable," supporting voluntary disclosure theory. Moreover, they found that "poor sustainability performers avoid transparency to protect their image as sustainable firms," supporting the legitimacy theory (p. 473). For the authors, both theories are "two sides of the same coin" (p. 456).

Despite these efforts, the literature still seeks to answer the questions about (i) what drives sustainable behavior (Papoutsi and Sodhi, 2020; Turzo et al., 2022) and (ii) *proxies* for the CSP (Eng et al., 2022; García-Sánchez et al., 2022). In this regard, Johnstone (2018), drawing on structuration theory (Giddens, 1984), suggests that CSP "does not rest with either the organizations as agents or the institutions as social structures, but is the product of the two" (p. 1212), extending Hummel and Schlick's (2016) understanding. In the next section, we draw on this recommendation to suggest SST as a valuable instrument and shed light on both debates.

2.3.1. Strong Structuration Theory (SST)

Some critics assert that the research on organizations and management focuses on either the managers' decisions and actions or the contextual factors that influence managers when scholars should explore the interdependence of managers and their context (Cardinale, 2019; Meyer and Vaara, 2020). This could be attempted through a structuration theory-based approach (Kennedy et al., 2021). This conversation is analogous to the opposing outside-in and inside-out perspectives on the drivers for sustainability practice and reporting, which has divided CSP researchers (Kılıç et al., 2019; Papoutsi and Sodhi, 2020; Schreck and Raithel, 2018). In this context, Johnstone (2018) suggests that structuration theory (Giddens, 1984) could advance the conversation by integrating both perspectives once "a structuration approach recognizes that the decision to act sustainably is a result of both external and internal loci of control" (Johnstone, 2018, p. 1271).

However, structuration theory, as proposed by Giddens (1984), has been widely criticized because it (i) "collapses structure and agency together in such a way that it is impossible to disentangle them" (Stones, 2005, p. 53), hindering the empirical analysis of both; (ii) is hard to apply its ontological concepts (ontology-in-general) in empirical research (ontology-in-situ) (Kennedy et al., 2021; Stones, 2005); and

(iii) leads to varying interpretations and applications (Johnstone, 2018). To deal with this theory's limitations and provide an ontology-in-situ with concepts for empirical research (Kennedy et al., 2021), Stones (2005) proposed SST. One of its key features to guide empirical research is its quadripartite nature of structuration, which depicts the structuration process in four elements (Kennedy et al., 2021; Stones, 2005), a method suitable for integrating outside-in and inside-out perspectives. Fig. 1 depicts the quadripartite nature of the structuration process.

The first element, *external structures*, is characterized as conditions of action that exist autonomously from the agents-in-focus (the agent being analyzed) and form the context for their action. The concept of external structures focuses on structures within the agent's horizon of action, either in the agent's or the researcher's perception. The external structure corresponds to the rules (structures of meaning and legitimation) and resources (human and non-human) that are somehow related to the agents, even if they are unaware of this relationship.

The second element, *internal structures*, refers to structures internalized or assimilated by the agents in focus. Despite working together, the internal structures are analytically divided into two parts: *conjuncturally specific knowledge* of external structures and *general dispositions*. Each type of internal structure has a different relationship with external structures. The general dispositions are the knowledge the actors take for granted and are typically unaware they have. These are assimilated into memory traces and used naturally without the actor considering accessing and using this particular competence or skill. Thus, general dispositions are external structures internalized throughout the actors' histories in the various positions they have occupied or currently occupy.

The conjuncturally specific knowledge of the external structure contains the "notion of a role or position that has embedded within it various rules and normative expectations," meaning the "agent's knowledge of the specific context of action" (Stones, 2005, pp. 89–90). Positions are related to meaning, legitimation, and power processes. When actors occupy a particular position, at least partially, they are aware of the behavior others expect them to adopt (normative

expectations) and the methods and resources they have at their disposal (capabilities or power).

Practices—or active agency—refers to the "ways in which the agent either routinely and pre-reflectively, or strategically and critically, draws upon her internal structures" and acts (Stones, 2005, p. 85). Despite referring to the dynamic and active structuring moment, the agent "can never float free or be uprooted from the other parts of the structuration cycle" (Stones, 2005, p. 86). Finally, *outcomes* are the "effects of agents' practices on extant structures" and may "involve change and elaboration or reproduction and preservation" (Stones, 2005, p. 85).

We argue that Stones' (2005) proposed structuration process, comprising four elements, can combine outside-in and inside-out perspectives because it acknowledges the research about external structures influencing the companies and, at the same time, recognizes that this influence varies depending on specific company or context characteristics. The analytical framework of SST has two dimensions of analysis—agents' context analysis and conduct analysis (Kennedy et al., 2021; Stones, 2005)—as shown in Table 2.

Despite being two separate dimensions, this proposition by Stones (2005) "maintains a bridge between structure and agency irrespective of whether context or conduct is being investigated" (Kennedy et al., 2021, p. 4). Fig. 2 maps the discussed CSP theoretical strands regarding how SST can contribute to integrating outside-in and inside-out perspectives. Instead of substituting other theories, we believe SST could explain how to integrate opposing perspectives, including advantages and avoiding drawbacks.

3. Analyzed hypotheses

Our empirical objective is to compare three sources of information about companies' sustainability performance: what companies say (companies' reporting), what they do (actual practice), and what ESG ratings say they do. The (positive or negative) relationships between what these sources indicate concerning CSP are related to the inside-out
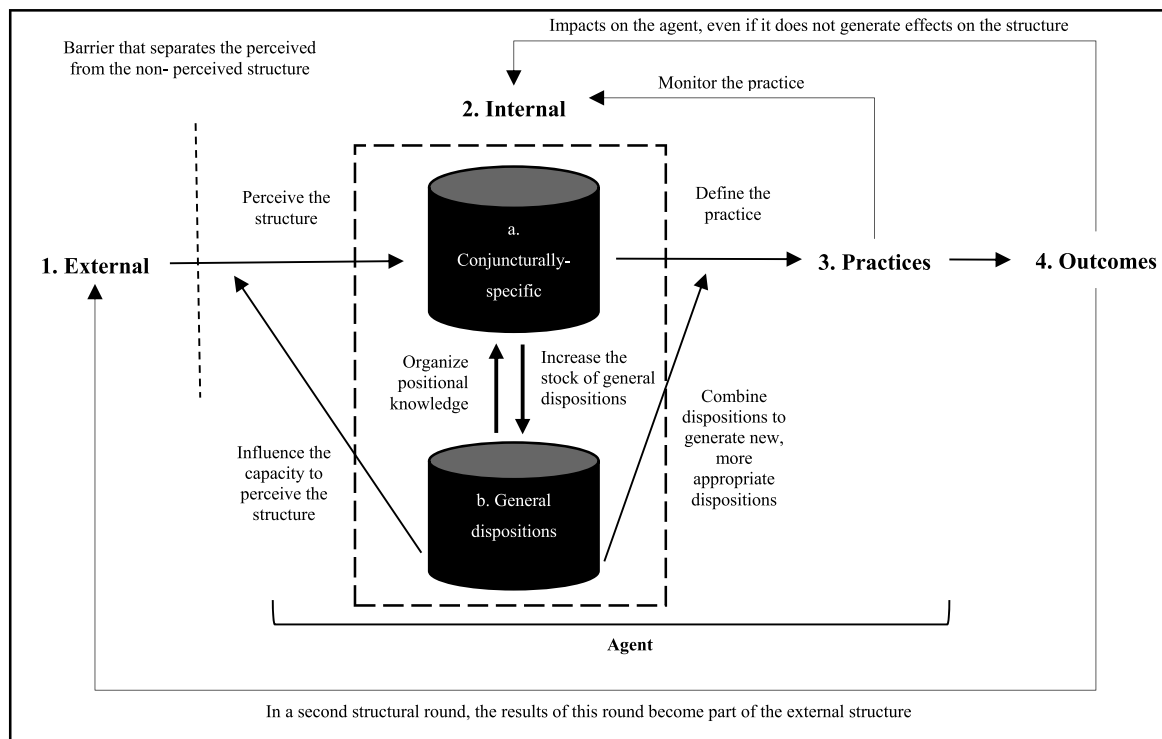

Fig. 1. The quadripartite nature of structuration.
Source: Adapted from Stones (2005), p. 85.

Table 2
Strong structuration theory's dimension of analysis.

Dimension of analysis	Direction in the structuration process	Focus
Agents' conduct analysis	From the conjuncturally specific knowledge of external structures to the active agency and general-dispositional structures.	Agent's reflexive monitoring, ordering concerns into a hierarchy of purposes, motives, desires, and the way they implement action and interaction within an unfolding sequence.
Agents' context analysis	From the conjuncturally specific knowledge of external structures to the external structures.	Agent's awareness of potential courses of action. Social researcher's perception of relevant causal influences, potential courses of action, and probable consequences of both (and judgment of these assessments against those of the agent).

Source: Elaborated based on Stones (2005, pp. 121–122) and Kennedy et al. (2021).

and outside-in perspectives. As argued, the literature shows mixed results on these relationships, and these perspectives are used to support the results theoretically.

We now present our hypotheses, grouped by independent variables.

Through the chosen independent variables, we expect to demonstrate that inside-out and outside-in perspectives are complementary in understanding CSP and should be taken together instead of being considered opposite. Our dependent variable is an actual action on sustainability—signed the Cerrado manifesto—which reflects what companies do. "What companies say" will be both a dependent and independent variable.

3.1. The ESG rating

Despite some criticism, mainly concerning convergent validity between ratings (Gangi et al., 2022; Svanberg et al., 2022), researchers and practitioners extensively adopt ESG ratings as *proxies* for CSP (Calabrese et al., 2021; Papoutsi and Sodhi, 2020). These ratings (are expected to) reflect a company's past behavior concerning sustainability issues. SST considers that past behavior might predict future behavior because actors internalize norms through their experiences, creating general-dispositional internal structures (Stones, 2005). For instance, a particular behavior can be taken for granted if it has worked well in the past and avoided if it has not. Consequently, we propose the first hypothesis.

H1. Companies with better ESG ratings are more likely to tackle sustainability issues.

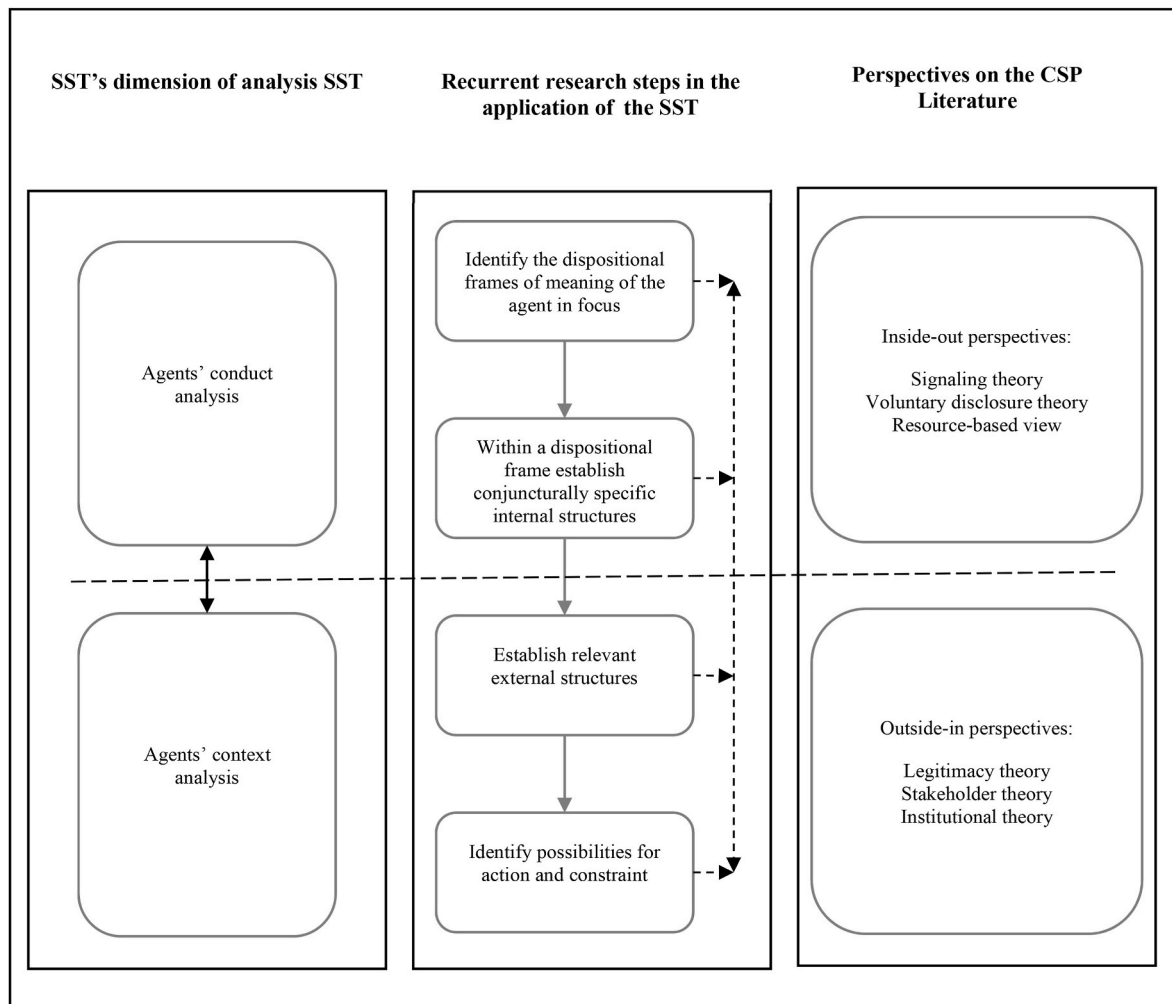It is also expected that past behavior might drive companies'

Fig. 2. Mapping of SST and outside-in and inside-out perspectives.
Source:Expanded from Stones (2005, pp. 121–122) and Kennedy et al. (2021).

reporting of sustainability issues (Eng et al., 2022; Papoutsi and Sodhi, 2020). Therefore, we propose the second hypothesis.

H2. Companies with better ESG ratings are more likely to report on sustainability issues.

3.2. The sustainability reporting

According to SST, one of the actors' dimensions influencing their behavior is their conjuncturally specific knowledge of external structures. We argue that companies' reports (e.g., website, sustainability reports) include their knowledge about sustainability issues and that this knowledge will positively relate to their actions. For example, research has found that companies in environmentally sensitive industries are more likely to improve their reporting (Pizzi et al., 2021) and that these reports indicate actual sustainability performance (Papoutsi and Sodhi, 2020). However, this research generally does not directly observe companies' real actions concerning sustainability issues, instead looking at ESG scores. Exceptions to that are Journeault et al. (2021) and Hummel and Schlick (2016), which present mixed evidence on the relationship between companies' actions and reports' quality and quantity. Nevertheless, we hypothesize as follows:

H3. Companies that report on sustainability issues are more likely to act on them.

3.3. Pressure received

Considering the increasing social pressure on companies to be more sustainable (Liu et al., 2023), especially for our empirical case (deforestation), we expect a relationship between the pressure on companies and their actions in response to that pressure. SST (Stones, 2005) posits that external structures (in this case, social pressure) influence the actors' practices. Prior research tends to verify this relationship based on country-level variables, such as economic condition, sustainability level, and national culture characteristics (Calabrese et al., 2022; Rosati and Faria, 2019). Thus, aiming to investigate the stakeholder society directly, we hypothesize as follows:

H4. Companies under pressure for a specific topic are more likely to act on that topic.

Additionally, the literature indicates that companies can adopt practices related to social media to reduce information asymmetry on sustainability issues (Saxton et al., 2019). Also, research has found, for example, that media coverage works as a pressure mechanism on companies to increase reporting efforts (Zhang and Chen, 2020). Given that companies respond to pressure with their reporting practices (Saxton et al., 2021), we hypothesize as follows:

H5. Companies under pressure for a specific topic are more likely to report on that topic.

3.4. The moderation role of ESG controversy and companies' headquarter country's SDG performance

Complementary to the proposed hypotheses, we test the moderation role of two additional variables: the ESG controversy score and the headquarter country's sustainable development goal (SDG) performance. An ESG controversy indicates that a company presents more sustainability issues than others. Research has, for example, indicated that companies with more controversies should have lower ESG ratings, despite this not always being the case due to the subjective aspects of the ESG raters' methodologies (Svanberg et al., 2022). Therefore, we hypothesize as follows:

H6. Companies with relatively higher controversies show a weaker relationship between ESG score, reporting, pressure received, and action on a specific sustainability issue.

Finally, research shows that elements of the institutional environment can influence companies' actions concerning sustainability issues (Chen and Wan, 2020). For example, Rosati and Faria (2019) found a positive relationship between companies' location, national corporate responsibility, and SDG reporting. Moreover, Calabrese et al. (2022) investigated the relationship between the income level of the country where companies have their headquarters and their SDG disclosure in sustainability reports, finding a positive relationship. The headquarter country's SDG performance could be a proxy for the companies' contextual influence in adopting (or not) sustainability practices. Therefore, we hypothesize as follows:

H7. Companies headquartered in countries with higher SDG performance show a stronger relationship between ESG score, reporting, pressure received, and practice.

4. Methods

To reach the proposed objectives, we utilize the Cerrado Manifesto (FAIRR Initiative, 2018), a zero-deforestation initiative through which the signatory companies formally support and demand a moratorium for products, mainly soy and beef, produced in areas recently deforested in the Brazilian Cerrado biome. This support entails signing a manifesto asking that companies' entire supply chains end deforestation in the Cerrado.

Applying a more exploratory approach, we collected data from diverse sources to analyze two groups of companies: firms that signed the manifesto and firms that did not and are considered peers of the signatory companies. These data were used to measure the constructs discussed in the following sections. SmartPLS 4.0.9.2 (Ringle et al., 2022) was applied to run a partial least square (PLS) structural equation model (PLS-SEM) for hypothesis testing, including the verification of the moderation effects of the following variables: ESG controversy and headquarter country's ESG index.

4.1. Contextual setting

In 2017, approximately 40 environmental organizations proposed and signed a manifesto calling for immediate action to end the Cerrado deforestation linked to the soy and meat supply chains. In response, diverse companies related to these supply chains, mainly European, have signed the Cerrado Manifesto, demanding actions by farmers and traders (Bastos Lima and Persson, 2020; Virah-Sawmy et al., 2019). We considered manifesto signing a practice toward sustainability and took advantage of this case to create a list of companies divided into two groups: manifesto signatories and (related) non-signatories, which were used in the analysis.

It is essential to highlight that research conducted by environmental organizations and the soy sector affirms that it would be possible to increase the cultivated area in the Cerrado by increasing the efficiency of cattle raising and using already degraded land (Agrosatélite, 2020; The Nature Conservancy, 2019). Consequently, this implies no trade-off between food production and the environment.

4.2. Data collection and measures

We started the data collection with a list of 160 companies that had signed the Cerrado Manifesto by December 2020, issued by the Consumer Goods Forum (GCF). We adopt the action of signing the Manifesto as what companies do, as it relates to urgent action toward climate change mitigation, and consider it a case with available data for research purposes. We argue that the company's decision to sign the manifesto reflects strategic decision-making toward sustainability. It is more than a discursive practice because it might involve risks, such as increased costs and negotiating issues with suppliers.

For what ESG ratings say companies do, we chose the Refinitiv Eikon

database from Thomson Reuters, one of the ESG databases most used by researchers and practitioners (Danisch, 2021; Hsiao et al., 2022). We found ESG information for 29 of the 160 signatory companies in this database. For the non-signatory list of companies, drawing on the Refinitiv Eikon proprietary algorithm for the identification of related companies, we selected 76 related companies that did not sign the manifesto: for each focus company (each one of the 29 signatories selected), we searched in Refinitiv for a list of related companies, from which we selected 15 that were more closely related. The Refinitiv list determines a set of companies related to the focus companies by considering co-occurrence and frequency of appearance in news articles, industry classification, related industries, geographies, macroeconomic indicators, and news topics. It helps find competitors that have something in common with the focus company. After filtering the duplicate entries, we obtained a final sample of 76 non-signatory companies. For the total sample of 105 companies (Appendix), we collected the ESG scores relative to 2020. This database is interesting because we selected companies mainly due to their practices instead of other more biased criteria (e.g., companies that adopt GRI guidelines for reporting). The companies are from 23 countries around the globe and participate in 20 different sectors.

With regards to what companies say, first, we collected data from the companies' reports for 2020 and websites between November and December 2021. We searched these sources for mentions of zero deforestation, soy, or cattle (a list of additional words was considered, e. g., eliminate deforestation, end deforestation). Further, we collected all the companies' tweets related to zero deforestation. We searched for those sent through each company's Twitter account before issuing the last signatory list (December 17, 2020).

Furthermore, we collected data on societal pressure on companies. We chose Twitter as a database and searched it for mentions of each company alongside (i) Amazon or Cerrado and deforestation and (ii) zero deforestation. We applied Twitter's Researcher Credentials (Twitter, 2021) and the AcademictwitteR R package (Barrie and Ho, 2021) to gather all tweets mentioning Amazon or Cerrado and deforestation in English or Portuguese. Social science researchers have increasingly adopted Twitter (and other social media platforms) as a data source to investigate societal transformations and developments (Saxton et al., 2021; Wei et al., 2021).

Finally, regarding the moderation test, we applied the ESG controversy measure provided by Eikon, which indicates whether companies had ESG issues published in the media in the period under study. According to the Refinitiv Eikon methodology, all companies receive a value of 100 if no controversy is found in the media; this value decreases as controversies appear. The algorithm adjusts the score values for, for example, the companies' exposure, which could distort the data. We also considered the country of the companies' headquarters and investigated whether that country's performance on the ONU's SDGs could be related to the company's decision to sign the Cerrado Manifesto. Table 3 presents each construct variable (and its respective descriptions).

4.3. Data analysis

We applied partial least squares (PLS) – structural equation modeling (SEM) through SmartPLS 4.0.9.2 (Ringle et al., 2022) to test the hypotheses, as well as a bootstrap resampling procedure (with 5000 subsamples) to calculate the coefficients' statistical significance level. We set manifesto signing as the dependent variable and the constructs as independent ones. We set all constructs as formative. Following Becker's et al. (2013) recommendation, we estimated the composite weights as correlation weights (Mode A) once we had a medium sample size, and both R^2 obtained could be considered medium to small. Following Hult et al. (2018), we tested the constructs' endogeneity through the Gaussian copula approach, and no significant coefficient was found.

The PLS permutation multigroup analysis, which provides a significance test for the differences across group-specific results, was used to

Table 3
Constructs and variables descriptions.

Construct	Type	Variables	Description
ESG performance (what ESG ratings say)	Independent	Environmental score	Score considering resource use, emissions, and innovation. Refinitiv Eikon provides a score between 0 and 100.
		Social score	Score considering workforce, human rights, community, and product responsibility. Refinitiv Eikon provides a score between 0 and 100.
		Governance score	Score considering management, shareholders, and CSR strategy. Refinitiv Eikon provides a score between 0 and 100.
Company reporting on sustainability issues (what companies say)	Independent	Company's tweets mention zero deforestation	Value is 1 if the company mentioned zero deforestation in tweets until Dec 14, 2020, one day before the publication of the final list of the Cerrado Manifesto supporters.
		Company's website or 2020 report mentions soy or cattle	Value is 1 if the company mentions soy or cattle-related topics in the 2020 website or sustainability (or annual) report.
		Company's website or 2020 report mentions zero deforestation	Value is 1 if the company mentions zero-deforestation-related topics in the 2020 website or sustainability (or annual) report.
Pressure received	Independent	Company was mentioned on Twitter alongside Cerrado or Amazon and deforestation	Value is 1 if the company was mentioned in a tweet alongside Cerrado or Amazon and deforestation until Dec. 14, 2020, one day before the publication of the final list of the Cerrado Manifesto supporters.
		Company was mentioned on Twitter alongside zero deforestation	Value is 1 if the company was mentioned in a tweet alongside zero deforestation until Dec. 14, 2020, one day before the publication of the final list of the Cerrado Manifesto supporters.
	Moderator	ESG controversy score	Overlays the Thomson Reuters ESG Score with ESG controversies to comprehensively

Table 3 (*continued*)

Construct	Type	Variables	Description
			evaluate the company's sustainability impact and conduct. Receive a value of 100 if no controversy is found in media sources.
	Moderator	Headquarter country's SDG performance	Company headquarter country's performance on the ONU SDGs in 2020. The ONU SDG database provides a score between 0 and 100 for each country.
	Dependent (what companies do)	Manifesto signing	Value is 1 if the company signed the manifesto until the publication of the final list of the Cerrado Manifesto supporters.

test the two moderator variables. The measurement invariance of composite models (MICOM) test was applied to assure the possibility of the multigroup permutation analysis (Henseler et al., 2016).

5. Results

5.1. Model quality assessment

We assessed the quality of the proposed structural model through some of the measures suggested in the literature, which need to be used cautiously (Schuberth et al., 2022). Table 4 presents model fit measures obtained through the PLS-SEM algorithm. SRMR (standardized root mean square residual) and NFI (normed fit index) meet the respective thresholds.

5.2. Structural model analysis (hypotheses 1–5)

Table 5 summarizes the statistical results obtained through the PLS-SEM algorithms bootstrap, blindfolding, and PLSpredict. The blindfold result of 0.513 meets the quality criteria ($Q^2 > 0$), meaning medium predictive accuracy. The PLSpredict result of 0.247 also confirms the model's quality ($Q^2_{predict} > 0$) (Hair et al., 2019). Fig. 3, obtained through the bootstrap routine, shows no relationship was found between ESG performance (what ESG ratings say companies do) and manifesto signing (what companies do); therefore, H1 could not be confirmed. Additionally, we tested the model considering just the variable environmental score in the ESG performance construct, but no relationship was found either. However, a positive relationship was found between ESG performance and reporting (what companies say) and between reporting and manifesto-signing, confirming H2 and H3. It is important to note that a positive relationship between ESG performance and signing was noted, but it disappeared in the presence of reporting. Therefore, a full mediation effect was found for the reporting variable (Baron and Kenny, 1986); that is, ESG performance affects manifesto signing through reporting (total indirect effect = 0.065, $p < 0.01$).

The results show significant relationships between the pressure

Table 4
Quality assessment in the PLS-SEM algorithm.

	Saturated model	Estimated model	Threshold	Reference
SRMR	0.050	0.069	<0.08	Cho et al. (2020)
NFI	0.930	0.913	>0.90	Ringle et al. (2022)

received and manifesto signing (H4), and reporting (H5). Therefore, reporting also mediates the effect of pressure received on manifesto signing (total indirect effect = 0.209, $p < 0.01$). Although, in contrast with ESG performance, the direct effect of pressure received on manifesto signing is maintained in the presence of the indirect effect, meaning a partial mediation.

5.3. Moderation analysis (hypotheses 6–7)

Regarding moderation analysis, a MICOM test undertaken for both variables demonstrated partial measurement invariance, meaning that the structural model can be compared across groups (Ringle et al., 2022; Henseler et al., 2016). The PLS permutation multigroup analysis for the moderation test of the variable ESG controversy showed a significant difference in the effects of pressure received on manifesto signing ($p < 0.05$) (Table 6). For companies without any controversy, a small but significant relationship was found. However, for companies with some controversy, the results showed a greater relationship (0.638, $p < 0.01$).

Finally, for the moderation test of the variable headquarter country's SDGs, a significant difference in the effects of pressure received on manifesto signing was found ($p < 0.05$) (Table 7). For the group of companies with headquarters in countries with SDG scores above the median (76.429), the coefficient was 0.678 ($p < 0.01$). For the other group (SDG score < median), the coefficient was 0.203 ($p < 0.01$).

6. Discussion

Independent of how the relationship between companies and stakeholders might play out, recent climate change reports indicate that environmental protection efforts' outcomes have been insufficient (IPCC, 2022), and urgent and radical actions are needed. This study explores the Cerrado biome deforestation associated with soy and meat as a case where action has become imperative because half the region is already lost, and the consequences are evident (e.g., disruptions in the water cycle) (Rodrigues et al., 2022). Historically, the pressure that downstream actors in the supply chain (e.g., NGOs and clients) exert on upstream actors (e.g., farmers and traders) has been successful in changing practices; see, for example, the Soy Moratorium case in Heilmayr et al. (2020).

We find that in the presence of reporting on sustainability issues, ESG ratings (what ESG ratings say companies do) are just indirectly related to what companies do, which suggests that, at least for some cases, a better ESG score is not related to the act of signing the manifesto and pressure for the deforestation end. It might challenge the general assumption of the literature that ESG scores are good *proxies* for companies' sustainable behavior (e.g., Papoutsi and Sodhi, 2020). Perhaps not all behaviors toward sustainability can be reflected in these scores, but ESG ratings are a crucial instrument for institutional investors to get information, aid in decision-making, and inform companies about expected behaviors (Crifo et al., 2019). In Cerrado's case, the ESG score researched does not reflect actions supporting zero-deforestation initiatives unless the companies with a better ESG score also reported on the sustainability issues investigated here. This data enriches previous research on the relationship between report and practice (Journeault et al., 2021; Hummel and Schlick, 2016) and between ESG scores and practice (Gangi et al., 2022; Svanberg et al., 2022; Danisch, 2021) confirming that different ESG scores might measure different aspects but highlighting the importance of company-level variables (e.g., report) to understanding companies' behavior, in this case, a variable that reflects company's concern and point of view on the topic under analysis.

The positive relationship between firms' ESG ratings and the act of reporting on sustainability issues, as well as the indirect effect that exists between ESG ratings and the signing of the Cerrado manifesto through reporting, shed some light on the relevance of considering how companies perceive the world (the external structure) and express it—what can be reflected in their practices. In line with SST (Stones, 2005), it

Table 5
Summary of statistical results.

| Smart PLS 4 tests for model assessment					
PLS bootstrap results	Original sample	Sample mean	Standard deviation	T statistics	P values
Path coefficients					
ESG Performance -> Manifesto signing	−0.035	−0.033	0.032	1.094	0.274
ESG Performance -> Reporting on sustain. issues	0.160	0.161	0.034	4.718	0.000
Pressure received -> Manifesto signing	0.316	0.314	0.129	2.456	0.014
Pressure received -> Reporting on sustain. issues	0.513	0.514	0.074	6.972	0.000
Reporting on sustain. issues -> Manifesto signing	0.408	0.407	0.111	3.673	0.000
Total indirect effects					
ESG Performance -> Manifesto signing	0.065	0.066	0.023	2.784	0.005
Pressure received -> Manifesto signing	0.209	0.208	0.061	3.455	0.001
Total effects					
ESG Performance -> Manifesto signing	0.031	0.032	0.029	1.059	0.289
ESG Performance -> Reporting on sustainability issues	0.160	0.161	0.034	4.718	0.000
Pressure received -> Manifesto signing	0.525	0.521	0.105	5.003	0.000
Pressure received -> Reporting on sustainability issues	0.513	0.514	0.074	6.972	0.000
Reporting on sustainability issues -> Manifesto signing	0.408	0.407	0.111	3.673	0.000
R square					
Manifesto signing	0.358	0.375	0.077	4.676	0.000
Reporting on sustainability issues	0.439	0.452	0.067	6.536	0.000
PLS blindfolding results	SSO	SSE	Q^2 (=1-SSE/SSO)		
Manifesto signing	29.000	14.121	0.513		
PLS predict result	$Q^2_{predict}$	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
Manifesto signing	0.247	0.392	0.296	0.399	0.300
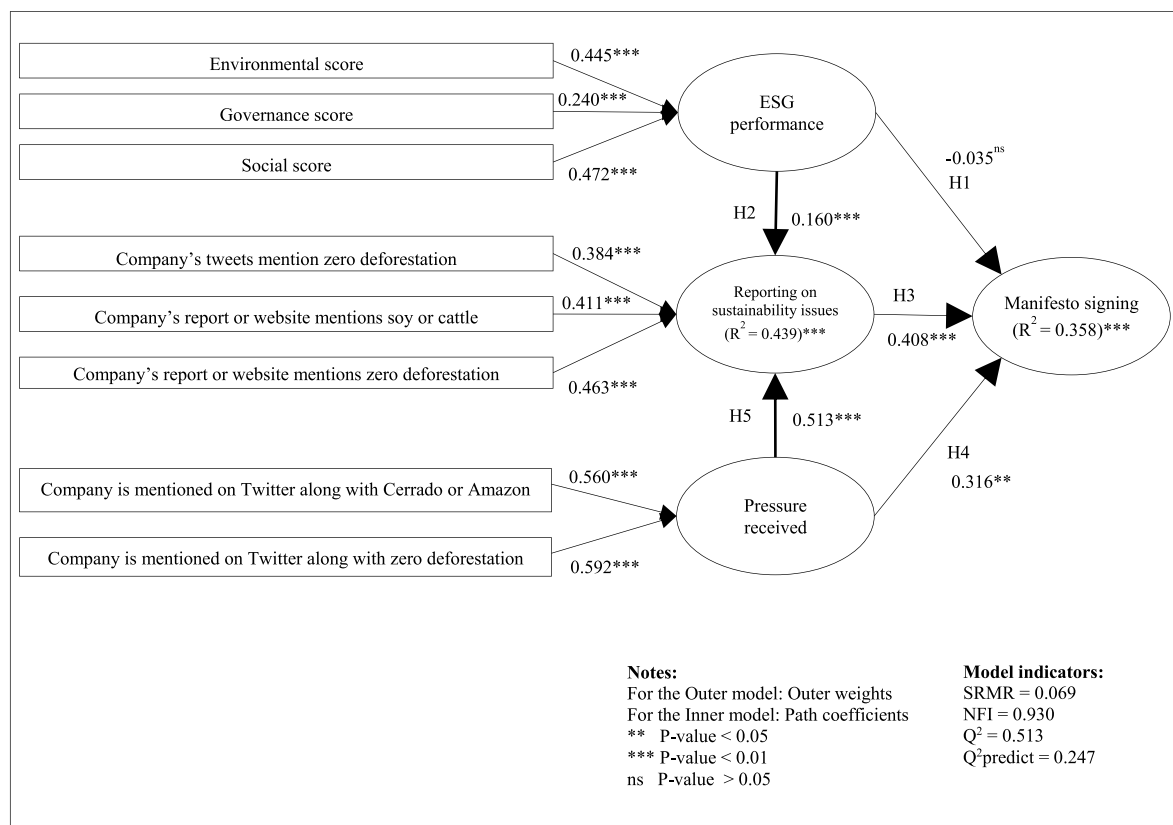
Fig. 3. Model with standardized path estimates.

would be possible to posit that companies with good sustainable performance demonstrating awareness of some topics (reporting) are more likely to take relevant actions on these topics.

This work confirms a relationship between what companies say and what they do, at least for the investigated empirical topic. Once we analyzed a real action instead of considering ESG score as a proxy of companies' behavior, we could see that a company's report on the topic was positively related to the action of signing the manifesto, which aligns and complements previous research (e.g., Papoutsi and Sodhi, 2020).

Concerning society as a stakeholder capable of pressuring companies, we argue that the positive relationship between social pressure

Table 6

Permutation and bootstrap multigroup analysis results: ESG controversy score.

Total effect	Complete sample	Group without any controversy N = 59	Group with some controversy N = 46	Difference PLS permutation MGA
Pressure received > manifesto signing	0.525***	0.097***	0.638***	- 0.542 **

Note: ***$p < 0.01$; **$p < 0.05$.

Table 7

Permutation and bootstrap multigroup analysis results: Headquarter country's SDG performance.

Total effect	Complete sample	Group in countries with lower SDG score N = 59	Group in countries with higher SDG score N = 46	Difference in PLS permutation MGA
Pressure received > Manifesto signing	0.525***	0.203***	0.678 ***	−0.474**

Note: ***$p < 0.01$; **$p < 0.05$.

and firms' action, and between social pressure and sustainability reporting, supports both outside-in and inside-out perspectives. Signing and reporting could mean responding to stakeholders' pressure or making a strategic decision to increase returns once the pressure signals to companies what actions would efficiently attract stakeholder support. The SST research guidance shows how the outside-in and inside-out perspectives can be integrated, complementing each other. The indirect effect between pressure received and manifesto signing, through the variable reporting, points to how companies interpret the world (the external structure). It enriches the work of Calabrese et al. (2022) on the companies' search for legitimacy by showing evidence of the social pressure each company receives—instead of considering external pressure something out there with the same influence on all of them. Additionally, these results expand the work of Zhang and Chen (2020) by showing evidence of the relationship between social media (instead of traditional media) and reporting practices and between social media and actual action.

The moderation analyses shed light on the effects of social pressure. The presence of controversy makes social pressure a key variable in explaining manifesto signing. There is a significant and positive effect between pressure and signing for the group with some controversy—the greater the pressure received, the greater the chances of signing the manifesto. However, this effect is not significant for the group without controversy, indicating that such companies without controversy could go unnoticed by the public or that they signed the manifesto without being under pressure. At the same time, for companies with controversies, it could mean that controversies draw more stakeholder attention, and they feel the need to respond accordingly. It adds to the research by Svanberg et al. (2022) on the relevance of controversy in understanding companies' behavior by including the social pressure variable as an important mechanism.

Furthermore, the moderating role of the headquarter country's SDG performance points to the relevance of factors that reflect the companies' structural context when investigating stakeholder pressure. In this case, the multigroup analysis resulted in a significant difference in the relationship between pressure received and manifesto signing, which was higher for companies with headquarters in a country with a higher SDG score than those in countries with lower SDG scores. This finding confirms previous research (Rosati e Faria, 2019) and enriches the results of Calabrese et al. (2022) about the influence of country-level

variables (companies headquarters' country) once we explicitly presented evidence of the relationship between social pressure and practice. It might indicate that countries with a higher SDG score create an environment where companies are more pressure-responsive.

7. Conclusions

Within the SST framework, a model was examined that simultaneously explored: i) the nature and intensity of the relationships between ESG rating variables, what companies say, and what they do; ii) the role of social pressure as a variable of interest to help explain what a company does and says; and iii) the moderating role of key variables such as controversy and headquarter country's SDG performance. The results confirmed the proposed hypothesis except for a direct relationship between ESG rating and action. Furthermore, we added evidence of the impact of social pressure on reporting and practice, by investigating a company-level variable instead of just national-level ones; in other words, we investigated an aspect of the institutional context in a more disaggregated form. We found especially interesting the moderation role of the variables ESG controversy and headquarter country's SDG performance on the relationship between social pressure and companies' practices. These findings have important implications for theory and practice.

7.1. Implications for researchers

First, to the best of our knowledge, this is the first study to respond to Johnstone's (2018) call for integrating both inside-out and outside-in research strands through structuration theory, and it draws on Johnstone's (2018) and Schreck and Raithel's (2018) works to improve the understanding of the CSP debate involving the two opposing perspectives. Moreover, we advance this proposition by adopting SST as an integration tool for guiding researchers through the structuration processes when designing investigations and framing findings. This understanding might draw researchers' attention to more disaggregated variables that moderate the companies' contextual influences. Instead of taking outside-in and inside-out perspectives as opposing views, future research could explore their complementarity. We hope this integration allows to apply the advantages and avoid the drawbacks of both perspectives. It enriches the recommendation of Singh et al. (2022) of integrating stakeholder theory and resource-based view, theories respectively classified into the outside-in and inside-out approaches.

Second, the proposed theoretical framework has been shown to explain the companies' manifesto signing, integrating both inside-out and outside-in perspectives. This research adds to the literature that directly compares companies' actions and reporting practices (Clarkson et al., 2008; Journeault et al., 2021) or analyzes the usefulness of ESG ratings. The results indicate how complex these relationships are. Thus, considering that research normally tests these relationships based on limited aspects of reality, it might not be desirable to pursue closure on whether reporting practices and ESG ratings reflect actual practices, which could oversimplify certain issues. Contrarily, future research could focus on aspects and practices not covered by ESG raters and report guidelines.

Third, the study sheds light on the opportunity to explore social media as 'a rich reservoir of words and their implications for actions' (Lockwood et al., 2019, p. 27). The results showed that what companies and stakeholders say on social media relates to actual practices. SST can help explore this relationship because publication on social media can reflect external structure and efforts to change or maintain that structure; for example, the performative view of language could be helpful in this task (Barinaga, 2009; Chandler et al., 2018).

7.2. Implications for practitioners

First, considering the findings of this study about social media

pressure, policymakers could take advantage of companies' sensitivity to society and develop mechanisms that make companies more transparent to the general public concerning social and environmental aspects. The more companies are exposed to traditional and social media, the more actions toward sustainability are expected to be taken. Likewise, society could use its influence to pressure more companies, especially through social media. Companies interested in gaining competitive advantages through sustainability can also take advantage of social media pressure, improve their practices more than their competitors, and publicize them broadly, making other companies also move in this direction.

Second, policymakers and ESG raters could pay more attention to the complexity of variables that make companies more likely to make better sustainability decisions, mainly because these variables are related to combined internal and external elements.

Third, ESG ratings and sustainability report guidelines could be improved to better account for real practices, inhibiting greenwashing. For example, they could clarify guidelines and scores to best account for companies' performance regarding urgent sustainability issues like deforestation; further adopting controversial measures could be helpful.

Fourth, regardless of information access difficulties, stakeholders should not depend only on ESG ratings and formal reports. Exploring companies' discursive practices (e.g., on social media) could help better understand their actions. Moreover, exploring discourses (and contradictions) may highlight aspects of companies' behavior.

Finally, companies could apply the proposed framework to (i) align practice and discourse, (ii) demand that their practice be reflected in ESG scores, and (iii) assure that stakeholders get this information.

7.3. Limitations and future research

Despite its theoretical and practical implications, this study has certain limitations. First, while it argues the merit of the analyzed sustainable action (signing the manifesto), future research could explore other substantial actions and link them to the results obtained through the investigated action. Second, we analyzed social media by looking for particular keywords. Big data and artificial intelligence techniques could be employed for social media data collection and analysis for better access to and interpretation of data, including how the relationship between companies and stakeholders evolves over time. Third, we investigated social pressure just through social media. Future research could explore and compare other stakeholders and forms of pressure, like traditional media, NGO campaigns, and governmental regulatory practices. Finally, despite our finding that companies with controversies are more likely to act in the presence of pressure, it is not yet clear how it works for companies without controversy. Future research could investigate whether these companies take action even without pressure or do not take action and go unnoticed.

CRediT authorship contribution statement

Thiago Ferreira Quilice: Conceptualization, Methodology, Software, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Funding acquisition, Supervision. **Rosa M. Hernández-Maestro:** Conceptualization, Methodology, Formal analysis, Investigation, Resources, Writing – original draft, Writing – review & editing, Visualization, Supervision. **Roberto Gonzalez Duarte:** Conceptualization, Resources.

Declaration of competing interest

There are no conflicts of interest to declare.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jclepro.2023.137520.

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