

Cite as: Alon A. and Vidovic M. 2015. Sustainability performance and assurance: Influence on reputation. *Corporate Reputation Review*, 18(4), 337-352.

SUSTAINABILITY PERFORMANCE AND ASSURANCE: INFLUENCE ON REPUTATION

ABSTRACT

The positive impact of sustainability on reputation has been assumed but not sufficiently examined. This study probes the veracity of these claims by applying legitimacy and signaling perspectives to examine whether sustainability performance and assurance contribute to corporate reputation. We find superior sustainability performance has a positive association with sustainability reputation. Companies with better performance are also more likely to obtain external assurance of their sustainability disclosure, but assurance does not directly affect reputation. Assurance appears to be a managerial tool associated with the congruence of internal processes rather than a differentiating signal to external stakeholders.

Keywords: signaling theory, legitimacy, sustainability reputation, sustainability reporting, assurance

SUSTAINABILITY PERFORMANCE AND ASSURANCE: INFLUENCE ON REPUTATION

Introduction

Sustainability has become an important issue for businesses worldwide. The definition of sustainability has evolved over the past decade and now tends to include social, environmental, governance, and economic components (e.g., Epstein and Roy, 2003; Pfeffer, 2010; Salzmann *et al.*, 2005). This more comprehensive view incorporates the impact of organizations on the physical and the social environment and acknowledges their influence on natural and human resources (Pfeffer, 2010). In a 2011 survey of 4,000 managers in 113 countries by the *MIT Sloan Management Review* and the Boston Consulting Group, 67 percent claimed that sustainability is “key to competitive success” (*Economist*, 2012, p. 76). According to Lubin and Esty (2010), sustainability is a megatrend that “will touch every function, every business line, every employee” (p. 9). It influences product innovation (Nidumolu *et al.*, 2009), strategic planning (Epstein and Roy, 2003), and marketing strategies (Sheth *et al.*, 2011). Additionally, how sustainability-focused activities relate to strategic outcomes, specifically reputation, is of interest (Johnson *et al.*, 2003; Searcy, 2012).

Some believe that sustainability efforts can enhance corporate reputation. Forty-one percent of the senior executives interviewed for KPMG’s 2011 global survey cited the desire to enhance reputation as a main driver behind sustainability efforts (KPMG, 2011). According to Fombrun’s (1996, p. 37) widely cited definition, reputation is a social construct that is based on the perceptions of stakeholders. External stakeholders are influenced by corporate reputation when they choose products, jobs, and make investment decisions (Fombrun and Shanley, 1990). Thus, it is an important organizational asset that must be proactively managed (Gibson *et al.*,

Reputation: Sustainability Performance and Assurance

2006). As noted by Kuruppu and Milne (2010), much of the existing social and environmental accounting literature carries an underlying untested assumption that sustainability initiatives produce legitimating effects, but little is known about the actual influence of such initiatives on reputation.

Sustainability disclosure is one of the more commonly used approaches to convey a firm's commitment to sustainability. With the growth of sustainability initiatives and the disclosure of those efforts, assurance of sustainability reports is becoming more widespread. Assurance is an engagement whereby a practitioner expresses a conclusion designed to enhance the degree of confidence of the intended users about the outcome of the evaluation or the measurement of a subject matter against criteria (IAASB, 2011). As noted by a number of authors, the majority of studies focus on the antecedents of organizational communication but fail to examine its impact on organizational stakeholders (Kuruppu and Milne, 2010). Prior studies in this arena also focused for the most part on the relationship between the extent of disclosure and measures of corporate reputation (e.g., Brown *et al.*, 2010; Cho *et al.*, 2012; Toms, 2002); however, they did not specifically consider other sustainability performance indicators and the potential direct and/or indirect impact of external assurance on a firm's reputation for sustainability. In this study, we examine whether sustainability initiatives, including the external assurance of disclosure, bridge the credibility gap that arises between management and stakeholders and produce reputation-legitimizing effects.

This paper makes a number of important contributions. Legitimacy theory has been broadly applied to argue that companies use communication strategies, including voluntary disclosure, as tools to gain or maintain legitimacy (e.g., Deegan, 2002). A number of studies note the limitations of the broad legitimacy-based approach and highlight the need for more diverse

Reputation: Sustainability Performance and Assurance

perspectives and theories (Bebbington *et al.*, 2008; O'Dwyer, 2002; Robinson *et al.*, 2011; Unerman, 2008). To address these shortcomings, we extend the literature that focuses on sustainability initiatives in the context of reputation management (Bebbington *et al.*, 2008; Cho *et al.*, 2012; Greenwood, 2007; Greenwood and Van Buren, 2010; Robinson *et al.*, 2011; Unerman, 2008); this is achieved by complementing the legitimacy perspective with insights from the signaling theory to explain the association between sustainability initiatives and reputation.

Second, the degree to which assurance adds value to the reporting firm has been questioned due to inconsistencies resulting from the lack of globally accepted standards and a wide range of providers offering this service (e.g., Ball *et al.*, 2000; Deegan *et al.*, 2006; Manetti and Becatti, 2009; Perego and Kolk, 2012). Kuruppu and Milne (2010), in an experimental case study designed to explore decisions of potential employees, found that assurance of sustainability disclosure did not impact perceptions of organizational reputation and legitimacy. Further, Jones and Solomon (2010) found that managers do not have a consistent view of what assurance of sustainability disclosure achieves. Some view it as a mechanism for dialogue with their stakeholders, while others see it as a managerial tool intended to verify the efficiency of internal processes. We examine these conflicting perspectives using a global sample of 100 companies representative of a variety of industries.

Finally, a number of studies have called for a more detailed examination of sustainability in the context of not only external influences, such as country-level institutions, but also as a factor of the organizational characteristics (Aguilera-Caracuel *et al.*, 2012; Perego and Kolk, 2012). Salzmann, Ionescu-Somers, and Steger (2005) noted that current studies tend to focus solely on firms in the United States and lack comparative approaches. We add to the literature by

Reputation: Sustainability Performance and Assurance

employing a multilevel approach that considers the impact of country-level, industry, and firm variables on the adoption of sustainability initiatives. The findings highlight that superior disclosure-based sustainability performance is positively associated with sustainability reputation. Companies with better performance were also more likely to obtain external assurance of their sustainability disclosure, but assurance did not have a direct association with reputation. Assurance appears to be a managerial tool associated with internal processes rather than a performance-differentiating signal to external stakeholders.

Our paper is organized as follows. We begin with a background discussion of sustainability and the initiatives that companies undertake, including the reporting of sustainability performance and third-party assurance. We focus on the relationship between these efforts and firm sustainability reputation in the context of legitimacy and signaling theories. We next describe our exploratory empirical study and interpret the results. In the last section, we discuss the wider implications of the findings.

Theoretical Background and Hypotheses Development

Sustainability Performance, Reporting, and Reputation

An increasing number of companies are choosing to report and discuss their sustainability strategies and performance. In a survey performed by KPMG in 2008, 80 percent of the 250 largest companies worldwide issued some type of a sustainability report compared to approximately 50 percent in 2005 (KPMG, 2008). According to legitimacy and reputation arguments, firms engage in sustainability initiatives, including sustainability reporting, to strengthen their legitimacy and enhance reputation (Carroll and Shabana, 2010; Patten, 2002). Suchman (1995) defined legitimacy as “a generalized perception or assumption that the actions

Reputation: Sustainability Performance and Assurance

of an entity are desirable, proper, or appropriate within some socially constructed system of norms, beliefs, and definitions” (Suchman, 1995, p. 574). To gain legitimacy, organizations take actions that are congruent with social expectations and values (Mathews, 1993). While legitimization of their efforts may be one of the goals that organizations pursue, their motivations differ. Some respond to external influences “only to receive rewards and avoid punishment” (Greenwood, 2001, p. 34), or at the other end of the social responsibility orientation spectrum, firms go beyond industry and legal expectations to promote the welfare of stakeholders (Greenwood, 2001). As firms recognize the opportunities and reputational risks related to sustainability, the challenge is to communicate their activities and not appear purely rhetorical (Dawkins, 2004; Gray, 2010). On the other hand, users of the reports need to differentiate between companies that use disclosure for “greenwashing” and manipulating public perception from firms that are truly committed to sustainability (de Lange *et al.*, 2012, Higgins and Walker, 2012; Hopwood, 2009).

There is support for the view that firms utilize sustainability reporting as a symbolic action to gain legitimacy and manage public perceptions (Comyns *et al.*, 2013). Companies can manipulate stakeholder perceptions through cause-related marketing and disclosure (Greenwood and Van Buren, 2010). Aras and Crowther (2009) observed that the amount of disclosure has been rapidly increasing “as firms recognized the commercial benefits of increased transparency” (p. 286). A number of authors examined environmental disclosure and performance and found that companies with a poor performance tend to provide more extensive disclosure (e.g., Cho *et al.*, 2012; Cho and Patten, 2007; Patten, 2002). The extent of disclosure may actually have little in common with the actual sustainability performance and thus is not a good indicator of a firm’s social orientation.

Reputation: Sustainability Performance and Assurance

The conclusions of the studies that investigated the relationship between various dimensions of sustainability performance and reputation have been mixed. For example, Cho *et al.* (2012) examined the relation between environmental performance and environmental reputation using data compiled by *Newsweek* magazine. The authors anticipated but did not find a positive relationship between them. On the other hand, a number of studies reported that performance on social metrics, such as community relations, treatment of women and minorities, and employee relations, is positively related to firm reputation (Fombrun and Shanley, 1990; Turban and Greening, 1997).

Signaling theory offers a lens to complement the legitimacy perspective and further explore the relationship between performance, disclosure, and reputation. Researchers note that reputation is issue-specific and requires differentiation among various reputations that companies may have (e.g., Barnett *et al.*, 2006; Deephouse and Suchman, 2008; Fombrun and Shanley, 1990). Walker (2010) offers Walmart as an example of a company that is frequently questioned about its treatment of employees but is well regarded in terms of its financial performance. Recognizing the multidimensional nature of reputation, in this study we specifically focus on the noneconomic components of sustainability. Although firms engage in sustainability activities to strengthen their legitimacy and enhance reputation, the nature of disclosure will vary based on their performance.

Signaling theory focuses on the sender of the signal (the firm in this case), the signal, and the receivers (stakeholders). Firms have information that others are not aware of and use signaling to reduce information asymmetry (Spence, 1974). As noted by Hahn and Lülfs (2014), “the sustainability performance of a company can be regarded as asymmetric information because it is difficult for parties outside the company to gain credible information on

Reputation: Sustainability Performance and Assurance

sustainability aspects”. Proactively reporting their sustainability-related activities can reduce information asymmetry.

According to the theory, effective signals are observable and costly to replicate (see review by Connelly *et al.*, 2011b). For example, ISO14000 certification or the use of environmentally friendly materials in production are costly but demonstrate commitment to sustainability (Connelly *et al.*, 2011a; Connelly *et al.*, 2011b; Shrivastava, 1995). A number of studies have found support for this hypothesis based on the relationship between environmental performance outcomes and disclosure. Specifically, firms with better environmental performance were found to provide better quality information than poor performers (Al-Tuwaijri *et al.*, 2003; Mallin *et al.*, 2013). Similarly, Clarkson, Li, Richardson, and Vasvari (2008) found a positive association between environmental performance and the level of discretionary disclosures and concluded that better performers were more forthcoming. Further, authors noted that general disclosure of environmental policy and commitment to the environment can be genuine if substantiated but can also be easily replicated and deceiving (Clarkson *et al.*, 2008). The signal needs to be credible, as false signals, once revealed, are no longer effective (Watson *et al.*, 2002). Thus, superior performers pursue and report initiatives that would be difficult for poor environmental performers to mimic (Clarkson *et al.*, 2008; Clarkson *et al.*, 2011).

Signaling theory recognizes the importance of stakeholders who are exposed to the firm signals, as the extent of the signal effectiveness depends on whether receivers are receptive to the signal (Janney and Folta, 2006). With companies reporting their activities more specifically, external stakeholders are more likely to be familiar with these efforts and recognize substantive commitment to sustainability. Thus, superior performance is expected to enhance a firm’s reputation for sustainability. We state this hypothesis as follows:

Reputation: Sustainability Performance and Assurance

***H₁**: Sustainability reputation is positively associated with performance as reflected in the sustainability disclosure.*

Sustainability Performance and Assurance: Congruence Signaling

There is an ongoing debate about the role of external assurance within an organization's sustainability strategy. Third-party assurance of sustainability reports has become a more common element of sustainability reporting (e.g., Manetti and Toccafondi, 2012; Perego and Kolk, 2012). Firms have turned increasingly to third parties for sustainability assurance. KPMG's 2008 survey reported that 40 percent of sustainability reports published by the 250 largest companies contained formal third-party assurance compared to 30 percent in 2005 (KPMG, 2008).

Although assurance of sustainability disclosure is becoming more widespread, the degree to which external stakeholders find it important and whether assurance adds value to the reporting firm has been questioned due to inconsistencies resulting from the lack of globally accepted standards and a wide range of providers offering this service (e.g., Ball *et al.*, 2000; Deegan *et al.*, 2006; Manetti and Becatti, 2009; Perego and Kolk, 2012). For example, the two most frequently used international standards are International Standards for Assurance Engagement (ISAE) 3000 and corporate responsibility assurance standard AA1000AS. ISAE3000 is a principles-based standard that can be applied to a wide range of assurance engagements and was written for professional accountants in public practice. The code of conduct specified in the standard is familiar to accountants but may not be customary for other providers of sustainability assurance. Another sustainability assurance standard, AA1000AS, is issued by the British nonprofit organization AccountAbility. It requires assurance providers to

Reputation: Sustainability Performance and Assurance

evaluate not only data reliability but also how companies manage sustainability (AccountAbility, 2008). The standard can be applied by any of the providers of sustainability assurance.

Currently, there are no specific qualifications for sustainability assurance providers. The arena is increasingly dominated by the major accounting firms. According to KPMG's 2008 survey, the majority of global 250 companies relied on these firms for assurance (KPMG, 2008). Assurance is also offered by technical experts and specialist assurance providers. The variability in the standards and providers contributes to variation in the level of assurance, types of verification, reporting criteria, and format of the statements.

According to the signaling theory, companies deliberately communicate information in an effort to convey positive organizational attributes (Connelly *et al.*, 2011a). For example, Kirmani and Rao (2000) applied signaling theory to examine how firms communicate the unobservable quality of their products. They distinguished between firms with low-quality and high-quality products and argued that only firms with high-quality products were motivated to signal their true quality. Watson, Shrivies, and Marston (2002) found that better-performing firms were more likely to distinguish themselves through voluntary disclosure of ratios in corporate annual reports. Park and Brorson (2005), in a study of Swedish companies, found firms obtained assurance to maintain the frontrunner position in sustainability management. Jones and Solomon (2010) emphasize that managers do not have a consistent rationale for obtaining external assurance of sustainability reports. Some view it as a mechanism for dialogue with stakeholders, while others see it as a managerial tool intended to verify internal processes.

From the managerial process perspective, obtaining assurance contributes to the congruence between management's rhetoric and organizational action. One of the aspects of the internal focus on sustainability relates to the communication of information to support these

Reputation: Sustainability Performance and Assurance

initiatives (Burritt and Schaltegger, 2010). Assurance becomes an informational signal that provides insight into the actions of managers (Libby *et al.*, 2004) and is perceived as an integral part of sustainability reporting for organizations aiming to present externally verified information (Martinov-Bennie *et al.*, 2012). We expect that third-party assurance of sustainability reports becomes a part of the sustainability process and is used by firms to signal congruence between their commitment to sustainability and actions; we therefore propose the following hypothesis:

***H₂**: Third-party assurance is positively associated with performance as reflected in the sustainability disclosure.*

Assurance and Sustainability Reputation: External Signaling

Those making a business case for assurance anticipate that it will enhance public perception of firm activities. Several academic studies suggest that assurance can enhance the credibility of the reported information and legitimize sustainability efforts (Kolk and Perego, 2010; Simnett *et al.*, 2009). Further, it has been argued that assurance is beneficial to corporate reputation, but that premise has not been sufficiently examined, and the empirical results have not been consistent (Park and Brorson, 2005; Simnett *et al.*, 2009). Kuruppu and Milne (2010), in an experimental case study designed to explore the decisions of potential employees, found that assurance of sustainability disclosure did not impact perceptions of organizational reputation and legitimacy. On the other hand, Hodge, Subramaniam, and Stewart (2008) found that having assurance improved report users' perceptions of the reliability of environmental and social information.

From the external signaling perspective, sustainability efforts are communicated to stakeholders to attract investment and gain a more favorable reputation. Receivers of information go through the process of translating signals into perceived meaning (Connelly *et al.*, 2011a). Assurance is one of the initiatives undertaken that can establish legitimacy with external

Reputation: Sustainability Performance and Assurance

stakeholders and influence reputation (O'Dwyer *et al.*, 2011). Thus, we expect third-party assurance to have a positive impact on companies' sustainability reputations and propose the following hypothesis:

H₃: Sustainability reputation is positively associated with having third-party assurance of sustainability disclosure.

Figure 1 presents the hypothesized relationships between disclosure-based sustainability performance, firm's sustainability reputation, and third-party assurance.

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Methodology

Sample

The sample consists of 100 companies for which sustainability efforts were analyzed and featured in the 2011 Sustainability Leadership report produced as a result of the cooperation between Brandlogic and CRD Analytics. To be included in the sample, companies had to (1) be a major global brand according to the 2011 Brand Finance Global 500 ranking of brand value, (2) have a high level of familiarity in China, Germany, India, Japan, the United Kingdom, and the U.S. (the countries used in the survey), and (3) be a public company that reports financial and sustainability information. According to the report, these companies collectively represent "20 percent of total global market capitalization and 40 percent of the value of the Standard & Poor's 500 index" (Brandlogic, 2011). The following sectors were represented: Consumer Discretionary, Consumer Staples, Energy, Financials, Industrials, Information Technology, Materials, Healthcare, and Telecommunication Services. Variable measures are described next and summarized in Table 1.

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Sustainability Reputation

Reputation: Sustainability Performance and Assurance

To measure sustainability reputation, we use the Sustainability Perception Score (SPS) from the 2011 Sustainability Leadership report discussed above. The data for the SPS were collected in 2011 for the Corporate Sustainability Brand Perception Survey by TNS, an established international research firm.¹ The survey asked participants a series of questions related to their perceptions of companies' performance regarding environmental, social, and governance (ESG) factors, and their responses were used to derive the SPS. Each company was rated by a total of 2,400 participants from China, Germany, India, Japan, the United Kingdom, and the U.S. (400 from each country). The survey focused on external stakeholders by surveying investment professionals, purchasing professionals and graduating university students (800 from each category). Reputation scores for the sample companies ranged from 31.9 to 58.8, with a mean (median) of 47.17 (47.1). The top three rated companies were ABB, Walt Disney, and Abbott Labs.

Disclosure-based Sustainability Performance

To measure the level of sustainability performance as conveyed by disclosure, we used the Sustainability Reality Score (SRS). The score was developed by CRD Analytics, the leading provider of sustainability investment analytics, and is based on direct measures of environmental, social and governance performance from the firms' 2009 sustainability reports. CRD Analytics used their proprietary SmartViewTM-360 platform and database to measure the following components: environmental (waste, energy, water, emissions, and risk mitigation), social (product responsibility, community, human rights, diversity and opportunity, and employment quality), and governance (board functions, board structure, compensation, vision and strategy, and shareholder rights). They utilized a total of 175 quantitative and qualitative performance

Reputation: Sustainability Performance and Assurance

metrics with the majority based on GRI's indicators (Brandlogic, 2011). According to the report, the SPS and the SRS raw scores were converted to 0-100 indices to allow for direct comparisons. The SRS scores for the sample companies range from 1.3 to 71.2, with a mean (median) of 42.36 (45.65). Based on the evaluation of disclosure, the top three performers were Merck, IBM, and Nokia.

Assurance

We obtained data on whether firms obtained external assurance of their sustainability reports from Corporate Register, an online directory of sustainability reports, or, if not available, from the company website. We define our *assurance* variable as equal to 1 if the company's 2009 sustainability report is assured by a third party and 0 if it is not. Forty companies in our sample had their sustainability reports assured.

Control Variables

The prior research documents that a number of industry-specific and country-specific factors may influence the firm assurance decision and sustainability reputation. Both Simnett, Vanstraelen, Chua (2009) and Kolk and Perego (2010) found that the structure of the legal system and industry characteristics are significant determinants of assurance. Companies based in a more stakeholder-oriented, code-law countries were more likely to obtain assurance of disclosure than companies based in a more shareholder-orientated, common-law countries (Simnet *et al.*, 2009). In common-law countries, firms tend to focus on shareholders, while in code-law countries, the responsibility of firms extends to a broader group of stakeholders including banks, labor unions and business associations. Similar to prior studies, we use the code law/common law differentiation as a proxy for stakeholder/shareholder orientation. Based on the

Reputation: Sustainability Performance and Assurance

classification in Simnett, Vanstraelen, and Chua (2009), we create a dummy variable called *stakeholder* that assumes a value of 1 if a company is domiciled in a code-law country and 0 if it is domiciled in a common-law country. In our sample, 39 companies are domiciled in a code-law country. The following countries in our sample represent code-law countries: Denmark, Finland, France, Germany, Japan, the Netherlands, South Korea and Switzerland. Common-law countries are: Australia, Canada, India, the United Kingdom and the United States. This differentiation is also included as a control variable in the analysis of sustainability reputation, as it may influence how a firm's sustainability efforts are perceived (Smith *et al.*, 2005). Table 2 summarizes the number of firms by country.

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Companies in certain industries have a larger environmental footprint that may impact their sustainability reputation and the decision to obtain external assurance (Simnett *et al.*, 2009). To account for industry effects, we create an *industry* dummy variable equal to 1 if a firm operates in an environmentally sensitive industry based on its North American Industry Classification System (NAICS). The classification is based on the 2009 list by the U.S. Census Bureau that specifies the NAICS codes associated with environmentally sensitive industries. In addition, following Simnett *et al.* (2009), who find that large companies are significantly more likely to have their sustainability reports assured compared to small companies, we include the log of 2009 sales obtained from Compustat to account for firm size. Table 3 displays the descriptive statistics and the correlation matrix for all variables. Significant correlations exist between the measures for sustainability performance, sustainability reputation, firm size, and assurance.

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Results

With all variables in the study observed and measured, we use covariance-based structural equation (SEM) path analysis to estimate direct and indirect effects of the variables. The inspection of the data and the univariate tests of normality show a rejection (at the 5% level) of the null hypothesis of univariate normality for two variables: sustainability performance (SRS) and size (log of sales). Mardia's test for multivariate skewness, Mardia's test for multivariate kurtosis and Doornik–Hansen test based on the skewness and kurtosis, all reject the null hypothesis of multivariate normality, an assumption needed for structural equation modeling. As an aid to nonnormal data, we bootstrapped the standard errors (Nevitt and Hancock, 2001). The results of the SEM analysis testing our hypotheses are displayed in Figure 2. We estimated the hypothesized paths using the `sem` command in Stata12.

----- INSERT FIGURE 2 ABOUT HERE -----

As recommended by Schumacker and Lomax (2004), we examined several goodness-of-fit statistics calculated by Stata to assess whether our path model has an acceptable fit. The Chi-square statistics of 0.91 is statistically insignificant, with *p-value* of 0.34, indicating that our path model is a close fit for the sample. Although root-mean-square error of approximation (RMSEA) is commonly used, Kenny, Kaniskan, and McCoach (2014) do not recommend utilizing RMSEA as a measure of the goodness of fit for smaller samples. Instead, we focus on the probability of the close fit as suggested by Kenny (2015). This is a one-sided test of the null hypothesis that the $RMSEA = 0.05$ which represents a close-fitting model against the alternative hypothesis that the RMSEA is greater than 0.05. We fail to reject the null hypothesis with ($p = 0.40$) indicating a

Reputation: Sustainability Performance and Assurance

close fit of the model. The comparative fit index (CFI) is 1.00 which is above the recommended threshold of 0.95, indicating a good fit. Thus, the tested model has an acceptable fit and is reasonably consistent with the data.

The first hypothesis examines whether there is a positive association between the firm sustainability performance and sustainability reputation. As anticipated, we find the path from sustainability performance to the perception of the firm sustainability reputation to be positive and statistically significant ($p < .01$). This indicates that performance is positively associated with sustainability reputation, and thus, H_1 is supported.

Our second hypothesis examines the association between sustainability performance and the likelihood of obtaining third-party assurance. We hypothesize that firms will be more likely to obtain assurance to signal congruence between their commitment to sustainability and their actions. We find the path from disclosure-based sustainability performance to assurance is positive and statistically significant ($p < .01$). This supports H_2 and suggests that firms may use assurance as a signal to convey their commitment to sustainability.

The third hypothesis posits a positive association between third-party assurance of firm sustainability reports and their reputation for sustainability. The path from assurance to the sustainability perception score is negative, albeit statistically insignificant, indicating that having its sustainability report assured does not affect sustainability reputation. Thus, H_3 is not supported. Our results suggest that although better-performing firms appear to use assurance to signal their performance, external stakeholders do not incorporate that signal into their evaluation of firm sustainability reputations. Overall, the results confirm that disclosed sustainability performance is positively associated with sustainability reputation. On the other

Reputation: Sustainability Performance and Assurance

hand, while better-performing firms were more likely to obtain third-party assurance, that signal was not reflected in the firm's sustainability reputation.

The model also includes controls for whether a firm is domiciled in a code-law country (*stakeholder*) and whether it operates in an environmentally sensitive industry (*industry*). The path from the stakeholder control variable to assurance decision is positive and statistically significant ($p < .01$), while the path from the stakeholder control variable to the firm sustainability reputation is not statistically significant. Thus, the assurance decision is positively associated with whether a firm is located in a stakeholder-focused country, but that does not directly impact reputation. The path from membership in the environmentally sensitive industry to the firm sustainability reputation is not statistically significant. Thus, belonging to an environmentally sensitive industry does not directly impact the overall sustainability reputation. Similarly, we do not find that firm size effects the assurance decision. One potential explanation is the lack of variation in the size of the firms in the sample, as all firms are large and well established.

Supplemental Analysis

Given the lack of multivariate normality, we also estimated the model using a form of weighted least squares. This was done in Stata utilizing the asymptotic distribution free method under the sem command which does not require the assumption of multivariate normality. The global fit of our model is acceptable. The Chi-square statistics of 1.26 is statistically insignificant, with a *p-value* of 0.26. The RMSEA is 0.05 (*p-close* = 0.32), and the CFI is 0.99. Although the magnitude of the coefficients on the estimated paths are somewhat different, the same paths are still statistically significant and therefore conclusions do not change.

Reputation: Sustainability Performance and Assurance

Since the industry dummy was not statistically significant, we furthered examined the relationship between specific industries and sustainability reputation. We focused on the Manufacturing (NAICS 31-33), Mining, Quarrying, and Oil and Gas Extraction and Production (NAICS 21 and 324), and Finance and Insurance (NAICS 52) industries that Simnett et al. (2009) identified to have a larger environmental and social footprint. The regression model was estimated using the ordinary least squares (OLS) estimator and the results are presented in Table 4. Standard errors have been adjusted for heteroskedasticity. The model has a reasonable fit with R^2 of 0.267 and the Shapiro-Wilk test ($p = .53$) does not reject the hypothesis that the residuals are normally distributed. We find membership in the oil and gas industry is negatively associated with reputation. We also find a statistically significant association between the finance and insurance industry and the sustainability reputation. As the data were collected at approximately the same time as the financial crisis, the findings highlight that these firms may be perceived in a negative light for their role in the crisis.

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Discussion and Implications

With the current lack of evidence regarding responses of the external stakeholders to sustainability initiatives other than their investment decisions, we explore other strategic outcomes. More specifically, we focus on the relationships between sustainability performance, assurance of disclosure, and reputation for sustainability. By combining the insights from the signaling theory with the legitimacy perspective, we are better able to explain the association between sustainability initiatives and reputation. Our exploratory data indicate that actual disclosed performance has a positive association with the reputation for sustainability. The

Reputation: Sustainability Performance and Assurance

nature of the signal is important as it needs to be difficult to mimic and observable to be effective. Thus, while the amount of disclosure is easy to inflate, the actual performance is more difficult to replicate.

Companies with better performance were also more likely to obtain external assurance of their sustainability disclosure, but assurance did not have a direct association with reputation. Third-party assurance is expected to play a prominent role in ensuring accountability for sustainability performance. To obtain third-party assurance, firms have to invest in the reporting infrastructure that can be evaluated. This is a significant investment that companies make to enhance the credibility of information (O'Dwyer and Owen, 2005; Simnett *et al.*, 2009). Assurance appears to be a managerial tool associated with the congruence of internal processes rather than a performance-differentiating signal to external stakeholders. As supported by the internal congruence argument, firms may be obtaining assurance to signal their commitment to internal audience.

Our findings indicate that external assurance did not have a positive association with reputation for sustainability. The results are consistent with Kuruppu and Milne (2010), who examined but did not find support for the premise that assurance impacts the credibility of information for potential employees. As highlighted by Perego and Kolk (2012), a number of structural deficiencies potentially “undermine the credibility of such novel verification mechanisms” (p. 184). Lack of consistent standards and provider differences make it difficult for nonspecialists to interpret what assurance statements mean in terms of sustainability performance (e.g., Manetti and Becatti, 2009; Perego and Kolk, 2012). There are also concerns that significant management control of the assurance scope and the commercial interests of management and/or assurance providers may jeopardize the independence of assurers and further undermine the

Reputation: Sustainability Performance and Assurance

legitimacy of the process (Ball *et al.*, 2000; Deegan *et al.*, 2006; Smith *et al.*, 2011). Further, there is insufficient familiarity with third-party assurance on the part of the external users. Signaling theory does note that for the signal to be effective, the receiver needs to be aware of what to look for (Connelly *et al.*, 2011a). Thus, there is a need to focus on external stakeholders, as they may not fully understand the process and implications of third-party assurance.

As highlighted by Perego and Kolk (2012), it is necessary to consider country-level and firm-level factors as drivers of sustainability assurance and, more broadly, other sustainability efforts. We included macro-level legal orientation and found that firms from code-law countries were more likely to obtain assurance, supporting the institutional perspective that recognizes the role of country-level institutions in shaping sustainability efforts. Industry factors were also important in how the firm reputation for sustainability was perceived. Studies that focus on environmental disclosure and performance tend to examine firms from environmentally sensitive industries. The broader view indicates that other industries, as was the case for the financial companies in our study, are also impacted.

The results of the study should be interpreted in light of the following limitations. The survey data were obtained from published reports, and the data collection process could not be verified. We focused on large multinational companies domiciled in developed countries, thus the observed relationships may not hold for other types of firms. Due to the limited number of firms in our sample that had their sustainability reports assured, we examined the general signal of whether the firm obtained third-party assurance. To expand upon this approach, future studies could focus on whether a specific type of assurance and the details contained in assurance statements play a role in the firm sustainability reputation.

Reputation: Sustainability Performance and Assurance

The findings highlight an additional important topic that requires greater attention from researchers: specifically, how companies manage sustainability given that it encompasses distinct components. For example, because social, environmental, governance, and economic dimensions are a part of the sustainability efforts, do certain dimensions have a greater impact on the sustainability reputation? Is there a substitution effect whereby poor performance in certain dimensions is compensated for by other components? Findings by Cho and coauthors (2012) support this possibility. The authors found that companies with a poor environmental performance were still likely to be a part of the Dow Jones Sustainability Index (DJSI), which ranks companies based on social, economic, and environmental indicators.

Notwithstanding the limitations noted, this study has important implications for the literature on disclosed sustainability performance, assurance practices and reputation. The disclosure of substantiated claims of sustainability efforts is a signal that companies can use to convey their performance. Further, third-party assurance continues to be an evolving verification mechanism that firms use to convey internal congruence but may not be well understood by external stakeholders.

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Figure 1: Theoretical Model

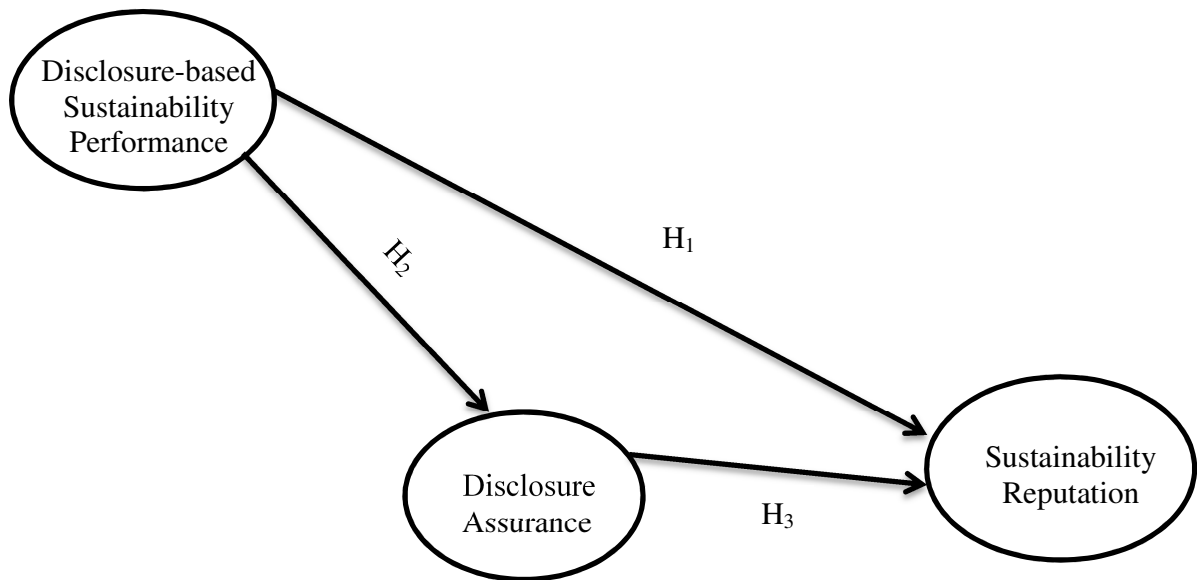
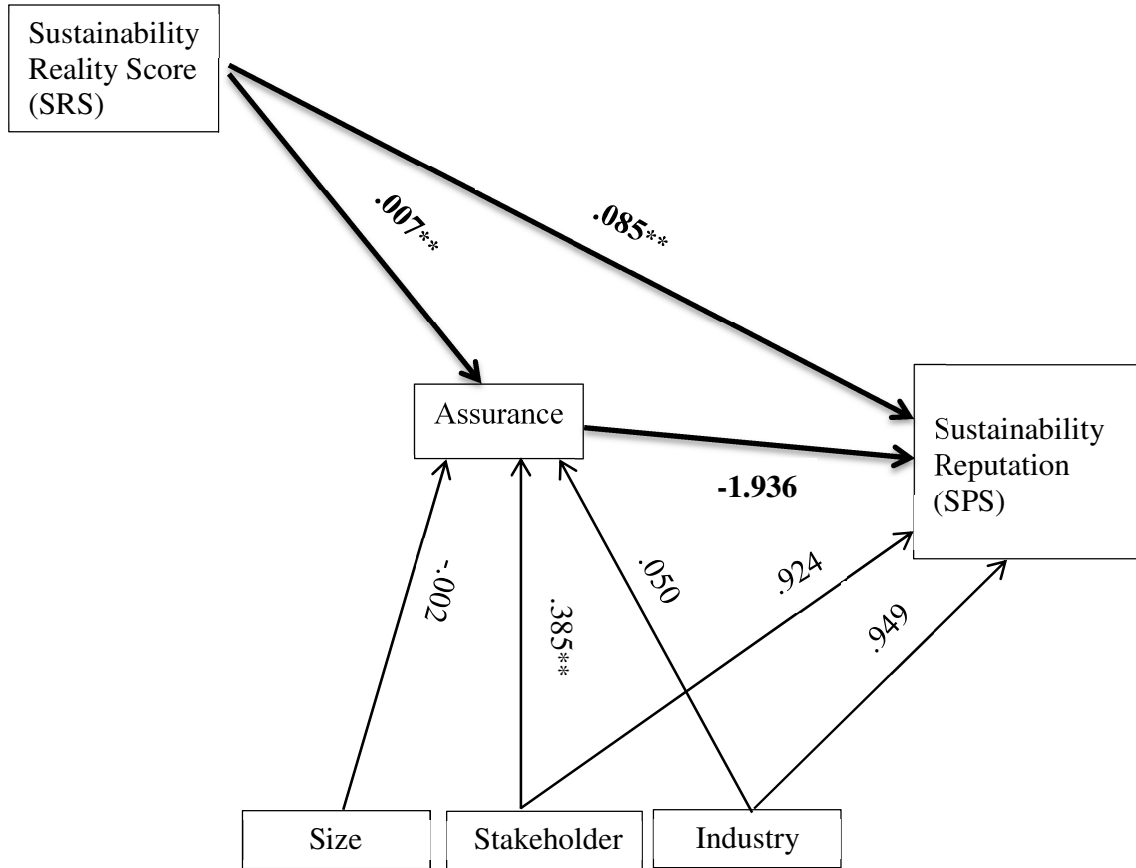


Figure 2: Path Analysis of Hypothesized Relationships



** $p < 0.05$, *** $p < 0.01$. Variable measures are described in Table 1.

Table 1: Variable Definitions and Sources

Variable	Definition and source
Sustainability Perception Score (SPS)	Score based on answers to a series of questions related to participant perceptions of company performance on environmental, social, and governance (ESG) factors (<i>2011 Brandlogic Sustainability Leadership Report</i>)
Sustainability Reality Score (SRS)	Score based on the direct measures of environmental, social and governance performance as presented in the sustainability report (<i>2011 Brandlogic Sustainability Leadership Report</i>)
Assurance	1 if a company's sustainability report is assured by the third party (<i>Corporate Register, www.corporateregister.com</i>)
Stakeholder	1 if a company is domiciled in a code-law country; 0 otherwise
Industry	1 if a company operates in an environmentally sensitive industry as indicated by the NAICS (<i>U.S. Census Bureau</i>)
Manufacturing	1 if a company is a part of NAICS 31-33 (excluding NAICS 324)
Oil & Gas	1 if a company is a part of NAICS 21 and NAICS 324
Finance & Insurance (FinIns)	1 if a company is a part of NAICS 52
Size	Log of 2009 sales (<i>Compustat</i>)

Table 2: Number of Firms by Country

Country	Number of firms
Code Law	
Denmark	1
Finland	1
France	5
Germany	12
Japan	10
The Netherlands	4
South Korea	1
Switzerland	<u>5</u>
	39
Common Law	
Australia	1
Canada	1
India	1
The United Kingdom	8
The United States	<u>50</u>
	61

Table 3: Descriptive Statistics

Variable	Mean	Median	Min	Max
SPS	47.17	47.10	31.90	58.80
SRS	42.37	45.65	1.30	71.20
Size	10.59	10.55	5.88	12.91
Assurance	40 ^a			
Stakeholder	39 ^a			
Industry	65 ^a			
Manufacturing	55 ^a			
OilGas	6 ^a			
FinIns	11 ^a			

^a indicates the number of observations in the sample that belong to the classification.

Correlation Matrix

Variable	SRS	Assurance	Stakeholder	Industry	SPS
SRS	1				
Assurance	.25**	1			
Stakeholder	.01	.39***	1		
Industry	.08	.13	.16	1	
SPS	.22**	-.07	.03	.10	1
Size	.27***	.11	.14	-.08	-.03

** $p < 0.05$, *** $p < 0.01$

Table 4: Regression Results

Variable	SPS
Assurance	-1.840 (1.122)
SRS	0.095*** (0.031)
Manufacturing	-0.244 (1.129)
FinIns	-6.534*** (1.713)
OilGas	-6.226*** (2.185)
Stakeholder	0.898 (1.089)
R squared	0.267
N	100

** $p < 0.05$, *** $p < 0.01$

Robust standard errors are in parentheses.

¹ A full description of the survey and methodology is available at <http://www.brandlogic.com/perspectives/sustainability.html>