THE IMPACT OF NORM-CONFORMING BEHAVIORS ON FIRM REPUTATION

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Deviance from social norms has been extensively examined in recent strategy research, leaving the strategic implications of conformity largely unexplored. In this article, we argue that firms can elect to conform to a norm along two dimensions: compliance with the goal and level of commitment to the procedures. We then produce a typology of four norm-conforming behaviors, which allows us to isolate differentiated effects of conformity on firm reputation. We examine the corporate environmental disclosures of 90 U.S. firms and find that firms derive different reputational rewards depending on whether they conform to the goal or procedure dimension of the environmental transparency norm. In addition, the relationship between conformity and reputation is moderated by the firm's prior reputation and the stringency of the normative environment. Copyright © 2011 John Wiley & Sons, Ltd.

INTRODUCTION

Social norms are powerful standards of behavior that are rooted in widely shared beliefs about how actors should behave. Conformity to these norms is a central topic in several streams of literature, such as sociology, social psychology, and institutional theory, which all emphasize the isomorphic processes underlying conforming behaviors. Because deviations from accepted norms are often sanctioned, social factors, such as the search for prestige, status, or reputation, tend to produce behavioral conformity (DiMaggio, 1988; DiMaggio and Powell, 1983; Kimberly, 1967; Meyer and Rowan, 1977). A central goal of recent strategy research, therefore, has been to examine how conformity to and deviance from social norms may be beneficial

or detrimental to firms. Although the strategic aspects of deviant behaviors and their impacts on organizational outcomes have been widely studied (D'Aunno, Succi, and Alexander, 2000; Deephouse, 1999; Durand, Rao, and Monin, 2007; Kraatz and Zajac, 1996), the strategic implications of conformity have failed to trigger similar investigations. Rather, conformity generally appears as a nonstrategic, monolithic, passive response to external or institutional pressures (DiMaggio, 1988; Oliver, 1991; Zucker, 1977).

In contrast with this view, we propose a typology of norm-conforming behaviors that reflects a firm's compliance with a norm's underlying goal and its level of commitment to adopting socially approved procedures. We distinguish among the conforming behaviors of abiding, strengthening, targeting, and finessing, and investigate their relationships to firm reputation, a key mediator of performance (Basdeo *et al.*, 2006; Deephouse and Carter, 2005; Durand *et al.*, 2007; Rindova, Pollock, and Hayward, 2006). To conduct this study,

we selected a domain imbued with a high degree of normativity, namely, corporate environmentalism, defined as 'the recognition and integration of environmental concerns into a firm's decision-making process' (Banerjee, 2002: 177). Corporate environmentalism is a relevant field in which to explore our research question because, in recent decades, normative pressures regarding environmental responsibility have increased dramatically (Bansal, 2005; Bansal and Clelland, 2004).

Our approach reveals differentiated impacts of the four conforming behaviors on firm reputation. Both dimensions of norm conformity—goal compliance and procedural commitment—can significantly affect outside observers' reputational assessment and ordering of firms. Specifically, we find that both types of behaviors that comply with the goal of environmental friendliness (i.e., abiding and strengthening) enhance firm reputation. Regarding noncompliant disclosures, we find that finessing behavior tends to be insignificant, whereas targeting behavior, contrary to our expectations, contributes positively to reputation. We also find that the level of procedural commitment amplifies the positive effect of goal-compliant disclosures on reputation. Furthermore, we find that a firm's prior reputation acts as a filter for current evaluations of its disclosures, such that firms with lower prior reputation receive greater benefit from strengthening and targeting behaviors. Finally, we find a significant moderating effect of the institutional environment in which the reputation-granting evaluation occurs. In highly normative environments, goal-oriented conformity has precedence over procedural conformity, and goal-noncompliant disclosures are penalized.

These findings suggest several contributions to extant literature. First, we contribute to recent strategy research that investigates the impacts of firms' conformity to and deviance from norms on key organizational outcomes. In this study, we find a way to delve deeper, both theoretically and empirically, into the concept of conformity to provide a more nuanced and strategic understanding of conforming behaviors. Second, we contribute to literature on reputation by developing insights into the evaluative logics that underlie the reputation-granting process. Third, we contribute to research on corporate environmentalism through our empirical investigation of the impacts of environmental disclosures on firm reputation.

THEORY POSITIONING AND HYPOTHESES DEVELOPMENT

Social norms, conformity, and firm reputation

A social norm is a powerful behavioral standard whose function is to summarize the behavior of a reference group or category (Warren, 2003) by specifying what is approved within the group and what ought to be done in a given setting (Reno, Cialdini, and Kallgren, 1993). Together with industry standards, social norms work as decentralized institutions (King, Lenox, and Terlaak, 2005) because conformity by actors is voluntary (i.e., actors can choose to deviate) and because rewards and sanctions for conformity or deviance are provided by diffuse actors rather than by a central authority (Ingram and Silverman, 2002).

Although recent research has focused on the strategic aspects of deviant behaviors and their impacts on key organizational outcomes (e.g., D'Aunno et al., 2000; Deephouse, 1999; Durand et al., 2007; Sirmon and Hitt, 2009), conformity to social norms has failed to trigger similar attention. Specifically, the strategic aspects of conforming behaviors have been overlooked, leaving conformity to be described as a nonstrategic, passive response to institutional pressures on the firm (DiMaggio, 1988; Oliver, 1991). Early institutional literature emphasized conformity's roots in the taken-for-granted aspects of institutional rules (Zucker, 1977), and later studies shifted that focus to how conformity could be induced by its survival value within the institutional environment (e.g., Dobrev and Ozdemir, 2006; Lee and Pennings, 2002). In strategy literature, conformity is often regarded as a synonym for similarity; for example, the concept of 'strategic conformity' refers to the extent to which a firm's behavior adheres to its industry's norms and central tendencies (Deephouse, 1996; Geletkanycz and Hambrick, 1997) and emphasizes the isomorphic processes that underlie conforming behaviors. Prior studies have neither theoretically nor empirically addressed the potentially heterogeneous behavioral patterns that conformity may encompass. As a consequence, conformity to social norms is usually studied in a monolithic fashion.

However, social norms specify both valued ends and the procedures deemed appropriate to pursue those ends. When a firm conforms to a norm, procedures and ends have no need to be aligned

perfectly (Beckert, 1999; Goodrick and Salancik, 1996), which makes possible a disjunction between the two dimensions. Merton (1967) argued that every social group couples its desired goals with the institutionalized procedures for attaining those goals, and though the goals and procedures operate jointly, the two dimensions do not entail constant relations. More recent works have also suggested that the procedures may not always be fully imposed, either because they are unspecified (Beckert, 1999) or because acceptable alternative procedures are available for conforming to social expectations (Goodrick and Salancik, 1996). When procedures are not fully specified or multiple procedures seem socially acceptable, discretion can be exercised, and firms can pursue their own particularistic and strategic interests. In turn, we posit that socially approved goals and procedures may even be entirely disjointed. For example, in a highly normative context, a firm may selectively conform to one aspect of the norm without conforming to another. That is, conformity to a social norm may be an expression of strategic intent that firms can use purposefully to develop varied behavioral patterns.

When investigating how conforming and deviating behaviors may benefit or harm firms, scholars tend to focus on either classic organizational outcomes, such as performance and survival (e.g., Kraatz and Zajac, 1996; Sirmon and Hitt, 2009), or external evaluations by third parties (e.g., Durand *et al.*, 2007; Love and Kraatz, 2009). We adopt the second perspective and focus on firm reputation because conformity (or deviance) tempers a firm's external perceptions before influencing its performance (Deephouse, 2000; Durand *et al.*, 2007; Fombrun, 1996). Reputation refers to the perceptions by a firm's audience about the firm's ability to provide value compared with its peers and rivals. We follow Basdeo and colleagues (2006: 1205) to define reputation formation as 'a signaling process, in which the strategic choices of firms send signals to observers and observers use these signals to form impressions of these firms.' Outside observers scrutinize and interpret the firm's actions and, on the basis of these actions, evaluate the firm's underlying but unobserved key characteristics (Basdeo *et al.*, 2006; Fombrun and Shanley, 1990; Heil and Robertson, 1991; Rindova *et al.*, 2006). A strong reputation is a key resource that provides firms with strategic advantages at both the asset and market levels and represents an

important antecedent of firm performance and ultimate survival (Deephouse 2000; Fombrun, 1996; Rindova *et al.*, 2006).

Decomposing conformity: impacts of goal compliance and level of commitment

We investigate the impacts of various conforming behaviors on firm reputation in the context of corporate environmentalism (Banerjee, 2002), which has grown over the past two decades into a '*normative* institutional pillar' and a 'matter of social obligation' (Hoffman, 1999: 363, italics in original). Responsible environmental practices have become essential to a firm's relationships with its audience, and social expectations regarding the degree to which firms should assume responsibility for protecting the natural environment have significantly increased (Barnett and Salomon, 2006; Hoffman, 1999). These societal concerns contribute to the emergence of social norms pertaining to the environmental realm (Banerjee, 2001, 2002; Hoffman, 1999).

One such norm is corporate environmental transparency. Because firms are accountable for the impacts of their activities on the natural environment, they are expected to integrate environmentally friendly practices into their activities. However, outside observers continue to have difficulty in measuring and assessing the actual extent of firms' environmental performance directly (Bansal, 2005; Baron, 2001). To reduce information asymmetries, firms are thus expected to follow the norm of corporate environmental transparency by communicating on their environmental behavior through timely and transparent reports of the impacts of their activities on the natural environment. These environmental disclosures provide insights into the firms' management quality while also enabling an assessment of both their degree of risk exposure and the extent of their environmental performance (Berry and Rondinelli, 1998; Deegan, 2002; King *et al.*, 2005).

We conceptualize environmental communication as an institutional mechanism that dispenses norm conformity signals to firms' audiences and define environmental disclosures as those 'that relate to the impact company activities have on the physical or natural environment in which they operate' (Wilmshurst and Frost, 2000: 16). Firms that choose to disclose information about their environmental behavior engage in proactive attempts

to align with their institutional environment and emphasize the congruence between their own values and actions and those deemed appropriate by society (Deephouse, 1996; Suchman, 1995). Considering the powerful isomorphic pressures associated with norms and values (DiMaggio and Powell, 1983; Scott, 2001), conformity to the corporate environmental transparency norm should result in a reputational gain (Basdeo *et al.*, 2006; Fombrun, 1996).

Despite the greater salience of this norm, however, very limited legal requirements regulate the environmental information firms must release and how they should release it. Disclosing environmental information thus remains mostly discretionary.[1] Although all firms that disclose environmental data in their corporate communication can be labeled conforming actors, we argue they do not constitute a homogeneous category but instead exhibit varied conforming behavioral patterns. We investigate these variations along the two dimensions of goal compliance and employed procedures.

The 'goal dimension' of a norm specifies the objectives approved by society (e.g., Merton, 1967). In the context of environmental transparency, this dimension addresses the nature of the information firms should be disclosing (i.e., the content of disclosure). The socially approved goal underlying the transparency norm specifies that firms must disclose information that demonstrates their environmental friendliness, such as their efforts to reduce their ecological footprint. The content of environmental disclosures, however, may vary: firms may release environmental information that shows a reduction of their ecological footprint (e.g., fewer emissions, use of recycled materials, or certification of products or processes), but they could also disclose information that reveals an increase in that footprint (e.g., polluting events, or suits and fines related to violations of environmental regulations). In the latter case, firms conform to the environmental transparency norm by releasing information on their environmental behaviors but fail to comply with the underlying goal of environmental friendliness.

The 'procedures dimension' of a norm prescribes the desirable procedures for complying with the socially approved goal (Merton, 1967). In the context of environmental transparency, this dimension refers to how firms should disclose the required information (i.e., the mode of disclosure). Because the norm does not specify a unique mode of communication and because socially acceptable alternatives coexist (e.g., annual reports, environmental stand-alone reports, and Web sites), firms can choose among different modes of disclosure. All modes of communication pertain to the realm of socially desirable procedures, but they exhibit different levels of commitment to the norm (i.e., different degrees of environmental transparency).

By evaluating firm behaviors with respect to both their compliance with the socially approved goal and their level of commitment to the procedures, we derive four categories: *abiding behaviors, strengthening behaviors, targeting behaviors*, and *finessing behaviors*. Actions that comply with the socially approved goal but exhibit a lower level of procedural commitment refer to *abiding behavior*. Although these behaviors comply with expectations of environmental friendliness, they do not demonstrate strong adherence to the procedural aspect of the social norm, and therefore do not contribute to reinforcing it. Instead, these actions simply abide by the behavioral standard.

Actions that both comply with the socially approved goal and exhibit a high level of commitment toward the procedures reflect *strengthening behavior*. These behaviors demonstrate the congruence of the firm's actual actions with the behavior expected of it, and this congruence is made visible through the firm's high level of procedural conformity. By conforming to both dimensions of the norm, these behaviors contribute to strengthening it.

Next, we refer to actions that do not comply with the socially approved goal but display a high level of procedural commitment as *targeting behaviors*. These behaviors fall short of the social expectation of environmental friendliness, but the high level of commitment shows that the firm explicitly acknowledges the disjunction between its current actions and what is expected from it as a margin of progress.

Finally, actions that fail to comply with the social expectations and exhibit low levels of procedural commitment are labeled *finessing behaviors*. For these behaviors, conformity to the norm of

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[1] According to widely accepted accountability principles, firms must disclose their environmental liabilities in their financial statements. In practice, however, the extent of a firm's liability at the moment of the infraction is highly uncertain, which provides the firm with significant discretion regarding the content and timing of the disclosure (Bansal and Clelland, 2004).

Compliance with socially approved goal

Level of procedural commitment		Yes	No
	High	Strengthening behavior	Targeting behavior
	Low	Abiding behavior	Finessing behavior

Figure 1. Typology of norm-conforming behaviors

environmental transparency persists at a low level (i.e., the firm discloses environmental information about an increased environmental footprint), but the disjunction between the firm's actual and expected actions is hidden from scrutiny. Figure 1 summarizes this typology of behaviors conforming to a social norm.

By disclosing environmental information, the firm provides reputation granters with information they can use to assess the extent of the firm's environmental friendliness, which should result in a reputational gain. However, when a firm releases information about its environmental behavior, it might provide either positive information about its environmental performance or negative information about its environmental liabilities (Bansal and Clelland, 2004). In both cases, the firm conforms to the norm of environmental transparency. Yet, if in the first case, the firm also demonstrates its compliance with the socially approved goal of environmental friendliness and signals that it actually cares for the environment, in the second case, it fails to comply with the expectations of environmental friendliness. Firms in the former group (i.e., those displaying strengthening or abiding behavior) should therefore earn social rewards, whereas firms in the latter group (i.e., those displaying targeting or finessing behavior) should be socially penalized and should therefore not benefit from a positive reputation effect (Bansal, 2005; Bansal and Clelland, 2004; King and Lenox, 2000). We therefore predict:

Hypothesis 1a: Strengthening and abiding behaviors have a positive effect on firm reputation.

Hypothesis 1b: Targeting and finessing behaviors have a negative effect on firm reputation.

Similar to the variations marking the content of the disclosures, variations also mark the disclosure procedures. We argue that some modes of communication may be perceived as signals of better quality both because they are more costly and thereby imply greater commitment to the norm by the emitters (Spence, 1974) and because they allow outside observers to more easily assess the credibility and authenticity of the disclosed information (Heil and Robertson, 1991). As the importance that firms grant to the norm provides a behavioral identity marker to outside observers (Elsbach, 2004), this level of commitment may categorize firms according to their degree of cognitive and identity-based adherence to the norm, in other words, according to their degree of conformity. A high level of commitment implies both a strong adherence to the norm and a high level of conformity with the socially approved procedures, whereas a lower level of commitment demonstrates a minimal level of conformity and is merely sufficient to avoid being stigmatized. Using procedures that are socially desirable increases perceptions that firms have internalized the values and requirements associated with engaging in responsible environmental behavior (Bansal and Clelland, 2004).

In the context of goal-compliant behaviors, exhibiting higher adherence to the norm should amplify perceptions of conformity with the environmental transparency norm. It then follows that the benefits associated with conformity should also be amplified. We suggest firms that have recourse to socially approved procedures associated with higher levels of commitment (i.e., strengthening behavior) obtain positive distinctiveness from other firms and should thus derive greater rewards than firms that rely on procedures associated with lower levels of commitment (i.e., abiding behavior). A similar line of reasoning applies to goal-noncompliant behaviors because

the positive distinctiveness of socially valued procedures benefits the firm's reputation. A high level of commitment toward the norm should thus buffer the negative impression conveyed by the discrepancy between the firm's actual behavior and social expectations, such that firms exhibiting a high level of commitment without complying with social expectations (i.e., targeting behavior) are likely to be less penalized than are firms that do not comply with these expectations and conceal it through a low level of commitment (i.e., finessing behavior). These latter firms are likely to be categorized as passive conformers and to suffer greater penalty than firms that display targeting behavior. Thus, we suggest high procedural commitment has an amplifying effect on firm reputation (for goal-compliant conformity) and a buffering effect on firm reputation (for goal-noncompliant conformity):

Hypothesis 2a: Strengthening behaviors have a greater positive effect on firm reputation than do abiding behaviors.

Hypothesis 2b: Targeting behaviors have a lesser negative effect on firm reputation than do finessing behaviors.

Moderating impact of prior reputation on the evaluative process

The strong institutional pressures to adopt environmentally friendly practices entail the production of abundant, convergent, and highly standardized discourses. In such a context marked by high ambiguity and uncertainty, audiences cannot easily verify information and are thus likely to use screening devices to assess the credibility of firms' disclosures. Research has suggested that audiences tend to use prior reputation as a baseline from which to interpret and assess a firm's actions (Heil and Robertson, 1991; Durand and McGuire, 2005; Love and Kraatz, 2009). To the extent that a high reputation can be considered a trustworthy reflection of a firm's pattern of behaviors over time, reputation-granting audiences may be willing to rely on the firm's prior reputation to assess the quality of its disclosures. Prior reputation, thus, may be an important moderator of the reputation-granting process because it not only provides an indicator of the firm's past performance and reliability but also serves as a heuristic to evaluate the extent of the firm's credibility, that is, the extent of the firm's adherence to the norm.

Firms with lower social evaluations suffer stronger pressures to conform to social norms (Phillips and Zuckerman, 2001), and they likely receive rewards for aligning their behavior with audiences' expectations. Because the amount of effort to align behavior is proportionally greater for firms with below average reputations, we expect that for these firms, the positive effect of compliant behaviors will be magnified. Regarding noncompliant behaviors, previous research has documented that firms benefiting from high social evaluations are in some ways buffered from the negative effects of their deviance from social norms (e.g., Phillips and Zuckerman, 2001). On the contrary, firms with lower social evaluations are more likely to be sanctioned if they do not respect socially appropriate behaviors. Bansal (2005) showed that firms that have previously incurred fines—and thereby suffered from an existing reputation deficiency—were more likely to be subject to greater scrutiny regarding the possibility of further mishaps. For a firm that has a lower reputation, disclosing information that does not comply with expectations of environmental friendliness should, therefore, trigger greater sanctions. Overall, we expect that a lower level of prior reputation amplifies the merits (penalties) of disclosing goal-compliant (goal-noncompliant) information, and we suggest:

Hypothesis 3a: The positive effect of strengthening and abiding behaviors on firm reputation is stronger for firms with lower prior reputation.

Hypothesis 3b: The negative effect of targeting and finessing behaviors on firm reputation is stronger for firms with lower prior reputation.

DATA AND METHODS

Sample and data

To investigate the causal relationships between environmental disclosures and firm reputation, we conducted an empirical analysis with a longitudinal dataset for the years 2001 to 2004. We chose this period for two reasons. First, the proximity of the Enron scandal and its aftermath conferred unprecedented salience on corporate social responsibility issues (e.g., accounting, financial, and environmental transparency). Second, on a

strictly environmental level, corporate environmental issues started to receive much more attention after the Johannesburg Earth Summit in 2002. We thus expected corporate environmentalism to be more salient in firms' communication during this period of time.

We explore our research question using a cross-industrial sample of firms belonging to 11 different sectors.[2] We randomly selected 90 U.S. firms present in at least three consecutive years of *Fortune* magazine's annual survey of 'America's Most Admired Companies.' These firms are the largest U.S. competitors in their sectors.

The data for this study were derived from several sources. We first focused on the firms' annual reports because, among the various external corporate communication media that a firm may employ, annual reports represent a strategic communication tool that firms mobilize to convey information that may legitimize their behavior in the opinion of outside observers (Brown and Deegan, 1998; Sharma and Henriques, 2005). This goal is particularly significant in the context of environmental communication. The United States insists on few obligatory environmental disclosures—the Toxic Release Inventory (TRI), which requires companies to publish the details of their chemical emissions into the air, water, and land, and the disclosure of environmental performance data in firms' 10-K reports. Every environmental disclosure outside this frame thus falls within the province of firms' strategic attempts to influence outside observers' perceptions (Ullmann, 1985). Therefore, the annual report offers a particularly interesting source of information to study a firm's strategy, notably with regard to its environmental management (Bansal and Clelland, 2004; Sharma and Henriques, 2005; Wilmshurst and Frost, 2000). We collected a total of 306 annual reports (due to missing data for some years), of which 233 contained environmental disclosures.

Parallel to our collection of the annual reports, we retrieved corporate stand-alone reports on environmental responsibility, sustainable development, social responsibility, and environmental health and safety issues that contained information about firms' environmental performance. Although the initiative for releasing an environmental report originally came from the most polluting industries (e.g., chemical and petrochemical sectors), this behavior has spread to other industries. Again, there is no legal obligation to publish an environmental report, but choosing to do so represents a valuable opportunity for the firm to communicate strategic data about its environmental behavior to outside observers. Note that the data contained in the stand-alone environmental report and in the narrative sections of the annual report are not audited by third parties (unless required and explicitly specified by the firm). We collected 53 stand-alone environmental reports; only 22 percent of the firms in our sample released such reports. Finally, we consulted the COMPUSTAT database to collect information on firm performance. Overall, our dataset tracks 90 firms over a four-year period. However, because data were not available for all firms in all years, and because we use lagged variables, the actual total number of firm-year observations is 282.

Dependent variables

In strategy and organizational literatures, most studies that analyze firms' corporate reputation employ *Fortune* magazine's reputation scores, published with its list of 'America's Most Admired Corporations' (Basdeo *et al.*, 2006; Brown and Perry, 1994; Fombrun and Shanley, 1990; Love and Kraatz, 2009; Roberts and Dowling, 2002). This reputation survey, released in March each year, is based on the answers of some 10,000 executives, directors, and financial analysts who have been asked to rate *Fortune* 1000 firms in their industry on a range of dimensions that reflect how well they fare in terms of asset use, financial soundness, community and environmental friendliness, ability to develop key people, degree of innovativeness, investment value, management quality, and product quality.[3] Each dimension is rated on an 11-point scale (0 = poor, 10 = excellent). Using the averaged aggregation of these eight scores, the survey determines the firm's overall reputation score, which similarly ranges from 0 to 10. These

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[2] The sample is partitioned as follows: 8.9 percent financial industry, 10 percent consumer products, 4.4 percent contracted services, 7.8 percent shelter, 13.3 percent stores and distributors, 8.9 percent computers and communication, 11.1 percent natural resources, 8.9 percent power, 6.7 percent precision equipment, 4.4 percent media and entertainment, and 15.6 percent transportation.

[3] See *Fortune*, 'World's Most Admired Companies: how we pick them,' http://money.cnn.com/magazines/fortune/mostadmired/2009/faq/for a review of the data collection procedure.

raw scores are then used to rank firms and build reputational orders within each industry.

Fortune magazine's reputation measure suffers from significant shortcomings. The most frequently mentioned limitations are its strong association with financial performance, the strong correlation between the eight reputation subscales, its focus on large and visible firms, and the nonrepresentative nature of the audiences it surveys (Brown and Perry, 1994; Fombrun and Shanley, 1990; Fryxell and Wang, 1994; Gardberg and Fombrun, 2002). We used it, however, because this measure also offers key advantages, such as the assessment of reputation on the basis of several criteria, the longitudinal availability of the data, and the coverage of a large number of firms. In addition, our study explores perceived reputation for established firms in the business sphere, which attenuates the measure's shortcomings of respondents' homogeneity and ignorance of small firms. Following prior studies (e.g., Roberts and Dowling, 2002), we measured *overall reputation* as the raw score of reputation (i.e., the score averaged across the eight dimensions). Some works suggest however, that firms may be more concerned about improving their relative standing than their actual raw score (e.g., Elsbach and Kramer, 1996), which is consistent with the intrinsically relational nature of the reputation concept (Love and Kraatz, 2009). We thus also used an intraindustry relative positioning measure (i.e., a within-industry ranking), *ranked reputation*. Based on *Fortune* magazine's published ranking of firms, we created an inverted ranking, ranging from 10 for the top-ranked firm in a given industry to 0 for the lowest-ranked. Thus, covariates that enhance reputation will have positive signs for both dependent measures. Following prior studies that investigate changes in reputation (e.g., Durand *et al.*, 2007; Love and Kraatz, 2009), we included the prior year's reputation score or rank in our models. The independent variables' coefficients in our models thus indicate their year-to-year effects on reputational change.

Independent variables

We built our independent variables around the differentiated nature of firms' environmental disclosures on the basis of both their compliance with the socially approved goal and their level of commitment. We analyzed firms' annual reports (narrative and financial sections) and environmental stand-alone reports and coded for the presence of environmental disclosures. Except for one case in which we relied on a binary variable, we used ordinal measures of firms' environmental disclosures. Because the richness (i.e., the quality and level of precision) of the disclosures is more likely to influence perceptions of outside observers than is their mere presence, an ordinal measure based on a fine qualitative assessment seemed more appropriate than a dichotomous partition.

First, we defined disclosures according to their level of commitment by identifying the modes of communication chosen to disclose the environmental data. Because firms have significant discretion in this choice, we posited that the selection of a specific medium (i.e., annual vs. stand-alone report) reflected the firm's degree of adherence to the transparency norm. Specifically, releasing environmental information in the annual report should indicate a lower level of commitment to the transparency norm than does publishing a document entirely dedicated to the firm's environmental performance. Although the annual report is one of the most common places to encounter environmental reporting, such environmental disclosures often lack specificity and scarcely extend beyond the mere declaration of intentions. Moreover, the dissemination of environmental information within the narrative and financial sections of the annual report makes it more difficult for the audience to identify whether the firm is simply abiding by the disclosure norm or more eagerly committed to be fully transparent in its environmental behavior. In contrast, a stand-alone environmental report represents an effective management tool to increase transparency with regard to the firm's environmental performance through the disclosure and discussion of performance indicators. Because the visibility of the disclosed data is greater than in the annual report, firms that choose to publish stand-alone environmental reports implicitly accept the cost of increased social scrutiny. The more visible the communication mode, the more the firm will be held accountable for the disclosed information. We thus defined the level of commitment toward the norm as high if the firm disclosed environmental information within a stand-alone report and low if the information appeared within the firm's annual report.

Second, we defined disclosures that complied or did not comply with the socially approved goal of environmental friendliness. Goal-compliant

disclosures mention achievements in the firm's efforts to reduce its ecological footprint (e.g., environmental certification of products or processes, environmental training of employees, sponsorship of environmental causes, and reduction of carbon-based emissions) and thus demonstrate the firm's environmentally friendly orientation. In contrast, goal-noncompliant disclosures allude to damages suffered by the natural environment (e.g., oil spills and violations of environmental regulations), which indicates deviance from the socially approved goal of environmental friendliness.

We then created four variables corresponding to the four behaviors described in the typology. Although we used sentences as the basis of our coding scheme to determine whether a disclosure was goal compliant or noncompliant, the score for each independent variable was built at the level of the communication medium. However, as we discuss in the section on multiple disclosures, our coding procedure takes into account and integrates the presence of potentially varied or diverging disclosures within a single communication medium. The Appendix contains both a summary of the coding scheme we used to measure these independent variables and verbatim examples.

Abiding behavior consists of goal-compliant disclosures located in annual reports. The score equals 0 when no such disclosure appears in the firm's annual report, 1 when environmental issues are tackled in vague and broad terms, 2 when the information is specific to the firm and gives precise information about the environmental dimension at stake, and 3 when the information is firm specific and illustrated by qualitative or quantitative examples, or both.

Strengthening behavior consists of goal-compliant disclosures located in stand-alone reports. Because the readers of environmental stand-alone reports likely are more sensitive to environmental issues than are the average readers of annual reports, we expected the environmental data provided within these reports to be more detailed and more specific than similar data incorporated in annual reports. Therefore, we did not replicate the coding scheme used for abiding disclosures but instead developed a different measure that equals 0 when there is no such disclosure in the firm's stand-alone report and 1 when the environmental information disclosed consists of qualitative data with few metrics. To ensure

optimal transparency, data need to be contextualized. Consequently, the variable equals 2 when the stand-alone report contains metrics that track multiyear trends (for comparisons at the intraorganizational level over time) and either provide background information *or* use a Global Reporting Initiative (GRI) disclosing procedure (for benchmarking with other firms). Finally, the variable equals 3 if the metrics track multiyear trends and provide background information *and* the firm either discloses its environmental information following the GRI procedure or discusses its listing in the Dow Jones Sustainability Index.[4]

Targeting behavior refers to goal-noncompliant disclosures published in stand-alone reports. Similar to our treatment of strengthening and abiding behaviors, we coded this variable from the least preferred option (0) to the most desirable option (3). Therefore, the variable equals 0 when a simple mention is made of an environmental incident, notice of violation, or fine without any other contextual element; 1 when the incident is qualitatively described but without mention of corrective actions; and 2 when the report includes qualitative mentions of the incident and a detailed discussion of corrective actions. Finally, because according to the goal of environmental friendliness the highest preference is for a firm not to increase its ecological footprint, the absence of disclosures mentioning environmental damages is coded 3.

Finessing behavior refers to goal-noncompliant disclosures located in annual reports. When coding for the presence of these finessing disclosures, we noted that they were systematically located in financial statements or 10-K reports. Consequently, these disclosures took the form of short mentions of environmental fines and penalties for failing to conform to environmental regulations. Because we could not derive an ordinal measure from these data, we used a binary variable, in which finessing

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[4] The GRI's goal is to ensure transparent and comparable disclosures of sustainability information. It provides outside observers with a standardized comparable structure from which to understand disclosed information. Firms can adopt this structure on a voluntary basis. For further information, see the GRI Web site, located at http://www.globalreporting.org/Home. The Dow Jones Sustainability Index rates firms on their corporate sustainability (economic, environmental, and social factors) according to a set of criteria and ranks them within their industry. Only the industry leaders are selected to be part of the Dow Jones Sustainability Index. For more information, see Dow Jones, 'Dow Jones Sustainability Indexes,' at http://www.sustainability-index.com/.

behavior equals 0 when no such disclosures are made and 1 when such disclosures are present.

During the coding process, we encountered two different cases of multiple disclosures. First, when we identified disclosures of different quality levels (i.e., specificity) within a single report, we retained the highest score. For example, if a firm's annual report contained goal-compliant disclosures (i.e., abiding behavior) that were vague (coded 1) and others that were specific and illustrated by examples (coded 3), the variable received a final value of 3. Second, we identified disclosures of different natures (i.e., both goal-compliant and goal-noncompliant behaviors) within a single report. The firm then received a score for each type of disclosure. For example, in a stand-alone report in which the firm simultaneously disclosed (1) specific data about its efforts to reduce its ecological footprint using a GRI procedure and (2) detailed descriptions of an environmental incident with mentions of corrective actions, the firm would earn a score of 3 for strengthening behavior and 1 for targeting behavior.

To ensure the internal validity of the coding process, the two authors and a third scholar not involved in the study coded the material independently. Specifically, the first author coded all the material, and the other two coders each addressed 20 percent of the dataset. To determine interrater agreement regarding the presence of environmental disclosures and the qualitative nature of these disclosures, we used the kappa statistic, equal to 0 when there is complete disagreement and 1 when the evaluators share perfect agreement. Landis and Koch (1977) suggested that kappa statistics greater than 0.60 represent good agreement among observers; the interrater agreement regarding the presence of environmental disclosures reached a kappa statistic greater than 0.85 for all instances but one (0.80). For the disclosures' coding, the kappa statistic was also greater than 0.85 for all instances but three. For any discrepant ratings, we easily came to an agreement and reached full consensus.

Control variables

Environmental issues do not exhibit the same salience and importance across all industries and years, so we controlled for such variability by adding two sets of variables. We used industry dummies to account for differences in industry sensitivity to environmental issues, and we included year dummies to control for interyear variability.

Age, size, and performance may relate positively to reputation (Deephouse, 1996; Deephouse and Carter, 2005), so we included these aspects as control variables. Because longevity is an antecedent of reputation, the length of time a firm has been in business may positively influence outside observers' evaluations. Therefore, we introduced the variable of *age* as the logged number of years a firm had been operating. The size of an organization also may affect its visibility and relationships with its environment (Deephouse, 1996). We measured this variable as a yearly logged measure of total assets as listed on COMPUSTAT, such that the *size* variable indicates the variation from one year to the next. Finally, because superior financial performance may predispose audiences to assess a firm more positively (Fombrun and Shanley, 1990), we used the two-year averaged return on assets as a proxy of *performance* and collected the appropriate information from COMPUSTAT.

Our model deals exclusively with disclosures from sources internal to the firm, though media coverage might affect a firm's reputation (Fombrun and Shanley, 1990) in terms of both visibility (i.e., amount of information released about the company) and content (i.e., negative vs. positive tone of press articles). Consistent with studies that suggest the media actively participate in constructing the social realities they cover (Clayman and Reisner, 1998; Rindova *et al.*, 2006), we thus controlled for the possible impact of information intermediaries on audiences' perceptions and assessments of firms. From Lexis-Nexis, we retrieved all articles mentioning the environmental behavior of the firms within our sample from 2001 to 2004 by searching for documents that contained the major terms *environment* or *environmental*. Articles that did not use these words in relation to the natural environment were excluded. This sampling procedure yielded 2,156 pertinent articles about the 90 firms of our sample. Following the procedure advocated by Deephouse and Carter (2005), we identified and coded the recording units according to each article's description of the firm's environmental behavior. We attributed equal weights to each recording unit and then rated it as either positive or negative regarding the firm's environmental behavior. A unit was positive when it mentioned past or present actions in compliance with the

socially approved goal of environmental friendliness. When the unit indicated goal-noncompliant environmental behavior, we rated it as negative. Next, we created annual measures for each firm using the Janis-Fadner coefficient of imbalance, which taps the relative number of positive (p) and negative (n) mentions of a firm's environmental behavior in a given year using the formula:

$$\text{media tonality} = \begin{cases} (p^2 - p.n)/(p+n)^2 \text{ if } p > n; \\ 0 \text{ if } p = n; \text{ and} \\ (p.n - n^2)/(p+n)^2 \text{ if } n > p. \end{cases}$$

Media tonality ranges from -1 to 1, where -1 indicates all negative coverage, 1 equals all positive coverage, and 0 is a balance between the two. We also computed *coverage intensity* to capture the magnitude of impact of having more articles than less, independent of their tonality. Hence, *coverage intensity* is the log of $(p + n)$ for each year and each firm.

Analyses

We first investigated whether the decision to communicate was randomly attributable to companies because environmental communication and firm reputation might depend jointly on unobserved factors, which would raise issues of endogeneity (Hamilton and Nickerson, 2003; Shaver, 1998). We thus estimated the probability of communicating in a first-stage equation, and included this estimation in a second-stage equation that predicts reputation. We tested whether a systematic difference in coefficients existed between the two-stage model and a model without this specification test. The test proved insignificant, which suggests a low presence of bias due to endogeneity in our models. However, since audiences may differ in their expectations of which firms are likely to communicate and in their subsequent reputational assessments, we created an indicator for a firm's yearly probability of communicating on environmental issues. The probability of communication equation had the following lagged covariates: industry, year, age, yearly change in size, yearly change in performance, existence of an environmental section in the firms' Web site, change in coverage intensity, and media tonality. The *probability of communication* variable is the predicted value that results from this equation, which we included as a control in our models and should relate positively to our dependent variables.

Our data involve 90 firms over four years and thus created two major violations of ordinary least squares models. First, regressions performed on time-series data mean the errors may not be independent. Errors are often autocorrelated, such that each error correlates with the error that immediately precedes it. Second, cross-sectional time-series panel data raise concerns about panel heteroskedasticity. Ordinary regression models assume that the errors have the same variance throughout the sample, but if the error variance is not constant, the data are heteroskedastic. Both the Durbin-Watson and Wooldridge tests indicate the presence of autocorrelation in our data, and the likelihood ratio (LR) test for heteroskedasticity is significant.

Following Greene (2003), we thus used cross-sectional time-series feasible generalized-least squares (FGLS) regression. We also conducted panel-corrected standard error (PCSE) estimates for linear cross-sectional time-series models. When computing the standard errors and variance-covariance estimates, we assume the disturbances are heteroskedastic and contemporaneously correlated across panels. The FGLS and PCSE estimators are β-consistent, and, therefore, only the standard deviations change (which are smaller for PCSE). The results are similar, so for simplicity we present only the FGLS results. We rejected potential issues related to multicolinearity among the explanatory variables by using a variance inflation factor test and mean-centering all variables before creating the interaction terms (Cohen *et al.*, 2003).

RESULTS

Main results

Table 1 reports the means, standard deviations, and correlations among the variables used to test the hypotheses. Note that the correlations among the main effects are not problematic.

Table 2 presents the models that explain the reputation scores (in Models 1–3) and rankings (in Models 4–6). Models 1 and 4 include only the control variables, while Models 2 and 5 add the main effects for testing the impact of conforming behaviors on a firm's reputation score and relative ranking. Models 3 and 6 add interaction terms between the four conforming behaviors and prior reputation scores (in Model 3) and rankings (in

Table 1.   Descriptive statistics and correlations

	Mean	s.d.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1 Overall rep	6.00	1.16	2.84	8.50																						
2 Prior rep	5.98	1.14	3.07	8.48	0.83																					
3 Ranked rep	5.90	2.81	1.00	10.00	0.82	0.71																				
4 Prior rank	5.86	2.81	1.00	10.00	0.71	0.81	0.82																			
5 Envir. rep	5.81	1.07	3.42	8.72	0.89	0.74	0.75	0.65																		
6 Size	0.07	0.16	−0.48	0.93	0.10	0.20	0.01	0.08	−0.05																	
7 Age	3.91	0.94	1.10	5.15	0.11	0.15	0.06	0.10	0.11	0.02																
8 Performance	4.37	7.13	−38.12	18.66	0.25	0.32	0.13	0.21	0.12	0.45	0.17															
9 Media ton.	0.03	0.52	−1.00	1.00	0.06	0.09	0.07	0.09	0.07	0.02	−0.01	0.03														
10 Coverage int.	1.02	1.27	0.00	4.68	0.25	0.25	0.26	0.28	0.35	−0.12	0.11	−0.01	0.02													
11 Prob. comm	0.66	0.28	0.05	1.26	0.06	0.07	0.12	0.11	0.20	−0.18	0.01	−0.02	−0.02	0.57												
12 Abiding behav	0.62	1.17	0.00	3.00	0.16	0.16	0.17	0.17	0.25	−0.02	−0.05	0.05	0.13	0.56	0.54											
13 Strength beha	0.38	0.87	0.00	3.00	0.23	0.23	0.20	0.22	0.33	−0.04	0.10	0.04	0.20	0.58	0.41	0.41										
14 Finess behav	0.58	0.50	0.00	1.00	−0.14	−0.16	−0.08	−0.14	−0.07	−0.12	−0.11	−0.16	−0.04	0.10	0.47	0.24	0.02									
15 Target behav	2.73	0.78	0.00	3.00	0.09	0.12	0.07	0.11	0.18	−0.08	0.13	0.05	0.29	0.38	0.33	0.32	0.77	0.06								
16 Abi × prior rep	0.23	1.53	−5.64	7.14	0.39	0.47	0.38	0.43	0.41	0.01	0.25	0.12	−0.02	0.33	0.20	0.30	0.35	0.00	0.19							
17 Str × prior rep	0.23	1.25	−6.24	7.14	0.29	0.43	0.29	0.34	0.35	0.07	0.17	0.10	0.04	0.34	0.24	0.28	0.51	−0.04	0.24	0.60						
18 Fin × prior rep	−0.07	0.88	−2.54	2.38	0.66	0.78	0.51	0.61	0.61	0.16	0.15	0.32	0.10	0.18	0.14	0.17	0.18	−0.07	0.15	0.50	0.35					
19 Tar × prior rep	0.09	0.58	−4.16	2.38	0.22	0.37	0.21	0.27	0.27	0.09	0.10	0.13	0.05	0.28	0.26	0.27	0.42	0.05	0.31	0.48	0.82	0.30				
20 Abi × prior rk	0.64	3.95	−14.21	12.79	0.38	0.42	0.43	0.49	0.40	0.02	0.22	0.11	−0.05	0.33	0.21	0.33	0.29	0.02	0.16	0.88	0.50	0.44	0.36			
21 Str × prior rk	0.58	2.71	−9.47	12.79	0.30	0.39	0.32	0.40	0.37	0.05	0.19	0.03	−0.01	0.41	0.23	0.28	0.60	−0.05	0.26	0.60	0.89	0.30	0.68	0.59		
22 Fin × prior rk	3.18	3.49	1.00	10.00	−0.46	−0.50	−0.47	−0.59	−0.39	−0.10	−0.17	−0.25	−0.07	−0.05	0.23	0.05	−0.09	0.78	−0.04	−0.28	−0.19	−0.54	−0.09	−0.31	−0.22	
23 Tar × prior rk	0.22	1.28	−7.47	4.53	0.18	0.30	0.21	0.32	0.23	0.02	0.11	0.03	−0.02	0.35	0.25	0.29	0.46	0.06	0.30	0.43	0.67	0.23	0.77	0.42	0.78	−0.10

Table 2. Conforming behaviors and overall reputation: results of FGLS (Models 1–6) and ranked-order logit (Model 7) analyses

	Overall reputation			Ranked reputation			
N=282	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Year dummies	yes	yes	yes	yes	yes	yes	yes
Industry dummies	yes	yes	yes	yes	yes	yes	no
Size	-0.535*** (-3.99)	-0.640*** (-5.05)	-0.582*** (-4.23)	-0.125 (-0.40)	-0.421 (-1.29)	-0.369 (-1.37)	0.0457 (0.11)
Age	-0.0296 (-0.67)	-0.00171 (-0.04)	0.00850 (0.20)	-0.0542 (-0.47)	-0.0171 (-0.17)	-0.0233 (-0.23)	-0.153 (-1.43)
Performance	-0.00380 (-0.66)	-0.00397 (-0.71)	-0.00545 (-0.97)	-0.0117 (-0.90)	-0.00394 (-0.30)	-0.00099 (-0.08)	-0.0109 (-1.56)
Prior reputation / Prior rank	0.736*** (18.73)	0.724*** (17.84)	0.752*** (15.46)	0.760*** (22.97)	0.773*** (24.71)	0.792*** (19.39)	0.468*** (4.29)
Media tonality	0.0451 (1.22)	-0.0395 (-0.83)	-0.0298 (-0.60)	0.0612 (0.65)	0.0999 (1.02)	0.0741 (0.86)	-0.137 (-0.63)
Coverage intensity	0.0364 (1.17)	-0.0309 (-0.76)	-0.0392 (-1.02)	0.125+ (1.68)	0.118 (1.47)	0.0675 (0.87)	0.00875 (0.08)
Probability of communication	1.256*** (3.57)	1.113** (3.24)	1.033** (2.87)	1.983** (3.10)	2.469*** (3.71)	2.382*** (3.54)	1.407* (2.04)
Abiding behavior		0.0883* (2.41)	0.0601 (1.45)		-0.0997 (-1.50)	-0.119* (-2.00)	0.0184 (0.27)
Strengthening behavior		0.228*** (5.39)	0.318*** (5.07)		0.260* (2.15)	0.567** (3.08)	0.435* (1.96)

Table 2. *(Continued)*

Overall reputation			
N=282	Model 1	Model 2	Model 3
Finessing behavior		0.00424 (0.05)	0.0398 (0.49)
Targeting behavior		0.181** (3.24)	0.177** (2.77)
Abiding behav × prior reputation			0.0349 (1.01)
Strength behav × prior reputation			−0.0973* (−2.25)
Finessing behav × prior reputation			0.0194 (0.36)
Targeting behav × prior reputation			−0.184+ (−1.83)
Constant	6.161*** (31.65)	6.130*** (31.27)	6.018*** (31.05)
chi2	1305.8	1472.4	1377.7

Ranked reputation				
N=282	Model 4	Model 5	Model 6	Model 7
Finessing behavior		0.246+ (1.91)	0.0567 (0.51)	0.273 (0.59)
Targeting behavior		0.420** (2.59)	0.582** (2.69)	0.440* (2.38)
Abiding behav × prior rank			0.0563** (3.02)	0.0748* (2.09)
Strength behav × prior rank			−0.100+ (−1.77)	−0.087+ (−1.68)
Finessing behav × prior rank			0.0549 (1.46)	−0.0230 (−0.32)
Targeting behav × prior rank			0.0119 (0.18)	−0.0331 (−0.41)
Constant	1.382* (2.24)	1.100+ (1.89)	0.999 (1.61)	
chi2	783.1	1250.3	2821.4	
Log likelihhod (Δ from base model)				−413.6 (+12.1)

t-values are in parentheses.
p-values: $^+ p < 0.1$; $^* p < 0.05$; $^{**} p < 0.01$; $^{***} p < 0.001$.

Model 6). Following previous studies (Allison and Christakis, 1994; Love and Kraatz, 2009), we also used rank-ordered logistic regression analyses to test our hypotheses on the reputation-ranking variable. This technique, which we present in Model 7 as a confirmatory analysis that replicates Model 6, is designed specifically for contexts in which the dependent variable is a relative ranking of objects within a group (Love and Kraatz, 2009). As we report in Table 2, the results obtained from the FGLS and rank-ordered logit are substantively similar.

Among the significant controls, we observe that increases in firms' size have a significantly negative impact on reputation score (Models 1–3). The path-dependent effect between prior and current reputations is of a magnitude similar to that observed in previous studies (e.g., Durand *et al.*, 2007; Love and Kraatz, 2009). In Model 4, the intensity of media coverage marginally increases the reputational ranking, which supports the idea that media exposure is positively linked to reputation. Similarly, the *probability of communication* measure is favorably associated with increases in reputation scores and rankings across the seven models.

Hypothesis 1a predicted that goal-compliant conformity (i.e., strengthening and abiding behaviors) would increase firm reputation, whereas Hypothesis 1b proposed that goal-noncompliant conformity (i.e., targeting and finessing behaviors) would decrease it. In support of Hypothesis 1a, Models 2 and 3 show that both strengthening and abiding behaviors have a significant positive effect on a firm's reputation score ($p < 0.001$ for strengthening conformity in both models; $p < 0.05$ for abiding conformity in Model 2). Models 5 to 7 indicate a significant and positive effect of strengthening conformity on the firm's reputation ranking ($p < 0.05$ in Models 5 and 7; <0.01 in Model 6). However, the coefficients for abiding behavior are either not significant or negatively oriented in Models 5 to 7, indicating that the positive effect of abiding behavior does not materialize directly as an improved ranking. Overall, the positive effect of goal-compliant conformity on reputation stated in Hypothesis 1 is strongly supported for strengthening behavior on both the reputation score and rank; however, for abiding behavior, this support pertains only to the reputation score.

Regarding goal-noncompliant conformity, the effect of finessing behavior on a firm's reputation score is statistically insignificant across the models (except for a marginally significant and positive effect in Model 5). Yet targeting behavior has a significant and consistent positive effect on reputation score (Models 2 and 3 $p < 0.01$) and ranking (Models 5 and 6 $p < 0.01$; Model 7 $p < 0.05$) that contradicts our prediction. Therefore, the negative effect of goal-noncompliant conformity that we predicted in Hypothesis 1b does not receive support from our results.

Hypotheses 2a and 2b proposed that a high level of procedural commitment would amplify the positive effect of goal-compliant conformity and buffer the negative effect of goal-noncompliant conformity on firm reputation. On the goal-compliant side, we thus expected a greater positive effect of strengthening behavior compared with abiding behavior. In Model 2, the Wald test of coefficient equality indicates a significant difference between the two coefficients ($\text{chi}^2 = 4.43$, $p = 0.03$), which confirms the greater coefficient value of strengthening behavior. The test achieves convergent results for Models, 3, 5, and 6, in support of Hypothesis 2a. On the goal-noncompliant side, we expected a lesser negative effect of targeting behavior compared with finessing behavior, and again we find a significant difference in Model 2 ($\text{chi}^2 = 8.29$, $p = 0.004$): Consistent with our prediction, targeting behavior deteriorates reputation significantly less than does finessing behavior, even beyond the expected effect, because the coefficient for targeting behavior is significantly positive. We observe the same effect across the other models. Overall, Hypothesis 2b is supported by our results.

Hypotheses 3a and 3b predicted that a firm's prior reputation would moderate the relationship between conformity and reputation. We tested this effect with the interaction terms between the four conforming behaviors and prior reputation, which we measured as the firm's reputation score or ranking in the previous year. Model 3 shows a negatively significant interaction effect between strengthening behavior and prior reputation score ($p < 0.05$) and between targeting behavior and prior reputation score ($p < 0.10$). The other two coefficients of the interaction terms are not statistically significant. Model 6 displays a positively significant interaction effect between abiding behavior and prior reputation ranking ($p < 0.01$) and a negatively significant interaction effect between
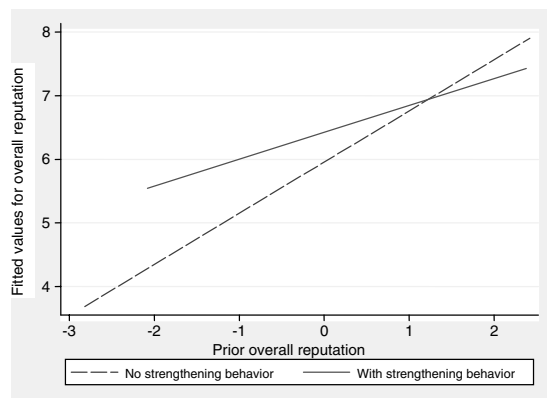
Figure 2. Interaction effect of strengthening behavior and prior reputation (centered values) on a firm's reputation
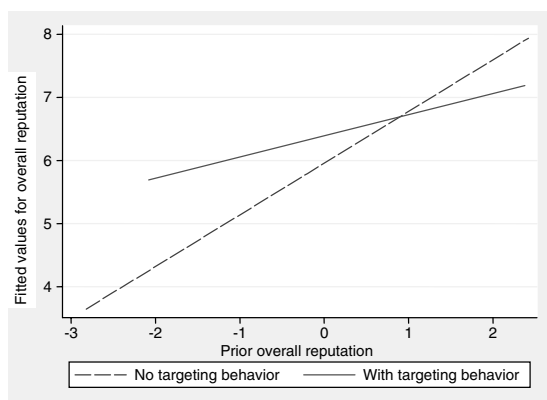

Figure 3. Interaction effect of targeting behavior and prior reputation (centered values) on a firm's reputation

strengthening behavior and prior reputation ranking ($p < 0.10$).

To illustrate these results, we plotted the moderating effects of prior reputation on strengthening behavior (see Figure 2) and on targeting behavior (see Figure 3), on the basis of the coefficient estimates in Model 3. Figure 2 shows that strengthening behavior benefits firms with lower prior reputation more than firms with higher prior reputation, which supports Hypothesis 3a. In contrast, Figure 3 indicates that the presence of targeting behavior makes a positive difference in the predicted values for low ranked firms, which diverges from the prediction of Hypothesis 3b. The graphical representation of the moderating effect of prior ranking on abiding behavior (unreported) further reveals no obvious difference in the predicted values between high or low prior reputation rankings.

Although these results suggest a moderating effect of prior reputation on the relationship between conforming behaviors and reputation, they provide limited support for Hypothesis 3a and no support for Hypothesis 3b.

Additional models and robustness checks

In this section, we offer additional insights into the reputation-granting process. Some findings from Table 2 indeed suggest that some contextual effects, not captured in our main models, might interact with the social evaluation of behaviors conforming to the environmental transparency norm. A key contextual factor in the normative domain we study is the strength of the categorical imperative facing firms. A categorical imperative constrains actors to fit into specific categories, such that their actions are interpreted through a comparison with socially accepted role performances (Zuckerman, 1999). A stronger categorical imperative induces higher pressures to conform and more stringent norms. Differences in the categorical imperative strength may thus result in reputation granters valuing the four conforming behaviors differently. We therefore proceeded to perform additional tests (see Tables 3 and 4), in which we manipulated the level of the categorical imperative in two different ways. Through these two manipulations, we aimed to increase the stringency of expectations on the firm and the overall normative degree of the environment in which the reputation-granting process occurred.

First, because reputation refers to the beliefs of various audiences regarding the likelihood that the firm will deliver value along specific dimensions (Rindova and Fombrun, 1999; Rindova *et al.*, 2006), it is assessed at the level of these dimensions (e.g., the ability to deliver products on time, human resources management, or environmental stewardship). A general reputation score, such as *Fortune* magazine's score, simply represents the aggregation of these dimension-specific evaluations into a more global level of analysis. We thus conjectured a higher categorical imperative of the environmental transparency norm—and thus a stricter evaluation of conformity to this norm—if the firm's reputation was assessed at the environmental dimension level rather than at the global level. To address this issue, we replicated Model 2 after replacing the overall reputation score with the *Fortune* score obtained by that firm

Table 3. Conforming behaviors and environmental reputation: results of FGLS analyses

N=282	Environmental reputation	
	Model 8	Model 9
Year dummies	yes	yes
Industry dummies	yes	no
Size	−0.775***	−0.893***
	(−9.63)	(−17.11)
Age	−0.0241	0.0698*
	(−0.52)	(2.45)
Performance	−0.0109*	−0.00586
	(−2.42)	(−1.50)
Prior reputation	0.542***	0.605***
	(14.72)	(19.83)
Media tonality	−0.0357	−0.0456
	(−1.12)	(−1.56)
Coverage intensity	−0.0193	0.0525*
	(−0.57)	(2.48)
Probability of communication	2.108***	0.108
	(6.49)	(0.70)
Abiding behavior	0.0955*	0.195**
	(2.32)	(2.64)
Strengthening behavior	0.211**	0.139+
	(2.78)	(1.64)
Finessing behavior	−0.0316	−0.0930+
	(−0.56)	(−1.88)
Targeting behavior	0.0801	0.251***
	(0.99)	(3.96)
Industry sensitivity		−0.178+
		(−1.78)
Abiding behavior × industry sensitivity		−0.0488
		(−0.59)
Strength behavior × industry sensitivity		0.321***
		(3.41)
Finessing behavior × industry sensitivity		0.0760
		(0.67)
Targeting behavior × industry sensitivity		−0.177*
		(−2.11)
Constant	5.853***	5.536***
	(7.58)	(9.09)
chi²	1346.6***	1046.0***

t-values are in parentheses.
p-values: + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

on the community and environmental friendliness dimension (see Table 3, Model 8). In spite of this measure's strong correlation with the global reputation score, we believe it offers an interesting tool to assess evaluations of conformity to the environmental transparency norm in a more stringent normative context.

Second, we suspected that some industry-level effects might occur in which the norm of corporate environmentalism would be more stringent in some industries than others. We addressed this issue by computing a binary environmental sensitivity measure, *industry sensitivity* based on the North American Industry Classification System (NAICS) codes for environmentally sensitive industries.[5] The variable was coded 1 if the firm's NAICS code belonged to this list (e.g., oil and gas extraction, mining, chemical manufacturing, transportation equipment manufacturing, or computer and electronic product manufacturing) and 0 otherwise. We then generated interaction terms between this measure and the four conforming behaviors, which we added in a new model (see Table 3, Model 9).

Model 8 displays a pattern of results similar to that observed in Model 2. Both goal-compliant behaviors (i.e., strengthening and abiding) have a significant positive impact on environmental reputation, and finessing behavior remains insignificant. In this model, however, the coefficient of targeting behavior becomes insignificant, whereas in the previous models it was significant and positive. These results may indicate that high procedural conformity is less valued than goal compliance when the categorical imperative is high. As expected in Model 9, the direct effect of industry sensitivity is negative, indicative of lower reputation averages for firms operating in environmentally sensitive industries. Model 9 shows a positively significant interaction effect between strengthening behavior and industry sensitivity ($p < 0.001$) and a negatively significant interaction effect between targeting behavior and industry sensitivity ($p < 0.05$). The other two interaction effects are not statistically significant. These results seem to indicate that in highly normative

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[5] The NAICS is the standard used by federal agencies to classify business establishments. We based our coding on the environmentally sensitive industries list that was developed by the Small Business Administration based on the NAICS codes. This list can be consulted at: www.504corporation.com/documents/NAICSCodes.pdf

Table 4.   Means comparison of predicted values of environmental reputation (based on estimates from Model 9)

		INDUSTRY SENSITIVITY		Difference of means
		High	Low	
STRENGTHENING Behavior	Presence	6.75	6.05	**
Difference of means	Absence	5.66	5.63	n.s
		***	n.s	
ABIDING Behavior	Presence	6.42	6.02	*
Difference of means	Absence	5.50	5.61	n.s
		**	+	
TARGETING Behavior	Presence	5.90	5.65	**
Difference of means	Absence	5.65	5.66	n.s
		**	n.s	

t-tests: $^+ p < 0.10$; $^* p < 0.05$; $^{**} p < 0.01$; $^{***} p < 0.001$.

environments, the simultaneous presence of goal compliance and high procedural commitment significantly increases firm reputation, whereas the absence of goal compliance deteriorates it, even in the presence of high procedural commitment.

Table 4 displays the mean comparisons for the predicted values in the presence (absence) of conforming behaviors and industry sensitivity. These complementary analyses show that the presence of strengthening behavior is more valued in industries with strong environmental concerns than in less environmentally sensitive ones (difference of means statistically significant at $p < 0.01$). These analyses also indicate that the absence of such behaviors in environmentally sensitive industries is more heavily penalized and thus leads to lower environmental reputation scores (difference of means statistically significant at $p < 0.01$). These observations suggest that in situations in which the categorical imperative is high, strengthening behavior has a stronger positive impact on reputation. Table 4 also shows that the presence of abiding behavior in an environmentally sensitive industry leads to an environmental reputation score of 6.42, whereas the presence of targeting behavior leads to an average score of 5.90. This result suggests that abiding conformity is the second most rewarding conforming behavior in terms of reputation and thus that the value granted to goal compliance supersedes the value granted to procedural commitment.

In addition to the main models and additional tests reported here, we conducted several robustness checks. For example, we used different estimation procedures. As previously discussed, we replicated our FGLS analyses with a PCSE procedure (for all main models). We also replicated the models after removing the probability of communication measure. Moreover, we conducted alternative analyses in which the dependent variables were the variation of reputation score and ranking in place of the raw score and ranking used in our main analyses. Finally, we ran alternative models in which the four conforming behaviors were dichotomous variables capturing the absence or presence of environmental disclosures. All these alternative analyses produced results very similar to those of the main models (with some control effects becoming significant, such as media tonality and coverage intensity), and all hypotheses supported in Tables 2 and 3 received at least marginal support from these additional models. The convergence of these different analyses confirms the robustness of our results.

DISCUSSION AND CONCLUSION

Our purpose in this study is twofold. We set out to identify different conforming behaviors and to empirically examine their differentiated impacts on firm reputation. In so doing, we contribute to recent strategy research that investigates the positive and negative impacts of firms' conformity to and deviance from social or industrial norms on key organizational outcomes (e.g., Durand *et al.*, 2007; Love and Kraatz, 2009; Sirmon and Hitt, 2009).

Conformity as a heterogeneous construct

Prior works on conformity tend to share a monolithic conception of this concept. In institutional

literature, for example, conformity to social norms is discussed in a holistic fashion, based on the assumption that the valued ends and the means to pursue those ends are perfectly aligned. Oliver (1991), in her discussion of possible organizational responses to institutional pressures, mentions three alternative forms of conformity: habit, imitation, and compliance. However, these three forms do not encompass different conforming behaviors, as she suggests, but instead refer primarily to the different motivations (i.e., blind adherence, mimetic acquiescence, and conscious obedience) that cause firms to conform to social or industrial norms. In the end, the observable behavior remains identical, regardless of the underlying motivation. Similarly, in strategy literature, conformity is often equated with similarity and isomorphism. As a consequence, conformity's potentially heterogeneous nature has not been adequately addressed.

Here, we provide an account of the heterogeneous nature of conformity through a typology of four conforming behaviors that we contrast along two dimensions: compliance with the goal of environmental friendliness and level of commitment to the appropriate disclosing procedures. The empirical findings support our theory that conformity is not a monolithic variable by emphasizing how both dimensions of conformity affect outside observers' reputational assessments and ordering of firms.

An important implication of this result is that by adopting a fine-grained perspective on conformity, we can better investigate empirically the differentiated effects of conforming behaviors on firm reputation. We show that both behaviors that comply with expectations of environmental friendliness (i.e., strengthening and abiding) enhance firms' reputational score and ranking, as we predicted in Hypothesis 1a. As stated in Hypothesis 2a, we also find an amplifying effect of the level of commitment to procedures on the positive effect of goal-compliant conformity. That is, the positive reputational valence of strengthening behavior supersedes that of abiding behavior. However, for the behaviors that conform to the environmental transparency norm but fail to comply with expectations of environmental friendliness (i.e., targeting and finessing), we do not find the predicted negative effect on firm reputation. The coefficients for finessing behavior are not significant, but those of targeting behavior have a consistently significant positive effect on both reputation score and ranking. Although this result contradicts Hypothesis

1b, it provides empirical support for the buffering effect of the level of procedural commitment predicted in Hypothesis 2b. These results suggest that under its apparent passive and uniform surface, conformity encompasses a varied nature of conforming types that firms can use strategically.

Conformity as a strategic behavior

Because actors are expected to conform (DiMaggio and Powell, 1983), and conformity is the most frequently encountered behavior, prior research has largely suggested that it is a passive, nonstrategic response to institutional pressures and has thus focused instead on deviant behaviors. In this study, we adopt a different perspective and suggest that conformity can also be the expression of a strategic intent. Specifically, we argue that firms have some degree of leeway and choice in how they conform to the norm, which leads to variations in their conforming behaviors. Although all firms that disclose information regarding their environmental behavior are conforming to the environmental transparency norm, they can customize the content of their disclosures and their level of commitment to the appropriate means of disclosures. This argument has two interrelated important implications for strategy.

First, by suggesting that firms can selectively conform to one dimension of the norm without conforming to the other, we grant them some discretionary power over the degree to which they choose to conform. Following Goodrick and Salancik (1996), Deephouse (1999), and Durand *et al.* (2007), we thus combine institutional and strategic choice perspectives by considering firms' agency without dismissing the constraints imposed on them by prevailing institutional expectations. Rather, we argue that firms may choose appropriate actions according to their strategic interests but that these choices remain bounded by institutional expectations. This argument is in line with emerging research on institutional work (e.g., Bascle and Arndt, 2008; Davis and Marquis, 2005; Lawrence and Suddaby, 2006) that emphasizes the purposive action of firms to create, maintain, or disrupt institutions.

Second, a central concern of this study is to examine how firms disclosed information to improve their reputation score and relative standing. Our results suggest the possibility of optimal configurations of conforming behaviors, which

implies that firms should strategically conform to goals and procedures to reap higher payoffs. The results in Table 4 indicate that firms showing evidence of strengthening behavior can achieve a reputation score on average 11.5 percent higher if they belong to an environmentally sensitive industry compared with less sensitive industries (6.75 compared with 6.05). If firms do not display strengthening behavior, however, their reputation score reaches only 5.66 (cf. 5.63 for firms in less sensitive industries). These results imply that the presence of strengthening behavior earns more rewards in contexts with high categorical imperatives than in less normative environments (0.70 differential score). The results also indicate that the absence of strengthening behavior is proportionally more damaging to reputations in strong categorical imperative contexts (1.09 differential score) than in weaker ones (0.42 differential score). Similarly, the value of strengthening behavior relative to the value of abiding behavior is greater in contexts of strong categorical imperatives (0.33 differential score) than in a less normative environment (0.03 differential score). We interpret these results as indicating a lower discretionary power of firms when the categorical imperative increases, such that the firms become more constrained by the institutions in which they are embedded. Consequently, both the discretion to engage in the most constraining conforming behaviors and the ensuing benefits vary significantly across firms and industries.

Evaluative logics and the reputation-granting process

This study contributes to literature on reputation building by providing insights into the reputation-granting process and, specifically, the evaluative logics that observers rely on to interpret signals and grant reputation. Prior works have suggested that reputational assessments depend partly on the firm's conformity to socially constructed standards of behavior (e.g., Love and Kraatz, 2009; Staw and Epstein, 2000). As previously discussed, a core finding of this study is that conformity to norms may take on different forms, which are differently rewarded by reputation-granting audiences. These results emphasize that audiences may be attentive to different signals and thus rely on multiple evaluative logics to ascribe reputation. The overall

pattern of results suggests an additional contribution that belies the apparent intuitiveness of the main finding. As evidenced by the tests of our moderating hypotheses and as emphasized in our additional models, reputation-granting assessments are contextually situated.

First, consistent with prior research (Heil and Robertson, 1991; Durand and McGuire, 2005; Love and Kraatz, 2009), we find that reputation granters evaluate firms' disclosures through the prism of their prior reputation. For example, strengthening and targeting behaviors are more rewarded for firms with lower prior reputations. These results may indicate that less reputed firms receive amplified returns on their high level of conformity—to either the underlying goal or the appropriate procedures—as compensation for the proportionally greater amount of effort they display to align their behavior with social expectations.

Second, although audiences may conjointly employ multiple logics to ascribe reputation, they will typically give precedence to one, depending on the context of their evaluation. In highly normative contexts specifically, the value of goal conformity seems to supersede that of procedural conformity, and reputation-granting audiences rely more on a goal-oriented evaluative logic than on a logic that is procedure oriented. For instance, the additional models show that finessing behavior, which was consistently nonsignificant in Table 2, becomes negative in Models 8 and 9. Similarly, the coefficient for targeting behavior, which was positive and significant in former models, becomes nonsignificant in Model 9. These results suggest that the absence of goal-compliant conformity in highly normative environments (even in the presence of high commitment to procedures) tends to be penalized by reputation-granting audiences, which resonates with the limited body of research that suggests conformity does not always benefit firms (e.g., Deephouse and Carter, 2005; Phillips and Zuckerman, 2001). These results are reinforced by observations in Table 4 indicating that, in highly normative contexts, abiding behavior is more rewarded than targeting behavior.

We can interpret these findings in light of the ongoing debate about symbolic vs. substantive conformity (Meyer and Rowan, 1977; Westphal and Zajac, 2001). Many scholars have shown that decoupling substantive and symbolic behaviors is a real risk for norm-based institutions, and we

acknowledge the potential for information manipulation in the normative field we investigate. However, this study explores how outside observers perceive the firm's environmental performance when relying on their disclosures, which leads us to focus on the symbolic dimension of conformity. Perceived environmental performance is thus sufficient for our purpose, even in the absence of substantive actions. Whereas it is generally assumed that the symbolic management of a norm proves sufficient to secure audiences' approval, we show that audiences discriminate among different types of symbolic conformity: firms that conform to the goals and firms that commit on procedures. When the categorical imperative is strong, audiences tend to give precedence to goal compliance over procedural commitment. A first implication of these results is that the evaluative logics employed by reputation granters and, accordingly, the reputational valence of the conforming behaviors differ in relation to the normative stringency of the environment. A second implication is that disconnecting goals from procedures is easier when the categorical imperative is lower and when firms enjoy greater discretionary power.

Corporate environmentalism and reputation

Finally, this study contributes to literature on corporate environmental communication and fills an important gap by providing one of the first empirical examinations of the impact of environmental communication on firm reputation. Although some prior research has investigated the relationships of corporate environmental communication to environmental performance (Clarkson *et al.*, 2008) and to financial performance (Bansal and Clelland, 2004; Blacconiere and Patten, 1994), minimal attention has centered on a systematic exploration of empirical relationships between corporate environmentalism and reputational gains. Our findings suggest that environmental communication influences both environmental and general perceptions of a firm, not just perceptions of the firm as an environmental friendly entity, with potentially differentiated impacts.

In turn, this study is relevant to managers, because it provides incentives to monitor competitors' environmental policies and to carefully manage their own environmental communications. The nature of the information disclosed, the mode of communication used to release the environmental information, and the association between these dimensions influence firms' reputation scores and rankings. Environmental disclosures thus must be fine-tuned according to the firm's prior reputation and the normativity of the environment in which it operates. Finally, our findings suggest that in environmentally sensitive industries, procedural conformity increases reputation only when coupled with evidence of goal-conforming activities. Firms belonging to these industries should thus seek to improve their substantive environmental actions so they can adequately communicate those actions and thereby reap the afferent reputational benefits.

Limitations of the study and concluding remarks

Despite these contributions, some limitations of this study deserve mention. First, although operationalizing disclosures as ordinal variables offers richer measures than would dichotomous partitions, the arbitrary choice of a one-degree increment numbering may be discussable because of the difficulty of assigning a specific impact value to each type of disclosure. However, such a numbering allowed us to account for the fact that the perceived value of disclosures is determined on the basis of their specificity. As previously discussed, although *Fortune* magazine's reputation measure offers key advantages, it suffers from significant shortcomings. Another limitation of this study is its reliance on a single source to assess reputation, whereas the reputation concept is theorized as the aggregation of multiple perceptions and assessments. To reduce the impact of these shortcomings, we controlled for prior reputation and performance and for autocorrelation problems. We also dealt with established firms, which helped to dampen the biases that could be introduced to our models by differences in size, sector membership, or resource endowment.

Despite a recent proliferation of reputational ratings based on economic or social performance from business publications (e.g., *Fortune, Forbes, Financial Times*), social rating agencies (e.g., the Council on Economic Priorities and Innovest Strategic Value Advisors), and investment funds (e.g., Kinder, Lydenberg, and Domini and SAM), reputation measurement remains a vexing problem. A strong need thus exists for a better measure of corporate reputation that will not be crippled by

biases. Such an instrument should be consistently replicated across years to allow for longitudinal analyses and should encompass several criteria to respect the multidimensional nature of reputation. Also, to correct for an overemphasis on financial criteria, the ideal measure should incorporate the evaluations of multiple stakeholders and not just those of financial analysts or senior managers. Finally, to allow for better representativeness, this measure should encompass a wider coverage and not focus exclusively on the biggest and most visible firms. Despite some steps in this direction (e.g., the Harris-Fombrun Corporate Reputation Quotient), much work remains to be done.

To conclude, this study takes an important step toward developing a more fine-grained picture of conformity and its link to the reputation-building process. It advances understanding of the strategic nature of conformity by empirically identifying and disentangling the differentiated impacts of conforming behaviors on firm reputation in the context of corporate environmentalism. Firms can choose strategically how much they conform to a norm and to which part of that norm they will conform. Our results indicate that these conforming behaviors are differently rewarded, depending on the conforming behavior, the firm's prior reputation, and the level of categorical imperative it confronts.

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APPENDIX

Table A1. Coding scheme

Goal-compliant disclosures	Goal-noncompliant disclosures
STRENGTHENING BEHAVIOR	TARGETING BEHAVIOR
0. Absence	0. Mention of incident, notice of violation, or fine
1. Mainly qualitative data with few metrics	1. Qualitative description of incident
2. Longitudinal metrics *or* GRI reporting procedure	2. Qualitative description of incident and detailed discussion of corrective actions
3. Longitudinal metrics *and* GRI reporting procedure or Dow Jones Sustainability Index	3. Absence
ABIDING BEHAVIOR	FINESSING BEHAVIOR
0. Absence	0. Absence
1. Vague mention	1. Presence
2. Firm-specific mention	
3. Firm-specific mention with qualitative or quantitative examples, or both	

Table A2.   Illustration of the coding scheme for abiding behavior

0	Absence	
1	Vague mention	'Cooper Cameron is keenly aware of the social, environmental and economic impacts the company's operations can have on the variety of locations where we do business.' (Cooper Cameron, 2004)
2	Firm-specific mention	'The Cooper Cameron HSE council (...) provides leadership and oversight for the company's efforts in addressing local, national and international rules and regulations.' (Cooper Cameron, 2002)
3	Firm-specific mention with qualitative or quantitative examples, or both	'In 2004, for the fifth consecutive year, 100 percent of our farms in Latin America earned Rainforest Alliance certification on the basis of scheduled and surprise annual audits.' (Chiquita, 2004)

Table A3.   Illustration of the coding scheme for targeting behavior

0	Mention of incident, notice of violation, or fine	'Company-owned plants included in this report had 13 notices of violation, and paid fines or other penalties of $107,410 in 2002.' (Coca-Cola, 2002)
1	Qualitative description of incident	'The incident in Toledo refinery in the US, when almost 800,000 litres of diesel fuel leaked into a sewer, was the largest.' (BP, 2003)
2	Qualitative description of incident and detailed discussion of corrective actions	'During 2001, we had two accidental spills, each less than five liters, of hydraulic oil into the water. In both cases, we took corrective action, including modification and enforcement of the planned maintenance system.' (Chiquita, 2002)
3	Absence	