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Institutional Theory and Corporate Sustainability: Determinant Versus Interactive Approaches

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Institutional theory has shifted from determinant to interactive arguments in recent decades, and sustainability scholarship reflects this change. In this article, I consider whether this shift is empirically justified. I review the use of both determinant and interactive arguments in sustainability research and test two sets of competing hypotheses regarding the likelihood of adoption of sustainable practices. Through logistic regression analysis of a sample of 391 U.S.-based firms, I find no support for hypotheses grounded in determinant arguments, but strong support for hypotheses based on interactive arguments. The results of this study offer implications for scholars, practitioners, and policy-makers. *Organization Management Journal*, 10: 86–96, 2013. doi: 10.1080/15416518.2013.801741

Keywords sustainability; institutional theory; resource dependence

INTRODUCTION

Management scholars have employed the lens of institutional theory to examine the adoption and diffusion of natural environmental standards and practices. A significant body of research has investigated determinants of adoption of environmental management standards such as ISO 14001 (e.g., Boiral, 2007; Delmas, 2002; Jiang & Bansal, 2003) and participation in trade association-sponsored initiatives such as the Chemical Manufacturers Association's Responsible Care Program (Barnett & King, 2008; King & Lenox, 2000; Lenox, 2006). This scholarship has generated significant insights and demonstrably advanced our understanding of the diffusion and adoption of environmentally sustainable practices.

A review of this literature suggests that institutional theorists have applied both interactive and determinant arguments in examinations of the adoption of sustainable practices. Few studies, however, have attempted to empirically test the explanatory power of both arguments. Accordingly, the goal of this article is to conduct such an examination. Specifically, I develop competing hypotheses regarding organizational responsiveness

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to institutional pressures for the adoption of sustainable practices.

The first section of the article reviews the significant insights gained through the use of institutional theory in the two dominant contexts of sustainability research: the ISO 14001 standard and trade association-sponsored initiatives. In the second section, I invoke both determinant and interactive arguments to develop competing hypotheses concerning adoption of sustainable practices. I next discuss the study's methods and results. The article concludes with a discussion and implications for future research.

INSTITUTIONAL THEORY IN SUSTAINABILITY RESEARCH

As Scott (2008a) has noted, institutional theory has moved from determinant to interactive arguments. In determinant arguments, constraints on strategic behavior occur as taken-for-granted elements and unconscious conformity to traditions generate frames for decision making (Berger & Luckmann, 1967). Institutional environments may create structural uniformity among organizations, as firms ceremoniously adopt structures to gain institutional legitimacy (Meyer & Rowan, 1977). Through processes of institutionalization, alternatives can become unthinkable (Zucker, 1983). Adoption of a new organizational form may begin as a search for efficiency but later spreads in a quest for legitimacy, in a two-stage model of diffusion (Tolbert & Zucker, 1983). Uncertainty may lead to isomorphism, as institutions face coercive, normative, and mimetic pressures (DiMaggio & Powell, 1983).

Interactive arguments, by contrast, acknowledge opportunities for choice and use of agency (Scott, 2008a). DiMaggio (1988) challenged institutional theory to examine issues of interests and agency within the process of institutionalization. Oliver's (1991) integration of institutional theory with resource dependence arguments represents one of the earliest responses to DiMaggio's challenge. She proffers a series of strategic responses to institutional pressures and identifies predictors of which response an organization is likely to adopt. As Scott (2008a) observed, Oliver's article "pried open institutional theory, making room for more purposive action" (p. 432).

In effect, determinant arguments emphasize uniformity in response to institutional pressures, while interactive arguments stress variation in response to those pressures. Oliver (1991) suggests that the acquiescence inherent in determinant arguments represents only one possible outcome. Organizations may instead pursue strategies of compromise, avoidance, defiance, or manipulation. In a compromise strategy, for example, organizations may attempt to bargain and negotiate with stakeholders. A possible avoidance strategy is escape, in which organizations might exit the domain in which pressure is applied. In an example of defiance, organizations could aggressively challenge the legality of regulations. Manipulation efforts might involve advertising campaigns to influence changes in public opinion (Oliver, 1991).

In short, the logic behind interactive arguments is that organizations need not simply acquiesce in the face of institutional pressures. Multiple factors cause variation in responses to pressures. Oliver (1991) identifies five such factors: cause, constituents, content, control, and context. These variables address why a firm is pressured to conform, who applies the pressure, to what requirement the firm is pressured, how the pressure is exerted, and in what environmental context the pressure is exerted (Oliver, 1991). Scholars have examined interactive arguments in diverse empirical contexts such as security analysts' investment ratings (Hayward & Boeker, 1998), long-term incentive plans (Westphal & Zajac, 1998), and stock repurchase plans (Westphal & Zajac, 2001).

The distinction between the determinant and interactive strands of institutional theory—the former emphasizing uniformity of response and the latter emphasizing variation of response—is apparent in sustainability research. Much of this research has explored variation between or within organizational fields. An organizational field can be defined as “those organizations that, in the aggregate, constitute a recognized area of institutional life” (DiMaggio & Powell, 1983, p. 148). Organizations within the same industry, for example, can be said to constitute a shared organizational field. Firms located within the same state or nation may also be considered to share a common organization field. Determinant arguments suggest uniformity of response within a single field and, by extension, variation of response *between* different fields. Interactive arguments, by contrast, suggest variation *within* a single field. The distinction between determinant and interactive arguments in sustainability research is explored in the following literature review.

Determinant Arguments in Sustainability Research

Both determinant and interactive arguments have utilized the dominant empirical contexts of ISO 14001 and trade association initiatives. Since its introduction in 1996, the ISO 14001 environmental management standard has become the dominant model in environmental management (Boiral, 2007). The standard, which is separate from ISO's quality certification,

has been adopted by more than 180,000 facilities worldwide (International Organization for Standardization, 2009). ISO 14001 sets basic requirements for an environmental management system that firms must adopt to measure and capture their impact on the natural environment, and represents a mechanism that a firm may use to implement an environmental policy (Delmas, 2002).

In voluntary self-regulatory initiatives sponsored by trade associations, firms within an industry regulate their collective activities to avoid the specter of common threats (e.g., coercive action by governmental entities) or to promote a common good through the establishment of standard codes of conduct (King and Lenox, 2000). Those initiatives whose *raison d'être* involves environmental conduct can be viewed as means to improve the collective environmental performance of firms within the industry (Lenox and Nash, 2003). Common elements of industry-specific initiatives include awareness by organizations of the danger of spillover effects in which negative media coverage of one company adversely impacts all companies in the industry, emergence of a crisis that threatens the industry, and articulation of delineated principles to which member organizations consent (Barnett and King, 2008; Hoffman, 1999; Lenox, 2006).

Much of the research in sustainability that invokes a determinant perspective builds upon Scott's (2008b) three pillars of institutions: regulative, normative, and cultural-cognitive. Each of these pillars is associated with one of the three forms of isomorphism proposed by DiMaggio and Powell (1983): coercive, normative, and mimetic. The regulative pillar, associated with coercive isomorphism, would emphasize the role of the state and political pressure in inducing uniformity within organizational fields. The normative pillar, linked to normative isomorphism, would describe the influence of norms shaped by, for example, shared educational backgrounds of employees. And the cultural-cognitive pillar, associated with mimetic isomorphism, would examine taken-for-granted responses to situations of uncertainty, such as an organization's choice to imitate an action previously undertaken by competitors (Scott, 2008b). Each of these elements serves to explain why we might expect to find variation between organizational fields rather than within organizational fields; nations generating political pressures, employees with shared educational backgrounds advising similar practices, and firms imitating the decisions of their industry rivals may all yield the relative uniformity within (and variation between) organizational fields suggested by determinant arguments.

Delmas (2002) finds evidence of variation between organizational fields created by nations, lending support to the determinant strand of institutional theory. The finding that rates of ISO 14001 adoption differed between nations suggests that the institutional pressures associated with the three pillars, in turn, differed between nations. With respect to the regulative pillar, European governments committed themselves to supporting the diffusion of ISO 14001 through

provision of technical assistance and other methods. By contrast, the U.S. government did not exhibit such commitment. The result that adoption rates were significantly higher in Europe than in the United States indicates variation between fields, providing support to determinant arguments (Delmas, 2002).

Concerning the significance of the cultural-cognitive pillar, uncertainty about the potential efficiency gains arising from ISO 14001 may have led firms to identify which of their competitors adopted the standard as a basis for their own adoption or non-adoption decisions. The lower underlying adoption rate among U.S. firms, in part resulting from lower governmental commitment to ISO's diffusion, would suggest that imitation of competitors' practices would result in a higher rate of imitative adoptions in Europe. Regarding the normative pillar, differences in educational backgrounds and values between U.S. and European employees, which may influence differences in perceptions of the importance of process relative to performance, could further account for different adoption rates (Delmas, 2002). In summary, regulative, normative, and cultural-cognitive aspects of the organizational environment may determine firms' adoption decisions (Delmas, 2002).

Additional studies have similarly found that all three aspects of the organizational environment combine to determine adoption decisions. The conclusion that firms that have adopted quality management standards are more likely to adopt environmental management standards (King & Lenox, 2001) is difficult to interpret. It could be viewed in either cultural-cognitive or normative terms. In addition, regulative explanations, though perhaps not as clear, should not be ruled out. Such findings illustrate the difficulty of empirically isolating the effects of different institutional pillars.

Many organizational theorists, notably U.S. scholars, have exhibited a tendency to disproportionately emphasize the role of mimetic pressures (Mizruchi & Fein, 1999), in which, as previously noted, firms imitate the decisions of competitors within their organizational field. By contrast, much of the sustainability scholarship has emphasized the role of coercive isomorphism, in which political pressures create uniformity within organizational fields. Jiang and Bansal (2003) find that coercive pressures appear to explain organizational adoption of environmental management systems. Rivera and de Leon (2004) investigate the rise in a prominent trade association initiative within the U.S. ski industry and find that federal oversight, demands of state regulatory agencies, pressure from local environmental groups, and public opinion exerted coercive influences upon the ski industry. These findings suggest that conformity may arise through organizational fields shaped by industry. The resulting initiative, the Sustainable Slopes Program, was established by the National Ski Areas Association to promote beyond compliance principles encompassing 21 areas of environmental management (Rivera & de Leon, 2004).

Interactive Arguments in Sustainability Research

As with scholarship that invokes a determinant perspective, research utilizing an interactive perspective has examined both the ISO 14001 standard and trade association initiatives. A transitional work by Jiang and Bansal (2003) employed both determinant and interactive arguments in the study of ISO 14001. As previously noted, these authors found that coercive pressures appeared to explain adoption of environmental management systems. They distinguished, however, between adoption of an in-house system and the decision to certify under ISO. Certification was seen as a strategic decision in cases in which the firm's task visibility and environmental impact opacity were high (Jiang & Bansal, 2003).

Boiral's (2007) comparative case study of organizations adopting ISO 14001 revealed different strategic responses to institutional pressures for adoption, consistent with Oliver's (1991) contention that strategic responses to institutional processes vary based on certain predictive factors. Invoking core elements of Meyer and Rowan's (1977) work, Boiral depicts ISO 14001 as a rational myth in which firms often adopt ceremonial behaviors to demonstrate conformity to the standard. He sees that adoption was often rationalized and legitimized through discourse that created a façade of conformity, rationality, and success that was, to some extent, decoupled from the firm's day-to-day practices. Strategies for firm integration of ISO 14001 varied based on the level of institutional pressure exerted and degree of employee involvement in the standard. A strategy of ritual integration was associated with high pressure but low involvement. Decoupled integration (representing a near-complete abandonment of the standard) occurred under low pressure and low involvement. A mobilized integration strategy was linked to high pressure and high involvement. And proactive integration occurred under low pressure and high involvement (Boiral, 2007). Thus, organizational adaptation to institutional pressures was not marked by homogeneous responses. These findings, based on facilities whose firms share common organizational fields, stand in contrast to determinant arguments by identifying varying organizational responses under different conditions.

King, Lenox, and Terlaak (2005) refined and extended this theory of strategic response. ISO certification, they posited, is a symbolic act that implies information about otherwise hidden organizational characteristics. Firms were seen as conducting a strategic consideration of the information needs and strategies of other actors when formulating a response to institutional pressures in favor of certification. Specifically, firms were found to be more likely to seek certification when they expect potential exchange partners to lack information or fear opportunism. In these cases, certification becomes a symbolic act that reveals the presence of an underlying environmental management system. Such systems, in turn, imply improvement in environmental performance to exchange partners. Empirical analysis, however, demonstrated that firms that certified did not have significantly higher environmental performance than firms

that did not certify (King et al., 2005). These findings suggest that marketing considerations may factor into adoption decisions. As with Boiral's (2007) findings, evidence of strategic response to institutional pressures is revealed, and decoupling of symbol and substance is suggested.

Two additional studies are illustrative of an interactive perspective in the application of institutional theory to ISO 14001. Delmas and Toffel (2004) asked, "Why do organizations subject to the same level of institutional pressure pursue different strategies?" (p. 210). Heterogeneous environmental practices were proposed to result from different interpretations of institutional pressures. These different interpretations, in turn, were suggested to emanate from differences in organizational structure, strategic position, financial condition, and environmental performance (Delmas & Toffel, 2004). In subsequent research, Delmas and Toffel (2008) noted the phenomenon of persistent differences among organizations that share common organizational fields. Differences in firm response to institutional pressures to adopt environmental management practices were theorized to persist because firms channel these pressures to different organizational functions, such as legal or marketing divisions. And different functional divisions were suggested to be more receptive to different types of constituents (Delmas & Toffel, 2008). As such research in the context of ISO 14001 indicates, there is indeed a rich tradition of scholarship that explores varying responses to institutional pressures. The common element in this research is that certain underlying elements are hypothesized to account for heterogeneity of responses.

This commonality also exists in the context of trade association initiatives. While some scholars have employed determinant arguments in understanding the formation of such initiatives (e.g., Rivera & de Leon, 2004), other research has used interactive arguments in explaining the operation of the initiatives. For example, King and Lenox (2000) found that the potential for opportunistic behavior overcomes isomorphic pressures in trade association initiatives. Specifically, the Chemical Manufacturers Association Responsible Care Program showed evidence of strategic behavior. Participating firms polluted more than comparable firms within the industry, and their rates of environmental improvement slowed after the creation of the program (King & Lenox, 2000). These results suggest that participation in a trade association may be a strategic response to institutional pressures for stricter environmental standards. Participating firms ceremoniously join in a desire to gain legitimacy, and subsequently decouple symbol from substance.

Additional research indicates that trade association initiatives acquire value over time, regardless of evidence of decoupling. Lenox (2006) found that the Responsible Care Program created value through improved investor perceptions and corresponding increases in market capitalization. This value accrued to both participants and nonparticipants within the chemical industry, despite evidence of opportunistic behavior

among participants (Lenox, 2006). This suggests that firms within the industry may have attained a degree of legitimacy through the existence of the initiative, indicating a potential ceremonial nature to adoption. Firms that acquire environmental legitimacy have been found to incur less unsystematic stock-market risk than illegitimate firms (Bansal & Clelland, 2004). Barnett and King (2008) also determined that the Responsible Care Program generated value. They concluded that spillover harm from industrial accidents, as defined by stock price declines of chemical companies, decreased after the creation of the program (Barnett & King, 2008). These results echo Zajac and Westphal's (2004) finding that stock repurchase plans and long-term incentive plans acquired a symbolic value over time, despite evidence of decoupling. Similarly, trade association initiatives have acquired a symbolic worth that creates value for all firms within the corresponding industry, despite evidence of opportunism (Lenox, 2006).

The review in this section has demonstrated that determinant and interactive perspectives in institutional theory are useful lenses through which to view sustainability in organizations. The literature that has invoked these perspectives has contributed significantly to our understanding of organizational adoption and diffusion of sustainable practices. The notion of ceremonial adoption versus committed adoption is useful in suggesting that firms exhibit varying levels of responsiveness to desires for sustainable practices. A specific comparison of ceremonial and committed behaviors, however, is beyond the scope of the article's empirical test. Rather, this study seeks to understand whether determinant or interactive arguments are more salient in firms' adoption decisions, and the issue of variation between versus within organizational fields is central to this understanding. Hence, the next section develops competing hypotheses for each view of adoption.

THEORY AND HYPOTHESES

Determinant Arguments

Institutional pressures are exerted, in part, through the proliferation of shared norms within a given social context. DiMaggio and Powell (1983) note that isomorphism tends to be strongest within an organizational field. Given that states are among the entities that constitute organizational fields, we would expect that coercive, normative, and mimetic pressures to adopt sustainable practices may arise at the state level. Coercive pressures may arise from the political culture of a state, which may induce the need for firms to secure legitimacy within that distinct culture through adoption. Mimetic pressures may also exist at the state level, as firms copy the adoption decision of other firms within a given geographic proximity. Normative pressures may result from professionalization at the level of state, as local trade associations promote socialization and the proliferation of shared norms with respect to sustainable practices.

State political leaders are both a reflection of and a driver of state-level differences in environmental awareness (cf. Kolk & Perego, 2010). A review of the League of Conservation Voters National Environmental Scorecard reveals substantial differences in environmental voting records between states. Insofar as legitimacy is an organizational imperative (Suchman, 1995) and differences exist in prevailing norms between states, we would expect the adoption of sustainable practices to be more common among firms based in more environmentally proactive states. Stated differently, a firm will seek to achieve congruency between its environmental practices and the environmental culture of its state. These arguments lead to the following hypothesis:

Hypothesis 1: The adoption of sustainable practices will be more likely among organizations based in more environmentally proactive states.

Response to institutional pressures is also determined by the industry context in which those pressures are exerted (Oliver, 1991). Meyer and Rowan (1977) suggested that conformity may buffer organizations from conditions of environmental turbulence. As uncertainty in the organizational environment decreases, organizational confidence increases and the desire to seek protection through conformity to institutional norms becomes less urgent (Oliver, 1991). Uncertainty is a critical dimension that may explain adoption and diffusion of sustainable practices. Uncertainty differs by industry, suggesting that organizational fields shaped by industry may account for differences in the adoption of sustainable practices.

The diffusion of LEED sustainable building standards illustrates the impact of uncertainty. As uncertainty in a firm's organizational environment decreases, the firm may be less inclined to signal conformance to norms of sustainability through LEED adoption. This response is consistent with notions of conformity as a buffer from environmental turbulence; with less environmental uncertainty, the need for conformity is reduced (Oliver, 1991). Indeed, a review of LEED adoption rates by industry reveals that firms in more stable and predictable industry environments (e.g., insurance) have lower rates of adoption (USGBC, 2009). The examples of trade association initiatives and LEED leads to the following hypothesis:

Hypothesis 2: The adoption of sustainable practices will be less likely among organizations operating in industries characterized by greater stability.

Interactive Arguments

The cause of institutional pressures for adoption of sustainable practices may result from legitimacy-seeking motivations. If an organization believes that its legitimacy will be enhanced by conforming to pressures, then it will be more likely to acquiesce (Oliver, 1991).

Multiple groups have, for example, exerted pressure on organizations to quantify and disclose their greenhouse gas

emissions. Climate change activists have actively lobbied firms to improve their disclosure practices concerning greenhouse gas emissions (Reid & Toffel, 2009). Leading management journals such as *Harvard Business Review* have argued that the quantification of emissions through tools such as the Greenhouse Gas Protocol represents an important step in mitigating climate-related risks (Lash & Wellington, 2007). The Carbon Disclosure Project, a nongovernmental organization, conducts annual surveys of top management regarding their firms' greenhouse gas emissions and climate-related risks, opportunities, and strategies (Reid & Toffel, 2009). Consultants such as McKinsey & Co. have urged firms to develop proactive strategies to address climate change (Enkvist et al., 2008).

Management literature concerning sustainable practices notes that firms are not equally responsive to such external pressures. Larger firms will tend to be more responsive, given that their increased visibility makes them easier targets of external pressure. Size is one manner in which variation may exist within the same organizational field. Within the organizational field constituted by a particular industry or state, for example, we would expect larger firms to be more responsive than smaller firms. Bowen's (2000) examination of environmental visibility revealed that 9 out of 10 relevant studies showed organization size and environmental performance to be positively associated. Rogers's (2003) work on the diffusion of innovations found that organizational size and likelihood of innovation adoption are positively associated. This logic leads to the following hypothesis:

Hypothesis 3: Larger organizations will be more likely to adopt sustainable practices than smaller organizations.

An organization's constituents represent sources of institutional pressures. The existence of conflicting pressures from different sources is a common problem in organizations (Pfeffer & Salancik, 1978). A strategy of acquiescence to institutional pressures is, of course, extremely problematic when faced with conflicting pressures (Oliver, 1991). Acquiescence becomes less likely in cases of low external dependence on constituents. Organizational perceptions of constituent power influence the sustainability practices that firms adopt (Sharma & Henriques, 2005). Stakeholder pressure is also an important component of determinant arguments. But while determinant arguments would suggest that stakeholder pressure creates uniformity within an organizational field, interactive arguments suggest that different organizations within the same organizational field may choose to perceive stakeholder pressures differently. These different perceptions of pressure ultimately create variation within the same organizational field.

For example, consumers are powerful constituents whose actions determine the survival of final market firms. Proximity to consumers varies within the same organizational field. For instance, Oracle and Microsoft operate in the same

industry, within the same states, but Microsoft is significantly closer to the end consumer than Oracle. Recent polls suggest that consumers exhibit behaviors that reflect a growing sustainability consciousness (Harris Interactive, 2009). Eighty-three percent of respondents in a recent survey stated that a company’s commitment to sustainable business practices is very or somewhat important in their purchasing decisions (Capstrat, 2009). By contrast, business-to-business firms’ customers, commercial and industrial buyers, are primarily profit driven and hence less concerned with sustainability. To the extent that management perceives environmentally conscious consumers as a more powerful constituency than others who may not value sustainability, the organization will be more likely to adopt sustainable practices. Indeed, Fairfield, Harmon, and Behson (2011) found that a lack of external stakeholder demand for sustainability serves to diminish organizational implementation of sustainability practices. This discussion leads to the following hypothesis:

Hypothesis 4: When organizations perceive greater power in constituents who promote sustainable practices than in those who resist, those organizations will be more likely to adopt sustainable practices.

METHODS

Sample

Because the article’s hypotheses required a large sample of U.S. firms, the S&P 500 was used as the sample. Constituent companies were drawn from the end-of-year 2009 list. In total, 391 companies remained in the sample after removing firms with missing data. The distribution of the sample by industry and state is presented in Table 1.

Dependent Variable

The variable used to operationalize adoption of sustainable practices was adoption of Global Reporting Initiative (GRI) guidelines. The GRI has become the world’s leading voluntary sustainability reporting system (Brown et al., 2007). The GRI’s mission is to increase the rigor and acceptance of sustainability reporting through the promotion of common guidelines (Willis, 2003). A company that adopts GRI guidelines signals its commitment to the environmental, social, and economic pillars of sustainability. As such, GRI adoption may be seen, in part, as a measure of adoption of sustainable practices. GRI adoption information as of year-end 2010, coded as 1 for adopters and

TABLE 1
Distribution of sample by industry and state

Industry (NAICS sector)	Frequency	State (HQ)	Frequency
33: Manufacturing	93	CA	51
52: Finance and insurance	58	NY	43
32: Manufacturing	52	TX	38
22: Utilities	35	PA	23
44: Retail trade	29	IL	22
31: Manufacturing	25	MN	20
51: Information	18	OH	20
21: Mining	16	NJ	19
45: Retail trade	14	GA	13
54: Professional, scientific, and technical services	12	VA	13
48: Transportation and warehousing	10	MA	12
72: Accommodation and food services	9	NC	11
62: Health care and social assistance	7	CT	10
53: Real estate and rental and leasing	5	FL	9
56: Administration and support and waste management and remediation services	4	WI	9
42: Wholesale trade	2	MI	8
49: Transportation and warehousing	1	MO	8
71: Arts, entertainment, and recreation	1	All other states	62
Total	391	Total	391

Note. Sample based on end-of-year 2009 S&P 500 components. NAICS, North American Classification System; HQ, headquarters.

0 for nonadopters, was obtained from a database of adopting firms maintained by the GRI.

It is worth noting that GRI adoption is publicly available information that does not present the level of data that a survey or in-depth qualitative study would be able to render. GRI adoption is action that is visible to external stakeholders; other actions that may be interpreted as a more profound commitment to sustainability, such as internal process changes undertaken to reduce emissions, lack such visibility. In the absence of access to internal data, adoption of GRI guidelines—the leading sustainability reporting system—may be viewed as a suitable metric for the exploratory nature of this article's research.

It should also be noted that "adoption" should be interpreted as formation, rather than as both formation and operation, for the purposes of this article. In the context of the article's dependent variable, this results in GRI adoption being measured as a dichotomy. Were both formation and operation taken into account, a company's specific GRI application level, which represents the extent of adherence to the GRI's suggested reporting framework, would also be measured. By measuring adoption as a dichotomy and developing hypotheses based on variation between fields as compared to variation within fields, determinant and interactive arguments are able to be separated.

Independent Variables

An assessment of the voting records of state elected officials by the League of Conservation Voters National Environmental Scorecard, a source that has been widely used in sustainability research (e.g., Delmas & Toffel, 2008; Hamilton, 1997; Kassinis & Vafeas, 2002), was used to operationalize states. The scorecard assigns ratings to U.S. Senate and House of Representatives members, based on votes on issues concerning climate, clean energy, water, public lands, and wildlife conservation. Every legislator is given a score from 0 to 100, and a mean legislator score is then published for both the House and Senate. The score used in the analysis was the mean score of both houses of Congress for each state in 2009. The state of the firm's headquarters was used in the analysis. Data availability constraints prevented the use of alternative metrics, such as a weighted average state score based on revenues obtained from residents or businesses in each state. Given the importance of maintaining legitimacy within the state in which the firm is headquartered, headquarters location constitutes an appropriate operationalization.

The National Environmental Scorecard has been used in previous management research as a measure of political pressure at the state level (Delmas & Toffel, 2008; Kassinis & Vafeas, 2002). Given that the scorecard is based on federal-level votes, however, other potential measures of a state's general level of environmentalism were considered. Therefore, the model was also run using online directory Greenopia's 2011 state sustainability ratings (based on water and air quality, recycling rates, number of LEED buildings, green business density, per

capita energy and water consumption, per-capita emissions and waste generation, and renewable energy statistics) and *Forbes*'s 2007 (the only year in which *Forbes* conducted the ratings) America's Greenest States ratings (based on water and air quality, carbon footprint, policy initiatives, hazardous waste management, and energy consumption). Finding no significant difference in results among the alternatives, I retained the National Environmental Scorecard as the data source most commonly used in prior research.

To operationalize industry stability, I used industry dynamism, calculated by regressing time against industry sales for five years (2005–2009), in the manner suggested by Dean and Snell (1996). I divided the standard error of the resulting regression slope coefficient by the mean value for sales to arrive at the value for industry dynamism. Industry sales data used to calculate dynamism was secured from Compustat. Dynamism is a commonly accepted measure of industry stability and has been widely used in management research (Dess & Beard, 1984; Lepak et al., 2003; McNamara et al., 2003).

Consistent with prior scholars' operationalization of firm size (e.g., Baysinger et al., 1991; Tallman and Li, 1996), I used firm sales, drawn from Compustat for the year 2009, as a proxy for firm size. Finally, constituent power was operationalized by segmenting each firm according to whether it sold any amount of goods or services to consumers. Company websites and 10-K filings were reviewed for indications that any products or services could be purchased by consumers. Following Haddock-Fraser and Tourelle (2010), firms selling any goods or services to consumers received a value of 1, while those selling exclusively to other businesses received a value of 0. While the percentage of revenues obtained from consumers relative to businesses would have enabled a more precise metric, differences in company reporting conventions prevented these data from being obtained.

Control Variables

The effect of potential confounding variables was also considered. Given the potential for leverage, firm profitability, and firm age to impact adoption, I operationalized each as a control variable. Leverage was operationalized as the ratio of long-term debt to total assets as of year-end 2009. Profitability was operationalized using year 2009 return on assets (ROA), return on equity (ROE), and return on sales (ROS). I measured firm age using the number of years since incorporation as of year-end 2009. Information for control variables was drawn from Mergent Online and Compustat, using year-end 2009 data.

Analysis

Consistent with previous analyses of adoption of environmental reporting practices (Reid & Toffel, 2009), I used logistic regression to test the hypotheses. In models with a dichotomous dependent variable, such as this article's, logistic regression is warranted.

RESULTS

Table 2 presents descriptive statistics and correlations for the sample, and Table 3 displays the results of the logistic regression analysis. The model was significant, with a chi-squared statistic of 48.9 ($p < .01$). Hypothesis 1 predicted that organizations in more environmentally proactive states would be more likely to adopt sustainable practices. Results indicate that state was not significant, thus offering no support for Hypothesis 1. Hypothesis 2 predicted that organizations in industries marked by greater stability would be less likely to adopt sustainable practices. Industry dynamism was not significant, providing no support for Hypothesis 2. Hence, neither of the hypotheses centering on determinant arguments was supported.

Hypothesis 3 argued that larger organizations would be more likely to adopt sustainable practices than smaller organizations.

Firm size was significant ($p < .05$), indicating support for the hypothesis. Finally, Hypothesis 4 contended that organizations perceiving greater power in constituents supportive of sustainable practices would be more likely to adopt sustainable practices. Perceived constituent power was significant ($p < .05$). Thus, each of the hypotheses based on interactive arguments was supported.

DISCUSSION AND CONCLUSION

Motivations for adoption of sustainable practices have been explored using two broad strands of institutional theory: determinant and interactive arguments. The goal of this study was to conduct an empirical test of both arguments to understand which strand of institutional theory may be more salient for corporate sustainability research. Thus, I developed two sets

TABLE 2
Descriptive statistics and correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1 GRI	.27	.45									
2 State	138.16	50.90	.02								
3 Industry	.02	.02	.02	-.15**							
4 Firm size	18,068	33,608	.18**	.05	.13*						
5 Constituents	.62	.49	.14**	.08	-.14**	.17**					
6 Leverage	.20	.14	.05	-.13*	-.05	-.06	.01				
7 ROE	.24	1.71	-.04	.07	-.04	-.02	-.04	.11*			
8 ROA	.05	.06	.09	.13*	-.26**	.01	.12*	-.21**	.17**		
9 ROS	.07	.11	.09	.19**	-.15**	-.05	.14**	-.21**	.09	.67**	
10 Firm age	49.40	35.69	-.25**	.11*	-.07	.15**	-.03	.07	.04	.06	-.01

Note. $N = 391$.
* $p < .05$. ** $p < .01$.

TABLE 3
Logistic regression results for GRI adoption

Variable	Coefficient	Standard error	Significance	Odds ratio
State	-.001	.003	.693	.999
Industry	6.158	5.473	.261	472.381
Firm size	.000*	.000	.035	1.000
Constituents	.564*	.272	.038	1.757
Leverage	1.452	.950	.126	4.273
ROE	-.608	.518	.240	.544
ROA	19.479	23.819	.413	2.880
ROS	2.410	1.636	.141	11.136
Firm age	.015**	.003	.000	1.015
Constant	-2.846**	.550	.000	.058

Pseudo- $R^2 = .170$
 $\chi^2 = 48.90$ **

Note. $N = 391$.
* $p < .05$. ** $p < .01$.

of competing hypotheses. The first two hypotheses, invoking determinant arguments centered on variation *between* organizational fields, argued that adoption of sustainable practices would be more likely among firms in more environmentally proactive states and less likely among firms in industries with greater stability. The second two hypotheses, developed through interactive arguments for variation *within* organizational fields, suggested that adoption would be more likely among larger firms and more likely among firms that perceive greater power in constituents who promote sustainable practices.

The results of my analysis revealed no support for the hypotheses built on determinant arguments, but strong support for the hypotheses grounded in interactive arguments. Thus, the results of the analysis suggest a significant difference between the explanatory power of the two strands of institutional theory. In summary, interactive arguments better predicted institutional behavior than determinant arguments.

This study offers implications for scholars, practitioners, and policymakers. For scholars, the support for interactive arguments suggests that institutional theory's move from determinant to interactive arguments is empirically justified. Although studies of firms based outside the United States may find greater support for the determinant strand of institutional theory, researchers seeking to explain the adoption of sustainable practices among U.S. firms would be well advised to focus on interactive arguments. Frameworks such as Oliver's (1991) may prove especially useful for sustainability scholars.

From a theoretical standpoint, the article's finding that interactive, rather than determinant, arguments are supported reveals new opportunities for inquiry. A particularly promising area for future research might examine the role of strategic cognition in creating variation within organizational fields. Strategic cognition concerns the relationship between cognitive structures—including top management's beliefs with respect to strategy and the organizational environment—and decision processes in strategic management (Porac & Thomas, 2002). A recent review of strategic cognition literature finds that scholars have examined strategic cognition at the individual, group, organizational, and industry levels of analysis (Narayanan et al., 2011). A potential future study at the individual level of analysis could explore the role of the top manager's cognitive structures in influencing responses to pressures to adopt sustainable practices. Empirical studies in this regard might seek to build on earlier work utilizing causal mapping (e.g., Barr et al., 1992). A logical extension of such studies would examine the effectiveness of various types of responses by constructing links to organizational performance.

Practitioners may benefit from this study's findings by recognizing the circumstances in which it is most advantageous to adopt sustainable practices. Pressures to adopt sustainable practices will increase as a firm's visibility increases. As organizations grow or become increasingly consumer oriented, their rising visibility heightens expectations for adoption. Firms that resist pressures for adoption may find themselves at a

competitive disadvantage, as unsatisfied stakeholder groups withdraw their support.

This article's findings suggest potential methods that policymakers may use to encourage voluntary adoption of sustainable practices. Given that state and industry were not significant, policymakers may wish to reflect on the role that visibility plays in encouraging adoption. Size and consumer orientation are two measures of visibility that policymakers are unable to impact. Media attention, however, is a measure of visibility that policymakers can influence. Policymakers can either seek to reward adopters by disseminating lists of adopters to key media outlets, or can conversely punish nonadopters by conveying which companies have chosen not to adopt certain environmentally sustainable practices. Governments have an important role, in concert with the media, in focusing public attention in such a manner.

This article's scope, limited to an examination of corporate sustainability from the theoretical lens of institutional theory, constitutes a limitation of this research. The objective of an in-depth focus on institutional theory precluded a consideration of strategic management scholarship. In addition, a cross-sectional design was employed. Future research should incorporate longitudinal designs in evaluations of the adoption of sustainable practices. Finally, only publicly available data were used in the analysis. I hope to supplement these initial findings with interviews and surveys in future work.

During the past few decades, institutional theory has shifted from determinant to interactive arguments. Sustainability scholarship has reflected this shift. In this article, I considered whether this change has, in fact, been warranted. The results of my analysis illustrate the limitations of the determinant strand of institutional theory. Future research should seek to extend interactive arguments and, in so doing, facilitate a more comprehensive understanding of issues of interests and agency in institutionalization.

REFERENCES

- Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management Journal*, 47(1), 93–103.
- Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43(4), 717–736.
- Barnett, M. L., & King, A. A. (2008). Good fences make good neighbors: An institutional explanation of industry self-regulation. *Academy of Management Journal*, 51(6), 1150–1170.
- Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992). Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal*, 1992(Summer Special Issue), 15–36.
- Baysinger, B. D., Kosnik, R. D., & Turk, T. A. (1991). Effects of board and ownership structure on corporate R&D strategy. *Academy of Management Journal*, 34(1), 205–214.
- Berger, P. L., & Luckmann, T. (1967). *The social construction of reality*. New York, NY: Doubleday.
- Boiral, O. (2007). Corporate greening through ISO 14001: A rational myth? *Organization Science*, 18(1), 127–146.
- Bowen, F. E. (2000). Environmental visibility: A trigger of green organizational response? *Business Strategy and the Environment*, 9(2), 92–107.

- Brown, H. S., de Jong, M., & Lessidrenska, T. (2009). The rise of the Global Reporting Initiative: A case of institutional entrepreneurship. *Environmental Politics*, 18(2), 182–200.
- Capstrat. (2009, July 24). *Poll shows commitment to sustainability still important to consumers*. Retrieved from <http://www.capstrat.com/insights/articles/poll-shows-commitment-to-sustainability-still-important-to-consumers>.
- Chandler, A. D. (1962). *Strategy and structure: Chapters in the history of the industrial enterprise*. Cambridge, MA: MIT Press.
- Dean, J. W., & Snell, S. A. (1996). The strategic use of integrated manufacturing: An empirical examination. *Strategic Management Journal*, 17(6), 459–471.
- Delmas, M. A. (2002). The diffusion of environmental management standards in Europe and in the United States: An institutional perspective. *Policy Sciences*, 35(1), 91–119.
- Delmas, M. A., & Toffel, M. W. (2004). Stakeholders and environmental management practices: An institutional framework. *Business Strategy and the Environment*, 13(4), 209–222.
- Delmas, M. A., & Toffel, M. W. (2008). Organizational responses to environmental demands: Opening the black box. *Strategic Management Journal*, 29(10), 1027–1055.
- Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 29(1), 52–73.
- DiMaggio, P. J. (1988). Interest and agency in institutional theory. In L. Zucker (Ed.), *Institutional patterns and organizations: Culture and environment* (pp. 3–21). Cambridge, MA: Ballinger.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160.
- Enkvist, P., Naucler, T., & Oppenheim, J. (2008). Business strategies for climate change. *McKinsey Quarterly*, 2, 24–33.
- Fairfield, K. D., Harmon, J., & Behson, S. J. (2011). Influences on the organizational implementation of sustainability: An integrative model. *Organization Management Journal*, 8, 4–20. doi:10.1057/omj.2011.3
- Haddock-Fraser, J. E., and Tourelle, M. (2010). Corporate motivations for environmental sustainable development: Exploring the role of consumers in stakeholder engagement. *Business Strategy and the Environment*, 19(8), 527–542.
- Hamilton, J. T. (1997). Taxes, torts, and the toxics release inventory: Congressional voting on instruments to control pollution. *Economic Inquiry*, 35(4), 745–762.
- Harris Interactive. (2009). *How green are we? Putting our money (and our behavior) where our mouth is*. Retrieved from <http://www.harrisinteractive.com/vault/Harris-Interactive-Poll-Research-Going-Green-2009-10.pdf>
- Hayward, M. L. A., & Boeker, W. (1998). Power and conflicts of interest in professional firms: Evidence from investment banking. *Administrative Science Quarterly*, 43(1), 1–22.
- Hoffman, A. J. (1999). Institutional evolution and change: Environmentalism and the U.S. chemical industry. *Academy of Management Journal*, 42(4), 351–371.
- International Organization for Standardization. (2009). *The ISO survey of certifications 2008*. Geneva, Switzerland: Author.
- Jiang, R. J., & Bansal, P. (2003). Seeing the need for ISO 14001. *Journal of Management Studies*, 40(4), 1047–1067.
- Kassinis, G., & Vafeas, N. (2002). Corporate boards and outside stakeholders as determinants of environmental litigation. *Strategic Management Journal*, 23(5), 399–415.
- King, A. A., & Lenox, M. J. (2000). Industry self-regulation without sanctions: The chemical industry's responsible care program. *Academy of Management Journal*, 43(4), 698–716.
- King, A. A., & Lenox, M. J. (2001). Lean and green? An empirical examination of the relationship between lean production and environmental performance. *Production and Operations Management*, 10(3), 244–256.
- King, A. A., Lenox, M. J., & Terlaak, A. (2005). The strategic use of decentralized institutions: Exploring certification with the ISO 14001 management standard. *Academy of Management Journal*, 48(6), 1091–1106.
- Kolk, A., & Perego, P. (2010). Determinants of the adoption of sustainability assurance statements: An international investigation. *Business Strategy and the Environment*, 19(3), 182–198.
- Lash, J., & Wellington, F. (2007). Competitive advantage on a warming planet. *Harvard Business Review*, 85(3), 94–103.
- Lenox, M. J. (2006). The role of private decentralized institutions in sustaining industry self-regulation. *Organization Science*, 17(6), 677–690.
- Lenox, M. J., & Nash, J. (2003). Industry self-regulation and adverse selection: A comparison across four trade association programs. *Business Strategy and the Environment*, 12(6), 343–356.
- Lepak, D. P., Takeuchi, R., & Snell, S. A. (2003). Employment flexibility and firm performance: Examining the interaction effects of employment mode, environmental dynamism, and technological intensity. *Journal of Management*, 29(5), 681–703.
- McNamara, G., Vaaler, P. M., & Devers, C. (2003). Same as it ever was: The search for evidence of increasing hypercompetition. *Strategic Management Journal*, 24(3), 261–278.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.
- Miles, R. E., & Snow, C. C. (1978). *Organizational strategy, structure, and process*. New York, NY: McGraw-Hill.
- Mizuchi, M. S., & Fein, L. C. (1999). The social construction of organizational knowledge: A study of the uses of coercive, mimetic, and normative isomorphism. *Administrative Science Quarterly*, 44(4), 653–683.
- Narayanan, V. K., Zane, L. J., & Kemmer, B. (2011). The cognitive perspective in strategy: An integrative review. *Journal of Management*, 37(1), 305–351.
- Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*, 16(1), 145–179.
- Pfeffer, J., & Salancik, G. (1978). *The external control of organizations*. New York, NY: Harper & Row.
- Porac, J. F., & Thomas, H. (2002). Managing cognition and strategy: Issues, trends and future directions. In A. Pettigrew, H. Thomas, & R. Whittington (Eds.), *Handbook of strategy and management* (pp. 165–181). London, UK: Sage.
- Rivera, J., & de Leon, P. (2004). Is greener whiter? Voluntary environmental performance of Western ski areas. *Policy Studies Journal*, 32(3), 417–437.
- Reid, E., & Toffel, M. (2009). Responding to public and private politics: Corporate disclosure of climate change strategies. *Strategic Management Journal*, 30(11), 1157–1178.
- Rogers, E. M. (2003). *Diffusion of innovations*. New York, NY: Free Press.
- Scott, W. R. (2008a). Approaching adulthood: The maturing of institutional theory. *Theory and Society*, 37(5), 427–442.
- Scott, W. R. (2008b). *Institutions and organizations: Ideas and interests*. Thousand Oaks, CA: Sage.
- Sharma, S., & Henriques, I. (2005). Stakeholder influences on sustainability practices in the Canadian forest products industry. *Strategic Management Journal*, 26(2), 159–180.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571–610.
- Tallman, S., & Li, J. (1996). Effects of international diversity and product diversity on the performance of multinational firms. *Academy of Management Journal*, 39(1), 179–196.
- Tolbert, P. S., & Zucker, L. G. (1983). Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880–1935. *Administrative Science Quarterly*, 28(1), 22–39.
- U.S. Green Building Council. (2009). *LEED 2009 for new construction and major renovations rating system*. Washington, DC: Author.
- Westphal, J. D., & Zajac, E. J. (1998). The symbolic management of stockholders: Corporate governance reforms and shareholder reactions. *Administrative Science Quarterly*, 43(1), 127–153.

- Westphal, J. D., & Zajac, E. J. (2001). Decoupling policy from practice: The case of stock repurchase programs. *Administrative Science Quarterly*, *46*(2), 202–228.
- Willis, A. (2003). The role of the Global Reporting Initiative's sustainability reporting guidelines in the social screening of investments. *Journal of Business Ethics*, *43*(3), 233–237.
- Zajac, E. J., & Westphal, J. D. (2004). The social construction of market value: Institutionalization and learning perspectives on stock market reactions. *American Sociological Review*, *69*(3), 433–457.
- Zucker, L. G. (1983). Organizations as institutions. In S. Bacharach (Ed.), *Research in the sociology of organizations* (Vol. 2, pp. 1–47). Greenwich, CT: JAI Press.

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