

**Linking Employee Stakeholders to Environmental Performance: The Role of Proactive
Environmental Strategies and Shared Vision**

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ABSTRACT

Drawing on the natural-resource-based view, we propose that employee stakeholder integration is linked to environmental performance through firms' proactive environmental strategies, and that this link is contingent on shared vision. We tested our model with a cross-country and multi-industry sample. In support of our theory, results revealed that firms' proactive environmental strategies translated employee stakeholder integration into environmental performance. This relationship was pronounced for high levels of shared vision. Our findings demonstrate that shared vision represents a key condition for advancing the corporate greening agenda through proactive environmental strategies. We discuss implications for the CSR and environmental management literatures, with a particular focus on the natural-resource-based view and stakeholder integration debates.

Keywords: Corporate Social Responsibility (CSR); Employee Stakeholders; Environmental Management; Environmental Performance; Natural-Resource-Based View (NRBV); Organisations and the Natural Environment (ONE); Proactive Environmental Strategies (PES); Shared Vision; Stakeholder Integration

Introduction

The natural-resource-based view (NRBV) of the firm (Hart, 1995) views stakeholder integration (Sharma and Vredenburg, 1998) as a *sine qua non* of proactive environmental management. Because stakeholders substantially affect the extent of firms' environmental proactivity (González-Benito and González-Benito, 2006), the integration of stakeholders' interests is essential for a firm's proactive environmental management (Rueda-Manzanares *et al.*, 2008). Yet not all stakeholders are equally influential in determining firms' environmental proactivity. In this paper, we focus explicitly on employees. This is because employees assume centre-stage for the successful implementation of environmental strategies—irrespective of the particular context in which organisations operate. In particular, we contribute to the CSR and NRBV literatures by examining how integrating employees' environmental stakes may affect firms' environmental strategy and environmental performance.

Environmental performance not only serves to foster social legitimacy; it is also a source of competitive advantage, because it increases efficiency, stimulates innovation, and increases the organisation's attractiveness for high potentials (Hart, 1995, Kassinis and Vafeas, 2006; King and Lenox, 2002; Russo and Fouts, 1997). Employees likely contribute substantially to the adoption of proactive environmental strategies, which in turn may improve a firm's environmental performance (Darnall *et al.*, 2010). Furthermore, employees with environmental stakes often provide information and generate ideas that can help firms to tackle environmental management challenges and to innovate (Ramus, 2001). For example, the Co-operative, a food retailer in the UK, has cut its energy use by 41% and saved 50 million GBP a year since 2006, by means of both energy-saving training in store and staff suggestions (Earley, 2013a). In another case, B&Q, the British DIY retailer, increased its waste recycling from 64% in 2006 to 90% in 2012, thanks to a staff education programme

(Earley, 2013b). In fact, employees have been previously linked to both the development of environmental strategies (e.g., Florida, 1996; Darnall *et al.*, 2008a; Kitazawa and Sarkis, 2000; Zutshi and Sohal, 2004) and to environmental performance (e.g., Hanna *et al.*, 2000). However, this prior research has overlooked two important aspects.

First, the mechanisms of how employees affect environmental performance remain to be understood. Current research suggests that stakeholders could either affect environmental performance directly, or through environmental strategy mechanisms (cf. Wagner, 2001). Either would have different implications for our understanding of how firms should best integrate employee interests for environmental performance. Without a proper understanding of the mechanisms that convey employee influences, managers are unable to derive appropriate strategies for enhancing environmental performance. Hence, the question of whether and how employee stakeholder integration translates into environmental improvements remains unclear (Chan, 2005; Harvey and Schaefer, 2001).

Second, the effective development of proactive environmental strategies may also depend on the assimilation of other organisational capabilities (Delgado-Ceballos *et al.*, 2012). Of particular importance for firms' greening may be the extent to which management shares a common vision with employees (Aragón-Correa *et al.*, 2008; Hart, 1995; Torugsa *et al.*, 2012). By developing a shared vision capability (Senge, 1990), managers can give meaning to employees' everyday work activities (Real *et al.*, 2012), and energise them to commit to newly adopted strategies (García-Morales *et al.*, 2011). Because proactive environmental strategies usually prompt innovation and change, it is necessary that organisational members converge towards long-term goals that will lead to an effective pursuit of firms' objectives. Hence, the effective deployment of these strategies might depend on the existence of a shared vision among managers and employees (Collier *et al.*, 2004; Pearce and Ensley, 2004).

In order to address the aforementioned gaps, we develop and test a model where the effect of employee stakeholder integration on firms' environmental performance is transmitted via environmental strategies; and where this effect is intensified by shared vision. In order to achieve high levels of generalisability, we test our model in a diverse sample of multiple industries and countries (cf. Darnall *et al.*, 2010).

At a more general level, we reinvigorate CSR and NRBV discussions by addressing environmental performance as a key alternative outcome variable to financial performance. When Hart (1995) proposed the NRBV, he suggested that firms could improve both their financial and environmental performance depending on the development and exploitation of a range of capabilities. Although financial performance outcomes have been largely explored in the organisations and the natural environment (ONE) and CSR literatures (e.g., Christmann, 2000; Cordeiro and Sarkis 1997; Darnall and Edwards, 2006; Kassinis and Soteriou, 2003; King and Lenox, 2002; Russo and Fouts, 1997), how capabilities combine to affect environmental performance remains a key area for inquiry (Hart and Dowell, 2011)—especially in light of escalating sustainable development targets (WWF Living Planet Report, 2012). The 'pay to be green' (Berchicci and King, 2007) question may still not have definitive answers (Aragón-Correa and Rubio-López, 2007), however we believe that CSR and NRBV research might as well fruitfully contribute to the 'how to be green' question.

This paper develops as follows. We first present a theoretical framework of how employee stakeholder integration, proactive environmental strategies, environmental performance, and shared vision, are interrelated, leading to the development of our hypotheses. We then test our hypotheses with a cross-country and multi-industry sample of 170 firms. We conclude by offering implications to both CSR and NRBV theory and practice. Figure 1 summarises our hypotheses and serves as a roadmap for the remainder of this paper.

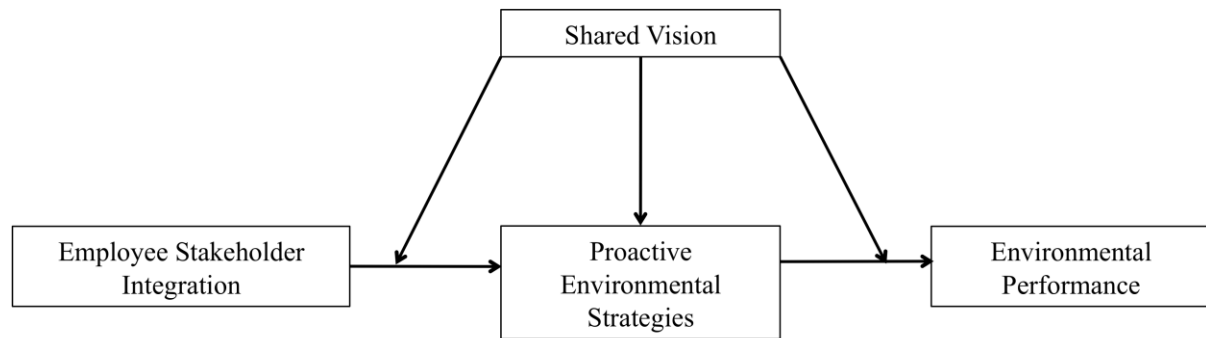


Figure 1. Research model

Theory and hypotheses

Employee stakeholder integration and proactive environmental strategies

Sharma and Vredenburg defined stakeholder integration as “the ability to establish trust-based collaborative relationships with a wide variety of stakeholders” (1998, p. 735). In their study of firms in the Canadian oil and gas industry, the authors found that stakeholder integration was linked not only to product stewardship, as suggested by Hart (1995), but to a variety of proactive environmental strategies (e.g., Aragón-Correa *et al.*, 2008; Buysse and Verbeke, 2003; Darnall *et al.*, 2010; Delgado-Ceballos *et al.*, 2012; Delmas and Toffel, 2008; Harvey and Schaefer, 2001; Henriques and Sadorsky, 1996, 1999; Rueda-Manzanares *et al.*, 2008; Sharma and Henriques, 2005). However, the literature is inconclusive regarding which stakeholders matter the most for the development of proactive environmental strategies. Henriques and Sadorsky (1996), for example, found that regulators, local communities, shareholders, and customers primarily affected the development of environmental strategies. In contrast, Buysse and Verbeke (2003) found that primary internal stakeholders (i.e., shareholders, financial institutions, and employees) mattered the most. All in all, the importance of different stakeholder groups appears to vary according to context (Rueda-Manzanares *et al.*, 2008), and managerial perceptions of stakeholder salience, i.e. “the degree to which managers give priority to competing stakeholder claims” (Mitchell *et al.*, 1997, p. 854).

Nonetheless, a number of authors highlight the importance of primary stakeholders for proactive environmental management. Agle *et al.* (1999, p. 520), for example, found that “the salience of stakeholders that are part of the traditional production function view of the firm – shareholders, employees, and customers... – is higher than that of stakeholders that are part of the expanded stakeholder view of the firm: governments and communities”. Similarly, Henriques and Sadorsky (1999) found that environmentally proactive companies attributed great importance to ‘organisational stakeholders’ (employees, suppliers, and top managers). Primary stakeholders have economic stakes in their organisations (Donaldson and Preston, 1995), and may include both value chain participants and internal stakeholders (Darnall *et al.*, 2010). Relationships between firms and primary stakeholders are formal, and as such are necessary for firms’ survival (Buysse and Verbeke, 2003; Clarkson, 1995; Hill and Jones, 1992). As pointed by Buzzelli (1991), primary stakeholders are determinant for the success of environmental strategies.

Among primary stakeholders, employees have a ‘peculiar’ role (Crane and Matten, 2004), as they contribute to organisations in the most essential ways (Greenwood, 2007). The relationship between firms and employees is characterised by high resource interdependence (Frooman, 1999; Pfeffer and Salancik, 1978), i.e. firms depend on employees, and employees depend on firms. Because of this resource interdependence, employees attempting to influence firms’ strategies will emphasise collaboration over conflict (e.g., employee suggestions), as maintaining their jobs is often desired (Frooman, 1999; Sharma and Henriques, 2005). Thus, employees are in an ideal position to establish the ‘trust-based collaborative relationships’ with managers mentioned by Sharma and Vredenburg (1998). The proximity to managers contributes to the relatively high salience of employees as environmental stakeholders (Greenwood, 2007; Mitchell *et al.*, 1997). In addition, employees are not only stakeholders but also resources of firms (Crane and Matten, 2004; Greenwood,

2007), providing “a vital resource for the successful running of the organisation in the form of their labour and human capital” (Neville and Menguc, 2006, p. 383).

As firms become more environmentally proactive, the involvement of employees becomes imperative to the solution of environmental problems and the development of green competencies (Andersson and Bateman, 2000; Buysse and Verbeke, 2003; Chan, 2005; Hart, 1995; Ramus and Steger, 2000; Sharma and Vredenburg, 1998). This is because environmental management must be “a pervasive organisational philosophy where *all* individuals are involved in greening the company” (Sarkis *et al.*, 2010, p. 163; italics added). Employees often initiate and assume responsibilities for environmental management activities, and in many instances possess unique knowledge of their firms, which may enable them to support firms towards environmental improvements (Boiral, 2002; Sarkis *et al.*, 2010; Wolf, 2013). As pointed out by Delgado-Ceballos *et al.* (2012), one of the most significant barriers to the success of proactive environmental strategies is a lack of both environmental awareness and environmental values among employees, even more than the lack of financial resources (Hillary, 2004). Furthermore, although the integration of other groups of stakeholders may also contribute significantly to the development of proactive environmental strategies (Hart, 1995), little advancement can be achieved without employee involvement (Delgado-Ceballos *et al.*, 2012). Thus, the integration of employee stakeholders assumes a central role for firms to grasp valuable opportunities for developing green competencies (Buysse and Verbeke, 2003; Delmas, 2001).

The importance of employees for the development of proactive environmental strategies is well established in the literature. In previous studies, employee commitment and involvement were associated with the adoption of environmental management systems (Darnall *et al.*, 2008a; Zutshi and Sohal, 2004), green design (Florida, 1996), waste reduction programmes (Kitazawa and Sarkis, 2000), and business redefinition sustainability practices

(Sharma and Henriques, 2005). Likewise, prior research also identified employees' contributions to improvements in environmental performance (Boiral, 2005; Bunge *et al.*, 1996; Hanna *et al.*, 2000; Rothenberg, 2003; Ruiz-Quintanilla *et al.*, 1996). In this paper, we argue that such contribution is enabled by proactive environmental strategy mechanisms. Thus, if employee stakeholder integration contributes to the development of proactive environmental strategies, it might as well indirectly contribute to improvements in firms' environmental performance. As previous research has shown, the level of integration of environmental issues into firms' strategic planning processes, or the adoption of environmental strategies, is a strong predictor of positive environmental performance (Anton *et al.*, 2004; Chan, 2005; Judge and Douglas, 1998).

In sum, the previous discussion suggests that the capability of integrating employee stakeholders will be positively associated to the adoption of proactive environmental strategies, which in turn will be positively associated to firms' environmental performance. Moreover, we propose that proactive environmental strategies are the mechanisms that translate employee stakeholder integration into firms' environmental performance.

Hypothesis 1: A capability of integrating employee stakeholders will be positively associated with a firm's proactive environmental strategies.

Hypothesis 2: A firm's proactive environmental strategies will be positively associated with its environmental performance.

Hypothesis 3: A firm's proactive environmental strategies will mediate the relationship between employee stakeholder integration and environmental performance.

Shared vision and corporate greening

A shared vision capability (Senge, 1990) exists when managers communicate firms' goals to members, sharing the responsibility for the achievement of organisational objectives (Aragón-Correa *et al.*, 2008; Lindley and Wheeler, 2000). A shared vision capability

provides a basis for action (Pearce and Ensley, 2004) within the organisation ensuring convergence towards long-term goals. If managers fail to share their goals, visions may become purely rhetorical (Coulson-Thomas, 1992), resulting in “disillusionment and distrust instead of inspiration and motivation” (Oswald *et al.*, 1994, p. 479).

According to the NRBV, a shared vision capability can help firms focus and accelerate capability building in environmental management (Hart, 1995). To date, a few studies have evidenced a positive association between shared vision and the adoption of proactive environmental strategies (e.g., Aragón-Correa *et al.*, 2008; Torugsa *et al.*, 2012). However, we argue that the role of shared vision extends beyond contributing to the development of proactive environmental strategies.

Because shared vision provides norms for behaviours and guidance for the type of knowledge that employees should pursue (Slater and Naver, 1995), it can intensify the extent to which employees’ environmental stakes contribute to the development of firms’ environmental strategies. When organisations are guided by a shared vision, employees may view their contributions as meaningful (Oswald *et al.*, 1994), and thus feel more comfortable to express their thoughts (García-Morales *et al.*, 2011) regarding potential environmental improvements.

Environmentally proactive companies communicate their long-term goals to employees (Henriques and Sadorsky, 1999), and assuming these goals emphasise corporate greening, performance improvements may be expected (Collier *et al.*, 2004). Once environmental strategies are developed, the extent to which these strategies will lead to environmental performance improvements will depend on the existence of a shared vision among managers and employees as well, particularly because environmental strategies require intensive employee involvement (Hart, 1995).

Proactive environmental strategies entail innovation and change, which may not be welcomed or viewed as necessarily significant by all internal stakeholders (Delgado-Ceballos *et al.*, 2012; Fineman and Clarke, 1996). Interpretations of strategies may diverge across organisational levels, due to function ‘myopia’ (Sinkula *et al.*, 1997), departmental differences (Brown and Eisenhardt, 1995), or diversity of interests among managers and employees (Calantone *et al.*, 2002). In such cases, strategy implementation may be undermined, limiting firms’ responses to environmental shocks or market trends (Sinkula *et al.*, 1997). A shared vision capability can provide goal clarity by mitigating ambiguities and conflicting interests (Jansen *et al.*, 2008; Lindley and Wheeler, 2000), giving meaning to new tasks (Real *et al.*, 2012), and coordinating the focus of departments and teams (Calantone *et al.*, 2002; García-Morales *et al.*, 2011). Thus, a shared vision capability can be crucial in generating both the internal pressure and the enthusiasm necessary for the successful implementation of proactive environmental strategies (Hart, 1995).

Following the above discussion, we expect that a shared vision capability will be not only positively associated to proactive environmental strategies, but also intensify both the relationship between employee stakeholder integration and proactive environmental strategies, and the relationship between proactive environmental strategies and environmental performance. Likewise, we expect that the positive indirect effect of employee stakeholder integration on environmental performance will be conditional on the levels of shared vision displayed by firms.

Hypothesis 4a: A shared vision capability will be positively associated with a firm’s proactive environmental strategies.

Hypothesis 4b: The greater a firm’s shared vision, the stronger the positive effect between employee stakeholder integration and proactive environmental strategies.

Hypothesis 4c: The greater a firm's shared vision, the stronger the positive effect between proactive environmental strategies and environmental performance.

Hypothesis 4d: Shared vision will moderate the positive and indirect effect of employee stakeholder integration on a firm's environmental performance (through proactive environmental strategies). Specifically, a firm's proactive environmental strategies will mediate the indirect effect when shared vision levels are high but not when they are low.

Method

Participants and procedures

We tested our hypotheses using an online survey directed at CSR, environmental, and sustainability managers and directors. We targeted key respondents in these corporate positions because they are directly involved in the adoption of environmental strategies and in efforts to enhance environmental performance in general (Winn and Angell, 2000). In addition, these individuals may provide valuable assessments of the other variables included in our study, as the strategic nature of such positions usually requires a high level of cross-functional integration.

The study population was drawn from a global directory of corporate non-financial reporting (CorporateRegister.com), as reporting firms generally have managers and directors in formal CSR, environmental, and sustainability functions. In April 2009, the directory contained reports from 5216 firms in a wide range of countries and industries. After excluding industries that were not relevant for the purpose of our study (government agencies, NGOs, consultancy firms), we searched for CSR, environmental, and sustainability managers and directors email addresses in 4216 corporate reports from 2006-2009. We also searched for managers' contacts in firms' websites when the information was not disclosed in any report. 1921 firms disclosed their electronic contacts and thus formed our initial target population. Messages containing a short description of the research project and a link to a

web page where the survey was posted were sent to firms in June 2009. Social desirability bias was mitigated by ensuring respondents that no answers would be attributable to individuals or organisations, and by the use of self-administered questionnaires. Specifically, Paulhus (1984, p. 605) suggests that “under anonymous conditions, subjects are expected to give relatively honest self-reports”, and Nederhof (1985, p. 272) suggests that self-administered questionnaires reduce “the salience of social cues by isolating the subject”.

To enhance participation, we committed to sending an executive summary containing the main findings of the study after completion. 344 emails failed to be delivered due to unknown users, server refusal or deletion, reducing our target population to 1577 firms. After sending 3 reminders for potential participants, we ended data collection in October 2009 with 196 answers and a response rate of 12.40%. Incomplete and irrelevant answers were deleted, and 170 firms accounted for our final data set. Although our response rate could be considered relatively low, it is comparable to other studies in the ONE field (13.00% response rate in Darnall *et al.*, 2008b; 11.20% in Delmas and Keller, 2005; and 10.30% in Melnyk *et al.*, 2003).

Sample characteristics are described in Table 1. Respondents had an average job tenure of 12 years (s.d. = 10.02), and 9.98 years of work experience in the field (s.d. = 9.32). They represented firms distributed across ten different industries (according to the Industry Classification Benchmark, Dow Jones Indexes and FTSE) and 38 countries, mainly advanced economies as defined by the International Monetary Fund. Specifically, firms were concentrated in Europe, consistent with the fact that most of the current reporting firms are European, and European firms are the ones that most disclose their CSR, environmental, and sustainability department contact details. The majority of firms were large (> 1000 employees).

In order to address the potential limitations of our survey data, we checked for the existence of non-response bias and common method variance. Non-response bias was tested based on Armstrong and Overton's (1977) extrapolation method, which assumes that non-respondents are similar to late respondents, i.e. "persons who respond in later waves" (p. 397) of a questionnaire. By splitting our sample into early and late respondent groups, we compared the sample means for each of our variables across groups. The *t*-tests revealed no significant differences between groups (*p* values ranged between .14 and .96), suggesting that non-response bias does not pose a threat to our study. Common method variance was assessed through a Harman's one factor test (Podsakoff and Organ, 1986). No single factor emerged from the exploratory principal component analysis and all surveyed items were related to the intended factors, suggesting that common method variance is unlikely to be a serious problem in our data set. Furthermore, previous studies demonstrated through both analytical derivation and Monte-Carlo simulations that interaction effects (central in our study) are not the result of methodological artefacts created by common method variance (Evans, 1985; Siemsen *et al.*, 2010).

Table 1 about here

Measure for employee stakeholder integration

We assessed employee stakeholder integration by using Sharma and Henriques' (2005) scale, selecting the items that were specifically related to employees (3 items, $\alpha = .81$, item example: 'Individual employee suggestions'). We asked respondents to rate to what extent the actions of employees were important in shaping their firms' environmental practices (from 1 = No impact to 7 = Complete influence).

Measure for proactive environmental strategies (PES)

We measured the degree of implementation of PES in sampled firms by using Aragón-Correa's (1998) scale. Respondents were asked to rate the development of

environmental management practices in their organisations (from 0 = We have not addressed this issue at all and have no plans to do so in the near future to 7 = We are the leaders on this in our sector). Similarly to Aragón-Correa *et al.* (2004) and Delgado-Ceballos *et al.* (2012), we measured PES as the arithmetical mean of the scores on each environmental management practice (10 items, $\alpha = .87$, item example: ‘Periodic natural environmental audits’).

Measure for environmental performance

We measured environmental performance by using Hubbard’s (2009) scale (5 items, $\alpha = .88$, item example: ‘Greenhouse gases emissions’), drawn from the Organisational Sustainability Performance Index. Managers and directors were asked to rate whether their firms’ current performance (2008/2009) on each indicator was better or worse than prior performance (2006/2007), using 7-point Likert scales (from 1 = Much worse to 7 = Much better). Although our original intention was to use corporate reports to assess environmental performance indicators, the heterogeneity of our sample implied significant industry differences in accounting conventions (Powell, 1995), and thus reports differed substantially in content. Nevertheless, the use of subjective perceptions of managers and directors to measure firm performance is widely accepted in the strategy and ONE literatures (e.g. Aragón-Correa *et al.*, 2008; Branzei *et al.*, 2004; Clemens, 2006; Chan, 2005; Judge and Douglas, 1998; Sharma and Vredenburg, 1998).

Measure for shared vision

We measured shared vision by using Aragón-Correa *et al.* (2008) shared vision scale (3 items, $\alpha = .81$, item example: ‘Everybody working here influences the way to work and the objectives of the firm’). Respondents were asked to rate their extent of agreement with each statement concerning their firms’ shared vision (from 1 = Strongly disagree to 7 = Strongly agree).

Control variables

Profitable firms are more likely to invest in environmental management improvements that might impact environmental performance (Ambec and Lanoie, 2008; Bansal, 2005; Ortiz-de-Mandojana *et al.*, 2012). Therefore, we controlled for financial performance with Judge and Douglas' (1998) 4-item scale ($\alpha = .90$, item example: 'Return on investment'). Considering the multi-industry nature of our sample, respondents were asked to rate their organisations' performance in four categories relative to other firms in their specific industries. We also controlled for the integration of other groups of stakeholders, asking respondents to rate to what extent the actions of these groups were important in shaping their firms' environmental practices (from 1 = No impact to 7 = Complete influence). Specifically, we used Sharma and Henriques' (2005) scale, measuring environmental group stakeholder integration (5 items, $\alpha = .93$, item example: 'Environmental groups releasing reports to the media'), local community stakeholder integration (2 items, $\alpha = .94$, item example: 'Local community disruptions of operations'), and customer stakeholder integration (3 items, $\alpha = .91$, item example: 'Customer demand for information on corporate practices'). Additionally, we used dummy-coded variables to control for industry effects, size (measured as the number of employees according to three categories; see Table 1), and countries grouped according to development level (cf. Raines and Prakash, 2005), as defined by the International Monetary Fund.

Results

Table 2 displays correlations and descriptive statistics of the study variables. An examination of the correlations revealed that employee stakeholder integration was positively and significantly related to PES ($r = .38, p < .01$). Results also indicated that PES was positively and significantly related to environmental performance ($r = .33, p < .01$). As would be expected, shared vision was positively and significantly related to employee stakeholder

integration ($r = .46, p < .01$), PES ($r = .32, p < .01$), and environmental performance ($r = .29, p < .01$).

We conducted our analyses in two interlinked steps¹. First, we tested hypotheses 1-3, estimating a simple mediation model. Second, we entered the hypothesised shared vision main effect and interactions, and tested for conditional indirect effects (hypotheses 4a-4d). In both steps, we adopted analytical techniques proposed in Preacher and Hayes (2008) and Preacher *et al.* (2007).

Table 2 about here

Table 3 contains results for hypotheses 1-3. Prior to testing our mediation hypothesis, we tested Hypotheses 1 and 2. In support of Hypothesis 1, employee stakeholder integration was positively associated with firms' PES, as indicated by a significant unstandardised regression coefficient ($B = .47, t = 5.49, p < .001$). Also, in support of Hypothesis 2, the positive relationship between firms' PES and environmental performance was confirmed ($B = .18, t = 3.38, p = .001$).

Results for mediation hypothesis

Although the causal step procedure suggested by Baron and Kenny (1986) is still the most traditional approach to mediation analysis, the validity of the method is increasingly considered questionable, specifically regarding a) the necessity of establishing a significant total effect of the predictor variable on the criterion variable (i.e., step 1), and b) the use of descriptors such as complete and partial mediation (cf. MacKinnon *et al.*, 2000; Preacher and Kelley, 2011; Shrout and Bolger, 2002). A popular alternative to Baron and Kenny's method is the product-of-coefficients approach or Sobel test (Sobel, 1982, 1986), often used in conjunction with the former as a means of testing the significance of the mediation effect. However, both approaches are based on the assumption of normal sampling distribution, thus

being recommended only in large samples (MacKinnon *et al.*, 2002; Preacher and Hayes, 2004).

Bootstrapping, a nonparametric resampling method, has recently been advocated as a robust alternative to overcome these shortcomings, with the advantage of outperforming the Sobel and causal steps approaches in terms of power and control over Type I error rate (MacKinnon *et al.*, 2002; MacKinnon *et al.*, 2004). Specifically, the bootstrapping technique constructs confidence intervals (CI) for the indirect effect, and “for hypothesis testing, the null hypothesis of no indirect effect is rejected at the α level of significance if 0 lies outside the CI” (Preacher *et al.*, 2007, p. 191). In order to apply this method in both mediation and moderated mediation tests, we use Preacher and Hayes (2008) and Preacher *et al.* (2007) SPSS macros.

With regard to the mediation hypothesis, employee stakeholder integration had a positive indirect effect on environmental performance ($M = .07$). Bootstrapping tests demonstrated that PES mediated the relationship, with a 95% bias-corrected confidence interval (BCCI) around the indirect effect not containing zero (.04, .15). Thus, Hypothesis 3 was supported.

Table 3 about here

Results for shared vision hypotheses

Table 4 contains results for hypotheses 4a-4d. In support of Hypothesis 4a, shared vision was positively associated with firms' PES, as indicated by a significant unstandardised regression coefficient ($B = .18, t = 2.28, p = .024$).

Prior to testing moderation hypotheses, all measures were mean-centred in order to reduce multicollinearity (Aiken and West, 1991). Hypothesis 4b suggests that the positive relationship between employee stakeholder integration and firms' PES would be stronger for firms with high rather than low shared vision. Results indicated that the interaction term

between employee stakeholder integration and shared vision on PES was not significant ($B = .01, t = .13, p = ns$), therefore failing to support hypothesis 4b.

Similarly, hypothesis 4c suggests that the positive relationship between firms' PES and their environmental performance would be stronger for firms with high rather than low shared vision. Results indicated that the interaction term between PES and shared vision on environmental performance was significant ($B = 0.13, t = 2.38, p = .019$). To further inspect this interaction, we performed simple slopes analyses (Aiken and West, 1991; Hayes and Matthes, 2009). We evaluated the effects of PES on environmental performance for low (one standard deviation below the mean), medium (mean), and high (one standard deviation above the mean) levels of shared vision. Supporting hypothesis 4c, the regression slope was stronger for higher ($B = .35, t = 4.18, p < .001$) and medium ($B = .21, t = 3.45, p < .001$) levels of shared vision, in comparison to lower levels ($B = .08, t = 1.06, p = ns$). Figure 2 illustrates the interaction effect.

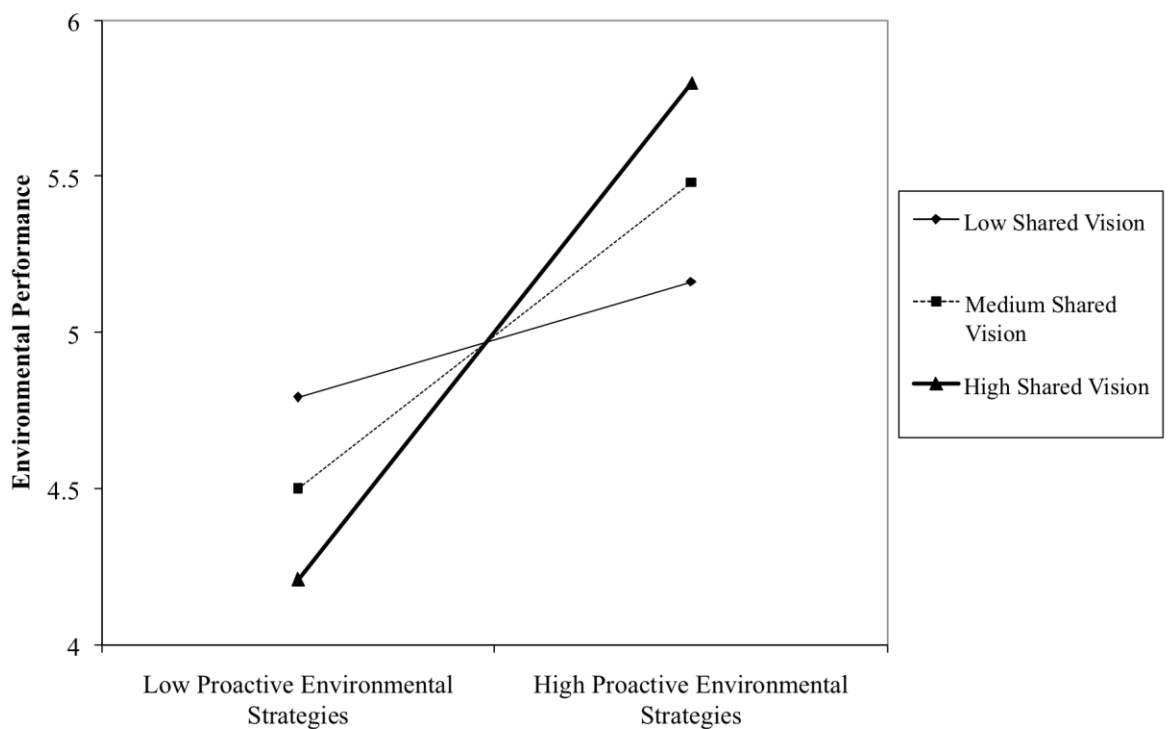


Figure 2. Shared vision as moderator of the relationship between proactive environmental strategies and environmental performance

Finally, in order to assess hypothesis 4d, we examined the conditional indirect effect of employee stakeholder integration on environmental performance through PES at three values of shared vision (see Table 4): the mean (0), one standard deviation above the mean (.1), and one standard deviation below the mean (−.1). Bootstrapping tests confirmed the conditional indirect effect with 95% BCCI around the indirect effect not containing zero for moderator values at the mean (.09, .34), and at 1 standard deviation above the mean (.18, .51). Thus, Hypothesis 4d was supported, such that the indirect and positive effect of employee stakeholder integration on environmental performance through PES was observed when levels of shared vision were moderate to high, but not when shared vision levels were low.

Table 4 about here

Discussion

In this paper we looked at if and how employee stakeholder integration may affect firms' environmental performance, contributing to both the greening and the stakeholder theory debates (Linnenluecke and Griffiths, 2013) in the CSR and environmental management literatures. More specifically, our study contributes to both the NRBV and the strategic dimension of stakeholder theory (Laplume *et al.*, 2008). Our results demonstrate the indirect effect of employee stakeholder integration on firms' environmental performance through PES in a multi-industry and cross-country sample, showing that employees can foster firms' environmental management in a variety of contexts. In doing that, we operationalised employee stakeholder integration as an aspect of noneconomic goals of employees (Sharma and Vredenburg, 1998)—in this case, the betterment of a firm's approach to the natural environment. Furthermore, by focusing on environmental performance improvements as our outcome variable, we contribute to shifting the focus of both the environmental CSR and the NRBV literatures from the 'pay to be green' (Berchicci and King, 2007) to the 'how to be

green' question, as suggested by previous calls for research (e.g., Bowen, 2007; de Bakker *et al.*, 2005). Finally, by testing our hypotheses in a cross-country setting of diverse firms, we offer results that expand the focus of research beyond North America (Lee, 2008), adding to the literature on international CSR research (Egri & Ralston, 2008).

Theoretical contributions

Our results contribute to the NRBV and the stakeholder integration literatures in several ways. By focusing exclusively on employees, we highlight their peculiar role as environmental stakeholders. By controlling for the integration of environmental groups, local communities, and customers, we showed that employee influences operated above and beyond the influences of other stakeholder groups. Interestingly, the overall means for these groups were comparable to the mean of employees, revealing that surveyed managers also deemed these stakeholders influential in shaping firms' environmental management. However, in line with our theoretical rationale, only employees had a positive and significant association with PES and environmental performance. A possible reason for that may be that managers find it easier to deal with employee influences than those of external stakeholders, due to familiarity and proximity (Tang *et al.*, 2012). In addition, firms that initially focus on internal stakeholders are able to develop capabilities and embed these in their routines before engaging external stakeholders effectively (Tang *et al.*, 2012). A second reason may be that employees draw on their unique knowledge of firms (Sarkis *et al.*, 2010; Wolf, 2013) to promote environmental improvements, which can be viewed as necessary for firms' survival. Finally, it is also possible that the stakeholder groups controlled for in our study have a more significant influence on different types of strategies. Banerjee *et al.* (2003), for example, found that public concern for the environment had a much stronger association with marketing strategies than with corporate strategies. Future research could address this

possibility in more detail in order to clarify strategic contributions of various stakeholder groups.

NRBV theory suggests that the impact of capabilities on performance variables is conveyed via adoption and deployment of environmental strategies (Hart, 1995). By examining the role of PES as a mechanism through which employee stakeholder integration is conveyed to environmental performance, we establish a link overlooked in previous studies. These findings suggest that the environmental suggestions and information provided by employees will only translate into environmental performance improvements if managers integrate these into firms' strategic planning and implementation.

Our results further suggest that shared vision not only contributes to PES, but also strengthens the direct relationship between PES and environmental performance, as well as the indirect relationship between employee stakeholder integration and environmental performance. These findings provide a new perspective on the role of vision as a core capability (Calantone *et al.*, 2002) in the corporate greening process. PES require "fluid communication across functions, departments, and organisational boundaries" (Hart, 1995, p. 1001), and no communication and engagement can be successfully achieved if managers do not share a vision with organisational members. Furthermore, the implementation of PES requires organisations to learn, and a shared vision capability provides a direction for successful learning, fostering purpose and commitment among internal stakeholders (Fahey and Prusak, 1998; García-Morales *et al.*, 2011; Sinkula *et al.*, 1997). Our results add to NRBV theory by highlighting that high levels of shared vision not only contribute to strategic renewal, but also intensify the benefits reaped from the capability of employee stakeholder integration.

Managerial implications

The perception of the importance of multiple stakeholder groups in shaping environmental practices will vary according to firm-specific and institutional factors (Buyse and Verbeke, 2003). However, our results confirm, alongside previous research (e.g., Florida, 1996; Darnall *et al.*, 2008a; Hanna *et al.*, 2000; Kitazawa and Sarkis, 2000; Zutshi and Sohal, 2004), that employees are a critical group of stakeholders to environmental management success. Moreover, their influence is strengthened in firms that display high levels of shared vision, and holds across different industries and countries.

These findings highlight the importance of investing in environmental training and development of employees (cf. Cantor *et al.*, 2012; Sarkis *et al.*, 2010), and of cultivating a culture of learning and information sharing across hierarchical levels. Employees might act in the interstices of their job descriptions, or adopt an intrapreneurial stance towards the intended change-making process (Brenneke and Spitzbeck, 2010), subject to diverse individual characteristics and organisational contexts. In order to maximise the cooperative potential of employees (Savage *et al.*, 1991) in furthering environmental strategies, middle and top-level managers play a critical role not only in enabling bottom-up communication, but also in supporting employees' efforts throughout the various levels and departments of firms (Cantor *et al.*, 2012). If employee expectations and actions as environmental stakeholders are recognised, employee motivation may increase, resulting in the creation of a virtuous cycle (Ramus and Killmer, 2007; Sarkis *et al.*, 2010; Wolf, 2013). The Co-operative, for example, boosts its energy-saving programme with regular communications highlighting the progress against targets, and regional competitions that reward star performers with in-store parties (Earley, 2013a). Similarly, B&Q promotes the sustainability achievements of its employees through an internal eco newspaper (Earley, 2013b). Finally, good reputation for environmental management may result in attraction and retention of highly qualified

employees (Buysse and Verbeke, 2003; Chan, 2005; Henriques and Sadosky, 1996; Reinhardt, 1999; Sarkis *et al.*, 2010).

Limitations

Two major limitations are inherent to our study. First, although the cross-sectional design chosen allows us to establish associations among study variables, it bears limitations with respect to causality. In the same way that employee stakeholder integration can contribute to the development of more PES, PES could also contribute to increasing the integration of employee stakeholders, however these explanations are not in conflict with each other (Buysse and Verbeke, 2003). Second, by conducting this study in a multi-industry setting, we had to sacrifice industry-specific measures for generalisability, thus possibly excluding interesting aspects that would add to the understanding of the relationship between employee stakeholder integration and environmental performance in certain contexts. At the same time, a multi-industry setting can also be considered a strength of our study, as results hold across industries, and hence are more generalisable (Thomas and Venkatraman, 1988; Schmalensee, 1989).

Future directions

As regards future research, the questions we explored offer a number of potential extensions. First, future studies could investigate how the relationship between employee stakeholder integration and environmental performance could be impacted by managers' values (Agle *et al.*, 1999), political aims (Fineman and Clarke, 1996), and role and hierarchical level (Parent and Deephouse, 2007), as well as a firm's culture (Jones *et al.*, 2007), life-cycle (Jawahar and McLaughlin, 2001), and human resource management practices, such as rewards and corporate cultural management (Jabbour *et al.*, 2010). Second, we would particularly encourage a deeper understanding of employee stakeholders from a within-group and within-person perspective. Within-group stakeholder awareness and

behaviours can be heterogeneous (Kassinis and Vafeas, 2006; Linnenluecke *et al.*, 2009), and thus different types of employees may affect the deployment of PES and the enhancement of environmental performance differently (see e.g., Rothenberg, 2003). Furthermore, an individual may have conflicting stakes as an employee, a customer, or an environmentalist (Henriques and Sharma, 2005; Wolfe and Putler, 2002), warranting the investigation of within-person stake salience, and whether employees wilfully exercise their roles as environmental stakeholders (Mitchell *et al.*, 1997). Third, employees may also provide critical links to external stakeholders (Delmas and Toffel, 2008; Fineman and Clarke, 1996; Frooman, 1999). Such links could enable employees to legitimise their views within firms based on the support of external pressures (Halme, 2002), and allow external stakeholders to indirectly channel their voices throughout firms (Henriques and Sharma, 2005). Future studies could explore when and how mutually beneficial relationships (Neville and Menguc, 2006) as these could be established.

A more fine-grained understanding of shared vision could also be reached in future research. The development and impact of a shared vision capability on the effectiveness of environmental strategies could be addressed from a multilevel perspective, taking into account how individuals and teams from different functional areas perceive and enact their firms' visions. This approach could unveil the extent to which visions are shared and embedded in organisations, and what happens when visions are not shared (Huzzard and Östergren, 2002). For example, future studies could determine whether the contribution of shared vision to environmental management holds when visions are shared only at the top and middle management levels.

Conclusion

The findings from our study highlight the salience (Mitchell *et al.*, 1997) of employee stakeholders across countries and sectors, and in particular their important role as potential

environmental change agents. As suggested in NRBV research, the relationship between employee stakeholder integration and environmental performance is established through proactive environmental strategies, indicating that employee suggestions and information will only translate into environmental performance improvements if managers integrate these into firms' strategic planning and implementation. This relationship gains particular strength in the presence of high levels of shared vision, thereby highlighting the importance of shared vision for generating both the internal pressure and the enthusiasm necessary for the successful implementation of proactive environmental strategies.

¹ Results in the mediator and dependent variable models were similar for analyses both with and without the dummy controls (industry, size, and country development level). According to Becker (2005, p. 286), "if the results do not differ, then authors and readers can rule out the controls as a potential explanation for the findings". Therefore, we herein report the results for analyses without controlling for the dummy variables.

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Table 1. Sample characteristics

Average work experience in the field (n = 165)	9.98 (s.d. ^a = 9.32) years
Average job tenure (n = 163)	12 (s.d. = 10.02) years
Size (n = 169)	
Large (> 1000 employees)	129 (76.30%)
Medium (250 – 1000 employees)	22 (12.90%)
Small (< 250 employees)	18 (10.60%)
Industry (n = 170)	
Financials	33 (19.40%)
Industrials	32 (18.80%)
Utilities	26 (15.30%)
Consumer services	18 (10.60%)
Basic materials	17 (10.00%)
Consumer goods	17 (10.00%)
Telecommunications	8 (4.70%)
Health care	7 (4.10%)
Oil & gas	6 (3.50%)
Technology	6 (3.50%)
Country development level (n = 170)	
Advanced economies	132 (77.60%)
Emerging and developing economies	38 (22.40%)
Continent (n = 170)	
Europe	108 (63.50%)
Latin America	24 (14.10%)
Asia	17 (10.00%)
Northern America	10 (5.90%)
Oceania	7 (4.10%)
Africa	4 (2.40%)

^a Standard deviation.

Table 2. Correlations and descriptive statistics ^a

	Mean	s.d.	1	2	3	4	5	6	7
1. Employee stakeholder integration	4.99	1.07	-						
2. Proactive environmental strategies (PES)	4.95	1.19	.38**	-					
3. Environmental performance	5.15	0.85	.33**	.33**	-				
4. Shared vision	5.58	0.95	.46**	.32**	.29**	-			
5. Financial performance	4.78	1.06	.20**	.12	.37**	.24**	-		
6. Environmental group stakeholder integration	4.53	1.66	0.11	.03	.05	.03	.02	-	
7. Local community stakeholder integration	4.73	1.83	0.06	.01	.04	-.02	.02	.83**	-
8. Customer stakeholder integration	4.90	1.47	.32**	-.01	.20**	.14	.08	.51**	.50**

^a $n = 170$. *Correlation is significant at $p < .05$. **Correlation is significant at $p < .01$.

Table 3. Regression results for simple mediation ^a

Variable	B	SE	t	p
Employee stakeholder integration to PES (a path)	.47	.08	5.49	.000
Direct effect of PES on environmental performance (b path)	.18	.05	3.38	.001
Total effect of employee stakeholder integration on environmental performance (c path)	.18	.06	3.14	.002
Direct effect of employee stakeholder integration on environmental performance (c' path)	.10	.06	1.64	<i>ns</i>
Partial effect of control variables on environmental performance				
Financial performance	.24	.05	4.38	.000
Environmental group stakeholder integration	-.01	.06	-.21	<i>ns</i>
Local community stakeholder integration	-.02	.06	-.34	<i>ns</i>
Customer stakeholder integration	.10	.05	2.01	.046
Model summary for environmental performance model	R²	Adj. R²	F	p
	.27	.24	9.91	.000
Bootstrap results for indirect effect	M	SE	LL 95% BCCI	UL 95% BCCI
Effect	.07	.03	.04	.15

^a *n* = 170. Unstandardised regression coefficients are reported. Bootstrap sample size = 5000. LL = lower limit; BCCI = bias-corrected confidence interval; UL = upper limit.

Table 4. Regression results for shared vision hypotheses ^a

Predictor	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>			
PES							
Constant	-.00	.07	-.04	<i>ns</i>			
Employee stakeholder integration	.34	.08	4.08	.000			
Shared vision	.18	.08	2.28	.024			
Employee stakeholder integration X Shared vision	.01	.06	.13	<i>ns</i>			
Financial performance	.02	.07	.35	<i>ns</i>			
Environmental group stakeholder integration	.03	.13	.27	<i>ns</i>			
Local community stakeholder integration	.06	.13	.48	<i>ns</i>			
Customer stakeholder integration	-.20	.09	-2.20	.029			
Environmental performance							
Constant	5.10	.06	84.76	.000			
Employee stakeholder integration	.09	.07	1.35	<i>ns</i>			
Shared vision	.09	.07	1.33	<i>ns</i>			
Employee stakeholder integration X Shared vision	.01	.05	.23	<i>ns</i>			
PES	.21	.06	3.43	.001			
PES X Shared vision	.13	.05	2.38	.019			
Financial performance	.25	.06	4.36	.000			
Environmental group stakeholder integration	-.02	.10	-.18	<i>ns</i>			
Local community stakeholder integration	-.07	.10	-.69	<i>ns</i>			
Customer stakeholder integration	.14	.07	1.90	.059			
Model summary for environmental performance	<i>R</i> ²	<i>Adj. R</i> ²	<i>F</i>	<i>p</i>	ΔR^2	<i>F</i>	<i>p</i>
	.30	.26	8.70	.000	.03	7.12	.008
Conditional indirect effect at shared vision = Mean ± 1 s.d.							
Shared vision	Indirect effect	<i>SE</i>	<i>Z</i>	<i>p</i>	LL 95% BCCI	UL 95% BCCI	
- 1 s.d. (-.1)	.03	.03	.99	<i>ns</i>	-.07	.23	
Mean (0)	.07	.03	2.58	.009	.09	.34	
+1 s.d. (.1)	.12	.05	2.46	.014	.18	.51	

^a *n* = 170. Unstandardised regression coefficients are reported. Bootstrap sample size = 5000.