

The Impact of Board Diversity and Gender Composition on Corporate Social Responsibility and Firm Reputation

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ABSTRACT. This article explores how the diversity of board resources and the number of women on boards affect firms' corporate social responsibility (CSR) ratings, and how, in turn, CSR influences corporate reputation. In addition, this article examines whether CSR ratings mediate the relationships among board resource diversity, gender composition, and corporate reputation. The OLS regression results using lagged data for independent and control variables were statistically significant for the gender composition hypotheses, but not for the resource diversity-based hypotheses. CSR ratings had a positive impact on reputation and mediated the relationship between the number of women on the board and corporate reputation.

KEY WORDS: corporate reputation, corporate social responsibility, board diversity, boards of directors, gender composition

Introduction

Corporate reputation refers to “publics’ cumulative judgment of firms over time” (Fombrun and Shanley, 1990, 235). Research has demonstrated a broad range of benefits associated with a positive reputation. A good reputation enhances a firm’s ability to attract job applicants (Gatewood et al., 1993). Reputation affects employee retention as employees who feel their company is well regarded by external groups have higher job satisfaction and a lower intention to leave their organizations (Riordan et al., 1997). A positive reputation also enhances corporate branding, enabling a company to use its brand equity to launch new products and enter new markets (Dowling, 2006). Reputation can positively affect financial performance, institutional investment, and share price. A study by Mercer Investment Consulting indicated that 46% of

institutional investors consider environmental, social, and corporate governance when making investment decisions, and McKinsey reports that institutional investors will pay a premium (12–14%) for well-governed companies (Fombrun, 2006). Dowling (2006) argues that successful firms have a greater chance of sustaining superior performance over time if they also possess relatively good reputations.

Fombrun and Shanley (1990) identified a wide range of factors that contribute to a positive reputation including accounting measures of profitability and risk, market value, media visibility, institutional stock holdings, dividend yield, firm size, and demonstration of social concern. More recent research has identified other reputation-enhancing factors, including customer satisfaction (Bontis et al., 2007), stakeholder familiarity (McCorkindale, 2008), corporate campaigns (Ellen et al., 2006), and corporate citizenship programs (Gardberg and Fombrun, 2006). In this article, we propose to explore how on boards of directors the diversity of board resources and the number of women on boards affect firms’ corporate social responsibility (CSR) ratings, and how, in turn, CSR influences corporate reputation.

With the increased public scrutiny around boards and corporate governance, one expects board composition to affect corporate reputation, especially when it comes to characteristics such as the diversity of board resources and board gender composition. The term diversity subsumes distinct conceptions and operationalizations of group configurations (DiTomaso and Post, 2007; Harrison and Klein, 2007). In this study, we conceive of diversity of board resources as variety in the resources that board members bring to the board, and of gender diversity as gender composition, more specifically as the number of female

directors on boards. As others have shown, having more women on boards enhances firms' reputation (Bernardi et al., 2006; Bilimoria, 2000; Brammer et al., 2009), in part, presumably, because of the increased pressure toward diversifying boards (Bilimoria, 2000; Kramer et al., 2006; Ramirez, 2003; Sellers, 2007). However, whether and how diversity of board resources (e.g., professional backgrounds of directors) affects corporate reputation is an understudied question that we propose to address here. Furthermore, the mechanisms through which diversity of board resources and gender composition affect reputation have received limited attention. Studies that evaluate a direct relationship between board gender composition and firm's outcomes (e.g., reputation) usually assume that board gender composition acts as a signal (e.g., the value firms place on hiring, retaining, and advancing women) which directly influences outside evaluators (e.g., investors, influential business magazines). However, it is also likely that gender composition and diversity of board resources affect firms' social performance, which, in turn, bolsters their reputation. Building on the study of Mattingly and Berman (2006), we view CSR in terms of institutional strength and technical strength. Institutional strength of CSR is based on positive actions toward diversity and community stakeholders. Technical strength of CSR is based on positive actions toward consumers, stockholders, and employees.

Because of the rising importance of CSR in evaluating firms (Kakabadse, 2007) and because of evidence that board diversification improves at least some aspects of CSR (Post et al., 2011), we examine, in this article, the role of CSR as a mediator of the board composition–corporate reputation relationship. In order to evaluate the indirect link between board diversity, the number of women on the board, and firm's reputation through CSR, we examine the relationship between CSR and corporate reputation, and the impact of board diversity and the number of women on the board on CSR. Finally, we examine whether CSR mediates the relationship between board diversity and corporate reputation. This article is structured as follows: first is a review of the literature that provides the theoretical bases for this article including the hypotheses for the research, followed by an explanation of the methods used to collect and analyze the study data. This article then continues with the presentation and discussion of results, and

concludes with a review of contributions, limitations, and directions for future research.

Literature review

CSR and corporate reputation

Barnett (2007, 801) defined CSR as “a discretionary allocation of corporate resources toward improving social welfare that serves as a means of enhancing relationships with key stakeholders.” Mattingly and Berman (2006) utilize the Kinder, Lydenberg, Domini (KLD) social ratings data to develop two constructs that reflect positive CSR. The first construct, institutional strength, is composed of positive actions toward the community and diversity stakeholders. These include actions like charitable giving, volunteer programs, the promotion of women and minorities, and women and minority subcontracting. The second construct, technical strength, is composed of positive actions toward consumers, stockholders, and employees. These include actions like products with social benefits, transparency in reporting social and environmental performance, and health and safety programs (Mattingly and Berman, 2006). Institutional strength and technical strength reflect programs that enhance corporate reputation with key stakeholders. Gardberg and Fombrun (2006, 330) liken these CSR or citizenship programs to investments in R&D which create “intangible assets” that build reputation and help companies grow their global businesses.

Actions that demonstrate CSR can bolster corporate reputation. Branco and Rodrigues (2006) have argued that CSR enables firms to improve reputation with a broad range of stakeholders including customers, suppliers, competitors, bankers, and investors. Fombrun and Shanley (1990) found that corporations that had a foundation and that gave more to charity had more positive reputations. These actions served as signals for responsiveness to social concerns and built reputation among stakeholders. Importantly, when CSR programs are communicated to the public they build corporate reputation and credibility (Pfau et al., 2008). Russo and Fouts (1997) found a positive association between pro-environment reputation and return on assets. Donker et al. (2008) examined the codes of ethics of major Canadian companies and

found that the inclusion of key words that reflect CSR, including values like respect, responsibility, integrity and trust, were positively correlated with the firm's market-to-book value.

Finally, stakeholders value a positive image for CSR because it serves to mitigate risk. Fombrun and Gardberg (2000) argue that CSR can be a safety net by reducing reputational damage. A positive reputation for CSR can reduce the damage from negative publicity during a crisis (Vanhamme and Grobben, 2009).

Hypothesis 1: CSR strength ratings are positively associated with corporate reputation.

Board diversity, board composition, and CSR

Two organization theories, resource dependence theory and agency theory, provide the broad theoretical underpinnings for how board diversity and composition influence ratings for CSR and how, in turn, CSR influences corporate reputation. These theories were utilized because they represent two key functions of the board (Hillman and Dalziel, 2003). Resource dependence theory offers the rationale for the board's function of providing critical resources to the firm including legitimacy, advice, and counsel (Hillman and Dalziel, 2003). These board resources offer the corporation support in understanding and responding to its environment (Boyd, 1990) that can help it better manage CSR issues. Agency theory provides the rationale for the board's critical function of monitoring management on behalf of the shareholders (Eisenhardt, 1989; Fama and Jensen, 1983). In order to exercise its monitoring function the board needs the appropriate mix of experience and capabilities to evaluate management and assess business strategies and their impact on CSR (Hillman and Dalziel, 2003). A third organization theory, signaling, provides an additional basis for our discussion of the relationship between board gender composition and corporate reputation.

Diversity of director resources

An effective board provides resources to the corporation including advice and counsel and links to

other organizations (Hillman and Dalziel, 2003). These linkages can provide channels for communication with, and access to support from external organizations (Pfeffer and Salancik, 1978). Hence, board resources can help the firm manage business challenges (Boyd, 1990) and enable it to deal more effectively with external organizations (Pfeffer, 1972). The board's human capital resources are based on the collective experience and expertise of board members. This expertise includes insiders with knowledge of company strategy and operations, business experts with knowledge of corporate strategy, support specialist with knowledge of legal and regulatory affairs, community influentials with knowledge and relationships with external stakeholders including the government and local communities (Hillman et al., 2000). Diversity of experience is an important asset as studies with management teams have shown that functional diversity can enhance team innovation through the generation of alternative solutions and innovation (Bantel and Jackson, 1989; Joshi and Roh, 2009). Accordingly, the greater the diversity of board resources, the greater the potential for understanding and problem solving that can enable the board to effectively address the business environment and encourage positive ratings for CSR.

Board resource diversity may also enhance network ties (Beckman and Haunschild, 2002). Insiders offer strong internal network connections. Business experts may offer connections to their focal firms and to suppliers, customers, and other boards. Support specialists have connections with their focal firms, customer networks, and with professional associations. Community influentials may have significantly different networks composed of academic experts, medical and scientific resources, legal networks, and investment and commercial banking networks. Community influentials may also have network ties to government agencies, community groups, and non-profit organizations (Hillman et al., 2000). The variety of these network connections will aid the corporation in understanding and responding to its environment. These networks may provide advice and expertise as well as connections that foster collaboration and co-operation with key stakeholders (Beckman and Haunschild, 2002). In summary, the impact of a rich, diverse set of network ties should enhance ratings of CSR, because

these ties provide access to support, expertise, and counsel from external organizations.

The diversity of board resources also affects the board's critical function of monitoring management. The relationship between the shareholders and the management of a corporation is an agency relationship subject to principal and agent conflict (Jensen and Meckling, 1976) and to different perceptions of risk (Eisenhardt, 1989). In order to address these issues, shareholders appoint a board of directors to monitor management. The board's role in monitoring includes functions ranging from strategy implementation to rewarding the CEO and top managers of the firm (Hillman and Dalziel, 2003). In order to effectively monitor management, the board needs the right "skills, experience, expertise and knowledge" (Hillman and Dalziel, 2003, 389). Diversity of director resources can help provide these skills. Carpenter and Westphal (2001) studied the impact of board ties and found that the board's ability to monitor and advise management is related to expertise demonstrating that the background and experience of board members were crucial for effective monitoring. Diverse director resources can provide insider knowledge, line management skills, support specialist skills (legal, banking, and insurance), and experience working with the community (Hillman et al., 2000).

Hypothesis 2: Diversity of director resources is positively associated with CSR strength ratings.

Board gender composition

In addition to director resource diversity, gender composition (i.e., the number of women on the board) is expected to have a positive impact on social capital and CSR. On boards, women are more than twice as likely as men to hold a doctoral degree (Hillman et al., 2002). Compared to male directors, female directors gain board experience with smaller firms and are less likely to have prior CEO or COO experience (Singh et al., 2008). Female directors are more likely than male directors to have expert backgrounds outside of business and to bring different perspectives to the board (Hillman et al., 2002). In addition, women on boards are more likely than men to be support specialists and community influentials (Hillman

et al., 2002). Therefore, having more female directors may sensitize boards to CSR initiatives, and provide perspectives that can be helpful in addressing issues of CSR. Research already suggests that firms with a higher percentage of female board members do in fact have a higher level of charitable giving (Wang and Coffey, 1992; Williams, 2003), more favorable work environments (Bernardi et al., 2006; Johnson and Greening, 1999), and higher levels of Environmental CSR (Post et al., 2011).

Increasing board gender diversity (which, for all practical purposes, means increasing the number of women on boards) can enhance decision making, as a wider variety of perspectives and issues are considered and a broader range of outcomes is assessed (Daily and Dalton, 2003). The presence of more female directors may stimulate more participative communication among board members, if one assumes that gender differences in leadership styles, as evidenced in some studies, also exist at board director levels. If female directors are more participative (Eagly et al., 2003), democratic (Eagly and Johnson, 1990), and communal than men (Rudman and Glick, 2001), then having more women on a board could encourage more open conversations among members of the board. A broader perspective may enable the board to better assess the needs of diverse stakeholders. The result may enhance the board's ability to effectively address CSR.

Another theoretical underpinning for the expected relationship between board diversity and corporate reputation is signaling theory. Signaling theory assumes asymmetric information, and proposes that parties may convey, intentionally or not, relevant, but not readily observable information, through observable signals that are meaningful to the other party. In this regard, the number of women on a firm's board may act as a signal to observers indicating that the firm pays attention to women and minorities, and is, therefore, socially responsible. In support of the signaling argument, a recent analysis of the annual report of Fortune 500 companies revealed that companies with higher percentages of female directors are more likely to display pictures of them in their annual reports (Bernardi et al., 2002). If one expects this signal of having more women on the board to be effective, then one would expect firms with a strong signal

to have more favorable CSR ratings, and in broader terms, a better reputation. Some evidence points that this is a plausible expectation. Fortune 500 companies with a higher percentage of female directors were more likely to appear on Ethisphere Magazine's "World's Most Ethical Company" list (Bernardi et al., 2009).

Gender diversity can also affect the board's critical function of monitoring management. Having more women on the board enhances the board's expertise by increasing the range of professional experience and augmenting the number of board members with advanced degrees (Hillman et al., 2002). These added qualities brought in by female board members enable the board to more effectively monitor management (Hillman and Dalziel, 2003). Women also increase the demographic diversity of the board, helping to ensure the board's demographic difference from management. Westphal and Zajac (1995) found that CEOs attempt to select board members who are demographically similar to them to secure support, and that this support led to higher compensation. Consequently, gender diversity on the board can help ensure demographic differences from the CEO needed for effective monitoring.

The effectiveness of women on boards may increase with the addition of female directors. While a single female director may have a positive impact on firm's reputation, she may also face challenges. Groups with a single minority member (e.g., a female director) may consider that minority member to be a token; they may perceive the minority individual as less competent and of lower status. Consequently, the group may fail to take the token's opinions or contributions seriously (Brewer and Kramer, 1985; Kanter, 1977a; Lord and Saenz, 1985). Furthermore, research suggests that minority voices are not easily expressed or heard in groups (Nemeth, 1986) because social pressures encourage conformity with the majority's opinion (Asch, 1955). However, when a group is faced with consistent opinions from multiple minority members, it is more likely to consider and learn from the minority voice (Asch, 1955). Empirical evidence suggests that these processes may also be at play on boards. For example, when a critical mass of women (i.e., at least three) is represented on a board, female directors are able to ask challenging questions and work together to demonstrate collaboration in decision making (Konrad et al., 2008;

Kramer et al., 2006). It may be possible that there could be too many women on the board. Just as all male directors lack diversity and reduce board effectiveness, all female directors would lack diversity and reduce effectiveness. In Fortune 500 companies today, however, most boards have fewer than three women and representation of more than four is rare (*Catalyst Census*, 2009); therefore, a linear relationship is hypothesized.

In summary, because female directors tend to have different educational and professional backgrounds from those of male directors, and may be more participative and democratic in decision-making processes, diversifying boards by increasing the number of female directors may help ensure that more perspectives and issues are considered in the decision-making process, leading the board to achieve better decisions. The qualities that women bring to boards may also provide better oversight of management activities, because of the increased heterogeneity among the board, with top management teams, and the CEO. Finally, the presence and the number of women on boards may signal to stakeholders that the firm pays attention to women and minorities, and is, therefore, socially responsible. For all of these reasons, we expect the following:

Hypothesis 3: The number of women board members is positively associated with CSR strength ratings.

CSR as a mediator of the board diversity–corporate reputation relationship

In this article, it has been argued that the diversity of director resources and the number of women board members have a positive impact on ratings for CSR. It has been further argued that ratings for CSR have a positive impact on corporate reputation. Accordingly, it is expected that CSR ratings mediate the relationship between board diversity and corporate reputation.

Hypothesis 4A: CSR strength ratings mediate the relationship between the diversity of board resources and corporate reputation.

Hypothesis 4B: CSR strength ratings mediate the relationship between the number of women board members and corporate reputation.

Methods

Data sources

Data for the dependent variables in the study were obtained from the Fortune 2009 World's Most Admired Companies List based on a survey published in March 2009 and conducted by Fortune at the end of 2008. 2007 ratings for CSR, the mediator variable, were obtained from the KLD database. Data on the independent variables including the diversity of director resources and the number of women on the board were obtained from the Mergent database of annual reports, as were the data on CEO duality, a control variable in the study. Data on stock price performance, a control variable in the study, were obtained from the Wall Street Journal Market Watch database. Finally return on assets, also a control variable in the study was obtained from COMPUSTAT. Data for all of the independent and control variables in the study were taken from 2007 while the dependent variable was taken from the Fortune 2009 survey conducted in the fourth quarter of 2008. The independent variables were lagged under the assumption that board members must be in their roles for some time to have an impact on CSR and company reputation.

Sample

The sample for this study consisted of companies selected from Fortune's 2009 Most Admired List. The Fortune survey covers 64 industries, 39 primarily U.S. industries and 25 international industries, and the survey covered 689 companies including the 10 largest for each U.S. industry, and the 15 largest for each international industry. For the 2009 list, executives, directors, and analysts rated the companies within their own industry on nine criteria including innovation, people management, use of corporate assets, social responsibility, quality of management, financial soundness, long-term investment, quality of products/services, and global competitiveness. These ratings were used to produce a list of the top-ranked companies in each industry, for each criterion, and an overall rating of total company's reputation (*Fortune: How We Pick*, 2009).

Our sample was drawn from the health care industry, because this industry has generally faced a challenging public relations environment due to the public's reaction to rising health care costs. As such, the boards of these companies may be more proactive in managing corporate responsibility initiatives to enhance stakeholder relations. All the 59 health care companies from the Fortune survey were selected as the sample frame for this study. They represent health care insurance and managed care (10), health care medical facilities (10), health care pharmacy and other services (8), pharmaceuticals (13), medical and other precision equipment (11), and wholesalers' health care (7). Only those firms with complete data for all study variables and present in both the Fortune and KLD databases were utilized resulting in 51 firms in the study.

Dependent variable

Ratings for firm's reputation were drawn from the Fortune 2009 list of the World's Most Admired Companies. The Fortune ratings have been extensively studied and researchers have concluded that financial performance has been shown to be a significant factor in the rating (Brown and Perry, 1995; Fombrun and Shanley, 1990; Fryxell and Wang, 1994; McGuire et al., 1988). Accordingly, measures of financial performance are included as controls in the study.

Mediator variable

Ratings for CSR were drawn from the KLD database. The KLD ratings are based on ratings of strengths and concerns in a number of areas including community, corporate governance, diversity, employee relations, the environment, and product. Mattingly and Berman (2006, 20) found that the strength ratings were "empirically and conceptually distinct" from the concern's ratings and that researchers needed to separately utilize the strengths and concern's ratings. For the purposes of this study, we focus on the two social performance strength constructs developed by Mattingly and Berman (2006): institutional strength

and technical strength. Institutional strength is composed of positive (strength) measures for community and diversity issues. Technical strength is composed of positive (strength) measures for product, government, and employee issues.

Independent variables

The two distinct independent variables in the model, the diversity of director resources and the number of women on the board, are defined and operationalized as follows. Director resource diversity describes the variety in professional background, experience, and network connections among members of the board. A value of director diversity is that the variations in background and business experience will enhance board understanding of the firms' external environment and support effective decision making. Diversity of director resources will also provide network connections and enhanced legitimacy with external audiences.

According to the typology developed by Hillman et al. (2000), four distinct types of director resources were recognized. Insiders were defined as current or retired members of management. Business experts were defined as executives and officers of public corporations excluding insiders and support specialists. Support specialists were defined as executives and officers of law firms, commercial banks, investment banks, accounting firms, advertising and public relations agencies, and consulting firms and private investors. Community influentials were defined as current and former academics, physicians, government officials, leaders of foundations and not-for-profit organizations. Classification was based on the current position held, or in the case of individuals who had retired, their last position held.

As the value of director resource diversity is the variety of experience and knowledge, director diversity is operationalized with Blau's index. Blau's index measures the distribution of members across different categories of experience, expertise, or demographic background, and is the most commonly used measure of diversity-as-variety (Harrison and Klein, 2007). It is operationalized as the difference between 1 and the sum of the proportion of

unit members p in each of the k th categories that compose the group.

$$\text{Diversity} = 1 - \sum (p_k)^2$$

The number of women on the board is operationalized by a count of female directors. The value that women bring to the board is differing perspectives that may enhance director understanding of the external environment. This supports effective decision making and may enhance ratings for CSR.

Control variables

CEO duality is defined as the presence of a single individual holding the role of Chairman and Chief Executive Officer (CEO). The presence of a dual Chairman and Chief Executive Officer could impact the effectiveness of board monitoring, and so it is included as a control variable in the study.

Because previous studies have shown the impact of financial performance on reputation (Fombrun and Shanley, 1990; Fryxell and Wang, 1994; McGuire et al., 1988), the change in firm stock price for 2007 is included as a control. In addition, return on assets has been utilized as a measure of the efficiency of management in generating earnings. The industry of the companies in the study was controlled by the selection of the sample; all firms who participate in this study are in the health care industry. Given the sample size, we attempted to be parsimonious in the control variables we included in our model since board size is a marker of number of women, we did not use board size as a direct control as the effects of board size would be substantially overlapping (Pearson correlation 0.657, $p < 0.01$) with the effects of the number of women on the board.

Analysis

Mediation was tested using the procedure outlined by Baron and Kenny (1986). First, the relationship between the independent variables (board resource diversity and the number of women on the board) and the mediator variable (CSR ratings) were determined. Second, the relationship between the independent variables (board resource diversity and

the number of women on the board) and the dependent variable (overall corporate reputation) was assessed. Third, the relationship between the mediator (CSR ratings) and the dependent variable (corporate reputation) was assessed. Finally, the effect of the independent variables on the dependent variable was measured with and without the presence of the mediator to confirm mediation.

Results

Table I contains descriptive means, standard deviations, and correlations for all the variables. The mean

corporate reputation rating was 5.866 with a standard deviation of 0.917 and a range of 3.62–7.68. The average diversity of board resources is fairly high (0.617), and its standard deviation is fairly small (0.123), suggesting that the firms in our sample may be somewhat consistent in the variety of resources that directors bring to the board. The average number of women on these boards was 1.765 with a standard deviation of 1.069, and a range of 0–6.

Regression results for the hypotheses in this article are presented in Tables II, III, and IV. Table II provides the results of the regression analyses of the effect of the CSR ratings on corporate reputation. Hypothesis 1 predicted that KLD strength ratings for

TABLE I
Correlations, means, and standard deviations

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Board resource diversity	0.617	0.123								
2. Number of women on the board	1.765	1.069	0.043							
3. Institutional strength ^a	1.941	1.881	0.104	0.464**						
4. Technical strength ^a	0.863	1.371	0.042	0.296*	0.733**					
5. Total reputation	5.866	0.917	0.032	0.274 [†]	0.467**	0.397**				
6. CEO duality	0.608	0.493	−0.138	0.163	0.398**	0.229	0.184			
7. Return on assets	0.071	0.071	0.025	−0.096	0.159	0.327*	0.217	0.066		
8. Stock change _{<i>t</i>−1}	9.432	9.432	−0.241 [†]	−0.016	0.017	−0.133	0.304*	0.118	0.046	

The value of *n* is 51 for all correlations.

^aMeans and standard deviations of raw data, transformed data *z* scores used for regression.

[†]*p* < 0.10, **p* < 0.05, ***p* < 0.01.

TABLE II
Regression results of relationship of CSR with corporate reputation^a

Variables	Model 1	Model 2	Model 3
CEO duality	0.138 (1.020)	−0.042 (−0.313)	0.044 (0.340)
Return on assets	0.195 (1.444)	0.133 (1.083)	0.062 (0.473)
Stock change _{<i>t</i>−1}	0.279* (2.058)	0.295* (2.413)	0.351** (2.756)
Institutional strength		0.457** (3.424)	
Technical strength			0.413** (3.015)
<i>R</i> ²	0.15*	0.32**	0.29**
<i>F</i>	2.812*	5.522	4.745

^aStandardized coefficients are reported, with *t*-values in parentheses; *n* = 51.

p* < 0.05, *p* < 0.01.

CSR would be positively associated with corporate reputation. The coefficients for institutional strength and technical strength were positive and statistically significant ($p < 0.01$) offering support for this hypothesis.

Table III (models 2 and 4) provides the results of the regression analyses of the effect of the independent variables on each of the two mediator variables – the KLD ratings for institutional strength and technical strength. Hypothesis 2 predicted that an increase in diversity of director resources would be positively associated with KLD strength ratings for CSR. The coefficient for diversity of director resources was positive but not statistically significant for institutional strength and technical strength. Accordingly, this hypothesis was not supported.

Hypothesis 3 predicted that the number of female board members would be positively associated with KLD strength ratings for CSR. The coefficient for the number of women board members was positive and statistically significant for institutional strength ($p < 0.01$) and technical strength ($p < 0.05$). Accordingly, this hypothesis was supported.

Table IV provides the results for the regression analyses of the effect of the independent variables (diversity of director resources and the number of women on the board), and the mediator variables (KLD CSR ratings) on the dependent variable (Fortune reputation rating).

Hypothesis 4A predicted that ratings for CSR would mediate the relationship between the diversity of board resources and corporate reputation.

Following the procedure defined by Baron and Kenny (1986, 1177), three regression equations are employed to test mediation: “first, regressing the mediator on the independent variable; second, regressing the dependent variable on the independent variable; and third, regressing the dependent variable on both the independent variable and on the mediator.” In addition “the effect of the independent variable on the dependent variable must be less in the third step than in the second step” (1986, 1177). The first regression showed that the independent variable, the diversity of board resources, had no statistically significant effect on any of the mediator variables and consequently hypothesis 4A was not supported (Table III).

Hypothesis 4B predicted that ratings for CSR would mediate the relationship between the number of women on the board and corporate reputation. The first step of the analysis involved regressing the potential mediator variables on the independent variables. The regression of the number of women on the board on the CSR strength ratings showed a statistically significant positive effect for institutional strength ($p < 0.01$) and technical strength ($p < 0.05$), Table III).

The second step of the procedure regresses the dependent variable (corporate reputation) on the independent variable (number of women on the board), and this regression showed a statistically significant effect for the number of women on the board on corporate reputation ($p < 0.05$, Table IV, model 3). The third step of the procedure requires regress-

TABLE III
Regression results of relationships with CSR^a

Variables	Institutional strength		Technical strength	
	Model 1	Model 2	Model 3	Model 4
CEO duality	0.393** (2.945)	0.335** (2.739)	0.228 [†] (1.714)	0.177 (1.344)
Return on assets	0.134 (1.012)	0.173 (1.450)	0.320* (2.415)	0.351** (2.722)
Stock change _{<i>t-1</i>}	-0.036 (-0.269)	0.007 (0.058)	-0.175 (-1.315)	-0.164 (-1.243)
Board resource diversity		0.129 (1.049)		0.005 (0.039)
Number of women on the board		0.421** (3.480)		0.298* (2.282)
R ²	0.18*	0.37**	0.18*	0.27*
F	3.372	5.28	3.444	3.258

^aStandardized coefficients are reported, with *t*-values in parentheses; *n* = 51.

[†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

TABLE IV
Regression results of relationships with corporate reputation^a

Variables	Model 1	Model 2a	Model 2b	Model 3	Model 4a	Model 4b
CEO duality	0.138 (1.020)	-0.042 (-0.313)	0.044 (0.340)	0.102 (0.757)	-0.029 (-0.214)	0.040 (0.305)
Return on assets	0.195 (1.444)	0.133 (1.083)	0.062 (0.473)	0.220 (1.674)	0.152 (1.198)	0.368** (2.834)
Stock change _{t-1}	0.279* (2.058)	0.295* (2.413)	0.351** (2.756)	0.311* (2.312)	0.308* (2.424)	0.097 (0.722)
Institutional strength		0.457** (3.424)			0.391* (2.526)	
Technical strength			0.413** (3.015)			0.349* (2.423)
Board resource diversity				0.103 (0.765)	0.053 (0.409)	0.102 (0.791)
Number of women on the board				0.279* (2.101)	0.115 (0.810)	0.175 (1.313)
R ²	0.15*	0.32**	0.29**	0.24*	0.34**	0.33**
F	2.812*	5.522	4.745	2.850	3.722	3.611

The data from Table II is repeated here as Model 1, and Model 2a, and Model 2b to facilitate referencing.

^aStandardized coefficients are reported, with *t*-values in parentheses; *n* = 51.

p* < 0.05, *p* < 0.01.

ing the dependent variable on both the independent variable and the mediators. This step requires that the relationship between the mediators and the dependent variable be statistically significant, and both institutional strength and technical strengths have a statistically significant impact ($p < 0.05$) on corporate reputation (Table IV, models 2a and 2b). Finally, when all of the above conditions are met, “then the effect of the independent variable on the dependent variable must be less in the third step than in the second step” (Baron and Kenny, 1986, 1177). This is the case as the number of women on the board was significant in step 2 ($p < 0.05$) and not significant in step 3 when mediated by institutional strength ($p = 0.422$) or by technical strength ($p = 0.196$). In addition, the standard coefficient declined from 0.279 in step 2 to 0.115 in step 3 when mediated by institutional strength, and from 0.279 in step 2 to 0.175 in step 3 when mediated by technical strength (Table IV, models 4a and 4b). These results support hypothesis 4B, indicating that institutional strength and technical strength are mediators of the relationship between the number of women on the board and corporate reputation.

Because of the size of our sample, and the fact that the conservative Sobel test requires the assumption of a normal distribution, we used bootstrapping to further confirm the significance of our mediation findings (Preacher and Hayes, 2004). We ran 5000 iterations for bootstrapping purposes. The 99% confidence interval of the mediation effect of CSR institutional strength falls between 0.0328 and 0.4794, and the 99% confidence interval of the mediation effect of CSR technical strength falls between 0.0029 and 0.3386. These results confirm the mediation effects of both institutional and technical strength at $p < 0.01$ level.

Discussion and conclusions

Theoretical implications

The motivation for this study was to examine how the salient (gender composition) and underlying (professional backgrounds) diversity among board directors affect corporate reputation both directly, and indirectly, through improved CSR.

The study extends current theory by demonstrating that the number of women on the board has a positive relationship with the strength ratings for CSR. Women bring a number of strengths to the board including an increased sensitivity to CSR (Williams, 2003) and participative decision-making styles (Konrad et al., 2008), and these benefits may contribute to enhanced corporate responsibility strength ratings. However, as others have argued, the mere presence of a single female director may not be sufficient, because minority group members, often considered tokens, may find it more difficult to voice their opinions and be heard (Brewer and Kramer, 1985; Kanter, 1977b; Lord and Saenz, 1985; Nemeth, 1986). As the number of women on a board increases, communication barriers come down and the minority voice becomes more assertive (Konrad et al., 2008; Kramer et al., 2006) while, at the same time, the majority is more likely to heed attention to it (Asch, 1955). Our findings indicate that as the number of female directors increases, so does the firm's CSR, suggesting that the contributions women bring to the board in this area are more likely to be considered by the board when the group diversity dynamics move away from tokenism to normality (Erkut et al., 2008).

The average board size for the companies in the study was 10.5, with a standard deviation of 2.4, and a range of 6–17. In an effort to understand how the effect of having more women might differ on small or large boards, we conducted a separate analysis in which we examined how the percentage of women (relative to board size) affected CSR and reputation. We found that the percentage of women on the board was positively associated with corporate reputation. In addition, the hypothesis concerning the positive relationship between the percentage of women on the board and CSR was supported for CSR institutional strength ratings but not for technical strength ratings. Finally, the hypothesis that CSR mediates the relationship between the percentage of women on the board and reputation was supported for CSR institutional strength ratings, but not for technical strength ratings.

The study also confirms the positive impact of KLD strength ratings for corporate responsibility on overall reputation, and provides additional support for the Mattingly and Berman (2006) typology. Both institutional strength and technical strength ratings

showed a positive relationship with overall corporate reputation. Institutional strength reflects the firm's ability to meet expectations of the community and diversity stakeholders through philanthropy, community support, and hiring practices. Technical strength reflects positive exchanges with consumers, stockholders, and employees through product quality, good governance, and employee compensation and benefits. Stakeholders value these strengths as firm's assets because enhancing overall reputation in these areas translates to a reservoir of goodwill that can be a tool to partially offset the negative impact of bad publicity during a crisis (Gardberg and Fombrun, 2006; Vanhamme and Grobbsen, 2009).

A final contribution of the study is the finding that institutional strength and technical strength mediate the impact of women on the board on overall corporate reputation. Women board members provide a broad range of contributions to boards. This study suggests that they play a role in enhancing corporate reputation by contributing to the firm's CSR.

The study did not support the hypothesis that an increased diversity of director resources was positively associated with CSR strength ratings. It may be that the focus on health care companies and large corporate boards is responsible for the results. The diversity of director resources for these companies was high with a mean Blau index of 0.617 and standard deviation of 0.123. Because these companies are under a high level of public scrutiny most have chosen boards with diverse resources, and, therefore, most boards capture the benefits of diversity of director resources. The issue bears further research.

Managerial and applied implications

The findings of this research have important implications for boards and investors. For boards, the positive impact of gender diversification is significant as having more female directors can enhance critical board processes including analysis and decision making. This positive impact of women on boards can improve ratings for CSR which can, in turn, enhance corporate reputation and positively impact financial performance, institutional investment, and share price (Fombrun, 2006). This research provides investors an additional tool when assessing potential

investments. Because an increase in the number of women on a board may improve CSR, board changes may provide important signals to investors indicating the potential for improved reputation and financial performance.

Increasing the representation of women on boards continues to be a long process. In 2008, women held 15.2% of board seats at Fortune 500 companies (*Catalyst Census*, 2009). Part of the problem is that women make up only 13.5% of executive officers at Fortune 500 companies (*Catalyst Census*, 2009). Ragins (1998) studied the barriers faced by female executives, which contributed to the glass ceiling that prevents women from achieving top executive positions. She found that female executives identified “male stereotyping, exclusion from informal networks and inhospitable corporate culture,” while male CEOs identified “the lack of general management or line experience and the fact that women were not in the pipeline long enough” (Ragins, 1998, 34–35). Ragins (1998) identified a number of key interventions that are needed to break the glass ceiling: tracking women into line positions, instituting objective performance appraisal systems, mentoring and intervention by the CEO. Of additional concern are findings by Poff and Hamill (2008) who showed that there is a disproportionately low representation of female students in graduate programs of the one hundred top business schools. Such trends will continue to lead to a smaller pool of eligible female candidates for top team and board positions. Clearly, system-wide adjustments are needed to develop women executives and future board members, who seem poised to enhance corporate reputation and firm performance.

The study did not find diversity of director resources to be directly associated with corporate reputation. This does not diminish the importance of director resource diversity as most of the firms in the study had boards with diverse representation of insiders, business experts, support specialists, and community influentials.

Limitations and future research

Limitations of this study should be acknowledged. They also provide opportunities for future research. The study sample was composed of large firms in the

health care industry which limits the generalizability of results. Health care was chosen because companies in this industry group have generally faced a challenging public relations environment due to the public’s negative reaction to rising health care costs. As such, these companies and their boards may be more proactive in managing their reputations to enhance stakeholder relations. In addition, with the use of a single industry data set, the internal validity of the study was enhanced. Nevertheless, future studies should examine additional industries. Also, since the data in this study were drawn from the Fortune survey of corporate reputation, the companies studied are the largest in each industry group. By choosing a different source of corporate reputation, future research can be expanded to examine smaller firms.

Another provocative area for future research is how board processes change as the number of women increases. In 2008, 90% of Fortune 500 companies had at least one woman on the board, but under 20% had three or more (*Catalyst Census*, 2009). Research should explore how board processes including inquiry, decision making, and social cohesion evolve as the number of women increase. This research could provide additional support for further increasing the number of women on boards. It might also offer guidance for ways to maximize the effectiveness of women or other minorities when their presence on the board is limited to one or two members.

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