*Accounting and the Public Interest*
Volume 13, 2013
Pages 132–150

American Accounting Association
DOI: 10.2308/apin-10374

# Does Female Representation on Boards of Directors Associate with Increased Transparency and Ethical Behavior?

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**ABSTRACT:** This study examined the association between corporate transparency and ethical orientation of *Fortune* 500 companies and the number of females represented on the board of directors from the *Fortune* (2010) annual report data. Our basis for this judgment was whether the firm was listed on either (both) *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" (*Ethisphere Magazine* 2011) or (and) *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" (*Corporate Responsibility Magazine* 2011) list(s). Our results indicated that, as the number of women directors increased, the probability of a corporation appearing on these lists increased. We also found that a "critical mass" of women directors was indicated by the data for *Ethisphere Magazine*'s but not *Corporate Responsibility Magazine*'s list.

**Keywords:** transparency; ethics; women directors.

## INTRODUCTION

The number of women on corporate boards has increased in recent years, yet the figure still remains low. Given the breadth of prior research available indicating that having women on boards leads to success for corporations, it is surprising to find that this figure has not increased substantially, especially following corporate scandals and newly created regulatory action. It has been a decade since the fall of Enron and the need for ethical decision making, transparency, and corporate social responsibility has grown substantially. It has been noted that increased levels of female representation associates with an increased sense of morality in the corporations, and decreased levels of "group think." While these statements cover only a few of the benefits that the presence of women on boards provides, it is important to continue to increase this figure in order to ensure that corporations function at the highest possible level.

Using the data from the *Fortune* 500, this study examines whether changes in board composition mandated by the Sarbanes-Oxley Act (U.S. House of Representatives 2002) support PricewaterhouseCoopers' (2003a, 3) belief that restoring investor trust calls for "transparency,

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Editor's note: Accepted by Robin W. Roberts.

*Published Online: December 2013*

accountability, and integrity" in corporate reporting rather than just following the "letter of the law." Our sample includes the *Fortune* 500 firms of which 92 (408) corporations appear (do not appear) on *Corporate Responsibility Magazine*'s (2011) "100 Best Corporate Citizens 2010" and the 46 (454) corporations that appear (do not appear) on *Ethisphere Magazine*'s (2011) "2010 World's Most Ethical Companies" list. Our findings indicate that having a higher percentage of women on the board of directors should translate into the corporation being viewed as more ethical and more transparent. The data from 2010 indicate that a higher number of female board members were included in the organizations that were recognized by *Ethisphere Magazine* and *Corporate Responsibility Magazine*. We feel that these publications are a guide to investors' sentiment that surrounds the organizations in question.[1]

# LITERATURE REVIEW

## Overview

The Sarbanes-Oxley Act (U.S. House of Representatives 2002) significantly reinforced the authority of the boards of directors—especially the boards' audit committees (Ernst & Young 2012). Ernst & Young (2012, 4) noted that while the number of independent audit committee members steadily increased from approximately 51 to 71 percent between 1998 and 2002, the implementation of the Sarbanes-Oxley Act increased this number to 100 percent by 2005. The Act also increased the required level of transparency for corporate reporting (SEC 2003a), calling for the accounting profession to "go beyond mere adherence [to an] obligation to create a corporate culture of transparency" (Donaldson 2003). At this time, it was rightly held that "investors want to see driving corporate reporting and governance: transparency, accountability, and integrity" (PricewaterhouseCoopers 2003a, 3); in fact, PricewaterhouseCoopers (2003b, 11) also noted that:

> [S]ome could argue that less transparency is better or that more transparent disclosure could put a company at a competitive disadvantage. Not a bad argument, but not actually a good argument if the overall objective is to regain public confidence.

Given the goals of increased emphasis on independent boards and transparency of the Sarbanes-Oxley Act, Arfken et al. (2004) note that shareholders and others question the decision-making ability of homogenous boards. Adams and Flynn (2005) note that diversity in the boardroom enhances the decision-making process by examining a more complex list of the issues involved. Bear et al. (2010) note that enhanced corporate reputation was positively associated with increased female representation on the board of directors. Gender-diverse boards increased their disclosure of corporate data (Gul et al. 2011), were more involved in corporate oversight, and were more likely to hold CEOs responsible for poor performance (Adams and Ferreira 2009). When women are on the board's audit committee, there is a reduction in the inherent risk of financial

[1] While this research used public lists of ethical companies, which have drawn questions concerning the validity of the data, Smith (2013) reports that, of the thousands of corporations that were considered by the Ethisphere Institute for "Most Ethical Corporations" status, only 138 corporations were selected. Ethisphere Institute's selection process included: "[R]eviewing codes of ethics and litigation and regulatory infraction histories; evaluating investment in innovation and sustainable business practices; looking at activities designed to improve corporate citizenship; and studying nominations from senior executives, industry peers, suppliers, and customers" (Smith 2013).

misstatements (Ittonen et al. 2010) and increased financial performance (Carter et al. 2003). Additionally, when new audit committee members had accounting expertise, the market reacted positively (DeFond et al. 2005) with respect to profit levels (Van der Walt et al. 2006), return on equity (Farrell and Hersch 2005), and return on assets (Carter et al. 2003). Similarly, *Catalyst* (2007) also reported significant differences between the corporations in the highest and lowest quartiles for women on their boards and performance measured by return on equity, return on sales, and return on invested capital.

## Board Duties

As both Burke (1997) and Arfken et al. (2004) explain, adherence to regulatory standards, protection of stakeholder interest, and creation of a return on investments are all actions that the board should be able to ensure when it is functioning properly. Historically, the boardroom has been comprised of mainly older white males and, as more corporate scandals continue to surface, stakeholders have pushed for change within the corporate structure (McDaniel et al. 2001; Farrell and Hersch 2005; Bernardi et al. 2002). Companies now face "increased pressures for more board-member responsibility and accountability," as well as "intense scrutiny for all decisions" (Arfken et al. 2004, 178). Increased pressure on the board has resulted in changes to the boardroom structure, but these alterations are happening at a slow pace. The Sarbanes-Oxley Act (U.S. House of Representatives 2002) sets forth guidelines over the composition of a board's audit committee (Dalton and Dalton 2010) and changes the way that publically traded corporations treat corporate governance (Arfken et al. 2004); however, more oversight is still needed.

The under representation of women on boards has been documented as early as 1977 and research continues to depict this trend (Burgess and Tharenou 2002). As consumers and shareholders alike continue to question the ability of a homogenous boardroom atmosphere, an increased desire to have more women represented on corporate boards has surfaced. The expectation is that having women on boards will improve board processes due to the "important skills, knowledge, and competencies" that women have (Brammer et al. 2009, 19). Despite the advances that women have made in the corporate setting, and newly enacted regulations, there still are not guidelines that address aspects of diversity or gender inclusion in corporate boards (Dalton and Dalton 2010). A shift to including more women has become noticeable and the role that women play in the corporate setting is beginning to increase. The question becomes: are the effects of these changes evident?

## Expanding Role of Women

As previously stated, increases in female boardroom participation are evident, but the percentage increase is marginal given the advances that women have made in both academia and the workforce in the past 35 years. While women currently represent nearly half of the overall population they are still vastly outnumbered on corporate boards (Arfken et al. 2004; Peterson and Philpot 2007; Farrell and Hersch 2005; Dunn 2012). Historically it was true that women did not have the education or corporate experience needed to sit on boards, but this is no longer the case (Farrell and Hersch 2005). Burke (1997, 910) suggests that:

> [W]omen are developing the necessary experience, track records, and abilities to qualify for board membership, though they are often invisible to male CEOs.

Furthermore, women are obtaining more roles in the economy as consumers, employees, investors, and business owners (Adams and Flynn 2005; McDaniel et al. 2001). The skills obtained in these roles increase the qualifications females have to be considered boardroom candidates. Additionally, the Exchange Commission has required that exchange listed corporations have "audit committee financial expert" as members of the board (SEC 2003b). According to the U.S. Department of Labor's 2009 statistics, women comprise 61.8 percent of employees in the accounting and auditing field and 54.7 percent of financial managers (U.S. Department of Labor 2009); clearly, qualifying experiences are being obtained.

These facts depict the dire situation that is now faced by corporations. Although female colleagues have proven their ability, they are overlooked, resulting in a large portion of the population having a limited voice. Clearly, this is an issue of concern for women, but it should also concern corporations. Research has shown that females control most household consumer decisions, as well as a large percent of consumer spending (Cohen and Kornfeld 2006). Relying on profits from a consumer base that has next to no voice within the corporate structure is a risky and seemingly lackluster initiative.

## Barriers to Board Membership

Historically, women were overlooked and not considered as boardroom candidates; however, new research shows that while women are valuable in today's business environment, there are many barriers to actually obtaining board membership. One of the issues can be explained using "Status Characteristics Theory," which maintains that individuals of low status are expected to have increased levels of ability in order to be viewed the same as high-status individuals (Terjesen et al. 2009). Applying this theory to our study, it can be seen that women would be considered "low status" while male counterparts would be "high status." The development of this theory, as well as research conducted by others, found that for a female:

> to be perceived as having high ability, she must have more evidence of ability than the evidence required to judge a white male's ability. (Hillman et al. 2002, 750)

For example, studies determined that more women on the boards of directors for *Fortune* 1000 companies had advanced degrees than their male counterparts did (Hillman et al. 2002). This results in an immediate limitation in the number of women that achieve boardroom status and further promotes the homogenous atmosphere that has existed for decades.

The "Glass Ceiling" effect is another means for limiting female representation on boards. Arfken et al. (2004, 180) point out that "glass ceilings in organizations, and often glass walls, restrict women to certain fields and positions, such as human resources and other staff duties." This in turn limits the networking opportunities available to women, and networking plays a large role in the attainment of corporate board seats (Adams and Flynn 2005). Due to the high-exclusion levels of women, not only from the boardroom but also in upper levels of management, it is clear that glass ceilings do exist and they are strong enough to hold women back despite their skills, education, and experience (Goodman et al. 2003).

Those women that are able to obtain entry to corporate boardrooms are often met with a great deal of resistance due to male preconceptions and stereotyping (Arfken et al. 2004). Studies have found that many women feel a great deal of pressure to conform to their male counterparts when they are the first women accepted to the board. The invisibility phase is often cited as a period where a woman feels "ignored, dismissed, not taken seriously, or otherwise excluded" (Kramer et al. 2007, 19). As one can see, entry to a board is just the beginning of the struggle to include women in the boardroom setting. In order for the opinion and voice of a female board member to be heard, the entire atmosphere needs to be altered, and this can be a difficult task.

Barriers to entry differ across various sectors and industries. GovernanceMetrics International (2010) points out that women are least represented in the boardrooms of basic resources, automobiles and parts, and construction and materials organizations. This is somewhat unsurprising given the fact that these super sectors are historically male dominated (GovernanceMetrics International 2010). Women tend to be better represented in sectors such as utilities, retail, and media where, on average, 71.9 percent of these firms have at least one woman board member (GovernanceMetrics International 2010). These results are consistent with other research that shows that women tend to achieve higher status within companies that relate more closely to their consumers. (Terjesen et al. 2009; Kramer et al. 2007; GovernanceMetrics International 2010; Goodman et al. 2003)

## Board Diversity

In general, there are very low levels of diversity within the boardroom setting and this represents "both a breakdown of corporate governance and a missed opportunity" (Brammer et al. 2009, 17). Board diversity is a corporate governance issue (GovernanceMetrics International 2010) and one to which corporations should be allocating time. Corporate governance "refers to the system by which companies are directed and controlled" (Campbell and Minguez-Vera 2008, 436) and governance has a direct effect on the culture and decision-making processes of organizations. Diversity within the boardroom has the ability to increase board effectiveness and it is suggested that firms "actively form professional groups in which women are better represented" (Adams and Ferreira 2009, 292). Expanding the recruitment of women for board positions could result in a broader talent pool of applicants and could improve boardroom effectiveness.

Furthermore, new regulations were put into effect following numerous corporate scandals and these policies increase the importance that is placed on board behavior (Adams and Flynn 2005). Following the Sarbanes-Oxley Act (U.S. House of Representatives 2002), the Securities and Exchange Commission (SEC) increased regulatory requirements; namely, that the firms must disclose the nomination and search processes used to fill board seats on U.S. exchange listed organizations (Adams and Flynn 2005). The benefit of this disclosure is increased transparency, which should, in turn, associate with a decreased reliance on the past "boy's club" social networking processes that have typically been used to obtain seats. In other words, transparency in the candidate recruitment process should result in a lower percentage of females being overlooked.

## Tokenism

One of the largest concerns with respect to women board members is the evidence and role of tokenism. Tokenism can be defined as "selecting and promoting individuals based solely on their outer diversity" (Brown et al. 2002, 9). In other words, instead of recognizing the benefits that females can bring to a boardroom, women are recruited merely to make the corporation appear as though it values female input (Peterson and Philpot 2007; Farrell and Hersch 2005). Tokenism prevents females from influencing the overall effectiveness of the board and, thus, their appointment has minimal, if any, effect on corporate governance. In many cases, having one female director is often seen as evidence of tokenism (Adams and Ferreira 2009). While boards are under increased pressure to introduce females, the issue still remains that in order to achieve desired changes there needs to be a way for women to effectively alter the boardroom environment.

A key indication that tokenism exists is the relationship between a woman leaving a board and the likelihood of another woman being appointed as a board member. Dalton and Dalton (2010, 259) reported that "companies with a woman on the boards were unlikely to add another" while if a "woman left a board, the likelihood of a woman replacing the departee was materially increased." The fact that the organization is choosing to maintain the same number of women on their board expresses the idea that they are not choosing women as directors in order to introduce a female perspective in the boardroom, but rather to appear as though they value diversity.

## Critical Mass

The number of women needed on a board to promote change has been debated. Brown et al. (2002) express that having only one woman serve on a board has no effect on its processes or decisions. This could be due to the "invisibility effect" or the likelihood that a female will conform to her male counterparts without additional support. When two women are included on a board, change becomes more likely. "Two women validate each other and provide each other with a sounding board" (Kramer et al. 2007, 20), which helps to reduce the effects of male stereotyping and the need to conform. Adding more women to the board reduces the preconceived notion that a female is simply working to express a woman's point of view rather than speaking for the company's behalf (Kramer et al. 2007). Two women have a greater possibility of altering the way their male counterparts view their role within the boardroom. Still, two women have a limited voice and the likelihood of accomplishing change in the corporation is minimal. In order to achieve tangible change within the boardroom and actively affect corporate governance, a "critical mass" of three or more women is needed (Kramer et al. 2007).

The most difficult aspect of adding women to the boardroom is to effectively change the way that the board functions and, in many cases, this requires altering the manner in which women are viewed. Research has found that a "critical mass" is most efficiently reached when at least 35 percent of the boardroom population is female. This percentage figure is closely correlated with a change in the way that the male boardroom population sees female directors and their ability to contribute to the corporation (Brown et al. 2002). Once "critical mass" has been reached, a sense of normalcy is attained. In this instance, gender is no longer a factor in efficient governance and decision making (Terjesen et al. 2009). Research has found it is essential for directors to consider the "critical mass" theory when including women as directors. It has been previously stated that women have the qualifications and experience necessary to enter the boardroom, but they are unable to meet their full potential without the proper support. The advised percentage of 35 percent female-to-male ratio will allow firms to utilize the full range of attributes that females can bring to the boardroom, while at the same time limiting problems such as "group think" and the "invisibility effect" (Kramer et al. 2007).

**RQ1a:** At what point (i.e., critical mass) does the proportion of women on *Fortune* 500 boards of directors affect the likelihood that the firm will be listed on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list?

**RQ1b:** At what point (i.e., critical mass) does the proportion of women on *Fortune* 500 boards of directors affect the likelihood that the firm will be listed on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list?

### Women and Ethics

While the aforementioned information details the value that should be placed on having women in the boardroom, the question at hand is how will their presence affects the ethical orientation and transparency of a corporation? The tendency to promote corporate philanthropy, increased sensitivity levels, and a focus extending beyond profit maximization implies that females make more decisions based on corporate responsibility than their male counterparts do (Bernardi et al. 2006). Prior research has suggested that there is a difference between the "moral reasoning and development between males and females" (Akaah 1989, 375) implying that the way men and women handle ethical decision making differs. If females do in fact have higher ethical standards than their male counterparts, businesses could increase the female-to-male ratio in order to promote a more ethical corporate environment. Williams (2003) makes clear the correlation between increased levels of female directors and higher levels of "involvement in activities related to corporate social responsibility." The more concerned the firm is with issues of corporate responsibility, the less likely the firm will take actions that are considered unethical or that do not promote the overall wellbeing of the firm and the surrounding environment. Adding female board members has proven to increase an organization's sense of responsibility. This further promotes the idea that females are needed within the boardroom.

While men tend to focus on more tangible actions such as financial performance measures, women concern themselves more with the satisfaction of those connected to the firm (Burgess and Tharenou 2002). This ranges through all levels, from those that are connected with the creation of the product to those that purchase the good (Terjesen et al. 2009). For example, women find value in creating performance measures that are inclusive of social responsibility goals and ensuring that said measures are met. Having women on boards can also positively affect the way that internal and external individuals view the operations of the organization (Dunn 2012).

In a corporate landscape where corruption is rampant, it is essential that firms work to ensure their culture is ethical and women are able to enhance this important aspect (McDaniel et al. 2001). Bernardi et al. (2009) state that the presence of women board members increases the probability of firms acting more ethically; this leads to our second set of research questions:

**RQ2a:** Is the percent of women on boards of directors higher for *Fortune* 500 companies on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list?

**RQ2b:** Is the percent of women on boards of directors higher for *Fortune* 500 companies on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list?

## METHODOLOGY

### Sample

The current sample includes the 2010 *Fortune* 500 firms of which 92 (408) corporations appear (do not appear) on *Corporate Responsibility Magazine*'s (2011) "100 Best Corporate Citizens 2010" list (Table 1). The sample also includes the 46 (454) corporations that appear (do not appear) on *Ethisphere Magazine*'s (2011) "2010 World's Most Ethical Companies" list (Table 2). The methodology for *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list is shown in Appendix A. The methodology for *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list is shown in Appendix B. We determined the size and gender composition

**TABLE 1**

**Most Transparent Companies**

| | | |
|---|---|---|
| 3M | Ford Motor | Northeast Utilities |
| Abbott Laboratories | FPL Group | Occidental Petroleum |
| Advanced Micro Devices | Freeport-McMoRan Copper & Gold | Oracle |
| Air Products & Chemical | Gap | Owens Corning |
| Alcoa | General Mills | Pepsi Bottling |
| Allergan | H.J. Heinz | PepsiCo |
| Applied Materials | Hess | PGandE Corp. |
| Avon Products | Hewlett-Packard | Procter and Gamble |
| Ball | Hormel Foods | Quest Diagnostics |
| Baxter International | Intel | Raytheon |
| Boeing | International Business Machines | Sara Lee |
| Bristol-Myers Squibb | International Paper | Sempra Energy |
| Campbell Soup | ITT | Sherwin-Williams |
| Chevron | J.C. Penney | Southern |
| Cisco Systems | J.P. Morgan Chase and Co. | Staples |
| Citigroup | Johnson and Johnson | Starbucks |
| Coca-Cola | Johnson Controls | State Street Corp. |
| Coca-Cola Enterprises | Kellogg | Stryker |
| Colgate-Palmolive | Kimberly-Clark | Texas Instruments |
| ConAgra Foods | Lubrizol | TJX |
| Consolidated Edison | Mattel | Union Pacific |
| Cummins | McDonald's | United Parcel Service |
| CVS Caremark | McGraw-Hill | Verizon |
| Deere | McKesson | Wal-Mart Stores |
| Dell | Medtronic | Walt Disney |
| Dominion Resources | Merck | Weyerhaeuser |
| Duke Energy | Microsoft | Wisconsin Energy |
| Eaton | Monsanto | Xcel Energy |
| EMC | Mosaic | Xerox |
| Exelon | Newmont Mining | Yum Brands |
| Exxon Mobil | Nike | |

of the corporate boards of directors by referring to the companies' actual 2010 annual reports or from data included in the Mergent Online database.

## Annual Report Data

The research questions were analyzed using both a *by-firm average* and an *overall average* to test female representation on boards of directors. The *by-firm average* was computed by averaging the percent of female board members of each of the 92 (408) firms that appear (do not appear) on *Corporate Responsibility Magazine*'s (2011) "100 Best Corporate Citizens 2010" and the 46 (454) firms that appear (do not appear) on *Ethisphere Magazine*'s (2011) "2010 World's Most Ethical Companies" list. For instance, if female directors made up 20 percent of the directors of firm one and 10 percent of the directors of firm two, the average percent of female directors

**TABLE 2**

**Most Ethical Companies**

| | | |
|---|---|---|
| Aflac | Flour | Pitney Bowes |
| American Express | Ford Motor | Principal Financial |
| Aramark | FPL Group | Rockwell Automation |
| Ashland | Gap | Rockwell Collins |
| Becton Dickinson | General Electric | Sempra Energy |
| Best Buy | General Mills | Starbucks |
| Campbell Soup | Google | Symantec |
| Caterpillar | Harris | Target |
| CH2M Hill | Hartford Financial Services | Texas Instruments |
| Cisco Systems | Hewlett-Packard | Time Warner |
| Cummins | International Paper | United Parcel Service |
| Deere | Johnson Controls | Waste Management |
| Duke Energy | Mattel | Weyerhaeuser |
| Eaton | Nike | Whole Foods Market |
| Ecolab | PepsiCo | Wisconsin Energy |
| | | Xerox |

would be 15 percent ([20 + 10]/2). The *overall average* was computed by dividing the total number of female board members by the total number of board members (i.e., both female and male directors).

For the firms that appear on *Corporate Responsibility Magazine*'s (2011) "100 Best Corporate Citizens 2010" list there were 201 female directors and 1,094 total directors; consequently, the female representation on the boards is 18.4 percent (201/1,094). For the firms that appear on *Ethisphere Magazine*'s (2011) "2010 World's Most Ethical Companies" list, there were 98 female directors and 519 total directors; consequently, the female representation on the boards is 18.9 percent (98/519).

The use of both of these measures is essential to the research questions. Had we only used the *by-firm average* in our analysis, a relatively small board, primarily made up of (with no) women, could have an undue influence in the statistics since this method treats all boards equally regardless of their size. On the other hand, had we only used the *overall average* in our analysis, a relatively large board, primarily made up of (with no) women, could have an undue influence in the statistics since this method treats all individuals equally regardless of their affiliation.

## Background Information on Selection Processes

*Corporate Responsibility Magazine*'s list (Appendix A) took into consideration both the transparency and the level of social responsibility of organizations. It is important to note that our basis for considering an organization transparent lies with the fact that corporations were penalized by the magazine for not publically disclosing information relating to social responsibility. *Ethisphere Magazine*'s list (Appendix B) acknowledges corporations for being ethical and following compliance measures through positive leadership.

# DATA ANALYSIS

## Overview of the Sample

The average size of the board of directors was 11.0 directors for the 500 corporations on *Fortune*'s list. Of the 5,518 directors in the sample, 863 (15.6 percent) were women and 4,655 (84.4 percent) were men. Of the 500 corporations, 285 (57.0 percent) had multiple female directors, 148 (29.6 percent) had only one female director, and the remaining 67 (13.4 percent) did not have any female directors.

The average size of the board of directors for the 46 (454) corporations that appeared (did not appear) on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list was 11.3 (11.0) directors. The data for the 46 corporations that appeared on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list indicate that two (4.4 percent) did not have any female directors, ten (21.7 percent) had only one female director, and 34 (73.9 percent) had multiple female directors. Contrast these numbers and percentages with those of the 454 corporations that did not appear on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list, which indicate that only 65 (14.3 percent) did not have any female directors, 138 (30.4 percent) had only one female director, and 251 (55.3 percent) had multiple female directors.

Based on the information gathered, we found that critical mass does in fact occur around the point that three women enter a board. This conclusion was made by comparing the number of women on a board and the likelihood that the organization would be included on either the "100 Best Corporate Citizens 2010" list or the "2010 World's Most Ethical Companies" list. Having been recognized by either publication indicates that corporate governance is functioning at a high level within the organization, thus the number of women can be viewed as significant.

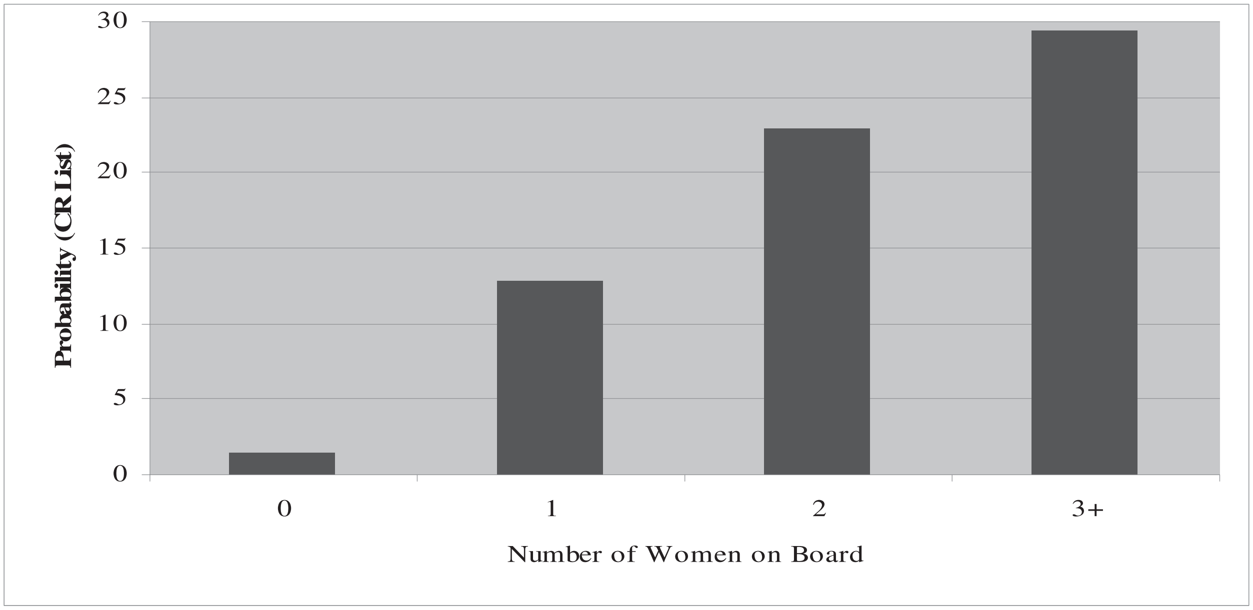
## Critical Mass and Listings (RQ1)

In this part of the analysis, we examine the presence of women on corporate boards (both as an overall number and as a proportion of the board) to determine if there is evidence of a "critical mass" for women board members and being on either *Corporate Responsibility Magazine*'s or *Ethisphere Magazine*'s list, which the literature suggests. The data in Figure 1 show the probability of appearing on *Corporate Responsibility Magazine*'s list by the number of women on the board and the percent of women on the board by categories present in prior research. The data in Panel A indicate an approximately equal increase in the probability between no women and one woman and between one woman and two women on the board. While there is an increase between two women and three plus women on the board, the increase is not as great as the initial categories. For the proportion of women on the board (Panel B), 31 percent and higher was used instead of the "critical mass" figure of 35 percent, as this would have reduced our sample size considerably. We found similar increases between the initial two categories and the final two categories with a smaller increase occurring between the second and third categories.

The data in Figure 2 show the probability of appearing on *Ethisphere Magazine*'s list by the number of women on the board and the percent of women on the board by categories present in prior research. The data in Panel A indicate an approximately equal increase in the probability between the first and second categories and second and third categories. While there is an increase between two women and three plus women on the board, the increase is only about half that of the initial categories. For the proportion of women on the board (Panel B), approximately

**FIGURE 1**
**Probability of Being on *Corporate Responsibility Magazine*'s List**

**Panel A: Probability by the Number of Women on the Board**




**Panel B: Probability by the Percent of Women on the Board**

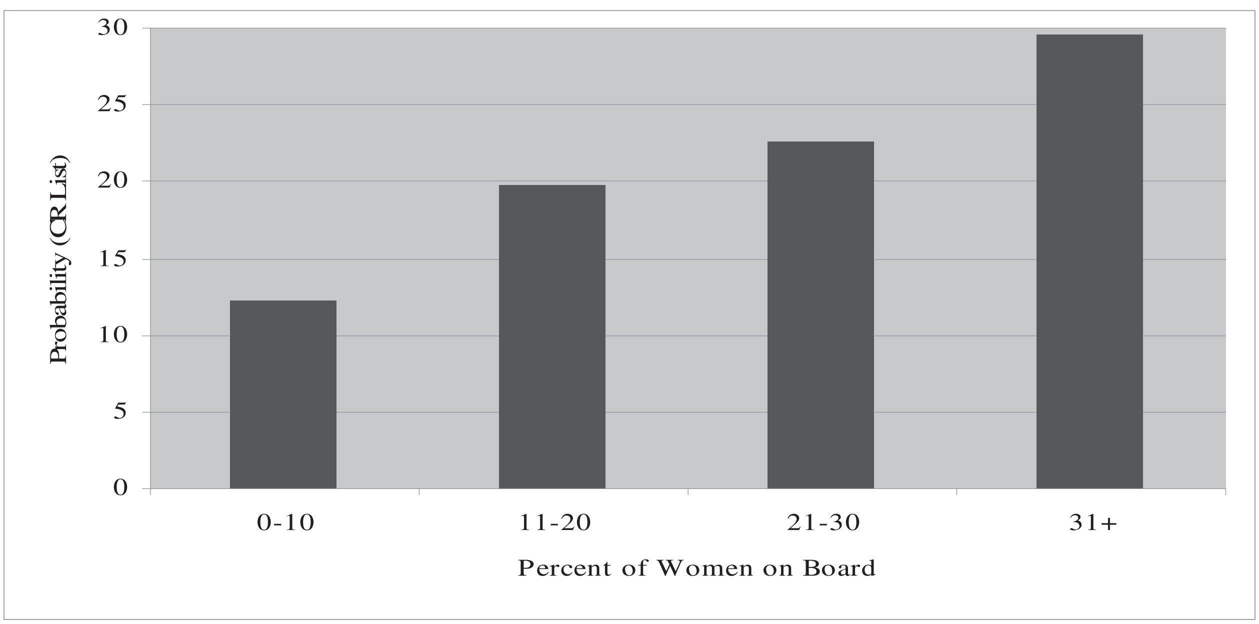
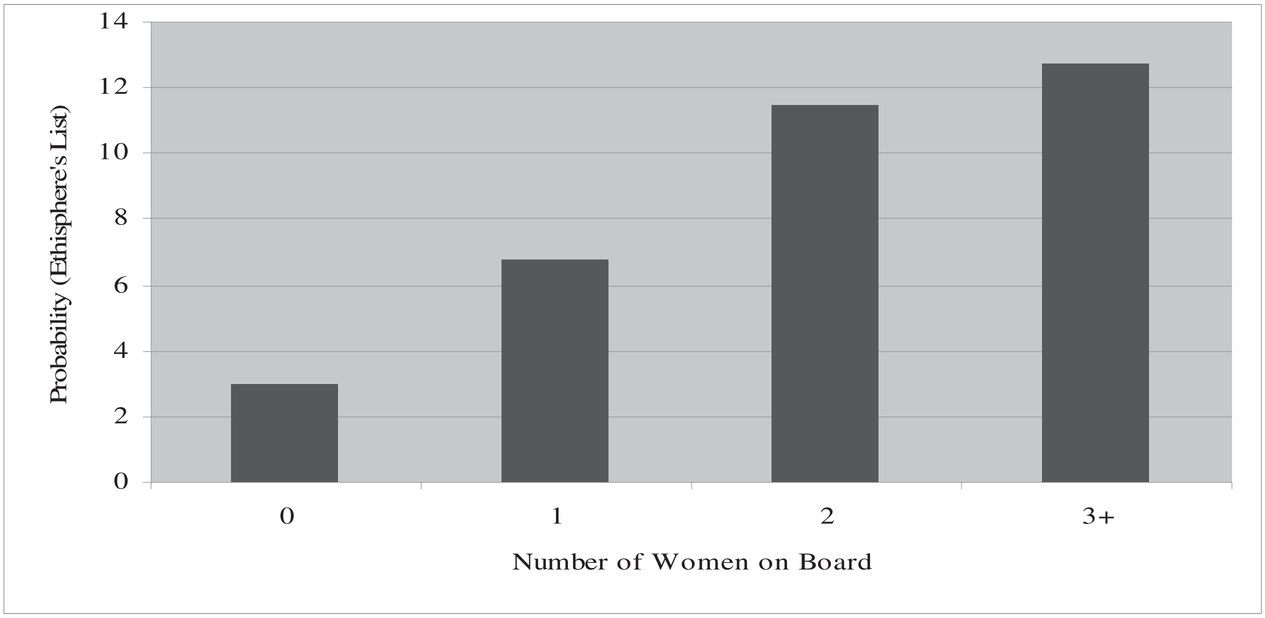


**FIGURE 2**
**Probability of Being on *Ethisphere*'s List**

**Panel A: Probability by the Number of Women on the Board**




**Panel B: Probability by the Percent of Women on the Board**

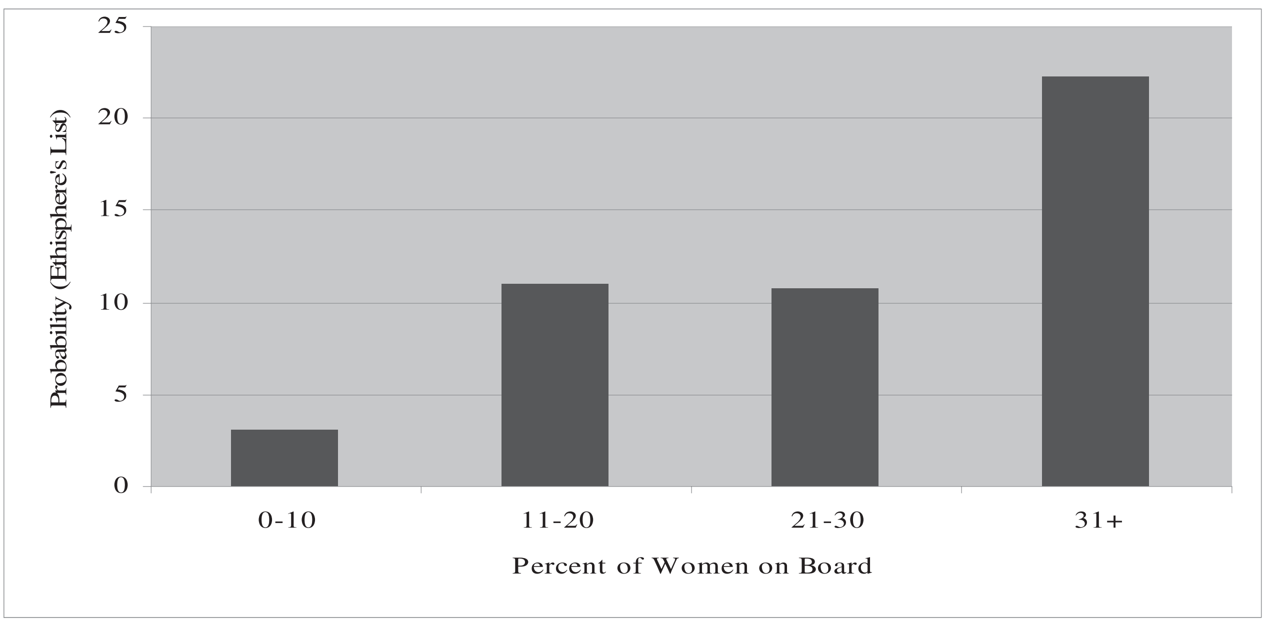


**TABLE 3**

**Female Director Data for *Corporate Responsibility Magazine*'s List**

| Measures | | Transparent | Remaining | Overall |
|---|---|---|---|---|
| Number of Firms | # | 92 | 408 | 500 |
| Number of Directors | # | 1,094 | 4,424 | 5,518 |
| Average Number of Directors | # | 11.9 | 10.8 | 11.0 |
| Number of Female Directors | # | 201 | 662 | 863 |
| Percent of Female Directors | | | | |
| By Firm | % | 18.7 | 14.3 | 15.1 |
| Overall | % | 18.4 | 15.0 | 15.6 |
| Firms With: | | | | |
| No Female Directors | # | 1 | 66 | 67 |
| | % | 1.1 | 16.2 | 13.4 |
| One Female Director | # | 19 | 129 | 148 |
| | % | 20.6 | 31.6 | 29.6 |
| Multiple Female Directors | # | 72 | 213 | 285 |
| | % | 78.3 | 52.2 | 57.0 |

Transparent = Firms on *Corporate Responsibility Magazine*'s list.
Remaining = Firms not on *Corporate Responsibility Magazine*'s list.

similar increases occur between the first and second and third and fourth categories with no change occurring between the second and third categories.

## Female Representation and Listings (RQ2)

The first part of our second research question examines the difference in female representation on corporate boards of directors between corporations that appeared (did not appear) on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list. The data were analyzed using students' t-tests that compared the average percent of female directors for the 92 corporations that appeared on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list, with the average percent of women for the 408 corporations that did not appear on this list. Corporations that appeared on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list had a higher average representation of women (18.7 percent versus 14.3 percent) on their boards ($t = 4.47$, $p < 0.0001$). Our results do not change if we compare overall percentages. Of the 1,094 directors for the 92 firms that appeared on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list there were 201 female directors (18.4 percent). This compares to a female representation of 15.0 percent (662/4,424) for the 408 corporations that did not appear on this list. The difference in the gross percentages (18.4 percent versus 15.0 percent) is significant ($t = 3.50$, $p = 0.0002$).

As shown in Table 3, the average size of the board of directors for the 92 (408) corporations that appeared (did not appear) on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list was 11.9 (10.8) directors. The data for the 92 corporations that appeared on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list indicate that only one (1.1 percent) did not have any female directors, 19 (20.6 percent) had only one female director,

**TABLE 4**
**Female Director Data for *Ethisphere Magazine*'s List**

| Measures | | Ethical | Remaining | Overall |
|---|---|---|---|---|
| Number of Firms | # | 46 | 454 | 500 |
| Number of Directors | # | 519 | 4,999 | 5,518 |
| Average Number of Directors | # | 11.3 | 11.0 | 11.0 |
| Number of Female Directors | # | 98 | 765 | 863 |
| Percent of Female Directors | | | | |
| By Firm | % | 18.5 | 14.8 | 15.1 |
| Overall | % | 18.9 | 15.3 | 15.6 |
| Firms With: | | | | |
| No Female Directors | # | 2 | 65 | 67 |
| | % | 4.4 | 14.3 | 13.4 |
| One Female Director | # | 10 | 138 | 148 |
| | % | 21.7 | 30.4 | 29.6 |
| Multiple Female Directors | # | 34 | 251 | 285 |
| | % | 73.9 | 55.3 | 57.0 |

Transparent = Firms on *Ethisphere Magazine*'s list.
Remaining = Firms not on *Ethisphere Magazine*'s list.

and 72 (78.3 percent) had multiple female directors. Contrasting these numbers and percentages with those of the 408 corporations that did not appear on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizens 2010" list indicates that 66 (16.2 percent) did not have any female directors, 129 (31.6 percent) had only one female director, and 213 (52.2 percent) had multiple female directors.

The second part of this research question examines the difference in female representation on corporate boards of directors between corporations that appeared (did not appear) on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list. The data were analyzed using students' t-tests that compared the average percent of female directors for the 46 corporations that appeared on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list with the average percent of women for the 454 corporations that did not appear on this list. Table 4 indicates that corporations that appeared on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list had a higher average representation of women (18.5 percent versus 14.8 percent) on their boards ($t = 2.65$, $p = 0.0106$). Our results do not change if we compare overall percentages. Of the 519 directors for the 46 firms that appeared on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list, there were 98 female directors (18.9 percent). This compares to a female representation of 15.3 percent (765/4,999) for the 454 corporations that did not appear on this list. The difference in the average percentages (18.9 percent versus 15.3 percent) is significant ($t = 2.63$, $p = 0.0110$).

As shown in Table 4, the average size of the board of directors for the 46 (454) corporations that appeared (did not appear) on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list was 11.3 (11.0) directors. The data for the 46 corporations that appeared on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list indicate that two (4.4 percent) did not have any female directors, ten (21.7 percent) had only one female director, and 34 (73.9 percent) had multiple female directors. Contrast these numbers and percentages with those of the 454 corporations that did not appear on *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list, which indicate that 65 (14.3 percent) did not have any female directors, 138 (30.4 percent) had only one female director, and 251 (55.3 percent) had multiple female directors. The statistics show that the percent of women on boards is in fact higher for the *Fortune* 500 companies listed on *Corporate Responsibility Magazine*'s "100 Best Corporate Citizen's list" and *Ethisphere Magazine*'s "2010 World's Most Ethical Companies" list.

# CONCLUSIONS

Our findings indicate that having a higher percentage of women on the board of directors translates into the corporation being viewed as more ethical and more transparent. The data suggest that a higher number of female board members were included in the organizations that were recognized by *Ethisphere Magazine* and *Corporate Responsibility Magazine*. In general, we feel that these publications are a guide to the overall investor sentiment that surrounds the organizations in question.

With corporate scandals at the forefront of governance issues, there is no doubt that organizations need to become better corporate citizens and increase their levels of corporate social responsibility. As this study has shown, increasing the number of women on boards is a viable means for improving a corporation's image. While the advances of women have been increasing at a faster rate following the Sarbanes-Oxley Act (U.S. House of Representatives 2002), there is still a large discrepancy between the number of men and women that hold board seats. Prior research and the findings in this study indicate that incorporating women in the boardroom should have numerous benefits including improving the perception of the firm, increasing firm value, and attracting a wider range of qualified individuals.

Corporate social responsibility has recently become a buzzword for shareholders and expresses the level of commitment that an organization has to its surrounding environment while obtaining bottom-line results. In an era where numerous businesses have failed and many more have blurred the line between acceptable and non-acceptable behavior, shareholders need to be privy to the activities that take place behind the scenes of organizations. Corporations that choose to publically disclose their efforts to be socially responsible are practicing increased transparency and allowing shareholders to fully understand all aspects of the business. Making information publicly available also increases the pressure on the organization to act in a socially acceptable manner and reduces the likelihood of negative events. Similar to corporate responsibility, the ethical orientation of an organization is also a key indicator of a corporation's values. Unlike corporate responsibility that measures how an organization relates to external entities, ethics is more concerned with internal choices and policies of organizations (training and communication, company standards, leadership, governance, etc.).

The research questions discussed within this paper measure the likelihood that having more women on boards will result in quantifiable changes within organizations. As the "Critical Mass Theory" (Kramer et al. 2007) explains, there needs to be a certain number of women present on a board for a shift in the board atmosphere to take place. For this reason, we proposed that a critical mass of female board members (3 or more or 33 percent or more) would be present on the boards of directors for the organizations listed on the "100 Best Corporate Citizens 2010" list or the "2010 World's Most Ethical Companies" list, respectively. Our data suggest that this is correct. As Figures 1 and 2 depict, there is evidence that an increase in both the number and percentage of women on a corporation's board are positively related to the likelihood that the board will be included on either *Corporate Responsibility Magazine*'s or *Ethisphere Magazine*'s list. Figure 2, Panel B most clearly represents the "Critical Mass

Theory." One can see that the likelihood of an organization being listed on the "2010 World's Most Ethical Companies" (*Ethisphere Magazine* 2011) list jumps considerably when the board is comprised of 33 percent or more females. This finding indicates that in order for women to improve the ethical orientation of an organization, a critical mass of females must be obtained.

Based on prior research, we posited that there would be more women on the boards of organizations that were listed on the "100 Best Corporate Citizens 2010" *Corporate Responsibility Magazine* 2011) list and the "2010 World's Most Ethical Companies" (*Ethisphere Magazine* 2011) list because women tend to promote ethical behavior and increased transparency within organizations. As Tables 3 and 4 depict, these hypotheses were supported by our data. This finding implies that the organizations on the respective lists value the female perspective and actively work to ensure that females have the support available to contribute to the boardroom. Overall, we found that there were higher percentages of women on the boards of the companies included on either list than in the remaining *Fortune* 500 companies. Tokenism was also implied by the high percentage of organizations not included on either list that only had one female director. These findings support the hypotheses that more women can be expected on the boards included on the lists studied.

Using data from one year, this study demonstrates that women belong on boards as they can enhance the board culture and improve the perception of the organization. Future research opportunities in this field include studies on the board committees that females sit on, the number of women that have multiple board seats, and a longitudinal case tracking the growth of female boardroom participation.

This research has two limitations. The first limitation is that the research only examined two lists for one specific year; however, this limitation suggests an area for future research that includes multiple lists and years. The second limitation is that it used public lists of ethical companies, which have drawn questions concerning the validity of the data.

# REFERENCES

Adams, R. B., and D. Ferreira. 2009. Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics* 94 (2): 291–309.

Adams, S. M., and P. M. Flynn. 2005. Local knowledge advances women's access to corporate boards. *Corporate Governance: An International Review* 13 (6): 836–846.

Akaah, I. P. 1989. Differences in research ethics judgments between male and female marketing professionals. *Journal of Business Ethics* 8 (5): 375–381.

Arfken, D. E., S. L. Bellar, and M. M. Helms. 2004. The ultimate glass ceiling revisited: The presence of women on corporate boards. *Journal of Business Ethics* 50 (2): 177–186.

Bear, S., N. Rahman, and C. Post. 2010. The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics* 97 (2): 207–221.

Bernardi, R. A., D. F. Bean, and K. M. Weippert. 2002. Signaling gender diversity through annual report pictures: A research note on image management. *Accounting, Auditing and Accountability Journal* 15 (4): 609–616.

Bernardi, R. A., S. M. Bosco, and K. M. Vassill. 2006. Does female representation of boards of directors associate with *Fortune*'s "100 best companies to work for" list? *Business and Society* 45 (2): 235–248.

Bernardi, R. A., S. M. Bosco, and V. L. Columb. 2009. Does female representation of boards of directors associate with the "most ethical companies' list? *Corporate Reputation Review* 25 (3): 270–280.

Brammer, S., A. Millington, and S. Pavelin. 2009. Corporate reputation and women on the board. *British Journal of Management* 20 (1): 17–29.

Brown, D. A. H., D. L. Brown, and V. Anastasopoulos. 2002. *Women on Boards: Not Just the Right Thing...But the "Bright" Thing*. Available at: http://www.europeanpwn.net/files/women_on_boards_canada.pdf

Burgess, Z., and P. Tharenou. 2002. Women board directors: Characteristics of the few. *Journal of Business Ethics* 37 (1): 39–49.

Burke, R. J. 1997. Women on corporate boards of directors: A needed resource. *Journal of Business Ethics* 16 (9): 909–915.

Campbell, K., and A. M. Minguez-Vera. 2008. Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics* 83 (3): 435–451.

Carter, D. A., B. J. Simkins, and W. G. Simpson. 2003. Corporate governance, board diversity, and firm value. *The Financial Review* 38 (1): 33–53.

Catalyst. 2007. *Catalyst Census on Board Directors*. Available at: http://www.catalyst.org/knowledge/topics/women-leadership

Cohen, R., and L. Kornfeld. 2006. Women leaders and the bottom line. *Bloomberg Corporate Law Journal* 1 (1): 1–8.

Corporate Responsibility Magazine. 2011. *100 Best Corporate Citizens 2010*. Available at: http://www.thecro.com/content/100-best-corporate-citizens

Dalton, D. R., and C. M. Dalton. 2010. Women and corporate boards of directors: The promise of increased, and substantive, participation in the post Sarbanes-Oxley era. *Business Horizons* 53 (3): 257–268.

DeFond, M. L., R. N. Hann, and X. Hu. 2005. Does the market value financial expertise on audit committees of boards of directors? *Journal of Accounting Research* 43 (2): 153–193.

Donaldson, W. H. 2003. *Remarks before the New York Financial Writers' Association*. Available at: http://www.sec.gov/news/speech/spch060503whd.htm

Dunn, P. 2012. Breaking the boardroom gender barrier: The human capital of female corporate directors. *Journal of Management and Governance* 16 (4): 557–570.

Ernst & Young. 2012. *The Sarbanes-Oxley Act at 10: Enhancing the Reliability of Financial Reporting and Audit Quality*. Available at: http://www.ey.com/Publication/vwLUAssets/The_Sarbanes-Oxley_Act_at_10_-_Enhancing_the_reliability_of_financial_reporting_and_audit_quality/$FILE/JJ0003.pdf

Ethisphere Magazine. 2011. *2010 World's Most Ethical Companies*. Available at: http://m1.ethisphere.com/wme2013/index.html

Farrell, K. A., and P. L. Hersch. 2005. Additions to corporate boards: The effect of gender. *Journal of Corporate Finance* 11 (1-2): 85–106.

Fortune. 2010. *Fortune 500*. New York, NY: Arnold Bernhard and Co.

Goodman, J. S., D. L. Fields, and T. C. Blum. 2003. Cracks in the glass ceiling: In what kinds of organizations do women make it to the top? *Group and Organization Management* 28 (4): 475–501.

GovernanceMetrics International. 2010. *Women on Boards: A Statistical Review by Country, Super Sector, and Sector*. Available at: http://www.gmiratings.com/hp/Women_on_Boards_March_2010.pdf

Gul, F. A., B. Srinidhi, and A. C. Ng. 2011. Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting & Economics* 51 (3): 314–338.

Hillman, A. J., A. A. Cannella, and I. C. Harris. 2002. Women and racial minorities in the boardroom: How do directors differ? *Journal of Management* 28 (6): 747–763.

Ittonen, K., J. Miettinen, and S. Vahamaa. 2010. Does female representation in audit committees affect audit fees? *Quarterly Journal of Finance and Accounting* 49 (3/4): 113–139.

Kramer, V. W., A. M. Konrad, S. Erkut, and M. J. Hooper. 2007. Critical mass on corporate boards: Why three or more women enhance governance. *Directors Monthly* (February): 19–22.

McDaniel, C., N. Schoeps, and G. Lincourt. 2001. Organizational ethics: Perceptions of employees by gender. *Journal of Business Ethics* 33 (3): 245–256.

Peterson, C. A., and J. Philpot. 2007. Women's roles on U.S. *Fortune* 500 boards: Director expertise and committee memberships. *Journal of Business Ethics* 72 (2): 177–196.

PricewaterhouseCoopers (PwC). 2003a. *The Sarbanes-Oxley Act of 2002: Understanding the Independent Auditor's Role in Building Public Trust: A White Paper*. Available at: http://www.uic.edu/classes/actg/actg593/Readings/Sarbanes-Oxley/PWC-Sox-Act-White-Paper.pdf

PricewaterhouseCoopers (PwC). 2003b. *Stand and Be Counted: PricewaterhouseCoopers Position on Rebuilding Trust in the Capital Markets*. New York, NY: PricewaterhouseCoopers.

Russell Investments. 2010. *Russell 1000 Index membership* list. Available at: http://www.russell.com/indexes/documents/Membership/Russell1000_Membership_list.pdf

Securities and Exchange Commission (SEC). 2003a. *Report and Recommendations Pursuant to Section 401(C) of the Sarbanes-Oxley Act of 2002 on Arrangements with Off-Balance Sheet Implications, Special Purpose Entities, and Transparency of Filings by Issuers*. Available at: http://www.sec.gov/news/studies/soxoffbalancerpt.pdf

Securities and Exchange Commission (SEC). 2003b. *Audit Committee Financial Expert*. Available at: http://www.sec.gov/rules/final/33-8177.htm.

Smith, J. 2013. *The World's Most Ethical Companies*. Available at: http://www.forbes.com/sites/jacquelynsmith/2013/03/06/the-worlds-most-ethical-companies-in-2013/

Terjesen, S., R. Sealy, and V. Singh. 2009. Women directors on corporate boards: A review and research agenda. *Corporate Governance: An International Review* 17 (3): 320–337.

U.S. House of Representatives. 2002. The Sarbanes-Oxley Act of 2002. Public Law 107-204 [H. R. 3763]. Washington, DC: GPO.

U.S. Department of Labor. 2009. Bureau of Labor Statistics: Employment and earnings. 2009 annual averages and the monthly labor review. Washington, DC: Government Printing Office.

Van der Walt, N., C. Ingley, G. S. Shergill, and A. Townsend. 2006. Board configuration: Are diverse boards better boards? *Corporate Governance* 6 (2): 129–147.

Williams, R. J. 2003. Women on corporate boards of directors and their influence on corporate philanthropy. *Journal of Business Ethics* 42 (1): 1–10.

## APPENDIX A

### *Corporate Responsibility Magazine*: Criteria and Process

**Panel A: *Corporate Responsibility Magazine*'s Criteria for Identifying "100 Best Corporate Citizens"**

| Data Category | # Data Elements | 2010 Weighting Percent |
|---|---|---|
| Environment | 133 | 19.5% |
| Climate Change | 60 | 16.5% |
| Human Rights | 40 | 16.0% |
| Employee Relations | 65 | 19.5% |
| Philanthropy | 9 | 9.0% |
| Financial | 8 | 12.5% |
| Governance | 9 | 7.0% |

"100 Best Corporate Citizens" methodology uses publicly available information to determine the world's top corporate responsibility ranking. *CR Magazine* contracts with a third-party research organization to collect data and develop initial rankings. Once all *the necessary information was collected*, the companies were scored relative to their industry peers *324 data elements in 7 categories*.

The companies included in the analysis were defined as the Russell (2010) 1000. The rankings are determined from the ordinal list of companies that results from applying the corporate citizenship criteria detailed above.

**Panel B: Explanation of *Corporate Responsibility Magazine*'s Process[a]**

| | |
|---|---|
| STEP 1 | Selection of and Contracting with a Research Firm |
| STEP 2 | Determination of Evaluation Criteria |
| STEP 3 | Data Collection |
| STEP 4 | Data Sources |
| STEP 5 | Undisclosed Data |
| STEP 6 | Data Validation |
| STEP 7 | Review and Publication |

[a] From *Corporate Responsibility Magazine* (2011). The 2011 methodology details were used, as 2010 details were unavailable. *CR Magazine*'s researchers and editors employed a detailed process. For the separate and sequential analyses conducted, as shown above: Steps 1–2 determined the way that analysis would be completed and includes getting input and opinions from NGOs, academics, investment analysts, etc.; Steps 3–6 focus on data collection using only publicly available information (company websites, 10-Ks, government datasets, etc.). Undisclosed information negatively influences the company's ranking. Data validation is done by the research team reviewing their work and by providing the opportunity for companies to correct factual inaccuracies; and

Step 7 allows companies two opportunities to review the datasets determined by the research team (not their rankings), after this period the information and rankings are provided to *CR*.

# APPENDIX B

## *Ethisphere*'s Criteria for Identifying "The World's Most Ethical Companies"

World's Most Ethical Companies™ (WME) methodology analyzes companies that go beyond making statements about doing business "ethically," to translate those words into action. WME winners demonstrate real and sustained ethical leadership within their industries, putting the Council's credo of "Good. Smart. Business. Profit." into real business practice. The Ethics Quotient (EQ) framework is consists of a series of multiple-choice questions in five core categories. These are used to capture and rate a company's performance in an objective, consistent, and standard manner. The categories and associated weighting are:

| | |
|---|---|
| 1. Ethics and Compliance Program | 30% |
| 2. Reputation, Leadership, and Innovation | 30% |
| 3. Governance | 15% |
| 4. Corporate Citizenship and Responsibility | 25% |

The EQ score is derived given the relationship to answers provided and formulas based on demographic qualifiers. The top percentile of performers in each of the 35 industries are then independently researched and analyzed to verify ethics performance. From *Ethisphere* (2011).