

# The Composition Of Corporate Boards Of Directors: Does Industry Matter?

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## ABSTRACT

*The purpose of this study is to identify and examine differences in corporate board characteristics across four industries. Using a sample of 2592 US publicly traded firms, eleven board characteristics were identified and then examined across manufacturing, retail trade, finance/insurance, and services industries. Our analyses revealed significant differences in each of the eleven board characteristics examined. Implications and areas for future research are discussed.*

**Keywords:** Corporate Governance; Board of Directors; Board Characteristics; Industry

## INTRODUCTION

Boards of Directors (BODs) and the topic of corporate governance have received a great deal of attention over the past decade. From cases of financial restatements to excessive CEO compensation, the awareness, responsibility, and effectiveness of BODs has been questioned (Arthaud-Day, Certo, Dalton, & Dalton, 2006). Corporate governance can be defined as the determination of the broad uses to which organizational resources are deployed and the resolution of conflicts among the many participants in organizations (Daily, Dalton, & Cannella, 2003). Of primary concern is the relationship between a company's shareholders, board of directors, and managers. An important role of the board of directors is to ensure that the decisions made by top managers are in the best interests of the shareholders (Hillman & Dalziel, 2003). Other important roles of the board include facilitating access to resources that may be vital to firm success as well as providing advice and counsel to management (Johnson, Daily, & Ellstrand, 1996).

Major theoretical groundings for the role of boards include agency theory, resource dependency theory, and institutional theory. From an agency perspective boards serve as a monitoring mechanism (Fama & Jensen, 1983). Resource dependency theory provides a basis for understanding the interdependence of organizations and the ability of board members to aid the firm in gaining important resources (Pfeffer & Salancik, 1978). Institutional theory suggests that firms adopt structures or routines for legitimacy reasons and thus boards may take on certain forms and characteristics because of expected industry or macro-level business norms (Meyer & Rowan, 1977). When considering these theories, a question arises as to whether boards vary based on industry membership. Prior research has examined changes in board characteristics over time (Marlin & Geiger, 2011) while many other studies have controlled for industry in their analyses. However, there is scant research specifically focusing on differences in board characteristics across industries. Depending on industry, it is likely that board profiles could vary due to factors such as the complexity of the monitoring function, need or importance of the resource role of the board, and finally the potential for norms within a business sector.

The purpose of this study is to identify and examine differences in corporate board characteristics across industries. More specifically, using a sample of 2592 US publicly traded firms, board characteristics were identified and then examined across manufacturing, retail trade, finance/insurance, and services industries. In the next section, a brief overview of research on the importance of board characteristics is presented. Next, the methodology is described and the results of the analyses are presented. Finally, implications and future research areas are discussed.

## LITERATURE REVIEW

The three organizational theories discussed above provide the rationale for the importance of board composition. From an agency view the purpose of boards is as fiduciaries charged with monitoring management (Bainbridge, 1993). In this perspective, boards serve to minimize the potential for managerial self-interest (Eisenhardt, 1989). According to agency theory, superior firm performance accrues to organizations that are able to optimally manage their agency costs (Fama & Jensen, 1983). Thus, independence and the ability to monitor management are the driving factors of the board's impact on firm performance (Booth & Deli, 1996). The literature suggests that board characteristics impact board effectiveness or firm performance (Johnson et al., 1996). For example, prior research suggests that larger boards may increase monitoring strength (Borokhovich, Brunarski, Harman, & Kehr, 2005; Miller, 2009) as well as reduce the potential for domination by the CEO (Singh & Harianto, 1989). Moreover, a great deal of research has examined the impact of director independence on organizational dependence. For example, Pearce and Zahra (1992) found a positive relationship between director independence and firm performance.

Resource dependency theory (Pfeffer & Salancik, 1978) highlights the interdependence between organizations and their environment suggesting that firms are not self-sufficient and rely on the external environment for survival (Hillman, Schropshire, & Cannella, 2007). To acquire needed resources firms create links with the external environment and board members can serve as one of those links (Johnson et al., 1996). Directors can bring to the firm a specific expertise or a connection to a resource such as capital or product supply. Thus, the resource-dependence role of directors suggests board composition will impact external linkages to the firm's environment (Hillman, Cannellas, & Harris, 2002). For example, larger board size may increase the number of external linkages and thus increase the potential for securing needed resources. Moreover, greater diversity within a board may provide for wider ranges of expertise which in turn could result in better decision making. Board diversity may exist in age, tenure, gender, functional backgrounds, professional experiences, and education (Coffey & Wang, 1998) as well as in outside board representation (Forbes & Milliken, 1999) and in the number of boards on which directors serve.

From an institutional theory perspective boards may take on certain characteristics due to societal or business norms and pressures. Firms may follow such norms in an effort to create legitimacy with stakeholders (Pfeffer & Salancik, 1978). For example, factors such as societal and institutional pressure to increase diversity on boards (Elgart, 1983; Singh, 2005) have added legitimacy to organizations with greater gender diversity (Milliken & Martins, 1996). Given the above it is expected that in addition to societal norms, industry practices may play an important role in board composition and thus board characteristics.

## METHODOLOGY

### Sample and Data Collection

The sample included all firms in which complete data was available in The Corporate Library® Board Analyst database for the year 2007. This database includes firms in the Fortune 1000, Russell 2000, S&P 500, S&P MidCap 400, and S&P SmallCap 600 Indices. From this sample we chose four major industry divisions: manufacturing (SIC 2000-3999), retail trade (SIC 5200-5999), finance/insurance (SIC 6000-6799), and services (SIC 7000-8999). The year 2007 was chosen as a recent time frame to examine the relationships of interest and since it was the year prior to the 2008 financial crisis. The final sample consisted of 2592 firms.

### Board Characteristic Measures

Eleven board measures were selected for this study. These measures include general board characteristics such as size and director independence as well as other important areas involving demographics and diversity. For each of the four industries examined variable means were calculated. **Board size** was calculated as the total number of directors on a given board (excluding Emeritus and Advisory member positions). **Board tenure** was calculated as the average number of years of service with the firm of board members. **Board age** was calculated as the average age of board members. **Tenure heterogeneity** was calculated as the coefficient of variation for board tenure. The

coefficient of variation is commonly used to capture demographic heterogeneity. Greater tenure heterogeneity suggests greater dispersion in average tenures of board members and thus indicates greater diversity with regards to years of service. Similarly **age heterogeneity** was calculated as the coefficient of variation for board age, measuring the dispersion in the ages of a firm's board members and thus diversity of age on the board.

**Women directors** was calculated as the sum of women directors divided by the total number of all directors on a given board. **Outside directors** was calculated as the number of independent outside directors divided by the total number of all directors on a given board. **Boards directors serve on** was calculated as the average number of boards that directors of a company serve on. **Five percent ownership** was measured as the estimated percentage of outstanding shares held by any 5% or greater shareholders as reported in the company's proxy statement. **Institutional majority** indicated whether or not a majority of outstanding shares are held by institutions. **Directors own zero shares** was calculated as the sum of directors who own zero shares of stock divided by the total number of all directors on a given board.

### Analysis

Data from the 2592 firms sampled were analyzed using ANOVA and pairwise means comparisons. ANOVA was used to test for significant differences in the board characteristics across the four industries examined. Pairwise means comparisons were then used to identify the specific differences that existed and their direction.

**Table 1 Variable Means and Tests for Between Industry Differences in Board Characteristics**  
Industry<sup>a</sup>

Variable	1	2	3	4	F	Means Comparisons*
Board Size	8.50	8.73	10.18	8.03	93.80***	3>2,1>4
Board Tenure	7.77	8.12	8.70	6.79	22.62***	3>2,1>4
Board Age	59.57	58.51	60.18	57.75	34.74***	3>1>2>4
Tenure Heterogeneity	.745	.776	.682	.701	11.04***	2,1>4,3
Age Heterogeneity	.135	.140	.140	.146	7.28***	4>2,3,1
Women Directors (%)	8.78	13.81	9.83	8.89	17.39***	2>3,4,1
Outside Directors (%)	82.26	80.46	81.36	80.39	5.89***	1>2,4
Boards Directors Serve On	1.64	1.57	1.39	1.58	44.86***	1>2,3;4,2>3
Five Percent Ownership (%)	24.93	25.32	18.84	26.41	22.75***	4,2,1>3
Institutional Majority (%)	65.94	60.19	56.16	68.56	8.32***	4>2,3;1>3
Directors Own Zero Shares (%)	20.97	19.27	9.07	22.82	49.70***	4>2,3;1,2>3
N	1216	212	663	501	2592	

<sup>a</sup>1=Manufacturing (SIC 2000-3999), 2=Retail Trade (SIC 5200-5999), 3=Finance/Insurance (SIC 6000-6799), 4=Services (SIC 7000-8999)

\*p<.05;\*\*\*p<.001

### RESULTS

Variables means and tests for differences in board characteristics across the four industry divisions for each of the eleven measures examined are presented in Table 1. Significant overall effects (p<.001) and between industry differences using pairwise means comparisons were found for all eleven measures. More specifically, firms in the finance/insurance industry had the highest **board size**, **board age**, and **board tenure** while firms in the services industry were the lowest in these areas; firms in the manufacturing and retail trade industries had greater **tenure heterogeneity** than firms in the other industries examined; **age heterogeneity** was highest in the services industry; **women directors** was highest in the retail trade industry; **outside directors** was higher in manufacturing than in retail trade and services; **boards directors serve on** was higher in manufacturing than in retail trade and finance/insurance and higher in services and retail trade than in finance/insurance; **Five percent ownership** was lowest in finance/insurance; **institutional majority** was higher in services than in retail trade and finance/insurance and higher in manufacturing than in finance/insurance; **directors own zero shares** was higher in services than in retail trade and finance/insurance and higher in manufacturing and retail trade than in finance/insurance.

## **DISCUSSION AND CONCLUSIONS**

The purpose of this study was to identify and examine differences in corporate board characteristics across four major industry divisions. More specifically, using a sample of 2592 US publicly traded firms in the year 2007, board characteristics were identified and then examined across manufacturing, retail trade, finance/insurance, and services industries. The results of our analyses reveal significant differences in each of eleven board characteristics across the four industries examined. Implications of these results and areas for future research are discussed below.

The findings of this study highlight the impact and importance of industry on board characteristics. Of particular interest are our findings that the finance/insurance industry had the highest board size, board age, and board tenure, and the lowest tenure heterogeneity, boards directors serve on, five percent ownership, institutional majority and directors own zero shares with the opposite results being found for the services industry. Thus, the greatest differences in terms of number and magnitude were found between the finance/insurance and services industry. Also of interest is that the retail trade industry had a higher percentage of women directors than any of the other three industries examined suggesting greater gender diversity in this industry. Finally, the manufacturing industry had the highest percentage of outside directors and the highest average number of boards directors serve on which in total suggests a greater level and diversity of resources provided by board members.

The findings of this study have implications for institutional theory, agency theory, and resource dependence theory. The significant differences between industry board characteristics suggest that isomorphic behavior is indeed occurring supporting an institutional theory view. Firms seem to be paying closer attention to and copying the behavior of firms within their own industry versus firms in other industries. Whether this isomorphic behavior is coercive, mimetic, or normative is an important topic for future research. With regards to agency theory, the between industry differences identified suggest differences in the way and the extent to which managerial behavior is being monitored. As examples, manufacturing firms appear to rely on outside directors, finance/insurance companies rely on larger boards, and greater monitoring of the managers of firms in the services industry appears to be accomplished via large position shareholders and institutional majority ownership. Finally and concerning resource dependence theory, the significant differences found in board size, board age, board tenure, tenure heterogeneity, age heterogeneity, women directors, outside directors, and the number of boards directors serve on are all suggestive of differences in the diversity of resources brought to firms within each industry by board members.

Like most research efforts the current study has limitations that provide opportunities for future research efforts. First, a limitation of the study involves the use of cross-sectional data. Future research in this area would benefit from using longitudinal data and from examining changes in board characteristics over time across different industries. A second limitation involves the limited number of board characteristics examined. Future researchers may benefit from including additional board characteristics or by including observable board measures utilizing qualitative research methods. Finally, we did not examine performance in the current study. Future research would benefit from the examination of performance and of the relationship between board characteristics and performance across different industries. Overall, it is hoped that this study will provide an important contribution to the corporate governance literature.

## **AUTHOR INFORMATION**

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