

# The Nature of Corporate Board Structure and Its Impact on the Performance of USA Listed Firms

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*This study seeks to examine board structure and its relationship and impact on the listed companies' performance in USA. A cross-sectional and correlational research design with a sample of 100 listed companies in USA was used. Correlation analysis was carried out to establish the relationship between the variables. Multiple regression analyses were used to determine the extent to which variations in performance of companies are explained by the board structures. The findings portrayed that high frequency of meetings adversely affects the company performance, whereas combined board leadership structure positively contributes to company performance which is contrary to the agency theory expectations. Other than that, it can be concluded that financial performance is independent of board size and composition. It is highly recommended that future research should be focused on nonfinancial aspects of performance in order to get a holistic performance view rather than restricting to accounting-based performance, which is based on accounting principles and assumptions since this provides evidence for future success through overall stakeholder satisfaction. Furthermore, an intense understanding of corporate governance structures and their relations with company performance has the potential to assist practitioners, both policy makers and researchers, to improve governance.*

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## Introduction

Corporate governance has been perceived as indispensable in the contemporary business setup as it empowers corporations to realize their corporate objectives, protect shareholder rights, meet legal requirements and demonstrate to a wider public how they are conducting their business. As corporations grow in size and complexity and doing business in the global arena, it has become essential for boards to uphold the highest standards of corporate governance and to perform its role effectively. Evidence reveals that noncompliance and ineffective board functioning have resulted in collapse of corporate giants around the globe. An effective board is perceived as a requirement for a sound corporate governance framework based on the view

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that effective boards are likely to positively influence company performance. The board of directors acts as one of the most important governance mechanisms in aligning the interests of managers and shareholders. An effective board of directors is at the heart of the governance structure of a well-functioning and well-governed corporation, acting as the ultimate internal monitor. Ideally, the board guides long-term corporate strategy, puts the key agents in place to implement it, and monitors performance against the strategy set out. Prior studies recognize that board size and composition makes a board efficient and effective towards performing its duties and responsibilities. Those studies have revealed the fact that different continents react differently in terms of the corporate governance practices (Farrar, 2001; and Bonn, 2004).

In fact, the effectiveness of board which lies in its structure and configuration, such as board size, proportion of executive and non-executive directors, board leadership structure, board diversity including gender diversity, etc., are the major issues, and that is why in most of the codes and principles of corporate governance, and board attributes have been taken into account as one of the most important provisions of corporate governance legislation across the globe.

Undoubtedly, most of the discussions on corporate governance originate from the US (Sheridan and Kendall, 1992). The US is often seen as being an exemplary case of the shareholder-oriented or market-based model of corporate governance, and described in terms of several interrelated issues: activist institutional investors, an open market for corporate control, independent outside directors on the board, and gatekeepers who monitor the process of market disclosure. Ownership of corporations is dispersed, but involves high engagement from institutional investors, such as pension funds. Corporate boards are in general small, have a high proportion of outside or independent members, and utilize committees to improve board processes.

The internal and external aspects of corporate governance are linked through the monitoring of gatekeepers, such as audit firms that certify the flow of information from managers to capital markets. And the market for corporate control exerts a final discipline on poorly performing firms, who face a heightened risk of takeover. These different elements are also thought to have strong institutional complementarities, operating as a positive and mutually reinforcing system of effective corporate governance. These characteristics of the US model are widely quoted as best practices or even a global standard for good corporate governance. In the years since the financial reporting scandals and the Sarbanes-Oxley Act of 2002, and in particular following the financial crisis and the Dodd-Frank Act of 2010, boards of directors have faced greater burdens and more intense scrutiny of their activities and performance. However, scandals surrounding Enron generated criticism and induced substantial changes through the Sarbanes-Oxley (SOX) legislation. For example, SOX increased directors' workload and risk (reducing the supply), and increased demand by mandating that firms have more outside directors. Post-SOX board are larger and more independent (James *et al.*, 2009). This is important because conceptually, an effective board is associated with a greater number of outside directors (Fama and Jensen, 1983; Lorch and MacIver, 1989; and Zahra and

Pearce, 1989). In this study, an attempt has been made to investigate the impact of corporate board structure on the performance of companies listed on New York Stock Exchange (NYSE).

## Literature Review and Hypotheses Development

Corporate governance research has devoted tremendous effort to studying the roles of the board of directors in recent years, especially by focusing on various aspects related to the boards like board size (Boon, 2004; Raheja, 2005; and Ramadan El-Faitouri, 2014), board independence (Hermalin and Weisbach, 1988; Fich, 2005; Raheja, 2005; and Sarkar and Sarka, 2009), effect of outside directors on firm performance (Hermalin and Weisbach, 1991; Agarwal and Knoeber, 1996; Rosenstein and Wyatt, 1997; Perry *et al.*, 2005; Fich and Shivdasani, 2006; Dahya and McConnell, 2007; Coles *et al.*, 2008; and Nguyen and Nielsen, 2010), board diversity in terms of gender to firm performance (Farrell and Hersch, 2005; Adams *et al.*, 2007; and Sikand *et al.*, 2013), board leadership structure (Rechner and Dalton, 1991; Lam and Lee, 2008; and Jackling and Johl, 2009), and board activities like frequency of meetings (Lipton and Lorsch, 1992; Jensen, 1993; and Vafeas, 1999). A good combination of inside-outside directors' activities on the board can enhance the company operation efficiency and performance (Hermalin and Weisbach, 2003; and Adams *et al.*, 2010). In the US, most companies have an outsider-dominant board as it comprises a majority of outside directors with a few inside directors. Therefore, most studies of US companies focus on the issues related to outside directors (Dahya and McConnell, 2007).

Studies related to the impact of board characteristics on firm performance are inconclusive in nature. For example, Dalton *et al.* (1998), Weir and Laing (1999), and Weir *et al.* (2002) found little evidence to suggest that board characteristics affect firm performance. However, other studies have found a positive relationship between certain characteristics of board and firm performance (Bhagat and Black, 1999; Kiel and Nicholson, 2003; Bonn, 2004; and Black and Kim, 2011). Nevertheless, the role played by the board is critical to firm performance as the boards discharge their fiduciary responsibilities of leading and directing the firm (Abdullah, 2004). The authors reviewed the literature to explain how each board attribute affects the ability of board to perform better resulting in better company performance.

### Board Size and Company Performance

Board size refers to the number of directors on the board. Agency theory implies that larger boards are more likely to be vigilant in performing their monitoring and control functions because more directors are likely to be engaged in the review of management actions. Board size is also addressed through the two resource perspectives. The resource dependency theory views the board as the most appropriate tool to secure external resources crucial to the realization of its internal objectives on behalf of the firm. Through its external directors, it can provide information, skills, access to key constituents (e.g., suppliers and buyers), capital, and legitimacy that are inevitably critical for the firm's success. Therefore, board size is an important attribute that can potentially determine the effectiveness of board performance. Indeed, indications from the literature suggest that there is a limit to the level whereby board size can positively affect board performance. The optimal number of directors is an important question

to answer for companies. Lipton and Lorsch (1992) recommended limiting the membership of boards to 10 people, with a preferred size of eight or nine. The Cadbury committee (Cadbury, 1992) also recommended that the ideal size of the board should be between 8 and 10 members. Efficiency is reduced if the number of directors is too large because there is an increased difficulty in achieving agreement concerning decisions. Conversely, decision-making precision is reduced if the number of directors is too small because there may not be adequate discussion of issues involved. Based on the above literature related to board size impact on company performance, the following hypothesis has been framed:

*H<sub>01</sub>: There is no significant effect of board size on the performance of companies listed in USA.*

Here, Return on Assets (ROA), the accounting-based performance measure, has been considered as a dependent variable. This is an indicator of how profitable a company is relative to its total assets and widely used in several studies (Bhagat and black, 1999; Jackling and Johl, 2009; Sarkar and Sarkar, 2009; and Ararat *et al.*, 2010).

### **Board Composition and Company Performance**

Board composition often refers to the proportion of 'outside directors' to 'inside directors' or 'non-executive directors' to 'executive directors'. It is the most commonly used indicator for board independence. The agency theory promotes the need for boards to be independent in order to be effective in monitoring and controlling management and as protectors of the shareholders' welfare. A high proportion of outside directors is therefore viewed as the key to board independence. Some studies claim that board composition is positively related to firm performance (Baysinger and Butler, 1985; Rosenstein and Wyatt, 1990; Pearce and Zahra, 1992; Daily and Dalton, 1994; and Arosa *et al.*, 2010), and therefore, lower performing firms are more likely to add outside or independent directors to their boards (Hermalin and Weisbach, 1988; Zahra and Pearce, 1989; and Bhagat and Black, 2002). In contrast, other studies revealed a negative relationship (Agrawal and Knoeber, 1996; Yermack, 1996; Barnhart and Rosenstein, 1998; Bhagat and Black, 1999; and Bhagat and Bolton, 2008), thus some firms may prefer insider-dominated boards. Given the evidence on board composition impact on company performance, the following hypothesis has been constructed:

*H<sub>02</sub>: There is no significant effect of board composition on the performance of companies listed in USA.*

### **Gender Diversity and Company Performance**

Board composition that includes gender diversity has been one of the most significant governance issues facing modern corporations. One reason for this is that gender diversity has been advocated as a means of improving organizational value and performance by inculcating boards with new insights, new information and new perspectives, arguing that there is a link between women on boards of directors and corporate sustainability. Galbreath (2011) suggested that there is a positive link between women on board and economic growth. Because of their rational abilities, women on board are more likely able to engage with multiple stakeholders and respond to their needs, resulting in an avenue for demonstrating social responsiveness. Daily and Dalton (2003) reported a positive impact of women on boards on

company performance. Erhardt *et al.* (2003) reported a positive association with both financial indicators—ROA and ROI, suggesting that diversity impacts overall firm performance.

Based on these views, it is not unreasonable to consider gender diversity as an important variable for the study; hence the following hypothesis has been framed:

*H<sub>03</sub>: There is no significant effect of gender diversity on the performance of companies listed in USA.*

### **Board Leadership Structure and Company Performance**

The importance of leadership structure was addressed by the Cadbury Committee (1992) and Hampel Committee (1998). They recommended the roles of chairman and CEO should be separated. The Code of Best Practices on Corporate Governance issued by ICASL and SEC in 2003 and 2008 also recommended separation of the two roles, because it results in better monitoring and implementation of strategy, and is capable of increasing the value of the firm. However, Prior work on board leadership structure reports mixed results. Rechner and Dalton (1991) empirically concluded that firms opting for separate leadership structure consistently perform better than those having the CEO duality. Some other studies also found negative effect of CEO duality on company performance (Fama and Jensen, 1983; Jensen, 1993; and Chiang, 2005). Contrary to that, Donaldson and Davies (1991) linked the combined leadership structure with high firm performance. Literature on corporate governance widely uses binary variables to operationalize the board leadership structure (Daily and Dalton, 1994; Abdullah, 2004; and Lam and Lee, 2008). Therefore, the current study also represents binary variables for board leadership structure. If one person occupies the role of chairman and the CEO, it will be classified as combined leadership and will be coded '0'. If the roles are occupied by two separate people, it will be classified as separate leadership and will be coded '1'. Based on the above literature, the following hypothesis has been developed:

*H<sub>04</sub>: There is no significant effect of board leadership structure on the performance of companies listed in USA.*

### **Board Meetings and Company Performance**

The foremost duty of directors, especially for outside directors, is to attend board meetings because board meeting is the main vehicle for them to collect information, make decisions and monitor the management (Adams *et al.*, 2007). Board meeting frequency potentially carries important governance implications as it is less costly to adjust the frequency of its board meetings to attain better governance of the firm than to change the composition of its board. Lipton and Lorsch (1992) suggested that greater frequency of meetings is likely to result in superior performance. In addition, the linkage between board activity and the degree of monitoring is difficult to isolate. An opposing view professed by Jensen (1993) is that routine tasks absorb much of a board time and thus limit the opportunity to exercise meaningful control over management. He argued that boards of well-functioning firms should be relatively inactive and because higher board activity is likely to lead to poor performance and exhibit few conflicts. The literature suggests that there are various aspects of board meetings that need to be considered in terms of the impact on firm performance. For example, questions that relate to

the 'quality of meetings' that need to be addressed include: How free flowing are the exchange of ideas in board meetings and to what extent are meetings used for routine tasks as opposed to time devoted to substantive issues? The following hypothesis can be constructed on the basis of the past studies:

*H<sub>05</sub>: There is no significant effect of board meetings on the performance of companies listed in USA.*

## Objectives

The main objectives of the study are:

- To identify the nature of corporate board structure of USA listed companies.
- To examine the relationship and impact of corporate governance structure on the performance of USA listed companies.

## Data and Methodology

The aim of the study is to assess the impact of corporate board structure on the financial performance of companies listed in USA stock exchange. The study covers five financial years, viz., 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13. Total 100 companies listed on New York Stock Exchange (NYSE) have been considered. In the sample, 50 companies are large-cap companies with more than \$10 bn market capitalization and the remaining 50% companies are mid-cap companies between \$2 bn and \$10 bn (as on April 30, 2013). The companies with either large cap or mid-cap market capitalization are selected because these are more likely to have the resources and motivation to take advantage of the opportunity to adopt good corporate governance practices. Data has been gathered through companies' financial reports (10-K), and proxy statements and other documents are downloaded from each company's websites.

In order to analyze the data, SPSS statistical program is employed. Both descriptive as well as inferential statistical tools have been used in this study. Descriptive statistics used in this study consist of maximum, minimum, mean, median and standard deviation. Multiple Linear Regression Model is used to test the effects of board attributes, such as board size, number of independent directors on board and board meetings on the ROA which has been taken as proxy for measuring company financial performance.

## Results and Discussion

Table 1 presents the descriptive information about the sample companies. For all the variables, mean, median, standard deviation and minimum and maximum values are computed.

The average size of board has been increased slightly which is perhaps the result of greater number of independent directors on board over the period of study. Median value of board is 11. In a similar way, the presence of female director on board has also been boosted. However, frequency of board meetings remains constant during the study period. The minimum return on assets is negative, indicating that a few companies have destroyed shareholder value, but the median value of ROA indicates that at least 50% companies have positive ROA value.

Table 1: Descriptive Statistics						
Year	Variable	Minimum	Maximum	Mean	Median	SD
2013	<i>BSIZE</i>	8	30	10.82	11	2.90
	<i>BCOM</i>	4	26	10.11	10	2.64
	<i>WOMEN</i>	0	7	2.10	2	1.24
	<i>MEET</i>	4	21	8.42	8	3.34
	<i>ROA</i>	-11.63	47.30	6.32	5.86	7.78
2012	<i>BSIZE</i>	7	32	11.71	11	3.03
	<i>BCOM</i>	4	29	10.00	10	2.91
	<i>WOMEN</i>	0	5	2.06	2	1.12
	<i>MEET</i>	4	21	8.45	8	3.51
	<i>ROA</i>	-26.90	19.11	6.53	5.90	6.23
2011	<i>BSIZE</i>	7	33	11.58	11.5	3.08
	<i>BCOM</i>	4	27	9.86	10	2.72
	<i>WOMEN</i>	0	6	1.97	2	1.14
	<i>MEET</i>	4	28	8.67	8	3.84
	<i>ROA</i>	-50.75	26.94	5.94	5.44	9.10
2010	<i>BSIZE</i>	7	32	11.67	11	3.15
	<i>BCOM</i>	4	28	9.88	10	2.90
	<i>WOMEN</i>	0	6	1.94	2	1.14
	<i>MEET</i>	4	27	8.74	8	3.68
	<i>ROA</i>	-57.53	92.10	5.32	5.59	12.63
2009	<i>BSIZE</i>	7	33	11.76	11	3.35
	<i>BCOM</i>	4	29	9.98	10	3.05
	<i>WOMEN</i>	0	5	1.82	2	1.07
	<i>MEET</i>	3	22	8.90	8	3.86
	<i>ROA</i>	-51.73	26.92	2.66	4.97	13.92

### Correlation Matrix for Association Between Variables

Before analyzing the effect of board attributes on companies' performance, it is important to find out the relationships among all variables. For this purpose, Karl Pearson's correlation technique for each year has been employed.

The highest positive correlation is between total number of independent directors and board size at 0.739 (Table 2). It suggests that the proportion of independent directors increases as a result of an increment in the size of board or vice versa. The second highest correlation

Variable	ROA	BSIZE	ID	W	MEET	BLS
ROA	1					
BSIZE	-0.160	1				
ID	-0.085	0.739***	1			
W	-0.013	0.375***	0.433***	1		
MEET	-0.270**	0.154	0.202	0.083	1	
BLS	0.282**	-0.047	-0.134	-0.022	0.038	1

Note: \*, \*\* and \*\*\* denote correlation is significant at 0.05, 0.01 and 0.001 levels respectively.

is between the number of female directors on board and board size, which suggests that as the proportion of female directors goes up, the board size will also increase or vice versa. Another significant positive correlation exists between the number of independent directors and female directors on board at 0.433 (Table 2) which indicates that female directors are also serving as independent directors and if the proportion of independent directors on board increases or decreases, the proportion of female directors will also go up or decline. In addition to that, another significant positive correlation is between board leadership structure and ROA at 0.01 level of significance indicating that board leadership structure is positively associated with the company performance as measured by ROA. Here, it is important to note that there is a significant negative correlation between ROA and board meetings at 0.01 level of significance indicating that frequency of meetings has negative effect on company performance and this supports the findings of Jensen (1993) which reported that higher board activity, i.e., meetings, is likely to symbolize a response to poor performance.

The highest significant positive correlation in the year 2012 is between the total number of independent directors and size of board at 0.01 level of significance which gives the impression that an increase in the board size corresponds to an increase in the number of independent directors on board. Another significant positive correlation exists between board size and number of female directors on board, which implies that as the size of board increases the proportion of female directors on board also goes up (Table 3). In addition, the significantly

Variable	ROA	BSIZE	ID	W	MEET
ROA	1				
BSIZE	-0.010	1			
ID	-0.034	0.935***	1		
W	-0.006	0.399***	0.413***	1	
MEET	-0.393***	0.103	0.166	0.057	1

Note: \*, \*\* and \*\*\* denote correlation is significant at 0.05, 0.01 and 0.001 levels respectively.



positive correlation between women directors and independent directors suggests that female directors are also likely to be independent directors on boards. Here, it is to be noted that there is a significant negative correlation between frequency of meetings and ROA at 0.001 level indicating that higher frequency of meetings is adversely associated with company performance and it is a signal of over board activities that is generally undervalued by the market.

The results are same as the results of 2012 and 2013. Independent directors and women directors are again correlated with the size of board (Table 4). As expected, there is significant negative correlation between frequency of meetings and ROA which suggests that frequent board meetings are negatively associated with company performance as measured by ROA.

Variable	ROA	BSIZE	ID	W	MEET
ROA	1				
BSIZE	-0.093	1			
ID	-0.103	0.926***	1		
W	-0.100	0.393***	0.402***	1	
MEET	-0.511***	-0.032	0.096	0.048	1

Note: \*\*\* denotes correlation is significant at 0.001 level.

As expected, Table 5 shows a significant positive correlation at 0.001 level of significance between independent directors and board size as it was in the first three years. It suggests that an increase in the number of independent directors correlates to an increase in the size of board. Another correlation exists at 0.401 between the numbers of female directors on board and board size, which indicates that an increase in gender diversity leads to larger size of board. Another significant correlation is between gender diversity and number of independent directors on board. Again, a statistically significant negative correlation exists between meetings and ROA at 0.001 level of significance suggesting that frequent board meetings are negatively associated with company performance as measured by ROA.

It is worth noting that in the year 2009, a significant negative correlation between the presence of women director and ROA persisted. Another positive correlation exists between

Variable	ROA	BSIZE	ID	W	MEET
ROA	1				
BSIZE	-0.069	1			
ID	-0.088	0.920***	1		
W	-0.011	0.401***	0.425***	1	
MEET	-0.400***	0.093	0.097	0.163	1

Note: \*\*\* denotes correlation is significant at 0.001 level.

Variable	ROA	BSIZE	ID	W	MEET
ROA	1				
BSIZE	-0.138	1			
ID	-0.098	0.924***	1		
W	-0.241*	0.374***	0.380***	1	
MEET	-0.286***	0.226*	0.247*	0.118	1

Note: \* and \*\*\* denote correlation is significant at 0.05 and 0.001 levels respectively.

board meetings and independent directors indicating perhaps that independent board members are more interested and involved in board activities (Table 6).

Overall, the above correlation statistics suggests potential association between the board attributes and company performance variables considered in this study. Nevertheless, these correlation statistics cannot be used to claim that there are causal relationships between them. Subsequently, the regression analysis was performed and the results are reported and discussed so as to determine if causal relationships exist between board attributes and ROA as a measure of company performance.

### Regression Analysis – Effect of Board Attributes on Company Performance

The following multiple linear regression model was estimated:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + U$$

where  $Y = ROA$  (dependent variable);

$a =$  Constant;

$X_1 =$  Board Size;

$X_2 =$  Independent Directors;

$X_3 =$  Women on Board (gender diversity);

$X_4 =$  Board Leadership Structure;

$X_5 =$  Frequency of Meetings; and

$U =$  Error Term

### Regression Equation for the Year 2013

$$Y = 10.844 - 0.593X_1 + 0.480X_2 + 0.213X_3 - 4.132X_4 - 0.482X_5$$

Based on the results obtained from linear regression model, it is noted that all the  $p$ -values are greater than the chosen cutoff test of 0.05, except in the case of meetings frequency and board

Variable	Beta	t-Value	p-Value
Constant	10.844	2.764	0.007
<i>BSIZE</i>	-0.593	1.541	0.127
<i>ID</i>	0.480	0.914	0.363
<i>W</i>	0.213	0.319	0.750
<i>BLS</i>	4.132	2.565	0.012*
<i>MEET</i>	-0.483	2.099	0.039*
<i>R</i> <sup>2</sup>	0.150		
<i>F</i> -Value	3.32		
<i>p</i> -Value	0.008		
<b>Note:</b> * Significant at 0.05 level. Dependent Variable: <i>ROA</i> ; and Predictors – Constant, <i>BSIZE</i> , <i>ID</i> , <i>W</i> , <i>BLS</i> and <i>MEET</i> .			

Variable	Beta	t-Value	p-Value
Constant	11.925	4.347	0.001
<i>BSIZE</i>	-0.014	0.024	0.981
<i>ID</i>	0.074	0.126	0.900
<i>W</i>	0.009	0.016	0.987
<i>MEET</i>	-0.707	4.094	0.001***
<i>R</i> <sup>2</sup>	0.155		
<i>F</i> -Value	4.321		
<i>p</i> -Value	0.003		
<b>Note:</b> *** Significant at 0.001 level.			

Variable	Beta	t-Value	p-Value
Constant	19.579	5.418	0.001
<i>BSIZE</i>	-0.565	0.814	0.418
<i>ID</i>	0.464	0.586	0.359
<i>W</i>	-0.486	0.639	0.526
<i>MEET</i>	-1.228	5.783	0.001***
<i>R</i> <sup>2</sup>	0.273		
<i>F</i> -Value	8.841		
<i>p</i> -Value	0.001		
<b>Note:</b> *** Significant at 0.001 level.			

leadership structure (Table 7). It means that greater frequency of board meetings adversely affects the company's performance which is supportive of the view of Jensen (1993), who reported that high board activity is likely to symbolize a response to poor performance. In addition to that, another significant causal relationship exists between *BLS* and *ROA*, where board leadership structure has positive value of beta coefficient (4.132) with a *p*-value of 0.012, which is less than 0.005, indicating that there is a positive effect of board leadership structure on *ROA*. The combined effect of all board attributes on *ROA* is only 15% as indicated by *R*<sup>2</sup>.

#### **Regression Equation for 2012**

$$Y = 11.925 - 0.014X_1 - 0.074X_2 + 0.009X_3 - 0.707X_4$$

It is to be noted that *X*<sub>4</sub> (frequency of board meetings) has the smallest *p*-value (0.001) in the regression model that is lower than cutoff value indicating that frequency of meetings has negative impact on *ROA* which is statistically significant. Here, the coefficient of determination is 0.155 only, indicating that contribution of all independent variables is around 15.5% (Table 8).

#### **Regression Equation for 2011**

$$Y = 19.579 - 0.565X_1 + 0.464X_2 - 0.486X_3 - 1.228X_4$$

As expected Table 9 reports the same result as reported in the case of 2012. It indicates that all the *p*-values, except in the case of the independent variable, i.e., *MEET*, are greater than the chosen cutoff test of 0.05. Moreover, the coefficient of determination is 0.273 indicating that all independent variable are contributing only 27.3% to *ROA*. From this, it

Variable	Beta	t-Value	p-Value
Constant	18.919	3.639	0.001
<i>BSIZE</i>	0.304	0.317	0.751
<i>ID</i>	-0.692	0.655	0.514
<i>W</i>	-0.983	0.847	0.399
<i>MEET</i>	-1.392	4.264	0.001***
<i>R</i> <sup>2</sup>	0.170		
<i>F</i> -Value	4.809		
<i>p</i> -Value	0.010		

**Note:** \*\*\* Significant at 0.001 level.

Variable	Beta	t-Value	p-Value
Constant	16.468	3.049	0.003
<i>BSIZE</i>	-1.255	1.204	0.232
<i>ID</i>	1.518	1.316	0.191
<i>W</i>	-2.917	2.132	0.036*
<i>MEET</i>	-0.982	2.751	0.007**
<i>R</i> <sup>2</sup>	0.170		
<i>F</i> -Value	4.809		
<i>p</i> -Value	0.001		

**Note:** \* and \*\* imply significance at 0.05 and 0.01 levels respectively.

can be deduced that results are inconclusive as no inference can be made as to whether or not selected independent variables have a true impact on the response variable, ROA.

#### **Regression Equation for 2010**

$$Y = 7.964 + 0.293X_1 - 0.740X_2 + 0.354X_3 - 0.065X_4$$

Table 10 presents the same result as reported for 2011 and 2010. It suggests that there is no impact of any independent variables (i.e., *BSIZE*, *ID* and *W*) other than *MEET*, on ROA as all *p*-values are more than 0.05. The value of coefficient of determination is 0.010 indicating that all independent variables are contributing only 10% to ROA which is extremely low.

#### **Regression Equation for 2009**

$$Y = 16.468 - 1.255X_1 + 1.518X_2 - 2.917X_3 - 0.982X_4$$

Based on the data produced by linear regression model, it is noted that all the *p*-values are greater than the chosen cutoff test of 0.05, except in the case of women on board and frequency of meetings (Table 11). Thus, one may deduce that gender diversity

has the most possible impact that is negative in nature on ROA, assuming that all other things remain unchanged in the above-mentioned regression model. In addition to that, another significant causal relation is between frequency of meetings and ROA at 0.01 level of significance, indicating that higher frequency adversely affects the company performance. Moreover, the coefficient of determination is 0.170 indicating that the variation in ROA due to all independent variables is only 17% which is very low.

## **Conclusion**

This study aims at analyzing the nature of the board structure and its association with financial performance of USA listed companies. This study shows that the US corporate boards are characterized as medium-sized boards of 11 board members on an average, with a majority of outside directors, and are less gender diverse during the study period. The findings also revealed that the selected board characteristics have no significant relationship with financial performance, except board meetings and board leadership structure suggesting that (a) combined board leadership structure leads to better firm performance which is contrary to the agency theory expectations and in supportive of the findings of Donaldson and Davies

(1991); and (b) frequent board meetings are negatively associated with company performance that perhaps advocates the opinion of Jensen (1993), who argued that routine tasks absorb much of a board time and thus limit the opportunity to exercise meaningful control over management. He says that boards of well-functioning firms should be relatively inactive and because higher board activity leads to poor performance and exhibit few conflicts.

It is suggested that there are various aspects of board meetings that need to be considered in terms of the impact on firm performance. For example, questions that relate to the 'quality of meetings' that need to be addressed include: How free flowing are the exchange of ideas in board meetings? To what extent are meetings used for routine tasks as opposed to time devoted to substantive issues? Other than that, it can be concluded that financial performance is independent of board size and composition. Nevertheless, the advising, monitoring and control role played by the board is critical to company performance as the boards discharge their fiduciary responsibilities of leading and directing the company. It is highly recommended that future research should be focused on nonfinancial aspects of performance such as customer satisfaction, employee satisfaction and investor confidence, in order to get a holistic performance view rather than restricting to accounting-based performance which is based on accounting principles and assumptions since this provide evidence for future success through overall stakeholder satisfaction. Furthermore, an intense understanding of corporate governance structures and their relations with company performance have the potential to assist practitioners, both policy makers and researchers, to improve governance.

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