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Board Composition and Financial Performance: Empirical Analysis of Companies Listed at the Nairobi Securities Exchange

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ABSTRACT: Studies investigating effects of board composition on financial performance have yielded mixed results, due largely to contextual variables and varying roles of boards in different jurisdictions. Independent members, gender diversity and board size are some of the key attributes of boards that have been linked to financial performance of companies in industrialized countries, but which, unfortunately have not attracted much scholarly interest in developing countries. The study, which surveyed forty-six companies listed at the Nairobi Securities Exchange in 2011, and whose findings are presented in this paper, was therefore, designed to inform practice of corporate governance mainly in developing countries, but will also add to the already existing body of literature in the industrialized economies. Using multivariate regression analysis on panel data, with Return on Assets, Return on Equity, and Dividend Yield as performance indicators, the study found out that independent board members had insignificant effect on financial performance, but gender diversity did, in fact, have significant positive effect on financial performance. Board size, on the other hand, had an inverse relationship with financial performance. These results are largely consistent with conceptual and empirical literature on corporate governance with respect to small board size (5 to 7) that is sufficiently diverse in terms of gender, skill, experience, industry networks, among other important attributes. Regarding outside directors, however, the study findings appear to contradict the long-held traditional view that outsiders confer superior performance to the board.

Keywords: Independent Directors; Board Size; Gender Diversity; Financial Performance
JEL Classifications: E44; G34; L25

1. Introduction

The dawn of industrial revolution in the early 18th Century heralded the phenomenon of the large corporation which, consequently, created the need for separation of ownership of capital from its control. Due to the large size of the enterprise, entrepreneurs (principals) were effectively emasculated in their oversight role, unable to take full control over their capital either because of lack of expertise, time or interest, or a combination of some or all of these factors. Managers (agents) therefore, took over the day-to-day running of the enterprise on an agency basis. Unfortunately, the interests of agents often diverged from those of principals. In pursuit of their personal interests, agents usually engaged in sub-optimal decisions, characterized by adverse selection, moral hazard, and insider dealings among other managerial failings (Berle and Mean, 1932). To protect their wealth-creation interest in the firm,

principals often incurred agency costs, including hiring of auditors to investigate the health of the corporation and provide an independent opinion. The agency costs further reduced the value of the corporation, and undermined the wealth-enhancement objective of the owners of capital (Jensen and Meckling, 1976).

McColgan (2001) suggests that agency problem can effectively be minimized by the use of corporate governance mechanisms designed to reduce the agency costs, spread ownership to agents, and increase the value of the latter's decisions. Further, Afande and Melly (2002) argue, that shareholders should put in place effective board of directors to, among other roles, offer strategic guidance, lead and control the corporation and be accountable to its shareholders. As different organizations have different contextual challenges, occasioned by their core business, size, and structure, among other attributes, board member selection criteria should take into consideration all the relevant factors in order to ensure its effectiveness (Zahra and Pearce, 1989). Brennan (2006), states that the board of directors is considered as a primary internal business governance mechanism, while Johnson (2005) notes that the board's main responsibility is to monitor, supervise and give the management a strategic direction to follow. It also reviews and ratifies the proposals brought on board by the management. According to Zahra and Pearce (1989), the board works in a manner that enhances the firms' performance, and brings about legally-vested responsibilities and fiduciary duties within the organization. They can also use their expertise to spot problems early, and board members may be the ones to blow the whistle (Salmon, 1993).

2. Theoretical Framework and Literature Review

2.1 Theoretical Framework

This study utilized a combination of three theories, namely: agency; stewardship; and group diversity as an analytical framework**.**

2.1.1 Agency Theory

The modern corporation is too large and complex for the owners of capital to effectively manage using traditional approaches (Ongore, 2011). This has necessitated separation of ownership from control of capital, with the resultant agency problem, which is at the centre of modern corporate governance. The board of directors, as the ultimate decision making organ of the corporation, has both fiduciary and professional responsibilities to minimize the agency problem through appropriate monitoring, ratification and sanctioning mechanisms.

2.1.2. Stewardship Theory

According to Donaldson and Davis (1991), stewardship theory assumes that there are no conflicting interests between shareholders and management. In essence, the structure of the enterprise gives way for coordination to be achieved in the most effective way, and it empowers the management to employ its dexterity to achieve the goals and objectives of the organization, including shareholder protection. This theory makes the simplifying assumption that there are no opportunistic agents bent on extracting private benefits from the corporation. However, the value of this theory with respect to board composition is the expectation that, being the custodian of corporate resources and assets on behalf of owners of capital, the board bears the responsibility of care.

2.1.3. Group Diversity Theory

Dobbin and Jung (2011), contend that teams with functional diversity tend to solve problems faster and more effectively than those of likeminded people working individually. On the same note, teams that have demographic diversity, bring different perspectives to the decision making processes, hence increasing the quality of the decisions. The authors argue that diversity confers increased network connections to the team, varied creativity and innovation, leading to synergistic benefits. The gender question in corporate governance has generated a lot of debate in recent times, with many studies in different contexts resulting in conflicting findings.

2.2. Empirical Literature Review

2.2.1. Board Composition

Board composition refers to the size of the board, the mix between executive and non-executive (independent) directors, and other desirable attributes, including gender diversity. Economic value of appropriate board composition has been a subject of scholarly research for more than five decades (Kesner *et al.*, 1986). It has been argued that firms with large proportions of outside directors in the board normally have less agency problems, and therefore, exhibit a better alignment between the

interests of shareholders and those of management (Fernandes, 2005). Consequently, this may positively influence share price (Rosenstein & Wyatt, 1990). Yermack (1996) argues that smaller boards are more resourceful than larger ones in terms of obtaining a higher market valuation, improved return on assets and return on sales. It should be noted that larger boards invariably take longer in their deliberations, and often suffer the demerits associated with procrastination. However, too small a board will also deny the organization the requisite diversity and attendant synergy. Regarding gender diversity on boards, Burke and Nelson (2002) note that corporations are now beginning to experience significant changes in pools of potential candidates as women begin to compete for higher positions in corporations, leading to diversity at the board level. Erhardt et al. (2003) however, contend that board diversity, in essence, is a deliberate effort to demonstrate a lack of discrimination, but it is really unclear whether it affects organizational financial performance in any way. This argument would amount to an affirmative action, which is largely political, and aimed at improving gender balance in decision making in corporations. This paper takes the position that gender diversity should be embraced and celebrated in corporations because of the synergistic advantages associated with diversity in group decision making processes.

2.2.2. Independent Board Members

There are differing, and sometimes conflicting opinions about the impact of outside directors to a company's financial performance (Cho and Kim, 2007). Nicholson and Kiel (2007) argue that given their unparalleled knowledge of the corporation, inside directors are better placed to interrogate management proposals than can their independent counterparts. Similarly, Brennan (2006) argues that independent directors are part-timers and therefore, do not possess requisite inside information about the business, and hence, may not be competent enough to perform tasks assigned to them. Outside directors are creatures of the chief executive officers and therefore, are likely to forget their main purpose in the organization and align their own interests with those of the top management. This is especially true in jurisdictions where the chief executive is the sole source of information on potential nominees to the board. Recent studies have tried to bring out the importance of outside directors in a corporation. For example, Bhaghat *et al*. (1999), has shown that outside directors who have a substantial stake in the ownership of the company, may be more at will to exercise their authority to safeguard their own interests as shareholders and those of other shareholders and hence contributing to a better performance. Agency Theory argues that outside directors are necessary in order to create an effective monitoring and control system over management to minimize agency costs. When outside directors have control of the board, shareholders tend to benefit more in cases of tender offers for bidders (Byrd and Hickman, 1992), and when the company is threatened with a hostile takeover (Gibbs, 1993). Besides, outside directors are more likely to initiate programs geared towards restructuring of the company when the performance of the company tends to decline (Perry and Shivdasani, 2005). This is because when performance nose dives, it goes southwards with the directors reputations.

2.2.3. Board Size

Board size refers to the total sum of members with voting privileges on the board of directors of a company (Pugliese and Wenstop, 2007). Pfeffer (1972) argues that the impact of board size on the finance of an organization is related to the organization's need to deal with the diverse stakeholder groups in the operating environment. Previous studies have demonstrated that the larger the size of the board the higher the likelihood that the performance of that company will be less than optimal (Belkhir, 2009). Belkhir argues that communication, coordination of tasks and resolution-making effectiveness among a bigger size of people is a bit harder and entails a bigger financial burden than a smaller group of people. Jensen (1993) posits that whenever the size of the board goes beyond eight people, they are less likely to function effectively and efficiently, thereby it easier for the Chief executive officer to control them. This would obviously undermine the monitoring role of the board of directors. He further argues that keeping boards small can help improve the performance of the organizations through efficient use of resources, and by avoiding procrastination in decision making processes. It has also been argued that board size affects the number of outside independent directors in the board of directors. The outside directors sit on the board by virtue of their professionalism and track record in the industry. They are therefore, more likely to watch over the management than the inside directors as a way of protecting their reputation in the industry (Yermack, 1996). Pearce and Zahra (1992) argue that larger firms tend to have larger boards with more outside directors.

2.2.4 Gender Diversity in Boards

There is an increasing awareness that the absence of women in the top echelons of management and boards of corporations is detrimental both to the social and the economic outcomes (European commission 2010) of those corporations. This has therefore, led the business agencies globally to come up with changes in corporate governance guidelines to incorporate women in the governance structure of their companies. While participation of women has in recent times increased in the middle-level management, little has changed at the level of corporate governance across the globe (Hede 2000). In Kenya, for example, it is said that corporate boards are dominated by the male gender mainly because most of the time, the appointing authorities are also male who their old boy networks and friends. This practice has therefore, denied women the chance to be adequately represented at the Kenyan corporate boards. However, the newly promulgated constitution of Kenya (2010) provides that at least a third of all appointments to public corporations must be of either gender, (Wachudi and Mboya, 2009).

Past research has demonstrated that gender diversity brings about a better understanding of the market place. This is because gender diversity in the board matches the diversity of customers and employees in the market place, thereby enhancing the competitive edge of the companies (Robinson and Dechant, 1997). In addition, board diversity promotes creativity and innovation in the decision making processes, which in turn, enhances the firm's financial performance in the long run. Diversity improves information provided by the board to the management due to special skill set, experiences and complimentary knowledge held by diverse directors. Diverse directors also provide access to important constituencies and resources in the external environment which increases the networks of the organization, and promotes prosperity. Women are thought to ask hard questions in the board that their men counterparts may not be comfortable to ask. The presence of women in the board therefore, increases the board's ability to monitor the management more objectively (Carter *et al.,* 2003). Likewise, Smith et al. (2006), note that women in the board uplift the image of the organization due to the positive signals they send to the labor, product and the financial markets. They further argue that problems are better handled within the board when both genders are appropriately represented. The interrelations arising from the pertinent literature reviewed above lead us to a schematic diagram (figure 1).

2.2.7 Conceptual Framework

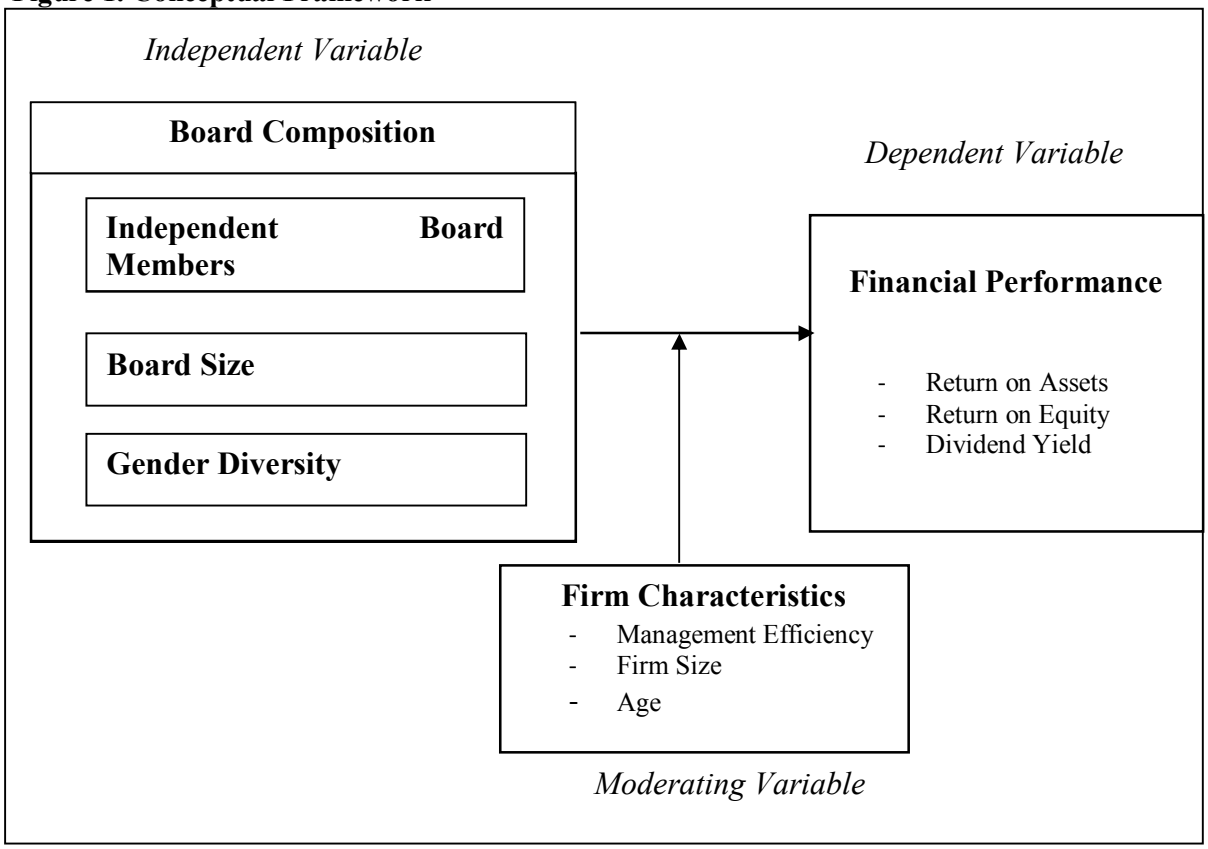
In the conceptual framework (Figure 1), the independent variable is board composition, defined in terms of independent board members, board size and gender diversity. The moderating variable is firm characteristics, which comprise management efficiency, firm size and age. The dependent variable is firm performance, measured in terms of Return on Assets, Return on Equity and Dividend Yield.

The key hypothesis is that board composition had a direct effect on financial performance to the extent that the board will be able to come up with informed policies which can give the company a competitive edge in the industry; and that the board will be able to put in place an effective monitoring and control mechanism to safeguard shareholders' wealth. Management efficiency was considered a moderating factor because it is the managers who implement board decisions, leading to either superior or poor financial performance. Firm size played a moderating role because size determines capacity to generate internal funds, a variety of capabilities, and economies of scale. Age of the firm is important because of the experience associated with it. The older the firm, the better placed it is to appreciate market dynamics. Older firms are more likely to achieve greater efficiency by reducing costs than can younger firms.

Firm performance was measured using the information obtained from the audited financial statements of the companies. Return on Assets is a measure of how the board and management have utilized assets under their stewardship to deliver value to the shareholders. Return on Equity is an indication of the amount of income returned as a percentage of shareholders equity. This measures a company's profitability by showing how much return the company has been able to generate using the shareholders' funds. Dividend Yield, on the other hand, is a financial ratio that shows how much a company pays out in terms of dividends each year relative to its share price. Various scholars have used these variables and come up with reliable results. Ongore and K'Obonyo (2011) utilized these three variables to measure financial performance of firms listed at the Nairobi Stock Exchange; Renee

and Mehran (2011) also used ROA and ROE to measure financial performance in the banking industry in USA.

Figure 1. Conceptual Framework



Source: Authors (2013)

2.2.8 Research Hypotheses

From the conceptual framework in Figure 1 above, the following research hypotheses were proposed.

H_1: *The independence of board members has a significant influence on financial performance*

H_2: *The board size has a significant influence on financial performance.*

H_3: *Gender diversity has a significant influence on financial performance.*

H_4: *Board composition (composite) has a significant effect on financial performance.*

H_5: *Firm characteristics have a significant moderating effect on the relationship between board composition and financial performance.*

3. Research Methodology

Forty six companies were surveyed for purposes of this study.

3.1 Sampling approach

According to the NSE Handbook (2012), the companies listed were 51 divided as follows: Agricultural sector (7); Automobile and Accessories (4); Banking Sector (10); Commercial and Service (7); Construction and Allied (5); Energy and Petroleum (4); Insurance (3); firms, Investment (2); Manufacturing and Allied (7); and Telecommunication and Technology (2). This population covered all the sectors of the Kenyan economy and therefore, offered a good basis for generalization of the results. This study was a census survey. However, two of the firms had not filed their 2012 returns with the NSE by the time of data collection, and a further 3 companies opted not to participate in the study, leaving a total of 46 firms for this study.

3.2 Reliability Test

The questionnaire was subjected to Cronbach's alpha (α) test of reliability that provided a pretest of the reliability of the instrument and a post test of the internal validity of the findings resulting from the

adoption of this instrument. The pretest analysis of the 10 questionnaires used in the pilot stage produced alpha = 0.613. After improvement of its face validity, the questionnaire finally used in the survey resulted in alpha = 0.737. Cronbach's alpha ≥ 0.7 was interpreted to mean the instrument provides a relatively good measurement tool, hence reliable.

4. Data Analysis and Discussion

Regression analysis was used to determine the predictive power of board composition on financial performance. The three independent variables were regressed against the dependent variable on a simple linear regression analysis and a combination of the three independent variables was then regressed on financial performance while controlling for firm characteristics, to ascertain the moderating effect of firm characteristics.

The model that was used by the study is;

$Y = \beta_0+\beta_iX_i+\beta_{ii}X_{ii}+\beta_{iii}X_{iii}+\beta_{iv}X_{iv}+\varepsilon_0$ ..... (1)

Where:
- Y = Firm Performance
- X_i = Independent Board Membership
- X_{ii} = Board Size
- X_{iii} = Gender Diversity
- X_{iv} = Firm Characteristics
- ε_0 = error term associated with a regression model.
- β_0 = Constant associated with the regression model
- β_i, β_{ii}, β_{iii} and β_{iv} = Coefficient estimates of independent variables X_i, X_{ii}, X_{iii} and X_{iv}

The model specification for the study was:

$Y = \beta_0+\beta_i$IND DIR$+\beta_{ii}$BODSIZ $+\beta_{iii}$GENDIV$+\beta_{iv}$FIRCHAR$+\varepsilon_0$ ..... (2)

4.1 Hypothesis Testing

This sub-section presents the results of test of the research hypotheses. The study assumed a linear relationship between the predictors (board composition) and dependent variables (financial performance) and adopted Ordinary Least Square (OLS) method of estimation in examining the relationship between the predictor, moderating and dependent variables. The OLS method was used to derive a regression line of best fit which minimized the associated errors.

4.1.1 Relationship between Independent Board Members and Financial Performance

H_1: The independence of board members has a significant influence on financial performance

A simple linear regression analysis resulted in an ANOVA output presented in Table 1, and was used to interpret the statistical significance of the regression model. The resulting *F*-value (1, 44) = 0.956 and its sig. value = 0.334. Model 1 was therefore not significant (*p*-value > 0.05) at 0.05 levels in explaining the linear relationship between independent board membership and financial performance.

Table 1. ANOVA of Independent Board Membership

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.751	1	.751	.956	.334[b]
	Residual	34.575	44	.786		
	Total	35.326	45			

b. Predictors: (Constant), Independent board members

The model summary of independent board membership and financial performance in Table 2 was examined. The Durbin-Watson statistic was = 2.387, which was approximate to 2 and hence the residuals in the data set indicated no multi-collinearity. The significant *F*-value = .334 of model one. This meant independent board membership under model one had no significant influence over firm performance. The adjusted coefficient of determination (R^2) shows model 1 had R^2 = -0.001, implying it provided an extremely weak fit.

Table 2. Model Summary of Independent Board Membership

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.146[a]	.021	-.001	.88645	.021	.956	1	44	.334	2.387

a. Predictors: (Constant), Independent board members

The coefficients of independent board membership under model 1 in Table 3 confirms that independent board membership had a non-significant coefficients with an associated *p*-value = 0.334. The study therefore failed to acceptH_1 at 95% confidence level, meaning there was no significant relationship between independent board membership and financial performance.

Table 3. Coefficient of Independent Board Membership

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.580	1.333		3.435	.001	1.893	7.267
	Independent board members	-.381	.390	-.146	-.978	.334	-1.166	.404

4.1.2 Relationship between Board Size and Financial Performance

H_2: Board size has a significant influence on financial performance

The resulting ANOVA output presented in Table 4 shows *F*-value (1, 44) = 2.615 and its significance value = 0.113. Model 1 was therefore, not significant (*p*-value > 0.05) at 0.05 levels in explaining the linear relationship between board size and financial performance.

Table 4. ANOVA of Board Size

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.982	1	1.982	2.615	.113[b]
	Residual	33.344	44	.758		
	Total	35.326	45			

b. Predictors: (Constant), Board size

An examination of the model summary of board size and financial performance in Table 5shows an *F*-value = 0.113 under model 1. This means that board size under model one had no significant influence over financial performance. The R^2 = 0.056, implied model 1 provided a weak fit.

Table 5. Model Summary of Board Size

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.237[a]	.056	.035	.87053	.056	2.615	1	44	.113	2.462

a. Predictors: (Constant), Board size

The coefficients of board size under model 1 in Table 6 shows that the associated p-value = 0.113, hence non-significant. The study therefore failed to accept H_2 at 95% confidence level, meaning there was no significant relationship between board size and financial performance on a simple regression relationship.

Table 6. Coefficient of Board Size

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.332	.661		6.550	.000	2.999	5.665
	Board size	-.296	.183	-.237	-1.617	.113	-.664	.073

4.1.3 Relationship between Gender Diversity and Financial Performance

H_3: Gender diversity has a significant influence on financial performance.

It was observed that the ANOVA output presented in Table 7 shows an *F*-value (1, 44) = 0.835 and its significance value = 0.308. Model 1 was therefore not significant (*p*-value > 0.05) at 0.05 levels in explaining the linear relationship between gender diversity and financial performance.

Table 7. ANOVA of Gender Diversity

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.835	1	.835	1.065	.308[b]
	Residual	34.491	44	.784		
	Total	35.326	45			

b. Predictors: (Constant), Gender diversity

The model summary of gender diversity and financial performance in Table 8 shows an *F*-value = 0.308. This means that gender diversity under model 1 had no significant influence on financial performance. The adjusted $R^2 = 0.001$, shows model one provided a weak fit.

Table 8. Model Summary of Gender Diversity

Table 8 Model Summary of Gender Diversity Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.154[a]	.024	.001	.88537	.024	1.065	1	44	.308	2.424

a. Predictors: (Constant), Gender diversity

An evaluation of the coefficients of gender diversity under model 1 in Table 9 shows that the associated p-value = 0.308, hence non-significant. The study failed to accept H_3 at 95% confidence level, indicating there was no significant relationship between gender diversity and financial performance on a direct regression relationship.

Table 9. Coefficients of Gender Diversity

Model		Un-standardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.181	1.075		2.029	.049	.015	4.348
	Gender diversity	.276	.268	.154	1.032	.308	-.263	.816

4.1.4 Relationship between Board Composition and Financial Performance

H_4: Board composition has a significant effect on financial performance.

Hierarchical multiple regression was used to assess the ability of the combined board composition to predict levels of firm performance. Hierarchical regression was preferred because it allowed for assessment of the contribution of each subcomponent of board composition in the presence of the other subcomponents. Upon regressing board composition and firm performance, an ANOVA table was automatically generated. The ANOVA table 4.16 was used to assess the statistical significance of the regression model. Table 10 shows that model 1 had an F (1, 44) = 0.956 and its sig. value = 0.334. Model 2, had F (2, 43) = 1.401 and its sig. = 0.257. Model 3, had F (2, 42) = 2.359 and its sig. = 0.085. This means that model 1, 2 and 3 were all non-significant (p-values> 0.05) at 0.05 levels in explaining the relationship between board composition and financial performance.

Table 10. ANOVA of Board Composition

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.751	1	.751	.956	.334[b]
	Residual	34.575	44	.786		
	Total	35.326	45			
2	Regression	2.162	2	1.081	1.401	.257[c]
	Residual	33.164	43	.771		
	Total	35.326	45			
3	Regression	5.094	3	1.698	2.359	.085[d]
	Residual	30.232	42	.720		
	Total	35.326	45			

a. Dependent Variable: Financial performance

b. Predictors: (Constant), Independent board members

c. Predictors: (Constant), Independent board members, Board size, Gender diversity

The model summary in Table 11 shows Durbin-Watson statistic = 2.490, which means the data set used in this analysis showed no problem of multicollinearity. Models 1and model 2 were both non-significant with *F*-values = 0.334 and 0.183 respectively. Model 3 had an *F*-value = 0.050. This means model 3 was significant in explaining the relationship between board composition and financial performance of a firm listed in the NSE. The R square column shows model 1 had R^2= 0.021, model 2 had R^2= 0.061 and model 3 had R^2= 0.144, meaning model 3 provided the best fit. The study proceeded to interpret the coefficients related to model 3.

Table 11. Model Summary of Board Composition

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.146[a]	.021	-.001	.88645	.021	.956	1	44	.334	
2	.247[b]	.061	.018	.87822	.040	1.829	1	43	.183	
3	.380[c]	.144	.083	.84842	.083	4.073	1	42	.050	2.490

a. Predictors: (Constant), Independent board members

b. Predictors: (Constant), Independent board members, Board size

c. Predictors: (Constant), Independent board members, Board size, Gender diversity

d. Dependent Variable: Financial performance

An examination of the coefficient of board composition in Table 12 shows that under models 1 and 2 were non-significant with both having p-values > 0.05. Under model 3, only "independent board members" had a non-significant p value = 0.478. The subcomponent board size had a p-value = 0.047 and the subcomponent gender diversity had a p-value = 0.050. This meant both board size and gender diversity had a significant influence on financial performance. The study therefore, failed to

reject H_4 at 95% Confidence Interval and deduced that board composition had a significant relationship with firm performance, defined by board size and gender diversity.

Table 12. Model Summary of Board Composition

Model		Un-standardized Coefficients		Standardized Coefficients	*t*	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.580	1.333		3.435	.001	1.893	7.267
	Independent board members	-.381	.390	-.146	-.978	.334	-1.166	.404
2	(Constant)	4.893	1.341		3.649	.001	2.189	7.598
	Independent board members	-.197	.409	-.076	-.483	.632	-1.023	.628
	Board size	-.265	.196	-.212	-1.352	.183	-.659	.130
3	(Constant)	3.447	1.480		2.329	.025	.460	6.435
	Independent board members	-.285	.398	-.109	-.716	.478	-1.087	.518
	Board size	-.418	.204	-.334	-2.051	.047	-.829	-.007
	Gender	.574	.284	.319	2.018	.050	.000	1.147

4.1.5 Evaluating the Model defined by Board Composition

The model summary in Table 12 shows a significant relationship between board composition and firm performance. Given the significant coefficients under model 3, the following fitted model was derived:

FP = 3.447 – 0.418 BODSIZ + 0.574GENDIV……. (2)

Sig. = 0.047 0.050

R^2 = 0.144

Where: FP = Firm Performance,

BODSIZ = Board Size

GENDIV = Gender Diversity

3.447 = Constant associated with the regression model

The results in equation (2) show that $R^2 = 0.144$. This means that two independent variables board size and gender diversity explained 14.4% of the variations in financial performance of a firm listed in the NSE. The coefficient of determination of 0.144 shows the model provides a weak fit. The independent variable with the highest coefficient (β_7) = 0. 574 was gender diversity. This meant that a unit change in gender diversity would positively influence financial performance 57.4% of the times. The coefficient of board size was (β_6) = -0. 418. This meant that a unit increase in board size had the potential of negatively influencing financial performance 41.8% of the times.

4.1.6 Moderating Effect of Firm Characteristics on the Relationship between Board Composition and Financial Performance

H_5: Firm characteristic has significant moderating effect on the relationship between board composition and financial performance.

Hierarchical multiple regression was used to assess the ability of board composition to predict levels of firm performance in the presence of firm characteristic. Once the independent variable (board composition) and the moderator variable (firm characteristic) were entered, the overall model was evaluated in terms of its ability to predict financial performance. Upon regressing board composition, firm characteristic and firm performance, the ANOVA table 13 was generated and assessed to determine the statistical significance of the regression model.

Table 13. ANOVA of Moderated Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.751	1	.751	.956	.334[b]
	Residual	34.575	44	.786		
	Total	35.326	45			
2	Regression	2.162	2	1.081	1.401	.257[c]
	Residual	33.164	43	.771		
	Total	35.326	45			
3	Regression	5.094	3	1.698	2.359	.085[d]
	Residual	30.232	42	.720		
	Total	35.326	45			
4	Regression	9.048	4	2.262	3.529	.015[e]
	Residual	26.278	41	.641		
	Total	35.326	45			

a. Dependent Variable: Financial performance
b. Predictors: (Constant), Independent board members
c. Predictors: (Constant), Independent board members, Board size
d. Predictors: (Constant), Independent board members, Board size, Gender diversity
e. Predictors: (Constant), Independent board members, Board size, Gender diversity, Firm characteristics

Models 1, 2 and 3in Table 13 had non-significant p-values (p-value > 0.05). Model 4, had an F- value (4, 41) = 3.529 and its significance = 0.015. This means that model 4 had a p-value< 0.05 and was hence significant in explaining the relationship between board composition, firm characteristics and financial performance.

The model summary in Table 14 shows Models 1and 2 both had *F*-values >0.05 and hence were non-significant. The F- value of model 3 = 0.050 and F- value of model 4 = 0.017 were both significant. The R^2 column shows model 3 had R^2= 0.144 and model 4 had R^2= 0.256, meaning model 4 provided the best fit. The study proceeded to interpret the coefficients related to model 4.

Table 14. Moderated Model Summaries

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.146[a]	.021	-.001	.88645	.021	.956	1	44	.334	
2	.247[b]	.061	.018	.87822	.040	1.829	1	43	.183	
3	.380[c]	.144	.083	.84842	.083	4.073	1	42	.050	
4	.506[d]	.256	.184	.80057	.112	6.170	1	41	.017	2.549

a. Predictors: (Constant), Independent board members
b. Predictors: (Constant), Independent board members, Board size
c. Predictors: (Constant), Independent board members, Board size, Gender diversity
d. Predictors: (Constant), Independent board members, Board size, Gender diversity, Firm characteristics
e. Dependent Variable: Financial performance

Table 15. Coefficients of Moderated Model

Model		Un-standardized Coefficients		Standardized Coefficients	t	*Sig.*	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.580	1.333		3.435	.001	1.893	7.267
	Independent board members	-.381	.390	-.146	-.978	.334	-1.166	.404
2	(Constant)	4.893	1.341		3.649	.001	2.189	7.598
	Independent board members	-.197	.409	-.076	-.483	.632	-1.023	.628
	Board size	-.265	.196	-.212	-1.352	.183	-.659	.130
3	(Constant)	3.447	1.480		2.329	.025	.460	6.435
	Independent board members	-.285	.398	-.109	-.716	.478	-1.087	.518
	Board size	-.418	.204	-.334	-2.051	.047	-.829	-.007
	Gender diversity	.574	.284	.319	2.018	.050	.000	1.147
4	(Constant)	1.312	1.640		.800	.428	-2.001	4.625
	Independent board members	-.409	.378	-.157	-1.080	.286	-1.173	.356
	Board size	-.510	.196	-.408	-2.605	.013	-.905	-.115
	Gender diversity	.597	.268	.332	2.224	.032	.055	1.139
	Firm characteristics	.701	.282	.348	2.484	.017	.131	1.271

a. Dependent Variable: Financial performance

The coefficients table in Table 15 shows that under model 4, there are three variables with significant p-values (p-value ≤ 0.05). These are: board size (p-value =0.013), gender diversity (p-value = 0.032) and firm characteristic (p-value = 0.017). The beta coefficient of board composition is therefore not equal to zero and is statistically significant. Given that the beta coefficients of firm characteristic $\beta_{16} \neq 0$ is statistically significant, the study therefore, failed to reject H_5 at 95% Confidence Interval and deduced that firm characteristics had a significant moderating effect of on the relationship between board composition and firm performance.

4.1.7 Evaluating the Moderated Model

The model summary in Table 14 shows that model 4 was significant in explaining the moderated relationship between board composition, firm characteristics and firm performance. The significant coefficients in Table 15 under model 4, led to the derivation of the following fitted model:

FP =1.312– 0.510 BODSIZ + 0.597GENDIV + 0.701FIRCHA …..(3)

Sig. =0.013 0.032 0.017

R^2 = 0.256

Where:

FP = Firm Performance,
BODSIZ = Board Size
GENDIV = Gender Diversity
FIRCHA = Firm Characteristics
1.312 = Constant associated with the regression model

According to equation (3) coefficient of determination (R^2)= 0.256. This means that the two independent variables; board size and gender diversity explained 25.6% of the variations in financial performance of a firm listed in the NSE. This prediction was however, moderated by firm

characteristics. The value of coefficient of $R^2 = 0.256$, shows the model provides a moderately weak fit. The independent variable with the highest coefficient (β_{14}) = 0. 597 was gender diversity. This means that a unit change in gender diversity would positively influence financial performance 59.7% of the times, depending on the firm characteristics. The coefficient of board size was (β_{15}) = -0.510. This means that a unit increase in board size had the potential of negatively influencing financial performance 51.0% of the times again depending on the firm characteristics. The results in equation (8) further confirm that a unit change in firm characteristics positively influence firm performance 70.1% of the times.

5. Summary, Conclusions and Recommendations

5.1 Summary

This chapter presents a discussion on the research findings resulting from the data analysis process and summarizes the key findings. The business implications from the findings are presented. The study was guided by three key objectives and the discussion centers on their level of attainment.
The first research objective was to examine the relationship between independent board membership and financial performance of a firm. The study established that independent board membership had no significant influence on financial performance. Also an assessment of independent board membership in the presence of the other subcomponents of board composition also indicated that independent board membership had no significant relationship with a firm's financial performance. This observation led the study to deduce that the independence of a board member was not one of the predictors of a firm's financial performance.

This study is not a stand-alone on this conclusion. In the year 2007, Nicholson & Kiel argued that inside directors are always within the organization and therefore, they understand it better than outsiders. This will give them an edge in their decisions when compared with the outside directors. On the same note, Brennan (2006) also concluded that independent directors are outsiders who only come to the organization part-time, they do not have the necessary inside information concerning the business and in fact the industry as a whole. This therefore, denies them the competence to perform their duties.

Regarding the relationship between board size and the firm performance, the study established that board size did not significantly influence firm performance. An assessment of board size in a composite model encompassing the other subcomponents of board composition, led to the conclusion that board size had a significant influence on financial performance of the firm. This observation was attributed to the large capital structure that results from pooling of resources from the large number of directors.

These results are consistent with the works of Bathula (2008) who in his study came up with a conclusion that board size contributes to a firm's performance. Large boards have also been supported because they would provide greater monitoring and advice. In addition, Singh and Vinnicombe (2004) also did a study in board size and found out that large boards improve the performance of the board generally by reducing CEO domination within board. In contrast, Jensen (1993) in his study came up with this interesting argument that a smaller board size stemming from adoption and implementation of technological and structural change ultimately leads to the reduction of costs and downsizing and result in improved firm performance. Yermack (1996) and Erhardt et al. (2003) provided evidence that smaller boards are related to a higher firm value. The study then deduced that Kenyan firms listed in the NSE are yet to adopt higher level technology that leads to reduction board sizes and subsequently higher firm performance. Considering that board size was a key contributor to board composition, the study confirmed that board composition significantly influenced firm performance in a situation where firm size was controlled for. These results provide further evidence that board size significantly influence the firm performance.

The third research objective was to examine the impact of gender diversity of the board on firm performance. The study established that gender diversity has a significant positive influence on firm performance. A bivariate analysis of gender diversity and board size using Pearson Product Moment Correlation, revealed a significant relationship between the two. A confirmation using Pearson Chi-Square test established that a significant relationship exist between gender and board size. On a simple linear relationship, gender diversity had no significant influence on financial performance of a firm. However on a composite model where other subcomponents of board compositing were

used, the predictive power of gender diversity on firm performance shows that a unit increases in gender diversity would result in a 59.7% increase in firm performance as evidenced by equation (8). The study therefore established that gender diversity can significantly predict changes in firm performance (59.7%) of the times. The results were consistent with the findings by Smith et al. (2006) who established that women on board of directors have substantial positive effect on firm performance. This position is supported by Robinson and Dechant (1997) who advanced that diversity promotes a better appreciation of market place, increases originality, produces more operational problem-solving and governance and promotes effective worldwide relationships.

Gender diversity is part of the broader model of board diversity. Empirical literature suggests that board diversity should reflect the structure of the society and appropriately represent the gender, ethnicity and professional backgrounds (Bathula, 2008). The study however noted that many of the firms in the NSE had board membership that was dominated by the male gender, and that very few firms had the female gender in their boards. An analysis of the company profile in Table 4.2 shows most of the listed companies in Kenya are yet to embrace gender parity in the board composition of listed firms. But this is not a unique situation to Kenya. Earlier studies indicate that women representation on boards is very limited in the corporate world. Singh and Vinnicombe (2004) reported that women directorship is only 12.4 per cent in the United States of America and 6.4 in the United Kingdom.

This study also sought to determine the role of firm characteristics in moderating the relationship between board composition and firm performance. Using linear regression analysis results in equation (8), and the output in Table 4.21, the study observed that if $\beta_{13} = 0.701$ and was statistically significant and that β_{11} and$\beta_{12} \neq 0$ and were significant, the study then deduced that firm characteristic partially moderates the relationship between board composition and firm performance. In related studies Hendry, K., & Kiel (2004) established that the relationship between the performance of the firm and the size of the board and gender diversity was being moderated by the size of the firm and the age of the firm as they found the two to co-vary with many board characteristics and other governance variables.

5.2 Conclusions

The study concluded that board composition significantly influences firm performance. This relationship is however moderated by firm size. Larger firms tend to perform better than smaller firms listed in the NSE in Kenya. Board composition is defined by board size and gender diversity. Board size is negatively related to firm performance. Firms with large board sizes tend to perform better while very small board sizes results in negative financial performance. This shows that performance of listed firms in Kenya is dependent on size of corporate boards. Gender diversity is positively related with firm performance. However the number of women directors observed in the study is significantly low compared to that of men. Given the historical composition of boards in the Kenyan context, the study asserts that gender disparity can explain firm performance.

5.3 Recommendations

Based on the research findings, the study recommends the following:

First, board structure has significant influence of a firm's performance. Those firms' should pay attention to both board size and board gender diversity. The study recommends smaller board sizes accompanied by skill, experience and expedience of the board results in increased firm performance. The study recommends inclusion of the female gender in boards and hence gender parity, as they bring about a different perspective of viewing business performance, whose result is increased firm performance.

The study concluded that board sizes influence firm performance in the Kenyan context. While literature supports this position, it also suggests that adoption of technology and organizational change strategies leads to reduced board sizes and enhanced firm performance. For these reasons, the study recommends that firms listed at the NSE should embrace technological advancement and seek innovative ways of increasing their performance with smaller board structures for efficiency, expediency in decision making and competitiveness.

Having established that gender diversity significantly affects organizational performance, the study recommends that gender diversity in the board leads to enhanced firm performance and should be encouraged. Inclusion of females in the board allows for a wholesome approach to management as

it inculcates social and humane aspects to business, thus increasing firms' corporate image. The study further recommends that in line with the legal requirements stipulated in The Constitution of Kenya (2011), which requires public firms to have at least a third of senior officials from either gender, firms in the NSE should adopt change and uphold the law.

The study recommends that the role of gender diversity be examined further as it patents explanations as to why firms differ in performance. The study posits that firms with more gender balance can perform better than firms with one gender dominating the board.

5.4 Limitations of the Study

First, the entire population comprises only 51 firms, which is relatively small, considering that there are several firms engaged in business in Kenya. However, the size of the sample is limited by the number of firms listed on the Nairobi Stock Exchange in the year 2011. This may pose the challenge of external validity or replication of the study outside Kenya.

Second, it is possible for the observed performance of the firm to be highly affected by other factors like government regulation, economic crisis, political situations amongst others besides the board composition and firm characteristics as presented in this study. However, this study did not discriminate for such factors hence the results have a caveat on this ground.

The study was cross sectional and it utilized data for the year 2011. The researcher has a feeling that in the year 2013 it is possible that some of the aspects have changed and therefore, might change the results of the study.

The study did not deal with section specific issues; it instead generalized all the listed firms at the NSE. Diversity of the firms is therefore not addressed by this study.

5.5 Areas for Further Research

Further research should focus on the limitations of this study. Numerous expansions of this research are possible. First, the study focused only on three board features for their impact on firm performance. While the features covered are important, there are other diverse variables such as educational qualifications of the directors, their ethnic background and also their age that could be considered. Also CEO duality, share ownership by directors and board processes can be examined for their impact on firm performance.

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