

## **EFFECT OF BOARD SIZE ON FINANCIAL PERFORMANCE OF PERFORMANCE OF LISTED MANUFACTURING FIRMS IN KENYA**

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**Abstract:** *The Nairobi Securities Exchange (NSE) is the single major open capital market in Kenya from which listed manufacturing firms gain access to long-term finance. The listed manufacturing firms are important drivers of the economy with non-financial listed manufacturing firms averagely contributing 18% of revenue to Gross Domestic Product (GDP) annually. However, statistics indicate that up to 16% of the listed manufacturing firms were delisted between 2010 and 2019, indicating poor financial performance. Prior studies on the performance of the firms have focused on corporate governance mechanism generally. The role of board size on financial performance for the listed manufacturing firms has not been evaluated empirically for the case of NSE manufacturing firms. The present study therefore sought to establish the effect of board size on financial performance measured by both ROA and Tobin's Q of listed manufacturing firms in Kenya. The Agency Theory was adopted for the present study. This study employed the explanatory survey research design. The target population of this study was all 16 listed manufacturing firms in the NSE for the six-year period 2015-2020. The study used census method to select the 13 firms whose data was complete for the entire period of study to give 78 observations. Normality, linearity, homoscedasticity and multicollinearity tests were done to test stability of the data were. Secondary data was collected from annual reports of the manufacturing companies listed at NSE and the NSE handbooks. The data was analysed descriptively by calculating the mean and the standard deviation, while multiple regression analysis was used to establish the relationship between the variables. Regression results showed that board size has a positive effect on financial performance as measured by Return on Assets ( $\beta = 0.143$ ,  $p = 0.0469$ ) and Tobin's Q ( $\beta = 0.392$ ,  $p = 0.0204$ ). It was concluded that board size is a significant positive contributor to financial performance of the manufacturing firms listed at the NSE. Findings from the study are likely to benefit current and future investors in respective firms who will have a better understanding of effect of board size and how it impacts the financial performance. In addition, upcoming researchers may also want to address a problem that has been left out under this field. For reference purposes, this study will provide information which will be utilized as a source of reference in the area of corporate governance and financial performance.*

**Keywords:** *Board Size, Financial Performance, Nairobi Securities Exchange*

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### **Introduction**

Corporate governance denotes a system through which corporations are controlled and managed. The governance structure in corporations describes the distribution of rights and responsibilities among the participants (such as the board of directors, managers, shareholders, creditors, auditors, regulators, and other stakeholders) and also shows the rules and procedures to be followed by the management in making decisions

for corporate agendas (Enobakhare, 2010). Effective corporate governance provides a viable structure or system through which corporations can realize their objectives and goals while focusing on the social, regulatory and market context of development within the operational environment (Enobakhare, 2010). Governance is therefore, the process for monitoring, managing the policies, actions, and decisions of operations (Mullins, 2014).

The governance process as defined in the agency theory encompass the board size, composition including gender diversity, CEO pay performance sensitivity, directors, ownership and shareholders rights. According to Chirchir (2014), in a scenario where the governance mechanisms are to be changed, the managers have to align their interests with those of the shareholders to have a higher firm achievement or value. Kumudini (2011) asserted that properly-governed corporations have better financial growth and performance than the poorly governed firms. Better corporate governance framework benefits firms through greater access to financing, lower cost of capital, better financial performance and more favorable treatment of all stakeholders. The weak corporate governance does not only lead to poor firm financial performance and risky financing patterns, but are also conducive for macroeconomic crises. Good corporate governance is also important for increasing investor confidence and market liquidity (Ren, 2014).

Basically, effective corporate governance is critical to firm performance and by extension shareholder value, and especially so after the collapses and scandals of the high-profile corporates such as Enron, WorldCom and others in the US, serving as an impetus to such recent U.S. regulations as the Sarbanes-Oxley Act of 2002. The Act is considered the most sweeping corporate governance regulation in the past 70 years (Khaled, 2014), with the main objective of the Act being to protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the securities laws and other purposes. Others are Parmalat in Italy, Marcos 10b & Fortune and Baby Doc of Haiti. Back in Kenya, the collapse of Uchumi Supermarkets, Kenya-United Insurance, Lake Star Insurance, Goldenberg, Kenren and Anglo-Leasing scandal clearly point out on the need for good corporate governance. Corporate governance has succeeded in attracting a good deal of public interest because of its apparent importance for the economic health of corporations and society in general.

Cadbury (2012) recommends an ideal board size of 8–10 members, with an equal number of executive and non-executive directors. Jensen and Meckling (2016) argues that the optimum board size should be around 7–8 directors. Based on the Codes of Corporate Governance in the UAE, the board of directors consists of 3–12 members. Brown and Caylor (2014) also suggest that a board size of between 6-15 members is ideal to enhance firm performance. Lipton and Lorsch (2012) argue that board size should be small and limited: a board size of 8–9 directors is optimal for coordination and communication, because if the board has more than 10 members, it is not easy for directors in the board to indicate their opinions and ideas (Lawal, 2012). The board of directors plays an important role in corporate governance practices because it is responsible for planning and monitoring a company's objectives (Bhagat and Bolton, 2008). Thus, an effective board director with an appropriate composition of directors is important in order to help the board accomplish its aim and ensure the success of the company (Al-Matari and Tellis, 2012).

The Nairobi Securities Exchange is the single major open capital market in Kenya from which listed manufacturing firms gain access to long-term finance (Mule and Mukras, 2015). The listed manufacturing firms are important drivers of the economy with the listed manufacturing firms averagely contributing 17.6% of revenue to Gross Domestic Product (GDP) annually during the period 2003 to 2017 (NSE, 2018). Despite the important contribution to Kenya's GDP, financial performance of the listed manufacturing firms has generally remained comparably low (Abeysekera, 2010; Maina and Ishmail, 2014; Mule and Mukras, 2015).

During the period 2003 to 2014, Unilever Tea (K), Access Kenya, CMC Holdings, BOC, Carbacid, Uchumi, A. Baumann, Rea Vipingo and Hutchings Biemer were either delisted, suspended or moved out from the bourse awaiting mergers (NSE, 2015). This indicates poor financial performance. While previous studies have attempted to establish the cause of this financial performance, the effect of board size on financial performance of NSE listed manufacturing firms in Kenya has not been established. Therefore, this study purposed to examine the existing effect of board size on financial performance of NSE listed manufacturing firms in Kenya.

### **Statement of the Problem**

Kenya Vision 2030 identifies the manufacturing sector as one of the key drivers for realizing a sustained annual GDP growth of 10 per cent (Government of Kenya, 2007). Progressive growth is key to the achievement of the government's ambitious development blueprint Vision 2030. However, the growth in manufacturing sector trails that of the overall economy, and the percentage contribution of manufacturing to GDP and merchandise exports has stagnated (World Bank Report, 2014). Growth of the sector (4.3 percent) lagged average growth of the economy (6.2 percent) between 2010 and 2013 and was slower in Kenya than in comparator countries. In addition, the sector's share of GDP declined, from 13 percent in 2006 to 12 percent in 2011 and 11 percent in 2012 and 2013 (World Bank Report, 2014).

Corporate governance mechanisms aim at ensuring the stakeholders are protected from excesses of management. According to Enobakhare (2010) ineffective corporate governance is the major cause of firms' crises across the world and especially in Africa. The poor corporate governance is manifested in the form of, poor internal control mechanisms, extreme risk taking, internal controls override, lack of or non-compliance with legal provisions, lack of risk management systems, insider abuses and fraud. This implies absence of robust corporate governance system among companies which hinder the public trust threatening their financial profitability and survival. According to World Bank (2015) corporate governance in developing economies has lately found a lot of research attention. However, the connection between corporate governance and financial performance remains unattested across many sectors of these developing economies. According to Kumudini (2011) there is non-linear association between financial performance and corporate governance practices such as board size.

In the manufacturing sector corporate governance issues have been a major concern in Kenya. The period from 1990's to 2015 we have witnessed failure of many companies with governance being a major root cause. Companies such as Kenya Co-operative Creameries, Cooper Motors Corporation and Rivatex Textiles. More recent include Sugar companies, East Africa Portland Cement and Kenya Meat Commission. These corporate failures and numerous litigations levelled against management of organizations emphasize the need to objectively evaluate governance in local organizations.

Previous studies examining the issue of corporate governance mechanisms on financial performance have explored the issue using shorter panel data. Moreover, most of the studies have been conducted in the developed security markets with minimal studies being conducted in emerging security markets such as the NSE. This implies that there is lack of concrete empirical evidence to guide firms listed in the exchange in making proper decisions on corporate governance mechanisms such as board size. The problem of this study was therefore to examine the effect of board size on financial performance of listed manufacturing firms in Kenya.

### Objectives of the Study

The main objective of the study was to establish the effect of corporate board size on financial performance of listed manufacturing firms in Kenya.

### Scope of the Study

The study focused on effect of board size on financial performance of NSE listed manufacturing firms. The firms represent some of the biggest number of listed manufacturing firms in the NSE and also play a strategic role in the economic development of Kenya, given that the manufacturing sector account for a huge percentage of job market. The information sought from NSE listed manufacturing firms formed the geographical scope of the study. The choice of using secondary data was because it is factual and verifiable. The research was conducted in the months of January and March 2022.

### Research Methodology

This study employed the explanatory survey research design as it is concerned with the causal explanation of events. The target population of this study was all 15 listed manufacturing firms in the NSE for the period 2015-2020. The study focused on 15 firms whose data was complete for the entire period of study. This made 90 observations; that is 15 manufacturing firms for the six years of observation. The data collected from the secondary sources using document analysis method was tested for stability. This was done by use of 10% of the sample size which was 9 observations from three manufacturing firms that were randomly selected. The dependent variable that was used is Return on Assets (ROA) and Tobin’s Q. The regression model to be empirically tested for this study was the following:

$$Financial\ Performance = \alpha + \beta_2 Board\ Size_{ij} + \mu$$

Where *i* represent the firm and *j* represents the time and  $\mu$  is the error term.

### Results and Discussion

Out of the 15 listed manufacturing firms that were sampled, complete data was collected from 13 firms. This represents an overall data collection rate of 87%. The remaining 13% represented firms whose data was used in the pilot study. Rogelberg and Stanton (2007) assert that for studies carried out at the organizational level, the acceptable data collection rate should be over 35%. Therefore, the data collection in the present study met this criterion and hence was suitable in ensuring accuracy and minimization of bias.

### Descriptive Statistics

Table 1 below represents descriptive results.

**Table 1: Descriptive Statistics**

	Board Size	ROA	Tobin’s Q
Mean	9.030	0.495	0.499
Median	9.000	0.540	0.327
Maximum	15.00	0.820	2.488
Minimum	4.000	-0.139	0.020
Std. Dev.	2.627	0.207	0.460
Skewness	0.078	-0.658	1.378
Observations	78	78	78

Mean Board Size reported in Table 1 is 9.030 with the highest and lowest being 15.0 and 4.00 respectively. Board Size is measured using the number of directors in a particular financial year; the mean Board Size value obtained for the listed manufacturing firms in the NSE implies that the firms have a high number of directors as compared to those of countries such as USA and Canada. Financial performance was operationalized by Return on Assets (ROA). Table 1 shows that the average ROA for the listed manufacturing firms is 0.495 which implies that the NOPAT is on average 0.495 times the total assets. The mean reported value for Tobin’s Q is 0.499.

**Regression Results**

Before running a regression, a correlation of the variables was run to establish the association between board size and financial performance measured by ROA and Tobin’s Q. Correlation analysis shows the direction, strength and significance of the relationships among the variables of study (Sekaran, 2000). The results for the correlation between board size measured by ROA and Tobin’s Q are presented in Table 2.

**Table 2: Correlation between Board size and Financial Performance**

	BSZ	ROA	TOBQ
BSZ	1.000000	0.343235	0.108602
ROA	0.343235	1.000000	0.901320
TOBQ	0.108602	0.901320	1.000000

Table 2 shows that the association between board size and both measures of firm performance is positive. Specifically, the relationship between board size and Return on Assets (ROA) was found to be positive ( $r = 0.343$ ). These findings are in tandem with findings by Alshatti (2015) who conducted a research seeking to establish the degree to which effective liquidity management affects profitability in Jordanian commercial found the effect of the investment ratio and quick ratios on the profitability is positive when measured by ROE and the effect of capital ratio on profitability is positive as measured ROA. The results also support those by Mathuva (2019) who while examining the effects of working capital management components on profitability of 30 firms listed at the NSE revealed a highly significant positive relationship between profitability and the period taken to convert inventories to sales and time it takes for firms to pay.

Correlation results also show that the correlation between board size and financial performance as measured by Tobin’s Q is positive ( $r = 0.1086$ ). This implies that there is a positive association between increase in board size in the average firm listed in the NSE and the firms’ market value. The results are in tandem with those by Mule and Mukras (2015) who reported a positive association between board size and firms’ Tobin’s Q in their study of firms listed at the NSE.

Panel data estimation methods were employed in this study because the observations have two dimensions; cross-section and time-series. As asserted by Hsiao (2005), panel data estimation methodology contains more degrees of freedom and less multicollinearity leading to estimates that are more efficient. The random effects model was adopted for the present study.

Results for the regression analysis for the objective are shown in Table 3 and 4 next page.

**Table 3: Effect of Board Size on ROA**

Dependent Variable: ROA  
 Method: Panel Least Squares  
 Date: 06/03/22 Time: 16:13  
 Sample: 2015: 2020  
 Periods included: 6  
 Cross-sections included: 13  
 Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.469537	0.024349	19.28336	0.0000
BSZ	0.143050	0.037095	3.85631	0.0469
Root MSE	0.206715	R-squared		0.29510
Mean dependent var	0.495425	Adjusted R-squared		0.27548
S.D. dependent var	0.207248	S.E. of regression		0.207170
Akaike info criterion	-0.306177	Sum squared resid		19.48543
Schwarz criterion	-0.288096	Log likelihood		71.80837
Hannan-Quinn criter.	-0.299055	F-statistic		1.343738
Durbin-Watson stat	2.438935	Prob(F-statistic)		0.246985

As it is show in Table 3 above, board size has a positive effect on financial performance as measured by Return on Assets ( $\beta = 0.143, p = 0.0469$ ). This implies that a unit increase in board size leads to a 14.3 percent increase in financial performance as measured by ROA.

**Table 4: Effect of Board Size on Tobin's Q**

Dependent Variable: TOBQ  
 Method: Panel Least Squares  
 Date: 06/03/22 Time: 16:40  
 Sample: 2015: 2020  
 Periods included: 6  
 Cross-sections included: 13  
 Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.085494	0.110659	18.84615	0.0000
BSZ	0.392422	0.168582	2.327778	0.0204
Root MSE	0.939446	R-squared		0.111794
Mean dependent var	2.321754	Adjusted R-squared		0.109617
S.D. dependent var	0.946073	S.E. of regression		0.941513
Akaike info criterion	2.721719	Sum squared resid		402.4468
Schwarz criterion	2.739800	Log likelihood		-618.5519
Hannan-Quinn criter.	2.728842	F-statistic		5.418550
Durbin-Watson stat	2.427162	Prob(F-statistic)		0.020362

Table 4 shows that the effect of board size on financial performance as measured by Tobin's Q is positive and significant ( $\beta = 0.392, p = 0.0204$ ). The implication is that a unit increase in board size leads to a 39.2% increase in financial performance as measured by Tobin's Q. Generally, the null hypotheses which was set as board size has no significance effect on financial performance of manufacturing firms listed at the Nairobi Securities Exchange was rejected for both measures of financial performance.

The results above based on the effect of board size on financial performance support several previous empirical studies. The results are in tandem with those by Berger and Bonaccorsi di Patti (2006) that showed a positive significant relationship between board size and firm performance for listed US firms possibly due to the developed financial markets. However, the results contradict those by Laurent (2002) who using cross-sectional data reported inconsistent relationships for selected listed manufacturing firms in France, Germany and Italy, and Tian and Zeitun (2007) who reported a negative significant effect of board size on corporate performance of firms in Jordan. Maina and Ishmail (2014) and Mule and Mukras (2015) similarly reported inconsistent relationships between board size and firm performance.

Results based on the effect of board size on firm financial performance seem to support the signalling theory. According to Ross (1977), a firm signals an increase in the firm's asset value by increasing its leverage since it has the confidence of meeting the debt obligation. In practice however especially in fierce competition market, some signals are less or not reliable and can be imitated by those who wish to give the impression of having the quality, without actually possessing it (Smith & Harper, 2003). Empirically too, using data for 1419 farms in Illinois Zhao, Katchova and Barry (2004) found that unlike corporate firms which use high leverage as signals, farming concerns mainly depend on their large size and good historical operation records, invalidating Ross (1977) generalization. This theory was therefore supported by findings of the present study since the uptake of debt may signal to stakeholder that the firm is doing well hence increase its financial performance.

### **Summary of Findings, Conclusions and Recommendations**

Regression results showed that board size has a positive effect on financial performance as measured by Return on Assets ( $\beta = 0.143$ ,  $p = 0.0469$ ) which implies that a unit increase in board size leads to a 14.3 percent increase in financial performance as measured by ROA. Additionally, the effect of board size on board size as measured by Tobin's Q is positive and significant ( $\beta = 0.392$ ,  $p = 0.0204$ ) implying that a unit increase in board size leads to a 39.2% increase in financial performance as measured by Tobin's Q. It was generally shown that the effect of board size on financial performance is positive and significant for both measures of financial performance.

Based on the summary of findings presented, four conclusions can be drawn. The first conclusion based on the first objective which showed that board size has a positive effect on financial performance as measured by both Return on Assets and Tobin's Q is that board size is an important positive contributor to financial performance of the firms listed at the NSE.

Based on the conclusion from findings on the first objective that board size is an important positive contributor to financial performance of the firms listed at the NSE, it is recommended that the listed manufacturing firms sustainably increase their board size levels so that they take advantage of the tax-shields. This will enhance their financial performance.

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