BOARD SIZE AND FIRM PERFORMANCE: A STUDY ON BSE 100 COMPANIES

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ABSTRACT

The sizes of the board and its impact on the performance have received much attention in corporate governance. Among the several factors that account for firm's performance, board related issues are one of the most important ones. Human beings work preeminent in groups of a certain size. A board is nothing beyond a group of human beings trying to effort together to generate the best results for the organization.

The present research work aims to examine whether board size has any influence on firm's financial performance. The study has been conducted for the year 2018-19 for BSE 100 companies. The study considers Return on Assets (ROA), Profit before Interest and Tax (PBIT), Return on Equity (ROE), Earning per share (EPS), Dividend per share (DPS) and Tobin's Q as measures of financial performance, whereas board size has been taken as an independent variable. The results show that ROA, ROE and Tobin's Q is more for companies with board size between eight and ten. Also, medium size boards are found to perform better than either very small or very big boards. As regard the impact of board size on firm performance, results suggest that for ROE, ROA, PBIT, EPS, DPS and Tobin's Q are statistically not significant. The Board size has no impact on the performance of the firm. It would look that the ideal board size as far as human decision making is somewhere between eight and ten. But it's not that simple.

Keywords: Corporate Governance, Financial Performance, Tobin's Q, BSE 100 Companies and Ideal Board Size.

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1. INTRODUCTION

Corporate Governance is concerned with the functioning of Board of Directors (BODs) –its structure, styles, process, their relationships and roles, activities etc. Therefore, Boards of directors (BODs) is considered as a crucial part of the Corporate Governance (Sangmi & Jan, 2016). BOD is the vital element of corporate governance, it is clear that its structure must be responsive to the basic functions that are assigned to it: supervising and monitoring, fencing

opportunistic behaviour on the part of executives, and providing advice to decision makers to progress the management of the business. a board is nothing more than a group of human beings trying to work together to create the best results for the organization they are charged with directing and protecting. Human beings work best in groups of a certain size. Over the years a number of studies have been conducted on the effectiveness of group decision making. This study may contribute something similar to such literature.

2. LITERATURE REVIEW

An attempt has been made to explore the potential determinants of board size, for which the literature gives some guidelines

Table 1 Guidelines

Sl.No.	Authors	Key Findings
1	Lipton and Lorsch (1992)	It becomes more difficult for all members to express their ideas and opinions if board has more than ten members.
2	Jensen (1993)	Small boards performs better
3	Bhagat and Black (2002)	The negative relationship between board size and performance is not healthy to the change of the performance measure.
4	Cadbury (2002)	There should be balance in the board size between a body which is small enough for there to be true discussion and debate between members and one which is large enough to bring in the breadth of knowledge and experience which chairman and their boards feel that they need.
5	Adams and Mehran (2005)	They concluded that board size does not have a negative effect on performance with a study of relation between board size and firm performance by a sample of 35 publicly traded US bank holding companies during 1959-1999
6	Raheja (2005)	Reports that optimal board size and composition are the function of directors and firm characteristics.
7	Tanna, Pasiouras and Nnadi(2008)	Underscore the positive relation between board size and performance for English banks.
8	Bennedsen, Kongsted, and Nielson (2008)	There is an optimal board size beyond which performance of the company is impaired.

3. OBJECTIVE OF THE STUDY

The objective of the study is to examine whether board size has any influence on firm's financial performance.

4. RESEARCH METHODOLOGY

The sample of the study was comprised 100 BSE Listed Companies This study had basically focused upon one corporate governance variable i.e. board size, the data for which had been extracted from the corporate governance section of the annual reports of the respective sampled companies. The annual reports of the sampled companies had been downloaded from the respective websites of the sampled companies.

Board size was further categorized into four groups i.e. board size of below 7 members, board size of 8 to 10 members, board size of 11 to 13 members, and board size of more than 14 members.

Table 2 Classification of companies with regard to Board Size

Board Size (Number of Members)	N (Number of Companies)
Below 7	6
08 to 10	40
11 to 13	40
14 & above	14
Total	100

Firm performance had been measured through four accounting based measures, namely, Return on Assets, Return on Equity and Earnings per Share as well as through one market-based performance measure i.e. Tobin's Q ratio. The data with respect to the performance indicators had been obtained from the respective company's annual reports and websites. The study had collected the data for the period of one financial year ending on March 2019. The measurement of all the variables (independent as well as dependent) has been explained in Table 3

Table 3 Variables' Definitions and Sources of Data Collection

Sl.N	Variable	Acronym	Measurement	Source
1	Board Size	BODSIZE	Total number of directors on the board of a company	Report on Corporate Governance section in Annual Reports
2	Operating Profit Margin	OPM	Profit before interest and taxes (net of prior period and extraordinary items) divided by net sales	Annual Reports of selected Companies
3	Return on Assets	ROA	Profit before interest and taxes (net of prior period and extraordinary items) divided by total assets	
4	Return on Equity	ROE	Profit after tax (net of prior period and extraordinary items) minus Preference dividend divided by net worth	
5	Earnings per Share	EPS	Profit after tax (net of prior period and extraordinary items) minus preference dividend divided by equity shares (paid up)	
6	Tobin's Q	TOBIN Q	The market value of equity plus total borrowings divided by total assets	

To study the relationship between board size and firm financial performance (different indicators) bivariate correlation analysis was performed. Further, One Way ANOVA (Analysis of Variance) was carried out to compare the mean values of different performance variables amongst four board size categories.

Hypothesis Formulated:

The Null Hypothesis: $H_0: \mu_1 = \mu_2 = \mu_3$

There is no significant difference in the means (group means) of firm performance variables between four board size categories

The Alternative Hypothesis:

There is significant difference in at least two group means of firm performance variables between four board size categories

5. DATA ANALYSIS**5.1. Descriptive Statistics**

The descriptive statistics of all variables used in the model are shown in Table 4.

As per Table 4, average firm performance of all the selected companies is 9.27% ranging from negative 6.03% to 33.78% under the ROA performance measure, 25.48% ranging from negative 66.21% to 622.6% under PBIT performance measure, 15.52% ranging from negative 50.99% to 78.80% under ROE performance measure, Rs.49.50 ranging from negative 55.79 to 753.37 under EPS performance measure, Rs15.41 ranging from 0 to 125 under DPS performance measure, and 6.43% ranging from negative 0.25% to 39.9% under Tobin Q's performance measure. Further, Table 4 Depicts the category wise descriptive statistics

The average board composition is found to be 11 members ranging from 5 to 21 members in the board.

Table 4 Descriptive Statistics of the Sample

Indicator	Board Size	N	Mean	Std.Dev	Range	Minimum	Maximum
ROA (%)	Below 7	6	8.14	7.97	21.0500	0.6200	21.6700
	08 to 10	40	11.01	9.93	39.81	-6.03	33.78
	11 to 13	40	7.91	7.73	31.12	-2.26	28.86
	14 & above	14	8.66	8.02	26.31	0.02	26.33
	Total	100	9.27	8.73	39.81	-6.03	33.78
PBIT (%)	Below 7	6	28.01	35.56	95.39	1.26	96.65
	08 to 10	40	27.48	35.10	163.79	-66.21	97.58
	11 to 13	40	26.00	30.81	138.59	-44.09	94.50
	14 & above	14	17.23	23.07	95.22	-15.37	79.85
	Total	100	25.48	31.70	163.79	-66.21	97.58
ROE (%)	Below 7	6	18.43	11.89	33.13	2.24	35.37
	08 to 10	40	17.24	20.13	129.79	-50.99	78.80
	11 to 13	40	13.10	12.12	64.70	-32.85	31.85
	14 & above	14	16.28	9.36	35.23	0.39	35.62
	Total	100	15.52	15.50	129.79	-50.99	78.8
EPS (Rs.)	Below 7	6	138.34	301.39	749.31	4.06	753.37
	08 to 10	40	48.93	88.09	559.65	-34.45	525.20
	11 to 13	40	42.12	71.45	328.39	-55.39	273.00
	14 & above	14	34.17	40.09	160.63	0.97	161.60
	Total	100	49.50	101.98	808.76	-55.39	753.37
DPS (Rs.)	Below 7	6	26.52	48.55	125.00	0.00	125.00
	08 to 10	40	14.96	24.47	115.00	0.00	115.00
	11 to 13	40	15.32	24.97	105.00	0.00	105.00
	14 & above	14	12.19	14.93	60.00	0.00	60.00
	Total	100	15.41	25.28	125	0	125
Tobin's Q	Below 7	6	8.11	5.05	15.83	0.57	16.40
	08 to 10	40	7.42	9.09	39.65	0.25	39.90
	11 to 13	40	5.32	4.41	17.50	0.70	18.20
	14 & above	14	6.04	6.39	17.15	1.18	18.33
	Total	100	6.43	6.93	39.65	0.25	39.9

5.2. Correlation Analysis

Table 5 presents the results of the correlation analysis. Spearman's rho correlation analysis was used to perform the analysis as the distribution of the variables was not normal. It showed that board size was negative with all the financial performances and one market-based performance measure which indicates inverse correlation between board size and financial performance variables market valuation of companies.

Table 5 Results of Correlation Analysis

	Board Size	ROA	PBIT	ROE	EPS	Div	Q Ratio
Board Size	1						
ROA	-0.0986	1					
PBIT	-0.0961	0.1452	1				
ROE	-0.0607	0.7808	0.3623	1			
EPS	-0.2068	0.3013	0.0703	0.2569	1		
Div	-0.1071	0.3505	0.0786	0.3111	0.8340	1	
Q Ratio	-0.1580	0.5050	0.1253	0.5088	0.0905	0.1749	1

5.3. One Way ANOVA Test

Table 6 holds the results of One Way ANOVA to see whether there are statistically significant differences between group means. It showed that neither of the performance measures was significantly different between the different board size categories as in all the cases the *F Values* are below *F-Critical Values*. These results proved that both board size and firm performance are independent of each other.

Table 6 Results of One Way Anova Test

Performance Variable	Source of Variation	SS	df	MS	F	P-value	F crit
ROA	Between Groups	207.91	3	69.30	0.91	0.44	2.70
	Within Groups	7332.59	96	76.38			
	Total	7540.50	99				
PBIT	Between Groups	1161.57	3	387.19	0.38	0.77	2.70
	Within Groups	98313.52	96	1024.10			
	Total	99475.09	99				
ROE	Between Groups	411.40	3	137.13	0.56	0.64	2.70
	Within Groups	23386.91	96	243.61			
	Total	23798.31	99				
EPS	Between Groups	52836.96	3	17612.32	1.73	0.17	2.70
	Within Groups	976793.80	96	10174.94			
	Total	1029630.75	99				
DPS	Between Groups	1482.48	3	494.16	0.76	0.52	2.70
	Within Groups	61276.80	94	651.88			
	Total	62759.28	97				
Q Ratio	Between Groups	107.40	3	35.80	0.74	0.53	2.70
	Within Groups	4642.20	96	48.36			
	Total	4749.60	99				

6. DISCUSSION OF THE RESULTS

One of the findings of the study is that

- the mean board size was 11 members and majority of the Indian companies' boards were having the board size between 8 to 13 members. Mean board size reported in this study was similar to some of the other Indian studies such as Dwivedi and Jain (2005) and Kumar and Singh (2013).
- Secondly, board size was not found to be significantly correlated with any of the performance measure and one market performance measure, in fact inverse correlation was observed.
- Thirdly, the study observed no significant differences in the means of any of the firm performance measures used amongst four board size categories. This study could not locate any relationship between size of the boards and financial performance of companies, thus found to some extent in line with the findings of Mayur and Saravanan (2006), Sarkar and Sarkar (2009) and Topak (2011).

7. CONCLUSION

In view of the above discussion, findings of the study overall concluded that firm performance was independent of the board size. However, the companies with board size category 8 to 10 members showed better values of firm's financial performances and market based Tobin's Q ratio. We can opine regarding ideal board size as far as human decision making is somewhere between eight and ten. But it's not that simple.

The study can be extended in future by covering other variables of governance like CEO duality, frequency of board meeting, board diversity, board gender and board independence etc., the empirical literature on board structure is very limited in Indian context which potentially provides opportunities for the researchers to investigate these issues in depth and come forward with some interesting results in this stream of corporate governance.

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