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The impact of board characteristics on firm's financial performance: A study on non-bank financial institutions of Bangladesh

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Abstract

The objective of this research is to scrutinize the impact of characteristics of board on the financial outcomes of firms. This paper considered 28 non-bank institutions and secondary sources have been used to collect data over a five-year period. To show the correlation of board characteristics and firm's performance in terms of return, regression analysis has been conducted where board size, women members in BOD, number of board meetings, audit committee, female executives, board directors and number of independent directors have considered independent variables and Return on Assets (ROA) has taken as the dependent variable for this study. The analysis reflected that, except the number of Directors in the executive committee, no other independent variables have a significant impact on Return on Asset (ROA).

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1. Introduction

In this modern business world, it has been seen that a lot of firms are performing well whereas many other firms are going behind the scenes. These ups and downs in the business era have raised a question among the business analysts. Apart from these issues, growth and enhancement are essential to attract investors. Generally, investors are concern about the financial security and stability of the business. If the company's business position is not satisfactory, this will not attract the investors. To maintain a perfect and balanced connection between the business principle's an investor's interest, various corporate governance theories are used such as the agency theory that holds the notion of making the appropriate decisions for the owners and stakeholders. Corporate governance is widely considered a valuable factor in improving the performance of the firm in developing countries. In the field of research in the business and finance, corporate governance is an important topic because the overall performance is influenced by the corporate governance compliance of the financial companies. The impact of corporate governance on a firm's performance is a critical issue, and it is a serious factor in economic growth and financial market steadiness (Datta, 2018). A set of relationships between the management of a company, its board, shareholders, and other stakeholders is created by corporate governance with a structure through which the company's objectives can be determined. Thus, this study is relevant to establish a relationship between corporate governance and the performance of NBFIs. The finding of the study will contribute to the development of effective corporate governance practices in this industry. The most crucial role should be played by the directors of board to ensure proper governance in the firm. While many previous studies have emphasized on various corporate governance aspects, this study aims to explain the many corporate governance characteristics effect together. More specifically, the elements of board of characteristics such as board size, women member, board's meeting in a financial year, audit committee size, executive committee size, female members, directors and independent directors have considered in order to show the relevance on the financial performance of NBFIs. Here, Return on Asset (ROA) has been considered as the performance indicator of a firm. According to the different authors, Return on Asset can be used to understand profitability of a firm (Daare, 2016).

1.1 Statement of the Problem

The problem of the research is the extent of the characteristics of board impact on the firm's outcome of Non-Banking Financial Institutions of Bangladesh. Some studies have shown that board members' number, women in the boardroom, size of audit committee and other board characteristics have a notable influence on the firm performance, but some other studies have not agreed. This paper is aiming to clarify this problem and wants to draw a specific conclusion from the perspective of Non-Banking Financial Institutions of Bangladesh.

1.2 Scope of the Study

NBFIs are crucial participants in the financial market of Bangladesh. The number of NBFIs in Bangladesh is 35 and Bangladesh Bank is the regulatory authority for all these. The number of Dhaka Stock Exchange (DSE) listed company is 23. The study aims to show whether board characteristics impact firm performance of NBFI in Bangladesh. Researchers from many countries had conducted some analyses in this field, but in the context of Bangladesh, the number is not significant. Therefore, the opportunity to conduct various research on this topic is immense.

1.3 Objective of the Study

The main intention of this research is to examine the impact of board of directors' characteristics on the NBFIs' performance in the context Bangladesh. Demonstrating an

overview of theoretical development regarding the characteristics of board and corporation's financial performance is another crucial aim of this study. This research also aims to give an overview of Non-Banking Financial Institutions (NBFI) in Bangladesh.

2. Background Literature

Scholars around the world have defined the role and importance of directors of the boards and how the characteristics of them impact the performance of firms from various perspectives. Number of directors in a board generally refers as the board size. It is an important factor to measure how effective the board is. According to Jensen and Meckling (1976), a board which is bigger in size can facilitate the firms' board effectiveness. The management also get support in terms of minimizing agency cost. Therefore, company can achieve better financial outcomes. Several other studies have found that there is favorable connection between board size and performance of corporations. It is viewed that large boards are capable of leading the firm in the better direction as a wide range of skills can be incorporated which help to make effective decision, for instance, Adams and Mehran (2005) argued that positive correlation exists between the size of a board and firms' return in the banking sector of U.S. Women in board is a crucial issue to be addressed in various studies. The female board members' presence in board of various firms is escalating. Catalyst (2010) argued that 15% directors of board were women in Fortune 500 companies in the year 2010. Moreover, according to Dang & Vo (2012), 9.4% of board members were female of French companies. A number of researchers had studies to identify the connection between women member in board and firm's outcome, but the results of these studies are not similar. According to Smith, Smith and Verner (2006), female directors have a notable impact on financial performance, however, Ferreira (2009) argued that there is a negative correlation. Bohren and Strom (2007) identified that gender and firms' outcomes are negatively related. Bar, Niessen and Ruenzi(2008) also found out the similar result. Numerous studies have found connection between firm outcome and the independence of the directors that is brought about by the inclusion of directors from the outside. For an instance, Aggarwal et al. (2009) and Dahya et al. (2008) found a favorable relation between the independence of board and value of a firm. It has been observed that the effect is more positive in countries where legal system is flexible regarding shareholders. Moreover, the minority shareholders get some privilege from good governance. Similar results are also founded in another single-country research. For instance, Yeh & Woidtke (2005) found in Taiwan and Korea that independence of board adds value. Black & Kim, (2012) also found the same result for both the countries. It was found that the nature of governance is poor if the board is being controlled by the members of controlling family and the nature of governance is good if the board is given enough freedom. In addition, directors, and audit members from outside the organizations help to maintain healthy corporate governance. The number of meetings is considered as a tool to measure activity and identify board relevant attribute. Byrne (1996) and NACD (1996) opined meetings of a board as reinforcing resource by directors' criticism. These studies imply that board directors who meet regularly are possibly perform with shareholders' interests. Meetings were also found to be advantageous in other aspects of the performance of a board. For instance, according to Carcillo, and Hermanson (et al. 2002), audit work's quality is related number of time directors meet. However, according to Lipton and Lorsch (1992), board meetings may not always be fruitful as there is always a time constraint, they might not be utilized effectively. Jensen (1993) also viewed the same. An audit committee's main responsibility is to monitor the reports of finance. In an article, Kajol and Sunday (2008) opined that the more audit committee member is added, more experts available for performing the internal audit and financial reporting. In the previous studies, mixed results have found while examining the correlation between the size of audit committee and performance of a corporation. Kyereboah-Coleman (2007) also identified a positive

connection between number of audit committee member and outcome of a firm. Therefore, audit committee size may be relevant to positive financial performance of a corporation.
ROA has been used as indicator of performance by many researchers (Kiel & Nicholson, 2003; Yahya Ali Al Matari, 2012; Carter et al, 2003; Satirenjit Kaur Johl and Barry J Cooper, 2015; Masood Fooladi, 2015). Different researchers used different methods and tools to investigate the link between the characteristics of boards and the firm's financial performance. Daare (2016) used a OLS regression model to identify the connection between the independent directors and financial performance of a firm. Alhassan et al. (2015) and Malik (2011) also used the same performance indicator (ROA) and dependent variable, independent directors for their studies. Curak et al. (2012) applied regression analysis to conduct the study, and ROA was used as the outcome variable as a measurement of a firm's financial performance. Both the authors found ROA as an effective tool for measuring the desired outcome. It was evident that company size and amount of capital have direct relationship with ROA. According to agency theory, managers sometimes mislead profits to leave fewer returns for shareholders. ROA is associated with the ability of managers to efficiently utilizing available resources. Therefore, ROA is an acceptable performance Indicator.

3. Methodology

3.1 Model Specification

This study is structured following the model developed by Dodd (1986). Here, to test the determined hypothesis multiple regression with the least square estimation method has been used. The assumptions of using the least square method are as follows:

i. The model is a linear one, therefore, the correlation of variables is linear as well and it is not quadratic and exponential.
ii. The residuals are homoscedastic in nature which have an equal variance.
iii. There is a normal distribution in the residuals

Here, this model will be used to identify the effect of the characteristics of board on the financial performance of corporation by using the following equation:

$$FR = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8$$

Where,

FR = Firm Performance
X_1 = Board Size
X_2 = Women Member
X_3 = Board Meeting
X_4 = Audit Committee Size
X_5 = Executive Committee Size
X_6= Female in Executive Committee
X_7 = Number of Directors
X_8 = Independent Directors

a = Constant term of the model

Here, to observe the connection of elements of board like number of members in the board, number of women members, number of board meeting, size of audit committee, number of executive committee members, women member in executive committee, directors and independent directors and performance (ROA) of firms, the correlation research design was used.

3.2 Data Collection

The study is encompassed of all the non-banking financial institution in Bangladesh. There are 35 companies in the sector. 28 companies for the last five years, from 2016 to 2020 data has collected for the study. Among these companies, data for the last five years of 6 companies are not available. The required data is collected from the reports. Specifically, they are collected from the firm governance information. The board of director's profile is also explored for relevant information. The financial performance related data are collected from the financial statements, balance sheets and cash flow statements.

3.3 Data Analysis

The proper data analysis is essential to make the investigation perfect to achieve the motive of the research.

Board Size:

The board is consisted of a number of directors which is referred as the size of the board. 28 companies have been considered for the last five years' period (2016 –2020). Among the total 140 (28X5) observations, it has been observed that there is at least six members in the boards and a maximum of fifteen. Total 49 observations have 11 members on the board and 32 have 12 board of directors.

Women Member in BOD:

It has been found that most of the firms has invested less emphasis in order to keep women board of directors. Out of 140 observations, there are no women board members in 20 cases. However, around 100 observations have minimum of 1 female member in the and 47 cases have 2 female members.

BOD Meeting:

Literature indicates a significant effect of the board meeting's frequency on the corporations' performance. Out of 140 observations, 16 observations have found that there were 9 meeting of board in a year. Moreover, 15 cases have 6 meetings in a financial year. In another 15 cases, it has been found that board members participated in around 18-20 meetings in a financial year.

Audit Committee Size:

The size of committee responsible for audit and other related activities is considered in the study to measure its effect on the performance of a firm. 80 observations found that the audit committee is constituted of 5 members. Moreover, 30 cases have 4-member audit committee.

Executive Committee Size:

In this study, executive committee is considered to examine the effect of the characteristics of boards on the financial performance. 45 cases have 5-member executive committee. The number of executive committee members ranges from 3 to 10.

Female Member in Executive Committee:

Out of total 140 observations, it has been found that 64 observations have no female executive committee member. However, 69 observations have 1 female executive member in the committee. The highest number of female members is 3.

Number of Directors:
It has been found in previous research that director's number has a notable influence on the performance of a firm. Out of140 observations of 28 NBFIs, 49 observations have 9 board of directors. Only 2 observations show there are the least 4 board directors.

The number of Independent Directors:
Independent Directors are from outside of the company. In these 140 observations, there was 1 independent director in 53 cases. Moreover, two such directors are found in 65 observations.

4. Empirical Studies and Findings

Description of the Data
This research has conducted based on the secondary source data collected from the Dhaka Stock Exchange. Total 34 NBFIs are operating in Bangladesh. 28 companies have been selected for the study as required information of all the companies are not available. For 5-year period from 2016 to 2020, time series data is used.

Defining Variables
In this analysis, the dependent variable is considered ROA as the measure of performance. The outcome variables are the characteristics of the board like number of board members, female member in the board, board meetings number, number of members in the audit committee, number of members in the executive committee, female in the executive committee, number of directors, independent directors, and women chairman/CEO.

Expected Sign of the Variables
Based on the literature, the variables have following expected signs. Except for women member and female in the executive committee, all other independent variables are expected to be positive.

Hypothesis Statement
Hypothesis 1 (H_1): Significant correlation between the size of board and corporation's financial outcome.
Hypothesis 2 (H_2): No correlation between women member in the boardroom and corporation's return.
Hypothesis 3 (H_3): No connection between the number of board meetings and the performance.
Hypothesis 4 (H_4): Significant effect of number of audit committee members on and performance of the firm.
Hypothesis 5 (H_5): Significant effect of executive committee size and performance.
Hypothesis 6 (H_6): No relationship between female members in the executive committee and firm performance.
Hypothesis 7 (H_7): Significant connection between a number of directors and firm's financial outcome.
Hypothesis 8 (H_8): Significant impact of independent directors' number and coporation's performance.

5. Result & Interpretation

This part of the study shows evidence in the support of meeting the objectives of the study. It is consisted of Descriptive Statistics, Variance Analysis (ANOVA) and the coefficients' significance.

Descriptive Statistics

The result's average of the characteristics of boards in terms of a minimum and maximum value are shown in the descriptive statistics. According to this method, only last year's value of the variables has considered. Therefore, 28 observations of 28 companies are here.

Table-1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Board Size	28	2.08	2.64	2.4160	.12660
Women Member In BOD	28	.00	1.39	.8772	.39550
Board Meeting	28	1.39	3.14	2.3728	.50385
Audit Committee	28	1.10	2.08	1.6579	.20572
Executive Committee	28	1.61	2.30	1.8447	.20791
Female Executive	28	.00	1.10	.3755	.39582
Number Of Directors	28	1.61	2.40	2.2038	.17262
Independent Directors	28	.00	1.10	.6067	.39160
Valid N (listwise)	28				

Among the 28 observations, Board size has an average percentage of 2.42. Other observations have variations of 0.1266 from the mean result. Generally, in the 28 firms, the number of board members varies from 6 to 15. Mean value shows that at an average of 1.00 (0.8772) female member includes in the Board of Directors (BOD). Women's involvement in BOD deviates by 0.3955 from its average result, which is demonstrated by Standard deviation.

Multiple Regression Analysis Interpretation

In this section, ROA is the outcome variable and size of board, female member in BOD, number of meetings, size of audit committee, executive committee size , women member in executive committee, number of directors and independent directors have been considered as the predictor variables which has been focused by a multiple linear regression model.

Table-2: Model Summary[b]

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	.529[a]	.280	-.023	.02707	.280	.924	8	19	.519	2.340

a. Predictors: (Constant), Independent Directors, Female Executive, Women BOD Member, number of Meeting, Directors' number, Audit Committee, Executive Committee, Size of the Board
b. Dependent Variable: ROA

Coefficient of Multiple Determinations (R^2) Interpretation

The summary output demonstrates some crucial statistics of the expounding power of the model. The value of R-square illustrates that the variation's percent in the outcome variable is described by predictor variables. Here, the value of r-square is 0.280 or 28.00% indicates the ability of the predictor variables to explain 28.00 percent variation in return on asset. However, other variables that are not considered in this study can explain the variation of ROA by 72.00%. Since the Value of R^2 is 28.00%, it indicates that the model has very strong predictive power.

Interpretation of Adjusted Coefficient of Determination (R^2_{adj})

The other consistent variation of percentage in the outcome variable are shown by the adjusted r-square is explained by the predictor variables' significance. Therefore, -0.023 or -2.30% adjusted r-square value implies that 2.30 percent of variation of statistically significance of ROA cannot be explained by independent variables.

Analysis of Variance (ANOVA)

Table-3: ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.005	8	.001	.924	.519[a]
	Residual	.014	19	.001		
	Total	.019	27			

a. Predictors: (Constant), Independent Directors, Female Executive, Women BOD Member, number of Board Meeting, Directors in the board, Audit Committee, Executive Committee, Board size
b. Dependent Variable: ROA

In the ANOVA table, the overall variation is 0.019. Variation which has been explained by regression is 0.005 and residual or error SSE is 0.014.

The validity of the Model by Using F-Test

Null Hypothesis H_0: The predictor variables jointly have no impact on Return on Asset (ROA).
Alternative Hypothesis H_1: The independent variables jointly make an impact on Return on Asset (ROA).
Decision: Here the F-value is 0.519 which is higher than α = 0.05. Therefore, the alternative hypothesis should be rejected, and the null hypothesis should be accepted. The independent variables jointly make **no notable effect** on ROA.

Table-4: Significant Test for Individual Variables

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig. p-value	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	.104	.133		.783	.443	-.174	.381
Board Size	-.083	.072	-.393	-1.161	.260	-.233	.067
Women Member In BOD	-.018	.014	-.263	-1.292	.212	-.047	.011
Board Meeting	.001	.011	.011	.051	.960	-.023	.024
Audit Committee	.005	.030	.038	.164	.871	-.058	.068
Executive Committee	.020	.031	.156	.657	.519	-.044	.084
Female Executive	-.029	.015	-.421	-1.942	.067	-.059	.002
Number Of Directors	.048	.050	.310	.968	.035	-.056	.152
Independent Directors	.007	.017	.102	.419	.680	-.028	.042

a. Dependent Variable: ROA

Board Size:

Null Hypothesis H_0: Board Size has is correlation with ROA.
Alternative Hypothesis H_1: Board Size is correlated with ROA.

Decision: Here, critical significant level (α) is at 5% or 0.05 and "Board Size" significant value 0.260 is more than the standard value 0.05. So, the alternative hypothesis has rejected, therefore, the null hypothesis has to be accepted.

Women Member in BOD:
Null Hypothesis H_0: Women Member in BOD has no impact on ROA.
Alternative Hypothesis H_1: Women Member in BOD has an impact on ROA.
Decision: Here the critical significant level (α) is at 5% or 0.05 and "Women Member in BOD" significant value 0.212 which is more than the standard value 0.05. So, the alternative hypothesis has rejected, therefore, the null hypothesis which indicates that Women Member in BOD has no notable impact on the ROA has accepted.

Board Meeting:
Null Hypothesis H_0: Board Meeting is not related to ROA.
Alternative Hypothesis H_1: Board Meeting is related to ROA.
Decision: Here the critical significant level (α) is at 5% or 0.05 and "Board Meeting" significant value 0.960 is higher more than the standard value which is 0.05. So, the alternative hypothesis is to be rejected, therefore, the null hypothesis which indicates that Board Meeting has no notable impact on the performance of the firms determined by ROA has accepted.

Audit Committee:
Null Hypothesis H_0: Audit Committee has no effect on ROA.
Alternative Hypothesis H_1: Audit Committee and ROA has no correlation.
Decision: Here the critical significant level (α) is at 5% or 0.05 and "Audit Committee" significant value 0.871 is higher than standard value 0.05. So, the alternative hypothesis cannot be accepted, as a result, the null hypothesis has to be accepted.

Executive Committee:
Null Hypothesis H_0: Executive Committee has no impact on ROA.
Alternative Hypothesis H_1: Executive Committee has an impact on ROA.
Decision: Here the critical significant level (α) is at 5% or 0.05 and "Executive Committee" significant value 0.519 is higher than the standard value 0.05. So, the alternative hypothesis cannot be accepted, as a result, the null hypothesis which indicates that the Executive Committee has no impact on corporation's performance determined by ROA has accepted.

Female Executive:
Null Hypothesis H_0: Female Executive has no impact on ROA.
Alternative Hypothesis H_1: Female Executive has an impact on ROA.
Decision: Here the critical significant level (α) is at 5% or 0.05 and "Female Executive" significant value 0.067 is closely higher than the standard value 0.05. So, the alternative hypothesis is to be rejected, therefore, the null hypothesis which indicates that Female Executive has no impact on ROA must be accepted.

Number of Directors:
Null Hypothesis: H_0: Directors number in the board has no effect on ROA.
Alternative Hypothesis: H_1: Number of Directors has an impact on ROA.
Decision: Here the critical significant level (α) is at 5% or 0.05 and "Number of Directors" significant value 0.035 is lower than the standard value 0.05. So, the null hypothesis cannot be accepted and the other hypothesis which indicates the connection between the number of Directors and ROA has to be accepted.

Independent Directors:
Null Hypothesis: H_0: Independent Directors has no impact on ROA.
Alternative Hypothesis: H_1: Independent Directors has an impact on ROA.

Decision: Here the critical significant level (α) is at 5% or 0.05 and "Female Executive" significant value 0.680 which is higher than the standard value 0.05. So, the alternative hypothesis should not be accepted, therefore, the null hypothesis which indicates that Independent Directors has no effect on corporate performance determined by ROA has accepted.Next, Descriptive statistics are shown in the following table.

Table-5: Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.0109	.0609	.0336	.01417	28
Residual	-.03040	.06191	.00000	.02271	28
Std. Predicted Value	-1.603	1.930	.000	1.000	28
Std. Residual	-1.123	2.287	.000	.839	28

a. Dependent Variable: ROA

The variation between the actual and the expected value of the outcome is the residuals. The table illustrates summary of descriptive statistics for measuring leverage as well as multivariate distance, which help to a view of influential data points.

5. Conclusion

Identify the effect of characteristics of board on the performance of firm of NBFIs in Bangladesh. Considering a 28 companies sample listed on the Dhaka Stock Exchange from 2016-2020, it is concluded that only director's number in the board influences corporate performance under the firm performance measure- ROA. The result indicates that the firm outperforms others that have directors higher in number. Firms with a higher number of independent members in their boardroom outperform others, and ceteris paribus was the underlying assumption of the study. The finding of the research has exactly matched with the hypothesis. However, other independent variables have no significant on the ROA, according to this investigation. The study model used here was effective enough to draw the relationship among different variables. Based on the drawn conclusion of the study, the board of directors should pay more attention to the board directors' number as a mechanism of enhancing firm's financial return. Moreover, policymakers should consider the outcome as a reference for devising new policies to maintain a good number of directors in the boardroom. The study is limited to only NBFIs in Bangladesh and is based on five-year period's data. However, sample and observation period could be increased in future research. Unlisted NBFIs samples could also be considered. Furthermore, a similar study of other sectors may provide more insights and enhance the generalizability of the outcome.

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