PROJECT REPORT

ON

THE EFFECT OF BOARD AND AUDIT COMMITTEE ON FIRM PERFORMANCE

Submitted to

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LETTER OF TRANSMITTAL

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Subject: Submission of a Research Paper in fulfillment of the requirements for the degree of Bachelor of Business Administration.

Greetings Sir,

I am Ali Ashraf Rabbani ID: 111153147 and I hereby present my research paper titled "The Effect of board and Audit committee on firm performance" which I have done as a part of the requirements for completing a bachelor's degree in business administration (BBA). It has been an interesting journey for me working on this topic, which has provided an in-depth understanding of the factors influencing the performance of a firm within the banking sector, particularly how the board of directors and audit committee influence the success of a company.

The paper has been constructed according to your guidance and the material you have provided to the best of my ability and all relevant materials have been attached at the end. Thank you for your Patience.

Regards

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It has been a humbling journey working on, researching, and writing this paper. It required resourcefulness, the strength of mind and body, and courage to overcome hurdles. I praise The Almighty and all-knowing Allah for granting me these qualities and guiding my hand in successfully reaching the conclusion of this goal.

To My Project Supervisor, Dr. Mohammad Tariq Hasan, Associate Professor within the School of Business and Economics, I express my heartfelt gratitude for his guidance, clear and concise instructions, his unwavering support, and tremendous patience. Without his support, this work would not be the quality that it has today.

I would also express my acknowledgment to my family and friends who have supported me in my endeavors and have provided much-needed feedback to refine my work using. They are my motivation for improving and this paper will forever be a cornerstone. Thank You.

ABSTRACT

Purpose: This paper has been constructed to measure the contribution of the Board committee and Audit Committee to the performance of the firms in the banking sector of Bangladesh. To measure firm performance indicators chosen were Tobin's Q and Return on Assets and in terms of corporate governance variables regarding board composition and expertise were chosen to see how the makeup of the decision-makers of a firm changes the financial performance year to year and from bank to bank.

Method: The sample consists of 30 listed banks from the Dhaka Stock Exchange expanding over the years 2016 to 2019. The research is mostly based on secondary data from relevant articles and research done around the world as well as data collection done through the respective annual reports of the subject banks. Data is interpreted through Correlation analysis and regression analysis to find the correlation between dependent and independent variables.

Results: Audit committee meeting is highlighted to have a significant effect on the performance of the Banks. No other variables have a significant influence on firm performance.

Implications: The research paper will add to the existing literature in the area of corporate governance and firm performance in Bangladesh. So that the effects of the Board and Audit Committee are better understood and implemented to better firm performance.

Key Words: Board characteristic, audit committee characteristics, firm performance, banking industry, Bangladesh, Tobin's Q

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CHAPTER ONE: INTRODUCTION

1.1 Background of the Research

The area of our research is the banking sector of Bangladesh and the impact of its corporate governance to its financial performance. Corporate governance refers to the actions and processes taken by a CEO or managing director, Board of directors and senior management. Theoretical literatures state the importance of Board of Directors in the effective internal control of a company (Sing, 2018). Furthermore, in the banking sector, which is an enormous part of the economy, needs its internal control to be very effective otherwise there may be great ramifications to not only the institute but rather the economy as a whole. Stakeholders play an active role in determining the overall company performance so a comprehensive understanding of firm performance and its components is necessary. Firms usually evaluate their performance in terms of asset utilization and the time taken to generate revenues; Major criterions include earnings return on assets and profit margins. These are the primary factors to consider during analysis of company performance (Rezvan Hejazi, 2016).

Let's acquire a better understanding of what board characteristics are and what functions it entails. This word refers to the board features such as size, expertise, independence and the CEO/Chairperson duality, among other things. There is no universally accepted standard for determining what size should be used. When it comes to the board of directors, according to the corporate library's research, there are 9.2 members on the board. It is from 3-31 at times, and some scholars believe that seven is the optimal size (Muttakin, 2012) . However, in addition to the board committee, there should be two other collaborative committees, such as the pay and audit committees - the latter of which will be covered later.

Another important characteristic of a successful board is its independence from the executives. There should be a good mix of insiders and outsiders in the group. When a board is stacked with an imbalanced number of members, there is a significant likelihood of biased decision making. The outsiders are not expected to be someone completely new to the industry; in most cases, the CEO will be the one who will be conducting business as the chief executive (Sing, 2018). According to the Wall Street Journal, 66 percent of boards are comprised of independent outside directors, with the belief that the bigger the number of independent outside directors, the better.

CEO duality is another significant component of a board's characteristics collection. A practice in which the CEO receives both the presidency, in which he serves as the chairperson of the board as well (Socol, 2013). There is disagreement as to whether this will have a favorable or negative influence. Following the stewardship theory, this dualism promotes good performance since the chain of command is properly maintained; however, the agency theory questions its effectiveness because it interferes with the chief executive officer's responsibility.

The audit committee is responsible for a large portion of the accuracy of the financial statements. They make certain that all of the documents supplied contain information that is accurate to avoid any potential conflicts. It is customary for a Certified Public Accountant or A chartered accountant to serve as the committee's chairperson. According to the New York Stock Exchanges, a financial expert is required to be present to calculate the fraudulent transaction. The size, impartiality, and financial expertise of an audit committee are all evaluated using a variety of methods available on the financial market (Hasan, Molla, & Khan, 2019).

There are a variety of financial statistics that can be used to evaluate the effectiveness of the board of directors and audit committee on the company's overall performance. Tobin's Q analysis, also known as the Q ratio, is one of the most effective procedures for determining the value of a company. It determines whether or not a company is overvalued or undervalued. The market value of the company is divided by the asset's replacement cost, which is calculated using the asset's replacement cost. It draws attention to the relationship between the market and the intrinsic value of the company.

The author of this analysis, James Tobin (1918-2002), was a new prize winner in economics. He had placed a strong emphasis on the theoretical formulation to better explain investment behavior (Alzeban, 2020). He shed light on a key aspect of the financial industry that is vital to comprehend. Another type of analysis is the return on assets (ROA) analysis. It evaluates the efficiency with which the expense of having an asset transform into revenue is converted. It is this final result that creates a positive atmosphere for investors since it demonstrates how efficiently the company has employed their assets. This strategy is used to compare the performance of competing companies in the industry.

1.2 Objective of the Study

This research study has been undertaken to attain some of the objectives. The core objective of this research study is to explore the impact of board and audit committees on firm performance. However, other objectives are outlined in the following:

a) To understand and examine the impact of the audit committee through Tobin's Q analysis and Return on Asset analysis.
b) To know the effectiveness of the board and audit committee within the banking sector of Bangladesh
c) To analyze the performance of the banks by using Tobin's Q method.

1.3 Research Questions

General question: What is the impact of the Board and audit committee on the performance of Bangladeshi banks?

Specific Questions:

a) How does the board performance contribute to the financial performance of the banks?
b) What are the challenges included in the audit committee for regulating the firms' performance?
c) How the factors included in the board and audit committee affect the banking sectors of Bangladesh?
d) How the audit committee can boost firm performance with further better experience and reliability?

1.4 The Significance of the Research

Investors in publicly traded companies, potential investors, researchers, and other relevant stakeholders will all find this research to be of significant interest, among other people. The research also functions as a training ground for future academics who aspire to push our understanding of the topic even further in the years to come. Owners and managers will benefit from the insights provided by this study on how to ensure that management operates the business entity following internationally accepted business principles, to ensure the profitability of the business entity, as well as the long-term viability and competitiveness of the enterprise. Also critical is the ability to offer credibility to the financial reports that are issued by management. It also serves as a tool for the board and shareholders to monitor the efficacy and efficiency of the management team, which aids in the improvement of the management team's performance (Hasan, Fakir, & Chakraborty, 2011; Hasan & Huq, 2010; Hasan, 2011, 2009).

1.5 The Scope of the Research

This study covers mainly the top thirty banks in Bangladesh. Their financial reports are published on their website, and this is where the information for this study was gathered from. A four-year financial period from 2015-16 to 2018-19 will be evaluated for this study, which will be based on the reports of 30 Banks listed in the Dhaka Stock Exchange.

Table: 1 The Research Structure

Chapter	Name	Description
1	Introduction	The identification of the research background and why to conduct this research determining the aim, objectives, and research question
2	Literature Review	Constructing the thorough theoretical analysis of the research to define the variables to consider for further research with the findings of the previous researchers
3	Methodology	The research tools and techniques determined to conduct the research and successfully meet the research objective
4	Results	Analyzing the collected data and demonstrating them to meet the research objective
5	Discussion	The integration of research findings from the literature reviewed and mixed research was conducted to understand whether all the objectives are met
6	Conclusion	The summary of the whole research with the recommendation and the further research scope

CHAPTER TWO: LITERATURE REVIEW

2.1 Theory of the study

A review of the literature refers to an examination of the existing research work on the relevant topic. When conducting a literature review, the goal is to provide a clear notion or knowledge of the studies or research that have been conducted to assist in moving the research process forward. A review of the literature draws attention to the inconsistencies or disparities between various studies and schools of thinking (Hasan, 2020; Hasan et al., 2019).

2.2 Impact of Audit Committee in the Financial Industry

It is the goal of internal auditing to fulfill the auditing objectives utilizing a thorough and well-organized strategy that includes reviewing and boosting the efficiency of risk assessment and administration, as well as management, among other things. Technological advancements make it possible to pursue corporate objectives, according to auditing professionals. Schwartz (2013) states that the internal audit function always works as a control mechanism by examining the organization's internal control structure, which is similar to what was previously stated. Specifically, their investigation focused on the role of information assurance (IA) in strengthening solid corporate governance standards in a corporation, specifically in the Nigerian banking industry, researched with a total of 21 participants, using both quantitative and qualitative methods to acquire information.

2.3 Firm Performance: Return on Asset and Tobin's Q

2.3.1 Return on Assets (ROA)

According to (Sari, 2019) the return on assets metric, which evaluates how profitable a company is, is also an excellent predictor of a firm's asset intensity because it indicates how profitable the organization is. Economists use yield curves to plot historical data to have a better understanding of current economic situations. Fixed-income analysts use the research they conduct on bonds and related assets to better understand market conditions and discover trading opportunities. In general, a negative slope on the yield curve implies a downturn, whereas an upward slope on the yield curve indicates a better rate of return on investment.

In an article published in 2012, (Bhatia, 2012)stated that determining a company's financial and operational health is impossible without first conducting a return-on-investment analysis (ROI). Research into the return on assets (ROA) of a company (in this case, the bank) can be used to determine not only how profitable a company (in this case, the bank) is, but also how successfully or ineffectively the company is using its assets to produce money from clients. Of course, a high return on investment (ROI) indicates that the investor's financial stability, liquidity, and leverage are all superior to those of the market. The relationship between return on assets (ROA) and interest rate swings is also a well-documented phenomenon. The vast majority of CEO's continue to believe that return on assets (ROA) is the most accurate indicator of a bank's performance, however recent debate over whether the return on equity (ROE) is a more accurate reflection of a bank's profitability. We can tell from the information provided that the bank's return on assets will be higher in the coming year than it is today (using ROA calculations). When it comes to measuring this, interest risk is the most important factor to consider: whereas debts are mostly unaffected by interest rates, assets are, resulting in a higher return on assets when interest rates are higher (ROA). Despite this, all of the information is significant to the decision-making process and should be considered.

2.3.1 Tobin's Q

The relationship between the market value of a company's assets and their replacement values is defined as Tobin's Q in more detail. It is a measure of the amount of wealth generated by a firm for its shareholders that is known as Tobin's q. When comparing the worth of a corporation to the book value of its assets, it is possible to assess how much more valuable the firm is. In 1966, Nicholas Kaldor developed the term, which was popularized by Novel Laureate James Tobin, who was also the first to employ it. Its major purpose is to identify whether a company's stock market value is undervalued (less than 1), overpriced (more than 1), or appropriately valued (equal to 1), depending on its current valuation.

There are two types of computational processes: Tobin's q and simple approximate q. Tobin's q is the more complex of the two. Tobin's q is the more difficult of the two to solve. Both of these approaches provide results that are remarkably similar to one another. Alternatively, the second approach is less complicated than the first and is a very popular "short-cut" strategy for conducting the calculations that are often used. Fundamental financial and accounting information needs to be used for the formula to be valid.

Using an Example, Tobin's Q Calculation:

Market Value Equity = Total Shares Outstanding × Current Price per Share

= 791,806,997 × 15.60

= 12,352,189,153

Preferred Stock = 0

Total Assets = 174,135,102,151

Current Asset = Total Asset – Fixed Asset

= 174,135,102,151 – 3,663,777,359

= 170,471,324,792

Total Liability = 160,820,471,822

DEBT = Total Liability – Current Asset

= 160,820,471,822 – 70,471,324,792

=−9,650,852,970

Approximate q = (MVE+PS+DEBT)/TA

= (12,352,189,153+0−9,650,852,970)/174,135,102,151

= 2,701,336,183/174,135,102,151

=0.0155128756

Figure 1

Example demonstrating the calculation of Tobin's Q

The number here 0.0155 is below 1 which indicates that the firm's stock is undervalued.

A descriptive exploratory strategy was used to investigate the impact of accounting information systems on the financial sustainability of 113 Tanzanian firms, according to Ndalahwa Musa Masanja (2020). She enquired about the issues that various organizations experience when implementing internal controls to monitor and control financial performance in one of Masanja's queries. Based on her research findings, the researcher was able to identify a variety of different challenges. Unprofessional behavior among employees who are entrusted with the organization's resources, according to Masanja, has been identified as one of the challenges facing Tanzanian businesses. It has been reported that internal controls are continually compromised when personnel plot with one another for their gain and benefit, according to(Chang, 2019). As a result, the majority of internal controls are useless because they fail to prevent employees who have access to financial resources from engaging in illegal financial activities with third parties. As a result, the vast majority of internal controls are ineffective. The second constraint identified by Masanja is a lack of sound judgment on the side of management or any other employee who is in charge of financial management in general.

In addition, a review of prior audit reports provided is incorporated into the planning phase of the project. Second, there is the fieldwork, which includes the actual auditing technique itself, which is the final step. On-site, the auditors always adhere to the plan, which includes gathering information through interviews with key personnel to gain a better understanding of the process and controls; the third step is reporting, which includes writing up the audit report that has been prepared; and the final step is closing out the audit. The findings and recommendations that must be put in place to eliminate, prevent, or correct the threat are always included in the final report. The final phase is the follow-up, which includes a critical review of the suggestions to ensure that they are successfully implemented after they have been made. This is the most time-consuming phase.

2.4 Study Hypothesis

2.4.1 Board Size to Firms Performance

The study determines to identify the effects of Board Size to firm performance. Companies tend to structure their boards in line with their business environment, monitoring needs and resource requirements. Sing (2018)Board size, as in the total number of directors can influence the

Corporate Governance practices of firms and as a result their performance. Therefore, board size is an important dimension of the boards structure and there is a need to ensure it is a good fit for the responsibilities needs and objectives of the organization it serves (Hasan & Rahman, 2019, 2020; Hasan, Rahman, Sumi, Chowdhury, & Miraz, 2020; Qadorah, 2018a). On the other hand, few studies imply that a smaller board size results in better management and profitability of the firm (Chatterjee, 2011) ;(Switzer, 2009) ;(Yermack, 1996). Based on this literature a hypothesis may be formed as,

H_1: Board size has significant positive association with the performance of the firm

2.4.2 Board Expertise to Firm Performance

This variable means to identify contribution of board of members expertise in the fields of finance and accounting to the performance of the firm. The presence of outside non-executive independent directors may increase a board overall effectiveness and performance The appropriate mix of the board member in terms of expertise and knowledge is required to cope up with a complex business environment (Hasan & Rahman, 2019; Hasan et al., 2020; Johl, 2015; Molla, Hasan, Miraz, Azim, & Hossain, 2021).

H_2: There is a significant positive relationship between board expertise and firm performance.

2.4.3 Board Meeting to Firm Performance

This hypothesis intends to find the relation between the number of board meetings a company's board does and whether it has an impact on the firm performance. (Eluyela, 2018) conducted research in this topic on the Deposit banks of Nigeria. From their research it was found that the board meeting frequency has a positive relation to firm performance.

H_3: There is significant positive relationship between number of board meetings held and firm performance.

2.4.4 CEO Duality to Firm Performance

Hypotheses to find out the impact having an Ex-officio or A person with the responsibilities of a CEO and a managing director has to the firm performance of a company. According to one study the CEO duality is significantly and negatively related to ROA.(Qadorah, 2018b) . On the contrary, the findings from a study in Vietnam indicate that CEO duality had a positive effect on firm performance in growth stage and had a negative effect on the mature stage of the firm's life-cycle (Molla et al., 2021; Pham, 2020).

H_4: There is significant positive relationship between CEO Duality and Firm performance

2.4.5 Audit Committee Size to Firm Performance

Hypothesis regarding the impact of audit committee size to firm performance. Dakhlallh was successful in getting information from 180 different organizations, which was a huge accomplishment. It was discovered by the study's authors that there is a statistically significant positive association between the size of an audit committee, its independence, and the quality of financial reporting produced by that committee, as well as Tobin's Q. Internal auditing provides a second advantage in that it allows businesses to discover and assess the likelihood of fabrication in their financial accounts. In the words of (Kokoshi, 2014) firms that do not have a properly implemented system of internal controls will be unable to give accurate financial reports for both internal and external causes. As a result, they are unable to accurately determine and distribute all of the resources that are accessible to them. The audit process of a company always aids auditors in identifying potential fraud sources, creating and altering the company's operations, particularly its internal controls, to prevent any incidence of fraud in the operations of the firm. Business organizations become more accountable with their limited resources when the audit committee has power, resulting in increased performance and growth for the organization. Thus,

H_5: There is a significant positive relationship between audit committee size and firm performance.

2.4.6 Audit committee Meetings to Firm Performance

The number of meetings held by the audit committee to the firm performance Following the agency hypothesis, which holds that the independence of audit committees has a positive impact on the performance of the company, the findings are favorable. The size of the audit committee, according to (Yusof, 2019) has an impact on the output of the audit report by increasing the frequency of meetings. This leads to a more effective and monitoring financial report in the long term. A firm's internal auditing department has only one responsibility: ensuring that company resources are used in accordance of organization's goals and objectives. Internal auditing tries to meet auditing objectives by providing an organized, controlled procedure to review and expand feasibility studies, accountability, and control effectiveness. When it comes to determining and comprehending organizational challenges that arise between a company's operations and its investors, agency theory is considered to be a fundamental premise. Using agency theory to guide internal auditing, companies can assure the smooth operation and development of their businesses by establishing mutual understanding between agents and principals between agents and principles (Hasan, 2020; Hasan et al., 2011; Hasan & Rahman, 2019; Molla et al., 2021).

H_6: There is a significant positive relationship between number of Audit Committee meetings and firm performance.

2.4.7 Audit Committee Independence to Firm Performance

Mandatorily firms must have at least one independent audit committee member. This hypothesis hopes to find out the relation between Audit committee independence and firm performance. The management and audit committee are accountable for conducting internal audits since they are responsible for the establishment of a company's internal control system, according to(Abbott, 2019).

H_7: There is a significant positive relationship between audit committee independence and firm performance.

2.4.8 Audit Committee Expertise to Firm Performance

Hypothesis indicating the number of audit committee members experienced in the field of accounting and finance and its effect on the firm performance. There is a range of factors that influence the effectiveness of internal auditing, as stated by(Kokoshi, 2014). The internal auditor's education and expertise enhance his or her capacity to digest information and identify a wide range of alternative solutions that are critical in preventing financial harm to the firm from occurring. With the help of data from an audit, (Badara, 2013)conducted a research study to determine how beneficial an audit was in terms of enhancing performance, increasing profitability, and preventing losses in a company. Identifying the factors that determine the effectiveness of internal audits, according to (Badara, 2013) is essential for improving the effectiveness of internal audits. To summarize, despite all of the benefits of internal auditing and internal control systems, some businesses continue to suffer financial and resource losses as a result of the financial loss's constraints on their ability to recover losses. Two of the faults that have been uncovered are faulty judgment on the part of the auditors and employee benefit plans, among other things.

H_8: There is a significant positive relationship between audit committee expertise and firm performance.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Data Collection

This procedure or plan is referred to as the blueprint for any research project. The research methodology contributes to the determination of the right instruments and techniques required for a specific research project based on the characteristics and features of the research topic under consideration. It comprises establishing the research design, philosophy, approach, method, and data analysis technique, as well as mentioning the ethical considerations that were taken during this research. Finally, this research contains some of the strategies, approaches, and methods that the researcher has developed and implemented.

To gather information for a study, the researcher can choose between two types of data collection methods: primary research and secondary research. For the primary research, it is recommended that the researcher approach the respondents personally and gather their responses to prove the study premise. It contributes to the discovery of important and actual data from the respondents while minimizing the impact of the superfluous variable in the research process. This form of data collecting can be used when the study population is known and can be contacted, as well as when the specific population can convey the research problem to the researcher. It is necessary to conduct secondary research when first-hand data cannot adequately reflect a scenario and only published data can adequately depict the circumstance. This investigation has gathered second-hand information to prove the research premise. One of the key limitations of this data gathering method is the possibility of scattered data if a documentation error happens during the data collection process. Inappropriate sample size and sample selection could result in the research not being representative of the market.

3.2 Sample and data analysis technique

The banking institutions listed in the Dhaka stock exchange in Bangladesh is the only ones who are the subject of this study. As a result, 30 banks have four years of data. A total of 120 company years have been gathered for this investigation. The data acquired is analyzed using Microsoft Excel, with each variable of the study being coded and the dependent and independent variables being collaborated on as much as possible. Relationships between the dependent variables (Tobin's

Q and Return on Asset) and the entire range of independent factors have been demonstrated using correlation analysis and regression analysis, respectively (Hasan, 2020; Hasan et al., 2019; Hasan & Rahman, 2017, 2019, 2020; Hasan et al., 2020; Molla et al., 2021).

3.3 Variable definition

3.3.1 Board characteristics

Board characteristics refer to the Board of directors and their many characteristics-

For this study, we will examine four characteristics of the Board of directors in the Banking Sector. They are as follows:

a) Board size
b) Board Meetings
c) Board Expertise
d) CEO duality

3.3.2 Audit committee characteristics

Audit committee refers to the audit committee in a board of directors of a company present responsible for reporting and disclosing financial statements. The characteristic chosen for them are:

a) Audit Committee size
b) Audit Committee Meetings
c) Audit Committee Independence
d) Audit Committee Expertise

3.3.3 Control variables

According to previous literature (Hasan, 2020; Hasan et al., 2011; Hasan & Rahman, 2019, 2020; Hasan et al., 2020), this study considered three control Variables which have been discussed below:

a) Size: That is the size of the firm expressed by the total Assets of the firm.

b) Leverage: That is the ratio of how much of the company is financed by debt expressed using the Debt-to-Equity ratio.

c) Audit Quality: Audit Quality is quantified by whether the Bank is audited by one of the Big four Audit Firms in the country or not. The Firms that are considered in this study as the big four are:

    i. S.F Ahmed & Co. (Globally known as KPMG)
    ii. Huda Vasi & Chowdhury & Co. (Globally known as PWC)
    iii. A. Qasem & Co. (Globally known as Deloitte)
    iv. Rahman Rahman Haque (Globally Known as Ernst & Young)

3.4 Research Design

When the study problem is subjective and the researcher is merely required to achieve the broad objective, qualitative research is used. With descriptive research, the in-depth investigation of qualitative research adds to the identification of a credible solution. When the research problem is objective and clearly stated, qualitative research is undertaken on a large number of people from the general population. To convey the summary of the research in a comprehensive, understandable, and exact manner, the variables can be tested and assessed numerically, and graphs and charts can be displayed alongside them. Before the introduction of open-form responses to research questions, structured responses were the norm, and the researcher did not always actively participate in the data collection process. The quantitative research approach was used in this study, which assisted the researchers in answering the specific research questions by using the roper measures and tools in the study. The results of the quantitative investigation have been provided in the form of graphs and charts to summarize the findings.

Model-1 (Tobin's Q as DV)

$$\text{Tobin's } Q_{it} = \beta_0 + \beta_1 BDSZ_{it} + \beta_2 BDM_{it} + \beta_3 BDEX_{it} + \beta_4 CEOD_{it} + \beta_5 ACSZ_{it} + \beta_6 ACEX_{it} + \beta_7 ACIND_{it} + \beta_8 ACM_{it} + \beta_9 FSZ_{it} + \beta_{10} LEV_{it} + \beta_{11} AQ_{it} + \varepsilon_{it} \quad (3.1)$$

Model-2 (ROA as DV)

$$ROA_{it} = \beta_0 + \beta_1 BDSZ_{it} + \beta_2 BDM_{it} + \beta_3 BDEX_{it} + \beta_4 CEOD_{it} + \beta_5 ACSZ_{it} + \beta_6 ACEX_{it} + \beta_7 ACIND_{it} + \beta_8 ACM_{it} + \beta_9 FSZ_{it} + \beta_{10} LEV_{it} + \beta_{11} AQ_{it} + \varepsilon_{it} \quad (3.2)$$

Table 2

Description and Definition of the variables

Name of Variable	Acronym	Explanation
Tobin Q Ratio	Tobin's Q	Ratio indicating the replacement cost of firm assets
Return on Assets	ROA	Operating income divided by Total Assets
Board Size	BDSZ	Number of Directors present in the Board
Board Meeting	BDM	Number of meetings performed by the Board
Board Expertise	BDEX	Proportion of Finance and accounting experts
CEO duality	CEOD	CEO is also appointed as the Managing Director.
Audit committee size	ACSZ	Number of members in the audit committee
Audit committee expertise	ACEX	Proportion of Accounting or finance background members.
Audit committee independence	ACIND	Number of members who are independent directors.
Audit Committee meetings	ACM	Number of meetings held by the Audit Committee
Firm Size	FSZ	Logarithm of total assets
Leverage	LEV	Firm Leverage for firm I at time t
Audit Quality	AQ	Audit is conducted by one of the big four accountancy firms.

CHAPTER FOUR: ANALAYSIS AND FINDINGS

4.1 Descriptive analysis

For this study the data has been collected from the annual reports of the respective Banks ranging between the financial years ending 2016 to 2019. Tobin's Q ratio and Return on Asset (ROA) were chosen as indicators or proxies of Firm Performance and eight Board and Audit Characteristics as Dependent variables and three control variables. The Summary table below shows the descriptive results obtained from the study variable. Because the number of Banks chosen were 30 for four consecutive years, we have a total of 120 observations. For Tobin's Q the mean value obtained was 0.8997 with a standard deviation of 0.5875 where the minimum and maximum values were -0.3441 and 4.4738 respectively. Since the Q ratio for the Banking Sector overall was less than one it indicates that the banking sector may be undervalued. The mean value for the Variable ROA is 0.0130 with a standard deviation of 0.0104 with a minimum value of -0.0418 and a maximum value of 0.0302. Indicates banking industry as a whole generates low rates of return compared to its assets. Comparatively the Standard Deviation for Tobin's q is much higher than ROA, which implies that the failure to generate profits compared to assets is a wider spread issue among banks than the fact they are undervalued.

Table 3: Descriptive Statistics of the Variables

. sum

Variable	Obs	Mean	Std. Dev.	Min	Max
No	30	15.5	8.803408	1	30
Company	0				
Year	0				
TobinsQ	120	.8996973	.5874864	-.344143	4.473793
ROA	120	.0130245	.0103726	-.0418384	.030219
BDSZ	120	13.80833	4.294409	6	23
BDM	120	20.075	6.912615	6	46
BDEX	120	.9	.920358	0	4
CEODuality	120	.75	.4348283	0	1
ACSZ	120	4.258333	.9570247	2	6
ACM	120	8.766667	3.402257	3	19
ACI	120	2.225	.6668942	1	4
ACEX	120	.425	.4964157	0	1
TotalAsset~Z	120	2.85e+11	1.46e+11	1.13e+10	1.07e+12
SIZE	120	11.39156	.2893694	10.05442	12.02917
LEV	120	1.015423	1.009951	-.4957921	9.446209
AQBig4	120	.425	.4964157	0	1

Board characteristics is presented by Board Size for which a mean of 13.8083 and standard deviation was received of 4.2944 with minimum and maximum values between 6-23, Board Meetings showed a mean value of 20.0750 with a Standard deviation of 6.9126 and minimum and maximum ranged between 6 and 46, for Board Expertise a mean of 0.9 was received and a standard deviation of 0.9204 while minimum and maximum was between 0-4 and CEO Duality gave us a mean of 0.75 with a standard deviation of 0.4348 with 0-1 as minimum and maximum. Audit Committee Characteristics resulted in the following: Audit Committee Size had a mean value of 4.2583 with a standard deviation of 0.9570 with a minimum of 2 and a maximum of 6, Audit Committee meetings calculated to be a mean of 8.7667 with standard deviation of 3.4023, Audit Committee Independence had a mean of 2.225 with a standard deviation of 0.6669 with a minimum value of 1 and a maximum of 4, the final variable for audit characteristics, audit expertise showed a mean value of 0.425 and standard deviation of .4964 with a minimum and maximum of 0-1.

4.2 Correlation analysis

Board Meetings (BDM) that is the number of meetings conducted by the board in a financial year and Tobin's Q have a strong positive correlation. Board Expertise (BDEX) that's is the number of Experts in the field of accounting and finance present in the board and Tobin's Q have a strong positive correlation. Audit Committee Size (ACSZ) has a strong correlation to ROA, BDSZ, BDEX and CEO Duality. Audit committee meetings (ACM) has a strong positive correlation with BDM. Audit Committee independence (ACI) and Tobin's Q, BDM, BDEX and CEO Duality and ACM Audit Committee Expertise (ACEX) and ROA, BDEX, CEO Duality and ACI. Also, one of control variables: Size and ROA, ASZ. Another one of the control variables Leverage (Lev) and BDEX and ACM. The third control variable AQ (Big4) that is whether or not a bank was audited by the top 4 audit firms and we found that ROA and BDDEX and ACSZ and ACM have a strong correlation to it. Therefore, Tobin's q is positively correlated to BDM, BDEX, ACI and ROA is positively correlated to ACSZ, ACEX, SIZE, and AQ.

Table 4

Correlation Matrix

```
. pwcorr TobinsQ ROA BDSZ BDM BDEX CEODuality ACSZ ACM ACI ACEX SIZE LEV AQBig4, star(0.1) sig
```

	TobinsQ	ROA	BDSZ	BDM	BDEX	CEODua~y	ACSZ
TobinsQ	1.0000						
ROA	0.4980*	1.0000					
	0.0000						
BDSZ	-0.1561*	0.1900*	1.0000				
	0.0886	0.0376					
BDM	0.0401	0.2129*	0.0812	1.0000			
	0.6639	0.0195	0.3782				
BDEX	-0.0375	0.0647	0.2354*	0.2535*	1.0000		
	0.6841	0.4823	0.0097	0.0052			
CEODuality	-0.1861*	-0.0886	-0.0889	0.2020*	-0.0630	1.0000	
	0.0418	0.3358	0.3344	0.0269	0.4943		
ACSZ	-0.1651*	0.0089	0.5581*	0.2397*	-0.0563	0.0353	1.0000
	0.0715	0.9231	0.0000	0.0084	0.5414	0.7016	
ACM	0.1296	0.1163	0.1729*	0.5328*	0.2179*	0.2045*	0.1890*
	0.1585	0.2058	0.0590	0.0000	0.0168	0.0251	0.0387
ACI	-0.0244	0.3155*	0.3878*	0.0109	0.0370	-0.0362	0.2900*
	0.7916	0.0004	0.0000	0.9060	0.6885	0.6945	0.0013
ACEX	0.1341	0.0613	0.2593*	0.1816*	0.6272*	-0.0487	0.0677
	0.1442	0.5059	0.0042	0.0471	0.0000	0.5976	0.4628
SIZE	0.2061*	0.6456*	0.3457*	0.3479*	0.3702*	-0.1355	0.0522
	0.0239	0.0000	0.0001	0.0001	0.0000	0.1400	0.5715
LEV	0.2721*	0.2258*	0.1564*	-0.1133	0.0590	-0.2187*	0.0635
	0.0026	0.0132	0.0880	0.2177	0.5218	0.0164	0.4905
AQBig4	0.3164*	0.0336	-0.2532*	0.0861	-0.0533	-0.1655*	-0.0385
	0.0004	0.7159	0.0053	0.3495	0.5629	0.0709	0.6765

	ACM	ACI	ACEX	SIZE	LEV	AQBig4
ACM	1.0000					
ACI	-0.0285	1.0000				
	0.7572					
ACEX	0.4174*	-0.0374	1.0000			
	0.0000	0.6847				
SIZE	0.1980*	0.3588*	0.3243*	1.0000		
	0.0302	0.0001	0.0003			
LEV	-0.0553	-0.0741	0.0668	0.2264*	1.0000	
	0.5483	0.4211	0.4687	0.0129		
AQBig4	0.0194	-0.2659*	0.1816*	0.0908	0.1401	1.0000
	0.8334	0.0033	0.0472	0.3241	0.1271	

4.3 Regression analysis

In this section two element of corporate governance, board characteristics (Board Size, Board meetings, board expertise and CEO duality) and Audit committee characteristics (audit committee size, audit meetings, audit committee independence and audit committee expertise) have been regressed against two proxies of firm performance, Tobin's Q (Model 1) and Return on Asset (Model 2). For the analysis, Tobin's Q and Return on Assets have been run on STATA using the Random-effects GLS (Generalized Least Squared) regression test.

4.3.1 Regression Analysis: Tobin's Q

From the test results it is observed that only audit committee meeting (ACM) has significant positive influence on Tobin's Q as indicator of firm performance, which is significant at the 10% level. It implies that higher number of audit committee meeting leads to better performance of the firm. However, board size, board expertise, CEO duality and audit committee size have negative association with firm performance which are not significant.

Table 5

Model-1 (Tobin's Q) _ Random-effects GLS regression

```
. xtreg TobinsQ BDSZ BDM BDEX CEODuality ACSZ ACM ACI ACEX SIZE LEV AQBig4, re

Random-effects GLS regression                   Number of obs      =       120
Group variable: No                              Number of groups   =        30

R-sq:                                           Obs per group:
     within  = 0.0238                                          min =         4
     between = 0.3038                                          avg =       4.0
     overall = 0.2212                                          max =         4

                                                Wald chi2(11)      =      9.08
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.6143
```

TobinsQ	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
BDSZ	-.0096473	.0201435	-0.48	0.632	-.0491278	.0298332
BDM	.0020958	.0106901	0.20	0.845	-.0188563	.023048
BDEX	-.0806221	.0995642	-0.81	0.418	-.2757644	.1145203
CEODuality	-.0480388	.1416497	-0.34	0.735	-.325667	.2295895
ACSZ	-.0633609	.0681225	-0.93	0.352	-.1968785	.0701567
ACM	.032673	.0185403	1.76	0.078	-.0036652	.0690113
ACI	.0354956	.0813194	0.44	0.662	-.1238874	.1948786
ACEX	.1267561	.185969	0.68	0.495	-.2377364	.4912485
SIZE	.0241993	.3068382	0.08	0.937	-.5771925	.625591
LEV	.0566666	.0425371	1.33	0.183	-.0267046	.1400378
AQBig4	.1211976	.0999511	1.21	0.225	-.0747029	.3170982
_cons	.5652374	3.411494	0.17	0.868	-6.121168	7.251643
sigma_u	.45241657					
sigma_e	.32773032					
rho	.65584325	(fraction of variance due to u_i)				

4.3.2 Regression analysis: ROA

From the test it is observed that none of the study variables have significant influence on ROA as indicator of firm performance. Only leverage (LEV) has significant negative relationship with ROA.

Table 6

Model-2 (ROA)_ Random-effects GLS regression

```
. xtreg ROA BDSZ BDM BDEX CEODuality ACSZ ACM ACI ACEX SIZE LEV AQBig4, re

Random-effects GLS regression                   Number of obs     =        120
Group variable: No                              Number of groups  =         30

R-sq:                                           Obs per group:
     within  = 0.0658                                         min =          4
     between = 0.1676                                         avg =        4.0
     overall = 0.1523                                         max =          4

                                                Wald chi2(11)     =      10.03
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.5274

------------------------------------------------------------------------------
         ROA |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        BDSZ |   .0001165   .0002539     0.46   0.646    -.0003812    .0006141
         BDM |   .0000253   .0001274     0.20   0.843    -.0002244     .000275
        BDEX |   -.001211   .0012841    -0.94   0.346    -.0037278    .0013057
  CEODuality |   .0002496   .0017301     0.14   0.885    -.0031413    .0036406
        ACSZ |   .0001646   .0007685     0.21   0.830    -.0013416    .0016708
         ACM |   .0000348   .0002131     0.16   0.870    -.0003828    .0004524
         ACI |   .0009035   .0009142     0.99   0.323    -.0008883    .0026954
        ACEX |   .0022368   .0024261     0.92   0.357    -.0025183    .0069919
        SIZE |   .0041828   .0041607     1.01   0.315     -.003972    .0123376
         LEV |  -.0009587    .000459    -2.09   0.037    -.0018583   -.0000591
      AQBig4 |   .0015998   .0011056     1.45   0.148    -.0005671    .0037668
       _cons |  -.0395116   .0467715    -0.84   0.398     -.131182    .0521588
-------------+----------------------------------------------------------------
     sigma_u |  .00723145
     sigma_e |  .00299111
         rho |  .85390881   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

CHAPTER FIVE: RECOMMENDATION AND CONCLUSION

5.1 Recommendation

The data collection and subsequent statistical analysis has resulted in highlighting some interesting findings which make way for some recommendations which may help firms withing the banking industry in improving their firm performance.

a) From the descriptive analysis it was found out that the mean value for Tobin's q was less than 1 which means the industry on mean is undervalued which is a potential area of profit for investors and individual firms should look for potential investors so that it drives up the price of the shares and have greater capital source to work with thus increasing firm performance.
b) Return on Assets had a mean value of 1.30% which is considerably low. Banks to evaluate their asset portfolios for potentially redundant assets which may be lowering the overall ROA.

5.2 Conclusion

This study aimed to investigate the effects of Board and Audit committee on the performance of the banking industry of Bangladesh. For this samples of 30 Bangladeshi banks listed in the Dhaka stock exchange over the period of 2015-16 to 2018-19. With the aid of the DSE website and individual websites of the banks for data collection and the current analysis done using the STATA panel data techniques through the Random Effects regression model so as to research the concerned variable and their interconnected relationships with one another. Results show an industry which is undervalued evident by its less than one Q ratio in the market with less-than-optimal ROA, board characteristics and audit committee characteristics play an important role in remedying that. Board meetings, expertise, Audit committee size, expertise and audit quality are highlighted to have significant effect on progress of the Banks. Regression Analysis further cements the notion that Audit Committee meeting has significant relationship with firm performance.

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