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# The Impact of Audit Characteristics on Firm Performance: An Empirical Study from an Emerging Economy

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## Abstract

The auditor, an important instrument of corporate governance, ensures the transparency and accountability of the firm to the stakeholders. The objective of this paper is to explore the impact of audit characteristics on firm performance. In this study, external audit quality (BIG4), frequencies of audit committee meetings, and audit committee size are used as the proxies of audit characteristics and firm performance is measured through ROA, profit margin and EPS. A total of 503 firm years are considered as sample size from the listed manufacturing firms of Dhaka Stock Exchange (DSE) during the period of 2013 to 2017 to find out the impact of audit characteristics on firm performance. In this study, multivariate regression analysis is conducted using the pooled OLS method. Moreover, time dummy and lag model of multivariate analysis are also analyzed as robust check. The multivariate regression results find that external audit quality (BIG4) and audit committee size are significantly positively associated with firm performance. This study also finds that there is a significant negative relationship between audit committee meeting and firm performance. This study recommends that the regulatory authority and audit committee should review the frequencies of audit committee meeting to make it more effective to ensure better firm performance.

**Keywords:** Corporate Governance, Audit Committee, Firm Performance, Audit Meeting, BIG4.

**JEL Classification Code:** G34, L25, M48.

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## 1. Introduction

Modern economies are based on corporations. Economic growth depends on performance of corporations. Besides, stakeholders also want positive performance from the corporations. Corporate governance is one of the crucial factors that ensures positive performance of the corporations (Rahman & Saima, 2018). Corporate governance is a buzzing issue in business world after several scandals in some leading companies (e.g. Xerox (2000), Enron (2001), Worldcom (2002), Royal Ahold (2003), Parmalat (2003), Lehman Brothers (2010) and Tyco International). The quality of corporate governance is still to be flourished as it is not up to the satisfactory level in most

of the countries (Rahman & Khatun, 2017a). Therefore, audit as one of the vital components of corporate governance in company is to ensure true and fair view of the financial reporting of the corporations and thus ensure greater performance of the corporations. Worldwide it is mandatory for every public limited company to have statutory audit in respective countries to ensure effective corporate governance and better performance, transparency and accountability (Rahman & Khatun, 2017b). As per Company Act (1994), it is also mandatory for the public limited companies in Bangladesh to have annual audit.

An effective audit committee is run by some particular members appointed by board of directors, has its activities held by the members through meetings, discussions, and reporting to the board of directors regarding their activities, ensures the fair view of financial reporting checked by external audit firms. Audit committee plays a vital role to influence the firm performance through its monitoring role. Many studies attempt to find out this impact of audit committee on firm performance around the world including developed and developing countries. Mixed evidence of the impact of audit committee on firm performance is documented in those studies based on the respective country' culture and institutions.

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In Bangladesh there are a few researches have so far been conducted on the impact of audit committee on firm performance. Despite being one of the most vital parts of corporate governance, audit committee is so far less explored in Bangladesh. Former studies (Rana, Hoque, & Sharma, 2017; Alam & Akhter, 2017) investigated the impact of audit committee along with board composition and in those studies only one or two audit committee variables were used. Prior studies were basically based on less sample obstruct to draw a generalized conclusion regarding the role and impact of audit committee on firm performance. Earlier studies on the impact of audit committee on firm performance used only one firm performance proxy which is ROA weakens the power of the conclusion on the impact of audit committee on firm performance in Bangladesh. These are the points and motives that inspire us to focus on this vital part of corporate governance in Bangladesh. Therefore, this study is an initiative to explore solely the impact of audit committee on firm performance in Bangladesh by covering the above mentioned gaps. It focuses mainly on 3 firm performance proxies: ROA, Profit Margin, and EPS as dependent variable. On the other hand, audit committee meeting, audit committee size and audit firm size or big four affiliations are considered as independent variable. Firm size and firm age are considered as control variable. This research is based on 109 manufacturing companies listed on stock exchange in Bangladesh. Data, from the annual reports of the year of 2013-2017, has been collected for this purpose.

In this analysis, it is found that there is a significant positive relationship between external audit quality (BIG4) and audit committee size and firm performance. But our analysis shows that the relationship between firm performance and audit committee meeting is negative. This could be because of the less effectiveness of the meetings due to be less in numbers through non-compliance with guidelines, or less disclosure tendency about the number of meetings in the audit committee report, or audit committee tendency just to comply with the requirements to sit together regardless of the increase of the firm performance.

The rest of the study is constructed as follows: next section 2 documents background of audit committee construction in Bangladesh. Section 3 reviews the prior literatures, leading to the hypotheses development for this study. Section 4 represents research methodology including sample size and research model used in this paper. Section 5 is designed with the empirical results including descriptive statistics, correlation matrix, and regression analysis, followed by a section 6 on additional analysis. And the paper is concluded in section 7 along with its contributions and limitations.

## 2. Role of Audit Committee in Corporate Governance Guidelines

Audit committee is an extended part of board of the company. Its primary responsibility is to design, oversee, and implement financial reporting procedures related to companies and thus ensure better corporate governance. Bangladesh Securities and Exchange Commission (BSEC) is the authority to issue Corporate Governance (CG) guidelines in Bangladesh. The first CG guidelines was introduced in Bangladesh on 20<sup>th</sup> February, 2006. The first issued CG guidelines (2006) was less effective to address the concept and construction of audit committee as first CG guidelines (2006) was only on “comply or explain” basis to secure the minority shareholder interests and help capital market development. To address the audit committee with details, BSEC revised the CG guidelines (2006) on 7<sup>th</sup> August, 2012. The revised CG guidelines in 2012 were more comprehensive and effective to address the concept and construction of audit committee through some significant changes in Bangladesh setting.

In Bangladesh, audit committee is mentioned in Corporate Governance (CG) guidelines (2012) under section 5 of chapter C. Section 5 mentions that a company listed on stock exchange shall have a mandatory audit committee as a sub-committee of the board of directors. The construction of the audit committee along with its activities and roles is also delineated under section 5 of chapter C. Number of members on audit committee is one of the factors of audit that ensure better performance for the company (Afza & Nazir, 2014). In Bangladesh, CG guidelines (2012) clearly states that the audit committee should include at least 3 members. And it is also stated that the members on the audit committee must be from the member of board of directors except the chairperson and the executive directors.

Audit meeting is the general activities by the members of the audit committee to decide the change and procedure regarding audit. It is recommended by the CG guidelines (2012) that an audit committee must meet at least 4 times in a financial year and the time gap between two meetings must be within 4 months. At the end of the day audit committee is responsible to the board of directors and must report to the board of directors about conflicts of interests, suspected frauds and irregularities, suspected infraction of laws and regulations. External audit plays an important role in enhancing the quality of financial statement and disclosure issues (Rahman, 2017a). Audit quality mainly depends on the audit firm's reputation and size. It is generally assumed that audit from the BIG4 have better audit quality than others. Audit practicing firms in Bangladesh have so far been affiliated with four BIG audit firms of the world which are Klynveld Peat Marwick

Goerdeler (KPMG), Deloitte, Price Water House Coopers (PWC) and Ernst & Young (EY).

### 3. Literature Review and Hypothesis Development

There is a mixed findings documented between audit committee and firm performance in the earlier studies. Audit

committee size, number of audit committee meeting, and external audit quality (BIG4) have positive, negative, and non-monitoring role on firm performance proxies based on those studies' institutional and cultural settings. The summary of the previous studies on this issue is documented in Table 1 which is given below.

**Table 1:** A summary of the previous studies on audit committee characteristics and firm performance

Study	Sample	Time Period	Methods	Dependent Variables	Independent Variables	Results
Farouk & Hassan (2014)	Four Listed Cement Companies out of five in Nigeria	2007-2011	OLS Regression Analysis	Net Profit Margin	-Auditor's independence -Auditor's size	The relationship of firm performance with auditor's independence and auditor's size is significantly positively.
Al-Matari, Al-Swidi, & Fadzil (2014)	22 literature that were available		Prior Literature Review	Firm Performance	-The qualification of chief audit executive -The size of the internal audits -The experience of the internal audits -The qualification of the internal audits	The relationships are positive.
Afza & Nazir (2014)	124 companies of KSE-100 in Pakistan	2011	Multiple Regression Analysis (panel data)	-ROA -Q Ratio	-Audit Committee Size -Audit Committee independence -Audit Committee activity -External Audit Quality	The relationships of firm performance and audit committee size and external audit quality are positively significant.
Aanu, Odianonsen, & Foye (2014)	25 Manufacturing Companies of Nigeria	2004-2011	-Panel data analysis -Pearson Moment correlation analysis	-ROE -ROA -ROCE	-Audit Committee Independence -Audit Committee Financial Expertise -Audit Committee Meetings -Audit Committee Size	The relationships of firm performance with audit committee independence, audit committee financial expertise are positive.
Al-Matari et al. (2014)	81 non-financial companies listed in Muscat Security Market	2011-2012	-Multiple Regression Analysis -Pearson correlation analysis	ROA	-Audit Committee Size -Audit Committee Independence -Audit Committee Meeting -The Executive Committee Size -The Executive Committee Independence -The Executive Committee Meeting	All the relationships are insignificant.
Sayyar, Basiruddin, Rasid, & Elhabib (2015)	542 non-financial companies in Malaysia	2003-2012	Multiple regression analysis	-ROA -Tobin's Q	-Audit Fee -Auditor's rotations	There is a significant relationship between firm performance and audit fee and auditor's rotations.

Al Ani & Mohammed (2015)	112 companies listed on the Muscat Securities Market	2009-2013	Multiple regression analysis	-ROE -ROA -Leverage -Market Fair Value of share	-Auditor Quality	The relationship between firm performance and auditor quality is positive.
Kipkoech & Rono (2016)	60 listed companies in Kenyan Stock Exchange	2006-2013	Lineal Regression Analysis	Firm Performance	-Audit committee experience -Audit committee size	The relationship between firm performance and audit committee experience is significantly positive. But with audit committee size is significantly negative.
Nuhu, Umaru, & Salisu (2017)	18 food and beverage companies listed on the Nigerian Stock Exchange	2007-2016	Structural equation model	Financial Performance	-Audit committee member -Audit committee meeting -Audit committee expertise	The relationship of firm performance with audit committee meeting and audit committee expertise is significantly positive.
Alqatamin (2018)	165 non-financial companies listed on the Amman Stock Exchange (ASE)	2014-2016	Multiple Regression Analysis	ROA	-Audit committee size -Independence of the audit committee -Committee experience -Gender diversity -Frequency of meetings	The relationships of firm performance with audit committee size, audit committee independence and gender diversity are positively significant. But the relationship of firm performance with audit committee with frequency of meetings is positively insignificant. Where audit committee experience is negatively & insignificantly correlated with firm performance.
Zraiq & Fadzil (2018)	228 non-financial firms in Jordan	2015-2016	OLS Regression Analysis	ROA	-Audit committee size -Audit committee meeting	The relationship between firm performance and audit committee size is significantly positive.

### 3.1. External Audit Quality (BIG4)

External audit quality is estimated by the integration of audit practicing firms of Big4. The audit firms in Bangladesh which have been affiliated with global BIG4 audit firms are Rahman Rahman Huq (RRH) with KPMG, Hoda Vasi Chowdhury & Co with Deloitte, A. Qasem & Co with EY and Nurul Faruk Hasan & Co with PWC (Rahman, 2017b). It is commonly perceived that audit from BIG4 have better audit quality. Previous research shows that there is a significant positive relationship between BIG4 audits or audits from reputed firms and performance (Afza & Nazir, 2014). Al Ani and Mohammed (2015), also analyzed the relationship between audit quality (BIG4 audit) and performance. In their study they found the positive relationship between the two variables. This similar result also found in the research of Farouk and Hassan (2014), Afza and Nazir (2014), Al Ani and Mohammed (2015), and Alqatamin (2018). On the other hand, Kabir, Sharma, Islam, and Salat (2010) found no

relationship between the quality of earnings of big 4 affiliates and non-big 4 affiliates in Bangladesh. Uniform findings were found by Jeong and Rho (2004) in Korea, their results explored that big 6 auditors have no impact on the accruals quality when juxtaposed with the accruals of non-big 6 auditing firms. On the whole, the study findings on the big auditors and earnings are debated, but on the basis of the studies of Becker, Defond, Jiambalvo, and Subramanyam (1998), Francis, Maydew, and Sparks (1999), Francis (2004), Farouk and Hassan (2014), Afza and Nazir (2014), Al Ani and Mohammed (2015), and Alqatamin (2018), the following hypothesis is developed:

**H<sub>1</sub>:** There is a positive relationship between external audit quality (BIG4) and firm performance.

### 3.2. Audit Committee Meeting

Audit committee meeting is necessary for decision making and implementation of financial reporting requirements.

There is a guideline for the audit committee meeting from the Securities and Exchange Commission of Bangladesh (BSEC) to sit for at least 4 times in a financial year as it is a part of implementation of corporate governance implementation process as decisions about financial reporting come from audit committee meeting. Previous researches shown mixed results in this case also. Xie, Davidson, and DaDalt (2003) indicated that audit committees those sit frequently improve the corporate earnings transparency thus improve firm performance through the improvement of earnings quality. Similar result also found in the studies of Aanu et al. (2014), and Alqatamin (2018). Yet, on the contrary, it is argued by Rabeiz and Salameh (2006) that increasing the number of frequencies of audit committee meetings doesn't necessarily increase firm performance as the quality of the meetings is also be ensured. Similarly, Hsu and Petchsakulwong (2010) found a significant negative relationship between the number of audit committee meetings and firm performance. Lin and Wang (2010) found inverse relationship between earnings management and audit committee meeting inferred the positive monitoring role on firm performance.

However, some studies did not find any association between meeting frequency and firm performance (Be'dard, Chtourou, & Courteau, 2004; Yang & Krishnan, 2005). The negative non-monitoring role of frequencies of audit committee meetings to increase firm performance is also documented in the earlier studies (Aanu et al., 2014) but insignificant in their respective countries perspective. Similarly, Abbott, Parker, and Peters (2004) found no evidence of association between the audit committee meetings and reduction in frauds. Based on the discussions above and consistent with Hsu and Petchsakulwong (2010) following hypothesis has been established:

**H<sub>2</sub>:** There is a negative relationship between audit committee meeting and firm performance.

### 3.3. Audit Committee Size

A lot of studies prove that audit committee size is one of the significant determinants of the firm performance (Pucheta-Martinez & Fuentes, 2007; Afza & Nazir, 2014). As per Securities and Exchange Commission of Bangladesh (BSEC), audit committee must be composed of at least three persons. It is also required that one-third must be independent member. Afza and Nazir (2014) indicate that there is a significant negative relationship between audit committee size and firm performance. This is because, a larger audit committee is devoid of efficiency. But Aanu et al. (2014) found the opposite result. They found that there is a significant positive relationship between audit committee

size and firm performance. Alqatamin (2018) also found the same relationship in their researches.

Though, controversial findings are available on the audit committee size, but the audit committee size has positive relationship with firms financial performance is underscored by the Resource Dependency Theory argument (Pierce & Zahra, 1992). As per this theory, efficiency of the audit committee improves when size of the audit committee augments as more resources always discuss to decompose the issues which are faced by the companies. Thus, based on this undergirding argument hypothesis is developed:

**H<sub>3</sub>:** There is a positive relationship between audit committee size and firm performance

## 4. Research Methodology

### 4.1. Sample Collection

109 DSE listed manufacturing companies during the year of 2013-2017 have been taken into consideration in this study for the sample purpose. The sample includes the firms from Cement industry, Ceramics industry, Food and Allied industry, Jute industry, Tannery industry, Power and Fuel, Pharmaceuticals, Textile, and Engineering industry. Total 503 firm year observations are used in this study after the following factors consideration. First, due to the missing of audit committee related information in the annual reports, some firms are excluded from the initial samples. Second, some of the sample firms are newly incorporated as public limited companies in DSE hampering to get the full sample period information. Third, some of the sample firms haven't kept their annual reports for 5 years in a row from 2013 to 2017. Those missing firm-years are kept out of the sample consideration. Therefore, final sample produces 503 firm year observations. Annual reports of the sample firms are downloaded from the respective companies' websites and the website of Lanka Bangla Financial Portal has also been used to get the annual reports of some sample firms due to be missed in the respective companies' websites. Relevant hand collected data on firm performance (ROA, Profit Margin, and EPS) and on audit characteristics (audit size, number of audit committee meetings, and big four affiliation) from the annual reports are secondary in nature.

### 4.2. Research Model

Consistent with Afza and Nazir (2014), following multivariate regressions models are implemented to test the above mentioned hypotheses.

$$ROA = \beta_0 + \beta_1 \text{BIG4} + \beta_2 \text{AUDMEET} + \beta_3 \text{LNAUDSIZE} + \beta_4 \text{LNSIZE} + \beta_5 \text{LNAGE} + \varepsilon \quad (1)$$

$$PM = \beta_0 + \beta_1 \text{BIG4} + \beta_2 \text{AUDMEET} + \beta_3 \text{LNAUDSIZE} + \beta_4 \text{LNSIZE} + \beta_5 \text{LNAGE} + \varepsilon \quad (2)$$

$$EPS = \beta_0 + \beta_1 \text{BIG4} + \beta_2 \text{AUDMEET} + \beta_3 \text{LNAUDSIZE} + \beta_4 \text{LNSIZE} + \beta_5 \text{LNAGE} + \varepsilon \quad (3)$$

ROA, Profit Margin (PM) and EPS are used as proxies of firm performance in this study. ROA is used as dependent variable to examine the impact of audit characteristics on firm performance in many prior studies by Zraiq and Fadzil (2018), Alqatamin (2018), Nuhu et al. (2017), Rana et al. (2017), Kipkoech and Rono (2016), and Sayyar et al. (2015), Afza and Nazir (2014), and Aanu et al. (2014). Profit margin is used as dependent variable in our study by following the work of Farouk and Hassan (2014). EPS is another firm performance proxy used in this study and previous study (Zraiq & Fadzil, 2018) also used EPS as firm performance measure. Audit characteristics like audit committee size, number of meetings held by the audit committee, and BIG4 are used as independent variables in this study on the wake of the earlier studies (Alqatamin, 2018; Nuhu et al., 2017; Kipkoech & Rono, 2016; Farouk & Hassan, 2014; Afza & Nazir, 2014). After controlling for firm size and firm age, the impact of audit committee on firm performance has been identified in this investigation. Table 2 below depicts the definitional representation of the above mentioned research models:

Pooled OLS regression model is applied to test the hypotheses regarding dependent and independent variables in this examination. According to Ahmed and Gabor (2011),

endogeneity problem in the model leads the results to be biased and OLS method fails to address this potential problem inherent in it. This problem can be addressed through various methods: fixed effects, lagged variables, control variables, generalized method of moments (GMM) (Li, 2016). Consistent with Ahmed and Gabor (2011), lagged independent variable model is also applied in this study to mitigate this problem. Heteroskedasticity problem has also been examined in our study using Breusch-Pagan test and the problem is adjusted through the implementation of White's (1980) heteroskedasticity consistent-error adjustment.

## 5. Empirical Results and Discussions

### 5.1. Descriptive Statistics

Descriptive statistics of the dependent and independent variables used in the investigation to find the impact of audit characteristics on firm performance is illustrated in the following Table 3. The table is designed with the values of mean, median, minimum, maximum, and standard deviation for the year of 2013-2017. Audit committee size (LNAUDSIZE), number of audit committee meetings (AUDMEET), and firm age (AGE) are represented in actual value where affiliation of the auditing firms, audited the financial statements, with BIG4 audit firms is expressed in dummy variable form. ROA and PM are expressed in fraction form but EPS is expressed in actual value (BDT). Also, firm size (LNSIZE) is expressed in natural logarithm form.

**Table 2:** Definition and measurement of the variables

	Acronym	Measurement	Reference
Firm Performance	ROA	Represents Return on Assets measured by dividing net profit after taxes by total assets	Zraiq & Fadzil (2018); Rahman (2016); Afza & Nazir (2014)
	PM	Represents Profit Margin ratio calculated as gross profit divided by sales	Farouk & Hassan (2014)
	EPS	Represents Earnings per Share	Zraiq and Fadzil (2018)
Audit Characteristics	BIG4	Represents a dummy variable given score 1 if the sample firm's annual report is audited by any of the BIG4 affiliated audit firms in Bangladesh, otherwise score is 0	Rahman (2017b); Afza & Nazir (2014)
	AUDMEET	Represents the number of meetings held by the audit committee during the year	Zraiq & Fadzil (2018); Aanu et al. (2014)
	LNAUDSIZE	Represents natural logarithm form of number of members on the audit committee	Afza & Nazir (2014)
Firm Characteristics	LNSIZE	Represents natural logarithm form of firm's total assets	Afza & Nazir (2014)
	LNAGE	Represents natural logarithm form of firm's age calculated by subtracting incorporation year from present year of firm	Amer et al. (2014)

The mean audit size is 3.3897 with a standard deviation of 0.6211 and ranges from 2 to 6. The minimum member on audit committee is 2 because one sample firm set its audit committee with two members in 2013. But it has increased its audit committee members since 2015. Mean audit size is more than 3 which is the evidence of the compliance with the CG guidelines (2012) to have at least 3 members on the audit committee. The minimum requirement is fulfilled regarding audit committee size in Bangladeshi manufacturing firms. The sample audit committees met 1 to 12 times during a year with an approximate average of 3 meetings per year. The minimum meeting is 1 because some of the sample firms states in their audit committee reports that they sit at the end of the year to review the audit committee reports and thus to sign the reports. In this case 1 meeting is assigned on the audit committee based on the fact that those audit committee members have met at least one time during a year to sign the audit committee report.

The statistics of average 3 audit committee meetings per year indicates the non-compliance with CG guidelines (2012) to meet at least 4 times in a financial year. The minimum requirement to sit for at least 4 times in a year is not fulfilled regarding audit committee meeting in Bangladeshi manufacturing firms. The mean BIG4 is 0.1789 ranging from 0 to 1 with a standard deviation of 0.3837. Only 27 sample firms have their annual reports audited by the BIG4 affiliated audit firms. To be more exact, only 91 sample-year observations have BIG4 audited financial statements in Bangladesh as some of the sample firms randomly rather than at a stretch get their annual reports audited by BIG4 affiliated firms.

Mean firm size 8.0424 is worth of BDT 8813 million ranging from 4.2767 to 11.8909. Mean firm age is 16.2227 years and the range is minimum 1 to maximum 41 years. Minimum age is 1 because some of the sample firms

incorporated in 2012 leading to have 1 year in 2013 for those sample firms. ROA is on an average 5.48% ranging from -25.16% to 40.32% and PM is on an average 22.22% ranging from -350% to 100%. Average EPS is BDT 6.6014 ranging from BDT -48.14 to BDT 130.5.

**Table 3:** Descriptive Statistics

Variables	Obs.	Mean	Min	Max	Std. Dev.
ROA	503	0.0548	-0.2516	0.4032	0.0653
PM	503	0.2222	-3.5	1.00	0.2441
EPS	503	6.6014	-48.14	130.5	15.8032
AUDSIZE	503	3.3897	2	6	0.6211
AUDMEET	503	3.1610	1	12	1.8851
BIG4	503	0.1789	0	1	0.3837
LNSIZE	503	8.0424	4.2767	11.8909	1.4726
AGE	503	16.2227	1	41	11.5411

## 5.2. Correlation Matrix

The results of correlation analysis of the research model used dependent, independent and control variables are displayed in the Table 4. The table shows that audit committee size (0.0824) (0.1026) (0.1443) and BIG4 (0.2857) (0.2169) (0.3713) are significantly and positively associated with firm performance proxies ROA, PM, and EPS respectively. But audit committee meeting (-0.0988) is significantly and negatively associated with ROA.

Moreover, firm size (0.2076) (0.2005) is significantly and positively but firm age (-0.1287) (-0.1425) is significantly and negatively correlated with firm performance proxies ROA and PM. EPS (0.2658) (0.2344) is positively and significantly correlated with firm size and firm age respectively.

**Table 4:** Correlation Matrix

	ROA	PM	EPS	AUDMEET	AUDSIZE(Ln)	BIG4	SIZE(Ln)	AGE(Ln)
ROA	1.00							
PM	0.3409***	1.00						
EPS	0.5263***	0.1842***	1.00					
AUDMEET	-0.0988**	-0.0535	0.0016	1.00				
AUDSIZE(Ln)	0.0824*	0.1026**	0.1443***	0.2079***	1.00			
BIG4	0.2857***	0.2169***	0.3713***	0.0785*	0.0622	1.00		
SIZE(Ln)	0.2076***	0.2005***	0.2658***	0.0647	0.1023**	0.4119***	1.00	
AGE(Ln)	-0.1287***	-0.1425***	0.2344***	0.0782*	0.0617	-0.0150	-0.2399***	1.00

\*\*\*Significance at 1% level, \*\*significance at 5% level, \*significance at 10% level, two tailed.

**Table 5:** Multicollinearity Test

Variable	VIF	1/VIF
LNSIZE	1.31	0.766149
BIG4	1.22	0.820914
LNAGE	1.09	0.921466
LNAUDSIZE	1.06	0.943972
AUDMEET	1.06	0.946603
Mean VIF	1.14	

Above Table 5 indicates the results of VIF test regarding the multicollinearity problem. The results show that there is no presence of multicollinearity problem as each of the variables used in this study range from 1.06 to 1.31 along with mean VIF value is below 10 (Gujarati, 2003).

### 5.3. Regression Results

Regression results regarding dependent and independent variables are summarized in Table 6. The impact of audit committee characteristics on firm performance (ROA, PM, and EPS) is analyzed based on the regression results considering robust standard-error adjustment. The first column of Table 6 represents the relevant variables used in this study. The second column documents the results of impact of audit committee on ROA, the third column shows the results on Profit Margin, and the fourth column represents the results on EPS.

The empirical results show that independent variable BIG4 is positively related with firm performance proxies: ROA, Profit Margin, and EPS in the 3 regressions, and significant at 1% level. It implies that firm performance (ROA, Profit Margin, and EPS) is highly influenced by the quality of external audit and the result is consistent with Afza and Nazir (2014). Pooled OLS result signifies that ROA increases by 4.38%, PM increases by 11.22%, and EPS increases by BDT 11.8847 if the company examines its annual report with big 4 affiliated audit firms in Bangladesh. This positive association signifies our expectation expressed in Hypothesis 1 and it is accepted.

The second independent variable is negatively and significantly associated with firm performance measures and supports our expectation revealed in Hypothesis 2. Aanu et al. (2014) found the negative association between ROA and frequencies of audit meeting in Egypt and in Nigeria respectively but insignificant. But Hsu and Petchsakulwong (2010) found significant negative association between audit committee meeting and firm performance. There are several possible reasons for this negative significant association in Bangladesh. One possible reason might be that the audit committee met only on an average 3 times in a year as seen in the Table 3 signaling its non-compliance with the CG guidelines (2012) to meet at least 4 times in a year thus leading its negative role on the firm performance in

Bangladesh. The less the audit committee meets, the less its monitoring role on firm performance measures is. Another possible reason might be that the auditors meet just to comply with the requirements. This implies auditor's only signature attitude on the audit committee reports regardless of the efficiency and quality of the meetings to increase firm performance is the other reason. The coefficients of audit committee meetings are very low: -0.0047 for ROA, -.0112 for PM, and -0.6605 for EPS implying that if they can meet more and more in future, audit committee meeting will also be a firm performance increasing factor in Bangladesh.

Furthermore, audit committee size also has its significant positive impact on firm performance proxies with a beta coefficient of 0.0354, 0.1527, and 9.5381 for ROA, PM, and EPS respectively. This result is as same as the findings of Zraiq and Fadzil (2018); Alqatamin (2018); Farouk and Hassan (2014). OLS results show that one member increases in audit committee resulting in 3.54% improvement of ROA, 15.27% enhancement of PM, and EPS increases by BDT 9.5381. Large audit committee includes diverse skills and knowledge that lead the committee to be more effective to ensure its monitoring role. Resource Dependency Theory (Pierce & Zahra, 1992) suggests that there is a positive relationship between the increase of audit committee members on the committee and the overall effectiveness of the audit committee. This is because more resources are always dedicated to settle the issues frequently faced by the firms. When audit committee member increases then market realizes that the committee included more qualified resources with diverse skills to resolve the issues concerning accounting and finance, thus leading to the increase of firm performance. So, our expectation expressed in Hypothesis 3 is also accepted.

**Table 6:** Audit characteristics and firm performance

	ROA	PM	EPS
<b>Constant</b>	0.0075	-0.0048	-33.9367***
	(0.0250)	(0.0891)	(7.5010)
<b>BIG4</b>	0.0438***	0.1122***	11.8847***
	(0.0107)	(0.0218)	(2.4332)
<b>AUDMEET</b>	-0.0047***	-0.0112**	-0.6605***
	(0.0013)	(0.0053)	(0.2391)
<b>LNAUDSIZE</b>	0.0354**	0.1527***	9.5381**
	(0.0170)	(0.0579)	(3.9781)
<b>LNSIZE</b>	0.0034	0.0156**	2.2629***
	(0.0024)	(0.0068)	(0.4644)
<b>LNAGE</b>	-0.0065**	-0.0282***	4.5080***
	(0.0030)	(0.0078)	(0.7867)
<b>No. of Obs.</b>	503	503	503
<b>R<sup>2</sup></b>	0.1235	0.0895	0.2457

\*\*\*Significance at 1% level, \*\*significance at 5% level, \*significance at 10% level, two tailed. The numbers in parenthesis denote standard error obtained from regressions considering robust standard error.



The impact of control variables, firm size and firm age, is also illustrated in Table 6. Profit Margin and EPS are highly influenced by firm size as positive relationship among them is documented. There is insignificant association between firm size and ROA. But negative significant relationship between firm age and firm performance measures (ROA and Profit Margin) is recorded in the table. This implies that new firms are performing better than the old firms. But EPS is higher for old firms. The summary of the results between audit characteristics and firm performance are presented in Table 7.

**Table 7:** Summary of the results for audit committee characteristics and firm performance

Independent variables	Expected sign	Actual sign	Hypothesis Accepted/Rejected
BIG4	+	+	Accepted
AUDMEET	-	-	Accepted
LNAUDSIZE	+	+	Accepted

## 6. Additional Analysis

Regressions by considering year dummy and lag model are also run to check the robustness of this study. Table 8 represents the results of year dummy regression and Table 9 represents the results of lag model regression.

**Table 8:** Regression results (Year Dummy)

	ROA	PM	EPS
<b>Constant</b>	0.0032	-0.0069	-34.7966***
	(0.0253)	(0.0904)	(7.6553)
<b>BIG4</b>	0.0435***	0.1105***	11.8113***
	(0.0108)	(0.0215)	(2.4300)
<b>AUDMEET</b>	-0.0047***	-0.0109**	-0.6616***
	(0.0013)	(0.0054)	(0.2459)
<b>LNAUDSIZE</b>	0.0364**	0.1549***	9.7848**
	(0.0169)	(0.0588)	(4.0025)
<b>LNSIZE</b>	0.0036	0.0166**	2.3262***
	(0.0024)	(0.0071)	(0.4674)
<b>LNAGE</b>	-0.0062**	-0.0267***	4.5995***
	(0.0031)	(0.0076)	(0.8015)
<b>No. of Obs.</b>	503	503	503
<b>R<sup>2</sup></b>	0.1261	0.0910	0.2482
<b>Year Dummy</b>	Yes	Yes	Yes

\*\*\*Significance at 1% level, \*\*significance at 5% level, \*significance at 10% level, two tailed. The numbers in parenthesis denote standard error obtained from regressions considering robust standard error.

The results in Table 8 documents the evidence that there is no impact of previous year as the result is as same as

earlier result documented in Table 6. Table 9 also illustrates the result as same as previous result except audit committee size.

**Table 9:** Regression results (Lag Model)

	ROA	PM	EPS
<b>Constant</b>	0.0256	-0.0214	-30.3901***
	(0.0284)	(0.1078)	(8.9064)
<b>BIG4</b>	0.0476***	0.1226***	13.1956***
	(0.0131)	(0.0247)	(3.0117)
<b>AUDMEET</b>	-0.0042***	-0.0108*	-0.6501**
	(0.0014)	(0.0060)	(0.2699)
<b>LNAUDSIZE</b>	0.0197	0.1636**	7.5293
	(0.0191)	(0.0670)	(5.0879)
<b>LNSIZE</b>	0.0026	0.0137*	2.1367***
	(0.0028)	(0.0080)	(0.5309)
<b>LNAGE</b>	-0.0048	-0.0239***	4.6676***
	(0.0032)	(0.0085)	(0.8812)
<b>No. of Obs.</b>	394	394	394
<b>R<sup>2</sup></b>	0.1136	0.0790	0.2441

\*\*\*Significance at 1% level, \*\*significance at 5% level, \*significance at 10% level, two tailed. The numbers in parenthesis denote standard error obtained from regressions considering robust standard error.

## 7. Conclusion

Corporate governance is nowadays an important issue for the researcher, policy makers, professionals, investors as being the witness of robust corporate scandals around the world. It helps to monitor the agents appointed by the principals in the absence of principal's active monitoring role and helps to ensure better firm performance through mitigating the agency problem between them. Audit committee is one of the corporate governance considerable tools that ensures better firm performance. But the effectiveness of the audit committee varies from country to country due to different cultural and institutional settings. Many studies have investigated the impact of audit committee on firm performance issue in the developed countries but very few in developing countries. The exiguity of the studies on the impact of audit committee characteristics on firm performance motivates us to work on this particular area in Bangladesh. Therefore, this paper sets its aim to focus on this issue with more insights in Bangladesh. Previous studies were limited to lower samples. This paper uses more than 500 sample-year observations to draw more generalized conclusion by covering this gap.

This study finds the evidence that external audit quality (BIG4) assists in enhancing firm performance in Bangladesh. The reason is investor's perception towards companies

affiliated with big auditing firms reveal authentic, reliable, and timely financial information which increases the investor's confidence and motivates to invest more. The same result is also found in the study of Afza and Nazir (2014). Findings also provide the evidence of positive impact of audit committee size on firm performance. Larger audit committee size comprises of diverse skilled resources lead the company to resolve the problems more effectively which are frequently faced by the company during business operations. This finding is consistent with Zraiq and Fadzil (2018); Alqatamin (2018), Farouk and Hassan (2014).

Another significant finding of this study is the negative role of audit committee meetings on firm performance and the finding is in agreement with Hsu and Petchsakulwong (2010). Less meeting frequencies through non-compliance with CG guidelines (2012) in Bangladesh, tendency to just meet the requirements, less disclosure about the number of meetings held by the audit committee force this factor to be negative on firm performance in Bangladesh. The same non-monitoring role of frequencies of audit committee meetings is also documented in the earlier studies (Aanu et al., 2014) but insignificant in their respective countries perspective.

By extrapolating from the results on sample-year observations, it can be concluded that external audit quality (BIG4) and large audit committee help to increase firm performance but audit committee meeting doesn't play its positive role to increase firm performance in Bangladesh.

This paper has some contributions. First, it helps the existing literature on audit characteristics and firm performance in Bangladesh to extend with new data and huge sample. Second, it provides the regulators hints to rethink about audit committee meetings' monitoring role in Bangladesh setting. Third, it motivates the investors to invest in firms having larger audit committee and having big auditing firms audited reports. This study also recommends that firms should examine their reports with big auditing firms and to keep the audit committee large. This paper also encourages the audit firms to be affiliated with the BIG4 firms as soon as possible. However, this paper has some limitations are the scopes for the future researchers. One of the important factors of audit committee is audit independent not considered in our study. Only the non-financial sector has been considered for the sample purpose. Market performance (Tobin's Q) is not applied here. Future researchers can focus on these factors.

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