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# The Moderating Effect of Audit Quality on the Impact of Audit Committee Characteristics and Performance: Evidence from Saudi Financial Companies Ali A. Al-Ansi <sup>1</sup>

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#### **Abstract:**

Current study aims to provide empirical evidence regarding the impact of audit committee characteristics (independence, size, meetings, and financial literacy) on the performance of financial companies. The paper also focuses on the moderating effect of audit quality on the effect of audit committee characteristics on the performance of financial companies. This study was executed on 44 unique financial companies listed in the Saudi Arabia capital market, Tadawul, over the period 2016-2018, resulting to 132 year-observations. Using pooled panel data regression, the results indicate that audit committee independence, expertise, size, and meetings significantly impact the performance of financial companies. The results also reveal that BIG4 audit firms significantly moderate the effect of audit committee size and meetings on company performance. However, the results show that BIG4 audit firms do not moderate the effect of audit committee independence and expertise on the firm performance. These results may have theoretical and practical implications regarding the audit committee characteristics used in this study, and the recommendations for future research works are also emphasized.

Keywords: Corporate governance, Audit committee, Audit quality, Firm performance, Financial sector

## الأثر المُعدَل لجودة التدقيق على أثر خصائص لجنة المراجعة على الأداء: دراسة تطبيقية على الشركات المالية السعودية

الملخص:

تهدف الدراسة الحالية إلى معرفة تأثير خصائص لجنة التدقيق (استقلالية لجنة التدقيق، حجم لجنة التدقيق، انتظام اجتماعات لجنة التدقيق والمعرفة المالية للجنة التدقيق على أداء الشركات المالية. علاوة على ذلك، فقد ركزت الدراسة على 44 شركة مسجلة في جودة التدقيق على أثر خصائص لجنة التدقيق على أداء الشركات المالية. لقد تم تطبيق هذه الدراسة على 44 شركة مسجلة في القطاع المالي في بورصة المملكة العربية السعودية (سوق تداول) للفترة من عام 2016 حتى عام 2018 وبإجمالي 132 مشاهدة. وقد أظهرت النتائج أن خصائص لجنة التدقيق (الاستقلالية، والحجم، والاجتماعات، والمعرفة المالية) تؤثر بشكل كبير على أداء الشركات المالية. كما أظهرت النتائج عن وجود تأثير معدل لمتغير جودة التدقيق على أثر خصائص لجنة التدقيق المتمثلة في حجم لجنة التدقيق وانتظام اجتماعات لجنة التدقيق على أداء الشركات المالية. لكن أظهرت النتائج عدم وجود تأثير معدل لمتغير جودة التدقيق على أثر خصائص لجنة التدقيق المتمثلة في الاستقلالية والمعرفة المالية على أداء الشركات المالية. وتكمن أهمية هذه الدراسة في زيادة المعرفة بخصائص لجنة التدقيق المستخدمة في هذه الدراسة وتأكيد أهميتها في التأثير على الإداء، كما تم التأكيد على الآثار العملية والتوصيات للدراسات مستقبلية.

كلمات مفتاحية: حوكمة الشركات، لجنة التدقيق، جودة التدقيق، أداء الشركات، القطاع المالي.

#### 1. INTRODUCTION

Corporate governance is a subject which was extensively studied by literature as a tool to minimize disputes between managers-shareholders (Abdurrouf, 2011; Jensen & Meckling, 1976; Pandya, 2011; Pfeffer, 1972; Shleifer & Vishny, 1986). In the framework of agency theory, managers of public companies have discretion over several strategic actions, and they tend to choose those with greater payoff for themselves on the expense of shareholder. This agency problem becomes persuasive as a result of information asymmetry and biased corporate disclosure and transparency. Thus, several researchers anticipate lower performance and value for firms with greater agency problem (Jensen & Meckling, 1976; Shleifer & Vishny, 1986). Thus, corporate governance best practices are called and become a crucial element to protect the shareholders wealth and achieve greater value of companies (Al-Matari et al., 2012).

This study aims to examine whether audit committee characteristics affect company performance and how audit quality as proxied by big4 audit firms moderates this effect for financial companies from Saudi Arabia. These objectives are important for several policy makers and researchers for the following reasons. First, the topic of corporate governance and company performance is still attracting a wide range of users because corporate scandals are still happened and affect the trustworthy of several investors and consequently the country economy (Al-ahdal & Hashim 2022). At the time of very big corporate scandals (e.g., Enron and WorldCom), it was believing that weak corporate governance system is the major reason for these scandals and the current practices need greater development to restore the investors shock (Baatwah et al., 2015). One of the major reforms of corporate governance system is enhancing the effectiveness of audit committee (SOX 2002). This mechanism is a front-wall for board of directors and shareholders from the irregularities taking by managers (Baatwah et al., 2015; Al-ahdal & Hashim, 2022). Despite the important of this mechanism in corporate governance mosaic, the empirical evidence on its effect on company performance yields inconsistent results (Javeed et al., 2021).

Second, audit quality is considered a major external mechanism of corporate governance receiving little attention from prior research in the context of performance (Al-ahdal & Hashim, 2022). Jensen and Meckling (1976) and Watts and Zimmerman (1983) suggest that external auditors help to reduce agency problems and prevent the manipulation financial statements. They also work towards reducing information asymmetry between managers and shareholders (Fama, 1980). They also maintain a good relationship with other corporate governance players such as audit committee to enhance the quality of financial reports and internal control system (Baatwah & Al-Qadasi, 2021). However, not all auditors can fulfil these expectations and big4 audit firms are the most providers of high-quality audit (DeFond & Zhang, 2014). In this study, we propose that audit quality can enhance the role of audit committee on company performance because big4 auditors have more qualified staff and experienced partners who can give support to audit committee and complementarily discourage managers from falsifying accounting information (DeFond & Zhang, 2014; Baatwah & Al-Qadasi, 2021). This investigation is rarely considered by prior research. The final reason is that this study consider data from Saudi financial firms. Although Saudi Arabia, under 2030 vision, to diversify its economy activities beyond oil and financial sectors attracting a large portion of global investors, prior research paid little attention on how audit committee affecting the performance of financial companies.

This study uses characteristics such as independence, expertise, size, and frequency of meetings to proxy the effect of audit committee on firm performance. These attributes are overemphasized to influence the effectiveness of audit committee discharging their responsibilities. For example, it is argued that independent directors are crucial for audit committee to conduct independent assessment of the quality of financial reports and preventing managers from opportunistic conducts because these directors are expert and have greater incentives to effective in control markets (Fama, 1980). Also, expertise, particularly financial expertise, is crucial for audit committee members to carry out important duties of the committee, for example, improving the quality of financial reports (Krishnan & Visvanathan, 2008; DeFond et al., 2005). Audit committee size and meeting are also placed as important attributes of effective audit committee because the size determines the pool of expertise that can be included in the committee and the meeting shows how diligent the audit committee to address financial issues in the company Baatwah et al., 2015. However, we observe that some studies report positive effect of these characteristics on the performance and others find negative of insignificant effect (e.g., Al-ahdal & Hashim 2022; Javeed et al., 2021). Thus, this study introduces a moderating effect of audit quality, as proxied by big4 firms, on the effect of these characteristics of audit committee on company performance.

This study employs data from all financial companies listed in the Saudi market over the period 2016-2018, forming 132 year-observations as a sample of testing the study's hypotheses. Based on the pooled panel data regression, the analysis reveals that audit committee size, expertise, independence, and meetings significantly affect the performance of financial companies. In other words, audit committee characteristics are associated with greater performance. As for the moderating effect, the study reports that audit quality, as proxied by Big4 audit firms, positively moderating the effect of audit committee size and meetings on firm performance, while this effect is not observed with audit committee expertise and independence. Thus, the researcher believes that these findings will be interesting for several policymakers and can provide theoretical contributions to the current research on audit committee and firm performance.

As for the remainder of this paper, the sections contain the following contents. The second section address the literature review and the development of hypotheses. This is followed by research methodology in section three. Section four contains the empirical results and related discussions. Final section provides the study conclusion containing recommendations and prospective avenues of future research.

#### 1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Agency theorists posit that company value might experience greater deterioration if the company is associated with self-interest managers (Jensen and Meckling 1976; Watts and Zimmerman, 1983). They suggest that shareholders must be aware of this potential and set mechanisms monitoring such managers and protect their interest and company value. One mechanism for reducing this agency problem audit committee. Audit committee is a subcommittee delegated directly by board of directors to oversight the process of financial reporting, internal control system and risks (Fama & Jensen, 1983; Baatwah & Al-Qadasi, 2021). However, audit committees to perform these responsibilities in effective manner must be equipped a larger pool of independent and financially expert directors who are active in doing these responsibilities (Xie et al., 2003; Klein, 2002).

Empirical investigation across a variety of corporate outcomes (e.g., financial reporting quality, internal control system, company value, etc) has showing significant effect of these characteristics on these measures (Xie et al., 2003; Goh 2009; Krishnan & Visvanathan 2008; DeFond et al. 2005; Al-Matari et al., 2014; Javeed et al., 2021). Thus, this study focuses on these characteristics to show their effect of company performance. It also considers the interaction between these characteristics and big4 audit firms because that prior research reports inconsistent results for the direct effect of

audit committee characteristics and performance (Al-Matari et al., 2012; Qeshta et al., 2021; Al-ahdal & Hashim, 2022) and that audit committee is the most internal corporate governance mechanism interacted with external auditors (Baatwah & Al-Qadasi, 2021).

#### 2.1 Audit Committee Independence and Firm Performance

Independence is said to be the prerequisite quality of an effective audit committee monitoring that it is most recurrently quoted in the current literature and corporate governance guidelines. This contention is built on the assumption that independent outside members are better monitors of management (Sarbane-Oxley Act, 2002; Blue Ribbon, 1999). Independence of an audit committee is frequently deemed an indispensable feature, which greatly affects the committee's effectiveness in supervising the financial reporting process, (Baxter & Cotter, 2009). Better monitoring on managers is assumingly done through independent audit committees as those directors are supposed to have no financial or individual connection with management (Hsu, 2007). Furthermore, independent directors on the committee are decision experts and good at decision control (Abbott et al., 2004; Beasley, 1996). Accordingly, independence of an audit committee can eventually lessen financial deception as well, (Abbott et al., 2004).

This presumption motivates several researchers to examine how audit committee independence affects financial reporting quality (Xie et al. 2003), internal control system (Goh, 2009), and audit quality (DeFond et al., 2005). However, it could nonetheless be said that the connection between the independence of an audit committee and the performance of a firm is uncertain as reported by prior research. In accordance with this postulation, an affirmative association is likely to be established between the performance of a firm and the proportion of non-executive directors of its audit committee. Chan and Li (2008) argued that the independence of an audit committee certainly influences the company's performance as measured by (Tobin's Q). Correspondingly, Ameer, Ramli and Zakaria (2010) have argued in their study that companies with external directors are more likely to demonstrate a better performance as opposed to those that have a preponderance of internal executive and affiliated nonexecutive directors in their audit committees. Al-Mamun et al. (2014) find that audit committee independence improves the performance. Additionally, Javeed et al. (2021) show independent directors on the audit committee is associated with high performance. Conversely, there still is evidence that a negative association is probable between the external (independent non-executive) directors in the audit committee and the performance of a firm. Barka and Legendre (2017), De Jong et al. (2005) and Franks et al. (2001) argued that there is a negative relationship between the percentage of independent non-executive directors in the audit committee and the performance of the firm. Al-Matari et al. (2012) examined how audit committee independence affects firm performance of non-financial firms in Saudi Arabia and found no significant association. Qeshta et al. (2021) report no significant association for audit committee independence and firm performance. Recently, Al-ahdal and Hashim (2022) replicated this finding for Indian sample.

Despite these inconsistent results, the researcher preserves a predication of positive effect of independence of directors of audit committee and firm performance, according to agency theory and to Erickson et al. (2005) who argue that independence of audit committees is expected to decrease agency problems. Also, we test this in unique setting, financial companies, and in a country, Saudi Arabia, that recently revised the constitution of audit committee (Capital Market Authority (CMA), 2017). Therefore, as per the argument above and in view of the agency theory, this study proposes the following hypothesis:

# $H_1$ : The independence of the audit committee members has a positive effect on firm's performance.

#### 2.2 Audit Committee Size and Firm Performance

Concerning the size of audit committees, the resource dependence theory states that the larger the size of the audit committee is, the more positive it is for the firm in terms of progress and development. This theory goes further arguing that a larger audit committee possesses the opportunity that its members can achieve more resources to the company, such as experience and expertise, eventually leading to the effectiveness of an audit committee in observing management, and therefore bringing about high quality monitoring. The Cadbury Report (1992) and the Smith Report (2003) specify that the number of audit committee members must be no less than three; the Sarbanes–Oxley Act (2002) also commands that an audit committee should have at least three members. Buchalter and Yokomoto (2003) suggest that audit committees should be made of three to five members even though it is normally dependent on the size of the company.

It is postulated that there exists a positive association between the size of a firm's board and its performance. Several studies in this regard have supported such assumption (Alqatamin, 2018; Zraiq & Fadzil, 2018; Javeed et al., 2021). Dalton, Daily, and Johnson and Ellstrand (1999) confirmed the existence of a positive relationship between the size and monitoring process of the audit committee that gives rise to greater performance. Mohd Saleh et al. (2007) emphasized that audit committees with more members are more probable to enjoy miscellaneous skills and knowledge, which in turn is expected to improve monitoring. Such findings were afterwards sustained by Mir and Souad (2008). In a different vein, Al-Matari et al. (2012) find that audit committee size is negatively associated with lower firm's performance. Qeshta et al. (2021) find audit committee size insignificantly affecting firm performance. Similarly, no significant association for audit committee size and firm performance is reported by Al-ahdal and Hashim (2022).

It is assumed in this study that it is probable that a bigger audit committee is more prospective to offer upgrading in corporate governance practice, and to eventually bring about a better performance of a firm. This prediction is supported by resource dependency theory, and the researcher believes the requirement of audit committee size in Saudi Arabia is not very large that may challenge the harmony and effectiveness of audit committee (CMA, 2017). Accordingly, the hypothesized effect of audit committee on firm performance is formed as follow:

#### $H_2$ : The audit committee size has a positive effect on firm's performance.

#### 2.3 Audit Committee Meeting and Firm Performance

There exist quite a considerable number of studies and governance practice guidelines, which urge audit committees to be meticulous in fulfilling their obligations (Beasley et al., 1999; Horton et al., 2000; Blue Ribbon, 1999). As a common practice, studies conducted on audit committees look into the number of meetings held annually by audit committees and employ it as a substitution for the diligence of an audit committee. Accordingly, it is proposed by previous research studies that audit committees with frequently more regular meetings are more likely to diminish the possibility of financial reporting problems. This is so because when external auditors and managers holding frequent meetings, for example, an audit committee is more likely to maintain consistent knowledge and information on accounting and risk management, and it is expected to deal with challenging accounting and auditing issues more effectively (Raghunandan et al., 1998).

Therefore, it could safely be stated that the number of meetings of an audit committee is regarded as a substitute for its activity (Xie et al., 2003). For that reason, an audit committee holding frequent meetings with its inside auditors is more likely to be better learned about auditing and accounting issues. Once a difficult auditing or accounting issue comes up, the audit committee can administer

the appropriate level of internal audit function to tackle that issue on time. In this respect, empirical evidence illustrates that holding frequent meetings by audit committees greatly contributes to the alleviation of several issues together with the agency problem, eventually swaying on the firm's performance. For example, Vafeas (1999) asserted a constructive association between frequent meetings and the performance of a firm. Further related studies in Malaysia stated that frequent meetings of an audit committee are additional important mechanism affecting the performance of a firm, (Mohd Saleh et al., 2007; Rashidah & Mohamed, 2006). Recently, Javeed et al. (2021) find more meetings held by the audit committee is associated with higher firm performance.

However, Kyereboah-Coleman (2007) also consolidated those findings mentioned above using Tobin's q but appears to have no association with return on asset (ROA). Al-Matari et al. (2012) find that audit committee meetings is not associated with firm's performance. Qeshta et al. (2021) find audit committee meetings insignificantly affects firm performance for Bahrani firms. Al-ahdal and Hashim (2022) in a recent study find audit committee meeting do little effect of firm performance for Indian firms. According to the Saudi Code on Corporate Governance (CMA, 2017), companies are urged to hold minimum four meetings so that an audit committee would be able to comply with the audit cycle and the timing of released yearly reports along with other meetings responding to circumstances that come up over the financial year. Thus, although the evidence is not conclusive, this study maintains the argument suggesting active audit committees, as proxied by meetings, would have greater influence on firm performance for financial firms in Saudi Arabia. Accordingly, the following hypothesis is postulated as following:

## *H<sub>3</sub>: The frequencies of audit committee meeting have a positive effect on firm's performance.* **2.4** Audit Committee Financial Literacy and Performance of Firm

The importance of the financial literacy and expertise of an audit committee members is evidently shown through the recommendation of the Blue-Ribbon Committee on Improving the Effectiveness of Corporate Audit Committees (BRC)'s (1999) that each audit committee should have no less than one financial expert. Sarbane-Oxley Act 2002 set new rules stipulating the availability of knowledge, as a minimum, one financially well-informed director on the audit committee. The New York Stock Exchange (NYSE) registered company manual, however, entails that all members of the audit committee be financially competence. Having financial and accounting knowledgeable members of an audit committee is likely to bring about a better familiarity of auditing issues and risks, in addition to the audit measures suggested to deal with and identify these issues and risks (DeZoort & Salterio, 2001).

Furthermore, DeZoort and Salterio (2001) have further argued that possessing financial reporting and auditing knowledge by audit committee members qualifies them more for acquainting themselves with auditor judgments and backing the auditor in auditor-management disputes than members lacking such knowledge. In addition, financially well-informed members are more probable to deal with and notice material misstatements. Financial expertise of audit committee members helps them do their oversight roles in the financial reporting process more effectively, such as identifying material misstatements and earnings manipulation (Scarbrough et al., 1998; Raghunandan et al., 2001). These abilities of audit committee financial expertise have been reported by several empirical studies. For example, Krishnain and Visvanathan (2008) examines how audit committee financial expertise curbs earnings management and find companies with such expertise have lower earnings management. Goh (2009) finds financial expertise of audit committee not associated with material internal control weakness. Other studies support the benefit of having financial expertise in audit committee at various company outcomes (DeZoort & Salterio 2001; Xie et al. 2003; Abbott et al., 2004; DeFond et al., 2005).

Also, audit committee financial expertise is also linked with firm performance, but the evidence is not conclusive. For example, Javeed et al. (2021) find audit committees with financial expertise are associated with higher performance. Musallam (2020) finds an increase in the performance of firms with audit committee financial expertise. Chaudhry et al. (2020) find the financial expertise of audit committee is associated with greater performance. However, there are a number of studies showing no influence of audit committee financial expertise on firm performance (Al-Matari et al., 2012; Al-Mamun et al., 2014; Qeshta et al., 2021; Al-ahdal & Hashim, 2022). In Saudi Arabia, it is mandatory that audit committee members should have adequate familiarity with financial issues (CMA 2017). Thus, it is predictable that companies in Saudi Arabia with a minimum of one financially informed director on their audit committees offer an additional helping factor for the performance of the company. Thus, in accordance with the agency and resource dependence theories, the hypotheses are postulated as follows:

# H<sub>4</sub>: The financial literacy of the audit committee has a positive effect on firm's performance. 2.5 Audit Quality as Moderating between Characteristics of Audit Committee and Performance of Firm

Generally, there is allegation that statements of financial given by Directors Board to the shareholders have been ensured its accuracy and reliability by external auditor (Mautz & Sharaf, 1961). Furthermore, Fama (1980) mentioned that there is an effort spent by external auditor in order to avoid asymmetry information between shareholders and management, to settle problems of agency and avoid manipulation information of accounting (Jensen & Meckling, 1976; Watts & Zimmerman, 1983). In other words, the external auditor is crucial in maintaining the gap between shareholders and management of the firm (Fama & Jensen, 1983). However, the extent literature suggests that not all auditors are eligible to reduce the agency problem and ensure the quality of financial information and those auditors associated with big4 audit firms can provide high-quality audit (DeFond & Zhang 2014). This type of auditors are characteristics as more independent and expert who can detect, prevent, and report any misconducts committed by managers (DeAngelo 1981). Empirical research asserts that big4 audit firms are effective in supplying high quality audit, as proxied by lower earnings management, accounting fraud, financial restatements, and high-quality internal audit (see DeFond & Zhang, 2014 for review for these studies).

In this study, the moderating effect of audit quality on the effect of audit committee characteristics is a major interest in this investigation. It is common among regulators, investors, and researchers that external auditors and audit committee are the primary parties responsible to monitor financial reporting and ensure managers disclose the real performance of the firm (Al-ahdal & Hashim, 2022). However, based on the review above, the evidence on the effect of audit committee characteristics appears mixed and tends to suggest that audit committee do nothing to protect the interest of shareholders and improve the firm value. On the other hand, the limited emerged research on the effect of audit quality on firm performs suggest that audit quality is positively associated with greater firm performance (Al-Mamun et al., 2014; Rahman et al., 2019; Al-ahdal & Hashim, 2022). Thus, Al-ahdal and Hashim (2022) note that external auditors who performing their audit duties in an appropriate and professional manner are in the position to increase the firm performance. Thus, this study assumes that audit quality as proxied by big4 audit firms may moderate the effect of audit committee characteristics of firm performance because explaining the inconsistent results for well-theorized effect is best studied by moderators (Javeed et al., 2021). Therefore, this study expects that audit quality enhances audit committee characteristics, generating an improved performance and therefore, the study proposes the following hypotheses for testing:

H<sub>5</sub>: There is a moderating effect of audit quality on the effect of independence of audit committee and performance of firm.

 $H_6$ : There is a moderating effect of audit quality on the effect of size of audit committee and performance of firm.

H<sub>7</sub>: There is a moderating effect of audit quality on the effect of meeting of audit committee and performance of firm.

 $H_8$ : There is a moderating effect of audit quality on the effect of financial literacy of audit committee and performance of firm.

On the ground of the theoretical gaps in the literature in relation to the effectiveness of audit committee and the performance of a firm, Figure 1 presents the theoretical framework of the study.

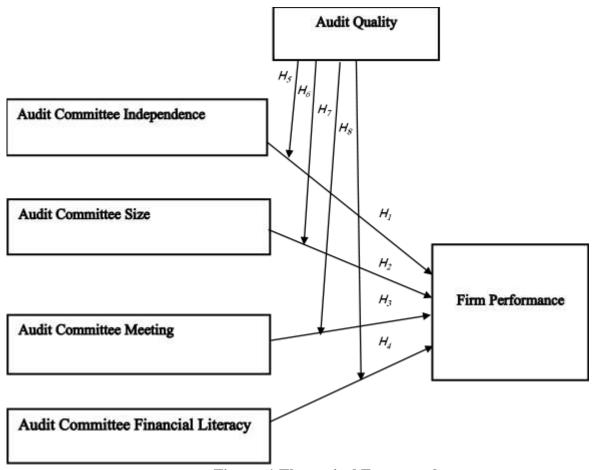


Figure. 1 Theoretical Framework

#### 2. METHODOLOGY AND RESEARCH MODEL

### 3.1 Data Collection and Sample Selection

As far as the target populations of the current research is concerned, it should be stated that all the registered Saudi companies under financial sector represent the paper's population. In this study, registered companies in Saudi Stock Exchange (Tadawul) are used to represent this population because data for corporate governance is not publicly available. As at the end of 2018, the total number of financial companies listed in Tadawul consistent 44 registered companies. Then, the data for these companies are traced over the period 2016-2018 This makes the study's sample made up of 132 firm-year observations. As for data, the study uses data in annual audited reports available at Tadawul website. Data for audit committee characteristics are mainly collected from corporate

governance reports while for audit quality from the audit report. Audited financial statements are used to obtain data for control variables.

#### 3.2 Measurement of the Variables

Based on previous studies (e.g., Mohd-Saleh et al., 2007; Al-Matari et al., 2012; Al-Mamun et al., 2014; Rahman et al., 2019; Javeed et al., 2021; Al-ahdal & Hashim, 2022), this study adopt the measurements for all variables included in this study. For example, the dependent variable of this study is firm performance and the present study employed return on assets (ROA) as the measurement of financial performance for the designated companies. ROA is defined as the net income before interest expense for the fiscal period divided by total assets for that same period. It demonstrates the totality amounts of earning produced out of an invested capital assets and incorporates firm's profitability.

As for our independent variables, audit committee characteristics, this study follows that stream of research to measure these characteristics. For example, audit committee independence (ACINDEP) was measured by the number of independent non-executive directors in the audit committees divided by the total number of audit committee members. As for the size of the committee (ACSIZE), it was defined by the total number of audit committee members. Concerning audit committee meeting (ACMEET), the total number of audit committee meetings held throughout the year was employed. In a similar vein, the audit committee financial literacy (ACFAL) was measured by the proportion of audit committee members with accounting/financial qualification to the total number of audit committee members year. As for the moderator variable, audit quality, this study used big4 audit firms to proxy audit quality (000), and the indicator variable equals one if the external auditor of the company is one of Big4 audit firms (Ernst, Young, Deloitte, KPMG, or PwC) and zero otherwise.

The study includes some variables like firm size, leverage, and industry as control variables because prior research asserts significant association between these variables and firm performance (Al-Matari et al., 2012; Al-Matari et al., 2014; Javeed et al., 2021Al-ahdal & Hashim, 2022). This study used firm size as a control variable and was measured by using the book value of the total company assets. This study also used leverage as a control variable and measured it by dividing total of liabilities by the total of assets. It also includes the banking as control variable representing the type of sector as the companies affiliated with this type may have different performance indicators. Thus, the banking sector is represented by a dummy variable equals one if it is a company from bank sector, and zero otherwise.

#### 3.3 Models Specification

This study used two models to test the effect of audit committee on firm performance of Saudi listed companies. The direct effect of audit committee characteristics on firm performance was analyzed by using model 1 as follows.

```
ROA = \beta_0 + \beta_1 ACINDEP + \beta_2 ACSIZE + \beta_3 ACMEET + \beta_4 ACFAL + \beta_5 FSIZE + \beta_6 DEBT + \beta_7 BANKS + \epsilon
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The moderating effect of audit quality on the effect of audit committee characteristics on firm performance was analyzed by using model 2 as follows.

```
ROA = \beta_0 + \beta_1 ACINDEP\_Big4 + \beta_2 ACSIZE\_Big4 + \beta_3 ACMEET\_Big4 + \beta_4 ACFAL\_Big4 + \beta_5 ACINDEP + \beta_6 ACSIZE + \beta_7 ACMEET + \beta_8 ACFAL + \beta_9 Big4 + \beta_{10} FSIZE + \beta_{11} DEBT + \beta_{12} BANKS + \epsilon
```

Where:

ROA - Return on assets,

B0 – Intercept,

ACINDEP – Audit committee independence,

ACSIZE – Audit committee SIZE,

ACMEET – Audit committee meeting,

ACFAL – Audit committee financial literacy,

ACPROF – Audit committee member of accounting professional body,

Big4 – Audit quality,

ACINDEP\_Big4 – Interaction term between audit committee independent and audit quality,

ACSIZE Big4 - Interaction term between audit committee size and audit quality,

ACMEET\_Big4 - Interaction term between audit committee meetings and audit quality,

ACFAL\_Big4 - Interaction term between audit committee financial expertise and audit quality,

FSIZE – The book value of the total assets of company,

DEBT – The percentage of total liabilities to total assets,

BANKS - Banking sector,

 $\epsilon$  - Error term.

To run these models, this study used pooled panel data regression, following prior research (e.g., Al-Matari et al., 2012; Javeed et. al., 2020; Qeshta et al., 2021). This technique is also selected because this study includes an indicator variable for bank sector. This variable is not time-variance and will be deleted if fixed effect model is used. Nonetheless, Hausman and Breusch-Pagan Lagrange Multiplier tests were conducted to choose among panel data models and the untabulated results tend to support using pooled panel data regression. Prior to run the analysis, panel data common assumptions such as heteroskedasticity and autocorrelation were examined and revealing that both issues are not a concern for this study. For creating the interaction terms testing the moderating hypotheses, this study used mean-centering for continuous components to reduce the high collinearity between the components and the interaction term. Thus, the interaction terms are a product of multiplying the centered value of audit committee characteristics and the indicator variable of Big4 audit firm. All empirical findings were obtained used EViews software version 10.

#### 3. RESULTS

#### **4.1 Descriptive Statistics**

The descriptive statistics were conducted by using the mean, standard deviation, minimum and maximum. Table 1 presents the descriptive statistics for all variables. For the dependent variable, the results shows that the performance of financial companies as measured by ROA is, on average, 0.472 which indicates that ROA tends to be high on the average. As for audit committee characteristics, the table shows the minimum number of ACMEET is 2 and maximum number is 23, while the average of ACMEET is about 7 meetings. The findings imply that the average of ACFAL is 0.618. Moreover, the findings imply that the average of ACINDEP is 0.698. The results also show that the average of ACSIZE is about 4 where the largest committee constitutes 5 directors, and the smallest has 2 directors. As for audit quality, the results suggest that the average of Big4 audit firms is 43.9% with standard deviation of 0.664. Moreover, the descriptive statistics of control variables are shown in Table 1 and suggest that the mean of firm size (FSIZE) is 281milion. The findings imply that the mean leverage (DEBT) of the sample companies is 1.913, with a maximum of 5.750 per cent and a minimum of 0.667.

Table 1. Results for Descriptive Statistics									
						Std.			
Variable	Obs	Mean	Median	Max	Min	Dev.	Skewness	Kurtosis	VIF
ROA	132.00	0.472	0.017	44.754	(0.799)	4.060	2.113	3.551	2.521
ACFAL	132.00	0.618	0.667	1.000	0.000	0.228	0.421	2.221	3.022
ACINDEP	132.00	0.698	0.667	2.000	0.000	0.302	1.131	3.431	2.230
ACMEET	132.00	6.595	6.000	23.000	2.000	2.836	1.513	5.351	3.021
ACSIZE	132.00	3.595	3.000	5.000	2.000	0.811	2.312	6.314	2.122
Big4	132.00	0.439	1.000	1.000	1.000	0.664	0.413	1.122	1.012
DEBT	132.00	1.913	1.750	5.750	0.667	0.871	3.312	5.414	2.632
*FSIZE	132.00	281	43.796	3.650	329.873	556	0.512	5.621	1.952
**BANKS	132.00	0.252					3.650	4.813	2.821

<sup>\*</sup>Note: value of firms in Million \*\* Bank is dichotomous variable, so this study omitted the mean and standard variation as it has no meaning.

#### 4.2 Correlation Analysis

In addition, Table 2 shows the correlation analysis among the variables which based on Pearson correlation test. This analysis can show the degree of correlation between two variables and can provide assessment for the present of multicollinearity problem. The table suggests variables such as ACFAL and ACINDEP have modest correlation coefficient with ROA while others have very small coefficients. As for the correlations between independent variables, the highest is between ACMEET and DEBT which is lower than the threshold of multicollinearity issue (0.70).

Table 2. Results of Correlation matrix									
Variables	ACFAL	ACINDEP	ACMEET	ACSIZE	BANKS	FIRMS	ROA	LEVGE	Big4
ACFAL	1								
ACINDEP	0.184	1							
ACMEET	0.073	-0.167	1						
ACSIZE	-0.334	-0.154	0.009	1					
BANKS	-0.126	-0.023	-0.203	0.291	1				
FSIZE	0.007	0.134	-0.028	0.032	-0.019	1			
ROA	-0.125	-0.122	-0.086	-0.035	-0.063	-0.056	1		
DEBT	0.180	-0.077	0.497	-0.401	-0.278	-0.056	-0.093	1	
Big4	0.164	0.178	0.159	0.148	0.139	0.119	0.195	0.091	1

#### 4.3 Regression results

Finally, the regression analysis was carried out in order to test the hypothesized effects of the study variables. Based on the results shown in Table 3, The results show that  $R^2$  value indicates that 28.9% of firm performance variation (ROA as proxy) explained by the model's chosen independent variables. The results of the model's significance with F value obtained to be (F=2.5281, p<0.01) and the adjusted  $R^2$  is 17.5%; the adjusted  $R^2$  expressions at whether other input variables are contributing to this model.

The results show that ACFAL has a positive and significant effect on ROA ( $\beta$  = 1.390, t= 2.064, p<0.05), hence Hypothesis 1 is supported. The results also found that ACINDEP has a positive and significant effect on ROA ( $\beta$  = 1.410, t = 2.261, p <0.05), hence Hypothesis 2 is supported. Similarly, ACMEET has a positive and significant effect on ROA ( $\beta$  = 1.258, t= 1.811, p<0.05),

hence Hypothesis 3 is supported. The results also found that ACSIZE has a positive and significant effect on ROA ( $\beta$  = 2.655, t = 2.201, p <0.05), hence Hypothesis 4 is supported.

Table 3. Results of Regression of the direct effect on Performance*							
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
ACFAL	1.390	0.674	2.064	0.020			
ACINDEP	1.410	0.624	2.261	0.012			
ACMEET	1.258	0.695	1.811	0.035			
ACSIZE	2.655	1.206	2.201	0.014			
FIRMS	0.000	0.000	0.702	0.241			
LEVGE	5.093	2.442	2.085	0.019			
BANKS	0.539	0.870	0.619	0.268			
R-squared				0.289			
Adjusted R-squared				0.175			
F-statistic				2.528			
Prob(F-statistic)	_		_	0.0016			
<b>Durbin Watson</b>	_		_	2.153			

<sup>\*</sup>Dependent variable is performance as measured by ROA

### 4.4 Testing the Moderating Effect of Audit Quality

As illustrated in Table 4, the moderating effect of audit quality (Big4 as proxy) on the effect of audit committee characteristics on firm performance was examined. The results shown in Table 4 suggest that Big44 has no significant moderating effect on the effect of ACFAL on ROA ( $\beta$  = 2.251, t= 0.742, p>0.05). Similarly, the results indicate that BIG4 has no significant moderating effect on the effect of ACINDEP on ROA ( $\beta$  = 0.134, t= 0.059, p>0.05). These results are contrasting hypothesis 5 and 8. Consistent with the prediction, the results indicate that BIG4 has a positive and significant moderating effect on the effect of ACMEET on ROA ( $\beta$  = 1.166, t= 2.792, p<0.05). Likewise, the results indicate that BIG4 has a positive and significant moderating effect on the effect of ACSIZE on ROA ( $\beta$  = 1.166, t= 2.792, p<0.05). These results are in line with the hypothesis 6 and 7.

Table 4. Regression Results of the Moderating Effects of Audit Quality							
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
BIG4_ACFAL	2.251	3.033	0.742	0.459			
BIG4_ACINDEP	0.134	2.250	0.059	0.953			
BIG4_ACMEET	1.166	0.417	2.792	0.006			
BIG4_ACSIZE	1.591	0.721	2.209	0.029			
ACFAL	1.289	0.663	1.944	0.026			
ACINDEP	1.441	0.635	2.269	0.012			
ACMEET	1.198	0.675	1.775	0.038			
ACSIZE	2.433	1.111	2.190	0.014			
Big4	1.590	0.611	2.602	0.005			
BANKS	0.393	0.986	-0.398	0.691			
FIRMS	0.000	0.000	-0.584	0.560			
LEVGE	-3.602	2.474	-1.456	0.148			
R-squared				0.246			
Adjusted R-squared				0.140			

Table 4. Regression Results of the Moderating Effects of Audit Quality							
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
F-statistic				3.930			
Prob(F-statistic)				0.000			
<b>Durbin Watson</b>				2.271			

Dependent variable is performance as measured by ROA

#### 4.5 Results and Discussion

According to what was previously presented in the results report above, this section is discussing the study's results. As stated earlier, in the current study, there is two core points have to be examined, the first, attempt to investigate the relationship between structure of audit committee (ACFAL, ACINDEP, ACMEET and ACSIZE) and corporate performance (ROA). The second essential objective is to investigate the moderating effect of audit quality on the relationship between audit committee structure and corporate performance. Therefore, this study reveals that the audit committee concentration has a positive and significant association to ROA and therefore supporting the hypothesis H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub>, and H<sub>4</sub>. This study is similar with prior research that found a positive and significant relationship between audit committee characteristics and corporate performance in countries countries like Al-Matari et al. (2014), Ameer, Ramli and Zakaria (2010); Chan and Li (2008); Erickson, Park, Reising, and Shin (2005); Mohd Saleh et al. (2007); Rashidah, and Mohamed (2006).

The positive and significant relationship between audit committee major (ACFAL) and corporate performance can be accredited to the fact that majority of audit committee about 62% major in finance or accounting which support their performance and corporate performance. Regarding the audit committee independence (ACINDEP) the results show that ACINDEP is linked to corporate performance, which is consistent with both the global code and Saudi corporate governance (CG) code, as well as, prior findings. For instance, Buallay (2018) supported the key role of audit committee independence on the adherence of CG auditing practices to a standardized financial report.

In addition to the above, the positive relationship between ACINDEP and ROA can also be related to the assumptions of the theory of agency and theory of resource dependence, which states that autonomous independent reviewers, who have the freedom of making experienced decisions, errors detection and the like, can easily facilitate effective work and provide unbiased judgment.

The finding reveals that audit committee meeting (ACMEET) is related to a higher level of ROA which is consistent with prior findings. The audit committee help executive management which has become one of important elements in the context of what the company is doing to maximize shareholder value which increase corporate performance; therefore, the regular meeting of audit committee is important to facilitate decision-making of the board enables performance improvement. Likewise, the results reveal that audit committee size (ACSIZE) is related to a high ROA. The result is also consistent with the statement of the Blue-Ribbon Committee (1999) regarding to the importance of improving corporate audit committee effectiveness through the setting up of the Cadbury Commission, and through ensuring that committees should have at least three members.

#### 5. Conclusion

The consequence of effective and good audit committee characteristics has been increasingly focused on in both public and regulatory fields, with a crucial audit committee characteristics component being its internal audit function. Meanwhile, public concern of the fraud level within organizations has been increasing, necessitating the examination of the audit quality to avoid the 89

fraud. Accordingly, this paper is a pioneering one in investigative moderating effect of audit quality on the relationship between audit committee characteristics and the performance of financial companies.

Moreover, this paper provided empirical evidence regarding the direct impact of audit committee characteristics on the performance on financial companies in the context of Saudi listed firms. The study's sample is made up of 132 firm-year observations for 2016 to 2018. As for data, they were collected by means of the company's yearly reports as revealed on Tadawul web site.

The paper employed EViews, version 10. and the regression analysis was carried out in order to test the hypothesized relationships of the study variables. Based on the empirical findings, audit committee characteristics (ACFAL, ACINDEP, ACMEET and ACSIZE) significantly impact the performance of financial companies. This paper is one of the pioneering one in investigative moderating effect of audit quality on the relationship between audit committee characteristics and the performance of financial companies in Saudi Arabia, as a developing nation. This paper also contributes through its explanation of the underpinning theories (agency theory and resource dependence theory) in providing insights into performance of financial companies in the Saudi context.

This paper has its own limitations, with the first being that its scope is limited to examining the moderating effects of audit quality on the relationship between audit committee characteristics and the performance of financial companies among Saudi listed financial firms. In the future, authors can embark on investigative the same variables but in the GCC context. This study is also limited in confining its moderating effects testing to audit quality and, in this regard, future works can be dedicated to examining other moderating variables like internal audit mechanisms, board characteristics, risk committee characteristics, remuneration committee characteristics, among others on the performance of financial and non-financial companies. The paper is also limited in its use of ROA as a proxy for performance of financial companies. Future studies can use different accounting measures and market measures that can provide a more comprehensive insight into firm performance.

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