



# Audit Committee Effectiveness and Earnings Quality: Perception-based Evidence from Uganda

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## Authors' contributions

This work was carried out in collaboration among all authors. Authors DK and TKK did the study conception and design. Author Ms. DK did the data collection. Authors DK and TKK did the data analysis and interpretation. Authors DK, TKK, INK, RM and PN did the data manuscript and preparation: All authors reviewed the results and approved the final version of manuscript.

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## ABSTRACT

This study aims to (1) determine the association between audit committee effectiveness and earnings quality. (2) examine whether all the audit committee effectiveness attributes such as independence, financial expertise, diligence, resources and authority are significantly related to earnings quality.

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**Methodology:** The study used a cross-sectional and correlational research design. Data were collected using a survey research instrument from the Chief Finance Officers and Heads of internal audit departments of 136 regulated firms in Uganda. Data were analyzed using the Statistical Package for Social Scientists V.26.

**Findings:** The findings indicate that audit committee effectiveness is positive and significantly associated with earnings quality. The study also reveals that amongst all the dimensions of audit committee effectiveness, only audit committee financial expertise has a positive and significant effect on earnings quality in regulated firms in Uganda.

**Research implications/Limitations:** This study focused only on regulated firms in Uganda. Future studies could be carried out in unregulated firms in Uganda.

**Originality/Value:** The study is one of the few studies that examines earnings quality using a perception-based approach. Also, the study reveals that only audit committee financial expertise explains more variations in earnings quality than the other four dimensions do, in regulated firms in Uganda.

*Keywords: Audit committee effectiveness; earnings quality; AC financial expertise; Uganda.*

## 1. INTRODUCTION

Scholars, regulators, and academics have given recent financial misreporting crises a great deal of attention [1,2]. This is because high earnings quality (EQ) serve as a foundation for decision-making, allowing firms to secure funding, permitting nations to draw in inexpensive capital, and guaranteeing effective resource allocation [3,4,5] (Demerjian *et al.*, 2003). Harymawan & Nurillah, [6] emphasize that high earnings quality allow stakeholders acquire sufficient accountability, credibility, and confidence from the financial statement data. As a result, the 2018 conceptual framework makes it very evident that the goal of financial reporting is to give users access to financial statement data that guides their decisions. Such information in financial reports must be relevant and faithfully represented in order for stakeholders to make valid decisions (IASB, 2018).

Globally, evidence of low EQ has continued to be a growing source of worry. For instance, Steinhoff firm overstated transactions worth US\$ 7.4 billion (PWC Report, 2019), Hertz Global Holdings misstated its pretax income worth US\$ 235 million [7], and FTE Networks inflated its revenues by as much as 108% [8], among others. The story is not any different in Uganda (See, [9,10]; PWC Nyonyi Report, 2016; Mugisha, [11]). Further, interventions have been put in place to improve earnings quality in Uganda such as re-engineering of corporate governance through training of boards, establishment of risk management models, implementation of information technologies and international financial reporting standards (Bank

of Uganda Supervisory Report, 2019). However, this has not been a worthwhile endeavor in improving earnings quality. Yet, Public interest firms are required by the Companies Act (2012), Sect. 54(2), to set up audit committees that can curb the opportunistic actions of the financial statement preparers. According to Zgarni *et al.* [12], audit committee (AC), is in charge of monitoring the company's financial reporting procedure and guaranteeing accuracy of financial reports.

Available accounting studies document factors that affect earnings quality such as existence, size, independence, expertise, and AC meetings [12]; differential reporting [13]; related party transactions [14]; gender board diversity and remuneration [15]; and corporate governance [16]. With exception of size, Lin *et al.* [17] show that AC independence, financial activity, and stock ownership are not substantially correlated with earnings quality. Kong *et al.* (2011) indicated that size, activity, independence, and expertise lessen earnings management. In addition, Makhlof [18] using content analysis approach confirmed that financial misreporting is mitigated by independence, financial expertise, and inclusion of female members. Some of the earlier research on earnings quality (see, Lin *et al.*, [17]; Zgarni *et al.* [12]) were carried out in developed countries, employed panel data, content analysis (see, Makhlof, [18]), while others conducted synthetic literature reviews [19]. Bananuka *et al.* [20] used a questionnaire survey, although this was restricted to a small sample of 52 State Corporations. As indicated by Belal & Owen [21], content analysis studies might not directly provide managerial incentives to improve earnings quality. It thus becomes challenging to

modify practice in light of the findings of these recent studies [22]. Thus, doing a perception-based study is essential to this study. Furthermore, questionnaires are a more objective way to capture respondents' viewpoints than interviews or other subjective study evaluations [23].

To the authors knowledge, there are minimal studies investigating the association between audit committee effectiveness (ACE) and EQ using a perception-based approach in Uganda. Accordingly, previous studies have not specifically examined individual contributions of the attributes of ACE on EQ. Furthermore, prior studies [1,18,12,17], have been carried out in developed countries. As such, this study adds to existing literature on EQ using evidence from Uganda. This study provides first time empirical evidence that ACE significantly improves EQ. The findings further reveal that AC financial expertise explains more variances in EQ than the other four attributes. This study aims to conduct a survey of 136 regulated firms. The results of this study are important for several reasons. First, they contribute to existing literature by showing that when audit committees are effective, earnings quality is enhanced. This is important for firm owners and stakeholders who base on earnings information to make valid decisions. Second, the study is important for policymakers and regulators that the financial expertise of AC members is critical if firms are to report high earnings quality.

The remainder of this paper is organized as follows. Section 2 presents methodology. This is followed with results and discussion in section 3. The final section presents a summary and conclusions.

## 1.1 Theoretical Foundation

### 1.1.1 Agency theory

The concept of conflicting objectives between two parties in an agency relationship is addressed by this theory [24]. The agents (managers) and principals (shareholders) are normally the two parties to a contract. This theory advances opportunism and divergent interests that can lead to disputes between managers and owners. Because they have access to knowledge, agents in an agency environment act against the best interests of principals in favor of their own personal interests. As such, the

principal enforces governance mechanisms, such as effective audit committees to reduce information asymmetry. The use of effective audit committees that are independent, have financial expertise, authority, are resourced and diligent reduces information asymmetry because it gives owners access to quality information that is transparent and, at the same time, enhances management's accountability. However, this theory tends to focus on managers' individual actions rather than including possible environmental factors that influence managers' propensity to declare results [25].

### 1.2.1 The Institutional theory

The theory assumes that businesses choose structures that are deemed as legitimate organizational choices [26]. Such governance structures, such as audit committees, are defined by the rule of law. Institutional theory presents two main dimensions: decoupling and isomorphism [26]. Both dimensions of institutional theory are considered relevant in explaining earnings quality in Uganda. Decoupling is defined as a difference between the real performance and espoused performance of a firm in the financial statements, caused as a result of organizations being seen to comply with the norms, but yet in actual sense, they continue with their internal practice with no genuine change in corporate behavior [25]. As such, organizations continue to report low-quality earnings despite the norms in place. Second, the isomorphic pressures entail coercive, mimetic, and normative [26] pressures. These drive organizations to report high-quality earnings once they are responded to. Coercive isomorphism refers to the pressure that stakeholders put on a firm to report high quality earnings. Such stakeholders include Institute of Certified Public Accountants of Uganda (ICPAU) through their annual Financial Reporting Awards (FIRE Awards) and the Institute of Corporate Governance of Uganda (ICGU), which may put pressure on firms to adopt corporate governance practices (effective audit committees) that may lead to high-quality earnings. Mimetic pressures refer to imitation of other firms that are seen as successful in relation to reporting high earnings quality. Finally, Normative Isomorphism entails professionalization of producers of earnings quality, usually attained through education, continuous training, and certification. Accountants with professional ethics or norms are likely to produce high-quality earnings.

## 1.2 Empirical Studies

### 1.2.1 Audit committee effectiveness and earnings quality

Studies (see, Kalembe et al. [27]; Mardessi, [1]; Makhoulf, [18]; Jaggi & Leung, [28]) that investigated the relationship between audit committee effectiveness and earnings quality are scarce. For instance, Makhoulf [18] concludes that audit committee characteristics such as independence, financial expertise, and female members mitigate earnings manipulation. Kalembe et al. [27] revealed that audit committee effectiveness is positively related to earnings quality. Further, Jaggi, & Leung [28] reported that audit committees play a significant role in constraining earnings management in Hong Kong. Much as these studies suggest a relationship between ACE and earnings quality, few studies have taken into consideration the effect of ACE core characteristics as a bundle [29] on earnings quality. This study intends to close this gap. Based on the above, the following hypothesis is proposed:

*H<sub>1</sub>: There is a positive relationship between audit committee effectiveness and earnings quality*

### 1.2.2 Audit committee independence and earnings quality

A study by Mardessi [1] using panel data reported that AC independence has a statistically significant relationship with real earnings management. Mohd Saleh et al. [30] documented that the presence of a fully independent AC reduces earnings management practices. Similarly, Almarayeh et al. [31] reported that independent audit committees constrain earnings management among listed firms in Jordan. Kamarudin et al. [32] concluded that an AC with more independent board members is correlated with a higher level of abnormal accruals and likelihood that firms restate earnings. Further, Hasan *et al.* [33] and Amin et al. [34] reported similar results. However, Gerayli *et al.* (2022) argued that AC independence has no significant effect on corporate FRQ. Whereas we are aware that independent AC members should give independent evaluations of the financial statement data, the direction of this relationship in Uganda is less known and therefore remains an empirical issue. We therefore hypothesize that;

*H<sub>2</sub>: AC independence has a positive relationship with earnings quality.*

### 1.2.3 AC financial expertise and earnings quality

AC efficiency is thought to depend on presence of a financial expert because the committee is required to carry out a variety of tasks that demand a high level of financial expertise. Hasan et al. [33] indicated that an AC's accounting expertise constrains earnings management. Similarly, Mardessi [1] confirms that the financial expertise of AC improves the quality of reported earnings. Also, Zadeh et al. [35] document that audit committee financial expertise affects accrual earnings management. In addition, Xia et al. (2024) reports that accounting and supervisory expertise of audit committee members mitigates both accrual and real earnings management activities in U.S. Kunsandi et al. [36] also reported that presence of an AC with accounting expertise improves financial reporting quality. In addition, Carrera et al. [37] concluded that a higher proportion of AC members with financial expertise decreases financial reporting quality. We thus hypothesize that;

*H<sub>3</sub>: AC financial expertise is positively related to earnings quality.*

### 1.2.4 AC diligence and earnings quality

Prior academic studies [38,39] highlighted that an AC can only fulfill its functions through frequent meetings. For instance, Ahmed Hajji and Anifowose, [38] concluded that AC meeting has a significant positive impact on integrated reporting. Further, Qamhan et al. [39] revealed that earnings management and members' attendance at AC meetings are negatively associated. In addition, a longitudinal study conducted by Khlif and Samaha [40] reported that the number of AC meetings enhance internal control quality and is negatively associated with management reporting lag. However, Mangala and Singla [41], documented that diligence does not restrain earnings management in the banking industry of India. Similarly, Almarayeh et al. [31] also report that AC meetings do not significantly affect discretionary accruals. Majority of these studies understand diligence in terms of only meetings but they ignore other roles played by the audit committee such as review of internal auditor' compliance with rules and regulations

among others. This study intends to address this Lacuna and therefore hypothesizes that;

*H<sub>4</sub>: AC diligence is positively related to earnings quality.*

### 1.2.5 AC authority and earnings quality

Previous studies on association between AC authority and information quality are limited [42,43]. The assumed responsibilities of AC members are written in AC charter, which includes supervising internal auditors, external auditors, and demanding that all accounting transactions are included in books of accounts [42,44]. While some earlier studies, such as those by Dezoort et al. [42], Ika and Ghazali, [43], Ahmed Haji and Anifowose [38] considered authority exercised by audit committee members as a significant factor in their effectiveness, majority of studies have largely ignored it. In addition, as their primary focus was on performance of AC, Tumwebaze et al. [45] called for future research to explore other facets of AC's efficacy, such as authority. This study responds to this call. Hence, we hypothesize that:

*H<sub>5</sub>: AC authority is positively related to earnings quality.*

### 1.2.6 AC resources and earnings quality

According to Bedard and Gendron [44], audit committee resources strengthen financial reporting systems. However, studies linking AC resources and EQ are scarce. Previous studies (for instance, Bananuka et al. [20]; Ousii & Bouliila Taktak, [46]) that conceptualized audit committee effectiveness in terms of resources only focused on AC size, ignoring the importance of their access to financial reports, management, external auditors, and internal auditors. This study argues that focusing only on AC size is insufficient to contribute to the methodological understanding of AC resources. Thus, we hypothesize the following:

*H<sub>6</sub>: AC resources positively relates to earnings quality.*

## 2. METHODOLOGY

### 2.1 Design, Population and Sample

A Cross-sectional correlational design was used in this study. Using Yamane's (1973) sample-size selection method, a sample size of 166 was obtained from a population of 284 regulated firms. The companies were chosen at random from each stratum using proportionate stratified sampling method. Usable questionnaires were

obtained from 136 firms, for an 82% response rate. The units of inquiry were CFOs or heads of internal audit because these are the direct producers of earnings information and are familiar with audit committee procedures. The male respondents were 119 (68.4%) and 55 females (31.6%). Majority of respondents 74 (42.5%) were between 36 and 45 years old, 63 (36.2%) were less than 35 years old, and 33 (19%) were between 46 and 55 years old. Regarding education level, 93 (53.4%) had a bachelor's degree, 79 (45.4%) had a master's degree, and 2 (1.1%) had a Ph.D. In terms of professional qualifications, 109 (62.6%) were certified public accountants (CPA), 54 (31%) subscribed to the association of chartered certified accountants (ACCA), 10 (5.7%) belonged to the Institute of Internal Auditors, and 1 (0.6%) was a member of the CIA. With regard to length of service, 69 (39.7%) worked for a period of 5–10 years, 58 (33.3%) worked for less than 5 years, 26 (14.9%) worked for a period of 11–15 years, and 21 (12.1%) worked for 16 years and above.

In terms of firm characteristics, 81 (60%) of regulated firms finance their operations using equity, 53 (38.2%) use equity and debt, and 2 (1%) use only debt. In terms of firm age, 63 (46%) had been in operation for a period above 16 years, 35 (26%) between 11 and 15 years, 26 (19%) 5 and 10 years, and 12 (9%) for less than five years. Further, 71 (52%) firms are audited by small and medium practices (SMPs), while 65 (48%) are audited by BIG 4s. In addition, 72 (53%) firms in Uganda were owned by Indigenous Ugandans, while 64 (47%) were owned by foreigners. In addition, 72 (53%) firms had large boards, whereas 64 (47%) had small boards. Overall, required information was collected for the study. The respondent and firm characteristics are presented in Table 1.

### 2.2 Questionnaire and Variable Measurement

We used a four-point Likert scale with closed-ended questions, ranging from strongly disagree to strongly agree. Closed-ended questions were used because these are simpler to statistically analyze [47]. Since the goal of the study was to determine the mean evaluations of the degree of agreement with each statement, using open-answer surveys would not be sufficient. Using items from previous researches, the questionnaire was developed and modifications were made to fit the specifics of the study. The variables were operationalized as follows.

**Table 1. Respondent characteristics and Firm characteristics**

<b>Respondent characteristics</b>			<b>Firm Characteristics</b>		
<b>Gender</b>	<i>f</i>	%	<b>Capital structure</b>	<i>f</i>	%
Male	119	68.4	Equity	81	59.6
Female	55	31.6	Equity and Debt	52	38.2
<b>Total</b>	<b>174</b>	<b>100.0</b>	Debt only	3	2.2
<b>Age</b>	<i>f</i>	%	<b>Total</b>	<b>136</b>	<b>100.0</b>
less than 35 years	63	36.2	<b>Existence</b>	<i>f</i>	%
36-45 Years	74	42.5	Less than 5 Years	12	8.8
46-55 Years	33	19.0	5-10 Years	27	19.9
Above 55 Years	4	2.3	10-15 Years	40	29.4
<b>Total</b>	<b>174</b>	<b>100.0</b>	15 Years	57	41.9
<b>Education</b>	<i>f</i>	%	<b>Total</b>	<b>136</b>	<b>100.0</b>
Bachelors' Degree	93	53.4	<b>Auditor Type</b>	<i>f</i>	%
Masters' Degree	79	45.4	BIG 4	59	43.4
PhD	2	1.1	SMPs	77	56.6
<b>Total</b>	<b>174</b>	<b>100.0</b>	<b>Total</b>	<b>136</b>	<b>100.0</b>
<b>Professional Qualification</b>	<i>f</i>	%	<b>Ownership</b>	<i>f</i>	%
CPA	109	62.6	Foreigners	61	44.9
ACCA	54	31.0	Indigenous Ugandans	75	55.1
CIA	10	5.7	<b>Total</b>	<b>136</b>	<b>100.0</b>
CFA	1	.6	<b>Board Size</b>	<i>f</i>	%
<b>Total</b>	<b>174</b>	<b>100.0</b>	More than Seven Members	60	44.1
<b>Length of Service</b>	<i>f</i>	%	Less than Seven Members	76	55.9
Less than 5 Years	58	33.3	<b>Total</b>	<b>136</b>	<b>100.0</b>
5-10 Years	69	39.7			
11-15 Years	26	14.9			
16 years and above	21	12.1			

**Source:** Primary Data

Earnings quality (EQ) is conceptualized in terms of relevance and faithful representation as per Conceptual Framework for Financial Reporting (2018). Audit committee effectiveness was operationalized in terms of AC independence, AC financial expertise, AC authority, AC resources and AC diligence [42]. According to Bartov et al. [48], we controlled for confounding variables such as capital structure, ownership, board size, firm age and auditor type, to minimize falsely rejecting hypotheses when in fact they would have been accepted. The control variables used in the current study had been used by previous researchers. The use of control variables helped in ensuring that research instrument was reliable and valid which helped in minimizing endogeneity bias (Podsakoff *et al.*, 2003).

We further controlled for both item and unit non-response. Item non-response is when certain questions in a survey are not answered by a respondent while unit non-response is where the firms expected to participate in the study deliberately refuse to participate. This study adopted Dillman's strategies [49] such as seeking for permission to collect data from

Human Resources Manager, providing instructions in a cover letter attached on a questionnaire, and making follow ups in order to retrieve the questionnaires. To test for common methods bias (CMB), Harman's single factor test was used. All factors were loaded into exploratory factor analysis using principal component analysis to determine the number of factors that could account for variance in the variables. Many factors emerged for each variable as shown in factor analysis results in Tables 3 and 4, suggesting absence of common method variance. Coefficients of 0.5 and above, were considered sufficient in determining reliable scales [51] The variable definitions and measurements are presented in Table 2.

### **2.3 Tests of Factorability, Validity, Reliability and Assumptions of Parametrical Data**

In order to investigate the validity and reliability of the scales of ACE and EQ, this study employed an exploratory factor analysis utilizing study's components and Cronbach. While using EFA, the interest was in the conceptual consideration

**Table 2. Variable definition and measurement**

<b>Variable</b>	<b>Acronym</b>	<b>Measurement</b>	<b>Definition</b>	<b>Sample Question</b>
Earnings Quality	EQ	Relevance	Extent to which accounting information is capable of creating a difference in the decisions made by the users [50]	Our reported earnings are typically considered by our stakeholders in making varied decisions.
		Faithful representation	Earnings information to the maximum extent possible is complete, neutral and free from errors [50]	The earnings of this firm reflect the stewardship of the Managers.
Audit Committee Effectiveness	ACE	Independence	Extent to which an audit committee is autonomous of management [42].	Our audit committee members have personal relationships with top management
		Financial expertise	Extent to which AC members can either have knowledge in financial reporting, have appropriate qualifications, or have finance experience [42]	Our audit committee members have adequate knowledge and skills in financial reporting
		Resources	Number of committee members who generate substantive discussions and consider emerging issues as well as have access to information, access to management, access to external auditors and access to internal auditors [42].	Our audit committee is of an appropriate size
		Authority	Clearly mandate of AC responsibility in any particular task [42].	Our audit committee has well-defined responsibilities in carrying out its tasks
		Diligence	Extent to which AC meet, are Motivated and willing to work together as needed to prepare, ask questions and pursue answers when dealing with management, internal auditor, external auditors and other relevant constituents [42].	Our audit committee regularly conducts meetings at least four times a year
Auditor Size			A dummy variable is coded as 1 if the firm is audited by the BIG 4s and 2 if the firm is audited by small and medium practices. Small and Medium Practices also included in Mid-Tier Networks.	
Age of firm			A dummy variable is coded as 1 if the firm is 5 years and below, 2 if the firm is 6-10 years, 3 if the firm is 11 years-15 years, and 4 if the firm is above 15 years.	
Capital structure			A dummy variable coded as 1 if the firm employs only	

Variable	Acronym	Measurement	Definition	Sample Question
			equity funding, 2 if the firm employs equity and debt financing, 3 if the firm employs only debt financing.	
Board Size			A dummy variable is coded as 1 if the firm board has more than 7 members and 2 if the firm board has less than 7members.	
Ownership			A dummy variable is coded as 1 if the firm is owned by foreigners and 2 if the firm is owned by Indigenous Ugandans.	

**Source:** Primary Data

where data reduction was of essence [52]. We further assessed the variables for convergent validity by considering the factors that loaded on the variables. Coefficients of 0.5, were considered adequate. Data were subjected to Kaiser–Meyer–Olkin (KMO) and Bartlett tests to assess whether the data were adequate or suitable for factor analysis. The results show that the KMO values for ACE is .904, while for EQ is .761. Further, CVI was computed by dividing the proportion of valid items by the total number of items [51]. A threshold of 0.7 and above, was tenable for all variables [53]. Accordingly, the internal consistency (reliability) of the scales was computed using Cronbach’s  $\alpha$  and a threshold of 0.7 was met, implying that the questionnaire items were reliable. Data were then subjected to parametric tests to ascertain whether the data were normally distributed before further statistical analyses were performed. The parametric tests for linearity, multicollinearity, homogeneity of variance, and normality of the data were all met.

According to Field [51], we discovered that the study variables’ skewness and kurtosis values were below +/-2 and +/-3, respectively. The outcomes additionally demonstrated that the data complied with the normalcy assumptions. Levene’s test statistic is not significant, indicating that our data is from a homogenous population in terms of homogeneity of variance [51]. Additionally, using a scatter plot, a linear relationship exists between audit committee effectiveness and earnings quality. With the use of tolerance values and variance inflation factors, there was absence of multi-collinearity since the tolerance values are above 0.2 and variance inflation factors are below 10 [51]. To find out if there are any serial correlations between the errors in our data, we also performed the Durbin-Watson test, found to be 1.770, which is closer to 2, meaning that there are no errors that are serially correlated [51]. (Figures not included because of space constraint) [54-59].

**Table 3. Factor structure for audit committee effectiveness**

Factors	Component					Communalities
	1	2	3	4	5	
<b>ACFE12:</b> Our Audit committee participates in a continuing education program to enhance its members’ Understanding of relevant industry issues.	.862					.842
<b>ACFE06:</b> Our Audit committee members’ knowledge-level with respect to auditing issues is excellent	.843					.816
<b>ACFE05:</b> Our Audit committee members’ knowledge-level with respect to accounting is excellent	.822					.807
<b>ACFE11:</b> Our Audit committee participates in a continuing education program to enhance its members’ understanding of relevant auditing issues	.821					.855
<b>ACFE03:</b> Our Audit committee members have previous accounting or finance experience	.809					.787
<b>ACFE10:</b> Our Audit committee participates in a continuing education program to enhance its members’ understanding of relevant regulatory issues	.776					.793
<b>ACFE09:</b> Our Audit committee participates in a continuing education program to enhance its members’ understanding of relevant financial reporting issues	.711					.822
<b>ACFE02:</b> Our Audit committee members understand the applicable accounting standards	.702					.761
<b>ACFE08:</b> Our audit committee	.699					.751

Factors	Component					Communalities
	1	2	3	4	5	
participates in a continuing education program to enhance its members' understanding of relevant accounting issues						
<b>ACFE07:</b> Our audit committee members have the appropriate qualifications to meet the objectives of the audit committee's charter, including appropriate financial literacy	.654					.717
<b>ACFE13:</b> Our Audit committee understands and approves management's fraud risk assessment and understands identified fraud risks	.642					.639
<b>ACFE01:</b> Our Audit committee members have adequate knowledge in financial reporting	.624					.750
<b>ACFE14:</b> Our Audit committee is consulted when management is seeking a second opinion on an accounting or auditing issue	.604					.570
<b>D18:</b> Our audit committee members of the board review management responses to internal audit findings		.718				.783
<b>D16:</b> Our audit committee members of the board review the results of internal auditing relating to internal controls		.705				.744
<b>D06:</b> Our Audit committee members of the board frequently meet with the internal auditor		.689				.637
<b>D02:</b> Our audit committee members of the board regularly attend meetings		.683				.605
<b>D14:</b> Our audit committee members of the board review internal audit proposals relating to coordination of work with external auditors		.676				.680
<b>D15:</b> Our audit committee members of the board review the results of internal auditing relating to financial reporting.		.668				.704
<b>D19:</b> Our audit committee members of the board review any difficulties or scope restrictions encountered by internal audit		.664				.695
<b>D20:</b> Our audit committee members of the board consider the quality and appropriateness of financial accounting and reporting, including the transparency of disclosures.		.664				.657
<b>D13:</b> Our audit committee members of the board review internal audit proposals relating to programs/plans		.660				.741
<b>D07:</b> Our audit committee		.647				.600

Factors	Component					Communalities
	1	2	3	4	5	
members of the board spend enough time to meet with the internal auditor						
<b>D04:</b> Our Audit committee members of the board often have relevant agenda for their meetings		.629				.616
<b>D17:</b> Our audit committee members of the board review the results of internal auditing relating to compliance with laws and regulations.		.601				.756
<b>D21:</b> Our Audit committee members of the board review the company's significant accounting policies		.561				.607
<b>D22:</b> Our Audit committee members of the board receive sufficient information to assess and understand management's process for evaluating the organization's system of internal controls (e.g., financial reporting and disclosure controls, operation controls)		.509				.660
<b>ACI08:</b> Our audit Committee of the board have only members whose spouses or children do not currently work or have not worked at this organization or its affiliates within the past five years			.808			.667
<b>ACI10:</b> Our Audit Committee of the board have only members who are not partners, shareholders or officers of a business with which this organization has significant business.			.759			.640
<b>ACI09:</b> Our audit Committee of the board have only members who have not received compensation from this organization or its affiliates for work other than board service			.754			.621
<b>ACI11:</b> Our audit Committee of the board are identified by sources independent of management			.590			.490
<b>ACI12:</b> Our audit Committee of the board all have applicable independence requirements.			.589			.590
<b>ACR03:</b> Our Audit committee has access to financial reports of the company				.809		.828
<b>ACR04:</b> Our Audit committee has access to necessary information from management				.769		.799
<b>ACR05:</b> Our Audit committee has access to necessary information from the external Auditor				.708		.709
<b>ACR06:</b> Our Audit committee has access to necessary information from our internal auditors				.715		.728
<b>ACA01:</b> Our Audit committee has					.682	.570

Factors	Component					Communalities
	1	2	3	4	5	
well defined responsibilities in audit committee charter						
<b>ACA02:</b> Our Audit committee is involved in the appointment of the external auditor					.620	.511
<b>ACA03:</b> Our Audit committee supervises the internal auditors of the Company					.558	.506
<b>ACA04:</b> Our audit committee demands all accounting transactions to be captured in the books of accounts					.529	.509
<b>Total</b>	<b>18.574</b>	<b>3.998</b>	<b>2.163</b>	<b>1.934</b>	<b>1.430</b>	
<b>% of Variance</b>	<b>45.301</b>	<b>9.752</b>	<b>5.275</b>	<b>4.718</b>	<b>3.488</b>	
<b>Cumulative %</b>	<b>45.301</b>	<b>55.053</b>	<b>60.329</b>	<b>65.047</b>	<b>68.535</b>	
<b>Keiser-Meyer-Olkin measure of sampling adequacy = .904; Approx. Chi-Square= 5280.541; df= 780; Sig.=0.000</b>						
Extraction Method: Principal Component Analysis.						
Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 11 iterations.						
<i>Key: 1= Financial expertise, 2= Diligence, 3=Independence, 4=Resources, 5=Authority</i>						

**Table 4. Factor structure for earnings quality**

Factors	Component		
	1	2	Communalities
<b>FR16:</b> Different observers could reach consensus, although not necessarily complete agreement, that our earning before tax (e.g.) is a faithful representation	0.835		0.697
<b>FR18:</b> Independent observers could reach consensus, although not necessarily complete agreement, that our earning before tax (e.g.) is a faithful representation	0.832		
<b>FR17:</b> Knowledgeable observers could reach consensus, although not necessarily Complete agreement, that our earning before tax (e.g.) is a faithful representation	0.826		0.697
<b>FR12:</b> This company's accruals more closely correspond to this firm's underlying economic activity	0.738		0.601
<b>FR11:</b> The fair values that this company reports are usually accurate and justifiable	0.695		0.551
<b>R10:</b> Users of our financial reports predict the future performance of a business based on our past performance		0.823	0.677
<b>R03:</b> I am sure if we want to borrow money, the lender will prioritize checking our Profit performance especially earnings before interest and tax		0.795	0.678
<b>R05:</b> Our earnings have persisted over a long period of time		0.774	0.625
<b>Total</b>	<b>3.558</b>	<b>1.662</b>	
<b>% of Variance</b>	<b>44.475</b>	<b>20.77</b>	
<b>Cumulative %</b>	<b>44.475</b>	<b>65.245</b>	
<b>Keiser-Meyer-Olkin measure of sampling adequacy = .761; Approx. Chi-Square= 478.907; df= 28; Sig.=0.000</b>			
<b>Extraction Method:</b> Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
<i>Key:1= faithful representation, 2= Relevance</i>			
<i>Source: Primary Data</i>			

## 2.4 Model

This study uses hierarchical regression analysis to test the relationship between AC independence, financial expertise, resources, authority, and diligence (Model 1). A separate model was also run to test whether AC independence, AC financial expertise, AC authority, AC resources, and AC diligence when computed together to represent audit committee effectiveness, can have significant impacts on earnings quality (Model 3). The first model was only tested for control variables. The models that were tested were as follows:

$$EQ = \beta_0 + \beta_1 CAP + \beta_2 FAGE + \beta_3 OWN + \beta_4 AUD + \beta_5 BSIZE + \epsilon_i \dots \dots \dots \text{Model 1}$$

$$EQ = \beta_0 + \beta_1 CAP + \beta_2 FAGE + \beta_3 OWN + \beta_4 AUD + \beta_5 BSIZE + \beta_6 ACIND + \beta_7 ACFEXP + \beta_8 ACAUTH + \beta_9 ACRES + \beta_{10} ACDEL + \epsilon_i \dots \dots \dots \text{Model 2}$$

$$EQ = \beta_0 + \beta_1 CAP + \beta_2 FAGE + \beta_3 OWN + \beta_4 AUD + \beta_5 BSIZE + \beta_6 ACEFF + \epsilon_i \dots \dots \text{Model 3}$$

where EQ is Earnings Quality, CAP is capital structure, FAGE is Firm Age, OWN is ownership, AUD is auditor type, BSIZE is board size, ACIND is audit committee Independence, ACFEXP is audit committee Financial Expertise, ACAUTH is audit committee Authority, ACRES is audit committee resources, and ACDEL is audit committee diligence [60-66].

the findings show a positive correlation between ACE and earnings quality ( $r=.430^{**}$ ,  $p < 0.01$ ). Furthermore, the correlation results show that there is no significant relationship between the control variables of capital structure, ownership, board size, and auditor type and earnings quality (apart from business age).

## 3. RESULTS AND DISCUSSION

### 3.1 Descriptive statistics

The results in Table 5 indicate that the mean scores for AC independence, AC financial expertise, AC resources, AC diligence, AC authority, and earnings quality fall between 1.40 and 3.39 on a four-point Likert scale. In comparison with the mean, small standard deviations of 0.42 and 0.98 are generated. Small standard deviations indicate that the data points are close to the means [51] hence representing the observed data.

### 3.2 Correlation Analysis Results

To determine the associations between the variables, we ran a correlation analysis. The findings in Table 6 reveal a positive and significant relationship between EQ and AC independence ( $r=.329^{**}$ ,  $p < 0.01$ ), EQ and AC financial expertise ( $r=.352^{**}$ ,  $p < 0.01$ ), and EQ and AC authority ( $r=.381^{**}$ ,  $p < 0.01$ ). The findings additionally demonstrate that EQ and AC resources have a positive link ( $r=.269^{**}$ ,  $p < 0.01$ ), and that EQ and AC diligence have a positive and statistically significant relationship ( $r=.304^{**}$ ,  $p < 0.01$ ). The findings show that, of the ACE's aspects, AC authority was the most important and correlated with earnings quality, followed by AC financial expertise. This suggests that the financial knowledge of AC members and AC authority provide a better explanation for EQ in Uganda's regulated companies. Additionally,

### 3.3 Hierarchical Regression Analysis Results

Hierarchical regression was used to confirm our hypotheses. We ran three models. The regression analysis results in Table 7 show that Model 1 contains the control variables (firm age, capital structure, auditor type, board size, and firm ownership), and it predicts a 4.1% variance in EQ. In Model 2, we entered the manifest variables and predicted a 20.1% variance in earnings quality. The results indicate that audit committee financial expertise is significant, whereas AC independence, authority, resources, and diligence are not significantly associated with earnings quality. However, the results contradict the correlation results for the other four dimensions. In Model 3, we entered audit committee effectiveness into the model and found it significant, explaining 21.2% of the variance in earnings quality. The finding that audit committee financial expertise is significantly related to earnings quality (standardized  $\beta = 0.228$ ) offers support for  $H_3$ . In addition, the finding that audit committee effectiveness is significantly associated with earnings quality (standardized  $\beta = 0.430$ ) supports  $H_1$ . However, the finding that AC Independence is not significantly related to the EQ (standardized  $\beta = 0.116$ ) does not support  $H_2$ . Similarly, the results do not support  $H_4$  (standardized  $\beta = 0.201$ ), which states that AC diligence is positively related to earnings quality. Additionally, these findings do not support  $H_5$  (standardized  $\beta = 0.060$ ), which

**Table 5. Descriptive statistics**

Variables	N	Min	Max	Mean	S.D	Skewness	Kurtosis			
	Statistic	Statistic	Statistic	Statistic	S.E	Statistic	Statistic	S.E	S.E	
Capital Structure	136	1.00	3.00	1.40	0.04	0.52	.76	.208	-.654	.413
Firm Age	136	1.00	4.00	3.08	0.08	0.98	-.74	.208	-.594	.413
Auditor Type	136	1.00	3.00	1.54	0.04	0.50	.02	.208	-1.491	.413
Ownership	136	1.00	2.00	1.53	0.04	0.49	-.13	.208	-1.972	.413
Board size	136	1.00	2.00	1.53	0.04	0.49	-.12	.208	-1.950	.413
Independence	136	1.40	4.00	3.00	0.06	0.72	-.22	.208	-.899	.413
Financial Expert	136	2.00	4.00	3.18	0.05	0.54	-.37	.208	-.279	.413
Authority	136	2.25	4.00	3.37	0.05	0.55	-.40	.208	-.961	.413
Resources	136	2.80	4.00	3.39	0.04	0.42	.24	.208	-1.402	.413
Diligence	136	2.47	4.00	3.31	0.04	0.43	.02	.208	-1.001	.413
Audit committee effectiveness	136	2.27	4.00	3.25	0.04	0.42	-.22	.208	-.504	.413
Relevance	136	1.25	4.00	2.72	0.06	0.66	-.09	.208	-.717	.413
Faithful Representation	136	2.00	4.00	3.12	0.05	0.53	-.46	.208	-.183	.413
Earnings Quality	136	1.75	4.00	2.92	0.04	0.50	-.100	.208	-.224	.413

Source: Primary Data

**Table 6. Pearson correlation between the dependent, independent and control variables**

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Capital structure (1)	1													
Firm Age (2)	.171*	1												
Auditor Type (3)	-.035	-.207*	1											
Firm Ownership (4)	.056	-.078	.463**	1										
Board size (5)	-.202*	-.292**	.293**	.198*	1									
Independence (6)	.025	-.028	-.037	.004	.113	1								
Authority (7)	.073	.008	-.068	-.013	.076	.484**	1							
Diligence (8)	-.017	-.003	-.052	-.023	.026	.453**	.725**	1						
Resources (9)	-.027	-.039	-.014	.107	-.049	.403**	.516**	.551**	1					
Financial Expertise (10)	.114	.024	-.026	.017	-.006	.431**	.475**	.533**	.376**	1				
Audit committee Effectiveness (11)	.050	-.010	-.051	.020	.053	.778**	.807**	.811**	.697**	.746**	1			

<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
Relevance (12)	.036	-.153	-.056	.039	.089	.173*	.267**	.192*	.122	.263**	.267**	1		
Faithful Representation (13)	.050	-.215*	-.037	-.088	.113	.398**	.379**	.328**	.349**	.331**	.469**	.379**	1	
Earnings Quality (14)	.051	-.217*	-.057	-.022	.120	.329**	.381**	.304**	.269**	.352**	.430**	.867**	.790**	1

\*. Correlation is significant at the 0.05 level (2-tailed); \*\*. Correlation is significant at the 0.01 level (2-tailed).

**Source:** Primary Data

states that AC authority is positively related to earnings quality. Accordingly, AC resources are not significantly associated with earnings quality (standardized  $\beta = -0.061$ ), thus,  $H_6$  is not supported. However, when the non-significant attributes of ACE are tested individually on EQ along with the control variables, they return positive and significant results. For instance, Diligence (standardized  $\beta = 0.293$ ,  $R^2 = 7.4\%$ ), Independence (standardized  $\beta = 0.405$ ,  $R^2 = 14.5\%$ ), Resources (standardized  $\beta = 0.193$ ,  $R^2 = 2.4\%$ ), and Authority (standardized  $\beta = 0.283$ ,  $R^2 = 6.7\%$ ). Surprisingly, none of the control variables is significant.

### 3.4 Discussion

This study is the first to assess whether ACE is significantly associated with EQ and whether the individual attributes of ACE (AC independence, AC financial expertise, AC resources, AC resources, and AC diligence) have a significant effect on earnings quality. The second is to test whether individual attributes of ACE are significantly related to EQ. Based on agency theory and institutional theory, the results reveal that among all the individual attributes of the ACE, only AC financial expertise significantly predicts earnings quality. These results mean

that only the financial expertise of audit committee members in terms of having adequate knowledge in financial reporting, their understanding of applicable accounting standards (IFRS), and having previous accounting and finance knowledge, among others, result in a firm reporting relevant and faithfully represented accounting earnings information.

Further, when AC members participate in continuing education programs to enhance their understanding of relevant financial reporting issues, it is likely that earnings values that firms report will be accurate and justifiable. This suggests that when AC members are equipped with financial and accounting knowledge, as well as understanding the regulatory issues, the financial reports of a firm will be credible to the users of the financial statements and, as such, can be used to make valid decisions.

In addition, AC members who have excellent knowledge with respect to auditing are in a position to scrutinize a firm's transactions. As a result, it is possible that a firm's accruals more closely correspond to its underlying economic activity. Consequently, independent, knowledgeable, and different observers reach a

**Table 7. Regression analysis results**

Variables	Model 1	Model 2	Model 3	Tolerance	VIF
Constant	11.103	4.125	4.417		
<i>Independent variables</i>					
AC Independence		.116		.679	1.474
AC Financial Expertise		.228*		.416	2.407
AC Resources		-.061		.390	2.562
AC Authority		.060		.612	1.633
AC Diligence		.201		.650	1.539
Audit committee effectiveness			.430**		
<i>Control variables</i>					
Capital structure	.110	.061	.083	.935	1.069
Firm Age	-.230*	-.228*	-.224*	.884	1.131
Auditor Type	-.130	-.088	-.091	.729	1.372
Firm Ownership	-.008	-.025	-.027	.773	1.294
Board size	.115	.071	.081	.827	1.209
<i>Model summary</i>					
Model F	2.159	6.199**	7.036**		
Adjusted R <sup>2</sup>	.041	.201	.212		
F Change	2.159	6.199	9.087		
R square change	.077	.183	.170		
Durbin-Watson statistic					1.77

Notes: \*\*( $p < 0.01$ ); \*( $p < 0.05$ )

Source: Primary Data

consensus that earnings before interest and tax are a faithful representation. Thus, it is reasonable to believe that the financial expertise of AC members mitigates earnings management. This ensures that the firm's earnings are persistent. Moreover, the Companies Act (2012) mandates that AC members should have at least one member with financial or accounting expertise, since this helps them understand the financial reporting process and complexities within a firm. In addition, given that managers are opportunistic beings, it is probable that if AC members do not have financial expertise, then the users of the financial reports are likely to cast doubt on the relevance and reliability of financial reports.

The findings are in line with previous studies, such as Mardessi [1] who found out that the financial expertise of AC members is statistically significant with financial reporting quality. Similarly, Kunsandi et al. [36] also revealed that the presence of an AC with accounting expertise improves financial reporting quality. Furthermore, Carrera *et al.* [37] reported that a higher proportion of AC members with financial expertise decreased financial reporting quality. This study joins other studies, such as Bananuka *et al.* [20], using a survey questionnaire in state corporations (SCs), who reported that audit committee effectiveness improves accountability, of which EQ is part. Also, Zadeh *et al.* [35] document that audit committee financial expertise affects accrual earnings management. Similarly, scholars such as Xia *et al.* (2024) found out that accounting and supervisory expertise of audit committee members mitigates both accrual and real earnings management activities in U.S. However, the study findings contradict those of Lin *et al.* [17], who documented that there is no significant association between AC financial expertise and the occurrence of earnings restatement.

The study's findings that AC independence, resources, authority, and diligence are not significantly related to earnings quality in regulated firms in Uganda may suggest that these components do not matter for high earnings quality to be reported in Uganda. However, contrary to Lin *et al.* [17], they report a significantly negative association between audit committee independence and earnings restatement. In addition, Ngo and Le [2] find no clear evidence of a relationship between audit committee independence and the audit committee diligence in constraining earnings

management. The study findings may suggest that corporate governance in Uganda is still in its infancy; therefore, regulators such as ICGU can carry out more sensitization on the attributes of effective audit committees to its stakeholders. In addition, whereas AC members are to be identified by sources independent of management, this may not be true because it is usually management (CEO), which suggests the names of the audit committee members to the regulators for appointment. It is likely that their independence is compromised from the time they are appointed, making them unable to oversee the financial reporting process.

#### 4. SUMMARY AND CONCLUSION

The purpose of this study was to establish the relationship between ACE and EQ, and to examine whether individual attributes of audit committee effectiveness are significantly associated with earnings quality. Using a questionnaire survey of 136 usable questionnaires, this study found that audit committee effectiveness is positively and significantly associated with earnings quality. Furthermore, the results also indicated that among the attributes of audit committee effectiveness, only AC financial expertise is significantly associated with earnings quality, while the other four attributes are not.

Just like any other study, the study results have several implications. This study contributes to the literature on earnings quality in developing countries [2,17,33,1]. The study provides empirical evidence that AC financial expertise is significantly related to earnings quality in regulated firms in Uganda. The findings also have implications for academia in terms of extending this study to larger samples and other national settings to confirm its results and to gain a better understanding of why financial expertise of AC members explains more variances in earnings quality. Additionally, this work adds to the body of knowledge regarding perception-based research utilizing questionnaires. In terms of policy, in order to guarantee high EQ, authorities should concentrate again on designating audit committee members who possess financial knowledge, such as financial abilities and comprehension of IFRS. This also confirms the requirements of the Companies Act (2012) for the appointment of AC members. Trainings are also necessary by regulatory bodies such as Institute of corporate governance of Uganda and institute of certified public

accountants of Uganda (which is the regulator of accountancy in Uganda) on what makes audit committees effective. In turn, this may reduce the likelihood of accounting manipulation. Similar to other studies, this study has several limitations. First, it focuses on regulated firms in Uganda. Perhaps, future studies can be carried out on unregulated firms in Uganda. Second, similar to any other perception-based study, it is possible that our data were subject to respondent bias, even when this was controlled for using Dillman's strategies.

## DATA AVAILABILITY STATEMENT

I confirm that the data set is available upon request.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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