Audit quality differences amongst audit firms in a developing economy

The case of Uganda

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Abstract

Purpose – The purpose of this paper is to report findings of audit quality differences amongst audit firms in a developing country. Specifically, the authors examine the assumption of marked audit quality differences amongst large audit firms (Big 4s) and the small and medium practices (SMPs).

Design/methodology/approach – First, the authors develop scales for assessing perceived audit quality in the financial services sector based on qualitative data obtained from 106 audit practitioners, 31 credit analysts and 13 board members. The authors use NVivo© to analyse the 13 transcribed interviews and follow "cross-case analysis" to visualize dimensions and scales of audit quality. Then the authors use measurement scales developed and obtain quantitative data from 183 board members and top executives in the financial services sector and test for perceived audit quality differences amongst audit firms using a Mann-Whitney *U* test.

Findings – The findings suggest that audit quality is a multi-dimensional construct comprising of levels of discretionary accruals; compliance of audited accounts to accounting standards, law and regulations; and audit fees. Based on these measures, the authors find that Big 4 audit firms ensure more compliance with accounting standards, law and other regulatory requirements than SMPs. However, taking all the three audit quality dimensions together reveals no significant differences in audit quality levels between Big 4 and SMPs.

Research limitations/implications – In terms of auditor selection and retention, it is important that audit firms are assessed based on their ability to constrain discretionary accruals, to produce audited accounts that comply with requirements of accounting standards, the law and regulations; and to examine the fees they charge in relation to quality of service, than on their size. Also, as the results of this study suggest that Big 4 audit firms might be needed for compliance with accounting standards, law and other regulatory requirements, their audit ties in with the most basic level of auditing requiring probity and legality which, in practice, requires a low level of judgement to be exercised by those performing the audit. It might be useful for Big 4 and other audit firms to embark also on higher level of auditing requiring higher level of judgement. Future research may wish to examine auditing firms' proclivity to higher level judgment audit.

Originality/value – Previous research reveals no consistent way of measuring audit quality and has been inconclusive on the subject of audit quality differential amongst audit firms. The authors create

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audit quality scales which can be used in assessing perceived audit quality in a developing country context and provide initial evidence of no significant differences between large audit firms and the SMPs regarding audit quality in Uganda.

Keywords Uganda, Principal component analysis, Nvivo, Audit firm size, Audit quality differences, Mann-Whitney *U* test

Paper type Research paper

1. Introduction

The objective of this paper is to report findings of audit quality differences amongst audit firms in Uganda – a developing country. Audit quality continues to attract attention of scholars and policy makers owing to the long established need for credible audited financial statements as a basis for decision making by various user groups like shareholders, regulatory agencies, governments, creditors, among others. Most previous research on audit quality typically assumed that big audit firms provide high-audit quality and hence the use of a Big 4 vs non-Big 4 variable is often a proxy for audit quality (Baxter and Cotter, 2009; Adeyami and Fagbemi, 2010). Tyrone *et al.* (2008) notes evidence that large audit firms provide higher quality audits and offer greater credibility to clients' financial statements than small auditor firms. However, the collapse of Arthur Anderson may signal that "big" may not always be better and therefore may undermine the assertion that large auditors are associated with high-audit quality.

Butcher *et al.* (2011) note that audit quality differences are important in the appointment decisions and high-retention rate in compulsory audit tendering. Nevertheless "audit quality differences" among audit firms is an area that has remained relatively unexploited by researchers. But, scholars like Duff (2009) identify audit quality measures in an era of change in the UK. Others like Fafatas (2010) examine the effects of audit failure on Big 4 audit firm monitoring activities in the USA. Most research suggests that audit failures, a proxy for audit quality, result in an impairment of auditor reputation, epitomized by loss in market share (Firth, 1990; Wilson and Grimlund, 1990; Weber *et al.*, 2008), lower audit fees (Davis and Simon, 1992) and a fall in client stock price (Franz *et al.*, 1998; Chaney and Philipich, 2002; Weber *et al.*, 2008). Although research indicates that audit failures damage auditor reputation, audit quality differences amongst audit firms remain, indeed, relatively unexplored. It is important to correctly discern audit quality differences among audit firms as Lawrence *et al.* (2011) contend that incorrectly classifying Big 4 audit firms as superior to non-Big 4s may have unnecessary ramifications for smaller auditors such as selection bias by audit committees. Moreover, Habib (2013) provide a meta-analysis of the effect of auditor and audit-related variables; and firm-specific variables on auditors' propensity to issue modified audit opinions (a proxy for audit quality) and reveals that the effect of audit and auditor-related variables on audit opinion decisions is far from conclusive.

In this paper we show that there are no audit quality differences amongst Big 4 and small and medium practices (SMPs) in Uganda. This indicates that any size of audit firm is capable of rendering the required audit quality. The results of this paper are particularly important because they show that if the audit firm deploys audit procedures meant to constrain discretionary accruals; ensure compliance of financial statements with accounting standards, law and other regulatory requirements and charges the appropriate audit fees it will deliver desirable audit quality. Second, this paper responds to calls by Simunic (2003) and Al-Thuneibat *et al.* (2011) for establishing whether there are differences in audit quality among different audit firm sizes.

The rest of the paper is organized as follows. The next section presents a review of related literature on audit quality and audit quality differences amongst audit firms. This is followed by research methodology and then the results' section. The penultimate section discusses findings of the study. The last section is conclusion and implications.

2. Literature review

Audit quality

DeAngelo (1981) provides a theoretical definition that has underpinned much research on audit quality. She defined audit quality as the market-assessed probability that the financial statements contain material errors and that the auditor will both discover and report the errors. Discovering an error depends on the competence of the auditor, while reporting the error is a function of how independent the auditor is from the audit client. DeAngelo (1981) argues that loss of independence occurs when the auditor fears loss of income as a result of dismissal and therefore he acquiesces to clearly unacceptable accounting policies and this amounts to an audit failure. Losing a client would mean that the auditor would lose the future economic revenue from repeat business from the same client.

DeAngelo's view of audit quality has been noted to have limitations: first, Sutton (1993) argues that it does not fully capture the potentially conflicting roles of various audit market participants like external financial statements users and audit client. It ignores the multiple factors that affect an auditor's capacity to detect misstatements (Francis, 2011). Second, it limits itself to a technical definition of quality – an ability to identify and report problems in a client's accounting system, thereby ignoring the nature of auditor-client relationship (Duff, 2004) and the length of that relationship that could result into a close relationship with audit client personnel and auditor forming alliances with audit client (Windmöller, 2000) thereby impairing auditor's independence. Finally, the definition is criticized for implicitly defining fraud rather than a continuum of audit quality, since an auditor who knowingly fails to report a material misstatement has committed fraud, at least in some jurisdictions like the USA (Francis, 2011).

On the other hand the practitioner literature often defines audit quality as the degree to which an audit conforms to applicable standards (Watkins *et al.*, 2004). Auditors perceive audit quality in terms of strict adherence to requirements of Generally Accepted Auditing Standards (Al-Ajim, 2009). In contrast, accounting researchers identify multiple dimensions of audit quality often leading to different definitions. Watkins *et al.* (2004) cites some of the more prevalent definitions to include: the probability that an auditor will not issue an unqualified report for statements containing material errors; the accuracy of the information reported on by auditors and a measure of audit's ability to reduce noise and bias and improve fineness in accounting data. Epstein and Geiger (1994) argues that users of financial statements perceive audit reports to provide absolute assurance that company financial statements have no material misstatements and do not perpetuate fraud.

Measures of audit quality used seem to depend on the perspective from which audit quality is being examined. Given that audit files of audit firms are not accessible to majority of users of audited financial statements, it is important to develop measures of audit quality that are useful to such stakeholders. Going ahead, it would then be critical to examine the three commonly used measures of audit quality (audit fees, discretionary accruals and compliance with accounting standards) by first constructing a scale of measuring audit quality in a developing country context and then testing for whether there any audit quality differences among audit firms.

Use of audit fees to measure audit quality

A number of scholars (Carcello *et al.*, 2002; Abbott *et al.*, 2003; Miettinen, 2008) have used audit fees as a surrogate for audit quality. This is based on the premise that audit fees reflect the magnitude of audit effort. According to this line of argument (other factors being constant, e.g. inflationary factors) a higher audit fee is expected to indicate more input in terms of staff hours, experience, checking, etc. collectively contributing to audit quality. From the supply side of audit quality, audit fees reflect auditor's assessment of required audit coverage based on client riskiness and complexity while from the demand side, audit fees reflect the demand for audit coverage (Miettinen, 2008). Findings about the effect of auditor size on external audit fees are mixed. Some studies report evidence of a fee premium paid to "Big" firms (e.g. Hay *et al.*, 2006) others (e.g. Al-Harshami, 2008) do not find any evidence of such a fee premium. On the demand side, results by Al-Harshami (2008) show that amount of external audit fees is significantly influenced by the audit client size, liquidity ratio and profitability ratio. This therefore indicates that audit fees can be linked to audit quality from both demand and supply side of audit quality.

Use of discretionary accruals to measure audit quality

The use of discretionary accruals as a measure of audit quality stems from the potential to manipulate financial statements by management through the use of accruals to influence reported results within the perspective of agency theory. Within this perspective managers are assumed to act in their own self-interest even if it is detrimental to the shareholders (Fama and Jensen, 1983). An external auditor as one of the mechanisms designed to align the interests of management and those of shareholders should therefore be able to identify and report such instances. Such practices occur when managers use personal judgment in financial reporting and structuring transactions to alter financial reports to either mislead some stakeholders about underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy and Wahlen, 1999). Schipper (1989) refers to the phenomenon as a purposeful intervention in the external financial reporting process with the intent of obtaining some private gain.

Accounting practices that may result into discretionary accruals include valuation of accounts receivable, capitalization or expensing of assets, provisions for deferred taxes, recognition of future warranty (Burilovich and Kattelus, 1997) and provisions of a similar nature requiring judgment on part of management. Other driving motives include a desire to meet contractual requirements or augment performance-based compensation for managers and a technique to defer violation of debt covenants (DeFond and Jiambalvo, 1994). Governmental regulations that are based on accounting numbers, and tax laws, are also considered as possible sources of motives for manipulation of reported earnings through discretionary accruals (Murya, 2010).

Auditing standards, for example, ISA 315 and 540, provide guidance on how to detect any instances of unjustifiable accounting estimates. A high-quality audit conducted in accordance with the requirements of such standards should *ceteris paribus*; detect such misleading financial reporting practices. The presumption is that higher levels of audit quality should be associated with lower levels of discretionary accruals (Myers *et al.*, 2003; Ronen and Yaari, 2008; Pott *et al.*, 2009). This therefore implies that a quality audit is one which is able to constrain the discretionary accruals to a certain acceptable level. Prior studies (Becker *et al.*, 1998; Francis *et al.*, 1999) provide evidence in support of the constraining impact of audit quality on earnings

management, as lower level of discretionary accruals can be observed for firms that appoint Big 4 auditors. The theoretical reasoning behind this is that Big 4 audit firms are more competent and/or independent as compared to non-Big 4 audit firms, and therefore are less tolerant against the level of discretionary accruals adopted by firms. But yet again the collapse of Arthur Anderson may appear to discount this and it even less clear for the case of developing country like Uganda.

Use of compliance of audited financial statements to measure audit quality

Accounting and auditing practitioners' literature is clear on accounting and auditing compliance requirements. According to IAPS 1014 (Reporting by auditors on compliance with International Financial Reporting Standards) and IAS 1 (Presentation of Financial Statements), financial statements should not be described as complying with International Accounting Standards unless they comply with all the requirements of each applicable standard and each applicable interpretation of the International Financial Reporting Interpretations Committee. Similarly while the ISA 250 recognizes that the responsibility for prevention and detection of non-compliance with laws and regulations rests with management, it also requires the auditor to obtain sufficient and appropriate audit evidence about compliance with laws and regulations that have an effect on the determination of material amounts and disclosures in the financial statements.

The auditor is expected to express a qualified opinion or an adverse opinion if non-compliance has a material effect on the financial statements, and has not been properly reflected in the financial statements. The auditor's report therefore should not describe financial statements as complying with International Accounting Standards if there is a departure from mandatory requirements of any of the accounting standards and the law. International Accounting Standards have a number of mandatory requirements including mandatory disclosures that are meant to ensure reliability of financial statements and enhance their usefulness. Accordingly, a number of auditing standards require an auditor to audit and ensure that financial statements have met the mandatory disclosure requirements. For example, ISA 540 requires the auditor to check whether disclosures about fair values made by an entity are in accordance with its financial reporting framework and reports accordingly. IAPS 1006 specifically requires the auditor to audit financial statement assertions of particular importance to banks including presentation and disclosures in financial statements. While the objective of ISA 700 is to prescribe content and format of audit report, it however, alerts the auditor to the expected audit process as one that involves performing procedures to obtain audit evidence about amounts and disclosures in the financial statements.

Evidence in the academic literature suggests that auditors have not attached much importance to the audit of some accounting requirements, e.g. mandatory disclosures. Libby *et al.* (2006) reports that partners of Big 4 audit firms are more likely to demand correction of misstatement of amounts recognized on the face of the financial statements than they are to demand correction of amounts disclosed in the notes to the accounts. This suggests that disclosures are relegated to second level in importance regardless of the requirements of reporting standards. Consistent with Adeyami *et al.* (2012), Krishnan and Schauer (2000) and DeAngelo (1981) it is argued that failure to detect and report an infringement on mandatory accounting requirements like disclosures is an indication of an impaired audit quality. This is especially given that the degree of clarity and precision with which mandatory information is disclosed provides insights into the degree of rigour in conducting an audit (Tyrone *et al.*, 2009).

Audit firm size and audit quality

Audit firms can be characterized and grouped in a number of ways, for example, according to number of partners, asset base, client base, international status and industry specialization. In addition, a differentiation is made between the "Big 4" (a description used to refer to the remaining Big 4 international audit firms (PricewaterhouseCoopers, Ernst & Young, Deloitte & Touche and KPMG; after the collapse of Arthur Andersen in 2002, a then member of the "Big firms" family) and the SMPs. The International Federation of Accountants (IFAC) indicates that what constitutes an SMP varies from one jurisdiction to another. The IFAC's definition refers to an SMP as an accounting practice/firm that exhibits the following characteristics: its clients are mostly small- and medium-sized entities; external sources are used to supplement limited in-house technical resources; and it employs a limited number of professional staff (IFAC, 2011). Thus this study examines audit quality differences between the Big 4 and the SMPs in the Ugandan context.

DeAngelo (1981) measuring auditor size by the number of clients, analytically demonstrates that auditor size is positively related to audit quality, because big firms have: greater ability to withstand client pressure; greater concern for their reputation; greater resources, in terms of both competent personnel and advanced technology; and a more developed audit strategy and process. In line with the theory advanced by DeAngelo (1981) other scholars using various surrogates of audit quality have also provided evidence to support the notion that big firms provide higher quality audits (Li *et al.*, 2008; Al-Ajim, 2009; Francis and Yu, 2009).

Other scholars, however, have argued that "big audit firms" might not always provide higher quality audit services than non-big firms (e.g. Salehi *et al.*, 2008; Khurana and Raman, 2005). Enofe *et al.* (2013) fail to find any significant relationship between audit firm size and audit quality in Nigeria. Plausible arguments are advanced why non-Big 4 firms and Big 4 could provide comparable audit quality. For example, Lawrence *et al.* (2011) argue that first, both types of firms are held to same monitoring – regulatory and professional standards, thus they must adhere to a reasonable level of quality. Second, citing the US Government Accountability Office (2008) report, Lawrence *et al.* (2011) argues that because non-Big 4 accounting firms are struggling to obtain affordable liability Insurance coverage in the USA, this may be an incentive for them to increase audit effort relative to Big 4 given the likely heavy consequences of a failed audit and absence of an appropriate insurance cover. Anecdotal evidence based on recent cases of corporate audit failures in the developed economies and the collapse of Arthur Andersen, a former member of the "Big N" family; could also support the assertion that big audit firms are not necessarily offering a higher audit quality. Almost all the largest audit firms have been associated with some sort of audit failure (Zabihollah, 2005).

Consequently calls are made for revisiting the issue of auditor size and audit quality. For example, Simunic (2003) supports further inquiry because of many unanswered questions like: how different are audit processes of "big firms" from those of "non-big firms" in order to inform a conclusion on quality differences? Are big firm audits of higher quality in all contexts, e.g. when litigation risk is low? Knechel (2009) argue that audit quality is essentially a client-specific characteristic and generalizations about a firm's audits may not be appropriate beyond specific engagements. This is because client characteristics and risk profiles differ, and resources needed to conduct each audit are also different. It may therefore be erroneous to equate quality with size all the time and in all environments. In similar direction, Al-Thuneibat *et al.* (2011) call for an investigation of the effect of auditor size on audit quality from the perception of other groups, e.g. investors and those charged with governance.

The above literature is clear that there is a relationship between auditor size and audit quality. It is, however, not yet clear whether using the various measures used to proxy for audit quality audit quality differences amongst the big audit firms and the small and medium audit practices are discernible. This therefore provides our study objective and research question to guide the inquiry stated as follows:

RQ1. Is audit quality of the Big 4 audit firms different from that of SMPs in a developing economy?

3. Methodology

Research setting

The auditing profession in Uganda can be traced from the commencement of the Companies Act, Cap 110, Laws of Uganda in 1961 and the Accountants Act of 1992, which has now been superseded by the Accountants Act of 2013. The genesis of the Accountants Act, 2013 is continuing concerns on audit quality. As of 2014 Uganda has a total of 194 practicing audit firms down from 200 in 2009 (ICPAU, 2014). This is arguably a worrying situation given the fact that Uganda has been growing at a consistent annual increase in economic growth than the African average of 5.4 per cent (UN Economic Commission for Africa, 2011) and having more than 480,000 registered and operational businesses according to the 2010/2011 Uganda Business Census (Kulabako, 2014). However, it is to be noted that the accounting and auditing profession in Uganda was unregulated until 1992 when ICPAU came into being with the enactment of the Accountants Act of 1992. In Uganda, Big 4 firms (PricewaterhouseCoopers, Ernst & Young, Deloitte & Touche, KPMG) practice along with SMPs (composed of small sole proprietorships; partnerships of local partners only; partnerships with affiliation to international networks – other than Big 4).

Despite the numerous audit firms, and legislative and regulatory efforts, the country continues to experience audit breakdowns which have been documented (World Bank, 2005; Sejjaaka, 2005) with the most recent results by Kasigwa *et al.* (2013) showing that reduced audit quality behaviour is a wide spread problem in Uganda. In most cases, audit firms have certified financial statements as true and fair when in fact the contrary should have held. For example, the findings of the Judicial Commission of Inquiry into the Closure of Banks in 1999 show that the three closed banks (International Credit Bank, Greenland Bank and Cooperative Bank) had questionable financial statements which had been certified as true and fair by the same auditors over a long period. Ironically, one of the culprit audit firms was a member of the "Big Firm" group; while the second one would qualify to be "small size auditor" and the third should not have been auditing at all as the "audit partner" was found to hold questionable qualification (Judicial Commission of Inquiry into the closure of Banks, 2000). This setting suggests the need to understand audit quality differences amongst audit firms in Uganda.

Research design, population and sample

The study adopts a mixed methods design to examine audit quality differences amongst audit firms in Uganda. The use of mixed methods enables triangulation to take place (Saunders *et al.*, 2007) so as to capture a comprehensive, holistic and contextual description of social phenomenon understudy (Sieber, 1973). Mixed methods approach that fully integrates mixed methods designs with constant cross-referencing from qualitative interview to quantitative survey data represents well the opportunities of approaching different elements of a research question (Grafton *et al.*,

2011) such as ours. This methodology has previously been applied in accounting research (Wouters and Wilderom, 2008; Davila and Foster, 2007; Graham *et al.*, 2005). Following these precedents we extend the use of mixed methods in this audit quality research. Specifically, we adopt a sequential triangulation strategy (Creswell *et al.*, 2003) whereby during phase 1, we qualitatively explore the dimensions of audit quality and develop an instrument used during phase 2, the quantitative phase. This approach requires completely different samples under each phase (Van den Berghe and Levrau, 2007).

During phase 1, we use an open-ended questionnaire survey of audit practitioners and credit analysts from the financial services sector. From 253 authorized audit practitioners (ICPAU, 2009) and 66 credit officers from 23 commercial banks, we sample 152 auditors and 106 audit practitioners respond (or about 69 per cent response rate). Besides, only 31 responses are received from the credit officers. For cross-validation, we supplement the open-ended questionnaire survey with semi-structured interviews with board members from the financial services sector. For this purpose we interview 13 board members (see Table AI for a profile of these) in the financial services sector. Essentially, we interview those with the requisite knowledge, experience and willingness to participate in the study. During phase 2, we survey board members and top executives from the financial services sector. We consider the top executives and board members to be properly placed, experienced and to have sufficient knowledge to respond to the survey questionnaire. For example, the board members recommend, for appointment, the external auditors and ensure that the auditors selected deliver quality audits (Jackson *et al.*, 2008). On the other hand, the top executives interact with external auditors during audits and are assumed to have a fair understanding of issues of audit quality. We select the financial services firms and then respondents from each firm. We use proportionate stratified random sampling technique (Kothari, 2002) to select firms from lists obtained from Bank of Uganda, Insurance Regulatory Authority-Uganda and the Capital Markets Authority. A total of 76 firms using Yamane's (1967) sample selection approach is obtained out of 96 financial services firms. From each firm we select three board members or top executives (76 firms×3 = 228 respondents) and a total of 67 firms respond. From these, we utilize 183 usable questionnaires.

The questionnaire and measurement of variables

In phase 1, the open-ended questions require auditors and credit officers to state how audit fees; level of discretionary accruals and compliance of audited accounts to accounting standards, legal and regulatory requirements could be used as measures of a quality audit. Similarly, board members are asked: first, would you consider audit fees, discretionary accruals and extent of compliance of audited accounts to legal and regulatory requirements to be indicators of audit quality? Why/why not? Second, does the size or type of audit firm matter for audit quality? Why/why not? In phase 2, the quantitative survey instrument is based on the three dimensions of audit quality sourced from the reviewed literature and findings from phase 1. The questions are anchored on a five-point Likert-scale. The questionnaire requires among others, the size of audit firm always hired by respondents' firms and self-reported information on audit quality in the respondent's firm.

We use NVivo8© to analyse the 13 transcribed interviews and answers from open-ended questions. We follow the "cross-case analysis" technique that codes and groups together similar data items from each individual case and source (Miles and Huberman, 1994). Coding is done following a two-step procedure. First, we read and organize the materials in each source and group them into "free nodes", named according to similar themes they capture. Second, we read materials under "free nodes" to sort and

re-organize them into "tree nodes" creating a sort of parents and siblings relationship of the materials – enabling us to move from high-level audit quality constructs of audit fees, level of discretionary accruals and compliance of audited accounts to their respective dimensions that formed the scales items (see Figure 1).

Figure 1 indicates the dimensions and scales of audit quality as obtained from phase 1 and forms the basis of item scales in the questionnaire in phase 2. Data are tested for effects of missing data following Little's (1988) guidance. Little's (1988) statistical test confirmed the missing data were missing completely at random ($\chi^2 = 3{,}996.530$, df = 4,044, sig = 0.699, $p > 0.5$) and for very few cases (< 5 per cent). We use "pairwise" exclusion as a better option to handle missing data (Pallant, 2007; Tabachnick and Fidell, 2007).

The responses to items in the questionnaire are subjected to a Principal Component Analysis (PCA) to reduce the data to a manageable level (Field, 2009). Table I indicates that audit fees has two components, "audit effort" and "service quality" all explaining a total of 54.99 per cent of the variance in audit fees. Similarly, Table II shows that level of discretionary accruals has three components, "fair value accuracy", "constraining unethical behaviours" and "provisions accuracy" all explaining 61.38 per cent of the variance in level of discretionary accruals. Further, Table III shows that compliance of audited accounts has four components, "accounting standards compliance", "legal requirements compliance", "timeliness" and "regulatory requirements compliance" explaining 53.87 per cent of the variance in compliance of audited accounts.

In PCA with varimax rotation all factors loading below 0.4 are suppressed consistent with the recommendation by Stevens (1996). Moreover, the data showed that it was appropriate to factorial analysis (The KMO values for the three audit quality sub-scales were AQfees (0.71); AQdac (0.66) and AQcomp (0.77)), all exceeding the recommended value of 0.6 (Kaiser, 1970, 1974; Tabachnick and Fidell, 2007). The Bartlett's test of Sphericity (Bartlett, 1954) of all the scales reached statistical significance ($p < 0.05$)

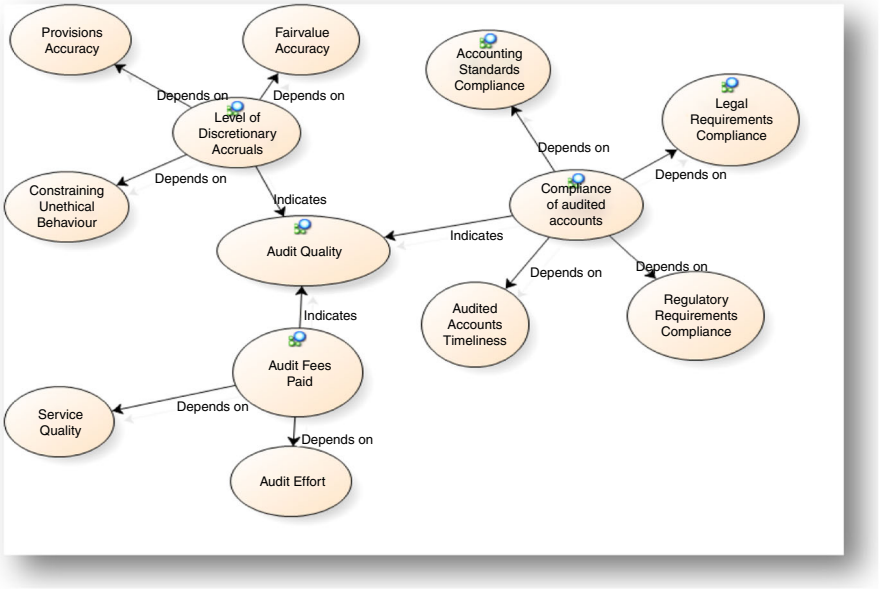

Figure 1.
A schematic presentation of indicators of audit quality in financial services firms in Uganda

Item scales	Component: Audit effort	Component: Service quality
In our firm audit fees go hand in hand with the detailed audit procedures (Aq10)	0.761	
We pay audit fees that reflect exhaustiveness of the external audit (Aq4)	0.749	
We pay audit fees that reflect auditor's effort and quality (Aq12)	0.709	
We always put a premium on the expertise of the external auditors (Aq6)	0.675	
We pay audit fees that reflect the quality and size of work (Aq7)	0.579	
We pay audit fees in line with expected level of service (Aq1)		0.851
We receive quality audit services for the of fees we pay (Aq2)		0.711
We pay external auditors in commensurate with their expertise (Aq3)		0.628
We pay fees that are sufficient to drive external audit quality (Aq8)		0.572
Eigen values	3.598	1.351
% of total variance explained	39.97	15.02
Cumulative variance explained (%)	39.97	54.99
Cronbach's α coefficient	0.81	

Table I.
Audit fees (AQfees)

Notes: Extraction method: principal component analysis; rotation method: varimax with Kaiser normalization

Item scales	Component: Fair value accuracy	Component: Constraining unethical behaviours	Component: Provisions accuracy
We depreciate our assets at rates commensurate with their use (Aq14)	0.867		
Fair value estimates in our accounts are always in line with our industry practices (Aq15)	0.812		
We have always agreed with external auditors on fair value estimates (Aq13)	0.717		
Our management always has a way of biasing the level of provisions in our accounts (Aq22)		0.844	
Our audited accounts have always had unsupported block amounts and auditors do not raise queries (Aq23)[a]		0.812	
Our external auditors never discuss with us the level of fair value estimates in our accounts (Aq19)[a]		0.531	
Our external auditors provide proposed adjustments on reserves, provisions and fair value estimates (Aq18)			0.763
External auditors examine materiality of the level of estimates and other provisions in our accounts (Aq21)			0.714
We always have provisions in our accounts to meet eventualities (Aq20)			0.593
Eigen values	2.739	1.493	1.292
% of total variance explained	30.43	16.59	14.36
Cumulative variance explained (%)	30.43	47.02	61.38
Cronbach's α coefficient		0.70	

Table II.
Level of discretionary accruals (AQdac)

Notes: Extraction method: principal component analysis; rotation method: varimax with Kaiser normalization. [a]Stand for item is reverse coded

Table III.
Compliance of audited accounts (AQcomp)

Item scales	Component: Accounting standards compliance	Legal requirements compliance	Timeliness	Regulatory requirements compliance
Our audited accounts always have all the requisite financial disclosures (Aq32)	0.723			
Our audited accounts always have all the requisite non-financial disclosures (Aq33)	0.688			
Our audited accounts have always met the our industry-specific financial reporting requirements and disclosures (Aq36)	0.609			
Our audited accounts have always reflected the specific legal reporting requirements of our sector (Aq34)	0.600			
It is necessary for external auditors to ensure that our accounts comply with International Accounting Standards (Aq31)	0.560			
Our audited accounts meet all presentation and disclosure requirements (Aq39)	0.552			
Our audited accounts are presented in accordance with International Accounting Standards (Aq25)	0.525			
It is important for our audited accounts to reflect compliance with legal requirements (Aq40)		0.816		
Our external auditors have always given advise on accounting standards applicable to our firm (Aq41)		0.796		
Our audited accounts have always reflected the requirements of the company's Act (Aq43)		0.742		
Our audited accounts are always error free (Aq24)			0.748	
Our audited accounts are never late (Aq44)			0.706	
Our audited accounts have always had spelling mistakes (Aq38)			0.507	
Our audited accounts are not in the same format as those similar firms in our industry (Aq29)				0.706
Our regulators sometimes raise queries on our audited accounts (Aq37)				0.536
Our audited accounts always have explanatory notes (Aq28)				0.508
Our audited accounts are always presented in a consistent way (Aq27)				0.427
Eigen values	4.753	1.569	1.453	1.400
% of total variance explained	27.85	9.23	8.55	8.24
Cumulative variance explained (%)	27.85	37.08	45.63	53.87
Cronbach's α coefficient		0.80		

Notes: Extraction method: principal component analysis; rotation method: varimax with Kaiser normalization

indicating that correlations between items were sufficiently large and therefore supporting the factorability of the data. Basing on the Keiser's criterion of eigen value rule only factors with an eigen value of 1.0 or more were retained (Kaiser 1970, 1974). The composite audit quality variables had an average variance extracted of higher than the recommended 50 per cent (Fornell and Larcker, 1981). Thus, the PCA confirms the measures of audit quality as audit fees, discretionary accruals and compliance of audited accounts. This substantiates the results obtained from interviews in phase 1. For example, in one of the cases we find the following for audit fees:

> The point honestly is that, if you want quality, you have got to be prepared to pay for it […] high audit fees indicate quality because you are remunerating the firm for its quality by way of investing in training, systems, controls and effort generally […] (Case 9).

Similarly, for discretionary accruals we find the following:

> A quality auditor should be able to verify the reasonableness of the accounting estimates made by management. This is because that estimate should also be based on something. There are standards; there are standards and the policy of the company like if they are going to provide for doubtful debts in any case why are you providing it as a block figure? It cannot be a block figure; it is based on something […] There are standards of arriving at fair values of certain items depending on the industry. So it should not be guess work, there should be a systematic way of arriving at those estimates. An estimate can be a reasonable basis; you cannot dismiss it because it is an estimate. But it should be based on something and it should be consistently applied so that if there is a small difference it can be offset the following year. But it should be based on something. So an auditor who does not do work on estimates would obviously have failed. That is a major area to look at and make sure that this is properly applied, there is a principle behind it and is consistently applied […] (Case 5).

Finally for compliance of the audited accounts we find the following:

> You see the product of an audit is certainly the audited financial statements with the audit report and opinion, […] with the financial statements themselves, you want to see how are they presented, we have a whole regime of accounting standards, so you want to see that the financial statements, actually the presentation, is coming out the way the standards require […] usually every organization operates within some given legal framework. We have our own constitution, the articles and memorandum of association in this case, so I would want the auditor to first and foremost ensure that the reporting is in line with our constitution, because that is what we have registered with the registrar general and that is what our members know. Then there is another framework within which we are operating; we have the company's Act with the attendant requirements. You have to make sure that the Company is actually complying with the requirements of the company's Act. Then we are also a regulated company like any other bank […], so the requirements of the legal regulator are also important (Case 12).

Collectively, the above measures are consistent with measures of earlier scholars (e.g. Carcello *et al.*, 2002; Abbott *et al.*, 2003; Li Dang, 2004; Klein, 2006; Hoitash *et al.*, 2007; Adeyami *et al.*, 2012) who have relied on these dimensions as proxy for audit quality.

We examine whether our respondents perceive the items in the questionnaire the same way in order to detect the presence of any bias. We conduct a one-way between groups analysis of variance to explore the impact of the demographic characteristics of the respondents on scores of audit quality. We divide respondents into two groups – board members and top executives – on the basis of their demographic characteristics (i.e. position held, length of service, gender, academic and professional qualifications). This procedure shows no statistically significant difference ($p > 0.05$) in audit quality scores for the two groups on each of the demographic characteristics, except for the

influence of professional qualification ($p = 0.03$). Despite professional qualifications reaching statistical significance, the actual difference in mean scores on audit quality between the groups is quite small (accounting: mean 4.091, $\sigma = 0.325$; finance: mean 3.973, $\sigma = 0.356$; banking: mean 4.438, $\sigma = 0.428$; insurance mean 4.092, $\sigma = 0.393$; no professional qualification: mean 4.024, $\sigma = 0.320$). And the effect size calculated using η^2 is also small ($\eta^2 = 0.03$). Thus the overall differences between respondents based on their positions within firms, length of service with the firms, academic and professional qualifications and gender does not bias the results of this study. In addition, we test for whether the problem of common-rater bias is material. The Harman's single factor-test (Podsakoff *et al.*, 2003) confirms that the influence of common methods bias is immaterial because as we conduct the PCA and there is no one dominant factor accounting for the majority of variances in audit quality.

4. Results

Descriptive statistics

The means and standard deviations are generated to summarize the observed data, because according to Field (2009), means represent a summary of data and standard deviations show how well the means represent data. Thus the purpose here is to establish whether the statistical means are a good fit of the observed data. Of the three dimensions of the construct audit quality, compliance with accounting standards, the law and regulatory requirements is evaluated as the most relevant measure of audit quality with the highest scores (mean = 4.109, $\sigma = 0.407$), followed by level of discretionary accruals (mean = 4.095, $\sigma = 0.453$) and audit fees (mean = 3.983, $\sigma = 0.506$). The mean score and standard deviation for the global variable, audit quality, are respectively, 4.033 and $\sigma = 0.345$. The data show high perceptions of audit quality in the financial services firms by board members and top executives in Uganda. Most respondents (69 per cent) indicate that their firms hire Big 4 audit firms compared to SMPs (31 per cent), suggesting that Big 4 audit firms are the most common firms in the financial services sector in Uganda.

Differences in audit quality amongst audit firms

The position of this paper is to answer the question of whether audit quality of the Big 4 audit firms is different from that of SMPs in a developing economy – Uganda. To answer this question, we test whether audit quality differs for two sizes of auditors using a Mann-Whitney U test. This test allows us to compare the scores on the same continuous variable for one categorical variable with two groups (Table IV).

Results reveal significant audit quality differences in favour of Big 4 audit firms only in one of the three dimensions of audit quality, compliance with accounting standards, law and regulatory requirements (AQcomp) with median = 4.125, $n = 125$, $U = 2{,}883.000$, $z = -2.061$, $p = 0.04$, $r = -0.15$. This interprets that Big 4 audit firms are better able to ensure that financial services firms produce financial statements that comply with accounting standards, legal and other regulatory requirements than the SMPs. However, taking all the three audit quality dimensions together as a global variable (AUDQUAL), the results reveal no significant differences in audit quality levels of SMPs (median = 3.940, $n = 55$) and Big 4 audit firms (median = 4.070, $n = 124$), $U = 3{,}154.500$, $z = -0.799$, $p = 0.42$, $r = -0.06$. This result interprets that on the whole, board members and top executives perceive no difference in audit quality between SMPs and Big 4 audit firms.

	AUDQUAL	AQfees	AQdac	AQcomp
Mann-Whitney *U*	3,154.500	3,095.500	3,074.500	2,883.000
Wilcoxon *W*	4,694.500	4,691.500	11,075.500	4,536.000
z	−0.799	−1.242	−1.387	−2.061
Asymp. sig. (2-tailed)	0.424	0.214	0.165	0.039
Effect size[a]	−0.05972	−0.09232	−0.10281	−0.15277
SMPs (median, *n*)	3.940 (55)	3.925 (56)	4.111 (56)	3.997 (57)
Big 4s (median, *n*)	4.070 (124)	4.000 (125)	4.000 (126)	4.125 (125)
Total (median, *n*)	4.033 (179)	4.000 (181)	4.111 (182)	4.074 (182)

Notes: Grouping variable: auditor size/pairwise exclusion; AQfee – audit quality sub-scale audit fees; AQdac – audit quality sub-scale constraining discretionary accruals; AQcomp – audit quality sub-scale compliance with accounting standards, law and regulatory requirements. [a]Effect size (r) = z/square root of n, n = total number of cases, and compared to Cohen's (1988) criteria of 0.1 = small effect, 0.3 = medium effect, 0.5 = effect (Pallant, 2007)

Table IV.
Mann-Whitney *U* tests – auditor size and audit quality

The following excerpts from the personal interviews with board members reinforce this result:

> […] many times we get taken by the size [of the audit firm] and we forget that the big 4 will not bring into your office [company] the partners will not come; but the small firm will give a big job much more attention; what is a small job to a big firm may be a big job to a small firm and in fact the attention of the partners will be higher if you recruit a small firm; not too small that doesn't have capacity, but small enough to ensure that they deliver the audit within the time frame, they have the resources and can recruit enough staff. To me in my personal view is that medium size firms, where you have 3 or 4 partners, can tend to do a better job if they have the resources than those so called big 4 […]. you are attracted by the quality of the partner [in the big 4]; somehow the quality and experience about the partner is so attractive. What happens when the actual work starts, the person that comes to you to do the work as a manager or audit team leader, may not actually, the quality may not be so appealing so sometimes we get concerned about the composition of the teams that are sent to do the work (Case 1).

> We have to accept that Big 4 have money and the tendency is that they employ highly paid people. But also because of their size, they also have their problems […] they tend to prescribe one size fits all sort of solution […] so you cannot put a blanket statement that big and international firms necessarily deliver quality audits […] (Case 12).

> […] It is even dangerous to just select a firm because it is a member of the big 4, big 4 might relax because they think they have a name […] they have a lot of work […] they fail to attend to routine details […] you go to see the partner, he is too busy […] they don't take much care of you […] (Case 13).

5. Discussion

Given the test to answer the question of whether there are any audit quality differences among audit firms in Uganda using a Mann-Whitney *U* test, results suggest that: Big 4 audit firms ensure more compliance with accounting standards, law and other regulatory requirements than SMPs Audit firms; taking all the three audit quality dimensions together reveals no significant differences in audit quality levels between Big 4 and SMPs. The results reported in this paper augment the following themes: first, audit quality depends on audit fees paid by clients, level of discretionary accruals and compliance of audited accounts (see Figure 1). In the case of Uganda, the audit fees paid

are observable from service quality and audit effort, the latent variable of level of discretionary accruals is also observable from constraining unethical behaviour, provisions' of accuracy and fair value accuracy, and compliance of audited accounts is observable from audited accounts' timeliness, regulatory requirements' compliance, legal requirements' compliance and accounting standards' compliance (see Figure 1). This evidence is corroborated by Tables I-III, respectively, with item scales; second, contrary to the evidence noted by Tyrone *et al.* (2008) that large audit firms provide higher quality audits and offer greater credibility to clients' financial statements than small auditor firms, results of this study suggest that Big 4 audit firms might be needed for compliance with accounting standards, law and other regulatory requirements but this advantage for audit quality is negated by the Big 4's failure to attend to routine details of the audit (see Case 13 above); third, based on the perception of board members from the financial services sector who we presume are properly placed, experienced and have sufficient knowledge of financial reporting requirements and who have a role in recommendation, for appointment, the external auditors and ensure that the auditors selected deliver quality audits (Jackson *et al.*, 2008), there are no audit quality differences between the Big 4 audit firms and SMPs in Ugandan services sector firms and so too are the perceptions of top executives who presumably interact with external auditors during audits and are also assumed to have a fair understanding of issues of audit quality.

As the results of this study suggest that Big 4 audit firms might be needed for compliance with accounting standards, law and other regulatory requirements, we can state that the result provides credence to practitioner literature that has often defined audit quality as the extent to which an audit conforms to applicable standards (see Watkins *et al.*, 2004). By Big 4 audit firms ensuring compliance with the accounting standards, law and other regulatory requirements, their audit ties in with the most basic level of accountability required of firms as outlined by Stewart (1984) which requires accounting for probity and legality which, in practice, requires a low level of judgement to be exercised by those making the account and by extension, those auditing such firms. So it seems the Big 4 audit firms focus more on exploring the discharge of financial accountability through compliance with identified, appropriate regulatory requirements. This is because, as Clout *et al.* (2013) have argued, Big 4 firms are also likely to be under heavier scrutiny from external monitors, including analysts, the media and other parties, than SMPs. Hence, even if Big 4 audit firms in Uganda ensure compliance with regulatory framework, this does not materially put them above the SMPs in the provision of audit quality since ensuring compliance with reporting/or regulatory framework is just auditing for probity and legality. Accordingly, as Lawrence *et al.* (2011) argues, incorrectly classifying Big 4 audit firms as superior to non-Big 4s may have unnecessary selection bias by clients. This study shows that on the balance of probabilities, there are no audit quality differences among audit firms in Uganda.

These findings are inconsistent with the widely held view of existence of a significant difference in audit quality of the various types of auditors skewed more to bigger firms offering superior audit quality than their counterparts, the SMPs that has dominated research from the developed economies (e.g. DeAngelo, 1981; Becker *et al.*, 1998; Lennox, 1999; Krishnan and Schauer, 2000; Francis and Yu, 2009). The current findings, however, support scholars from emerging and developing nations who have failed to find quality differences between big audit firms and SMPs (see, e.g. Enofe *et al.*, 2013; Al-Thuneibat *et al.*, 2011; Tyrone *et al.*, 2009; Caramanis and Spathis, 2006; Jeong and Rho, 2004; Khurana and Raman, 2005). Various explanations have been advanced for observed similarity in audit quality. These have included the argument that where

both Big 4 and non-Big 4 audit firms are held to the same regulatory and professional standards; they must adhere to a reasonable level of quality (Lawrence *et al.*, 2011). This suggests that auditors react to environmental effects in the same way regardless of their size. Further, it is also argued that non-Big 4 auditors tend to have superior knowledge of local markets (Louis, 2005) than the local offices of the Big 4 audit firms, making them more able to relate with clients. The current study extends the above and attributes' similarity of perceived audit quality to a better service quality from SMPs in comparison to Big 4s. This and the above factors therefore compensate for any likely negative perception about the audit quality of SMPs, in our case, compliance with accounting, law and other regulatory requirements.

Furthermore, going by the schematic presentation of indicators of audit quality in financial services firms (see Figure 1), our results support those studies that have found that the level of discretionary accruals is explained by provisions' accuracy and fair value accuracy (Pott *et al.*, 2009; Li Dang, 2004; Ronen and Yaari, 2008; Myers *et al.*, 2003). Similarly, like other scholars (Miettinen, 2008; Al-Harshami, 2008; Hay *et al.*, 2006; Abbott *et al.*, 2003; Carcello *et al.*, 2002) have indicated, variances in audit fees are explained by service quality and audit effort. In the same vein, that compliance of audited accounts is indicated by accounting standards' compliance, legal requirements' compliance, audited accounts' timeliness and other regulatory requirements' compliance is consistent with extant literature (Adeyami *et al.*, 2012; Tyrone *et al.*, 2009; Watkins *et al.*, 2004; Krishnan and Schauer, 2000). For example, Adeyami *et al.* (2012) reports that the Nigerian Stock Exchange President's Merit Award for best reporting in annual reports is won by companies that satisfy the statutory requirements, compliance with listing and post-listing requirements among others. Therefore our results suggest that audit firms should be assessed basing on their ability to constrain discretionary accruals, to produce audited accounts that comply with requirements of accounting standards, the law and regulations; and to examine the fees they charge in relation to quality of service, than on their size. This provides support for the theoretical exposition that financial statements should not contain material errors (DeAngelo, 1981) and further supports normative (practitioner) literature that define audit quality as conformance to applicable standards (Watkins *et al.*, 2004).

6. Conclusion and implications

The position of this paper has been to answer the question of whether audit quality of the Big 4 audit firms is different from that of SMPs in a developing economy – Uganda. In answering this question we first calibrated and examined audit quality measures in Uganda and then using these measures of audit quality, examined the assumption of marked audit quality differences between large audit firms (Big 4) and the SMPs. The results from qualitative interviews (Figure 1), which are also corroborated by the PCA results (Tables I-III) show that audit quality in Uganda is a three multi-dimensional construct: constraining discretionary accruals; compliance of audited accounts to accounting standards, law and regulations and; size of audit fees – in essence providing a metric for assessing audit quality in Uganda. Then second, test for audit quality differences using a Mann-Whitney *U* test and find that while there are significant audit quality differences in favour of Big 4 audit firms only in one of the three dimensions of audit quality – compliance with accounting standards, law and regulatory requirements, overall the results reveal no significant differences in audit quality levels of SMPs and Big 4 audit firms.

Based on the results of this study, a number of issues call for the attention of researchers/academicians and practitioners and/or society. First, financial service firms in Uganda, policy makers, company boards and management could use these findings as

a guideline on what to focus on in the context of auditor selection. Indeed as all registered companies in Uganda have to be audited (per Companies Act of 1961), small and medium companies could use SMPs as this study indicates that SMPs provide similar quality audits relative to Big 4's. This study shows that among the factors to consider, size of the audit firm should not be because our findings indicate that any size of audit firm is capable of rendering the required audit quality. So, when approving audit firms in the financial services sector, this should require examining how the audit firm deploys audit procedures meant to constrain discretionary accruals; ensure compliance of financial statements to accounting standards, law and regulatory requirements and the size of audit fees it charges. The fees charged should reflect audit effort and service quality. Second, in the Ugandan financial services sector context, it determines the factors which affect audit quality. Third, the study identifies, probably for the first time, the observable variables for the latent variables of audit effort and service quality (audit fees), fair value accuracy, constraining unethical behaviour and provisions' accuracy (level of discretionary accruals), and auditing standards' compliance, legal requirements' compliance, timeliness and other regulatory requirements' compliance (Compliance of audited accounts) in the developing country context. The study shows that Big 4 auditors only perform better on the compliance scale, yet that requires a low level of judgement to be exercised by those performing the audit. However, by Big 4 audit firms ensuring compliance of audited accounts offers hope for users of accounts audited by Big 4 as African financial markets are inefficient and underdeveloped, their regulatory frameworks for accounting are weak, and compliance with accounting rules is low (Okeahalam, 2004). Lastly, as the results of this study suggest that Big 4 audit firms might be needed for compliance with accounting standards, law and other regulatory requirements, their audit ties in with the most basic level of auditing requiring probity and legality which, in practice, requires a low level of judgement to be exercised by those performing the audit, it might be useful for Big 4 and other audit firms to embark also on higher level of auditing requiring higher level of judgement. Future research may wish to examine auditing firms' proclivity to higher level judgment audit.

As with any study, our study has some limitation. The fact that our measurement is based on a cross-sectional design and we are unable to observe repeated behaviour. Still, the results of this study are significant for those charged with control of companies and those charged with management of companies. The results are particularly useful to those boards of directors wishing to leverage the use of their external auditors.

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Appendix

Table AI. Profile of board members interviewed

Case No.	Gender	Age bracket	Academic qualification	Professional qualification	Work experience (years)	Board experience (boards)
1	Male	40-49	Masters	ACCA	24	2
2	Male	40-49	Masters	HRM	23	5
3	Male	60+	Masters	None	38	12
4	Male	60+	Masters	FIB	35	6
5	Male	60+	Diploma	ACCA	30	7
6	Male	30-39	Masters	CPA	10	1
7	Male	40-49	Masters	None	19	7
8	Male	40-49	Bachelors	ACCA	15	2
9	Male	60+	Bachelors	ACCA	36	5
10	Male	60+	Masters	ACCA	34	3
11	Female	40-49	Masters	ACCA	20	4
12	Male	60+	Bachelors	ACCA	32	3
13	Male	50-59	Masters	CPA	21	4

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