Professional Skepticism and Audit Quality in an Emerging Economy

Twaha Kigongo Kaawaase

Department of Accounting, Makerere University Business School

Irene Nalukenge, **Juma Bananuka** and **Veronica Mukyala**

Department of Accounting Makerere University Business School

Abstract

Purpose – Motivated by the increasing questioning of audit quality and the suspected non-application of sufficient professional skepticism by auditors to drive audit quality, the study sought to examine the relationship between professional skepticism and audit quality in an emerging economy.

Design/methodology/approach – The study adopted a cross-sectional survey methodology using a close-ended data collection instrument containing tested measures of audit quality and professional skepticism to generate quantitative data from a randomly selected sample of 201 accountants in practice and business in Uganda. Quantitative data was analyzed with the aid of a quantitative data analysis tool SPSS 22©.

Findings. Underpinned by Mindset theory, the study has revealed that both types of professional skepticism i.e. Situational/contextual and inherent personality traits professional skepticism, are significant and positive determinants of audit quality. The two types of professional skepticism explain 51.4% of the variance in audit quality. The study has further shown that with the exception of a *questioning mind* (which is not significant), all the other five inherent personality traits of professional skepticism are significant and positive determinants of audit quality, revelaed in order of importance as *Self-determining*, *Interpersonal understanding*, *Self-confidence*, *Search for knowledge* and *Suspension of judgement*. It has also been established that there are no marked differences between accountants in practice and those in employment on professional skepticism and audit quality.

Originality/Value - The study illuminates the underpinnings of professional skepticism and audit quality. It has shown the situational and inherent trait factors that enhance professional skepticism which practitioners ought to emphasize to audit staff in order to improve audit quality. The study has shown regulators of auditors a basis of evaluating auditor's application of professional skepticism so as to improve audit quality in emerging economies.

Key Words: Audit Quality, Professional Skepticism, Mind set theory, Emerging economies, Uganda

1.0 Introduction

The external auditor's opinion on financial statements is meant to provide a reasonable level of assurance to the users that the financial statements give a true and

fair view and contain quality information that can be used as a basis for decision making. However, users will only believe in the assurance if they have confidence in the quality of the audit and trust that the audit is performed in accordance with the applicable auditing standards, laws, and regulations. Despite the undisputable importance of audited financial statements, there is continued questioning of the quality of audits performed by external auditors. Successive audit investigation reports by the International Forum of Independent Audit Regulators (IFIAR) and its members i.e. oversight bodies from all over the World, like the Public Company Accounting Oversight Board (PCAOB) in the United States, the Netherland's Authority for Financial Markets (AFM) and the UK's Financial Reporting Council (FRC) show that audit firms deliver audits that contain a significant number of deficiencies (IFIAR, 2020; PCAOB,2019a; PCAOB 2019b; AFM,2019; FRC, 2019). In Uganda, the phenomenon of questionable audits was first highlighted in the findings of the Judicial Commission of Inquiry into the Closure of banks in 1999 and it is still continuing. All the three closed and investigated banks [International Credit Bank, Greenland Bank and Cooperative Banks] had questionable but unqualified financial statements and audited by the same auditors over a long time (Judicial Commission of Inquiry into the Closure of Banks, 1999). The Institute of Certified Public Accountants of Uganda (ICPAU)'s auditor monitoring program continues to unearth a lack of strict adherence by the auditors to the auditing standards (Kyamanywa, 2020**).** This implies that for a high number of audits auditors formulate opinions on the financial statements based on insufficient audit evidence.

Since DeAngelo (1981) a number of studies on the antecedents of audit quality have focused on the audit firm, audit client and the auditor as an individual (see Alareeni, 2019 and Mahdi, Mohamad and Gah, 2019) with mixed findings. At audit firm level, studies proxing audit quality with differing measures (for example Li *et al*., (2008), Al-Ajim, 2009; Francis and Yu, 2009) have provided evidence of a positive relationship between audit firm size and audit quality. Others for example Kaawaase et al, (2016); Salehi *et al*., (2008); and Khurana & Raman (2005) have argued that "big audit firms" might not always provide higher quality audit services than their counterparts, the Small and Medium audit firms. At audit client level, provision of non-audit services like management advisory services, tax and accounting services to an audit client are reported to be impairing auditor's independence and subsequently audit quality (Al-Eissa, 2009; Habib, 2012; Krauss & Zulch, 2013). However, (Bell et al.,2015 and Alareeni ,2019) reveal that audit quality is positively associated with provision of non-audit services because it enhances the auditor's knowledge of the client, which should increase audit quality. Studies of the influence of auditor tenure on audit quality have posted mixed results. Pham et al., (2014) and Bell et al., (2015) post a positive relationship between audit tenure and audit quality, while others like Carey and Simnett (2006) and Adeniyi et al., (2013) post a negative relationship between the two. Ndaba, Harber and Maroun (2021) post results that show that mandatory audit firm rotation after a certain tenure does not bolster auditor independence and or contribute more to audit approach, and therefore audit quality.

At individual auditor level, prior research has concentrated on explicit and easy to discern archival individual auditor characteristics e.g. age, experience, gender, task-specific knowledge and industry specialization and have ignored the behavior effects like

professional skepticism. Goodwin and Wu (2016) and Sundgren and Svanström (2014) document a negative association between partner age and audit quality, while Chi, Myers, Omer and Xie (2017) document a positive association between a partner's years of prior experience (as a partner) at the start of the current engagement and audit quality. The association between gender and audit quality is unclear as well (Olsen and Gold 2018). Archival research examining the impact of industry expertise on audit quality finds positive effects of industry expertise on audit quality (Bratten, Causholli, and Myers 2020; Chen, Hou, Richardson, and Ye 2018; Stein 2019).

The above motivates us for a study on audit quality from the individual auditors' perspective specifically through the lenses of professional skepticism. Professional skepticism has been put forward as a force that drives auditors to recognize potential errors and irregularities and to investigate misstatements, should they exist (Nolder and Kadous, 2018). Despite being such an important aspect in audits, International Standards on Auditing (ISAs) offer little guidance on how it can be applied in practice and there is no clear consensus regarding what it is and how it can be measured (IAASB, 2015), yet auditors are increasingly criticized for not applying sufficient professional skepticism by regulatory bodies (ACCA, 2017). Prior studies that have considered the impact of professional skepticism on auditing are sending mixed signals. For example, Payne and Ramsay (2005) report a decline in skepticism as auditors age and gain more experience. Similarly, Shaub and Lawrence (1999) find that lower staff are significantly more skeptical than higher-ranked auditors. Alternatively, older partners might accumulate portfolios of higher-quality clients (Lennox and Wu 2018), for which professional skepticism is less critical and therefore less salient. Calls are made for more research on the impact of individual auditor characteristics on audit quality (for example by Francis 2011; Knechel *et al.* 2013). DeFond and Zhang (2014) specifically call for future research to consider additional individual auditor characteristics, such as professional skepticism especially in emerging economies. This is because it is not known whether issues identified in developed economies are relevant to all auditors across the globe (Brazel and Schaefer, 2017) yet latest meta-analytic studies are documenting evidence of differing audit quality findings depending on the study settings (for example see Rajgopal, Srinivasan and Zheng, 2020; Alareeni, 2019).

The current study utilises data sourced from a questionnaire survey of 201 practicing accountants and base on the Mind set theory (Gollwitzer, 1990) to investigate the contribution of professional skepticism to audit quality. This is because decision quality is higher when there is a good match between the decision maker's mindset and the demands of the decision at hand (Nodeler and Kadous, 2018). Specifically, the study investigates how a skeptical mind triggered by situational / contextual factors at audit firm or audit client level (which we term situational/contextual professional skepticism) and traits specific to the individual auditor which we term (inherent personality traits professional skepticism) drives audit quality. We further test the validity of professional skepticism measures and indicators by Hurtt (2010) and the three International regulators of accountants (i.e. the International Auditing and Assurance Standards Board (IAASB), the International Accounting Education Standards Board (IAESB) and the International Ethics Standards Board for Accountants (IESBA) within an emerging economy (International Federation of Accountants [IFAC], 2017). Results of the study show that the scale items used are valid and reliable measures of professional skepticism.

Further using, multivariate analysis the study revealed that the two types of professional skepticism i.e. Situational/contextual and inherent personality traits professional skepticism are significant and positive determinants of audit quality. It has also been established that there are no marked differences between accountants in practice and those in employment on professional skepticism and audit quality.

The contributions of the study are; first unlike most previous studies that are based on archival secondary data to proxy audit quality, this study utilises views of the practicing accountants themselves on tested and valid measures of professional skepticism and audit quality. Secondly, the study answers calls for more auditor level studies of audit quality and extends our understanding of the phenomenon by illuminating the underpinnings of professional skepticism to drive audit quality in emerging economies.

The rest of this paper is organized into the following sections: The next section presents the literature review. Section three presents the methodology of the study. Results are presented in section four and discussed in section five. The final section six presents a summary of the study and conclusion thereof.

2.0 Literature review

2.1 Theoretical framework

DeAngelo (1981) provides a theory that has underpinned the understanding of audit quality and formed a basis of much of the studies of the phenomenon. DeAngelo's theory states that audit quality is the market-assessed joint probability that a given auditor will both discover a breach in the client's accounting system, and report the breach. Discovering the breach is seen as a function of the auditor's competence, while reporting the breach is premised on the degree of independence between the auditor and the client. That it is the fear to lose a client that will lead the auditor to accept breaches and not report them. DeAngelo's theory has been criticized for ignoring the conflicting roles of the various players in the audit market and within the financial reporting chain (Sutton 1993). Francis (2011) indicates that it is a theory of fraud rather than audit quality because an auditor who knowingly fails to report a material breach has committed fraud in some jurisdictions like the USA. And that it ignores the multiple factors that affect an auditor's capacity to detect misstatements (Francis, 2011). These multiple factors include factors at the audit client level, audit firm level, audit engagement level and individual auditor level like those specific and inherent to the auditor himself/herself for instance a skeptical mind set.

The Mindset theory may provide an alternative explanation to the problem of audit quality and its antecedents that relate to the auditor's state of mind. A mindset is a state of mind, or cognitive orientation that facilitates performance of a particular task. These cognitive orientations are made up of particular judgement criteria and cognitive processes and procedures (Gollwitzer, 1990). Nodeler and Kadous (2018) indicates that several types of mindsets have been identified including holistic mindsets that facilitate big picture thinking, abstract mindsets that facilitates making and evaluating decisions in line with one's principles, deliberative mindsets that facilitates identification of the best course of action and implemental mindsets that facilitate efficient completion of a chosen course of action. And that decision quality is higher when there is a good match

between the decision maker's mindset and the demands of the decision at hand. Dweck, Chiu and Hong (1995) have further shown that individuals hold mindsets of many attributes, including intelligence, personality traits, anxiety, morality, and writing ability, to name just a few. These mindsets appear to be domain-specific, meaning for example that the same individual can hold and apply more of each depending on the problem at hand e.g. delivering incontestable audited financial statements.

Drawing from mindset theory this study argues that auditor's skeptical state of mind is essential for audit quality and can be triggered by situational / contextual factors (i.e. situational/contextual professional skepticism) as well as cognitive traits of the auditor i.e. inherent personality traits professional skepticism.

2.2 Audit quality

Audit quality is a complex phenomenon with no commonly accepted definition. DeAngelo (1981) treats audit quality as a binary outcome (i.e. audit success or audit failure) yet others (for example Kaawaase *et al*, 2016; DeFond & Zhang, 2014; Francis, 2011) consider audit quality to be on a continuum that ranges from low to high quality. Consequently, scholars utilizing secondary data have adopted a number of proxies to characterize their understanding of audit quality. These have included for example size of audit fees, size of the audit firm, level of earnings quality/low discretionary accruals, qualified /unqualified audit opinions, going concern opinions, restatements of financial statements and litigations against audit firms (see Rajgopal, Srinivasan and Zheng, 2020; Alareeni, 2019; Mahdi, Mohamad and Gah, 2019; Francis & Yu, 2009). Scales of audit quality tapping into behavioral parameters of preparers, auditors and users of audited financial statements have also been developed (e.g. Knapp, 1991; Kaawaase et. al 2016). Accountancy regulators (for example by the IAASB, 2014) have taken a normative approach and indicated that audit quality is a function of factors like audit inputs, audit process, audit outputs, key interactions of the auditor within the financial reporting supply chain and contextual factors. The practitioners view compliance with auditing standards as a sign of high audit quality (Rajgopal *et al*., 2020).

The above indicates that audit quality has troubled and continues to challenge scholars, regulators and practitioners. Each of the espoused meaning and indicators of audit quality has limitations (see DeFond & Zhang,2014 for a summary of the pros and cons of these measures) and could be specific to particular research settings and hence the inconclusive findings witnessed this far.

2.3 Professional Skepticism

Stakeholders in an audit of financial statements understand professional skepticism differently. Standard setters and regulators of accountants understand it as an attitude required of auditors that includes having a questioning mind as well as being alert to conditions which may indicate possible misstatements due to error or fraud and a critical assessment of audit evidence (PCAOB, 2006; IAASB, 2015; IAASB,2016). Practitioners understand professional skepticism as a mindset that influences auditors' professional judgement (Nolder & Kadous, 2018; Glover &Prawitt, 2014). Academics are inconsistent in defining professional skepticism, some have adopted the regulator's view (Hurtt et al. 2013) and others adopt a "presumptive doubt" perspective which presumes some level of client dishonesty (Nelson 2009) with an emphasis on the need to gather

further evidence before accepting client-provided explanations (e.g. Peecher 1996, Turner 2001). Others refer to professional skepticism as the opposite of trust hence implicitly equating it to distrust (Choo and Tan 2000). Other scholars take a "neutral" perspective of professional skepticism (e.g. Hurtt 2010) which assumes an unbiased and objective mindset - neither assuming the client is honest or dishonest. This makes it difficult to determine the antecedents of professional skepticism and to demonstrate its appropriate level auditors should apply. It is evident from all the perspectives that professional skepticism sits within the mind of an auditor. In this paper we follow previous scholars and take a neutral perspective of professional skepticism. We argue that professional skepticism is a mindset aroused by situational factors and personality traits identified by Hurtt (2010) that are inherent in an individual auditor.

2.3.1 Situational / Contextual Professional Skepticism and Audit quality

Auditing standards give a clue to the effect that some situations may trigger more professional skepticism than others. For instance, ISA 240 states that higher fraud risk engagements should be audited with increased professional skepticism (IAASB, 2016). This suggests that there are audit circumstances that should result in changes in auditors' behaviors. Professional skepticism can therefore be aroused and emerge in reaction to particular circumstances. Marks, Mathieu and Zaccaro (2001) indicate that an emergent state is a cognitive, motivational, and affective state that is dynamic and vary as a function of situational characteristics. In auditing, such situational circumstances may be at audit firm level or audit client level.

At audit firm level, a firm's approach to training of auditors, including mentoring, reflective activity and practical on-the-job training, may also enhance the effective development of professional skepticism. Regulators of accountants have shown that resource constraints; a firm's tone at the top; local culture and groupthink are some of the factors that can affect professional skepticism (IFAC 2017). Nelson, Proell and Randel (2016) show that auditors who perceive their team leader to be more team-oriented are more likely to speak up and raise audit issues (i.e. engage in skeptical actions). Similarly, it has been shown that auditors whose audit partner stresses the importance of professional skepticism are more efficient and effective in the identification of relevant fraud risks as well as in their choice of relevant audit procedures (Carpenter and Reimers 2013). Further a number of authors have shown that audit firm and engagement culture may also significantly influence the level of professional skepticism exercised on engagements, as auditors respond to the rewards and incentives they face on specific engagements and within the overall firm structure (e.g., Nelson 2009; Brazel et al. 2016, Brazel and Schaefer, 2017). Collectively this suggests that audit firms can, to some extent, influence auditors' application of skepticism.

At audit client level, international regulators of accountants have shown that today's complex and first changing business environment requires alertness of auditors and an increased attention to business acumen. And that professional skepticism can be impeded by tight financial reporting deadlines imposed by clients (IFAC 2017). Prior academic research has found that auditors confronted with either a weak control environment or overly optimistic management assertions arrive at more skeptical judgments and engage in more skeptical actions (Quadackers et al. 2014; Feng and Li 2014). Bennett and Hatfield (2013) in an experiment of staff-level auditors interacting

with client management found less professional skepticism is exercised (reduced evidence collection) to avoid interactions with management when the client is intimidating. Shaub and Lawrence (1999) in an experiment that manipulate risk factors such as related party transactions and financially stressed clients, found that greater professional skepticism is significantly associated with risk in five of the nine scenarios they presented to auditors. Olsen & Stuart (2017) document results that show in high risk settings, client personality / behavior is irrelevant to the application of professional skepticism, but in low risk settings, an overtly nice / available client induces greater professional skepticism in auditors and therefore high audit quality. Moreover, when auditors perceive management of a client as more similar to themselves (for example, upon assessment of the qualifications and experience of the Chief Finance Officer) this reduces auditors' skepticism guard (Olsen & Gold, 2018) and may affect audit quality. In light of the above we state our first hypothesis as:

H1*: Situational/contextual professional skepticism is a positive and significant determinant of audit quality.*

2.3.2 Inherent Personality Traits Professional Skepticism and Audit quality

At a personal level, auditor personality traits are documented to have an effect on the required skepticism to drive audit quality. Ciołek (2017) and Hurt (2010) have identified the personality traits that are crucial for professional skepticism and therefore audit quality. These include trait of suspension of judgement (Ciołek, 2017; Hurt, 2010). Bunge (1991) indicates that skeptics are characterized by psychologists as individuals who do not accept naively the first things they perceive or think, but as critical individuals who want evidence before believing. The self-confidence trait enables an auditor to resist persuasive attempts and to challenge another's assumptions and conclusions and thereby improve audit quality. Self-determining trait relates to autonomy of an auditor i.e. moral independence. A prudent practitioner takes all appropriate steps to remove from his own mind any doubtful impressions or unanswered questions (Mautz and Sharif, 1961) and undertakes additional investigation and evidence until he or she is personally satisfied (Bunge, 1991).

It is also documented that skeptics have a desire to seek for knowledge and to investigate (Johnson, 1978; Bunge, 1991). This is a characteristic of search for knowledge that is required of auditors in line with having a sense of general curiosity or interest and problem-solving ability (Libby and Luft 1993) when looking for and evaluating audit evidence. The trait of inter-personal understanding is about understanding the motivation and integrity of individuals who provide evidence and recognizing that there could be many incentives and opportunities to clients' personnel to present misleading evidence or to commit fraud. The IAASB (2015) requires auditors to approach the audit with a questioning mind attitude. This requires being alert to conditions which may indicate possible misstatements due error or fraud, and a critical assessment of evidence (IAASB, 2015). Quadackers *et al*, (2014) documents evidence of the importance of trait skepticism in an audit of financial statements. They indicate that trait skepticism explains auditor's assessment of explanations provided by management depending on the audit risk environment. In light of the above, we hypothesize thus:

H2*: Inherent personality trait professional skepticism is a positive and significant determinant of audit quality*

H2a*: Suspension of judgement is a positive and significant determinant of audit quality.*

H2b*: Self-confidence is a positive and significant determinant of audit quality.*

H2c*: Self-determining is a positive and significant determinant of audit quality.*

H2d*: Search for knowledge is a positive and significant determinant of audit quality.*

H2e: *Interpersonal understanding is a positive and significant determinant of audit quality.*

H2f*: Questioning mind is a positive and significant determinant of audit quality.*

2.5 Control variables

We follow Bartov, Gul Tsui (2000) and control for confounding effects of size of the firm. It is documented that audit quality could be affected by size of the audit firm and audit client (Kaawaase *et al,* 2020 and Bartov, Gul & Tsui, 2000). We also control for effects of respondents' age, experience, level of education, accounting professional qualification and employment status since prior research has shown that various auditor characteristics for example, Partners' age (Goodwin and Wu;2016; Sundgren and Svanström,2014); years of prior experience (Chi, Myers, Omer and Xie 2017); position in the firm (Knapp and Knapp, 2001); gender (Olsen and Gold 2018); and industry expertise (Bratten, Causholli, and Myers 2020) have an effect on audit quality.

3. Methodology

3.1 Research design, population and sample size

The study adopted a cross sectional and quantitative survey research design to examine the set hypotheses. The population constituted 350 accountants on register as of 31st March 2018 (ICPAU, 2018). In line with the guidance of Krejcei & Morgan (1970) a randomly selected sample of 250 accountants was taken for the study. 201 useful questionnaires were returned resulting into a response rate of 80%. **Table 1** presents the demographic characteristics of respondents.

Table 1 : Profile of the Respondents (n = 201)

Category	Item	(100%)
Gender	Male	143(71%)
	Female	58(29%)
Age of the respondent	20 to 30 years	28(14%)
	31 to 40 years	74(37%)
	41 to 50 years	67(33%)
	51 to 60 years	22(11%)

	61 and above	10(5%)
Highest Academic Qualification	Certificate	6(3%)
	Diploma	16(8%)
	Bachelor's degree	100(50%)
	Master's degree	78(38%)
	Ph.D.	1(1%)
Professional Qualification	CPA	124(62%)
	ACCA	66(33%)
	Others	5(2%)
	None	6(3%)
Work Experience	5 Years and below	26(13%)
	6 - 10 Years	56(28%)
	11 – 15Years	39(19%)
	16 – 20 Years	42(21%)
	21 – 25 Years	17(9%)
	26 years and above	21(10%)
Employment status	Accountant in practice	133 (66%)
	Accountant in business	68 (34%)
Employer Type	Big 4 Audit firm	10 (5%)
	Mid-tier - Int. network	24 (12%)
	SMP – 3^{+} Partners	7 (3%)
	SMP – 2 Partners	48 (24%)
	SMP – 1 Partner	44 (22%)
	Corporate Entity	68 (34%)
Employer Size	0 – 15 Employees	114 (57%)
	16 – 35 Employees	39 (19%)
	36^{+} Employees	48 (24%)

The majority of the respondents (71%) were male aged and aged between 31-50 years (70%). This reflects the structure of the accounting profession in the country, as a male and middle-age dominated profession and relatively nascent. Majority of the respondents (89%) have at least a bachelors' degree. The most dominant professional qualification is CPA (62%) followed by ACCA (33%). This reflects the current legal regime that requires 'localization' of externally obtained accounting professional qualifications before one is allowed to be registered as a practicing accountant in Uganda. There is a high possibility that respondents

have more than one professional qualification. Majority of the accountants (59%) have worked for more than 10 years, and are employed in audit firms (66%) as opposed to corporate entities (34%). Of those employed in audit firms, majority work with Small and Medium audit practices (61%). Collectively, the profile of the respondents suggests that useful and relevant data was sourced for the study therefore its findings can inform policy and practical direction of the profession.

3.2 The questionnaire and variables measurements

This study is based on primary data collected with the help of a close-ended questionnaire with measurement items anchored on a 6-point Likert-type scale. Section one of the questionnaire collects background information about the respondents, their firms and employment status. Section two collects data on audit quality utilizing audit quality measurement items of the International Auditing and Assurance Standards Board [IAASB] (2014) and Kaawaase *et al*, (2016). IAASB (2014) and Kaawaase *et al*, (2016) indicate that quality audits require *inputs* such as appropriate values, ethics and attitudes of auditors. Such auditors should be sufficiently knowledgeable, skilled, experienced and having sufficient time allocated to them to perform the audit work. Further, quality audits involve auditors applying a rigorous *audit process* and quality control procedures that comply with laws, regulations and applicable standards. The *output element* of audit quality is about the auditor producing useful reports to those charged with governance, management, regulators and other stakeholders e.g. the audited financial statements and reports that describe weaknesses on say effectiveness of internal controls. *Interactions* within the financial reporting supply chain is about auditor interacting with people and processes involved in the preparation, approval, audit, analysis and use of financial reports. Such interactions include both formal and informal communications that participants in the supply chain can influence the behavior and views of others and thereby contribute to improvements in audit quality. Environmental factors or *contextual factors* include business practices, formal and informal commercial laws in a country which have the potential to impact the nature and quality of financial reporting and directly or indirectly audit quality. Auditors respond to these factors (see Table 2) when determining how best to obtain sufficient appropriate audit evidence.

Section three of the data collection instrument collects data on situational /contextual professional skepticism and Inherent personality traits professional skepticism. Situational / contextual professional skepticism is measured using contextual factors identified by the International Auditing and Assurance Standards Board (IAASB), the International Accounting Education Standards Board (IAESB) and the International Ethics Standards Board for Accountants (IESBA) as central in arousing a skeptical mind to apply professional skepticism in an audit (IFAC, 2017) (see Table 3). Inherent personality traits professional skepticism is measured using Hurtt (2010)'s *Professional Skepticism* 30 items scale of trait professional skepticism. Hurtt (2010)'s professional skepticism scale presents it as a multi-dimensional construct made up six inherent personality traits: suspension of judgment, self-confidence, self-determining, search for knowledge, inter-personal understanding and a questioning mind. All the original Hurtt (2010) measurement items loaded on the respective components except two items under *questioning mind* did not load (i.e. *I often reject statements unless I have proof that they are true*; and *I enjoy trying to determine if what I read or hear is true*), one reverse

coded measurement item under *interpersonal understanding* did not load (i.e. **Other people's behavior doesn't interest me*) and one reverse coded item under *self-confidence* did not load (i.e. **I don't feel sure of myself*)(see Table 4). The measurement items that loaded on each variable are shown in Tables 2 to 4 below and had an average variance explained of greater than 0.5 which means that, all the retained items correctly estimate what they are supposed to measure (Fornell & Larcker, 1981).

3.3 Tests of factorability, validity and reliability

Data was analyzed with the aid of a quantitative data analysis tool SPSS 22©. Factor analysis was used to test for reliability and validity of data collection instrument. Results in Tables 2 to 4 below show that all measures attained a Cronbach's alpha (**α**) coefficient (Cronbach, 1951) of greater than 0.7 [Audit quality: **α** = 0.97, Situational/contextual professional skepticism: **α** = 0.70**,** Inherent personality traits professional skepticism**:** **α** = 0.97]. These results imply that the measurement instruments are reliable (Field, 2009). To establish convergent validity and to reduce the data to a manageable level, the principal components for each variable were extracted by running Principal Component Analysis (PCA) using varimax rotation method. The PCA enabled the reduction of items to a small set of components that capture as much information as possible in the measured variables with as few components as possible. Factor loadings below 0.5 coefficients were suppressed to avoid extracting factors with weak loadings. All constructs attained acceptable convergent validity with an Average Variance Extracted (AVE) of above 0.5 (Fornell and Larcker, 1981). The AVE indicates how much of the variance in the indicators is explained by the underlying latent variable (Fornell & Larcker, 1981).

Prior to performing the principal component analysis for scales, we assessed the suitability of the data for factor analysis based on sample size adequacy, the Kaiser–Meyer–Olkin (KMO) and Bartlett tests. Tables 2 to 4 show results the KMO values of Audit quality scale (0.926), Situational/Contextual Professional skepticism scale (0.822) and Inherent personality trait skepticism scale (0.914). The Bartlett's test of sphericity in all the scales reached statistical significance (p = 0.000). Collectively, these results supported the factorability of the correlation matrices because the correlation matrices are significantly different from the identity matrices in which the variables would not correlate with each other. The individual scale items therefore correspond to the content of the constructs they were designed to cover (Field, 2009).

Table 2: Rotated Component factors of Audit Quality

1 = Input Factors 2 = Contextual factors 3 = Output factors 4 = Key Interactions 5 = Process factors : FRC = Financial Reporting Supply Chain	Component				
	1	2	3	4	5
I believe audit quality is driven by the values of the audit team	.852				
I believe audit quality is driven by skills and experience of audit team	.836				
I believe audit quality is driven by knowledge of the audit team	.810				
I believe compliance with applicable standards drives audit quality	.797				
I believe audit quality is driven by the ethical orientation of the audit team	.780				
I believe compliance with applicable regulations drives audit quality	.748				
I believe quality control process drive audit quality	.741				
I believe audit supervision is essential for audit quality	.735				
I believe audit documentation drives audit quality	.721				
I believe audit quality is influenced by attitude of audit team	.691				
I believe compliance with laws by auditors drives audit quality	.659				
I believe audit teams using appropriate Technology during the audit drives audit quality	.590				
I believe audit quality is driven by time allocated for the audit exercise	.573				
I believe audit quality is much about culture prevailing within the audit firm	.525				
I believe business practices of the audit client drive audit quality		.811			
I believe I.T systems used by the audit client drive audit quality		.775			
I believe the financial reporting framework of the audit client drives audit quality		.768			
I believe cultural environment within the audit client drives audit quality		.712			
I believe regulations governing an audit client drive audit quality		.708			
I believe audit client's corporate governance practices drive audit quality		.624			
I believe audit quality is about useful and timely audited financial statements			.726		
I believe a quality leads to improvements in Internal controls over financial reporting			.704		
I believe audit quality is about transparent audit reports			.675		
I believe a quality audit results into useful improvements in financial reporting practices			.543		
I believe interactions with users of audit reports drives audit quality				.744	
I believe auditors interactions with regulators of an audited entity drives audit quality				.685	
I believe where the auditor Interacts with shareholders in an AGM drives audit quality				.570	
I believe support of those involved in the preparation of financial reports is essential					.726
I believe audit quality is achieved when auditor interacts appropriates with those in the FRC					.675
I believe the rigor of the audit process drives audit quality					.577
I believe formal interactions with Those Charged with Governance drives audit quality					.507
Eigen Values	**16.88**	**3.65**	**1.40**	**1.32**	**1.18**
Variance Explained (%)	**46.89**	**10.13**	**3.89**	**3.66**	**3.28**
Cumulative Variance explained (%)	**46.89**	**57.02**	**60.90**	**64.56**	**67.84**
Cronbach Alpha (Overall α = 0.97)	**.96**	**.92**	**.89**	**.84**	**.86**

KMO = .926, Bartlett's Test of Sphericity (*Chi-Square = 6350.475, df = 630, p = 0.000*): Rotation Method: Varimax with Kaiser Normalization.

Table 3: Rotated Component factors of Situational/Contextual Professional Skepticism

1 = Business insight/acumen 2: Audit firm/client environmental factors	Component	
	1	2
I believe education and continuing effective training are vital in enhancing PS	.832	
I believe understanding of relevant standards, laws and regulations enables PS	.827	
I believe practical experience is critical to PS	.753	
I believe failure to understand the client's business model inhibits application of PS	.694	
I believe resource constraints impend professional skepticism	.620	
I believe the 'tone at the top' in audit firms impend professional skepticism	.608	
I believe culture within audit firms affects PS	.605	
I believe having strong professional competencies is vital in applying PS		.756
I believe tight financial reporting deadline impend professional skepticism		.725
I believe audit firm leadership does matter in the application of PS		.718
Eigen Values	**3.69**	**1.74**
Variance Explained %	**36.90**	**17.35**
Cumulative Variance Explained %	**36.90**	**54.25**
Cronbach Alpha (Overall α = .70)	**.84**	**.62**

Notes: KMO = .822, Bartlett's Test of Sphericity (*Chi-Square = 657.156, df = 45, p = 0.000*)
Rotation method: Varimax Rotation with Kaiser Normalization

Table 4: Rotated Component factors of Inherent Personality Traits Professional Skepticism

1 = Suspension of Judgement 2 = Self-Confidence 3 = Self Determining 4 = Search for Knowledge 5 = Interpersonal Understanding 6 = Questioning mind	Component					
	1	2	3	4	5	6
I don't like to decide until I've looked at all of the readily available information	.795					
I dislike having to make decisions quickly	.791					
I wait to decide on issues until I can get more information	.754					
I take my time when making decisions	.729					
I like to ensure that I've considered most available info. before taking a decision	.717					
I am confident on my abilities		.788				
I am self-assured		.779				
I have confidence in myself		.722				
I feel good about myself		.718				
*It is easy for other people to convince me			.843			
*I often accept other people's explanations without further thought			.808			
*I tend to immediately accept what other people tell me			.767			
*Most often I agree with what others in my group think			.742			
*I usually accept things I see, read or hear at face value			.594			
Discovering new information is fun.				.779		
I enjoy learning				.703		
I think that learning is exciting				.609		
The prospect of learning excites me.				.551		
I like searching for knowledge				.527		
I like to understand the reason for other people's behavior					.754	
I am interested in what causes people to behave the way that they do					.741	
The actions people take and the reasons for those actions are fascinating					.739	
*I seldom consider why people behave in a certain way					.511	
I frequently question things that I see or hear						.764
My friends tell me that I often question things that I see or hear						.744
I usually notice inconsistencies in explanations						.595
Eigen values	**11.99**	**3.02**	**1.54**	**1.30**	**1.27**	**1.11**
Variance extracted %	**39.95**	**10.05**	**5.14**	**4.32**	**4.22**	**3.69**
Cum Var. extracted %	**39.955**	**0.00**	**55.15**	**59.47**	**63.69**	**67.38**
Cronbach Alpha (Overall α = .94)	**.91**	**.91**	**.86**	**.88**	**.73**	**.82**

Notes: KMO = .914, Bartlett's Test of Sphericity (*Chi-Square = 3949.363, df = 435, p = 0.000*)
Rotation method: Varimax Rotation with Kaiser Normalization * Item is reverse coded

3.4 The Models

This study utilises multivariate regression analysis in models 1 and 2 to test the study hypotheses H_1 and H_2 and to determine the contribution of situational/contextual professional skepticism and Inherent personality traits professional skepticism to audit quality after controlling for the cofounding effects of age, experience, level of education and Accounting professional qualification, as well as size of their firm and employment status i.e. working as auditors or otherwise). To test the sub-hypotheses $H2_{a, b, c, d, e, f}$ and to establish the contribution of each of the components of Inherent personality traits professional skepticism to audit quality a hierarchical regression analysis is utilized (models 3 and 4).

Models for testing study hypotheses

Model 1

$$AudQual = \beta_0 + \beta_1 Age + \beta_2 Educ + \beta_3 PrfQual + \beta_4 Exp + \beta_5 Size + \beta_6 Empy + \varepsilon_j$$

Model 2

$$AudQual = \beta_0 + \beta_1 Age + \beta_2 Educ + \beta_3 PrfQual + \beta_4 Exp + \beta_5 Size + \beta_6 Empy + \beta_7 SitCtxps + \beta_8 IPTps + \varepsilon_j$$

Model 3

$$AudQual = \beta_0 + \beta_1 Age + \beta_2 Educ + \beta_3 PrfQual + \beta_4 Exp + \beta_5 Size + \beta_6 Empy + \beta_7 SitCtxps + \varepsilon_j$$

Model 4

$$AudQual = \beta_0 + \beta_1 Age + \beta_2 Educ + \beta_3 PrfQual + \beta_4 Exp + \beta_5 Size + \beta_6 Empy + \beta_7 SitCtxps + \beta_8 IPTsj + \beta_9 IPTsc + \beta_{10} IPTsd + \beta_{11} IPTsk + \beta_{12} IPTiu + \beta_{13} IPTqm + \varepsilon_j$$

Table 5: Definition of variables

Variable	Acronym	Variable description
Dependent Variable		
Audit Quality	*AudQual*	Measured by average rating on a six-point Likert scale of questions on Input factors, Contextual factors, Output factors, Key Interactions, Process factors and Financial Reporting Supply Chain
Predictor Variables		
Situational/Contextual Professional Skepticism	*SitCtxps*	Measured by average rating on a six-point Likert scale of questions on business acumen and environmental factors at audit firm and audit client level affecting professional skepticism
Inherent Personality Traits Professional Skepticism	*IPTps*	Measured by average rating on a six-point Likert scale of questions on inherent personality traits of Suspension of judgement, Self-confidence, Self-determining, Search for Knowledge, Interpersonal understanding and Questioning mind that drive professional skepticism of an individual.
	IPTsc	Self Confidence component of IPTps
	IPTsd	Self-Determining component of IPTps
	IPTsk	Search for Knowledge component of IPTps
	IPTiu	Interpersonal Understanding component of IPTps
	IPTqm	Questioning Mind component of IPTps
	Age	Respondent's age in years

Educ	Respondent's highest level of education
PrfQual	Respondent has an accounting prof. qualification: 1=Yes, 0 = No
Exp	Respondent's working experience in years
Size	Size of the respondent's firm by number of employees
Empy	Respondent's employer: 1 = Audit firm 0 = Others
εj	Error term

4. Results

4.1 Descriptive statistics

Means and standard deviations were determined to summarize the observed data. **Table 6** below gives a summary of the means and standard deviations.

Table 6: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	201	1	5	2.56	1.023
Education level	201	1	5	3.26	.737
Accounting Prof. Qualification	201	0	1	.91	.286
Work experience	201	1	6	3.15	1.507
Employment status	201	0	1	.662	.474
Size of employer	201	1	3	2.84	1.475
Situational/Contextual Professional Skepticism	**201**	**1.00**	**6.00**	**4.559**	**.857**
IPT Suspension of Judgement	201	1.00	6.00	4.910	1.096
IPT Self-Confidence	201	1.00	6.00	5.169	1.079
IPT Self Determining	201	1.00	6.00	4.671	1.171
IPT Search for Knowledge	201	1.00	6.00	5.163	1.004
IPT Interpersonal Understanding	201	1.00	6.00	4.272	1.072
IPT Questioning Mind	201	1.00	6.00	4.579	1.255
IPT Professional Skepticism	**201**	**1.28**	**6.00**	**4.794**	**.826**
Audit Quality - Input factors	201	1.00	6.00	5.128	.987
Audit Quality - Contextual factors	201	1.00	6.00	4.400	1.278
Audit Quality - Output factors	201	1.00	6.00	4.828	1.221
Audit Quality - Key Interactions in the FRC	201	1.00	6.00	4.078	1.372
Audit Quality - Process factors	201	1.00	6.00	4.813	1.086
Audit Quality	**201**	**1.00**	**6.00**	**4.650**	**.977**

PS = Professional Skepticism IPT = Inherent Personality Trait FRC = Financial Reporting Chain

The mean scores for the variables of study range between 3.96 and 5.16 on a six-point Likert scale. In comparison to the mean, the standard deviations range from 0.83 to 1.72. The small standard deviations relative to the mean values indicate that the data points are close to the means which is an indication that the means represent the data observed.

4.2 Correlation analysis results

Preliminary analysis was performed to ensure that assumptions of normality, linearity and homoscedasticity (Field, 2009; Pallant, 2007) are not violated. Results in Table 7 below show that professional skepticism in total has a strong and positive relationship with audit quality ($r=.631^{**}, p < 0.01$) providing preliminary support for the study that professional skepticism drives audit quality.

Table 7: Zero-order Pearson Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Business insight factors	(1)	1														
Environmental factors	(2)	.107	1													
Situational/Contextual PS	**(3)**	**.658****	**.819****	**1**												
IPT Suspension of Judgement	(4)	.571**	.058	.374**	1											
IPT Self-Confidence	(5)	.614**	.176*	.488**	.600**	1										
IPT Self Determining	(6)	.235**	.460**	.484**	.328**	.470**	1									
IPT Search for Knowledge	(7)	.686**	.170*	.525**	.682**	.651**	.358**	1								
IPT Inter- Understanding	(8)	.430**	.024	.266**	.483**	.384**	.084	.474**	1							
IPT Questioning Mind	(9)	.521**	.192**	.446**	.573**	.510**	.340**	.620**	.419**	1						
IPT Professional Skepticism	**(10)**	**.679****	**.248****	**.580****	**.817****	**.805****	**.588****	**.839****	**.629****	**.787****	**1**					
Professional Skepticism	**(11)**	**.752****	**.611****	**.897****	**.661****	**.721****	**.601****	**.761****	**.496****	**.687****	**.881****	**1**				
Adt Quality_Input factors	(12)	.777**	.158*	.568**	.713**	.750**	.353**	.778**	.468**	.568**	.807**	.769**	1			
Adt Quality_Env_Contx factors	(13)	.599**	-.078	.287**	.406**	.399**	.037	.420**	.434**	.399**	.465**	.420**	.555**	1		
Adt Quality_Output Factors	(14)	.617**	.114	.442**	.488**	.541**	.200**	.613**	.417**	.518**	.619**	.593**	.710**	.574**	1	
Adt Quality_Interact. in FRC	(15)	.481**	-.107	.197**	.346**	.277**	-.053	.353**	.433**	.226**	.347**	.303**	.438**	.692**	.528**	1
Adt Quality_Process factors	(16)	.663**	.107	.464**	.552**	.546**	.171*	.613**	.531**	.509**	.649**	.622**	.682**	.607**	.654**	.517**
Audit Quality	**(17)**	**.750****	**.034**	**.459****	**.592****	**.590****	**.154***	**.656****	**.552****	**.525****	**.681****	**.637****	**.799****	**.847****	**.837****	**.797****

**. Correlation is significant at the 0.01 level (2-tailed) PS = Professional Skepticism IPT = Inherent Personality Trait

*. Correlation is significant at the 0.05 level (2-tailed) Interact. In FRC = Interactions in Financial Reporting Supply Chain

Specifically, the findings have revealed a significant positive relationship between situational/contextual professional skepticism and audit quality ($r = .459^{**}, p < 0.01$). This suggests that improvements in situational/contextual professional skepticism are likely to lead to increases in audit quality. For Inherent personality trait professional skepticism results also show a strong and significant positive relationship with audit quality ($r=.681^{**}, p < 0.01$). Suggesting that an improvement in Inherent personality trait professional skepticism may lead to improvement in audit quality. Further, all dimensions of inherent personality traits professional skepticism have a significant positive relationship with audit quality i.e. for suspension of judgment ($r=.592^{**}, p<0.01$), for self-confidence ($r= 0.590^{**}, p <0.01$), for self-determining ($r = 0.154^{*}, p <0.05$), for search for knowledge ($r = .656^{**}, p < 0.01$), for interpersonal understanding ($r =.552^{**}, p < 0.01$), and for questioning mind ($r = .525^{**}, p < 0.01$). This result suggests that high levels of any of the personality traits are likely to lead to high audit quality.

4.3 Regression analysis results

Results in Table 8 show a non-significant effect of control variables on audit quality as revealed by their respective standardized beta (β) coefficients in model 2 (Age: $\beta = 0.117, p > 0.05$; Level of education: $\beta = 0.000, p > 0.05$; Accounting professional qualification: $\beta=0.049, p > 0.05$; Experience: $\beta = -0.107, p > 0.05$; Employment status: $\beta = 0.064, p > 0.05$; Size of the firm: $\beta = -0.025, p > 0.05$). This suggests that control variables do not have a confounding effect on the results of the study. After controlling for the control variables, under model 2, situational/contextual professional skepticism ($\beta = 0.343, p < 0.001$) and Inherent personality trait professional skepticism ($\beta = 0.448, p < 0.001$) are both significant and positive predictors of audit quality. Both types of professional skepticism explain a significant 51.4% of the variance in audit quality (Adjusted $R^2 = 0.514, F = 27.474, p < 0.001$). These results support H_1 which states that situational/contextual professional skepticism is a positive and significant determinant of audit quality. This implies that an increase in *situational/contextual professional skepticism* will result into an increase in audit quality. Similarly, H_2 is also supported which states that inherent personality trait professional skepticism is a positive and significant determinant of audit quality, suggesting that an increase in *Inherent personality trait professional skepticism* results into an increase in audit quality.

Table 8: Multiple Regression analysis (DV = Audit quality)

Item	Model 1	Model 2	Model 3	Model 4	VIF	Tol.
Constant	4.191***	.068	1.020**	.130	na	na
Age	-.015	.117	.130	.096	2.563	.390
Education level	.031	.000	.011	.003	1.134	.882
Accounting Prof. qualification	.118	.049	.079	.066	1.190	.840
Work experience	-.047	-.107	-.191	-.070	2.643	.378
Employment status	.073	.064	.051	.026	1.060	.943
Size of the employer	-.005	-.025	-.029	-.017	1.067	.937
Situational/Contextual PS		.344***				
IPT Professional Skepticism		.448***				
Situational/Contextual PS			.653**	.341***	2.146	.466
IPT Suspension of Judgement				.128**	2.304	.434
IPT Self Confidence				.186**	2.387	.419
IPT Self-determining				.217***	1.430	.699
IPT Search for Knowledge				.169**	2.947	.339
IPT Interpersonal Understanding				.200***	1.472	.679
IPT Questioning mind				.067	1.928	.519
R	.142	.731	.657	.797		
R^2	.020	.534	.432	.636		
Adjusted R^2	-.010	.514	412	.610	**Durbin Watson Test 2.005**	
R^2 Change	.020	.534	.412	.203		
F-Statistic change	0.663	27.474	140.137	17.386		
Sig. F-Change	0.680	0.000	0.000	0.000		

Results in table 8 under model 4 further show that sub-hypothesis H_{2a} is supported i.e. *Suspension of judgement* is a positive and significant determinant of audit quality ($\beta = 0.128, p < 0.05$). This suggests that the more auditors withhold/suspend judgement until all facts are clear the higher will be audit quality. H_{2b} is supported i.e. *Self-confidence* is a positive and significant determinant of audit quality ($\beta = 0.186, p < 0.001$). This implies that the more confident auditors are and resist persuasion in situations of unclear audit evidence the higher will be audit quality. H_{2c} is supported i.e. *Self-determining* is a positive and significant determinant of audit quality ($\beta = 0.217, p < 0.001$). This implies that the more auditors are self-determining, act autonomously and independent the higher the audit quality. H_{2d} is supported i.e. *Search for knowledge* is a positive and significant determinant of audit quality ($\beta = 0.1693, p < 0.001$). This result shows that the more inquisitive auditors are the higher will be audit quality. H_{2e} is supported i.e. *Interpersonal understanding* is a positive and significant determinant of audit quality ($\beta = 0.200, p < 0.001$), implying that the more auditors understand individuals they interact with say of their integrity and motivation the higher will be audit

quality. Surprisingly H_{2f} is not supported i.e. *Questioning mind* is a not a significant determinant of audit quality ($\beta = 0.067, p > 0.05$). This result, interpreted together with the correlation result for a questioning mind suggests that when acting alone, the trait of a questioning mind has some influence on audit quality, however in the presence of the other five inherent personality traits, auditors need not be very curious when evaluating audit evidence.

Collectively the above results imply that increases in professional skepticism aroused by audit firm and audit client level situational factors, and factors inherent to the individual auditor's mind, will result into higher audit quality. Results in Table 8 further show that all the diagnostic tests for multi-collinearity confirm non-violation of the assumptions for a valid regression and hence buttress the results above. Variance Inflation Factors – VIF are well below 10, all Tolerance factors are well above 0.1; and the Durbin-Watson statistic (DW test) is 2.005 confirm validity of the regression results (Field, 2009; Pallant, 2007).

4.4 Supplementary ANOVA analysis

Further analysis was carried out to determine if there are significant differences in professional skepticism and audit quality mean scores of accountants in practice (practicing as auditors) and accountants in business and employment (e.g. practicing as Chief Finance Officers or Accountants). Results of ANOVA tests carried out show that the Levene's test was insignificant for audit quality (F=027, t = 910, df = 199, P > 0.05) and also insignificant for professional skepticism (F= 397, t = -.307, df = 198, P > 0.05). These results indicate that there are no significant differences in views and attitudes on professional skepticism and audit quality between all registered accountants in practice and those in employment in Uganda.

5. Discussion of findings

This study has established that professional skepticism (triggered by factors at audit client, audit firm and individual auditor personality traits level) is a positive and significant determinant of audit quality. The findings support Cohen, Dalton and Harp (2017) who document results to the effect that professional skepticism has a positive and significant influence on the accuracy of audit opinions. In emerging economies, the study supports Kusumawati & Syamsuddin (2018) and Mardijuwono & Subianto (2018) who document results of a positive relationship between professional skepticism and audit quality in Indonesia and that the relationship is also moderated by auditors' ethical behavior (Puspitasari et al (2019). This is because at audit client level, when auditors exhibit heightened professional skepticism, they are more conservative and stand more resolute during negotiations over the financial statements with client management (Brown-Liburd et al., 2013) hence leading to higher audit quality. This study has indicated that to achieve the requisite heightened professional skepticism, auditors ought to fully understand the client's business model, have adequate financial resources and be worry of tight financial reporting deadlines imposed by the audit client. At the audit firm level, this study supports Carpenter and Reimers (2013) who show that firms with partners who emphasize professional skepticism are more efficient and effective in identifying fraud risks as well as in selecting relevant audit procedures, and hence improving audit quality. The current study has shown and confirmed that within the audit firm, firm leadership,

tone at the top and a culture that promotes professional skepticism are essential to spur the requisite professional skepticism and hence audit quality. In addition, audit firms have to ensure that staff have the necessary training, professional competence and experience in order to drive professional skepticism and audit quality. This is in line with the mindset theory in that when the auditor's cognitive mind is oriented towards the objective of the audit exercise, they will be more inclined to perform the audit in line with expected standards and there by improve audit quality

The results of a positive relationship between inherent personality traits professional skepticism and audit quality supports Hurtt *et al*., (2013) who posts results to the effect that auditors that rate higher on trait professional skepticism i.e. have a higher skeptical behavior, detect more inconsistencies when reviewing audit documentation and therefore more able to offer higher audit quality. And results further support Quadackers et al. (2014) and Rose (2007) who using the inverse of trust to measure professional skepticism, show that less trusting auditors are more likely to arrive at skeptical judgments in an audit task, and they pay more attention to instances of aggressive financial reporting in financial statements thereby rendering quality audits. To achieve this, the current study has shown, in a sequential order, the requisite mind set personality traits auditor must have as self-determining, interpersonal understanding, self-confidence, search for knowledge and suspension of judgement. In particular, the study has shown that auditors need to defer judgement until one has looked at all available information; auditor have to have confidence in themselves and their abilities; they should not easily accept explanations; not to tire when looking for evidence and have an interest in understanding the motives and behaviors of those supplying the audit evidence. This result aligns with the mindset theory in that the same individual may hold and apply more of each of the personality trait attributes to trigger a skeptic behavior and identify the best audit quality course of action (Dweck, Chiu and Hong, 1995) during an audit.

6. Summary and conclusion

This study sought to examine the relationship between professional skepticism and audit quality. Drawing from the mindset theory and utilizing data obtained from 201 practicing accountants the study specifically examined the relationship of situational/contextual professional skepticism and inherent personality traits professional skepticism with audit quality. It has been established that both aspects of professional skepticism are significant and positive determinants of audit quality. Additionally, with the exception of a questioning mind, all inherent personality traits of professional skepticism (i.e. self-determining, interpersonal understanding, self-confidence, search for knowledge and suspension of judgement) are significant and positive determinants of audit quality.

This study has important implications for academics, practitioners and regulators. For academics, it has calibrated and shown validity of two scales of professional skepticism (situational / contextual professional skepticism and inherent personality trait professional skepticism) and that both aspects of professional skepticism are key determinants of audit quality. And that the significant personality traits that underpin professional skepticism to drive audit quality in their order of importance are: self-determining, interpersonal understanding, self-confidence, search for knowledge and

suspension of judgement. For practitioners and regulators of accountants in emerging economies, the results of the study are important to owners of audit firms, since they show the situational and inherent professional skepticism factors practitioners should be emphasizing in order to improve audit quality. The study has shown regulators of auditors a basis of evaluating auditor's application of professional skepticism to improve audit quality.

Like any other study, results of this should be interpreted taking into account the following limitations. First, this study was limited to practicing accountants in Uganda; the results may only be applicable to Uganda. Second, although the study sought pertinent views from practicing accountants there could be self-report bias and the study missed the view of other stakeholders in the audit processes. Third, the study was cross-sectional and used a quantitative research approach which limits respondents' freedom to express their opinions and yet behaviors may change over time. Future studies could adopt a mixed methods approach including use of interviews and focus group discussions to obtain a deeper understanding of professional skepticism and audit quality. However, the use of established measures and scales in both academic and normative literature as well as the diagnostic steps taken to ensure validity of our findings implies that the study's results are important for Uganda and could be generalized in other similar environments.

References

Adeniyi, S. I., & Mieseigha, E. G. (2013). "Audit tenure: An assessment of its effects on audit quality in Nigeria". *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *3*(3), 275-283.

Association of Chartered Certified Accountants [ACCA] (2017), "Banishing Bias? Audit, objectivity and the value of Professional Skepticism" *The Association of Chartered Certified Accountants, UK*. Available at www.accaglobal.com Accessed : 15th April, 2017

Al-Ajim, J. (2009), "Audit firm size, corporate governance, and audit quality: Evidence from Bahrain", *Advances in Accounting, incorporating Advances in International Accounting,* Vol. 25, pp 64-74

Alareeni, B. A (2019), "The associations between audit firm attributes and audit quality-specific indicators: A meta-analysis" *Managerial Auditing Journal* Vol. 34 No. 1, 2019 pp. 6-43

Al-Eissa, A. I. (2009). "*Non-audit services and auditor independence: the case of Saudi Arabia*" (Doctoral dissertation, Victoria University) Available at : https://vuir.vu.edu.au/2008/1/Abdulazia.pdf Accessed : 6th July, 2020

Authority for Financial Markets (AFM) (2019), "2019 Annual Report" Available at : https://www.afm.nl/en/professionals/nieuws/2020/april/jaarverslag-2019 Accessed 30th March 2021.

Bartov, E., Gul, F.A. and Tsui, J.S.L. (2000). "Discretionary-accruals models and audit Qualifications", *Journal of Accounting and Economics*, 30(3), 421-452.

Bell, T. B., Causholli, M., & Knechel, W. R. (2015). Audit firm tenure, non-audit services, and internal assessments of audit quality. *Journal of Accounting Research*, *53*(3), 461-509.

Bennett, G. B., and R. C. Hatfield (2013), "The effect of the social mismatch between staff auditors and client management on the collection of audit evidence". *The Accounting Review* Vol. 88, No.1. Pp 31-50.

Bratten, B., Causholli, M., & Myers, L. A. (2020), "Fair value exposure, auditor specialization, and banks' discretionary use of the loan loss provision". *Journal of Accounting, Auditing & Finance*, Vol. 35 No.2, Pp 318-348.

Brazel, J. F., S. B. Jackson, T. J. Schaefer, and B. W. Stewart (2016), "The outcome effect and professional skepticism". *The Accounting Review* Vol. 91. No.6, Pp 1577-1599

Brazel, J.F., and Schaefer, T.J., (2017), "Research Insights—Auditor Professional Skepticism : Competence (Fraud Detection), Traits, and Conclusions & Future Research" Available at IFAC's Global Knowledge Gateway https://www.ifac.org/global-knowledge-gateway/audit-assurance/discussion/research-insights-auditor-professional-1. Accessed 10th March, 2021.

Bunge, M (1991), "A skeptic's beliefs and disbeliefs". *New Ideas in Psychology* Vol.9, No. 2. Pp 131-149

Carey, P., & Simnett, R. (2006). Audit partner tenure and audit quality. *The accounting review*, *81*(3), 653-676.

Carpenter, T.D., and J.L. Reimers. 2013. Professional skepticism: The effects of a partner's influence and the level of fraud indicators on auditors' fraud judgments and actions. *Behavioral Research in Accounting* 25(2): 45–69

Chen, F., Y. Hou, G. Richardson, and Ye, M., (2018). "Auditor experience and the timeliness of litigation loss contingency disclosures". *Contemporary Accounting Research,* 35 (2): 956– 979

Chi, W., L.A. Myers, T.C. Omer, and H. Xie. (2017), "The effects of audit partner pre-client and client-specific experience on audit quality and on perceptions of audit quality". *Review of Accounting Studies* 22(1): 361–391.

Choo, F. and K. Tan. (2000). "Instruction, skepticism, and accounting students' ability to detect frauds in auditing". *The Journal of Business Education 1 (Fall):* 72-87

Ciołek, M. (2017), "Professional skepticism in auditing and its characteristics". *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, (474), 33-40.

Cohen, J.R., Dalton, D.W. and N.L. Harp (2017), "Neutral and Presumptive doubt perspectives of Professional Skepticism and Auditor Job Outcomes," *Accounting, Organization and Society*, vol. 62, pp. 1-20

Cronbach, L.J. (1951), "Coefficient alpha and the internal structure of tests", *Psychometrika*, Vol. 16, pp. 297-334

DeAngelo, L.E. (1981), "Auditor size and audit quality", *Journal of Accounting and Economics*, Vol. 3 No. 3, pp. 183-199

DeFond, M., & J. Zhang (2014). "A review of archival auditing research". *Journal of Accounting and Economics*, Vol. 58. No. 2, Pp 275–326

Dweck, C.S., C. Chiu & Y.Hong (1995) "Implicit Theories and Their Role in Judgments and Reactions: A Word From Two Perspectives"*, Psychological Inquiry,* Vol.6 Np.4, pp 267-285, DOI: 10.1207/s15327965pli0604_1

Feng, M., and C. Li. (2014). "Are Auditors Professionally Skeptical? Evidence from Auditors' Going-Concern Opinions and Management Earnings Forecasts". *Journal of Accounting Research* 52(5): 1061–1085

Fornell, C., & Larcker, D. F. (1981), "Evaluating structural equation models with unobservable variables and measurement error". *Journal of marketing research*, Vol.18, No1 Pp 39-50

Francis, J.R. (2011), "A framework for understanding and researching audit quality", *Auditing: A Journal of Practice and Theory*, Vol. 30 No. 2, pp. 125-152.

Francis, J. R and Yu, M. D, (2009), "The Effect of Big Four Office Size on Audit Quality", *The Accounting Review,* Vol.8, Pp 1521

Field, A. (2009), *Discovering Statistics Using SPSS*, 3rd ed., Sage Publications, London.

Goodwin, J. and D. Wu. (2016). "What is the relationship between audit partner busyness and audit quality?" *Contemporary Accounting Research* 33: 341–377.

Glover, S.M., & Prawitt, D.F (2014), "Practitioner Summary-Enhancing auditor professional skepticism: The professional skepticism continuum" *Current Issues in Auditing* Vol.8. No.2 pp1-10

Gollwitzer,P.M.(1990), "Action phases and mind-sets" *Handbook of motivation and Cognition* Vol. 2 (pp.53-92) Foundations of social behavior.

Habib, A. (2012). "Non-audit service fees and financial reporting quality: A meta-analysis". *Abacus*, *48*(2), 214-248.

Hurtt, R.K., (2010), "Development of a scale to measure professional skepticism". *Auditing: A Journal of Practice & Theory*, *29*(1), pp.149-171.

Hurtt, R.K., H. Brown-Liburd, C.E. Earley, and G. Krishnamoorthy (2013). "Research on auditor professional skepticism: Literature synthesis and opportunities for future research". *Auditing: A Journal of Practice and Theory* Vol. 32: Pp 45–97.

International Auditing and Assurance Standards Board (IAASB) (2014). "A Framework for Audit Quality: *Key Elements That Create an Environment for Audit Quality February 2014*

International Auditing and Assurance Standards Board (IAASB) (2015) "*Invitation to comment*: *enhancing audit quality in the public Interest – A focus on Professional skepticism, quality control, and group audits*. New York, NY

International Auditing and Assurance Standards Board (IAASB) (2016) "*Handbook of International Quality Control, Auditing, Review, Other Assurance, and Related Services Pronouncements*. New York, NY: International Federation of Accountants.

Institute of Certified Public Accountants of Uganda [ICPAU], (2018), "List of Accounting Firms and Practicing Accountants as at 26th March, 2018" Available on www.icpau.ug accessed 31st March 2018.

International Federation of Accountants [IFAC] (2017), "Towards Enhanced Professional Skepticism", Available at : https://www.ifac.org/system/files/publications/files/Toward-Enhanced-Professional-Skepticism-IAASB-IAESB-IESBA.pdf Accessed 20th Dec, 2017

International Forum of Independent Audit Regulators [IFIAR] (2020), "Report on 2020 Survey of Inspection Findings" Available at https://www.ifiar.org/?wpdmdl=12436 Accessed 30th March 2021.

Johnson, O.A. (1978), "*Skepticism and Cognitivism"* Berkeley, CA: University of California Press, Ltd.

Kaawaase, K.T., Mussa, J., Assad, E. G., Kitindi., Nkundabanyanga, K.S. (2016). "Audit quality differences amongst audit firms in a developing economy", *Journal of Accounting in Emerging Economies,* Vol. 6 No.3 pp. 269 – 290

Khurana, I.K, & Raman, K.K (2005), "Are big four audits in ASEAN countries of higher quality than Non-big four audits?", *Asia-Pacific Journal of Accounting and economics,* Vol.11, pp 139 - 166

Knapp, M. (1991), "Factors that Audit Committees Use as Surrogates for Audit Quality", Auditing: A Journal of Practice & Theory, Vol 10 No. 1, pp. 35-52

Knapp, C.A., and M.C. Knapp (2001). "The effects of experience and explicit fraud risk assessment in detecting fraud with analytical procedures". *Accounting, Organizations and Society* Vol. 26: Pp 25–37.

Knechel, W.R., G.V. Krishnan, M. Pevzner, L.B. Shefchik, and U.K. Velury (2013), "Audit quality: Insights from the academic literature". *Auditing: A Journal of Practice and Theory* 32(S1): 385–421.

Krauss, P., & Zulch, H. (2013). Non-Audit services and audit quality: blessing or curse? *Journal of Applied Business Research (JABR)*, *29*(2), 305-326.

Krejcie, R.V. & Morgan, D.W. (1970), "Determining Sample Size for Research Activities", *Educational and Psychological Measurement*, Vol. 30 pp 607-610

Kusumawati, A. and S. Syamsuddin, (2018) "The effect of auditor quality to professional skepticism and its relationship to audit quality", *International Journal of Law and Management*, Vol. 60 Issue: 4, pp. 998-1008

Kyamanywa, S.(2020), "Audit quality: Findings and initiatives for improvement" Available at http://todaysaccountant.com/audit-quality-findings-and-initiatives-for-improvement/ Accessed 30th March 2021

Lennox, C. and X. Wu. 2018. A review of the archival literature on audit partners. *Accounting Horizons* 32(2): 1–35.

Li, C. Song, F.M. & Wong, S.M.L. (2008), "A Continuous Relation between Audit Firm Size and Audit Opinions: Evidence from China", International *Journal of Auditing,* Vol. 12: pp 111-127.

Libby, R., & Luft, J. (1993). "Determinants of judgment performance in accounting settings: Ability, knowledge, motivation, and environment". *Accounting, organizations and society*, Vol. 18 No.5, Pp 425-450.

Mahdi, S., Mohamad Reza Fakhri Mahmoudi, and Gah, A. D (2019) "A meta-analysis approach for determinants of effective factors on audit quality: Evidence from emerging market", *Journal of Accounting in Emerging Economies*, Vol. 9 Issue: 2, pp.287-312,

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of management review*, *26*(3), 356-376.

Mardijuwono, A.W. and Subianto, C. (2018), "Independence, professionalism, professional skepticism: The relation toward the resulted audit quality", *Asian Journal of Accounting Research*, Vol. 3 No. 1, pp. 61-71

Mautz, R.K., and H.A. Sharaf (1961), *"The Philosophy of Auditing"* American Accounting Association Monograph No.6. Sarasota, FL: American Accounting Association.

Ndaba, H., Harber, M. and Maroun, W. (2021), "Audit quality implications of regulatory change in South Africa", *Journal of Accounting in Emerging Economies*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JAEE-11-2020-0290

Nelson, M.W. (2009). "A model and literature review of professional skepticism in auditing". *Auditing: A Journal of Practice & Theory*. Vol.28 No.2. Pp 1-34.

Nelson, M.W., C.A. Proell, and A.E. Randel. 2016. Team-oriented leadership and auditors' willingness to raise audit issues. *The Accounting Review* 91(6): 1781–1805

Nolder, C.J., and K. Kadous (2018), "Grounding the professional skepticism construct in mindset and attitude theory: A way forward" Accounting*, Organizations and Society* Vol. 67: pp 1–14

Olsen, C., and A. Gold. (2018) "Future research directions at the intersection between cognitive neuroscience research and auditors' professional skepticism". *Journal of Accounting Literature* 41: 127–141.

Olsen, C., & Stuart, I. (2017). The Effects of Situational Professional Skepticism and Effect on Auditor's Skeptical Judgments: A Two-System Theory Perspective. In C. Olsen (Ed.), A Study of Professional Skepticism: Springer International Publishing.

Pallant, J. (2007). Survival manual. *A step by step guide to data analysis using SPSS*, *4*. McGraw-Hill, Berkshire England.

Payne, E.A., and R.J. Ramsay. 2005. Fraud risk assessments and auditors' professional skepticism. *Managerial Auditing Journal* 20(3): 321–330.

Peecher, M. E. (1996). "The influence of auditors' justification processes on their decisions: A cognitive model and experimental evidence". *Journal of Accounting Research*, Vol. 34 No.1, PP 125-140.

Pham, H., Amaria, P., Bui, T., & Tran, S. (2014), "A study of audit quality in Vietnam". *International Journal of Business, Accounting, & Finance*, *8*(2).

Public Company Accounting Oversight Board (PCAOB) (2019a). "Release No. 105-2019-031. Order instituting disciplinary proceedings, making findings, and imposing sanctions. Available at https://pcaobus.org/Enforcement/Decisions/Documents/105-2019-009-REM.PDF Washington, DC: PCAOB, Accessed 30th March 2021

Public Company Accounting Oversight Board (PCAOB). 2019b. Release No. 2019-002. *Annual Report on the Interim Inspection Program Related to Audits of Brokers and Dealers*. Washington, DC: PCAOB. Available at https://pcaob-assets.azureedge.net/pcaob-dev/docs/default-source/enforcement/decisions/documents/105-2019-031-pmb.pdf?sfvrsn=b4254b9e_0 Accessed : 30th March 2021.

Puspitasari, A., Baridwan, Z., & Rahman, A. F. (2019). "The Effect of Audit Competence, Independence, and Professional Skepticism on Audit Quality with Auditor's Ethics as Moderation Variables". *International Journal of Business, Economics and Law*, *18*(5), 135-144.

Quadackers, L., M. Groot, and A. Wright. (2014), "Auditor's professional skepticism: Neutrality versus presumptive doubt". *Contemporary Accounting Research* Vol.31No.3 Pp 639–657

Rajgopal, S., Srinivasan, S. and X. Zheng (2020), "Measuring Audit Quality" *Review of Accounting Studies* (Forthcoming): Available at https://ssrn.com/abstract=3504037 or http://dx.doi.org/10.2139/ssrn.3504037. Accessed 07th April, 2021

Rose, J. M. (2007). "Attention to evidence of aggressive financial reporting and intentional misstatement judgments: Effects of experience and trust". *Behavioral Research in Accounting,* 19: 215–229.

Salehi M, Mansoury A and Pirayesh (2008), "Factors affecting quality of audit: Evidence from Iran", *Journal of Business Research,* Vol. 2, No 1, pp 1-25

Shaub, M.K., and J.E. Lawrence (1999), "Differences in auditors' professional skepticism across career levels in the firm" *Advances in Accounting Behavioral Research* Vol.2: Pp 61–83.

Stein, S.E., (2019). "Auditor industry specialization and accounting estimates: Evidence from asset impairments. *Auditing: A Journal of Practice & Theory*, Vol 38 No.2: Pp 207-234.

Sundgren, S. and S. Svanström (2014). "Auditor-in-charge characteristics and going-concern reporting". *Contemporary Accounting Research* Vol.31No.2, Pp 531–550.

Sutton, S.G. (1993), "Toward an understanding of the factors affecting the quality of the audit process", *Decision Sciences*, Vol. 24 No. 1, pp. 88-105.

Turner, C. W. (2001). "Accountability demands and the auditor's evidence search strategy: The influence of reviewer preferences and the nature of the response (belief vs. action)". *Journal of Accounting Research* Vol.39 No.3 Pp 683-706.

Acknowledgements

This paper is a result of a wider study on professional skepticism and audit quality in Uganda funded by the Institute of Certified Public Accountants of Uganda (ICPAU).

Corresponding author - *Twaha Kigongo Kaawaase,* can be contacted on *tkaawaase@mubs.ac.ug*