

## Review of studies on audit quality

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**Abstract.** This paper reviews empirical studies over the past decades from all over the world in order to assess what researchers have done about audit quality issue and identify gaps in the literature where further research is needed. These studies are categorized into seven groups; 1) Using direct or indirect measure of audit quality 2) Studies based on source of differentiation 3) Studies rely on output, process and input 4) Organizational aspects 5) Behavioral perspectives and auditor quality 6) Different perceptions of audit quality and 7) Other studies. The existing body of knowledge relating to these groups of studies will be summarized in this paper.

**Keywords:** Audit Quality, Behavioural Perspectives, Organizational Aspects, Direct and Indirect Measures, Perceptions.

### 1. Introduction

Corporate scandals like Enron debacle and Andersen collapse confirmed a requirement for high quality audit and considerable attention to different factors that may have effect on audit quality. High quality audit refers to the production of financial information without misstatements, omissions or biases. From an agency theory perspective, Dang (2004) argues that audited financial statements are a monitoring mechanism to provide assurance for users of financial information. De Angelo (1981) defines audit quality by two-dimensional definition: first, detecting misstatements and errors in financial statement and second, reporting these material misstatements and errors. Due to this fact that these characteristics are largely unobservable, different proxies have been used by researchers to measure audit quality like: audit size, audit hours, audit fees, reputation, litigation rate and discretionary accruals. Although so many different proxies have been utilized, Lennox (1999) believed that most researchers generally agree that the size or brand name of audit firms is an appropriate indicator of audit quality. Audit quality has been investigated within a variety of perspectives in the literature like: independence, ethics, judgments, reduced audit quality, client services and public sector. The aim of this article is to summarize these studies and provide the comprehensive and new classification of researches that have done about this topic.

### 2. Audit Quality Definition

DeAngelo (1981) defines audit quality as the market-assessed joint probability that a given auditor will both detect material misstatements in the client's financial statements and report the material misstatements. Therefore, according to DeAngelo's (1981) definition, audit quality is a function of the auditor's ability to detect material misstatements (technical capabilities) and reporting the errors (auditor independence). Palmrose (1988) defines audit quality in terms of level of assurance. Since the purpose of an audit is to provide assurance on financial statements, audit quality is the probability that financial statements contain no material misstatements. In fact, this definition uses the results of the audit, that is, reliability of audited financial statements to reflect audit quality. Palmrose's definition presents actual audit quality. Since actual audit quality is unobservable before and when an audit is performed, a valid proxy is needed when

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investigating the relationships between actual audit quality and other factors. Based on the guidelines stated in ISQC 1, compliance with the standard is perceived as high audit quality. Different studies have been done on audit quality that they can be divided into seven different groups. These groups of studies will be discussed in the following sections.

### 3. Direct and Indirect Measure of Audit Quality

This group of studies includes two parts. In first group of researches, **Direct measures** like: financial reporting compliance with GAAP, quality control review, bankruptcy, desk review and SEC performance are used as a measure of audit quality. For example, Krishnan and Schauer (2000) studied the relationship between firm size and compliance with reporting requirements by nonprofit entities. They found that compliance increases with increasing firm size. Most of the researches on audit tenure used issuing going concern opinion and bankruptcy as a measure for audit quality. Geiger and Raghunandan (2002) measured audit quality as whether the auditor had issued a going-concern qualification in the prior year for US clients that declared bankruptcy. They found that auditors are less likely to issue a going concern opinion during the initial years of engagement but not in later years, contrary to the expressed concern that a long auditor-client relationship negatively affects audit quality. Other direct measures of audit quality have included, among others, desk reviews and SEC enforcement actions (Dechow et al 1996). Direct measures of audit quality have posed empirical challenges due to difficulty generalizing results, low occurrence rates, and the proprietary nature of the data. Thus, in the second researches **Indirect measures** like: audit size, auditor tenure, industry expertise, audit fees, economic dependence, reputation and cost of capital are used as a measure for audit quality.

Perhaps the most commonly used indirect measure of audit quality is audit size. The theory advanced by DeAngelo (1981) proposes that the size of an audit firm is an indicator of audit quality because larger firms have more equipment. Following DeAngelo's study, many other studies empirically examine the relationship between auditor size and audit quality (e.g., Krishnan and Schauer, 2000; Ajmi, 2009; Lawrence et al., 2011). Ghosh and Mood (2005) argued the tenure of auditors may have a negative association with audit quality as the long-served auditors may surrender their independence to keep close relationship with their clients and Wooten (2003) states firms that have multiple clients in the same industry bring a more in-depth understanding to the unique audit risks presented by a particular industry. Another proxy for audit quality that is used in researches is audit fee and economic dependences of auditors. Choi et al (2010) examine whether the association between audit fees and audit quality is asymmetric and thus nonlinear in the sense that the association is conditioned upon the sign of abnormal audit fees. Their results show that the proxy for audit quality is insignificantly associated with abnormal audit fees for their total sample of client firms with both positive and negative abnormal audit fees. As discussed in some researches, there are two underlying assumptions when using these dichotomous audit quality proxies. The first is that an audit firm supplies a single level of audit quality across different clients at a moment in time and supplies a single level of audit quality across different time periods (Clarkson and Simunic, 1994). The second is that audit quality within one group of accounting firms (Big 8/6/5 accounting firms or non-Big 8/6/5 accounting firms) is homogeneous. These two assumptions appear to be problematic. It is unlikely that an auditor can maintain one level of audit quality for all of its clients and over different periods of time.

### 4. Studies Based on Source of Differentiation

Three primary sources of differentiation have been studied about audit quality are: **Institutional differences across countries** (cross country differences), **Differences across individual practice offices** (cross-city differences) and **Differences due to industry specialization** (Francis, 2004).

At the country level, the choice of Big N industry specialist auditors is higher where levels of investor protection and quality of financial reporting environment are higher. Ettredge et al (2008) investigated client choice of industry specialist auditors from among the Big N (Big 4 or 5) in an international (non-U.S.) setting. They investigated client-specific, industry-level and country-level factors hypothesized to enhance or decrease client demand for audits by auditors having industry expertise. They found that international client

choice of home based industry specialist auditors is positively associated with client size, leverage, growth opportunities, capital intensity, and membership in a regulated industry.

Francis (2004) mentioned that it may be more insightful to analyze specific offices of large accounting firms rather than the firm as a whole. The reason for this view is that individual audit engagements are administered by an office-based engagement partner who is typically located in the same city as the client's headquarters. The way we think about an accounting firm changes dramatically when we shift the unit of analysis away from the firm as a whole, to the analysis of specific city-based offices within a firm.

## 5. Studies Rely on Output, Process and Input

The other group of studies on audit quality is based on **Output** (e.g. audit opinion), **Audit Process** (e.g. audit environment, process performance, earning forecast and earning management) and **Input** (e.g. auditor perception and compulsory audit tendering). Outputs of the audit have important influences on audit quality because often the outputs are considered by stakeholders in their assessments of audit quality. For example, the auditor's report is likely to be viewed as positively influencing audit quality if it clearly conveys the outcome of the audit. It was proved that when the tenure increases, the auditor's judgment is improved to give the appropriate audit opinion. This means that mandatory rotation will deteriorate audit quality by limiting the tenure not the opposite (Carey & simnett, 2006).

Geiger and Rama (2006) examined whether the Big 4 audit firms exhibit higher quality reporting by having fewer "audit-reporting errors" in the context of issuing going-concern modified reports. Their findings indicate that both type I and type II error rates for Big 4 audit firms are significantly lower compared to non-Big 4 firms and their results also provide evidence about a Big 4 audit quality difference in reporting on client's going-concern problems (Geiger & Rama, 2006).

Another group of studies rely on audit process like audit environment, process performance, earning forecast and earning management. The audit process also concerns such matters as the soundness of the audit methodology, the effectiveness of the audit tools used, and the availability of adequate technical support, all geared toward supporting execution of a quality audit. Maijoor and Vanstraelen (2006) studied the effect of audit environment, audit firm quality and presence in international capital markets on earning management. They mentioned there are two factors that can mitigate the national audit environment effect: Big Four audit firm quality and a company's reliance on international capital markets. They found that a stricter audit environment reduces the magnitude of earnings management, irrespective of the type of auditor and there is no evidence of an international Big Euro audit quality effect in Europe.

There are many inputs to audit quality apart from auditing standards. One important input is the auditor's personal attributes such as auditor skill and experience, ethical values and mindset. Other inputs are auditor perception and compulsory audit tendering. Firms need to attract high quality individual with the necessary technical and interpersonal skills to improve audit quality (Duff, 2004).

## 6. Organizational Aspects

These groups of studies investigate audit quality from two aspects: **Audit firm** and **Audit team**. In the first group, researchers have turned to panels of experts to identify characteristics at the firm level. Sun and Liu (2011) examined whether client-specific litigation risk affects the audit quality differentiation between Big N and non-Big N auditors. They developed the hypothesis based on auditors' potential monetary and reputational losses, collect the data of US listed companies from the Compustat and CRSP databases, and conduct regression analyses. They found that the higher effectiveness of Big N auditors over non-Big N auditors in constraining earning management is greater for high litigation risk clients than for low litigation risk clients, suggesting that clients' high litigation risk can force big auditors to perform more effectively. The second group of characteristics identified by the expert panels relates specifically to the audit team members. Carcello et al (1992) states that characteristics related to audit team were generally perceived to be more important to audit quality than characteristics related to the audit firm itself. Schroeder et al (1986) investigated the effect of 15 factors on audit quality comparing audit firm and audit team factors and the results confirmed that audit team factors are more important than audit firm factors.

## 7. Behavioural Perspectives and Auditor Quality

Audit quality is not primarily about auditing standards but about the quality of people, their training and ethical standards (APB). The FRC argues that the skills, personal qualities of audit partners and staff, and the training given to audit personnel are important factors that determine auditor quality. Research in business ethics has shown that personality type is directly related to individuals' ethical orientation (Rayburn and Rayburn, 1996). A large and varying body of literature exists that investigates many different aspects of behavioral perspectives of audit quality, such as **Reduced audit quality** (e.g. Coram et al, 2003; Gundry et al, 2007), **Moral Reasoning** (e.g. Sweeney, 1995), **Relationship** and **Behavioral perspectives** (e.g. Beattie & Fearnley, 1995; Mock & Samet, 1982), **Ethical reasoning of auditors** (e.g. Herrback, 2001; Krohmer & Lae, 2010), **Human Capital** (e.g. Liu, 1997; Cheng et al, 2008), **Service Quality** (e.g. Anderson, 1999; walker, 2001) and **Technical Quality** that consists of: **Reputation** (e.g. Carey & Simnett, 2006; B aotham, 2009), **Experience** (e.g. Carcello et al 1992), **Capability** (e.g. Baotham et al, 2009) and **Independence** (e.g. Bobbie Daniels et al, 2005; Baotham, 2009).

Malone and Roberts (1996) developed a more comprehensive model of factors to explain reduced audit quality behaviors. They investigated the relationship between the incidence of reduced audit quality behaviors and auditors' personality characteristics, auditors' professional characteristics, auditing firm's quality control and review procedures auditing firm structure and auditors' perceptions of time budget pressure. They concluded that auditors' perceived strength of their firms' quality and review procedures and auditors' perceived strength of their firms' penalties for committing reduced audit quality acts are inversely related to incidences of reduced audit quality behaviors (Malone and Roberts, 1996).

Baotham (2009) investigated the effects of audit independence, quality, and credibility on reputation and sustainable success of CPAs in Thailand. The results indicated that audit independence has a positive relationship with audit quality and credibility, and audit quality has a positive association with audit credibility. Likewise, audit quality and credibility significantly influence on reputation that is also related to sustainable success. For audit independence's antecedents, intrinsic ethical concentration and extrinsic stimulus outstandingly play important roles.

## 8. Different Perception of Audit Quality

These studies according to different groups include: perceptions of Shareholders, Auditors, Analysts, and Audit Committee chair person, Preparers, Clients, Federal Inspectors and Financial Journalist of audit quality. Warming et al (2001) investigated perceptions of audit quality in Denmark, sampled two groups of external users (shareholders and financial journalists), managing directors (preparers) and public accountants (auditors), to create an audit quality scale. This study identified six audit quality dimensions, focusing largely on moral and ethical issues. The two groups of external users tended to rate all six of the audit quality dimensions higher than the auditors and managing directors (Duff, 2004).

## 9. Conclusion and Future Studies

Audit quality is a concept that has different definitions for different people. Users of financial statements perceived audit reports to provide absolute assurance that company financial statements have no material misstatements and do not perpetrate fraud (Epstein & Geiger, 1994). Audit quality has been investigated within a variety of perspectives in the literature. This paper has reviewed the literature on audit quality in the current professional environment. I have focused our review on issues associated with the audit quality from different dimensions. In each case, recent studies that have added to the body of knowledge relating to audit quality have been discussed. Overall, analysis reveals the several gaps in this literature that suggests for future studies. Due to the importance of having high quality audit, more research should explore other areas that relate to audit quality such as customer service satisfaction, customer loyalty, auditors switching and auditors turnover. Another extension that might shed more light on the question of the audit effort is the incorporation of corporate governance characteristics into the analysis (e.g. quality and independence of management and board membership; internal audit considerations).

Carcello et al (1992) states that characteristics related to audit team were generally perceived to be more important to audit quality than characteristics related to the audit firm itself but the individual characteristics of auditors as a member of audit team may be the most important features of audit quality. Thus, further research is needed to investigate the impact of different personality of auditors on audit quality and also relationship between job stresses, job performance, moral reasoning and audit quality is important to be investigated. Also, further research needs to be done to understand further the reasons that could lead to auditors' behavior which threatens audit quality. In particular, other relevant variables that occur in auditors' working environment for example team structure and leadership may be identified and examined. finally more researches are needed to compare the audit quality in public sector with private sector to find is there any relationship, similarities or differences between them or not. In conclusion it is clearly evident that audit quality is a rich and fruitful area of investigation where researchers can make a valuable contribution to the on-going development of the profession and could help to audit profession, clients, government and also users of financial statements.

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